R-coin[1]

A concept presented by Ryoji Furui @ R-coin.net, on Feb 21, 2022

R-coin aims to realize real, gold-backed, universal basic income as embedded global currency[2], issued by central bank unions (CBU).

1. What does the 'R' in R-coin stand for?

We present the uniqueness of the R-coin, based on the following three words:

I. **R**edistribution

Redistribution is a key concept and extension of R-coin. Universal basic income (UBI) is a commonplace term, describing a government program that provides periodic payments to all individuals in the program, without using the means test or considering work requirements. Typically, the financial resources constituting universal basic income include tax income. The future global currency would amass such resources by collecting transfer fees on blockchain. Globally, millions of money transfers occur per hour or day. Global currency transfer fees can be used to collect and distribute income among everyone, worldwide. We could use biometric authentication[3] to facilitate redistribution in the blockchain network, even for individuals without a bank account, smartphone, or Internet access.

II. **R**evaluation

Commonly used currencies such as the dollar, euro, and yen are categorized as fiat currency, that is, money issued by a government as legal tender. These are backed only by government trust, which is engendered through legitimacy (international recognition). A review of the history of these currencies shows that they used to be backed by gold after World War II, until 1971. It was possible to exchange 35 USD for an ounce of gold during that period. Gold has been used as a stable means of valuation for

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[1] A project running on GitHub, detail of which can be viewed at https://github.com/r-coin
[2] Based on a concept presented in a previous paper, written by the same author. Detail is available from https://github.com/r-coin/basic/blob/master/economics.pdf
[3] A biometric authentication start-up, launched by Worldcoin. Detail is available from https://worldcoin.org

a long time. However, the trust that money warrants has changed. We propose a single global currency as global legal tender that is purely generated using Internet infrastructure, as a blockchain for everyday use. We believe that it is time to reassess our confidence in gold, digitizing the use of blockchain. Therefore, we set the unit of the future global currency to be proportional to the weight of gold. This could reaffirm our trust between the physical world and the evolving virtual network represented by the Internet.

III. **R**evolution

Bitcoin, the first blockchain model designed by Satoshi Nakamoto, was decentralized, and has been the main concept proposed by him; his anonymity is still maintained. Various challenges have been posed in reviewing the development of Bitcoin over the past decade. Numerous opinions by developers resulted in lost consensus that split the market into various types of digital coins. It has been used for illegal transactions and its volatility has caused people to reevaluate its future, considering it a speculative rather than a future currency. We can determine the cost of maintaining legal tender to stabilize the economy, society, and our lives, compared with decentralized coins. The R-coin project will begin as a private, non-profit organization that would aim to create a global currency system. However, its goal is to preserve its authority when evolving into a public entity, as a global CBU.

2. Roadmap

Phase 1 Issuing central bank digital currencies (CBDCs)	2022	• Modeling a blockchain, using the global currency as a native token • Development of legal systems • Development of end-user tools • Distribution of CBDCs
Phase 2 Issuing global currency	2023 ~ 2024	• Commencement of distribution of global currency

Phase 1 - Issuing CBDCs

1) The blockchain[4] must be able to digitally connect to other private payment networks, contract systems, and CBDCs.

2) Off-chain payments would be allowed for limited amounts. However, the limit would be waived when digital infrastructure is damaged by natural disasters or IT system problems.

3) An organization can be set up to have some authority to assist the CBU, for example, engaging in regular communications, offering advice, or performing audits.

4) It would also be the place to develop and maintain open-license resources in the system.

5) The organization would ideally be formed as a public entity or Decentralized Autonomous Organization (DAO), provided that the DAO could be refined and well-regulated.

6) R-coin can be initiated as a test coin for governments that wish to plan a universal basic income grant as a future option, along with their CBDCs.

7) Central banks will become validators (or miners) under a single organization or regulation.

8) Since most central banks are structurally independent of their governments, privacy protection can be maintained if the R-coin chain obtains only the users' wallet addresses from the government database.

Phase 2 - Issuing global currency

9) Initially, global tax and CBDC transfer fees will defray the costs incurred in the daily distribution of R-coin to all citizens of the world.

10) As R-coin gains liquidity, its own transfer fees are expected to cover the distribution costs.

11) The CBU determines transfer fees, distribution amounts, further issuances, and other operations.

12) In view of the digital divide, distributable monies would need to be stored for users who have delayed their registration.

13) Even if R-coin were to be distributed to personal wallets on a global scale as UBI, domestic jurisdictions can control circulation as retail payment. Thus, users can store R-coin in their wallets, but this can only be used after conversion to legal tenders. As such, R-coin would only have wholesale local circulation.

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[4] A scalable, Layer-1 blockchain; in recent years, Solana has emerged as one of the fastest, cheapest, and most energy-efficient public blockchains available. Visit https://solana.com

3. Access authorization of additional data tied to the wallet address

1) For privacy and security reasons, the global currency will initially circulate on an encrypted network[5], and not as a public chain. However, the transactions of the CBU account would be open to the public for the purposes of maintaining transparency.

2) All data regarding each central bank's cross-border transactions will be accessible to the CBU.

3) Central banks and their local governments can deploy the global currency on their CBDC systems, which agree with the CBU's universal regulations and standards.

4) Central banks can delegate systems' management to the CBU, with the CBDC option.

5) In case an account-based payment system faces difficulties in retaining payment history, index files of each wallet can be stored where they are generated (e.g., commercial banks, personal apps or cloud storages periodically synch with main-chain). This strengthens privacy on a globally distributed ledger.

6) Validators would be allowed to scan anonymous bulk data containing on-chain records only. Then, data is analyzed using AI or related computing. In case additional information needs to be collected, users need to be notified.

Access Authority	Transaction category
Public	All transactions of the CBU account. (Published data may include some first-layer transactions when the two-tier retail system[6] is operational.)
CBU	Mainly cross-border transactions.
Central banks and their local governments	Each domestic or alliance transaction.

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[5] An efficient AES-based encryption scheme, named Rocca, which is expected to reach speeds that exceed 100 Gbps. Visit https://doi.org/10.46586/tosc.v2021.i2.1-30 for detail.

[6] One of the latest documents regarding the CBDC system—titled "Progress of Research & Development of E-CNY in China"—that has been published by the People's Bank of China, can be viewed at
http://www.pbc.gov.cn/en/3688110/3688172/4157443/4293696/2021071614584691871.pdf
A more technical paper, released by the Hong Kong Monetary Authority, titled "e-HKD: A technical perspective," is available from
https://www.hkma.gov.hk/media/eng/doc/key-functions/financial-infrastructure/e-HKD_A_technical_perspective.pdf