Recording of Crypto Lending/Borrowing, Staking, Pooled and Cloud Mining in Macroeconomic Statistics

**26TH MEETING OF THE ADVISORY EXPERT GROUP ON NATIONAL ACCOUNTS
9 – 10 JULY 2024**

Venkat Josyula, Emmanuel Manolikakis and Mher Barseghyan

Outline

Background

Crypto Staking, Pooled and Cloud Mining

Crypto Assets Lending and Borrowing

Summary and Way Forward

Questions for AEG

BACKGROUND

BACKGROUND

- Guidance Note F.18 *The Recording of Crypto Assets in Macroeconomic Statistics*

  - ➢ Provides recommendations on the typology and classification of crypto assets

  - ➢ Crypto assets with a corresponding liability—treated as financial assets

  - ➢ Crypto assets without a corresponding liability designed to act as a general medium of exchange (CAWLM)—treated as non-produced nonfinancial assets and reported as a separate category

- Crypto assets—being used to generate additional revenues for their holders through lending and staking, and other related activities.

- For the service provided by the platform, lenders and borrowers pay an implicit fee to the platform, which is the output of these platforms

- Lending of crypto assets with a corresponding liability—recording is relatively straightforward as they are financial assets

- **CAWLM—guidance on the recording of lending, staking, pooled and cloud mining is necessary**

Crypto Staking, Pooled and Cloud Mining

Crypto Staking

Proof-of-Stake (PoS) is a consensus mechanism used in blockchain networks to validate transactions and create new blocks.

Validators are entitled to create new blocks and validate transactions based on the number of coins they hold (control) and intend to "stake" or lock up as collateral.
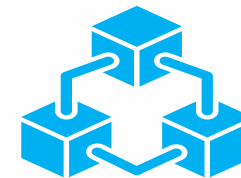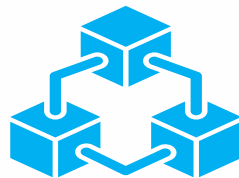
Any owner of crypto can lock up owned crypto in specific wallets to provide validators enough resources to perform validation.

Crypto cannot be on-lent, sold or used for any other purpose.

Participants receive rewards based on the amount of staked crypto and their role (validators or passive participants).

Crypto Staking

Recommended treatment

- Active staking: treat revenue as a computer services, as it is received against validation services.

- Passive staking
  - In principle, passive staking is provision of nonproduced nonfinancial assets to be used in validation services.

  - Conceptually the income received against it can be seen as rent.
    - Such recording may also affect the treatment of revenue of active validators, as they may receive portion of their income for staking own crypto.
    - Additional estimates should be made to collect data on active and passive staking.
  - To avoid additional burden on statistical system the drafting team recommends to treat passive staking fees as computer services for practical reasons.
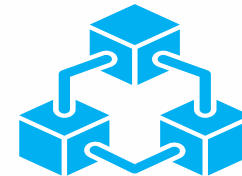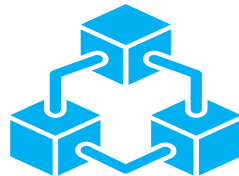
Pooled Mining
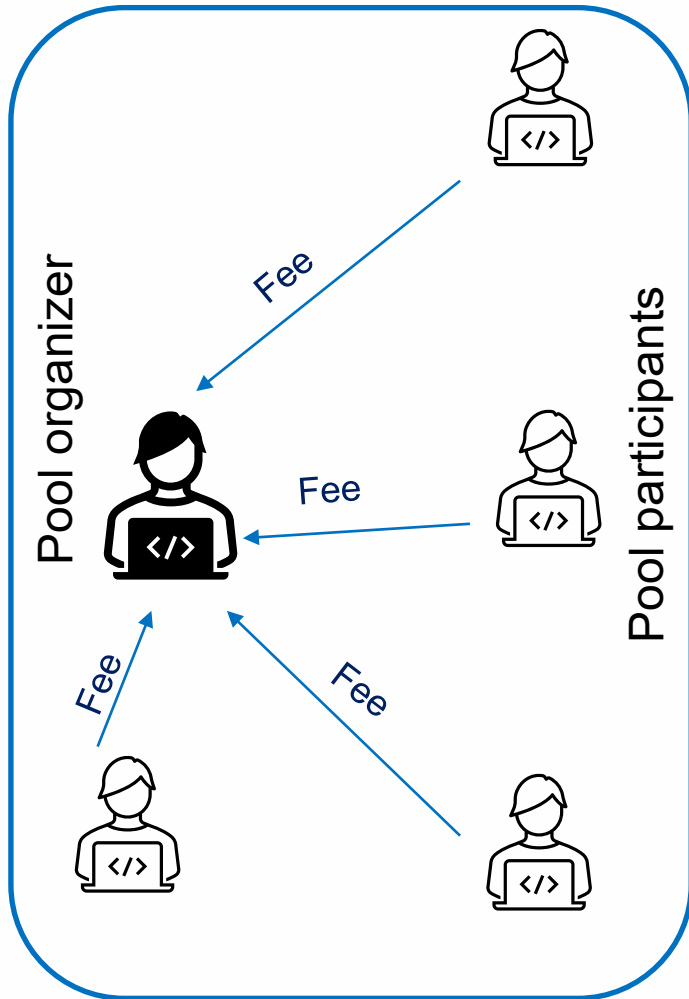
Pooled mining involves miners combining resources to solve blocks together, sharing the rewards based on their contribution.

Pool organizer

Fee

Fee

Fee

Fee

Pool participants
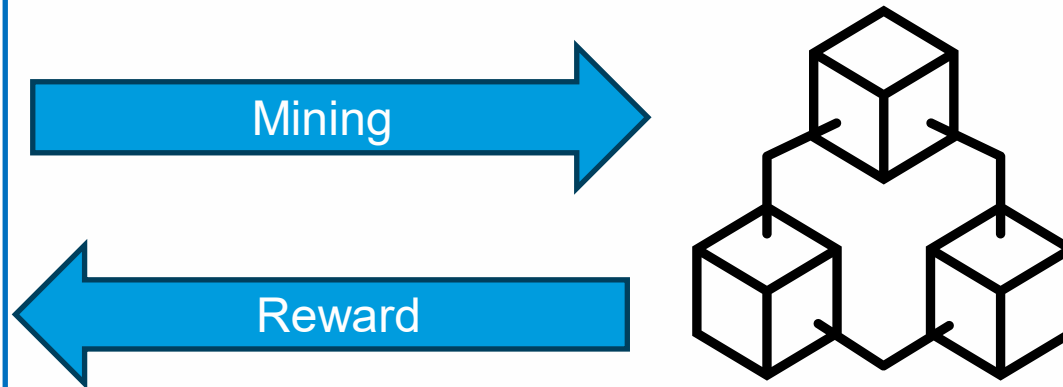
Mining →

← Reward
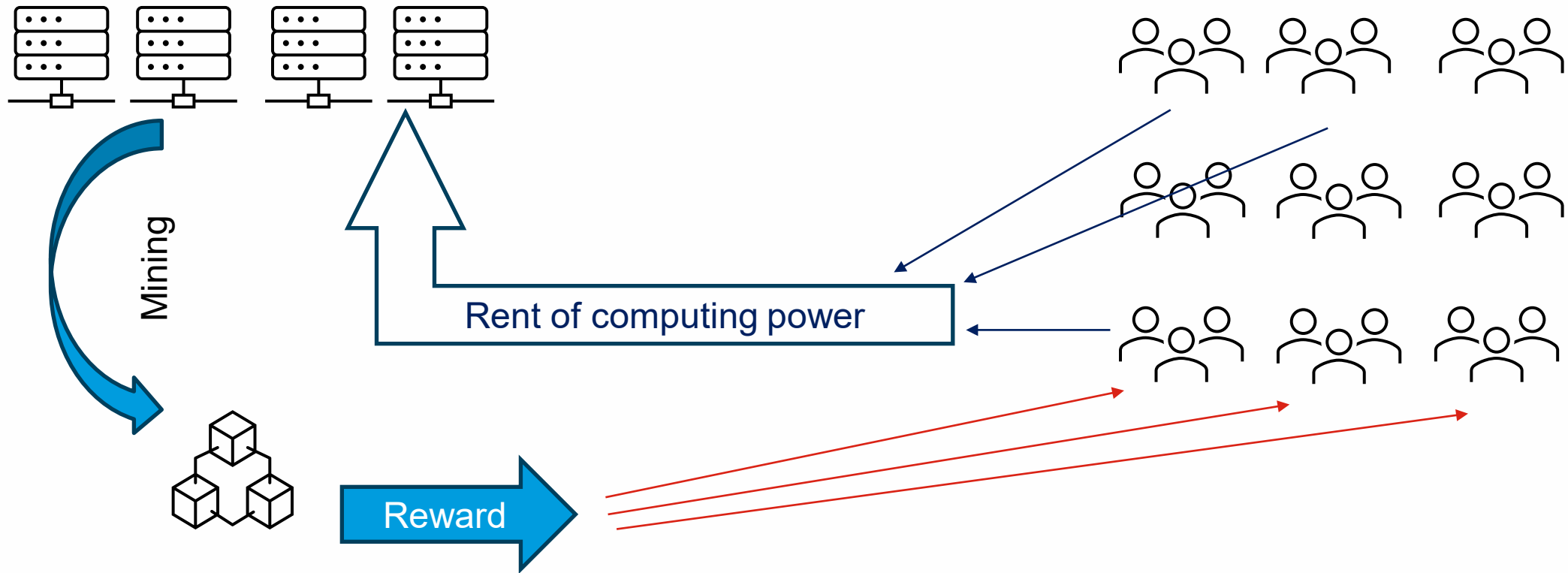
Recommended treatment:

- Reroute rewards as being received by participants directly (Validation service provided to CAWLM community)
- The commission to pool organizer should be treated as a computer service.

Cloud Mining

Hardware owner

Cloud mining involves renting computational power to mine cryptocurrencies, with the rewards shared based on the rental agreement.

Users

Mining

Rent of computing power

Reward

Recommended treatment:

- The reward received is treated as mined directly (Validation service provided to CAWLM community)
- The rent of computing power should be treated as computer services (provided by the owner of hardware)

Crypto Assets Lending and Borrowing

Crypto Assets Lending/Borrowing

- Institutional units lend their crypto assets to other institutional units

  ➢ for a specified period with an agreed re-payment plan for the principle and revenue (referred to as interest by lending platforms) in crypto assets or in fiat currencies

- **Crypto lending/borrowing—mostly channeled through crypto exchanges/platforms**

  ➢ Centralized (CEX) and Decentralized (DEX) exchanges (e.g., Nexo, crypto.com)

  ➢ Lend to borrowers at a higher rate and pay revenue on deposited assets at a lower rate

  ➢ **Output of the platform services—implicit fee from lenders and borrowers and explicit fee**

  ➢ Implicit fee—seems to be like "implicit financial services on loans and deposits" or FISIM in *2008 SNA/BPM6*). **Nonfinancial intermediation**?
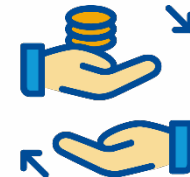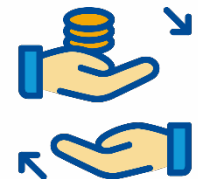
Crypto Asset Lending/Borrowing: Options for Recording Revenue

- Two main options: Option 1. Property income (1A. Rent and 1B. Interest) and Option 2. Services

Option 1A. Rent

- CAWLM are non-produced nonfinancial assets—revenue receivable from lending may be recorded as rent

  ➢ Scope of non-produced nonfinancial assets already expanded, but not the related income components

  ➢ Requires modification to the current definition of rent (remove from definition "for the use in production" the text in red)

    Income receivable by the owner of a nonproduced nonfinancial assets (the lessor or landlord) for putting the assets at the disposal of another institutional unit (a lessor or tenant) for use in production

  ➢ On-lent of borrowed CAWLM—revenue receivable could be recorded as rent (i.e., sub-leasing)

- May not be conceptually sound

  ➢ Current definition requires the assets to be used in production, but definition could be updated.

  ➢ Total revenue may not be rent—ignores intermediation service charges of the platform which may lead to underestimation of the value added/services trade.

Crypto Asset Lending/Borrowing: Options for Recording Revenue

Option 1B. Interest

- Process of lending/borrowing and the related revenue resembles interest income

  - Along the lines of fees for securities lending, gold loans , and loans of nonmonetary gold, **which are all recorded as interest** by convention (11.68, *BPM6*)

  - It should be emphasized that institutional unit (IU) that lends remains the economic owner of crypto assets (like IU lending gold or securities)

  - Borrowing units can on-lent as they are the legal owners of the borrowed asset

- May not be appropriate

  - Contradicts the definition of interest (but there is an exception already)

  - Link between income and related stocks (held by domestic institutional sectors) may not be maintained

  - Total revenue may not be interest—ignores intermediation service charges of platform and leads to underestimation of their value added/services trade
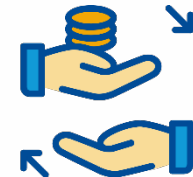
Crypto Asset Lending/Borrowing: Options for Recording Revenue

Option 2B. Services

- Record lending revenue as services by treating it as a payment for making these assets available to another institutional unit

  - Treatment could be extended to securities lending and gold loans

  - Consider them as providing support to validation services and/or other services to support the functioning of platform

  - Uniform recording of all types of revenue associated with similar transactions (e.g., crypto staking)

- May not be appropriate

  - These arrangements may not hold true when the assets are on-lent

    Services can't be traded separately from their production. By the time their production is completed, they must have been provided to the consumers (paragraph 6.17, *2008 SNA*)

  - Implies that output of platforms is not estimated by implicit fee

  - Implies that rent accrues on all non-produced nonfinancial assets except CAWLM
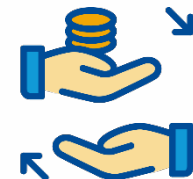
Summary and Questions for CMR

Summary and Way Forward

- CAWLM lending does not properly align conceptually with the macroeconomic frameworks

- Financial reporting standards are still evolving

- **All options presented have weaknesses and, in some cases, severe limitations—issue is complex**

- Treatment of Rent may be appropriate—for the lending channeled through platforms, for completeness need to split the revenue into rent and service charge of the platform.

However,

- To be consistent with recording of staking, pooling and cloud mining as validation services

    In the interim, as the issue is evolving, the drafting team recommends on practical grounds classifying the revenue from CAWLM lending as a new category of services.

    This recommendation will permit compilers to record the information as the issue continues to develop and our understanding becomes more clear

Questions for the AEG

1.Do you agree with option 2 (services) for the recording CAWCL lending/borrowing revenue? Or do you prefer the other options?

- Option 1. Property Income:
  - 1 A. Rent
  - 1 B. Interest
- Option 2. Services

2.Do you agree with the recommendation for treating crypto staking, cloud, and poll mining as (computer) services?

3.Do you have any other suggestions on how the revenue from CAWCL lending/ borrowing should be treated?

4.Do you agree that the recording of CAWLM lending/borrowing be included in the SNA/BPM Research Agenda irrespective of the recommendation at this stage?

5.Do you agree that the recording of revenues from securities lending and gold loans should also be included in the SNA/BPM Research Agenda to enable a holistic discussion on this type of revenue?

Additional Slides

BLOCKFi Lending/Borrowing
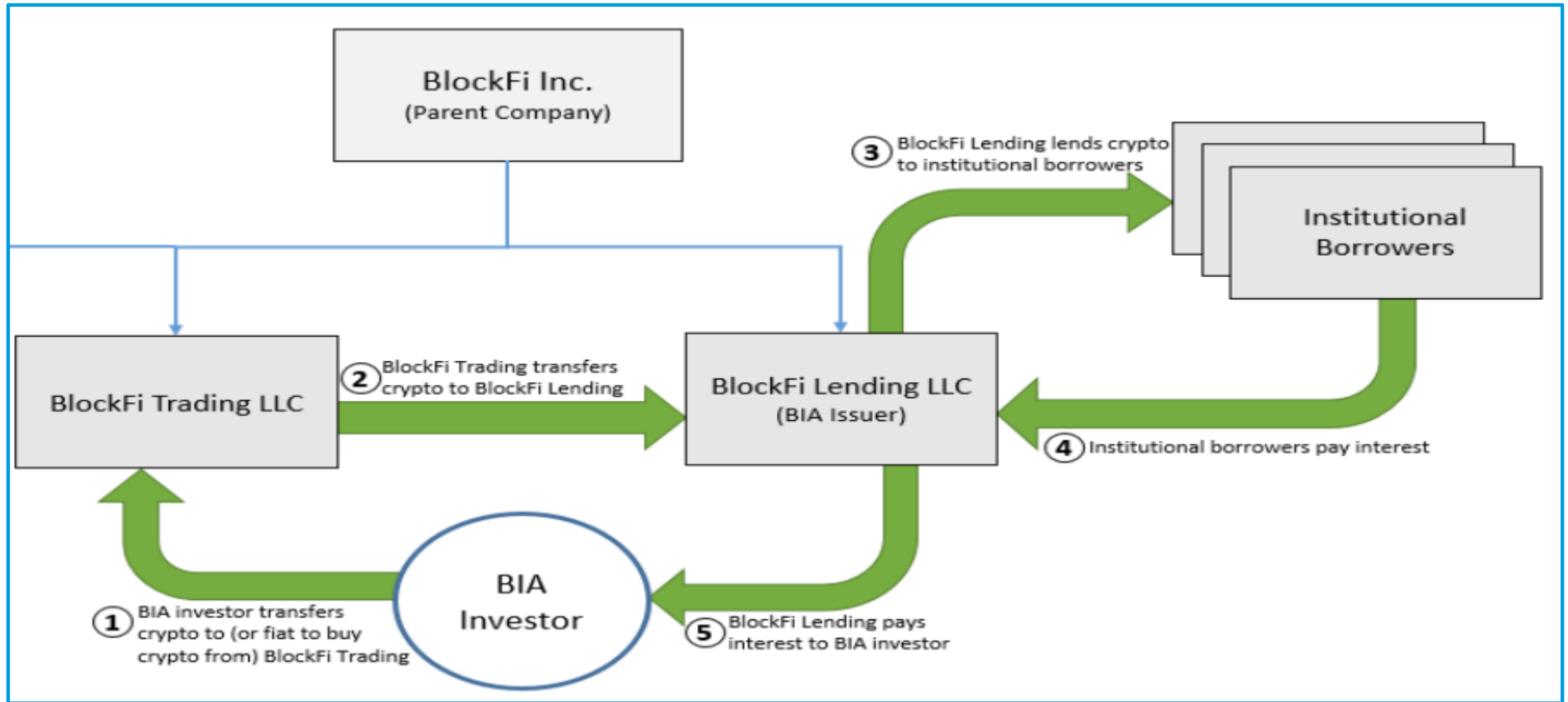
Source: BlockFi Lending LLC (sec.gov)