

Economics of Diem

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Blockchain technology allows for new market design

Cost of Verification

- Ability to cheaply verify state

Cost of Networking

- Ability to bootstrap and operate a marketplace without assigning control to a centralized intermediary

Catalini, C., Gans, J., "Some Simple Economics of the Blockchain", Communications of the ACM, 2020

A network that is designed for payments



DIEM COINS

Offering single-currency stablecoins in addition to the multi-currency Diem Coin.



COMPLIANCE FRAMEWORK

Enhancing the safety of the Diem payment system with a robust compliance framework.



DIEM NETWORK

Forgoing the future transition to a permissionless system while maintaining the core economic properties of a permissionless network.



DIEM RESERVE

Building strong protections into the design of the Diem Reserve.

Key objectives of the economic design of the Diem Network

1. Trust in an efficient medium of exchange and payments network
2. Trust in the Diem protocol and resulting market for payments and financial services
3. Trust in the governance and future evolution of the network

1. Trust in an efficient payments network

Building strong protections in the design of the Diem Reserve

WHAT

Define how the Reserve would respond to extreme market situations.

The structure and administration of the Diem Reserve is intentionally designed to mitigate threats, minimize risks, and preserve the value of Diem Coins over time.

The design of the Reserve incorporates strategies based on best practices from other systems.

HOW

The Reserve will hold, in cash or cash equivalents and very short-term government securities, an amount at least equal to the face value of each Diem Coin in circulation.

The Reserve will hold assets with very short-term maturity, low credit risk, and high liquidity.

Administration of the Reserve will be transparent to the public and auditable. To help consumers remain protected in the case of financial market stress, the Reserve will be further endowed with a capital buffer.

WHY

The regulatory capital requirements and buffers will protect against potential losses from credit, market, and operational risks.

Diem Coin holders should have a high degree of assurance they can convert their Diem Coins into local currency.

Future Integration with CBDCs

Over time, the Association hopes to collaborate with central banks on issues such as direct custody or the integration of the Diem payment system with CBDCs.

This would reduce credit and custody risk, streamline the operations of the Reserve, and provide additional comfort to Diem Coin holders.

2. Trust in the Diem Protocol and resulting market for payments and financial services

Economics of Consensus Algorithms

Proof-of-Work does not allow for relational contracts by design. As a result:

- Wasteful computation is needed to secure the network
- Nodes cannot be incentivized along unobservable dimensions, and can collude to keep quality low
- There is no way to avoid concentration except through forking

In systems like Diem, relational contracts rely on off-chain reputation and local institutions to secure the network.

- *Catalini, C., Jagadeesan, R., Kominers, S.D., "Market Design for a Blockchain-Based Financial System", SSRN Working Paper No. 3396834, 2019.*
- *Catalini, C., Jagadeesan, R., Kominers, S.D., "Markets for Crypto Tokens, and Security under Proof of Stake", SSRN Working Paper No. 3740654, 2020.*

Diem Association Members



ANDREESSEN
HOROWITZ



coinbase



FARFETCH



iliad

kiva



Ribbit Capital



TEMASEK



Uber



The Diem network is designed to encourage competition and innovation

It is not a walled garden, but an open technology standard where both incumbents and startups can compete on a level playing field.

Open and transparent membership criteria are used to ensure competition for nodes and effective governance.

Low switching costs, low barriers to entry and high interoperability ensure strong competition for custody and financial services.

More competition means lower prices, improvements in quality, and the development of new services and business models.

3. Trust in the governance and future evolution of the Diem Network

An independent and strong Association is key for broad participation and adoption

Founding Members are needed to drive utility and adoption, secure the network, and bootstrap a market for delegation (this solves the "nothing at stake" problem of PoS systems).

Similar economics to a standard setting organization.

Without distributed governance, organizations and individuals would not build on the same ecosystem, reinforcing fragmentation in payment and financial services.

Designed to avoid a "tragedy of the commons" and ensure resources are available for advancing the Diem protocol.

Replicating the key economic properties of permissionless systems

The Diem journey began with businesses and nonprofit organizations with a shared vision to facilitate a global payment system built and governed as a public good.

In the first Diem white paper, the Diem Association shared its intention to eventually transition the blockchain network to a permissionless system.

Regulators raised thoughtful questions about the perimeter of control for the Diem network — in particular, the need to guard against unknown participants taking control of the system and removing key compliance provisions.

The Association believes it is possible to replicate the key economic properties of a permissionless system through an open, transparent, and competitive market for network services and governance.

Competition is a prerequisite for building a highly interoperable, efficient, and innovative payment system

New entrants need to be able to compete for:

1. The provision of payments and financial services to businesses and consumers.
2. The opportunity to run independent validator nodes that increase the security and reliability of the Diem consensus protocol by having non-correlated failure risks.
3. Active participation in the governance and evolution of the Diem project.

The Diem project achieves the first objective at the outset as the network is modeled after an open technology standard, and the Diem protocol is built for a high degree of interoperability.

The second and third objectives require a market-driven process that allows newly qualified Association Members to enter and compete with existing ones.

An open, transparent, and competitive market-driven process

WHAT

Forgoing a future transition to a permissionless blockchain network.

Exploring a future transition to an open, transparent, and competitive market for network services and governance that can replicate the key economic properties of a permissionless system.

Outlining a proposed approach for expanding and renewing membership over time.

HOW

Expanding membership: open calls for new Members and define how many membership slots are available in each round.

Renewing membership: existing Members will renew participation based on good performance.

At both stages, the Association will set open-call criteria to ensure that the selection process is objective and transparent, and also that it incorporates critical dimensions for the growth, diversity, safety, and integrity of the network.

WHY

Offering new entrants the ability to compete for the provision of core network services, and participate in governance while ensuring the Diem Association's ability to meet regulatory expectations is upheld.

Key Questions

1. Why build a new type of stablecoin?
2. What risks have we been focused on?
3. How can we support public sector innovation in this space?

Thank You!