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CENTRAL BANK DIGITAL CURRENCIES IN THE INDONESIAN SETTING: QUESTIONS & CHOICES

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Abstract

Central Bank Digital Currencies or CBDC have attracted increasing attention worldwide. Discussions take place chiefly at the institutional central bank level, and among financial and monetary economists, but now are moving into legal and political spaces. Meanwhile, Bank Indonesia or BI, the Indonesian central bank, has been an active proponent of a digital Rupiah for several years, seemingly focused on payment system improvements, problematic to the extent on-going digitalisation of the economy is not purely a payment system exercise. The Indonesian Parliament or DPR recently authorised in Law No. 4/2023 BI's creation and management of a digital Rupiah, but open issues remain: (1) the DPR's emphasis in its guidelines for the digital Rupiah contemplates currently only a domestic rather than cross-border digital Rupiah; (2) the DPR seemingly contemplated broader financial inclusion and more equitable development as a practical matter, while BI's prior proposals seemed more focused on efficiency and banking sector; and (3) domestic CBDC's introduction probably constitutes a dress rehearsal for an eventual international CBDC, so a planning function lies hidden. Digital Rupiah's implementation presumably lies 12 to 24 months ahead, taking place under a new Indonesian President to be elected in 2024, implying new senior financial sector regulators as well. The best legal approach would be for BI to manage the digital Rupiah through external clearing and settlement institutions, and there are numerous international economic law complications in the hidden planning exercise if domestic is to become international digital Rupiah over time. Developing versus developed country CBDC concerns are simply different.

Keywords: *CBDC, Indonesia, Policy, Regulation, Settings*

I. INTRODUCTION

Discussions of central bank digital currency (CBDC) are all the rage in international circles.[1] Meanwhile, CBDC discussions tend to be viewed

[1] E.g., from the BIS perspective, Kosse, A & I Mattei. May 2022. Gaining momentum-- Results of the 2021 BIS survey on central bank digital currencies. BIS Papers No 125, at https://www.bis.org/publ/bppdf/bispap125.pdf; Auer, R et al. April 2022. Central bank digital currencies: a new tool in the financial inclusion toolkit? FSI Insights on policy implementation No 41, at https://www.bis.org/fsi/publ/insights41.htm; Chen, S et al. April 2022. CBDCs in emerging market economies. BIS Papers No 123, at https://www.bis.org/publ/bppdf/bispap123.htm; Bank of Canada, et al. September 2021. Central bank digital currencies: executive summary. BIS Innovation Hub, at https://www.bis.org/publ/othp42.htm; Bank of Canada et al. October 9, 2020. Central bank digital currencies: foundational principles and core features. Report No. 1, at https://www.bis.org/publ/othp33.htm; Bank of Canada, et al. September 2021. Central bank digital currencies: system design and interoperability. Report No 2, at https://www.bis.org/publ/othp42_system_design.pdf; Bank of Canada, et al. September 2021. Central bank digital currencies: user needs and adoptions. Report No 3, at https://www.bis.org/publ/othp42_user_needs.pdf; Bank of Canada et al. September 2021. Central bank digital currencies: financial stability implications. Report No 4, at https://www.bis.org/publ/othp42_fin_stab.pdf; Committee on Payments and Market Infrastructures. April 2020. Payment aspects of financial inclusion in the fintech era. World Bank Group, at https://www.bis.org/cpmi/publ/d191.pdf. E.g., from the G20 perspective, Committee on Payments and Market Infrastructures, BIS Innovation Hub. July 2022. Options for access to and interoperability of CBDCs for cross-border payments: Report to the G20, at https://www.bis.org/publ/othp52.pdf; Committee on Payments and Market Infrastructures, et al. July 9, 2021. Central bank digital currencies for cross-border payments: Report to the G20. BIS, at https://www.bis.org/publ/othp38.htm. E.g., from the IMF, or its viewpoint, Kahn, C, M Singh & Alwazir, J. May 6, 2022. Digital Money and Central Bank Operations. IMF WP/22/85, at https://www.imf.org/en/Publications/WP/Issues/2022/05/06/Digital-Money-and-Central-Bank-Operations-517534; Popescu, A. May 6, 2022. Cross-Border Central Bank Digital Currencies, Bank Runs and Capital Flows Volatility. IMF WP/22/83, at https://www.imf.org/en/Publications/WP/Issues/2022/05/06/Cross-Border-Central-Bank-Digital-Currencies-Bank-Runs-and-Capital-Flows-Volatility-517625; Tok, YW & D Heng. May 6, 2022. Fintech: Financial Inclusion or Exclusion? IMF WP/22/80, at https://www.imf.org/en/Publications/WP/Issues/2022/05/06/Fintech-Financial-Inclusion-or-Exclusion-517619; Khianoarong, T & D. Humphreys, February 4, 2022. Falling Use of Cash and Demand for Retail Central Bank Digital Currency. IMF WP/22/27, at https://www.imf.org/en/Publications/WP/Issues/2022/02/04/Falling-Use-of-Cash-and-Demand-for-Retail-Central-Bank-Digital-Currency-512766. E.g., from the European Central Bank, or its viewpoint, Panetta, F. April 8, 2022. More than an intellectual game: exploring the monetary policy and financial stability implications of central bank digital currencies. Opening Conference Speech by ECB Executive Board Member, at https://www.ecb.europa.eu/press/key/date/2022/html/ecb.sp220408~980e39957b.en.html Bindseil, U, F Panetta & I Terol. December 2021. Central Bank Digital Currency: functional scope, pricing and controls. Occasional Papers Series No 286, at https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op286~9d472374ea.en.pdf; European Central Bank. October 2020. Report on a digital euro, at https://www.ecb.europa.eu/pub/pdf/other/Report_on_a_digital_euro~4d7268b458.en.pdf. For the BI contribution, see Zams, B M, et al. 2019. Designing Central Bank Digital Currency for Indonesia: The Delphi-Analytic Network Process. Working Paper No 4/2019, at https://www.bi.go.id/id/publikasi/kajian/Documents/WP_4_2019.pdf. The BI working paper also provides a good entry into the older literature, although CBDC developments have been moving quickly since the BI paper was published roughly three years ago, and it focused more on local design in economic terms rather than legal and institutional considerations. Bank Indonesia is reportedly working at a conceptual level on a wholesale digital IDR, with plans scheduled for release by the end of 2022. See Sihombing, G & C Yung. July 21, 2022. Indonesia Plans Wholesale Digital Currency to Improve Transfers. Crypto, Bloomberg, at https://www.bloomberg.com/news/articles/2022-07-21/indonesia-plans-wholesale-digital-currency-to-improve-transfers?sref=qlL5eZec. All publications last accessed 08/04/22.

chiefly as the province of technical discussions among financial economists solely within central banks and academic circles, focusing chiefly on CBDC as a payments question, in parallel to its potential effects for central banking on financial stability and monetary operations. Such discussions tend to be focused solely on "banking," as opposed to remaking the financial sector as a whole. Such an approach is misleading for a number of reasons, at least in the Indonesian context.

CBDC discussions are still mostly theoretical, but it is already important to set the proper direction for CBDC consideration in individual countries. This article addresses whether and how CBDC might best be implemented in the Indonesian setting? It should be recognised that this is ultimately not a matter solely for expert technical consideration, but instead requires a broader discussion setting the direction for longer term development of the Indonesian financial sector. Accordingly, now is the time to commence such discussions because Indonesia will soon have a new President and the opportunity to articulate new development priorities and plans, before the end of 2024. This article offers in Indonesian terms an "academic" proposal to engender discussions under the incoming President, whomever that may be, of how best further to develop the Indonesian financial sector and pursue economic development in conjunction with increasing digital transformation of both the domestic and international economies.

II. GUIDEPOSTS

A longer discussion follows explaining the details. However, this part articulates the conclusion as a guide through treatment of a highly technical topic. The best place to anchor CBDC in the Indonesian setting would be effectively to place CBDC issuance and dealings externally in the Indonesian capital markets settlement entities KSEI-KPEI[2] for a variety of technical reasons. (An analogous solution has already been adopted in at least one leading foreign financial jurisdiction, because this is essentially what the Swiss Central Bank implemented in its own CBDC pilot project.) That means placing the distribution framework in the securities market clearinghouse and guarantee entity, preferably starting domestically with some variation of an approach aimed at purely domestic financial inclusion (or more inclusive development

[2] KPEI or PT Kliring Penjamin Efek Indonesia, https://www.idclear.co.id/en, is the Indonesia Clearing and Guaranty Institution or Central Counterparty, and KSEI or PT Kustodian Sentral Efek Indonesia, https://www.ksei.co.id/, is the Indonesia Securities Settlement & Depository Institution as Central Depository Settlement Institution for the Indonesian capital markets, both existing under Law No. 8/1995 as Indonesia's basic capital markets law.

in applicable Indonesian terminology), with the possibility of future CBDC expansion across borders. I assume that is where G20 and similar cross-border payments ideas may head as under the IPEF forum. Having said that, in the short term CBDC might be employed by Indonesia at the central government level for "local transfers" to enable government-to-government commerce and transfers across borders, assuming political vetting somewhere within Indonesian government.

Bank Indonesia (BI, Indonesian's central bank) has favoured the introduction of some form of digital Rupiah (IDR) for a number of years. Meanwhile BI as Indonesia's CBDC "creator" would have to deal operationally with the Otoritas Jasa Keuangen as Indonesia's microprudential financial sector regulator (OJK or Financial Services Authority, Indonesia's microprudential single financial sector regulator since 2011 based on the Swedish or Australian FSA model), and ultimately with the Minister of Finance within the Indonesian government. The practical problem for several years recently has seemed to be that BI would assert its position on CBDC publicly, but no engagement on CBDC was forthcoming from its financial sector government partners. The problem in the Indonesian setting was that, as a practical matter, the failure to respond by said financial sector agencies has presumably been an indication of non-assent (because in Indonesian government practice, undesired policy positions are ignored rather than outright rejected).

Without getting into too many detail, regulatory coordination may sometimes seem strained because beyond insurance, banking, and capital markets per se, the OJK supervises also non-bank financial institutions or NBFI such as fintech. Depending upon one's perspective, NBFI or fintech is where shadow banking issues lurk, or financial innovation including that encouraging financial inclusion most likely occurs. Until very recently there were also basic legal issues involved, because the applicable Indonesian Currency (IDR) Law No. 7 of 2011 contemplated legal tender IDR only in the hard form of paper bank notes and coinage, instead of a soft digital form.[3] Meanwhile, OJK as a result of its general NBFI or fintech supervision probably had the best

[3] This legal interpretation that there was no legal basis for legal tender status of any potential digital IDR as CBDC was confirmed by Bank Indonesia itself in its white paper entitled "Project Garuda: Navigating the Architecture of Digital Rupiah," (November 2022): 33, https://www.bi.go.id/en/Rupiah/digital-Rupiah/Documents/White-Paper-CBDC-2022_en.pdf, noting at the same time its authority "is considered sufficient" to issue CBDC under Indonesian Law No. 2 of 1999 and Indonesian Law No. 6 of 2009, reflecting some tension in OJK's coming into being and continuing disagreements relating to BI's authority under the theory that due to its independence as central bank it retains some residual independent financial sector authority, see generally Theresia Anita Christiani, *Bank Indonesia dan Otoritas Jasa Keuangan Dalam Perspektif Hukum* (Yogyakarta: Cahaya Atma Pustaka. 2016).

claim to regulate digital currencies (more online payments are facilitated in Indonesian/Southeast Asian digital through e-money companies like Gojek and Grab, rather than bitcoin or similar independent cryptocurrencies). Until very recently, cryptocurrencies were banned in Indonesia for all but investment purposes following elements of the same 2011 currency law mandating IDR use in practically all domestic transactions. Meanwhile BI had specifically prohibited cryptocurrencies' use in the domestic Indonesian payments system. As a practical matter, BI's interest in digital IDR was arguably first triggered as with many central bankers by the fear that crypto as "private money" might displace legal tender currency longer term. Indonesian law was changed to permit digital Rupiah in early 2023 (under Law No. 4 of 2023 or the P2SK, subsequently discussed, which also legalised use of cryptocurrencies for certain payments under OJK supervision). Meanwhile, the implementation problem remains of how and when digital IDR actually might be introduced, given the apparent broader lack of support beyond BI.

Ultimately, this would appear to be a classic conflict between "traditional" and "modern" financial sector institutions and regulatory approaches during digital transformation. Meanwhile, P2SK legislation has formally legalised the introduction of digital Rupiah in CBDC form. Based upon experience, the window for current implementation of the digital Rupiah has probably already closed pending Indonesia's 2024 elections (because Indonesian governmental institutions and the bureaucracy in particular go into a kind of suspended animation circa 6-8 months in advance of its Presidential elections). Indonesia will have a new President following its 2024 election cycle (so perhaps 8-12 months in the future, depending upon whether the election is decided in one versus two rounds of voting). Whomever becomes President will bring changes in the leadership of various financial sector regulatory agencies through appointments that customarily are decided during the 3-6 months following the new President's election. As such, timing wise, the implementation details of digital IDR ultimately should arrive on a 12–24-month time horison, but not much before that in practical terms.

Meanwhile, financial inclusion in Indonesia will emerge as one of the key issues in the background of digital Rupiah implementation decisions, remembering that financial inclusion is ultimately aimed at the domestic sector (while efficiency-based CBDC rationales are more at play in the cross-border setting and at the wholesale level in banking). For technical reasons, financial inclusion is currently proceeding more via (NBFI) fintech and digitisation under OJK's regulatory umbrella, which in the Indonesian setting attracts yang pemuda ("the youth") anyway. Young Indonesians wants to do everything on their mobile devices or HPs, not in a "bricks-and-mortar" bank branch, and any private bricks-and-mortar approach encounters difficulties effectively covering an archipelagic country of 13,000 plus islands (meanwhile, a public sector retail approach with CBDC support like a postal savings bank might reach a much larger geographic expanse via Indonesia's nationwide post office system, even while designed chiefly as a digital institution). Ultimately, financial inclusion is not really a payments issue, which is the way central banks seemingly approach the question (traditionally trying to broaden the circle of bank accountholders). Instead, the real issue is seemingly effective and equitable support of the ongoing broader digital transition of Indonesia's economy, rather than a technical payments issue as such.

There is a cross-over of financial inclusion into financial sector support of MSMEs, however, as the (informal) economic sector supporting many of Indonesia's unbanked (according to the World Bank, in 2022 51% or roughly half Indonesia's adult population were unbanked, while 26% were under-banked). In the Indonesian setting, if the version of financial inclusion associated with CBDC discussions intends to support MSMEs in business lending and transactional terms, there should also be a role for the existing quasi-policy SOE banks, like Bank Rakyat Indonesia (BRI). A financial interchange would need be set up anyway for transfers to and from MSMEs to reach the private banks (the ledger question in the financial economics literature). Meanwhile, private sector banks will not want to invest too much on improving payment systems in the short term, facing what looks like an impending global recession. It will be difficult for BI to influence private sector banks enough politically to quickly transition to a completely CBDC-based clearing system, when the roughly half of Indonesia's population who are unbanked, viewed from a financial inclusion perspective are by definition simply not their target market.

III. P2SK'S LATEST GUIDANCE

Law No. 4 of 2023 on the Development and Strengthening of the Financial Sector (P2SK) is a new statute that focuses on updating the Indonesian financial sector and its institutions more broadly.[4] It includes the creation of digital Rupiah (IDR) by Bank Indonesia under its statutory authority. The institutional

[4] See Indonesia, Law No. 4 of 2023 on Development and Strengthening Financial Sector (Pengembangan dan Penguatan Sektor Keuangan) (herein after Indonesian Law on P2SK), https://peraturan.bpk.go.id/Home/Details/240203/uu-no-4-tahun-2023. The P2SK statute is a dense 527 pages long, and the accompanying official commentary is another 292 pages, all addressing technical aspects of the Indonesian financial sector and its regulation. It would be very difficult to follow, much less understand, without some prior familiarity with existing law, institutions and practices in the Indonesian financial sector. All P2SK translations in this article are the Author's own.

background of P2SK is that many if not most of Indonesia's modern capital markets, banking, insurance and related financial institutions largely were birthed during the 1980s-1990s under different economic conditions and at a different level of development, then were trialled by fire and (re-)constructed initially in the wake of the 1997 Asian Financial Crisis.[5] During the period 1998-2003 referred to in Indonesia as its Multidimensional Crisis, the government assumed active management and financial responsibility for large segments of the financial sector through the Indonesian Bank Restructuring Agency (BPPN/IBRA), at significant national cost.

We care about this institutional history because it still seemingly colours the P2SK. Its wider significance may be the extent to which under the P2SK the Indonesian parliament (DPR) has intentionally retained apparent authority to directly review financial regulators' prospective outputs.[6] This is most visible in traditional areas like deposit insurance, where coverage has been extended in some ways (e.g., extended into the insurance sector alongside traditional banking deposit guarantees) At the same time, the DPR seemingly retains a voice in approving the extension of deposit insurance to an individual financial institution's accounts in the case of the deposit insurance fund (LPS) having insufficient funds.[7] Banking is the financial services area where the DPR's continuing involvement is most visible, but the P2SK also imposes on BI periodic (quarterly) reporting requirements for the new digital Rupiah. The obvious question is what happens if the DPR were dissatisfied at some point with how the digital Rupiah was developing?[8]

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[5] This included in Indonesia its so-called "Multidimensional Crisis" extending from roughly 1998-2003, which might be fairly characterised as undertaking widespread political and governmental reforms during a serious and continuing economic crisis (transitioning from traditional autocracy to a modern democracy referred to more positively in Indonesian terms as the Reform Period or Reformasi).

[6] See the second paragraph on page 6 of the official commentary (*Penjelasan*). It speaks not in terms of supervision alone, but rather consultation or agreement of the DPR ("*konsultasi atau persetujuan DPR*")

[7] See Indonesian Law on P2SK Article 85(1) at page 58.

[8] For the benefit of non-lawyers, this arguably steps over a broader line in public law that independent agencies should be subject to some degree of supervision at a higher level. Meanwhile, interfering directly in their operations is inconsistent with the concept of independent agencies, important also politically to the extent the conviction reigns that independent agencies in economics should be "technocratic" rather than "political" institutions. Where the line should be drawn between permissible supervision and impermissible interference is theoretically something to be determined in judicial proceedings, which tend to arise when agency and parliamentary opinions differ over significant matters. The "interference" problem assumes some additional complexity in the case of BI, given an existing argument in Indonesian public law that it has a higher independent status because it is specifically mentioned in the 1945 Indonesian Constitution. See argument and sources in footnote 3. The better argument is probably that BI's "independence" really relates only to monetary policy, but the constitutional argument raises the spectre that the degree of BI's permissible "supervision" by the DPR, because it is subject to the 1945 Constitution itself, is less than in the case of financial regulators generally.

Meanwhile, further changes to important parts of financial sector regulation have been a longer process. In 2011, after a decade of trying, broader micro-prudential regulation of financial institutions (capital markets, banking, insurance and what became fintech or non-bank financial institutions) was ultimately removed from Bank Indonesia as the Indonesian central bank, to be placed instead under the auspices of the Financial Services Authority (OJK), with BI's authority focused instead on central banking activities (including macroprudential regulation) and payment systems. As a result, as micro-prudential regulator for the broader financial sector, the OJK, and BI as macroprudential regulator, effectively have overlapping regulatory powers in various areas, not to mention the idea that, concerning financial stability and similar issues more broadly, the P2SK provides for a variety of cooperative "boards" typically chaired by the Minister of Finance with the BI and OJK leadership as voting members. Also, sometimes the leadership of the LPS or deposit insurance fund (with such boards typically having express power under the P2SK to issue higher regulations typically in the form of Government Regulation). P2SK is a new and complex statute containing many crosscurrents and is hardly a traditional financial sector law in many respects (beyond CBDC addressing digitalisation, it also addresses climate change in covering carbon transactions and sustainable finance). As such, it deserves a more detailed treatment beyond the scope of this article. However, here we focus largely on its provisions authorising the issuance of Digital Rupiah by BI, as well as some of its broader provisions that may ultimately affect the Digital Rupiah's development (for example, the DPR's apparent ideas about what would be referred to commonly as financial inclusion,[9] or perhaps more generally in the Indonesian setting as more inclusive development in the financial setting).

The P2SK was promulgated by the Indonesian government as part of a so-called "omnibus" bill, following an accelerated law-making format often pursued by President Joko Widodo's government as part of its broader economic reform agenda. This approach has the advantage of speed, coupled however with the complication that it works well reformulating the big picture in terms of economic and financial regulatory changes, while the technical details and their implications are less exposed to scrutiny because of the very broad remit within a technically focused omnibus bill.

[9] As defined in Indonesian Law on P2SK Article 1(37) at page 10. "Financial inclusion" makes an appearance at crucial places in the P2SK, for example in Article 35A at page 101 of the Chapter addressing BI's duties in exercising macroprudential regulation also to favour both financial and economic inclusion.

In relevant part, P2SK provides in Article 14A, at page 116 for:

(1) The management of Digital Rupiah [as contemplated under Article 2(2), P2SK, at page 115 where the IDR form of Digital Rupiah is added to the pre-existing forms of paper IDR currency and IDR coinage] covers its planning, emission, distribution, and administration.

(2) Bank Indonesia is the only institution that is authorised to manage Digital Rupiah as contemplated under (1) above.

(3) Management of said Digital Rupiah referred to under (1) above must consider the following aspects:

   (a) The provision of Digital Rupiah as a means of legitimate payment within the Indonesian territory;

   (b) Its effectiveness in implementing the mandates of Bank Indonesia concerning monetary stability, the payments system, and the Financial System more broadly [NB, the third seems to implicate also duties of other Financial System players, such as the OJK and Minister of Finance];

   (c) Support for technological innovation, inclusive development, and digital currency [NB, a broader category than Digital Rupiah alone, but the implication seems to be not foreign CBDC but rather private book entry digital currencies as held by private parties, mostly fintech holding customer funds in digital app accounts like ridesharing apps such as Gojek or Grab, and may include cryptocurrencies to the extent P2SK is interpreted to change the prior Indonesian regulatory position that crypto was a commodity not permitted within any Indonesian payment system];

   (d) Development of the economy and digital currency which are nationally integrated; and

   (e) Advance digital technology to guarantee the security of the data system and information including the protection of personal data.

(4) In carrying out the planning for Digital Rupiah as contemplated by (1) above, Bank Indonesia will coordinate with the Government of Indonesia [NB, as a reference to the Indonesian government as opposed financial sector agencies, this implies chiefly the Minister of Finance, but might include other ministries and equivalent institutions represented in the President's Cabinet].

(5) Further provisions concerning the issuance of Digital Rupiah as contemplated under (1) above shall be governed by Bank Indonesia regulations.

Thereafter, P2SK provides for in Article 19: *Bank Indonesia has a duty to report its management of Rupiah as referenced in Article 11 [NB, traditional IDR paper* *currency and coinage] and Article 14A [NB, Digital Rupiah] periodically every three months to the DPR.*

P2SK's official commentary (*Penjelasan*) at pages 80-81 is not particularly helpful, stating as to Digital Rupiah under Article 2 that Digital Rupiah represents a monetary obligation of Bank Indonesia, which functions like IDR paper currency and coinage as a means of payment within Indonesia, a medium of exchange and a store of value (the traditional economic definition of money, here central bank money). Concerning Article 14A(4), it states that the coordination of Bank Indonesia with the Indonesian Government is obliged to be in the form of the exchange of information, including among other things the projected amount of Digital Rupiah that will be issued, the mechanism for it, and the planned "use case(s)" for Digital Rupiah.

What is the chief take-aways for budding Indonesian CBDC in the operative P2SK language? The first is that P2SK articulates a legal basis for Bank Indonesia to establish a digital Rupiah within Indonesian territory, but by the same token says nothing about foreign or cross-border CBDC. This may reflect the fact that the DPR reacted to a specific BI proposal shortly before the P2SK became law (a proposal in the form of BI's Project Garuda Digital Rupiah White Paper subsequently discussed), but seemingly limits Indonesian CBDC in two important ways in the short term. On its face, absent a claim that parallel P2SK authorities such as the power separately to regulate more digital currencies at the Financial Stability Board or similar level, there seems currently no plan or even regulatory basis for dealing with foreign CBDC within the Indonesian financial sector under P2SK. So, what happens if somehow foreign CBDC were to become incidentally available online or outside Indonesia to Indonesians (theoretically, a telephone call or internet-based transaction away)?

On the one hand, it might be helpful to the extent P2SK seemingly limits current CBDC implementation in Indonesia currently to an experimental approach (e.g., an initial domestic-only introduction of Digital Rupiah). This could be followed perhaps in theory by its full international introduction, which implies presumably that foreign CBDC would become available to Indonesians in Indonesia simply as a matter of reciprocity. On the other hand, the practical limitation is that there currently are few international operational standards to follow in creating the necessary infrastructure for CBDCs. There have been a few temporary CBDC experiments in various countries, but extremely few permanent introductions to date, and the sentiment expressed quietly by some is that for many countries the advantages of CBDC may simply not be worth the cost of the necessary financial infrastructure (which recalls the DPR's requirement that BI articulate a specific "use case" for the Digital Rupiah to the Indonesian government). Further, proceeding with the domestic-only Digital

Rupiah experiment presumes expensive and time-consuming creation of a regulatory structure and operational clearing institution(s), including dedicated hardware and software suitable to capture massive amounts of transactions on a countrywide basis, dedicated human resources, and other impediments, which in the second full international stage would presumably have to deal in parallel with other countries' incoming CBDC.

CBDC, beyond regulatory concerns, ultimately assumes the creation of very sophisticated systems/installations to deal with dematerialised evidence of monetary value that presumably must be available for transactions, or at least possesses the traditional economic attributes of money, meaning it can be used for payments, as a medium of exchange, and store of value. Who will pay for such required new financial infrastructure, from among state and private financial institutions, individuals and companies via user fees, Bank Indonesia, the Government of Indonesia more broadly, or whomever, and is such an exercise ultimately worth the cost in terms of accelerating economic growth and social development, etc.?

To that extent, the DPR's apparent P2SK internal calendar in stating that BI must update its responsible committee(s) on Digital Rupiah's status every three months seems overoptimistic.[10] Operationally, to create the necessary infrastructure, including personnel and software construction necessary to CBDC, presumes an exercise of perhaps 12-24 months duration (judging by smaller start-up ventures involving dematerialised securities in the Indonesian capital markets). Given the foreseeable operational delays, it seems likely that whatever becomes of CBDC in the Indonesian setting in a practical sense will be decided by the next President in 12-24 months and shaped in its details by a new Minister of Finance, and related Presidential appointments to the leadership of financial sector institutions encompassing both BI and the OJK.

The second takeaway is that the DPR in P2SK Article 14A(3) and other provisions provides us with some guidance on what the DPR considers important concerns for the Digital Rupiah, benchmarks against which presumably any Bank Indonesia past or future Digital Rupiah proposal may be measured. The language of the P2SK does not establish absolute requirements, instead calling for certain concerns to be "taken into account." But one should note that it presumably makes a difference whether the Digital Rupiah should perhaps serve more the interests of existing financial institutions (mostly banks, perhaps paralleling President Jokowi's focus on lowering the costs of international fund transfers in his recent G20 leadership role, an apparent efficiency based goal to expand the import-export sector), versus more

[10] Since P2SK became law on 12 January 2023, one could ask whether there have been any official reports to the DPR in the five months since its passage.

focus on expanding access to financial payment systems by Micro, Small, and Medium Enterprises (MSMEs) in the cause of more equitable development (more a fairness goal in reaching beyond big business with existing access to banking and payment systems).

Understood in context, P2SK Article 14A(3)(b) prioritises financial stability, Article 14(A)(3)(c) prioritises fintech, inclusive development (essentially financial inclusion in the financial sector) and digital currencies more broadly (arguably including cryptocurrencies), Article 14(A)(3)(d) prioritises nationally integrated economic development (arguably yet another emphasis on inclusion, to the extent integration is a hidden reference to the 13,000 plus islands problem where the unbanked are presumably concentrated, as opposed to a system built chiefly to serve pre-existing larger economic centres and wealthier areas already well-served by the Indonesian banking system), and Article 14A(3)(e) prioritises system data security, including but not limited to the protection of personal data. Accordingly, the statutory question is whether BI's prior CBDC proposals are adequately reflected the DPR's eventual stated Digital Rupiah priorities as a general matter, and how a coming implementation of the Digital Rupiah on a 12–24-month horizon might incorporate the DPR's policy guidelines in a practical sense?

IV. BACKGROUND

The case for introduction of cross-border CBDC into Indonesia is much weaker in the short term, simply because the DPR seemingly emphasised inclusive development (financial inclusion here) as an exclusively domestic goal. We assume, therefore, that initially the Digital Rupiah as CBDC can only be introduced into the Indonesian financial sector in a two-step process (domestic CBDC only first, with the possibility of consideration of international CBDC once the domestic project worked well). However, the practical issue is whether to avoid future issues by designing infrastructure and others from the start to be able to accommodate both eventually, lest you have to rework too much if and when proceeding to any second stage.

This article also focuses on the technical, international economic law aspects of cross-border CBDCs that are largely absent from financial economists' current work. As a practical matter, there are yet no real "international standards" for CBDCs at the IMF or BIS committee level, because it is simply too early in the game. The discourse is still somewhat theoretical, exploring a multiplicity of models.[11] While legal aspects are not core to economists'

[11] E.g., from the G20 perspective, Committee on Payments and Market Infrastructures, BIS Innovation Hub. July 2022. "Options for access to and interoperability of CBDCs for cross-border payments: Report to the G20", https://www.bis.org/publ/othp52.pdf (accessed 4 August 2022).

thinking about such matters, on one level they might consider whether in contemplating digital CBDC in the individual and enterprise domestic and cross-border context, they might benefit from consideration of the nominally legal question of optimal regulatory approaches, particularly in the case of cross-border CBDCs. Implicitly, cross-border CBDCs would be dealt with under a regulated (foreign) banking institution model, but for a variety of reasons it is probably more suitable to approach regulation of cross-border CBDCs from drawing more upon models based originally in clearing, settlement, and guarantee institutions developed for dematerialised or scripless securities trading in the capital markets, but which have more recently been extended to over the counter trading of financial instruments more broadly (so into banking markets, lying close by cross-border CBDCs already).

To a certain extent, a central bank's consideration of CBDCs seems to generally emphasise payment system aspects, presumably because of the separation of the prudential banking regulation function from central banks (as under Law No. 21 of. 2011 in Indonesia, so that now payment systems and monetary management constitute the heart of BI's competence within the financial sector beyond macroprudential regulation and financial system stability generally). The best approach to thinking about CBDCs, however, is probably from two perspectives, judging by extant commentary. The first is to recognise that the broader question of digital transformation of the economy reaches beyond the financial sector, and so approaching it solely from the financial sector payments view puts the cart before the horse.[12] The second is that a digital transformation can accelerate economic growth (a basic development concern), but requires as much as anything the development of digital infrastructure, both people and physical infrastructure, on a nationwide basis (meaning not just in Jakarta or on Java Island generally, but nationwide in a country of 13,000 plus islands). That is presumably how the higher levels of Indonesian government see it. CBDCs are a means to an end, not an end in themselves, a perspective that sometimes comes up short in the CBDC economics literature.

There is also some evidence for the idea that what really increases financial inclusion presently is more the general digital transformation in the financial sector, with the result that a focus on fintech may arguably provide more rapid expansion of financial inclusion, even if it is still tied to traditional payment

[12] According to Communications and Informatics Minister Plate, Indonesia's transformation focuses on ten priority structures, and finance is only one of them. See Aineena Hani, "Indonesia Unveils its Latest Digital Transformation Strategy," https://opengovasia.com/indonesia-unveils-its-latest-digital-transformation-strategy/. See also M Heriyanto, Fadhli Ruhman "Bappenas unveils document to support digital transformation," https://en.antaranews.com/news/261485/bappenas-unveils-document-to-support-digital-transformation.

systems.[13] So the idea that fintech accelerates financial inclusion supports more of a financial sector wide approach, rather than focusing solely on banking and payment systems as such (as BI has done previously, for example under its 2019 Indonesia Payment Systems Blueprint 2025: Navigating the National Payment Systems in Digital Era[14]). This approach also seems to resonate with the DPR's expressed priorities as under P2SK Article 14A(3)(c) & (d). There are also nascent issues such as the extent to which fintech online innovations like person-to-person lending may move modest retail individual or MSME lending away from banks, which still clearly control major business lending.

The Indonesia Payment Systems Blueprint 2025 represented "the orientation of payment system policy at Bank Indonesia in order to navigate the payment system industry in the era of the digital economy and finance." On the positive side, it represented a serious, good-faith effort on BI's part to address the digital revolution in Indonesia's economy from its own perspective, recognising on-going disruption of the financial sector via digitisation of the domestic and international economies. It had, however, three chief weaknesses. First, it was a unilateral statement of BI's views, and parts see inconsistent with then and still current distribution of regulatory authority under Indonesian law to the extent it seemingly might tell OJK (and ultimately the Ministry of Finance) how to address the new digital financial world. In the meantime, the OJK remains responsible for regulation of fintech, producing most of Indonesia's current financial sector innovations.

Second, in Blueprint 2025, BI seemingly aspired to a variety of shared standards as a way to address issues like shadow banking, speaking in terms of the interlink between fintech and banks, meanwhile recognising weaknesses in traditional financial institutions like domestic banks that are underinvesting

[13] There is a related financial inclusion literature separate from CBDC particularly at the IMF level, ultimately in general terms supporting the view that digitisation itself, so fintech and approaches like India Stack, rather than CBDC as such, may lend support to both financial inclusion and economic growth. See Khera, P, et al. June 11, 2021. Is Digital Financial Inclusion Unlocking Growth? IMF WP/21/167, at https://www.imf.org/en/Publications/WP/Issues/2021/06/11/Is-Digital-Financial-Inclusion-Unlocking-Growth-460738; Khera, P, et al. 19 March 2021. Digital Financial Inclusion in Emerging and Developing Economies: A New Index. IMF WP/21/90, at https://www.imf.org/en/Publications/WP/Issues/2021/03/19/Digital-Financial-Inclusion-in-Emerging-and-Developing-Economies-A-New-Index-50271; Carriere-Swallow, Y, V Haksar & M Patnam, 26 February 2021. India's Approach to Open Banking: Some Implications for Financial Inclusion. IMF WP/21/52, at https://www.imf.org/en/Publications/WP/Issues/2021/02/26/Indias-Approach-to-Open-Banking-Some-Implications-for-Financial-Inclusion-50049. But as a policy matter, it is not a question solely of either/or, so that considerations like viewing local currency transfers also as part of CBDC discussions offers advantages beyond concerns solely about financial inclusion effects. All publications last accessed 8 April 2022.

[14] Bank Indonesia, The Indonesia Payment Systems Blueprint 2025, https://www.bi.go.id/en/fungsi-utama/sistem-pembayaran/blueprint-2025/default.aspx

in digital. It also articulated ideas about data sovereignty and competition (concentration) concerns normally considered as lying beyond financial sector (macro or micro-prudential) regulation. As such, in articulating its desired standards, in Indonesian government terms its regulatory reach seemed to exceed its recognised grasp. At the same time, the failure of most domestic banks to invest in the digital front bodes ill currently for their response to any expensive mandates.[15]

Last but not least, after four years (2019-23) it is hard to escape the conclusion that Blueprint 2025 lacked a groundswell of support from other ministries or agencies across Indonesian government. Blueprint 2025 might be revived, expanded, and resubmitted to include BI's views on CBDCs presumably when the incoming new Indonesian President focuses on Indonesia's prospective financial sector priorities during his or her new administration. However, Blueprint 2025's emphasis did not seem to match the DPR's expressed priorities under P2SK Article 14A(3). Tepid support outside BI after four years presumably indicates, separate and apart from the P2SK issue, that repackaging BI's older approach simply would lack bureaucratic support elsewhere in the financial sector, for whatever reason(s).

This begs the question, what is the latest expression of the BI approach to CBDC? On 30 November 2022, late in the 2018-23 leadership term of Governor Perry Warjiyo and presumably in anticipation of P2SK becoming law six weeks later, BI published what it termed a white paper, *Project Garuda: Navigating the Architecture of Digital Rupiah*[16] essentially calling for the establishment of digital IDR CBDC as non-interest bearing retail and wholesale CBDC, although it acknowledged that further legal authority was necessary for such a step and seemingly called for further cooperation with the Indonesian Parliament (DPR), President, and various agencies of Indonesian government. Beyond the Blueprint 2025, the Project Garuda white paper stressed monetary sovereignty and generalised threats to the IDR, but in disappointingly general terms. It seemed less a concrete CBDC proposal than a proposal to develop a proposal, but in any case, its expressed elements did not seem to follow what soon thereafter became the DPR's P2SK Article 14A(3) legislative priorities for the Digital Rupiah. Nonetheless, BI presumably still strongly favours the creation of digital IDR as CBDC. The open question is what eventual form it might take?

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15 Meanwhile, judging by regulatory practices pre-2000, anyone can write good regulatory standards, but if the selfsame are waived too often in practice, bad things happen anyway so that strict administration is equally important to articulation of the formal rules themselves.

16 Bank Indonesia, "Project Garuda: Navigating the Architecture of Digital Rupiah," https://www.bi.go.id/en/Rupiah/digital-Rupiah/Documents/White-Paper-CBDC-2022_en.pdf.

There are three final hidden aspects of CBDC to acknowledge. The first is that CBDCs may look very different to developed and developing economies, given that early technical studies have left the impression that the most viable rationale for accelerated attention to (domestic) CBDCs may be expanded financial inclusion particularly in a developing economy setting. This may be offset by parallel concerns like the potential for increased danger of bank runs if locals too easily transfer local currency bank accounts into cross-border foreign CBDCs in times of financial stress, or coincidentally increased dollarisation issues via easily available foreign major currency CBDCs under ordinary circumstances.[17] Judging by recent bank insolvency experiences in the United States (Silicon Valley Bank), the power and pace of social media along with online financial transactions have materially increased "run on the bank" issues that Indonesians may still recall from the Multidimensional Crisis.

However, the strategic advantage would be that employing domestic CBDCs could take financial inclusion experiments beyond initial coincidental developments in Africa and South Asia employing "mobile money" in conjunction with specific mobile telephone networks as a kind of "money" to enable small scale trading in rural areas without substantial infrastructure, and now more generalised cross-border transfers via international "recharge" apps (both of which seemingly pre-date broader crypto-currency experiments, but which may have been displaced to a great extent in South Asia by the "India Stack" approach).[18] It should be noted, however, that such domestic "mobile money" domestic form of financial inclusion based upon mobile phone technology exists outside formal monetary systems, essentially as part of the

[17] E.g., Popescu, A. "Cross-Border Central Bank Digital Currencies, Bank Runs and Capital Flows Volatility." IMF WP/22/83 (May, 2022) https://www.imf.org/en/Publications/WP/Issues/2022/05/06/Cross-Border-Central-Bank-Digital-Currencies-Bank-Runs-and-Capital-Flows-Volatility-517625 (accessed 4 August 2022).

[18] Compare Carriere-Swallow, Y, V Haksar & M Patnam, "India's Approach to Open Banking: Some Implications for Financial Inclusion." IMF WP/21/52, (February, 2021) https://www.imf.org/en/Publications/WP/Issues/2021/02/26/Indias-Approach-to-Open-Banking-Some-Implications-for-Financial-Inclusion-50049 (accessed 9 July 2022).

informal economy in traditional development economics terms.[19] Despite its limited impact on the financial system as a whole, it does place the emphasis coincidentally on digitisation and information.

Meanwhile, developed countries' financial systems based upon major international currencies may benefit from a cross-border CBDC introduction from coincidental network effects linked with traditional issues like dollarisation or major currency replacement, or perhaps also from efficiency-based boosts in terms of lowering cross-border transactional costs. As a corollary, one should recognise that purely domestic versus cross-border international CBDCs are quite different animals.

The risks and rewards, therefore, associated with CBDCs will not be the same for all countries, and matters may look very different to developed as opposed to developing countries, and also for purely in-country as opposed to cross-border CBDCs. The second aspect is to acknowledge that CBDCs entail political economy and political support issues at the level of legislation and government, triggered by the idea that any financial sector changes involving any proposed CBDC may affect current business models (since one entity's increased efficiency may come at the cost of another's lost profits). By way of example, the US Federal Reserve's declared policy has been that they are interested in CBDC, but only via legislation (meanwhile, I do not believe legal certainty is their real concern). Finally, what might be the collateral effects on central bank independence given P2SK's general evidence that the DPR may wish to insert itself more into the details and mechanics of financial regulation?

Meanwhile, the third aspect and latest mime in higher central banking circles seems to assume accelerated adoption of cross-border CBDCs, perhaps for different, independent political reasons. One possible view is because they

[19] There have been discussions of how CBDCs might be incorporated into mobile money, particularly in Sub-Saharan Africa, to better enable cross-settlement across borders and between different mobile telephone networks with pre-existing incompatible mobile monies. If the question were raised why not just go directly to CBDC, the issue may be convenience and familiarity, to the extent users are already tied into their pre-existing networks as a "good enough" solution. In theory, there must be some positive inducement to motivate change them to a new network, and their old network probably lacks incentives to introduce and support CBDC on their own. Compare Allen, M & B Cooper.,"CBDC—The next frontier of mobile money?", Cenfri, https://cenfri.org/articles/cbdc-the-next-frontier-of-mobile-money/ with Cooper, B, A Esser & M Allen, "The use case of central bank digital currency for financial inclusion: A case for mobile money.", Cenfri, https://cenfri.org/wp-content/uploads/2019/06/CBDC-and-financial-inclusion_A-case-for-mobile-money.pdf, and Lal, R & I Sachdev., "Mobile Money Service-- Design and Development for Financial Inclusion.", HBS WP 15-083, https://www.hbs.edu/ris/Publication%20Files/15-083_e7db671b-12b2-47e7-9692-31808ee92bf1.pdf (accessed 4 August 2022). The hidden problem is that any CBDC might fail in introduction unless users see a positive advantage, in practical terms understood mostly as a subsidisation issue, until it achieves some widespread degree of acceptance and so enjoys its own network advantage.

consider adoption from the viewpoint of traditional developed countries for whom cross-border CBDC adoption seems most advantageous (for example, current focus on a digital Euro with regional implications).[20] By comparison, another possibility is that adoption may represent national project(s) with complex potential political and operational benefits, as with China (since e-yuan CBDC might enable increased scrutiny and potential overhaul by the Chinese state of predominantly private digital yuan payment systems at home-- Alipay and WeChat Pay, whose domestic predominance the Chinese government has seemingly regarded with suspicion—as well as potentially raising the still low transactional volume of international yuan payments from currently approximately 2.7% of international payments, compared to the US dollar's approximately 40.51% share of international payments, and the Euro's approximately 36.65% share of international payments, and even the pound sterling's still approximately 5.89% share of international payments),[21] including weakening the US dollar's reserve currency status and enabling more active Chinese fund transfers beyond the current predominance of SWIFT-based international financial system transfers.[22] This would decrease even limited current transparency and potentially avoid legal complications, viewed from the Chinese perspective the example of US dollar-based economic sanctions against Russian financial institutions in the wake of the Ukraine conflict. Then again, the issues are mixed for a grouping like the G20 with a separate economic goal of improving cross-border payment systems in efficiency or cost terms, without necessarily considering differing national capacities, or collateral financial sector effects of what is ultimately more of a trade facilitation initiative.

[20] Compare Fiedler, Gern & Stolzenburg, "The Impact of Digitalisation on the Monetary System," (Economic and Monetary Affairs Committee, European Parliament PE 642.361 11/19)(advisory paper for the European Parliament), https://www.europarl.europa.eu/cmsdata/207651/11.%20PE%20642.361%20Kiel%20publication-original.pdf

[21] See de Best, R. 29 June 2022. "Most active currency for international payments in 2021, based upon transaction value." Statista, at https://www.statista.com/statistics/1189498/share-of-global-payments-by-currency/ (based upon SWIFT payments) (accessed 4 August 2022).

[22] Compare Benzmiller, T., "China's Progress Towards a Central Bank Digital Currency." CSIS New Perspectives on Asia Blogpost, (April, 2022), at https://www.csis.org/blogs/new-perspectives-asia/chinas-progress-towards-central-bank-digital-currency ; Feng, C. "Beijing is exploring digital yuan cross-border payments by joining with Hong Kong, Thailand, UAE and the Bank for International Settlements." South China Morning Post, (February, 2021) at https://www.scmp.com/tech/policy/article/3122924/beijing-exploring-digital-yuan-cross-border-payments-joining-hong-kong?module=inline&pgtype=article. All publications were accessed on 4 August 2022.

V. LEGAL VERSUS ECONOMIC CHARACTERISATIONS OF "MONEY" AND IEL

Financial and central bank economists customarily view money from an economic perspective, defining in traditional terms "money" as a unit of account, a store of value, and a means of payment, eventually focusing on financial intermediation. That view is also expressed in the P2SK's official commentary.[23]

Domestic Law and Money. At the same time, in financial sector practice there are different kinds of money on the domestic sector side, typically:

1. Central Bank Money, as a direct central bank liability, traditionally in non-interest bearing (physical) cash form, but also in digital reserve balances of commercial banks at the local central bank, which may or may not bear interest depending upon local central bank policies, now faces three potential expansions as a practical matter. The first might be expansion via the idea of (local) CBDC, perhaps in token form, as a potential purely domestic obligation in the (local) transactional/private sector world focusing chiefly on the payments and wealth storage function(s), raising some legal and operational complications. The second might be the expansion of CBDCs across borders mostly in the (local) transactional/private sector world, raising a host of regulatory and similar complications, to be examined subsequently. The third might be expansion of the concept of "local currency" transfers across borders between central banks, to consider what amounts to central bank settlement in local currency of national government-level trade. For example, following the current Ukraine conflict's creation of international food shortages and dislocations, Indonesia has suspended the exportability of CPO-- essentially cooking oil-- at the same time as India has suspended the exportability of wheat—essential to bread and noodle creation. Meanwhile, a case could be made that both India and Indonesia can mutually benefit from government-to-government transactions trading Indonesian CPO for Indian wheat undertaken outside the normal private sector trading modalities. This also might be accomplished most easily over time perhaps at size via government-to-government central bank local currency payments in major transaction size, to avoid the complications of international US dollar-based and Euro-based transactions.
2. Commercial Bank (Digital) Money is a private banking sector liability, most used by the public, held as commercial bank deposits for use in the transactional/private sector world (and typically enjoying some domestic

[23] See Indonesian Law on P2SK official commentary at page 80 (*Penjelasan*), remarking on Digital Rupiah sharing those characteristics with traditional paper IDR and IDR coinage.

deposit insurance coverage, at least for smaller individual accounts, as traditional anti-bank run regulatory measure).

3. Non-Bank (Digital) or also Mobile Money is money held as balances at non-bank financial institutions, traditionally perhaps non-deposit taking institutions in developed countries, then private digital fund transfers employing existing mobile telephone systems in the developing world (particularly in Sub-Saharan Africa and South Asia). Currently, they involve more likely "fintech" in developed and emerging markets, with balance transfers conducted on their own books using a range of technologies online, without deposit insurance due to a lack of a banking charter being held by the non-bank financial institution (the new Gojek and Grab of Indonesia or Singapore). In practice, the loss of prudential regulatory authority has to a great extent moved decisions about this kind of money away from central banks and the banking system to fintech's regulators (the OJK, in Indonesia). However, now that Digital Rupiah is authorised as a legal matter, the issue may arise whether BI will exercise its macroprudential regulatory power to try to mandate the replacement of mobile money with legal tender Digital Rupiah. This might provide a greater degree of consumer protection because such amounts in non-guaranteed accounts could be lost to consumers in any fintech insolvency, but would seemingly infringe on the OJK's general regulatory jurisdiction over fintech, as well as related technological innovation as DPR priority expressed under P2SK Article 14A(3)©. So, what is the appropriate trade off?

All of the above assumes the traditional economic analysis of "money" as a unit of account, a store of value, and a means of payment, eventually focusing on financial intermediation. Notably, meanwhile, that the shift from top to bottom involves two aspects. The first is growing credit and liquidity concerns in an economic sense, but the second is rather the underlying legal issues that underpin the economic characterisation. We need to magnify the second aspect, to better understand what might actually be involved in operationalising CBDCs either domestically, or across borders.

VI. INTERNATIONAL ECONOMIC LAW AND POLITICAL COMPLICATIONS

On the international economic law side (and implicitly in cross-border discussions of currencies), national or legal tender currency is as much an expression of sovereignty as are armed forces. From that perspective, a state can also exercise control extra-territorially over its own currency, but can by the same token limit the convertibility of its own currency and bar the use of foreign currencies from its own territory (in all cases, absent treaty obligations to the contrary). This is how over the past 5-10 years, currency-based economic sanctions came into to play a new part of (unilateral) economic sanctions practice ex-UN Security Council due to the role of the US dollar in international finance (e.g., Iran, North Korea, and now Russia, although it bears notice that this involves now not just the US, but also the EU and its member states to the extent economic sanctions are now extended functionally to Russia via the EU's Euro). The state or wholesale level is where cross-border CBDC could be engineered at the state-to-state level to avoid dollar (or now euro) exposure, and so sanctioning authority in denying the ability to transact in a currency via replacement in central bank-to-central bank arrangements (which could be formally facilitated were CBDC discussions extended to direct "local currency" transactions between central banks). This would be consistent with general Indonesian efforts to promote greater use of other currencies in trade and investment in lieu of the US dollar.[24] This begs the question whether there should be a middle ground between purely domestic and international CBDC at the level of central bank local currency transactions?

However, is it always a good thing in international (economic) law terms to enable easier transacting, such as facilitating local currency transactions at the central bank level as a fruit of CBDC? On one level, a government-to-government central bank transaction presumably avoids cybersecurity and similar practical concerns that might pose significant risk in any private transacting involving cross-border CBDCs. The question would seem an easy one in our hypothetical case of Indonesia effectively trading CPO for Indian wheat. The fly in the ointment may be, however, that while the technical point might concern potential "local currency transactions" between central banks, any general discussions concerning matters of foreign policy and national security like economic sanctions clearly would fall beyond BI's competence.

Presumably, they belong more within Indonesian government to the Foreign Ministry or DEPLU, perhaps educationally as a national security question to LEMHANAS as a national strategic defence educational institution comparable to the US National Defense University, or ultimately at the level of the President balancing whatever s/he considered Indonesia's interests in both specific situations and under general circumstances. President Jokowi seemingly already was placed in a difficult position as G-20 head dealing with opposing intentions of Russia and its allies, versus the EU alongside the US, in the context of the Ukraine conflict and G-20 meetings. But it would be an even more difficult situation looking to the future possibility that for its

[24] Compare Suroyo, G & S Sulaiman. "Has Indonesia shaken its "fragile" status among emerging markets?" Reuters, (July, 2022) at https://www.reuters.com/markets/europe/has-indonesia-shaken-its-fragile-status-among-emerging-markets-2022-07-03/ (accessed 4 August 2022).

own internal political reasons, the PRC might decide to proceed unilaterally, employing armed force like Russia has in the Ukraine conflict, to accomplish what it considers Taiwan's "reunification" with the mainland (essentially presenting all Asian countries with analogous hard choices European countries now face in the current Ukraine crisis). On a less fraught but still difficult question of Indonesian foreign policy, what might happen in a higher-pressure situation concerning Indonesia's position on Natuna and apparent conflicts with the PRC's South China Sea policy (the code of conduct approach and similar measures via ASEAN do not seem as yet to have resolved the issues)? All these possibilities may be under active consideration within the Indonesian government, but presumably not primarily within economic and financial institutions like BI. So, where and how might coordination and consultation be implemented to bridge any gap between economic and financial institutions versus foreign policy and national security institutions within the Indonesian government? Beyond P2SK's apparent failure to include cross-border CBDC, its provisions allowing further regulation to address matters such as financial stability more broadly at the level of the Minister of Finance and leadership of BI and OJK simply do not address Indonesia's own national security issues.

Beyond national security concerns as such, there is another substantial potential international economic law overlap with CBDCs, primarily via trade law (WTO GATT and GATS, without looking also to ASEAN-level regional economic agreements like the AEC), as well as the IMF charter and national accounts (international monetary law as another branch of international economic law, beyond trade law). The general international trade law point begins with the idea that the WTO Agreement contains potential escape provisions linked to national accounts (particularly under GATT 1947 Article XII carried forward into the 1994 WTO Agreement) tied to the idea that in the case of a current account deficit and so threatened foreign exchange problems, WTO obligations may be suspended. The tie to CBDCs would be a combination of general issues like the point of view that cross-border CBDCs might heighten volatility vis-a-vis local currencies (magnifying potential foreign exchange crises) tying into the WTO obligation provisions, normally presumably a concern more for the Ministry of Finance, alongside other economic institutions like the Ministry of Industry and Trade, rather than BI.[25]

[25] However, the official P2SK Commentary acknowledges a link at the basic level of BI's inflation-fighting mandate and foreign exchange stability at page 62. Meanwhile, I believe it to be a fair statement that BI was not the primary financial sector governmental institution concerned during the period of extreme IDR volatility commencing at 1997-1998, although it may have been the primary organising contact with the IMF. The operative decisions were made at the Presidential level, and everyone remembers the famous picture of then-IMF head Michel Camdessus looming over President Suharto with crossed arms.

In parallel, the international monetary law or IMF law issue was similarly demonstrated during the 1997 Asian Financial Crisis by Malaysia's decision to suspend convertibility of the Ringgit via its investment account (as part of its national accounts). The purpose of Malaysia's decision was to avoid foreign portfolio investors from stampeding away from the Malaysian currency with broader negative effects. The underlying technical issue going forward is how to control aspects of national currency like convertibility once it moves offshore via cross-border CBDCs? And would at least retail foreign CBDC be deemed an "investment" for purposes of national accounts and treaty protections? If Malaysia were again to suspend convertibility after "selling" CBDC cross-border into Indonesia, what should the posture of BI and the Indonesian government be towards such "stranded" investments of its nationals (and how might it be treated under regional arrangements like the AEC?), which is in part a regulatory structure question addressed shortly. Meanwhile, how does convertibility really work if you have an overseas pool of national currency longer term? In other words, how can you prevent the development of separate, unregulated overseas interest rate and similar markets (which back in the day created the original Eurodollar bond market)?

So, the extension of CBDC to encompass state to state local currency transactions from BI's point of view probably requires coordination and consultation in Indonesian terms with the Ministry of Foreign Affairs and others responsible for national security within the Indonesian government. Similarly, there may seemingly be complications at the level of international trade and monetary law at the WTO and IMF law levels, which perhaps might involve decisions by the Ministries of Finance, Industry, and Trade in the ordinary course, rather than BI. So how to approach such issues of coordination and consultation among the economic and finance institutions of Indonesian government, and whether and how might it affect central bank independence?

The broader point in analysing cross-border CBDCs is twofold. First, the best way to think about CBDCs is probably not as a technical decision on payments modalities, or even as a unitary package in political economy terms. Perhaps the best approach would be rather as a "Chinese menu" exercise involving different groups and institutions within government for specific questions related to CBDCs' potential scope. For example, the Bahamian Sand Dollar is one of a small number of already functioning CBDCs.[26] It seems to have been created primarily to increase financial inclusion. As a practical

[26] See Committee on Payments and Market Infrastructures, BIS Innovation Hub. "Options for access to and interoperability of CBDCs for cross-border payments: Report to the G20", (July, 2022): 52, https://www.bis.org/publ/othp52.pdf (Sand Dollar) (accessed 4 August 2022).

matter, in the Indonesian context, to follow a path like the Bahamian CBDC might lie closest to designing a digital version of a postal savings bank account to serve the unbanked for economic and social purposes (which presumably would have tie-ins to existing Indonesian payment systems designed for domestic commercial banking, presumably requiring substantial adjustments for any CBDC introduction, even a purely domestic one). So, in the case of the limited domestic introduction of CBDCs for such a purpose, the proper partner within Indonesian government might be those institution(s) within government most concerned about "national unity," *rakyat kecil* (common people) welfare in rural areas on larger islands, or on smaller islands as a whole, or the extension of payment facilities to MSME or cooperative economies (seemingly contemplated by P2SK Article 249, at 444). This would likely be an entirely different set of government institutions compared to foreign affairs and national security concerns for local currency payment questions between central banks, or even the higher-level economics and finance institutions like the Ministries of Finance and Trade in dealing generally with trade and monetary law issues in the cross-border context.

Second, looking at the CBDC question more broadly from the international economic law level, there may be surprising interest at levels of government like the Ministries of Foreign Affairs, and Industry and Trade, because cross-border CBDCs at the government level may help address issues like economic sanctions, even while reaching into international trade matters. Meanwhile, economic sanctions exist in practical terms as a second-best choice, simply because the use of armed force is presumed illegal as a matter of international law, absent exceptions like self-defence. Again, the hidden problem may be the extent to which the seemingly technical CBDC payments question may play into foreign affairs and national security issues.

The current demonstration of these kinds of overlaps presumably lies in President Jokowi's diplomatic focus as G-20 head on practical effects of the Ukraine conflict, though he is generally acknowledged as having expected initially that his G-20 presidency would be mostly about coordinating an international economic recovery from the Covid Pandemic. This leaves aside the more sensitive issue where other (European) states' views of national security may present a good case for the invocation of WTO Article XXI on "essential security," to the extent (mostly Asian) purchases of discounted Russian hydrocarbons are perceived by European states as directly financing a war of aggression in Ukraine, which they perceive as a threat to their own territorial integrity (much as Indonesia would perceive its Natuna-based interests to be threatened by PRC claims directed against other ASEAN member states further north in the South China Sea).

The point is that via provisions like WTO Article XXI, international economic law recognises the priority of public international law concerns in the national security area, so addressing or circumventing economic sanctions from a technical point of view would not eliminate sensitive problems that central banks as economic and finance institutions simply traditionally would not even consider. As a sovereign state, there ultimately can be no right or wrong answers in terms of Indonesia pursuing its own interests, but the Indonesian public law question is who should make those kinds of decisions within Indonesian government, and following what process? The easiest suggestion that such decisions be made by the President seems unrealistic, to the extent the President's time is valuable and limited, so in practice s/he must act through his or her ministers and lower officials.

VII. CORE DOMESTIC VERSUS CROSS-BORDER CBDC ISSUES

We have already noted the idea that different issues are presented by purely domestic versus cross-border CBDCs, particularly in the developing country setting. In lieu of surveying the growing economics literature in the text, we simply add it to the footnotes to enable us to focus on the broader, legal issues.

Purely Domestic CBDCs and Financial Inclusion. The first and most basic issue is what would be the goal or point of introducing purely domestic CBDCs in an existing financial system, and how in particular might this interact with private sector financial institutions? On a secondary level, how would the introduction of CBDCs either accommodate or disturb existing regulatory divisions, as between the OJK and BI along the lines of prudential regulation versus payment systems regulation? To this, we would add the idea that in terms of the broader financial system, the OJK's coverage of areas like capital markets, insurance markets, banking markets and fintech does encompass certain "payment-like" areas such as clearing and settlement systems in the non-banking financial markets. In the financial economics literature, an issue also arises concerning "wholesale" versus "retail" CBDCs, largely as a matter of large (institutional accounts) scale versus smaller scale (cash like) transactions.

Indonesia has emphasised financial inclusion as part of a generally more inclusive approach to development since the early 2000s, including finance.[27] At the same time, scholars have noted at least two specific aspects of financial inclusion in the banking regulatory context. The first is the unintended

[27] Compare Tambunan, T., "Financial Inclusion, Financial Education, and Financial Regulation: A Story from Indonesia.", *Asian Development Bank Institute*, ADBI Working Paper 535, (June, 2015) https://www.adb.org/sites/default/files/publication/161176/adbi-wp535.pdf (accessed July 9, 2022).

effect moving forward from the Asian Financial Crisis and subsequent Multidimensional Crisis in Indonesian terms that banking regulatory reform measures did not in practice always serve financial inclusion via the ordinary private sector banks, and may have increased private sector banking's traditional concentration problems.[28] But the second is that digitalisation itself may enable the circa 50% of the Indonesian population which is unbanked to access financial sector services. In Indonesia, "the unbanked" already may have been recruited into the use of financial services via online applications of non-bank financial services providers (so via fintech).[29] At the same time, individual financial institutions like BRI or Bank Rakyat Indonesia as traditional state bank provider of financing to MSMEs have already designed and launched programs to encourage and engage the underserved MSME sector digitally.[30] To the extent CBDCs might serve financial inclusion domestically, and bearing in mind the traditional Hippocratic oath of "first, do no harm," the natural question may be whether and how CBDCs might support the Indonesian government's declared policy to increase financial inclusion, assuming increasing financial inclusion to be the strongest case for purely domestic CBDCs? All of this appears to fit a DPR priority for the Digital Rupiah, in particular under P2SK Article 14A(3)(c).

The World Bank speaks in terms that "[f]inancial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs-- transactions, payments, savings, credit and insurance-- delivered in a responsible and sustainable way."[31] The strongest case for CBDC introduction in the Indonesian financial sector in the short term is probably financial inclusion and naturally follows Indonesian government efforts to broaden inclusive development via more inclusive financial sector approaches (implementation of which would be reinforced by the DPR's articulated priorities for the Digital Rupiah under P2SK Article 14A(3)(c)).

"Financial inclusion" itself is a somewhat ambiguous term that extends far beyond payments or possession of a bank account. Here, one relevant question

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[28] See Rosengard, Jay K., and A. Prasetyantoko, "If the Banks Are Doing So Well, Why Can't I Get a Loan? Regulatory Constraints to Financial Inclusion in Indonesia", *Asian Economic Policy Review*, 6(2): 273-296 (2011), https://doi.org/10.1111/j.1748-3131.2011.01205.x.

[29] Compare "Indonesia's Unbanked Leapfrog to Investing", finews.asia, (March, 2022), https://www.finews.asia/finance/36474-indonesia-s-unbanked-leapfrog-to-investing (accessed 4 August 2022).

[30] See Sunarso, S., "How one bank is digitalizing financial inclusion in Indonesia.", Davos 2022 World Economic Forum Meeting (May, 2022), https://www.weforum.org/agenda/2022/05/digitalization-financial-inclusion-in-indonesia/ (accessed 4 August 2022).

[31] See World Bank. Financial Inclusion Home, at https://www.worldbank.org/en/topic/financialinclusion/overview (accessed 4 August 2022).

asks how financial inclusion or inclusive development could be pursued in more than one way. On the one hand, a possibility might be whether to push for creation at the simplest level of what could be viewed in practical terms as creation of an individually oriented "digital postal savings bank" enabled via domestic CBDC, in order to reach the 50% plus of Indonesian adults still counted among the unbanked (and who fall below the radar of private sector banks, for whatever reason). On the other hand, another possibility in terms of financial inclusion/inclusive development in the broader sense is whether such a more inclusive financial approach might be better aimed at transactional support for micro, small and medium enterprises (MSMEs), representing the level of the economy at which most of the unbanked may work? Such an MSME-directed endeavour would require a somewhat different legal approach in building out transactional and lending capacity to allow MSMEs to work more together with larger, well-banked enterprises. (In a practical sense, this chiefly involves a focus on what are described as "ledgers" in the financial economic literature, incorporating blockchain or similar technologies, as periodic gateways into a CBDC-based payment system.) Meanwhile, in a practical development economist's sense, both probably represent a longer-term attempt to bring more Indonesians and MSMEs into the formal sector of the economy.

It should be clear that this is not purely a "banking" question, however, because it is evident that the "unbanked" are now being reached via very active Indonesian online fintech and are already being pulled into financial sector products. Plus, the World Bank itself includes credit and insurance in its definition of financial inclusion. Meanwhile, "savings" is ambiguous because it can mean so much more in the Indonesian setting than a savings account at a bank. For example, also among Indonesians perhaps without a transactional account, their first "savings" are often investments in real estate. Such "savings" is seen through traditional smallholder farmers selling land to go on the Hajj as an important life goal, or middle-class Indonesians investing in land, securities, and jewellery or porcelain objects as a form of retirement savings. If you ask them why, they often cite traditional concerns (burnt into their memories from 1997) about inflation and currency devaluations as they may affect IDR bank accounts. So, to some extent, it may be misleading to lean too much on any short-hand description focused presumably on a transactional account (despite the traditional economic description of "money" including its character as a store of wealth, alongside its use in transactions, and notwithstanding financial intermediation concerns hovering in the background).

Here, we should recognise a hidden potential division among domestic CBDCs, normally touched on in the economics literature under the rubric of "retail" versus "wholesale" CBDCs, couched mostly in payment services terms.

This is normally understood in terms of trying to design something "cash like" for use at the individual level digitally (retail, typically implying anonymity and non-interest bearing, probably to enable individuals' digital transactions), versus designing something considered more for use at the digitised account level typically involving transfers between financial institutions already participating in the payment system (wholesale, basically to increase efficiency in the payment system). BI's Project Garuda formally called for both retail and wholesale CDBC, famously emphasising everything you prioritise nothing. Meanwhile, the DPR's prioritisation of inclusive development and financial inclusion seemingly calls for a greater emphasis on the retail side. Emphasising wholesale CDBC might advance G20 cross-border payment improvement goals, but that by its nature contemplates a focus on cross-border transfers presumably of larger financial institutions (in the name of efficiency).

In the alternative, the emphasis might be placed on preventing non-bank digital currencies now present in FinTech's' experiments from displacing IDR (judging by published reports,[32] BI seemed to aspire originally to tokenised CBDC, perhaps having approached matters from the stable coin perspective, or to eliminate non-bank digital money as contained currently in various fintech apps presumably blessed by OJK supervision). Meanwhile, the DPR has seemingly "legalised" cryptocurrencies in P2SK under the OJK's supervision, including prioritising a broader focus generically on "digital money" under Article 14A(3)(c). The concern again is that this kind of approach assumes basically that the issues behind CBDC are simply payment system issues, whether addressing increasing digitalisation of the economy concerns or focus on increased efficiency in an institutional sense. However, is financial inclusion really chiefly a payments issue, because in Indonesian terms the traditional private sector banks have been lumped together with their conglomerate

[32] See Sihombing, G & C Yung, "Indonesia Plans Wholesale Digital Currency to Improve Transfers." Crypto, Bloomberg, (July, 2022), at https://www.bloomberg.com/news/articles/2022-07-21/indonesia-plans-wholesale-digital-currency-to-improve-transfers?sref=qlL5eZec (accessed 4 August 2022).

families?[33] There will be invariably a sotto voce conversation in Indonesian development policy terms whether national development is better served by supporting the established business community, including its banks dating back to the New Order period, the newer internet-based or e-commerce business community, or rather something like a people's economy (under the banner of *kooperasi* or cooperative economy during the New Order prior to 1998, more recently MSMEs).

For simplicity's sake in policy proposal terms we can reduce financial inclusion matters to a issue of enabling further financial inclusion institutionally via the digital equivalent of a postal savings bank (with modest account sizes, to serve *the rakyat kecil* as what amounts to a government social service), where modest savings and similar accounts would predominate but transactional functions would be limited (which transactional limits would cut against a payments system emphasis anyway). This might be appropriate perhaps for a more active institution tied more into transactions so that it ultimately could allow interchanges with private sector banks (with larger account sizes, perhaps intended still in the name of financial inclusion more to address the business needs of the MSME sector via operating account dealings in the wider economy with larger businesses). These are not exclusive categories but illustrate the real point of to what extent CBDCs might be employed at a modest level to increase financial inclusion of ordinary (often poorer) individuals currently falling below the standard customer profile of private sector banks, with limited transaction system complications, versus trying to enable their entrepreneurial activities, presumably by trying to support financial inclusion of MSMEs as a

[33] Since the early 2010s, Indonesian financial sector regulation has been reorganised through the creation of the OJK. Bank Indonesia (BI, as the Indonesian Central Bank) experienced a far-reaching corresponding loss of the control of prudential regulation of Indonesian banks at that point where its independence sought to be established in Indonesia's general transition in the early 2000s. In the interests of fairness, however, it must be recognised that pre-1997 supervision of private banks failed in many respects. It included practices like repeated waivers of limits on affiliate lending, coupled with policies like substantial mandated or directed lending to target groups like SMEs or cooperatives for both state-owned and privately-owned banks, apparently regardless of their longer-term financial prospects. This contributed eventually to Indonesia's own serious financial dislocation resulting from a legacy of relative financial concentration, and the non-separation of the financial sector and banking from industry. This resulted in a dual legacy of problems. Many large banks took what amounted to major liquidity loans made by BI for systemic support reasons early in the Asian Financial Crisis, then promptly passed through the funds represented by the BI loans to support their conglomerate industrial affiliates rendered insolvent as a function of their own financial positioning. The Indonesian Bank Restructuring Agency (IBRA, as the better-known English acronym of the BPPN or *Badan Penyehatan Perbankan Nasional*) was the resulting medium-term legacy. However, the hidden issue was arguably the continuation of a practice of the lack of financial inclusion in a financial system in which financial intermediation was predominantly about commercial lending to major corporates, and to a lesser extent about infrastructure finance as a matter of national development policy.

policy matter. MSME support presumably involves a more active integration into business sector transaction systems (implying some significant volume of transactions with private sector financial institutions). Both could presumably resonate with the DPR's declared priorities under P2SK Article 14A(3). Meanwhile any "social services" or financial inclusion policy approach might involve some trade-offs at the level of financial intermediation, to the extent traditional ideas about banking per se seemingly incorporate the financial intermediation concept as an article of faith.

A key point is that increasing financial inclusion at the MSME or postal savings bank level implies a CBDC interface with the wider (domestic) payments and banking system. It seems possible but unlikely that private sector banks without more incentive would support a general CBDC payment system for all financial institutions on efficiency grounds, unless BI subsidised the entire system effectively transferring payment costs to BI, thus benefiting private sector banks enough to attract their support. That would likely present political difficulties, however, so that absent a clear efficiency and national competitiveness case made from outside BI, the likelier scenario currently would be trying to enable limited access to some version of the existing payments system. Otherwise, it would seemly be overwhelmingly for the benefit of existing financial institutions (primarily banks), leaving financial inclusion seemingly to fall by the wayside.

There seems a movement afoot at the G-20 level substantially to reform existing cross-border payment systems as too slow and expensive, so worth reforming to improve cross-border trade and transactions generally.[34] However, private sector (corresponding) banks are currently deeply involved in that "overly expensive" cross-border payments system, as they are currently in systems like domestic and international credit card payments. Beyond potential lost revenue issues, particularly now in the face of a pandemic-weakened international economy, accompanied by fears of a potential global recession, even a quicker and cheaper exclusively CBDC-based real time or similar payments system presumably would not be well received by the private financial sector, if its implementation imposed significant transition costs on them over the next several years. However, by the same token, the technical details of such a CBDC-based real time or similar payments system might be worked out in the medium term by a group of states such as EU members, who as developed states are currently pressing hard on developing the digital

[34] Compare Committee on Payments and Market Infrastructures, et al. "Central bank digital currencies for cross-border payments: Report to the G20." BIS, (July, 2021), https://www.bis.org/publ/othp38.htm (accessed 4 August 2022).

euro as CBDC.[35] So cost-based short term private sector opposition might just as easily shift to private sector support over the medium term, if the commercial benefits of such a system were demonstrated elsewhere, and there was some consensus on related international standards in the payments area. Ultimately, in Indonesian financial sector policy terms, it seems more likely than not that accommodating purely domestic versus cross-border CBDCs will run on distinctly different time tracks.

There may be a case to be made for transitioning at some point perhaps exclusively to both a domestic and cross-border CBDC-based payments system in Indonesia longer term, serving digitisation and efficiency purposes. It would seem overly aggressive to push hard on a transition in the short term in the absence of established international standards and practices to follow, however, meanwhile there are questions whether traditional "cash like" aspects associated with retail approaches such as anonymity really are desirable above a certain transaction size (e.g., due to anti-money laundering and terrorist finance concerns, meaning in Indonesian the PPATK terms). The oldest joke in the US financial sector is that pioneers get arrows in their back, so it seems doubtful larger private sector institutions will eagerly embrace too much experimentation. The private sector approach to financial sector innovation in larger institutions emphasises more the adoption of innovations in standard form once they have proven their value in practice, rather than embracing too much open-ended experimentation. In the meantime, outright experimentation is more the province of more nimble and less regulated fintech, where any failed initiatives will not engender the same level of costs and complications.

The "payment-like" (chiefly capital markets) institutions previously referenced as supervised by the OJK enable and implement in practice dematerialised or scripless securities and transaction execution, representing an analogy to payments outside the banking sector, but more in capital markets. So, there is already experience in Indonesian capital markets law with such concepts via KSEI (*Kustodian Sentral Efek Indonesia*, or the Indonesian Central Securities Depositary, as clearing and settlement or LPP entity) and KPEI (*Kliring Penjamin Efek Indonesia* or the Indonesian Clearing and Guarantee Institution aka Central Counterparty as self-regulatory organisations or SROs).

[35] Compare Panetta, F., "More than an intellectual game: exploring the monetary policy and financial stability implications of central bank digital currencies." Opening Conference Speech by ECB Executive Board Member, https://www.ecb.europa.eu/press/key/date/2022/html/ecb.sp220408~980e39957b.en.html, Bindseil, U, F Panetta & I Terol, "Central Bank Digital Currency: functional scope, pricing and controls.", Occasional Papers Series No 286/December 2021, at https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op286~9d472374ea.en.pdf; European Central Bank. "Report on a digital euro", (October, 2020) at https://www.ecb.europa.eu/pub/pdf/other/Report_on_a_digital_euro~4d7268b458.en.pdf. All publications were accessed on 4 August 2022.

Both KPEI and KSEI were created under Capital Markets Law No. 8 of 1995, now are subject to OJK supervision, and have most recently extended their original scope of activities from settlement of transactions in stock exchange-listed securities to transactions involving over-the-counter derivatives, so they already have engaged in clearing and settlement efforts in banking markets (because otc derivative securities are presumably more banking market than capital market obligations).

From the structural point of view, however, what is distinctive about clearing and settlement under the capital markets model, and paralleled in guarantee funds in foreign insurance markets, is that the private sector transactions in the non-banking financial sector typically are largely self-insured by market participants as a group, rather than following the tradition in banking markets of some reliance on deposit insurance to avoid bank runs (which insured deposit institutions may or may not pay for), but with the ultimate unlimited guarantee risk being the government's as steward of the general economy, as was ultimately the case with BPPN/IBRA. Such a capital markets clearing model at the wholesale level might be beneficial to the extent it would protect BI from incurring what amounts to clearing and settlement liability, were it directly to issue CBDC via an internally operated payments system. It also might be more easily extended to fintech and the online delivery of financial services, which arguably function more on a transactional than payments model anyway, and eventually might enable clearing and settlement institutions to function as paying agents in the capital markets setting for increasingly dematerialised debt securities.

This eventually matters to the extent consideration is given to how to structure "interfaces" between private sector and potential public sector payment systems like CBDCs, which are normally considered mostly in a banking context. They are, however, often referred to more as "ledgers" in the economists' terminology, sometimes considered as offline interfaces that might periodically reconnect with CBDCs in central banks, although the inference is also there that they might be offline semi-permanently via something like block chain technology. First and foremost, there seems an implicit assumption in most economists' treatments of CBDCs that they will be implemented essentially directly by central banks because their direct obligations are involved, while there are statements that said implementation implies increases also in central bank staffing. However, do central banks customarily deliver cash (as CBDCs' closest existing analogue) directly to the public, and how to address operationally the convertibility of cash into CBDCs, and back again? Meanwhile, to the extent central banks are considered some form of governmental entity, what of the long-running movement of governments for the past 35+ years towards corporatisation of business and economic functions, and, at best, BUMN status in areas of state ownership of businesses (in areas like banks, utilities, and natural resource companies)?

Central banks dealing directly and living with the private sector via a CBDC-based payments system might present substantial operational risks and concerns in areas like cybersecurity, particularly in the case of real-time links at the level of ledgers between central banks "emitting" CBDCs and private sector entities. So, it may not be a good idea that even purely domestic CBDCs could be managed administratively within BI as entity, much as an SOE currently prints and BI manages Indonesian Rupiah in cash form, but cash's actual distribution and use follows externally via the ordinary Indonesian financial sector institutions. A case might be made that BI theoretically could manage private sector CBDC transactions much as it currently manages financial institution reserve accounts, but that is undercut by the idea that the sheer volume of transactions in real time in any payment system in widespread Indonesian use would be several orders of magnitude higher than managing bank reserves for several hundred financial institutions, presumably on a daily end-of-business basis.

In the domestic only CBDC setting, political economy considerations might also come into play. If the unbanked by definition are not currently consuming private sector banking services, whether as the result of geographic isolation (Indonesia's archipelagic character, and smaller village rural areas on its larger islands) or low profit potential, making arrangements to serve them via CBDCs in the name of financial inclusion would not unduly compete with private sector financial institutions. Such an effort would simply not be viewed as poaching private sector banking customers, because they were unbanked anyway. So, there could be a place for what might be considered a digital version of a traditional smallholder "postal savings bank" to reach smaller potential account holders who otherwise are simply too small and expensive to serve to be of interest to private sector banks. CBDCs in effect may constitute subsidised infrastructure for such an online bank, which might be generally acceptable to the unbanked population as a government-affiliated entity, perhaps one calculated to connect ordinary Indonesians to broader social initiatives building on measures like health insurance-- JKN and the BPJS--. Even if corporatized, the question might be whether such a digitally based online institution were really designed just as a savings bank for modest accounts, and whether it would have a lending function at all (versus simply investing account balances in SBIs or similar government securities in the interest of simple and inexpensive operations).

If a lending function were desired in financial intermediation terms to recycle deposit account balances into areas like MSME lending, the initial question might be whether the easiest approach would be simply to contract out such a function to those banks most successful already in dealing with MSMEs. These might be Bank Rakyat Indonesia (BRI) and possibly Bank Danamon, in lieu of reinventing the wheel in staffing and starting up yet another, independent lending institution. (However, this is not simply a banking issue in institutional terms, to the extent there is some evidence that online fintech person-to-person lending may also play some role in MSME funding, with the idea that app-based innovative non-bank lending could be incorporated also as possibility.) Similarly, if the Indonesia private banking sector is largely focused on corporate lending and more affluent individual customers, it would not perceive financial inclusion efforts targeting the MSME sector as poaching its business opportunities. Presumably, the only sensitivity of the private sector banks to efforts seeking to increase financial inclusivity would arise if domestic-only CBDC-based payment system reforms were to impose substantial costs and/or operational complications on them. Otherwise, it would simply be another step away from the history of directed private bank lending to MSMEs, compelled by a heavy-handed regulatory approach which was never perceived as serving the average Indonesian private sector bank's business goals. However, there would also be collateral questions of whether essentially transactional MSME accounts should be interest-bearing, as opposed to the digital postal savings bank model for individuals, where interest-bearing accounts would be assumed.

Cross-border CBDCs as a Second Step. Passing from consideration of a purely domestic CBDC and its suitability under Indonesian circumstances, we come to the hot topic of cross-border CBDCs. We have already addressed some of the international trade and monetary law complications for cross-border CBDCs. We have also noted that at least in the short term, they may be more attractive to developed countries with major currencies, due to a perception that theirs will be the CBDC currencies into which (developing country) currency holders may seek shelter in troubled times (raising the risk of a local bank run, the easier it is to convert from local currency to the foreign CBDC). If domestic bank balances shrank enough, and foreign exchange rates became sufficiently volatile, monetary operations at the central bank level would become increasingly difficult almost as a self-fulfilling prophecy.

So, there are some potential negatives associated with cross-border CBDCs at the central bank operational or monetary policy level. Meanwhile, the entire discussion of cross-border CBDCs' desirability seems to a certain extent to replay earlier IFI arguments about the wisdom of maintaining a completely open capital account in the wake of the Asian Financial Crisis. From an Indonesian perspective, the counterfactual might be the relative success of Malaysia's unconventional response during the Asian Financial Crisis in suspending convertibility of its investment account (in national accounting terms).[36]

Even in a less stressful financial environment, however, there is a perception that easily accessible foreign CBDCs may increase dollarisation or major currency conversion concerns, and so potential foreign exchange volatility (implying overlap issues with Indonesia's Law No. 7 of 2011, financial legislation also advancing IDR use, depending in particular upon how its Article 21(2)(e) exception might be interpreted). And once foreign CBDC becomes a local option, if it were to attract large sums from domestic currency accounts at banks, it presumably would lessen domestic deposit funds available for lending, in terms of its impact on domestic financial intermediation. Unlike foreign exchange local deposit accounts, it would not even be available for lending in foreign exchange form, to the extent we contemplate directly available foreign CBDCs. And local accountholders might not favour local foreign exchange accounts anyway, for fear their government may force conversion to local currency at a non-market rate at some point. There are various discussions in economists' terms about working against such problems by imposing potential account size restrictions as absolute or percentage restrictions on back-and-forth transactions between local currency accounts and foreign cross-border CBDC. However, there are a variety of practical questions about how to implement such limitations to the extent sophisticated investors have access anyway to a variety of strategies such as buying currency options and derivatives offshore to accomplish the equivalent of unrestricted switches between the cross-border CBDC currency and local currencies.

So, it is unclear that the introduction of cross-border CBDCs would simply lead to local foreign exchange accounts being converted into cross-border CBDCs on a one-to-one basis. Meanwhile, any quick availability of

[36] Perhaps economist colleagues might consider revisiting this parallel discussion in the CBDC context, to enlighten current decisions. Outside the normal CBDC discourse, how does CBDC relate to the broader discussion that traditional monetary policy transmission becomes harder to execute in a world of quantitative easing and government security purchases by a central bank (with Japan as chief example, but I believe Indonesia also experimented along those lines during the Covid Pandemic). Compare Kahn, C, M Singh & Alwazir, J "Digital Money and Central Bank Operations.", IMF WP/22/85, at https://www.imf.org/en/Publications/WP/Issues/2022/05/06/Digital-Money-and-Central-Bank-Operations-517534 (accessed 4 August 2022). CBDC would be suitable for "helicopter money" and perhaps more targeted offsets in lieu of fuel subsidy and similar fiscal policy distributions too, so how will it fit into monetary versus fiscal policy execution in a classic sense? As example, how much say would the Ministry of Finance have in executing fiscal policy via CBDC, and how might that affect central bank independence if money supply swelled in the short term as a result?

cross-border CBDCs in times of financial stress might enable faster shifts back and forth into foreign currencies, depending upon applicable restrictions. The evidence in recent foreign banking insolvencies (e.g., Silicon Valley Bank) is that in a world of social media and online digital accounts, problems may appear increasingly faster, placing the government and its regulators in a difficult position. And this would not be just a problem with major currency CBDCs. Under Indonesian circumstances, one might ask the question, in the case of something like an ASEAN-level joint cross-border CBDC agreement, what might be the effect of the availability of cross-border CBDC for Singapore dollars on the Indonesian financial system in times of stress, recalling the bad old days of the 1997-98 Asian Financial Crisis and Indonesia's own Multidimensional Crisis circa 1998-2003?

VIII. COLLATERAL REGULATORY AND STRUCTURAL ISSUES

In practical terms, in the short term it might seem unwise for Indonesia to embrace cross-border CBDCs for a wide variety of reasons. Nonetheless, it is worth focusing on cross-border CBDC possibilities currently for three reasons. First, at least in the short term, to work against the impression otherwise that cross-border CBDCs are a foregone conclusion (which impression might be--wrongly—gained from reading some overly enthusiastic developed country economists' presentations on CBDCs' promise, or for that matter Chinese representations to the same effect). Second, to consider that for efficiency and other reasons such as are pursued at the G-20 level, in the medium to longer term there may well be a path under which some version of cross-border CBDCs are introduced at least for specific transactional purposes (like faster and cheaper cross-border payments, to facilitate trade, support e-commerce). Third, taking into account that in the Indonesian setting it is conceivable that some version of purely domestic CBDC may already make sense to increase financial inclusion, and that in some further future cross-border CBDC may eventually make sense in terms of a reformed cross-border transactional payment system, it behoves us to think about what form of follow-on Indonesian financial sector legislative reform beyond P2SK might be called for in terms of embarking both domestic and foreign CBDC.

Looking to potential regulatory approaches to cross-border CBDCs, it would seem there are at least two. The economists' literature seems to assume some form of (potentially regulated) entity being involved in cross-border CBDCs, to the extent there are discussions of regulatory approaches like limiting account sizes, or the size and timing of transfers between currencies in order to minimise volatility, etc. It is not referred to formally as such, but this would appear to regulate implicitly on the model of a regulated institution like a (foreign) chartered bank. However, as a general matter in discussing CBDCs it would seem that the focus, also in the cross-border setting, is on the foreign central bank directly issuing the obligations. Meanwhile, the concept of directly regulating the actions of a foreign central bank in domestic financial markets seems problematic, to the extent the foreign central bank would presumably be considered an agency or instrumentality of a foreign state, meanwhile supervising issuance of its (digital) foreign currency would involve Indonesian authorities regulating another state's core sovereign function (because currency is a core aspect of sovereignty in public international law terms).

At least tentatively, foreign central bank status emitting CBDC probably confers sovereign immunity as a non-commercial activity under restrictive modern views of sovereign immunity. If all its actions occurred online in the digital world, there might also be an issue of how the Indonesian regulatory authorities might even become aware of individual cross-border CBDC issuances by the foreign central bank? Could Indonesia simply request a waiver of any foreign sovereign immunity protections? Certainly, but then Indonesia should be prepared to waive BI's own corresponding protections as soon as it issues cross-border Digital Rupiah. Under a different approach, it could be argued that the foreign central bank could work under an agreement with BI, as its peer central banking institution (although this might raise questions whether it would constitute something of a "gentleman's agreement," versus an enforceable international agreement).

Meanwhile, that also would raise regulatory competence issues in the overlap between current OJK prudential regulation and BI payments regulation, since only domestic CBDC seems subject to any fair characterisation as involving "payment systems." Foreign, cross-border CBDC seems more of a foreign exchange account problem and dealing in foreign currency would seem more of a micro-prudential regulatory problem of the kind with which the OJK could be tasked. So simply relying on BI to deal with the foreign central bank issuing its own CBDC seems problematic, not to mention that with the past surrender of its prudential regulatory functions to the OJK, BI may no longer possess the personnel and know-how to supervise any significant volume of digital foreign exchange transactions in the micro-prudential setting. And even were BI to be in a position to supervise such isolated transactions, there remains the problem of how to deal with the international trade law and monetary problems that might arise as indicated in our prior discussion (and which normally largely would fall within the presumed competences of the Ministries of Foreign Affairs, Finance, or Industry and Trade anyway).

The second regulatory approach to cross-border CBDCs might involve what was already discussed as something along the settlement and clearing house lines, whether formally under KSEI and KPEI, or a new clearing, settlement and guarantee institution created in their image. Meanwhile, the issue would have to be resolved whether a new, independent "purpose built" institution dealing with CBDCs would be preferable to slotting a new function into KSEI and KPEI as existing institutions, perhaps the faster and cheaper solution. But there are leading foreign central banks for BI to consult with, because it would appear that the Swiss Central Bank has followed this approach in their own CBDC experiments with tokenised CBDC (judging by published reports,[37] BI seems to aspire to tokenised CBDC, perhaps having approached matters originally from the stable coin perspective, or to eliminate non-bank digital money as contained currently in various fintech apps presumably blessed by the OJK supervision).[38]

Even if CBDCs would formally present dematerialised or digital "financial instruments," the clearing and settlement institutional format is a way to funnel them through a single control and monitoring point (importantly for international regulatory and law enforcement issues like money-laundering and anti-terrorism finance compliance), if there were a legal obligation to run foreign CBDC through the Indonesian clearing and settlement institution. And such a legal obligation should be permissible, to the extent Indonesia has the right to exclude foreign currencies from its territory as a matter of international law (subject to treaty obligations, bearing in mind that there is as yet not fully accepted CBDC "international standard" at the level of institutions like the IMF or various Bank for International Settlements committees). The centralised clearing and settlement approach would presumably also enable administration of restrictions arising out of international trade and monetary law complications, and presumably would enable the application also of transactional limitations like specification of maximum transaction size, or permissible transfer amounts within a given time period by individual account, etc.

Here we talk of the clearing, settlement and guarantee function approach in the cross-border setting as seemingly superior to the regulated entity approach (as though cross-border CBDC involved foreign exchange transactions by a regulated entity, on the model of a licensed foreign bank). If we carried

[37] See Sihombing, G & C Yung. "Indonesia Plans Wholesale Digital Currency to Improve Transfers." Crypto, Bloomberg, https://www.bloomberg.com/news/articles/2022-07-21/indonesia-plans-wholesale-digital-currency-to-improve-transfers?sref=qlL5eZec (accessed 4 August 2022).

[38] See Committee on Payments and Market Infrastructures, BIS Innovation Hub "Options for access to and interoperability of CBDCs for cross-border payments: Report to the G20", (July, 2022) at 46, https://www.bis.org/publ/othp52.pdf (Helvetia Phase II) (accessed 4 August 2022).

this reasoning back to purely domestic CBDCs, the limited case of the digital version of a postal savings bank theoretically could be administered via something like a clearing, settlement and guarantee institution, but that ignores the idea that the whole digital postal savings bank approach presumably would minimise transactions in a practical sense, which is the forte of such clearing and settlement institutions. Meanwhile, there might be a limited case for special cross-border transactional arrangements based upon financial inclusion concerns, like remittances from all those Indonesian maids working in Singapore and Hong Kong, or Indonesian agricultural workers generally in Malaysia, or migrant laborers in the Middle East.

So where might a state-affiliated digital savings bank belong within government (presumably outside BI, to insulate it from operational risks), or should an existing state-owned enterprise or BUMN bank simply be repurposed to fill that role? However, if the purely domestic CBDC choice rather were for the MSME-supporting institution with more transactional activity involving something like the ledger concept (involving more interchange with Indonesian private sector banks), the clearing, settlement and guarantee institution might be structured or designed in a legal sense to deal with multiple ledger issues, and so to accommodate transactions in purely domestic CBDCs. So, in the case of the simplest digital postal savings bank approach, a separate entity would presumably be desired to shield BI, and entity micro-prudential oversight presumably would lie in the OJK. In the case of the MSME-supporting institution, the OJK presumably would be in a practical position to supervise said clearing and settlement institution, also at the ledger level, because it already supervises KSEI and KPEI, and so presumably could handle the clearing, settlement and guarantee model's extension to CBDCs.

There is an additional complex of prospective regulatory issues to be recognised. How to deal with privacy, versus "corruption," versus tax compliance concerns, because the easiest AI-assisted database search in the world would be by taxation or financial authorities for CBDC accounts on an Indonesian government (BI?) server showing two times or three times fund flows in excess of reported income? This might take us back theoretically to urban legends of the old days, involving attaché cases filled with large denomination foreign bank notes (cash) moving across borders. CBDCs may indirectly create records of hidden discrepancies, raising the issue of how good related cross-border cooperation may be within Southeast Asia in particular, at the financial regulatory as opposed to the law enforcement levels? Meanwhile, the DPR's prioritisation under P2SK's Article 14A(3)(e) of data system security and the protection of private data raises questions about whether the problem involves generic data protection concepts, versus the needs of law enforcement and fiscal agencies. In plainer language, it seems unlikely that the DPR would prioritise what amounts to traditional ideas about banking secrecy especially for the Digital Rupiah, to the exclusion of agencies like the PPATK, but if not, where precisely should the line be drawn?

Would some kind of formal information-sharing or similar agreement with a specific jurisdiction be a necessary condition before permitting cross-border CBDCs for that specific jurisdiction's currency? Or what kind of general or regional information sharing arrangements might avoid the embarrassment of highlighting potentially non-compliant states? This may raise again the spectre of how to deal with foreign banking secrecy laws, although as a result of CBDCs' character as direct central bank rather than private bank obligations, it would seem possible to craft necessary disclosure and information sharing arrangements, even in the presence of foreign banking secrecy laws covering private institutions.

IX. CONCLUDING REMARK

The above discussion are simply differing potential legal directions that might beckon, once broader financial sector policy decisions were taken on whether to focus any short term Indonesian efforts to pursue purely domestic CBDC based upon financial inclusion concerns, whether narrowly to an individually focused digital postal savings bank approach, or more broadly to an MSME-supporting more transactionally focused institution with ties into the private banking sector, and the separate question about how to approach cross-border CBDC now and into the future? The above suggestions are intended more to encourage discussion of CBDCs in the legal context too, rather than specifying any final approach to the necessary questions. Despite P2SK's recent passage, we are still in early days concerning introduction of CBDCs into Indonesia, like in most countries. But increasing digitalisation of the economy implies the acceleration of implementation might become unavoidable in practice.

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