



To:

Secretariat of the Basel Committee
on Banking Supervision
Bank for International Settlements
Centralbahnplatz 2
CH-4002 Basel
Switzerland
Email: baselcommittee@bis.org

Date:

September 10, 2021

Re: Comments in Response to the Consultative Document on the
Prudential Treatment of Cryptoasset Exposures

Ladies and Gentlemen:

Coinbase, Inc. (Coinbase) welcomes the opportunity to
comment on the consultative document the "Prudential
treatment of cryptoasset exposures" (the "consultation")
prepared by the Basel Committee on Banking Supervision
("Basel Committee").

We appreciate the Basel Committee's active engagement in the
ongoing discussions on designing a prudential framework for
cryptoassets and we look forward to continuing to share our
unique experience and expertise given the continued evolution
and client demand for digital assets.

Sincerely,

A handwritten signature in black ink, appearing to read "Faryar Shirzad".

Faryar Shirzad
Chief Policy Officer, Coinbase, Inc.
Email: faryar.shirzad@coinbase.com

September 10, 2021

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1. EXECUTIVE SUMMARY

1.1 Basis for Coinbase's response

Coinbase appreciates the Basel Committee on Banking Supervision (BCBS) focusing on the important issue of cryptoassets and seeking the views of industry. BCBS's recognition of cryptoassets as an asset class in which banks will want, and need, to participate highlights that the sector is maturing and represents an important part of the future of financial services.

Coinbase services over 68 million customer accounts, which is evidence that the use and trading of cryptoassets are more than a passing phenomenon. Importantly, the persistent and rapid rise of cryptoassets reflects a fundamental shift in the way investors and consumers think about their financial holdings. In the same way that the internet democratized the exchange of information and transformed how we are connected to the rest of the world, cryptoassets are unlocking new and more efficient methods of transferring value and financial assets that will revolutionize how we save, spend, and pay for goods and services.

Banks provide a critical role in responding to this strong customer demand. We support their increasing involvement in the development of cryptoasset markets with their well-established risk management practices and financial services experience. Their participation, coupled with an appropriately tailored prudential framework, will bring additional efficiency, security, and credibility to the cryptoasset ecosystem.

Our objective in responding to this consultation paper is to support the design of appropriate prudential treatment of cryptoassets through sharing industry knowledge. As a leading cryptoasset exchange, Coinbase has a deep understanding of the risks of cryptoassets through its unparalleled access to data and analytics for the crypto ecosystem. Since its founding in 2012, Coinbase has developed robust risk management protocols to respond to this rapidly evolving and maturing market. In addition to our 68 million verified users, the Coinbase platform facilitates cryptoasset transactions involving 9,000 institutions and 160,000 ecosystem partners in over 100 countries. With nearly 10 years' experience in the crypto economy and an emphasis on prudential risk management for cryptoassets, we believe Coinbase has a unique perspective to offer for this discussion.

We are aware that a number of banks and trade associations are responding to the consultation as well, and we have participated in the response process led by the GFMA and other trade associations, which we reference here as the "joint trades consultative response."¹ They are better positioned than we are to

¹ The Global Financial Markets Association, the Financial Services Forum, the Futures Industry Association, the Institute of International Finance, the International Swaps and Derivatives Association, and the Chamber of Digital Commerce ("the Joint

explain why it is important to allow banks to participate in sensible ways in the crypto ecosystem and why the proposal as offered would inhibit this. We agree with their overarching assessment that the BCBS should extend the existing prudential framework to cryptoassets rather than abandoning time-tested principles and designing novel approaches. We focus our comments here on our assessment of the risk levels inherent in cryptoassets, built on our extensive experience with them and our wide network of relationships with stakeholders in this dynamic ecosystem.

1.2 Overall view

We are pleased that the BCBS is moving to formally open the banking system to digital assets and believe this is an important step forward in modernizing global financial systems. However, we have serious concerns with the specifics of the proposal contained in the consultative document and offer our suggestions for improvements.

Overall, we view the aggregate impact of the proposal's details as distinctly punitive, rather than merely conservative, going beyond what we understand from our deep experience to be the risks posed to banks by cryptoassets. Taken as a whole, the proposal would render it economically unattractive for banks to participate in many parts of the crypto ecosystem, at a time when they are facing strong customer demand to offer such products and services. Banks' exposures to cryptoassets are currently limited; however, we believe maintaining this low level of involvement is undesirable and unsustainable in the longer run. Unfortunately, the current proposal would inhibit banks from participating in the cryptoassets market. Indeed, we can see why analysts quoted in the Financial Times and elsewhere have interpreted the Committee as sending a message that banks should not deal in cryptoassets.² We assume this is not the Committee's intent and, in that spirit, we suggest a number of recalibrations and adjustments to the framework that would bring the requirements more closely in line with the actual risks of cryptoassets.

1.3 Deviations from long-standing BCBS principles

We believe that the current proposal abandons several long-standing BCBS approaches to risk management, presumably out of a combination of a desire for simplicity and a belief that the underlying economics of cryptoassets are too different from other financial assets to fit within established Committee frameworks. We urge the Committee to exercise caution in abandoning traditional risk mitigation practices, which have been established over the course of decades, and which have direct application to cryptoassets. We believe these proven approaches would work equally well with cryptoassets, which our analysis demonstrates have comparable volatility and risk to multiple existing

Trades"). September 2021. "Comments in Response To The Consultative Document On The Prudential Treatment Of Cryptoasset Exposures."

² Stafford, Philip, and Owen Walker. 10 June 2021. "Global Banking Regulator Urges Toughest Capital Rules For Crypto". Financial Times. <https://www.ft.com/content/3fe7be31-179a-47dd-9a61-8f4ea42b9c62>.

asset classes that do not carry punitive capital charges. Moreover, we believe the design features of this proposal fail to account for the diversity of risks across various types of cryptoassets, as well as bank activities related to them, and set aside well-established tools for the accurate measurement of these risks.

These abandoned principles include the following. We expand on these points in more detail in the body of the response.

- **Failure to distinguish between trading book and banking book assets.** The consultation paper departs from other BCBS frameworks which recognize that these two categories of activities create different types and levels of risk for banks, even when dealing with the same classes of underlying assets. We believe this holds true for cryptoassets as it does for other financial assets. *We recommend distinguishing between trading book and banking book treatment for cryptoassets.*
- **Inability to use cryptoassets as collateral to mitigate risks.** Banks can reduce capital requirements for credit exposures, based on the value of financial assets pledged to them as collateral as long as they have clear market-driven valuations and can be liquidated on a reasonable basis when needed. The more established and liquid cryptoassets are suitable for use as collateral based on these criteria, yet the current proposal allows no credit for them. *We recommend giving credit for cryptoassets for collateral, using approaches previously established by the Committee for other financial assets.*
- **Abandonment of existing principles of assessing capital for operational risk.** The BCBS has moved to approaches for capital requirements for operational risk that center around measurements for the entity as a whole, rather than individual activities or asset classes, in part due to major problems with prior attempts to create more granular breakdowns. We see no reason to deviate from this approach for cryptoassets, thus *we recommend no separate Pillar 1 charges be applied for operational risks of cryptoassets. Current rules already allow for these risks to be captured.*

1.4 Miscalibration of risks

Other aspects of this proposal generate material miscalibrations between capital requirements and the underlying risks to banks, often exacerbated by an emphasis on simplification and by ad hoc choices. We have particular concerns about the following areas, which are explained in more detail in the body of the response.

1250% risk weighting for Group 2 cryptoassets dramatically overstates the capital at risk. This risk weighting has the well-known flaw that, in practice, it leads to more capital being allocated to these assets than a bank could lose if their value went to zero. For US and UK banks, this would translate to

capital of 1.6 and 2 times exposures on average. This would severely disincentivize the development of bank cryptoasset businesses.

Further, we believe cryptoassets do not fit the mold of other asset classes that receive this extreme risk weighting. Other assets receiving this weighting are either defaulted or very late, or are designed from the beginning with a high likelihood of absorbing losses. We do not believe the data support setting any risk weight for cryptoassets higher than the maximum level for any other tradable asset, which is 400-600%. *Ideally, as explained later, we would recommend more finely-tuned differentiation using various available quantitative approaches to risk measurement, rather than continuing with the coarse categorization approach that has been proposed.*

Drastic over-simplification of capital requirements resulting from using just 3 risk categories. The current proposal forces cryptoassets with very different risk levels into the same Group 2 classification while also creating massive cliff effects for moving from Group 1b to Group 2. This problem is starkest with regard to those stablecoins which fail to meet all the tests for Group 1b and therefore get hit with the 1250% risk weight of Group 2. We view this treatment as overly punitive, as the level of risk posed by stablecoins to banks is vastly lower than for other cryptoassets. As an example, consider a hypothetical US dollar stablecoin, backed by 99 cents on the dollar of insured bank deposits, but which experienced enough volatility in the other 1% of reserves that it would not meet the requirements for Group 1b. Under the current proposal, it would face a 1250% risk weighting and have no collateral value, even though the highest potential loss is 1%.

Employing a quantitative approach to risk weighting would be a more effective way of appropriately accounting for the differences in risks posed by cryptoassets, particularly for those currently classified as Group 2. Among these cryptoassets there are major underlying differences in size, liquidity, purpose, ownership, and even whether or not, and at what rate, their supply can be increased or decreased. These translate into differences in volatility, liquidity, and intrinsic value that create varying levels of risks for banks. *We recommend moving to a quantitative approach to take account of these risks, rather than using the current categorization structure. Failing this, there need to be more categories in order to better account for the differences among cryptoassets. However, it is our view that, given the pace of innovation in this ecosystem, the bucketing approach will inherently fall short of accounting for the divergent risks of different cryptoassets.*

In the following sections, we provide a consolidated view of our concerns with the current BCBS proposal and accompanying analyses.

2. DEVIATION FROM LONG-STANDING BCBS PRINCIPLES

It is our view that cryptoassets merit similar treatment to other asset classes under pre-existing BCBS principles for risk management. One by-product of moving from established and well-calibrated

approaches used for other financial assets is that the current proposal fails to adequately consider many of the differences in risks posed by various types of cryptoassets, instead relying on coarse categorization.

2.1 Banking book vs. trading book

We agree with the forthcoming joint trades consultative response that there should be a differentiated treatment of banking book and trading book exposures for cryptoassets, as these two categories of activities result in different types and levels of risk for banks, even when applied to the same classes of underlying assets.³ As part of the recent consultation process on the market risk framework, the BCBS affirmed its long-standing differentiated treatment of banking book and trading book activities. We believe the same framework should be extended to cryptoassets as well.

We note that the trading book is used to facilitate trading activity, which has a shorter time horizon and holding period, while the banking book involves acquiring and holding positions with longer timeframes. The banking book and trading book differ by intent, time horizon, types of instruments, and accounting treatment. Based on these observed differences, we recommend differentiated banking book and trading book treatment for cryptoassets, which we discuss further in section 3.1.

2.2 Allowing credit for risk mitigation from collateral

The current proposal recommends that cryptoassets do not qualify as eligible collateral. Coinbase recognizes that cryptoassets are an emerging asset class that requires some level of haircut for capital calculations when used as collateral. However, we have strong concerns about this extreme treatment. In many ways, the well-established cryptoassets are similar to equities listed on recognized exchanges. There is an organized market for cryptoassets, including market makers, buyers, and sellers. Several of the major cryptoassets have comparable market depth and liquidity to major equities. In line with collateral treatment for other financial assets, we recommend that cryptoassets in Groups 1 and 2 be given credit as collateral if they meet existing BCBS criteria laid out in CRE22, including stipulations on for timely liquidation, first-priority interest, and sufficient liquidity and price transparency.⁴

Coinbase has leveraged the same risk management principles used for traditional assets to accept BTC, ETH, and USDC as collateral since 2019. We believe cryptoassets should be accepted as collateral on a systematic basis, subject to appropriate volatility and liquidity measures. Our approach is proof that applying existing risk mitigation frameworks makes sense for cryptoassets, and we hope our experience can serve as a model to banks.

³ Joint trades consultative response (September 2021).

⁴ Basel Committee for Banking Supervision. 15 December 2019. "CRE22 - Standardised Approach - Credit Risk Mitigation". CRE - Calculation of RWA For Credit Risk. BIS. https://www.bis.org/basel_framework/chapter/CRE/22.htm.

2.3 Holistic assessment of operational risk at an entity level

We believe that cryptoassets are similar to many well-established traditional assets and thus do not require additional Pillar 1 charges. We believe the existing frameworks for Pillar 1 and Pillar 2 are robust and capable of capturing emerging risks for cryptoassets. Insofar as crypto-related bank activities result in changes to “Business Indicator” quantities they will naturally flow into the existing Standardized Measurement Approach.

Although cryptoassets represent a new technology for banks, we believe the risks are accounted for under the existing BCBS operational risk framework and do not merit separate add-ons. We note that additional capital charges were not applied when mobile banking was adopted by large banks, even though it was a new form of technology at the time. We see no need for another framework as doing so would implicitly take responsibility away from the banks to quantify and actively manage specific risks as part of their analysis of cryptoassets.

2.4 Risk mitigation measures for cryptoassets

We concur with the position put forth in the forthcoming joint trades response which we understand will note that banks may lower operational risks through applying their existing risk management protocols, along with anti-money laundering and know-your-customer programs, to their management of cryptoassets.⁵ Coinbase has leveraged such existing frameworks to develop robust risk management practices specifically calibrated for cryptoassets. Our experience emphasizes how risk management frameworks for banks can be applied to cryptoassets, and we can offer unique insight into managing risks associated with cryptoassets.

As an example of our internal risk management processes, we operate two systems for anti-money laundering – Coinbase Analytics and our Transaction Monitoring System (TMS). Coinbase Analytics is our internal blockchain analysis tool that attributes blockchain addresses to known entities (good or bad), risk rates address and transaction activity based on these attributions, and allows our investigative professionals to understand on-chain fund flows and conduct source of funds analysis. TMS is our proprietary AML transaction monitoring system that we use to generate alerts for investigation based on fund flows in both fiat currencies and cryptoassets. TMS also leverages the risk information available in Coinbase Analytics to identify when our customers transact with risky blockchain addresses.

3. MISCALIBRATION OF RISKS

The current proposal results in substantial, and sometimes dramatic, miscalibrations between capital requirements and the underlying risks to banks for different types of cryptoassets. First, the 1250% risk

⁵ Joint trades consultative response (September 2021).

weighting for Group 2 cryptoassets would result in banks holding more capital allocated to these assets than the amount of their exposure. Secondly, the proposed framework fails to account for differences in risks associated with banking book and trading book activities. And finally, the three suggested categorizations vastly understate the diversity of cryptoassets and fall short of accounting for the appropriate treatment of risks posed by different cryptoassets.

3.1 Capital charges for cryptoassets

1250% Risk weight

Under the current proposal, the risk weighting effectively assumes a total wipeout when applied to the 8% minimum capital ratio (1250% times 8% equals 100% capital coverage). However, most banks hold considerably higher capital ratios and, in many cases, are required to do so. In Q1 2021, the average CET1 ratio for banks in the UK was 16%⁶ and 13% for the top 15 banks in the US⁷; these figures would translate to capital charges of 2 times and 1.6 times the potential loss, respectively.

We recognize that the 1250% risk weighting has been used for certain categories in the past as a simple way of roughly mimicking a 100% capital charge for smaller asset categories that banks are generally not looking to generate in the first place. Many of these categories represent the detritus of failed transactions. In these cases, the adverse incentive effects of requiring more capital than the maximum possible loss is minimal, as banks do not try to generate these assets. However, cryptoassets are very different and there is significant harm in creating punitive capital requirements that discourage owning or taking exposure to these assets in any way, despite customer demand. Furthermore, if the Committee intends to set a 100% capital charge, then it should allow the option to deduct cryptoassets from available capital.

Additionally, we emphasize that cryptoassets are fundamentally dissimilar from traditional intangible assets in the sense that there is an active market and they can be liquidated and sold in both normal and stress market conditions. As such, we encourage the Committee to treat them as tangible assets. Finally, we note that cryptoassets have matured dramatically in the nearly 10 years they have been in existence. A blanket risk weighting will fail to account for the dynamics of evolution within this market and inherently pose risks by defining such static boundaries.

⁶ "Banking Sector Regulatory Capital - 2021 Q1". 09 July 2021. Bank of England.

<https://www.bankofengland.co.uk/statistics/banking-sector-regulatory-capital/2021/2021-q1>.

⁷ "Capital Ratios and Leverage Ratios of Largest US Financial Institutions in Q1 2021". 09 June 2021. Bankovate - Digital Innovation in Banking Industry.

<https://bankovate.com/capital-ratios-and-leverage-ratios-of-largest-us-financial-institutions-in-q1-2021/>.

Banking book

We believe the proposed treatment of banking book activities for cryptoassets to be punitive. If cryptoassets were similar in nature to the small number of other asset categories subject to the extreme 1250% risk weighting, then perhaps this choice would make sense. However, cryptoassets do not fit the mold of those other asset categories, as described above, which Table 1 below shows to be predominantly those in a defaulted or delinquent state, and not reflective of the steady-state nature of cryptoassets.

Table 1: Examples of other asset classes with 1250% risk weight⁸

Defaulted or very low credit quality exposures	Very late receivables that are considered defaulted	Exposures that are expected to default by design	Very junior equity positions designed to absorb any losses	Where information / due diligence is unavailable
- Exposure to a defaulted obligor not covered by an eligible guarantee - Exposures with very low ratings (e.g. lower than A-3/P-3 rating)	- Unsettled DVP and PVP transactions -- 46 or more days after contractual settlement date - Non-DvP/non-Pv P transactions for which deliverables have not been received for 5 days or longer	Default fund contributions to non-qualifying CCPs	- Securitizations that do not qualify for the approaches laid out in the framework - Some junior tranches of a securitization without enough credit enhancements (i.e., SSFA formula leads to 1250%)	- Exposures which are not defined, and which are greater than minimum thresholds - Securitizations for which the bank does not have the required due diligence - Exposures in equity investment funds which do not qualify for the specified approaches

We recommend a 400-600% risk weighting for banking book positions for cryptoassets, as this is aligned with the treatment of speculative unlisted equities which have high volatility, no active market, low liquidity, and lack market transparency and discovery.⁹ Ideally, as we discuss in the following sections, we recommend using various potential quantitative approaches to differentiate between cryptoassets in lieu of the current form of categorization.

⁸ BCBS CRE22 (December 2019).

⁹ Basel Committee for Banking Supervision. 15 December 2019. "CRE20 – Standardised Approach: Individual Exposures". CRE - Calculation of RWA For Credit Risk. BIS. https://www.bis.org/basel_framework/standard/CRE.htm?type=all.

Trading book

Rather than developing a new framework for cryptoassets, we recommend that the Committee rely on the current Basel market risk framework for the calculation of risk weighted assets, which includes the Sensitivities-Based Method (SBM) within the Standardized Approach, and the Internal Models Approach (IMA).¹⁰ These two methods require varying levels of sophistication, robustness, standardization and history.

The SBM applies a standardized risk quantification to asset classes. It considers underlying sensitivities and risk for a portfolio, and prescribes standardized risk weights for sensitivities, as well as intra-bucket and inter-bucket correlations. The SBM leverages standardization while also enabling risk sensitivities to reflect the risk profile of trading positions on ultimate capital requirements. We concur with the joint trades forthcoming consultative response that the SBM approach effectively aligns risk weights with the actual characteristics of cryptoassets and maintains an emphasis on simplicity.¹¹ Table 2 lists the risk weights for commodities and equities under the SBM. For equities, the highest possible risk weight is 70%, and for commodities the highest risk weight is 80%.¹² We believe cryptoassets are comparable to these asset classes, and thus should not receive a more punitive treatment.

Table 2: Market Risk Framework Sensitivities-Based Method Risk Weights (Equities and Commodities)¹³

Equities		RW	Commodities	RW
1	Large emerging market economy consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities	55%	Energy – solid combustibles	30%
2	Large emerging market economy telecommunications, industrials	60%	Energy – liquid combustibles	35%
3	Large emerging market economy basic materials, energy, agriculture, manufacturing, mining, and quarrying	45%	Energy – electricity and carbon trading	60%
4	Large emerging market economy financials including government-backed financials, real estate activities, technology	55%	Freight	80%
5	Large advanced economy consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities	30%	Metals – non-precious	40%

¹⁰ Joint trades consultative response (September 2021).

¹¹ Joint trades consultative response (September 2021).

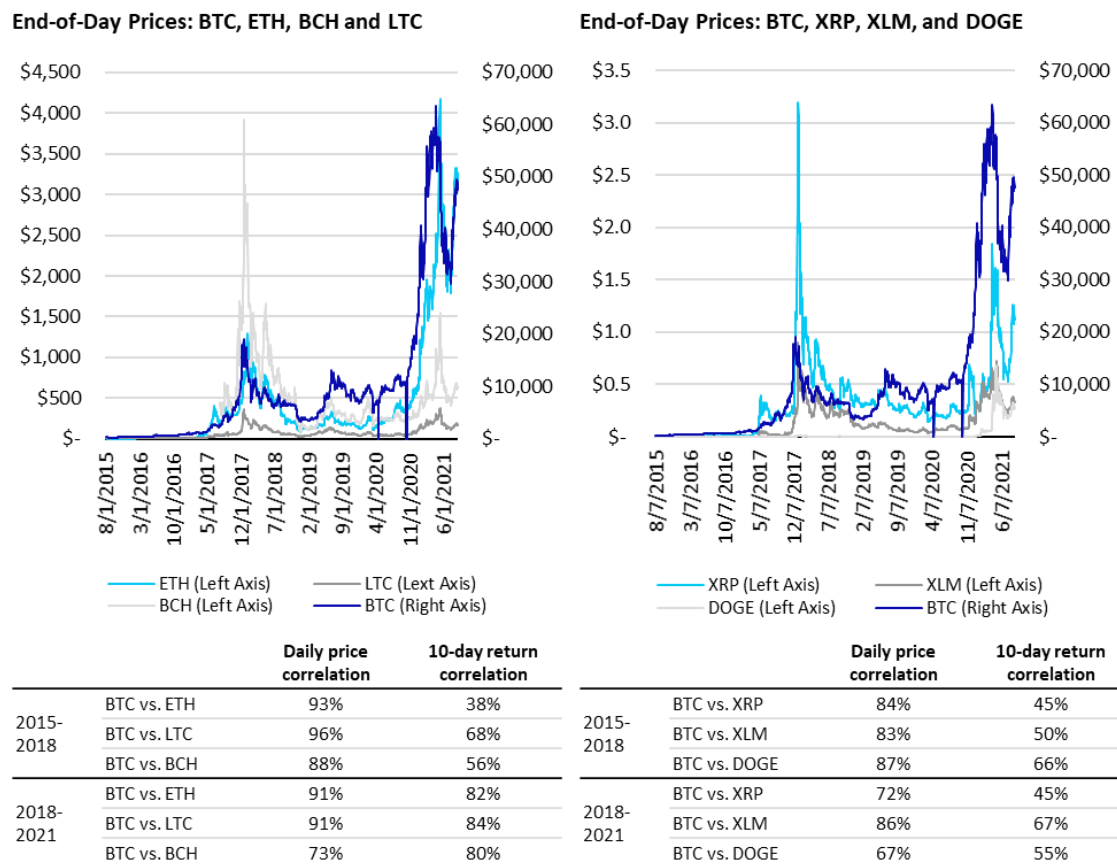
¹² Basel Committee on Banking Supervision. 15 December 2019. "MAR21 - Standardised Approach: Sensitivities-Based Method". MAR - Calculation of RWA For Market Risk. BIS. https://www.bis.org/basel_framework/chapter/MAR/21.htm?inforce=20220101&published=20191215.

¹³ Basel Committee on Banking Supervision. 15 December 2019. "MAR21 - Standardised Approach: Sensitivities-Based Method". MAR - Calculation of RWA For Market Risk. BIS. https://www.bis.org/basel_framework/chapter/MAR/21.htm?inforce=20220101&published=20191215.

6	Large advanced economy telecommunications, industrials	35%	Gaseous combustibles	45%
7	Large advanced economy basic materials, energy, agriculture, manufacturing, mining, and quarrying	40%	Precious metals (including gold)	20%
8	Large advanced economy financials including government-backed financials, real estate activities, technology	50%	Grains and oilseed	35%
9	Small emerging market economy (all sectors described under buckets 1, 2, 3, and 4)	70%	Livestock and dairy	25%
10	Small advanced economy (all sectors described under buckets 5, 6, 7, and 8)	50%	Softs and other agriculturals	35%
11	Other sector	70%		
12	Large market cap, advanced economy equity indices (non-sector specific)	15%		
13	Other equity indices (non-sector specific)	25%		

Our analysis shows that there is a high level of correlation among Group 2 cryptoassets. This is illustrated in Figure 1 where we show price co-movement and return correlations for a select set of cryptoassets covering more mature coins as well as newer coins. Even when we consider alternative time frames, we observe that price and return correlations continue to be high. We believe the capital requirements and corresponding parameters should reflect this observation for more prudent risk management.

Figure 1: Price co-movement and return correlations for select Group 2 cryptoassets¹⁴



Combining these observations, we believe the capital requirement proposed by the Committee is very punitive. In Table 3, we illustrate this point for a hypothetical portfolio that is composed of \$1,000 long BTC, \$500 short BTC and \$500 short Ether. We calculate risk weighted assets for this portfolio under the following alternative approaches:

- **Approach 1 – Consultative document:** As described in the consultative paper, a risk weight of 1250% is applied to the greater of the absolute value of the aggregate long positions and the absolute value of the aggregate short positions to which the bank is exposed. The RWA is calculated separately for each Group 2 cryptoasset to which the bank is exposed.

¹⁴ Source: Yahoo Finance. Data series covers 7 Aug 7 2015 – 6 Aug 2018 for BTC, ETH and LTC, and for BCH from 24 Jul 2017 - 6 Aug 2018, where data available. Data series covers 7 Aug 2018 - 6 Aug 2021 for ETH, LTC, BTC, and BCH.

- **Approach 2 – SBM approach with very conservative correlation and risk weight assumptions:** Capital charge and RWA are calculated under the SBM approach assuming 80% risk weight for delta risk. Note that 80% risk weight corresponds to the highest risk weight assigned to commodities or equities under the SBM framework.¹⁵ Intrabucket (within the same cryptoassets) correlation is assumed to be 100%, and interbucket (across cryptoassets) correlation is assumed to be -100%, meaning that we assume BTC and ETH will move in complete opposite directions, which is conservative for this constructed portfolio.
- **Approach 3 – SBM approach with conservative correlation assumptions:** Capital charge and RWA are calculated under the SBM approach assuming 80% risk weight for delta risk. Intrabucket (within same cryptoassets) correlation is assumed to be 100%, and interbucket (across cryptoassets) correlation is assumed to be 7.5%. Note that 7.5% corresponds to the lowest correlation given for equities or commodities under the SBM framework.¹⁶
- **Approach 4 – SBM approach with empirical correlation assumptions:** Capital charge and RWA are calculated under the SBM approach assuming 80% risk weight for delta risk. Intrabucket (within same cryptoassets) correlation is assumed to be 100%, and interbucket (across cryptoassets) correlation is assumed to be 50%. 50% is chosen to reflect the historical correlation between BTC and ETH, with a layer of conservatism.

Table 3: Alternative RWA calculations for a hypothetical scenario¹⁷

Approach to risk-weighted asset calculation	Risk-weighted asset	Implied capital
Approach 1 – Consultative document ¹⁸	\$18,750	\$1,500
Approach 2 – SBM approach with very conservative correlation assumptions ¹⁹	\$10,000	\$800
Approach 3 – SBM approach with conservative correlation assumptions	\$6,801	\$544
Approach 4 – SBM approach with empirical correlation assumptions	\$5,000	\$400

We note that risk-weighted assets as proposed in the consultative document are much higher than those calculated under the SBM framework, even with conservative assumptions.

¹⁵ BCBS MAR21 (December 2019).

¹⁶ BCBS MAR21 (December 2019).

¹⁷ BCBS MAR21 (December 2019).

¹⁸ Approach 1 capital charge results from: $\$1,500 = \max(\text{abs}(+1,000), \text{abs}(-500)) + \text{abs}(-500)$. $\$18,750 = 1,500 * 1,250\%$. Capital charge is calculated assuming 8% conversion.

¹⁹ Intra-bucket and inter-bucket aggregations are calculated using SBM aggregation approaches, reflecting the correlation assumptions cited.

An alternative approach to SBM for deriving risk weights is the IMA approach. This approach allows substantially better calibration of risks for the differing cryptoassets, for those that have a sufficiently long history and high-quality data. Because of the customized and robust nature of the IMA, it is fully risk sensitive to the portfolio a bank may hold. We recognize that it may take some time for cryptoassets to have sufficient history to be eligible, however, when these assets do satisfy the criteria put forth by BCBS for IMA, we believe banks should be allowed to leverage this approach.

Counterparty credit risk for derivatives

A bank's counterparty credit risk in derivatives referencing cryptoassets is similar to the counterparty credit risk in derivatives involving equity, credit, commodity or other traditional reference assets. As such, we believe similar principles and frameworks should be applied to cryptoassets derivatives. We believe the consultative paper is miscalibrated for these exposures in the following areas:

- **Netting sets:** Where derivatives referencing Group 2 cryptoassets are subject to the same master agreement (e.g. ISDA legal netting agreements), the netting set requirements should be followed. We believe the Committee should clearly reflect this in its guidance and avoid overriding the legal netting sets given by a contractual master agreement.
- **PFE must equal 50% notional:** We believe this calibration is very broad and does not account for individual asset volatility, margin period of risk, or other trade characteristics such as out-of-the-money options. We believe PFE should be measured according to actual risk, which may be more or less than the 50%.
- **Credit exposure = Replacement Cost + PFE:** We urge the Committee to confirm that the intent is not to double-count Replacement Cost to the extent it is already captured by PFE. For example, if PFE calculates a 10-day horizon, and the asset can be liquidated in ~1-3 days with zero slippage, replacement cost is already embedded in PFE; hence it should not be double counted.
- **PFE calculation per transaction:** We believe this requirement is overly punitive by effectively disallowing hedging sets for cryptoassets.

3.2 Credit risk mitigation haircuts

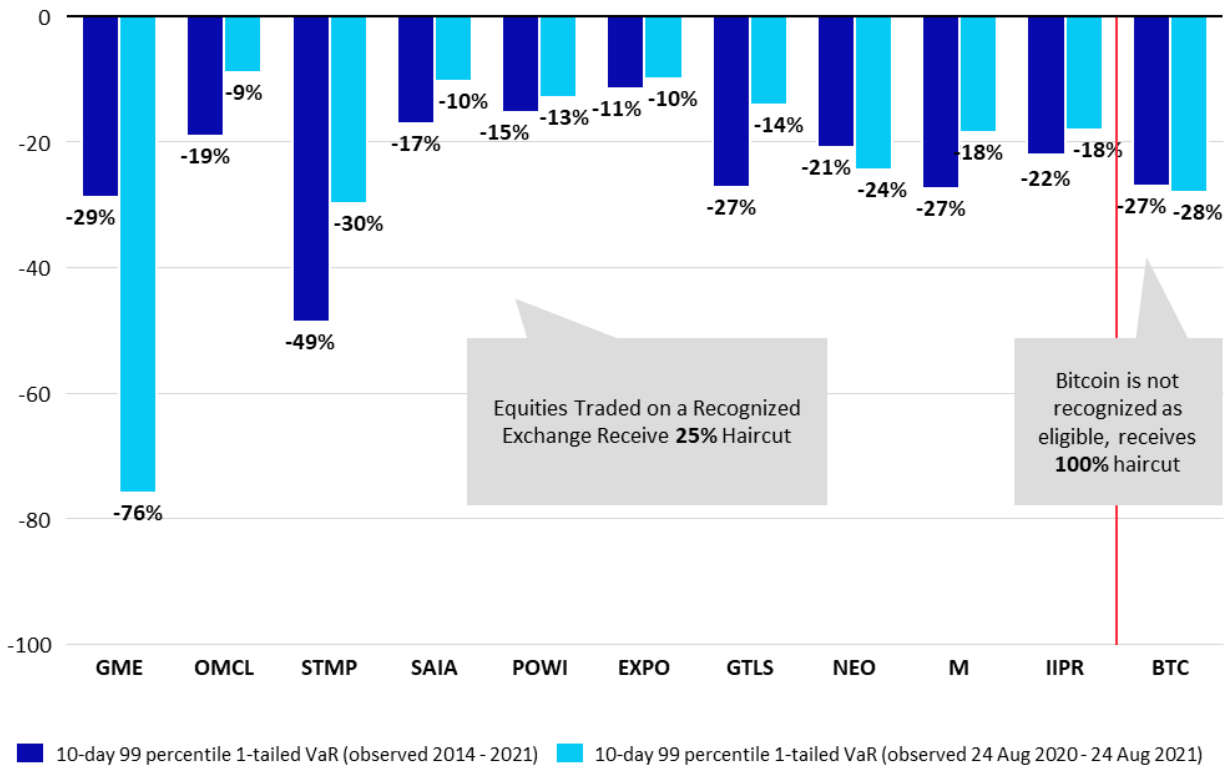
Under the comprehensive approach, BCBS compiled a list of eligible financial collateral and defined what the haircut should be for each.²⁰ Included on this list are a variety of financial instruments which receive some collateral value, including main index equities at a haircut of 15% and equities listed on recognized exchanges with a 25% haircut. As cryptoassets are not a part of this list, even the most established cryptoassets receive a 100% haircut, and thus no collateral value.

In Figures 2 and 3, we compare the 10-day 99 percentile VaR of BTC to the 10 largest (by market cap) equities from the S&P 600 Small Cap Index, and the 10 smallest (by market cap) equities from the S&P

²⁰ BCBS CRE22 (December 2019).

500 index, to illustrate how models-based haircuts would compare to set haircuts among these asset classes. In Figure 4, we conduct the same analysis looking at haircuts for Twitter, Tesla, and Gamestop.

Figure 2: Comparison of 10-day²¹ 99 Percentile VaR for BTC to select equities from S&P600 Small Cap Index (10 largest by market cap)^{22 23}

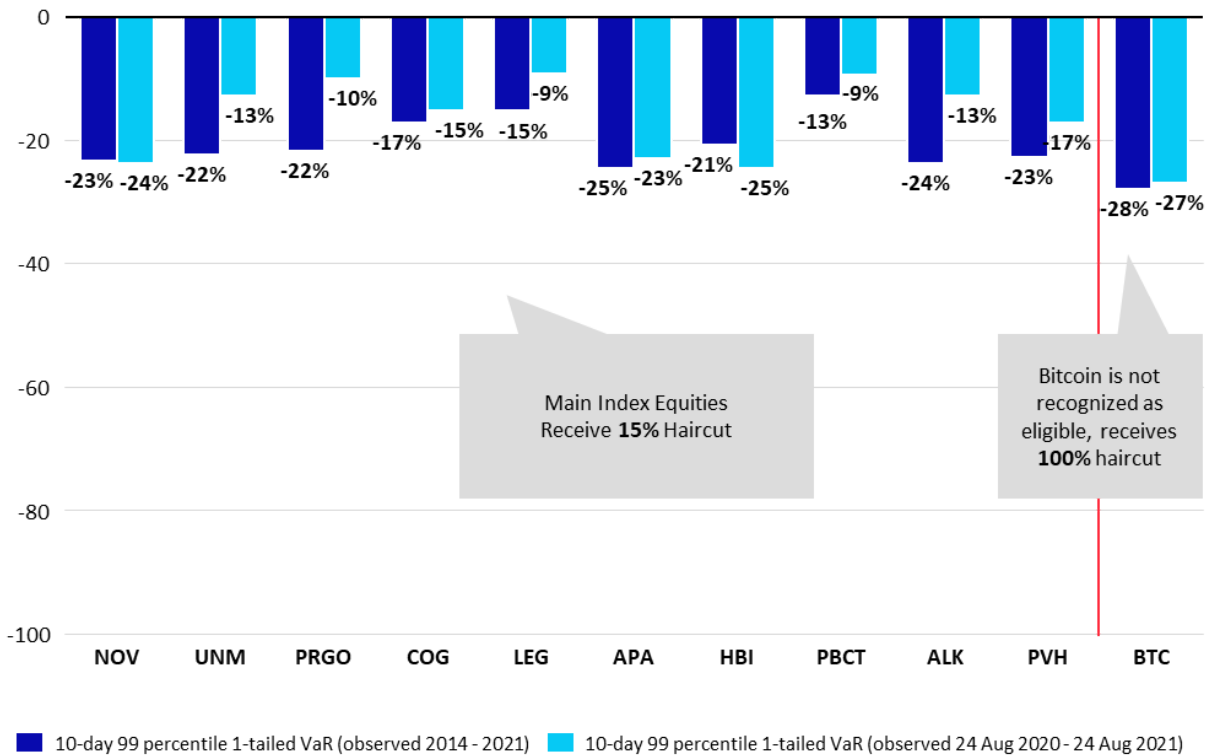


²¹ 10-day windows are calculated for every calendar day.

²² Data source: S&P Global and Yahoo Finance. Data series covers 9/15/2014 – 8/2/2021 for all assets, where data available. Daily price used for BTC is the price when the market closes. Securities include GameStop Corp A, Omnicell Inc., Stamps.com Inc., Saia Inc., Power Integrations Inc., Exponent Inc., Chart Industries, NeoGenomics Inc., Macy's Inc., Innovative Industrial Properties.

²³ Note that the 10-day 99 percentile VaR values are calculated based on close prices. If the analysis includes the effect of intraday by looking at price 10-day price changes from intraday-high to 10 day later intraday-low, these values increase across the board; however rank ordering and relative positioning remain the same. 10-day 99 percentile 1-tailed VaR observed between 2014-2021 change to GME = -39%, OMCL = -11%, STMP = -33%, SAIA = -13%, POWI = -16%, EXPO = -13%, GTLS = -19%, NEO = -28%, M = -25%, IIPR = -22% and BTC = -34%.

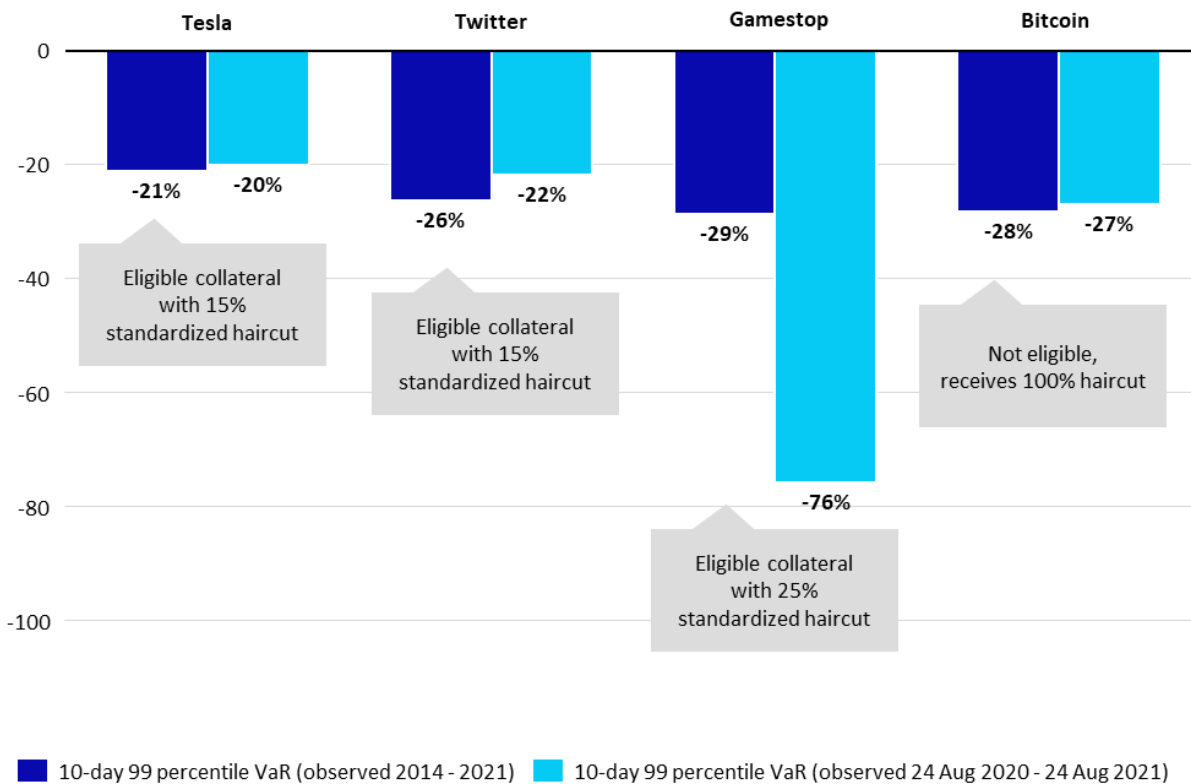
Figure 3: Comparison of 10-day 99 Percentile VaR for BTC to select equities from S&P500 Index (10 smallest by market cap) ^{24 25}



²⁴ Data source: <https://www.spglobal.com/spdji/en/indices/equity/sp-600/#overview> and Yahoo Finance. Data series covers 9/15/2014 – 8/2/2021 for all assets, where data available. Securities include National Oilwell Varco, Unum Group, Perrigo Company, Cabot Oil & Gas Corporation, Leggett & Platt, Apache Corporation, Hanesbrands Inc., People's United Financial, Alaska Air Group, and PVH Corp. Daily price used for BTC is the price when the market closes.

²⁵ Note that the 10-day 99 percentile VaR values are calculated based on close prices. If the analysis includes the effect of intraday by looking at price 10-day price changes from intraday-high to 10 day later intraday-low, these values increase across the board; however rank ordering and relative positioning remain the same. 10-day 99 percentile 1-tailed VaR observed between 2014-2021 change to NOV = -25%, UNM = -25%, PRGO = -26%, COG = -21%, LEG = -18%, APA = -31%, HBI = -26%, PBCT = -18%, ALK = -30%, PVH = -27% and BTC = -34%

Figure 4: Comparison of 10-day 99 Percentile VaR for BTC to select equities^{26 27}



Based on our analysis, Twitter and Tesla (main index, S&P 500, equities) receive a 15% haircut, while GameStop (equity listed on a recognized exchange, NYSE) which is more volatile than BTC, receives a haircut of 25%. However, under the current proposal, BTC receives 100% haircut. We believe this is unreasonable treatment given the high levels of liquidity and market depth of many cryptoassets compared to other non-eligible collateral (e.g. some investment grade corporate debt), not to mention the benefits of 24/7 trading.

As we discuss in the following section, we recognize the diversity of cryptoassets and the continued maturation of the market. We believe quantitative approaches will more effectively address the risks

²⁶ Data source: Yahoo Finance. Data series covers 17 September 2014 – 24 August 2021 for all assets, where data available. Daily price used for BTC is close prices, which is the price when the market closes.

²⁷ Note that the 10-day 99 percentile VaR values are calculated based on close prices. If the analysis includes the effect of intraday by looking at price 10-day price changes from intraday-high to 10 day later intraday-low, these values increase across the board; however rank ordering and relative positioning remain the same. 10-day 99 percentile 1-tailed VaR observed between 2014-2021 change to Tesla = -26%, Twitter = -29%, Gamestop = -29% and Bitcoin = -34%.

posed by different cryptoassets and allow for better calibration in determining collateral value. We recognize that not all cryptoassets are eligible for receiving collateral value, but we urge the Committee to adopt a more dynamic approach which can account for the evolution of this market.

3.3 Classification of cryptoassets by group

We appreciate the BCBS' recognition of the substantial differences among types of cryptoassets. We agree with the decision to separate out Group 1a, which contains cryptoassets that are effectively digital versions of other existing instruments, and Group 1b, since stablecoins are dramatically different in risk from cryptoassets that are not tied to the value of underlying fiat currencies. However, we see two major flaws in the current proposal. First, as noted, some cryptoassets that were designed as stablecoins would not qualify for Group 1b. This would not necessarily be a flaw in itself if the very low risk of these near-stablecoins were adequately captured, but instead there is a massive cliff effect. Second, there is substantial diversity among cryptoassets in Group 2, based on historical volatility, maturity, and underlying utility, which the current risk weighting approach fails to reflect. A differentiated and risk-based approach to Group 2 cryptoassets will be more useful and aligned with the BCBS's granular capital requirements for non-cryptoassets.

Group 1a cryptoassets

We support the recommended treatment of Group 1a cryptoassets to be "treated as equivalent to a traditional asset for the purpose of calculating minimum capital requirements for credit and market risk if they pose the same level of credit and market risk as traditional (non-tokenised) assets."²⁸

Furthermore, we concur with the joint trades consultative response that the BCBS's approach to capitalizing Group 1a cryptoassets for market and credit risk should apply to both individual and pools of underlying assets.²⁹

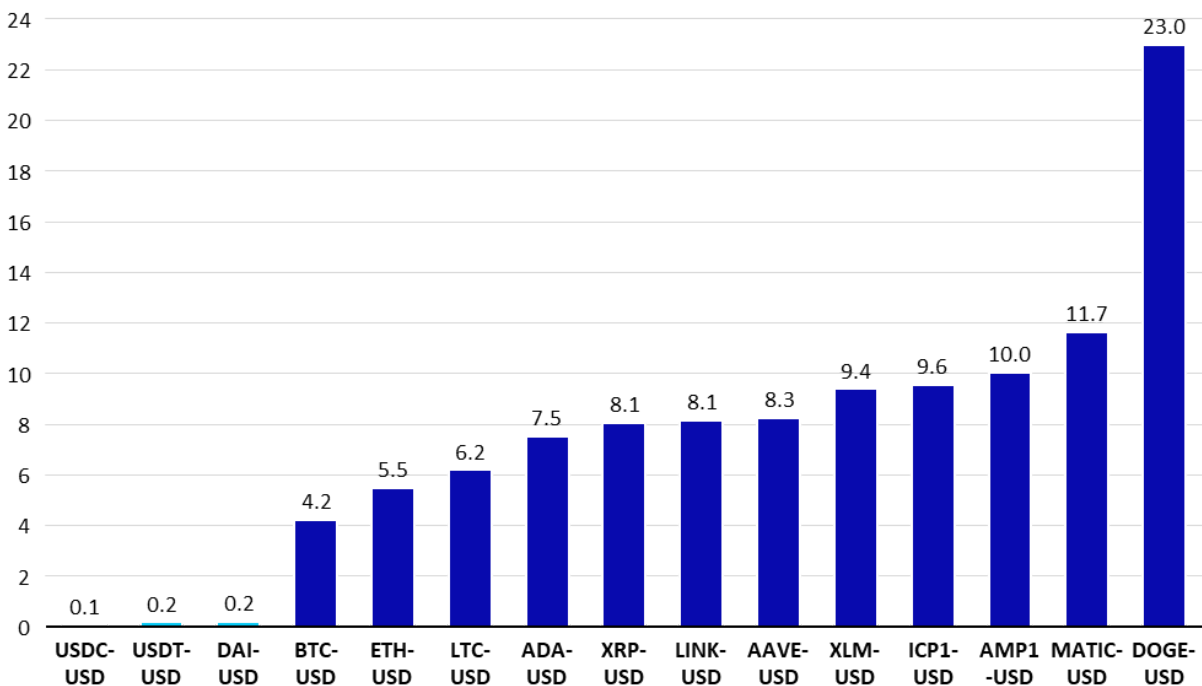
3.4 Stablecoins within Group 2

We agree with the BCBS's proposal to set capital requirements for stablecoins substantially differently than for other cryptoassets, given how much their characteristics differ from cryptoassets that are not explicitly tied to the value of an underlying fiat currency or bucket of such currencies. However, we believe that the key point, for capital requirements, is that the level of risk for a bank taking exposure to a stablecoin is dramatically lower than for other cryptoassets. For example, Figure 5 shows the volatility of daily returns for some of the largest stablecoins and the largest non-stablecoin cryptoassets. The difference is night and day.

²⁸ Basel Committee on Banking Supervision. June 2021. "Consultative Document: Prudential Treatment of Cryptoasset Exposures". BIS. <https://www.bis.org/bcbs/publ/d519.htm>.

²⁹ Joint trades consultative response (September 2021).

Figure 5: Standard deviation of daily returns for stablecoins and other Group 2 coins³⁰



For this reason, we oppose the consultation paper’s recommendation of very tight standards for what will be considered a stablecoin for capital purposes. This appears to be mixing other policy objectives with the capital requirements in a way that undermines the principle that risk levels should determine capital levels. A cryptoasset that is designed as a stablecoin, broadly speaking, but which does not meet future regulatory or accounting definitions of a stablecoin is still virtually certain to be far less risky for a bank than other cryptoassets. As noted earlier, one can imagine a US dollar stablecoin that was backed by 99 cents on the dollar of insured bank deposits, but which experienced enough volatility in the other 1% of reserves that it would fail the overall test. Why should this then be categorized as Group 2 and be hit with a 1250% risk weighting and no collateral value when the highest potential loss is 1%? Additionally, we believe Group 1b assets should have liquidity value and thus qualify for HQLA.

Overall, as we describe throughout this paper, we favor using quantitative measures of risk to set capital levels, which largely obviates the need to create explicit buckets, and allows supervisors to learn and respond to the organic growth of the market. However, if the BCBS wishes to use bucketing, we strongly believe that the boundaries of Group 1b should be set to include all cryptoassets whose value is highly

³⁰ Source: Yahoo Finance. Data series begins 1 August 2020 for all coins except AAVE (begins 5 October 2020), AMP1 (begins 22 September 2020), and ICP1 (begins 19 May 2021), where data available. Daily returns calculated based on close prices, which for cryptoassets is the price at the point when the market closes.

correlated with that of a fiat currency even if they would not meet other official sector definitions of a stablecoin established for other purposes.

We view the treatment of stablecoins as particularly important as stablecoin holdings have experienced dramatic growth in the last three years. In January 2018, Coinbase found that 10% of all transactions involved a stablecoin on either side.³¹ In July 2021, over 69% of transactions on Coinbase involved a stablecoin.³² As the stablecoin sector continues to develop, we believe the associated risk mitigations should be relatively flexible, with the ability to pivot over time to reflect a crypto ecosystem that continues to evolve.

3.5 Technical issues with Group 1b classification criteria

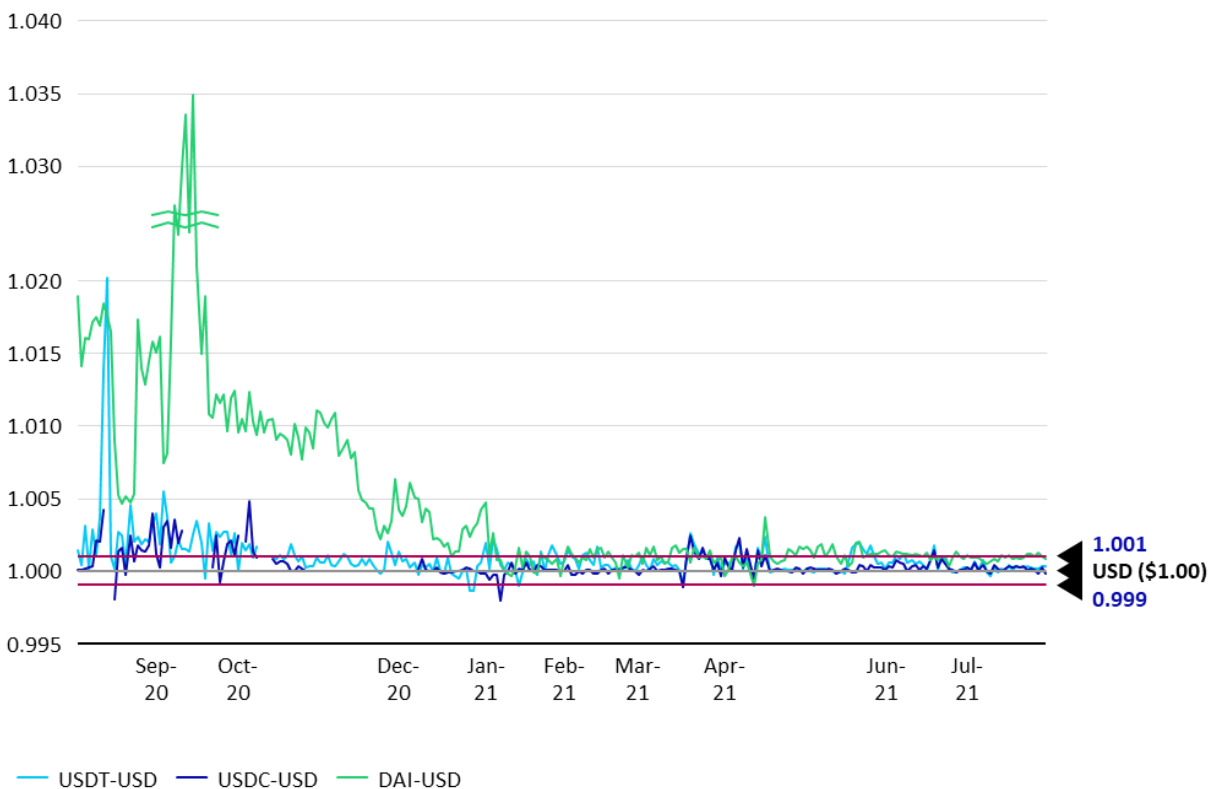
We recommend the Committee adapt the Group 1b requirements (and potentially the associated treatments) to more effectively reflect the characteristics of stablecoins and define appropriate risk weights. In doing so, we believe the Committee will contribute to behavior change among existing stablecoin issuers to meet the standards necessary for receiving Group 1b treatment.

Even if the BCBS determines that it must retain a very narrow definition of stablecoins, we find the stabilization criteria as defined to be too narrow for existing stablecoins. The requirement states that Group 1b stablecoins not deviate from the value of their pegged currency by more than 10 basis points three times in a 12-month period to be too stringent. In Figure 6, we analyzed the closing prices (aligned with market convention of measuring changes in values of assets) of three top stablecoins – Tether, USDCoin, and DAI – and found that 10 bps is too narrow a window to measure the volatility of stablecoins.

³¹ Internal Coinbase data.

³² Internal Coinbase data.

Figure 6: Variation in close prices for Tether, DAI, and USDCoin over past 12 months³³



While stablecoins are benchmarked to a fiat currency and have internal stabilization mechanisms which substantially lower their volatility compared to other cryptoassets, they may at times experience small price fluctuations relative to the value of the underlying assets, due to temporary supply and demand pressures. Steady state prices will always converge to the intrinsic value of the reserves. For capital adequacy purposes, we fail to see a fundamental connection between a 10 bps (or any other level) deviation and the level of risk of a stablecoin. The proposed threshold is arbitrary, and as we explain above, is inappropriate for effectively measuring attendant risks from price fluctuations. Such risk is better measured by the associated volatility, which is a better tool for determining the risk weighting for stablecoins. Stablecoin users have been comfortable with these small, transitory fluctuations as they do not view them as impairing the core value of stablecoins, which is to have access to a digital currency that is closely tied to the value of fiat currencies, even if not matching the value 100% at all times. More importantly for the Committee's purpose, as we have emphasized, is that these fluctuations produce only very minor risks of loss for banks and therefore do not need any appreciable amount of capital to

³³ Source: Yahoo Finance, CoinDesk. Data series covers 1 August 2020 – 1 August 2021, where data available. Daily returns calculated based on close prices, which for cryptoassets is the price at the point when the market closes.

back them. Certainly, it would be a massive overreaction to move a stablecoin into Group 2 as a result and require a 1250% risk weight.

We also note that some of the Group 1b classification criteria proposed by the Committee pose unworkable conditions. To begin, criterion three is overbroad and sets an unrealistic standard. Assuring that there are no material risks that could impair the transferability, settlement finality or redeemability of a cryptoasset is not within the purview of any single entity or bank. Robust risk management can mitigate these risks, and cryptoasset market participants have the expertise to do so. While there may still be temporary impairments during periods of stress, this is true for all asset classes and does not imply the need for unique treatment of cryptoassets in this regard.

It is also unreasonable to stipulate that all transactions and participants be traceable. Blockchains offer unprecedented transparency of money and asset flows. Recent events have even shown how funds can be repatriated after successful cyber incursions. However, as with fiat currencies and other financial assets, there are limits to traceability and identity. As an example, it would be impractical to follow all trades which take place in secondary markets. As the market matures, AML, KYC, and CFT functions will continue to improve, and there is no need for specific traceability requirements for cryptoassets.

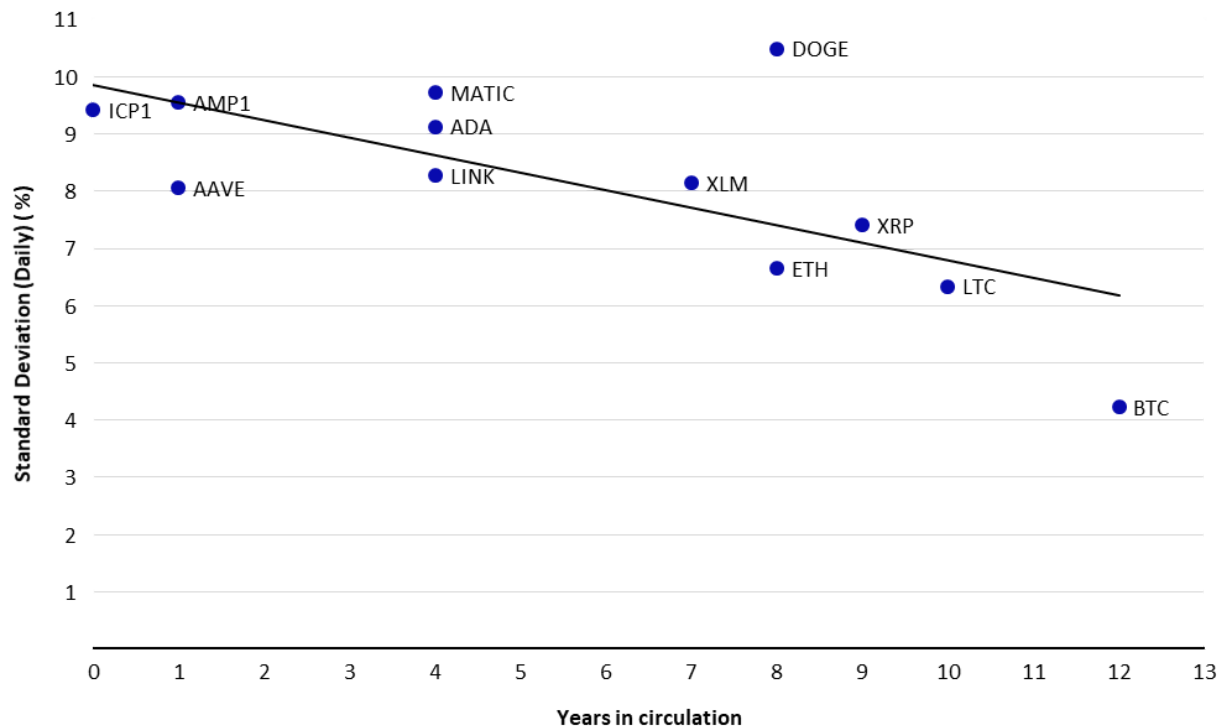
Finally, there must be clarification of the intent and purpose behind requiring entities that execute redemptions, transfers, or settlement finality of the cryptoasset be regulated and supervised. As currently written, the classification criteria could potentially apply to market participants such as software developers, miners, and the end users on peer-to-peer networks. Expecting that all aspects of a decentralized network fall under regulatory supervision is an unrealistic and unnecessary requirement. Furthermore, there is still significant regulatory uncertainty and lack of harmonization across jurisdictions, so it is unreasonable to require supervision at this early stage.

3.6 Variation in Group 2 beyond stablecoins

Within all non-stablecoins in Group 2, there remains significant variation and diversity, particularly between well-established coins like BTC and newer market entrants. The differences amongst Group 2 assets include (but are not limited to) variations in underlying technology and mechanisms, underlying purpose and utility, and historical volatility and stability. Figure 5 (above) demonstrates the significant variation in historical volatility within Group 2 (excluding stablecoins).

Figure 7 showcases differences between coins when looking at volatility alongside years in circulation. Our analysis demonstrates a significant trend of greater stability for more mature coins, however this trendline does not appear to include a step change at any particular maturity level. Additionally, we note there are anomalies to the trend, most notably Dogecoin.

Figure 7: Standard deviation of daily returns vs. years in circulation³⁴



As noted above in multiple places, we believe there are quantitative ways of measuring risk weights that can serve as continuous functions, rather than static categorizations. In lieu of the existing framework for Group 1 and Group 2, we recommend shifting to a quantitative approach which can account for the differences in volatility between different cryptoassets without applying stringent criteria which lead to massive cliff effects for assets which move between existing categories and allow for appropriate risk weighting as cryptoassets mature. Furthermore, relying on quantitative measures will reinforce the principle of ‘technology neutrality’ laid out in the consultative paper by allowing banks to appropriately reflect the risks posed by the underlying technology of different cryptoassets. Barring this, we note there must be further segmentation of categorization of cryptoassets to account for the diversity in volatility, liquidity, and intrinsic value of different assets.

³⁴ Source: Yahoo Finance and CoinDesk. Daily returns data begins for BTC (from 17 September 2014), ETH (from 7 August 2015), XRP (from 17 September 2014), ADA (from 1 October 2017), XLM (from 17 September 2014), LTC (from 17 September 2014), AAVE (from 5 October 2020), AMP1 (from 22 September 2020), DOGE (from 17 September 2014), ICP1 (from 19 May 2021), LINK (from 20 September 2017), and MATIC (from 28 April 2019), where data available. Daily returns calculated based on close prices, which for cryptoassets is the price at the point when the market closes.

4. CONCLUSIONS

We appreciate the BCBS's recognition that cryptoassets are increasingly important to the services banks provide customers and therefore banks need clear guidance on their capital requirements. However, the Committee's initial proposal in the consultative document is highly punitive, as a result of misjudging the risks of cryptoassets in comparison with more established asset categories.

In our response, we have provided a number of constructive suggestions for remedying these divergences between the underlying risks and the proposed requirements. In this brief conclusion, we would like to emphasize 5 points.

Drastic over-simplification of capital requirements resulting from using just 3 risk categories. As we have shown repeatedly in this response, there are major differences in the risks to banks of exposures within Group 2. Further, these risks can be quantified through traditional techniques such as the analysis of price volatility. Therefore, our strong recommendation is to use quantitative methodologies, such as the SBM approach or, where the necessary data and history exists, internal models. If this is not acceptable to the Committee, we would at least urge that Group 2 be broken into multiple sub-groups based on market liquidity and volatility measures.

Highly punitive 1250% risk weights. There is no good reason to use a risk weight for most cryptoassets that will result, in practice, in capital charges well in excess of the total exposure. Banks almost universally maintain capital ratios well above the 8% minimum and therefore would have effective capital charges of up to about 200% of their potential loss, as demonstrated in the body of this letter. Further, many of the riskier equity and commodity categories have demonstrated significantly more volatility than the more established cryptoassets, while carrying much lower risk weights than 1250%.

Use of a definition of stablecoins that is not anchored in the risk to banks. The characteristics demanded of a cryptoasset in order to be considered part of Group 1b are largely unrelated to measures of the actual risk to banks. There is a truly massive difference in risk between stablecoins and other cryptoassets, yet the definition of Group 1b would exclude some existing stablecoins and could leave out more in the future. As shown in the body of this response, there are many hypothetical stablecoins that would have risk only slightly larger than narrowly defined stablecoins, but would be hit with a 1250% risk weight implying that, at a minimum, they must be considered worthless for capital purposes.

Inability to use cryptoassets as collateral to mitigate risks. Cryptoassets are not treated as having value as collateral, even when they are highly liquid and demonstrate volatility levels lower than many equities. We see no good rationale for failing to treat these liquid, marketable assets in the same manner as other forms of financial assets serving as collateral.

Failure to distinguish between trading book and banking book assets. Much of the exposure banks will take to cryptoassets will result from market making to meet customer needs. The BCBS has long treated trading assets differently from banking assets, for a host of good reasons. Cryptoassets merit the same treatment.

Again, we thank the BCBS for addressing this important issue and for considering our response.

Sincerely,

A handwritten signature in black ink, appearing to read 'Faryar Shirzad', written in a cursive style.

Faryar Shirzad
Chief Policy Officer, Coinbase, Inc.
Email: faryar.shirzad@coinbase.com