



Designing prudential treatment for cryptoassets

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Perm, 1st February, 2020

The views and opinions expressed herein are those of the author and do not necessarily reflect the official position of the Bank of Russia

Outline

1. Basel Committee on Banking Supervision on crypto-assets
2. Key features of crypto-assets
3. Sources of bank exposure to risk arising from crypto-assets
4. Prospective prudential treatment of crypto-assets
5. Q &A and panel discussion

Basel Committee's spotlight on crypto-assets



Basel Committee on Banking Supervision pays increasing attention to crypto-assets by means of

- ü Monitoring market and regulatory developments
- ü Measuring bank exposure to crypto-assets through periodic data collection exercises
- ü Assessing appropriate prudential treatment of crypto-asset exposures for banks

Basel Committee's spotlight on crypto-assets



BCBS statement on crypto-assets (March 2019)



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Basel Committee on Banking Supervision

Overview

About the BCBS

Basel III

Implementation of the Basel standards

Basel Framework

Publications

Statement on crypto-assets

Summary of document history ?

Previous version

Previous consultation

This version

Subsequent consultation

Subsequent version

This version

N BCBS | Newsletters | 13 March 2019 | Status: Current
Topics: Fintech

The past few years have seen a growth in crypto-assets. While the crypto-asset market remains small relative to that of the global financial system, and banks currently have very limited direct exposures, the Committee is of the view that the continued growth of crypto-asset trading platforms and new financial products related to crypto-assets has the potential to raise financial stability concerns and increase risks faced by banks.

Basel Committee's spotlight on crypto-assets



BCBS statement on crypto-assets (March 2019)

- G** Growth of crypto-assets has the potential to raise financial stability concerns and increase risks faced by banks!
- G** Crypto-assets (including crypto-currencies)
 - L** Do not reliably provide standard functions of money (i.e. are not legal tender)
 - L** Are unsafe as media of exchange or store of value
- G** Crypto-assets present for banks
 - M** liquidity risk
 - M** credit risk
 - M** market risk
 - M** operational risk (including fraud and cyber risks)
 - M** money laundering and terrorist financing risk
 - M** legal and reputational risk

Basel Committee's spotlight on crypto-assets



BCBS statement on crypto-assets (March 2019)

Ü Due diligence

- ü Comprehensive analysis of risks
- ü Relevant technical expertise to assess risks of crypto-assets

Ü Governance and risk management

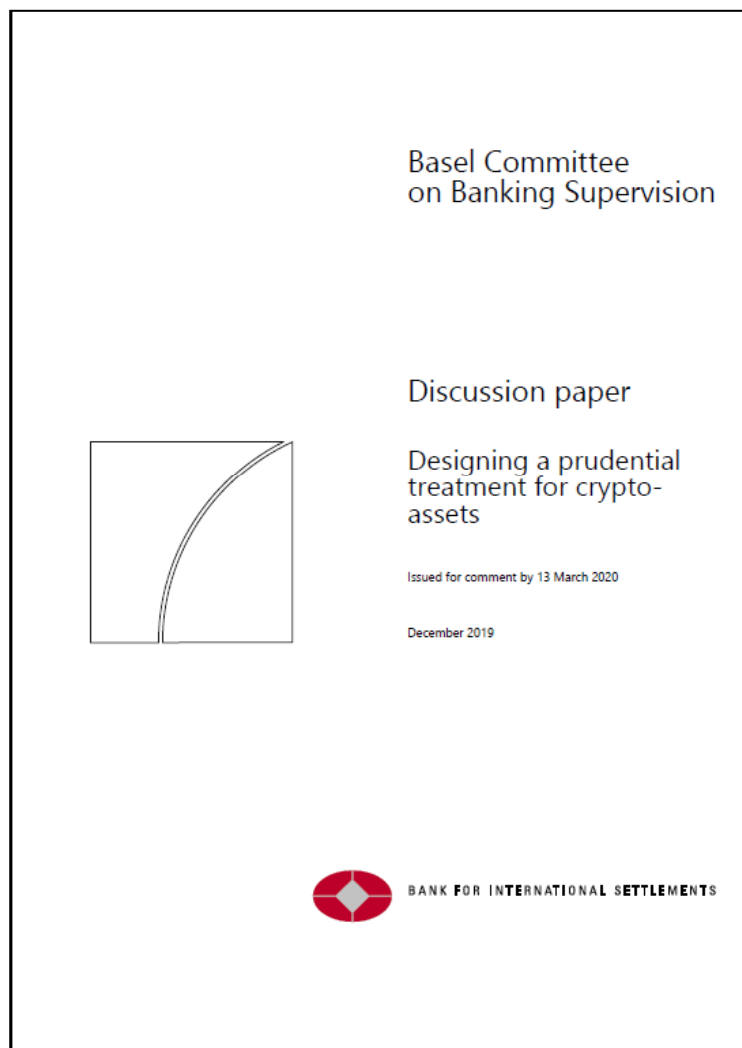
- ü Involvement of board of directors and senior management
- ü Assessment of risks as part of ICAAP and ILAP

Ü Disclosure

- ü Material exposures to crypto-assets as part of regular financial disclosure
- ü Accounting treatment of such exposures

Ü Supervisory dialogue

- ü Actual or planned exposures to such activities



Designing a prudential treatment for crypto-assets (December 2019)

Discussion paper

- § Comments are WELCOME from
 - § Academics
 - § Banks
 - § Central banks
 - § Finance ministries
 - § Market participants
 - § Payment system operators and providers, supervisory authorities
 - § Technology companies
 - § General public
- § 15 questions for comment by 13 March, 2020
- § Available at:
<https://www.bis.org/bcbs/publ/d490.htm>

Key features of crypto-assets



Cryptocurrencies, tokens, coins ... what is in common?

- Ø Digital (virtual) nature: *issued, transferred and traded electronically*
- Ø Reliance on cryptography: e. g. *symmetric or asymmetric cryptography, hashes*
- Ø Use of distributed ledger technology: e. g. *“permissionless” or permissioned networks*
- G Some crypto-assets may not represent a financial claim on, or a liability of, a specific issuer or custodian (*unlike current electronic financial instruments*)

Key features of crypto-assets

Question for discussion No. 1

What features of crypto-assets should be considered in the context of developing any potential prudential regulatory definition?

Key features of crypto-assets



Economic functions of crypto-assets

- A. Payments and exchanges
- B. Investments and securities
- C. Utility access

Potential sources of value of crypto-assets

- ✓ Value to be exchanged for other goods and services in the future
- ✓ Price stabilization mechanisms
- ✓ Current and future cash flows to the crypto-asset holder
- G Technological features: e. g. *capacity (processing) constraints, digital storage limitations, scalability, etc.*

Key features of crypto-assets



Additional aspects affecting risk profile of crypto-assets

- Ø Creation: *unsecured crypto-assets created by algorithms without an issuer vs crypto-assets created by an issuer*
- Ø Users: *general public vs defined user base*
- Ø Validators: *public ledger vs private ledger*
- Ø Legal regime
- Ø Transparency, i.e. *timely availability, price discovery, market capitalization and valuation of crypto-assets and their underlying assets, external audit*

Potential prudential treatment of crypto-assets



Channels of bank exposures to crypto-assets

Issuing and underwriting

- Direct issuing of crypto-assets
- Underwriting ICO
- Underwriting SFT with crypto-assets

Investing

- Direct owning
- Owning products with crypto-assets as underlying (e.g. long position in ETF)

Trading

- Proprietary
- On behalf of clients

Exchange

- Crypto-assets for fiat currency
- Fiat currency for crypto-assets



Clearing

- Crypto-assets derivatives

Insurance

- Against theft or loss

Lending

- Lending for investing in crypto-assets
- Taking crypto-assets as collateral
- Lending to entities dealing with crypto-assets
- *Lending in crypto-assets*

Custody and depository

- Taking deposits in crypto-assets (*where allowed*)
- Custody / wallet services
- Taking deposits / custody from a reserve backing crypto-assets

Potential prudential treatment of crypto-assets



Risks stemming from crypto-assets

Liquidity risk

- M** Market liquidity
- M** Funding liquidity

Market risk

- M** High price volatility
- M** Impediments to price discovery (*disjointed trading platforms*)

Third-party risk

- M** Proprietary
- M** On behalf of clients

Implementation risk

- M** Changes in internal systems

Operational risks

- M** Cyber-attacks
- M** Forks
- M** Operational reliability



Reputational risk

- M** Losses to crypto-assets holders
- M** Misconduct by service providers

Credit and counterparty risk

- M** Claims on the issuer
- M** *Mispricing due to lack of historical data*

Legal risk

- M** Consumer protection
- M** Safeguarding crypto-assets
- M** Misconduct (AML, combatting terrorist financing)
- M** Cross-border legal issues

Key features of crypto-assets

Question for discussion No. 8

- Which risks would be the most material with respect to banks' exposures to crypto-assets?
- Are there additional risks which banks could be exposed to as a result of exposure to crypto-assets, or providing related services?

Potential prudential treatment of crypto-assets



General principles

1. Same risk, same activity, same treatment

- Ø Prudential framework should not advocate or dissuade specific technologies, but it should account for any additional risks resulting from crypto-assets relative to traditional assets

2. Simplicity

- Ø Complex internal-model-based approaches should not be used
- Ø Prudential treatment should build on the existing framework, especially for crypto-assets with equivalent economic functions and risks as other asset classes
- Ø Prudential treatment for the types of crypto-assets that could be considered as 'high-risk' due to their characteristics

3. Minimum standards

- Ø Jurisdictions are free to apply additional and/or more conservative measures

Potential prudential treatment of crypto-assets



High-risk crypto-assets (HRCA)

- G** Digital assets recorded on a distributed ledger technology platform and secured cryptographically
- G** Not issued by a jurisdictional authority or another identified issuer
- G** No intrinsic value and not explicitly and directly linked to, or backed by, assets with intrinsic values
- G** Holdings of the crypto-assets do not give rise to a contract between the holder and another identified issuer

Key features of crypto-assets

Question for discussion No. 9

Which crypto-assets would classify as high-risk based on the criteria set out above?

Potential prudential treatment of crypto-assets



Illustrative example of capital and liquidity requirements for HRCA

- Banking book: full deduction from Common Equity Tier 1 capital
- Trading book: the *equivalent of a full deduction treatment for market risk* and credit valuation adjustment (CVA) risk
 - Risk weight of 100% for delta, vega and curvature risks
 - No diversification benefits
 - Residual risk add-on (RRAO) for crypto-asset exposures bearing residual risks
 - No internal models for calculating market risk capital charge
 - Counterparty credit risk: EAD based on the current replacement cost and a simple and conservative approach for PFE (50% of the notional value of the underlying crypto-asset), with the α from SA-CCR applied alongside any appropriate adjustments for credit risk mitigants (e. g. margining and netting)
- Credit risk mitigation: NOT eligible to service as financial collateral for the purpose of the credit risk mitigation framework

Potential prudential treatment of crypto-assets



Issues in market risk capital requirements for HRCA

- A. Deduction from capital?
- B. FRTB Standardized Approach (SA) treatment in commodity bucket?
- C. FRTB SA treatment as separate risk class?
- D. Simplified SA (and Basel 2.5) treatment with deduction from capital?
- E. Simplified SA (and Basel 2.5) treatment without deduction from capital?

A, B, and D?

A, C, and D?

B and E?

C and E?

Potential prudential treatment of crypto-assets



Issues in market risk capital requirements for HRCA

Option A: Deduction from capital

Deduct from capital only long positions in crypto-assets

Ü Treated separately from deducted positions (i. e. risk-weighted)

- Short positions in crypto-assets
- Long positions in crypto-assets prone to curvature or vega risk

Possible solution: *deduct from capital the absolute value of net exposure across all positions in the portfolio?*

Potential prudential treatment of crypto-assets



Issues in market risk capital requirements for HRCA

Option B: New (12th) commodity bucket in Basel 3.5 FRTB

- Ü Risk weight of 100% for all crypto-assets sensitivities
- Ü No recognition of intra-bucket correlations
- Ü Sum of absolute values of net weighted sensitivities for delta and vega risks
- Ü Separate curvature risk calculation for crypto-assets bucket (like for “other sector” equity bucket)
- Ü Zero inter-bucket correlations (like for “other commodity” bucket)

Potential prudential treatment of crypto-assets



Issues in market risk capital requirements for HRCA

Option C: New (8th) risk class in Basel 3.5 FRTB

- Ü Risk weight of 100% for all crypto-assets sensitivities
- Ü Sum of absolute values of net weighted sensitivities for delta and vega risk
- Ü Separate curvature risk calculation for crypto-assets bucket (like for “other sector” equity bucket)
- Ü Max liquidity horizon of 120 days
- Ü Risk weight of 100% for vega risk

Potential prudential treatment of crypto-assets



Illustrative example of capital and liquidity requirements for HRCA

• Liquidity risk: crypto-assets

- NOT eligible as high-quality liquid assets (HQLA) for the purpose of Liquidity Coverage Ratio (LCR)
- NOT eligible as HQLA for the purpose of Net Stable Funding Ratio (NSFR)
- 0% inflow and 100% outflow for LCR
- 100% required stable funding for NSFR
- 0% available stable funding factor (ASF) for crypto-assets liabilities with a residual maturity of less than one year

⊕ Pillar 2 (SREP) and Pillar 3 (Disclosure) requirements apply (cf. [page 7](#))

Potential prudential treatment of crypto-assets



Other types of crypto-assets (non-HRCA)

C Crypto-assets for intra- and inter-bank settlement

- G Used exclusively for intra-group and inter-bank settlements and fully backed by fiat currency

C “Stabilized” crypto-assets

- G Claim on an underlying asset fully, irrevocably and verifiably backed by other tangible assets

QUESTIONS???