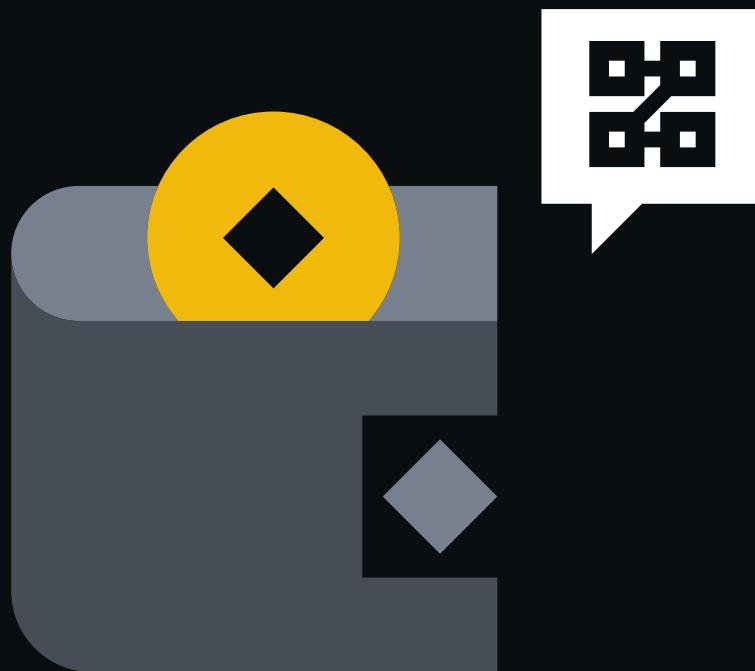


# Blockchain Payments: A Fresh Start

AUGUST 2024



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# Key Takeaways

- ◆ Despite being one of the largest, fastest growing global sectors, the payments industry still largely runs on outdated, 50 year old bank-tethered infrastructure. Modern payment fintechs and card networks like Stripe, Mastercard and Visa have made the end user experience extremely convenient for consumers and merchants. However, the legacy cost of involving up to six intermediaries (e.g., card networks, issuers, processors, POS systems, aggregators, digital wallets) in each transaction persists. Blockchain technology offers a new set of globally-enabled infrastructure rails for payments, built from the ground up.
- ◆ Blockchains, and the new host of applications that they enable, have the potential to significantly reduce the cost and increase the speed of cross-border payments. This is already occurring at the institutional level, with players like Visa running pilots which enable the settlement of institutional-grade global payments on public blockchains. Adoption is also occurring on the individual level, as products like Binance Pay are being used for peer-to-peer and cross-border transfers faster and more cheaply, as well as spend with their crypto funds directly at merchants with zero gas-fees, dynamic currency conversion and real time settlement.
- ◆ The payments industry is massive, meaning adoption of revolutionary technology such as blockchains is likely to be slow and cautious. This gives the blockchain industry itself the necessary time to grow out of its adolescence, and build the necessary tools and infrastructure to sort out its own growing pains such as chain scalability and liveliness, poor UI/UX, and regulatory uncertainty.

# Introduction

**There is a unique freedom of money that comes with using cash** for in-person payments. Unfortunately, the ability to conduct a private, direct, peer-to-peer exchange without involving third parties is something that modern digital payment systems simply cannot provide. This is mainly because, **without blockchain technology, there is no means of having self-custody of digital money**. To make matters worse, the modern global payment infrastructure stack also relies on a lengthy chain of rent-taking banks and other intermediaries to process any digital transaction. **The payment technology stack of today is in dire need of a fresh start, and blockchain technology could enable this.**

When Bitcoin was introduced in 2009 by the pseudonymous Satoshi Nakamoto, it was envisioned as a revolutionary form of peer-to-peer (“P2P”) electronic cash. **The goal was to create a decentralized currency that could provide the same freedom** that in-person cash transactions offer, but for digital payments. It did this by facilitating direct transactions between individuals **without the need for financial intermediaries like banks**. This vision promised a new era of financial freedom, transparency, and reduced transaction costs.

The modern crypto industry has evolved significantly since its inception in 2009. The advent of stablecoins introduced a stable-value asset that serves as an effective medium of exchange and payment, harnessing the myriad advantages of blockchain technology whilst eliminating the issue of asset volatility. Additionally, the development of various Layer 1 and Layer 2 solutions has enhanced transaction speeds and reduced costs, effectively reducing the bottlenecks that previously impeded the adoption of distributed ledgers as a global platform for processing mass payment transactions.

This report will give an overview of the modern payments landscape and the key problems it faces. It will then go into how blockchain technology can address these problems, the current state of DLT payments, and where the industry might progress from here.

***Please note that the mention of specific projects in this report does not constitute an endorsement or recommendation by Binance. Instead, the projects cited are merely used for the purpose of illustrating the aforementioned concepts. Additional due diligence should be taken to better understand the projects and associated risks.***

# Overview of the Modern Payments Landscape

When global payment systems like SWIFT were first created in the 1970s, enabling global money transfers was a groundbreaking achievement and a major milestone in finance. However, **today's global payments infrastructure can only be described as outdated, largely analog, and fragmented**. It is a costly and inefficient system that operates within limited banking hours and relies on numerous intermediaries. The modern financial system depends on a multitude of banks worldwide, each maintaining its own ledger of account balances. **The lack of a unified global standard across these banks hinders seamless international transactions and complicates the establishment of consistent protocols.**

The shortcomings of the modern payments system **makes cross border bank-to-bank transactions in particular extremely costly and inefficient**, as a single transaction may need to pass through multiple correspondent banks before reaching its intended destination. At times, it is a black box where senders and recipients are unable to track the movement of funds and are left waiting in the dark. Cross-border remittances in particular often **take up to five business days to settle and cost an average of 6.25% of the transacted amount**, according to [The World Bank](#). Despite these apparent challenges, the market for business-to-business (“B2B”) cross-border payments is enormous and continues to expand. The total market size for B2B cross-border payments was US\$39 trillion in 2023 and is expected to grow by 43% to US\$53 trillion by 2030.<sup>1</sup>

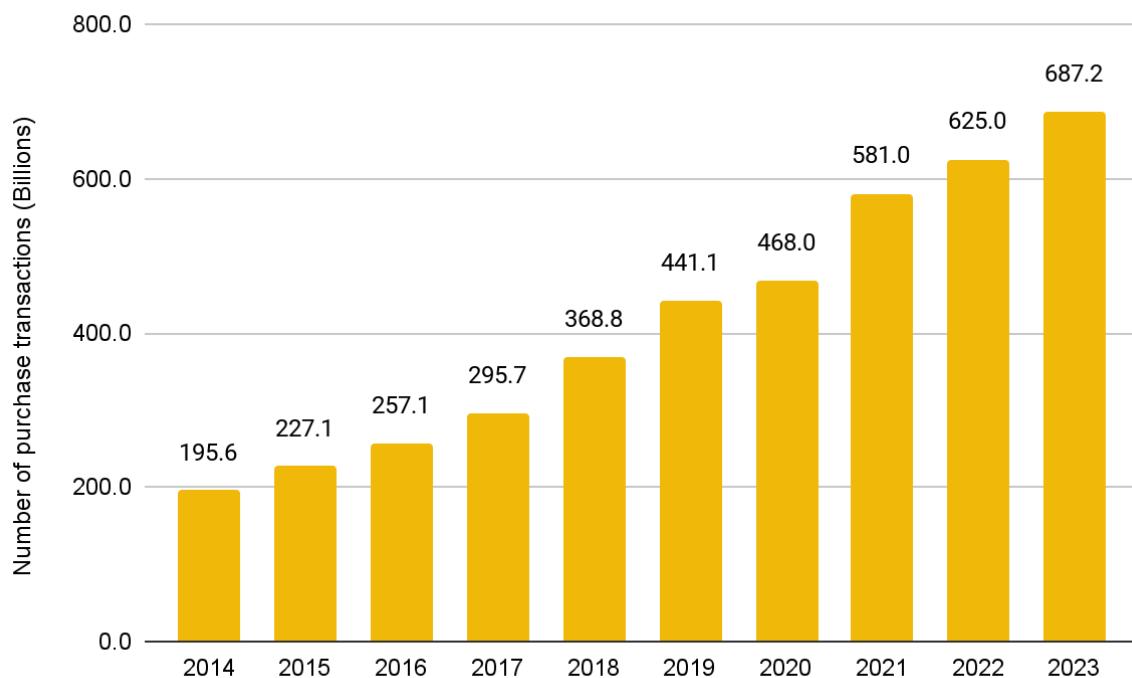
3.1

## State of the Modern Payments Stack

Seemingly unfazed by its inefficiencies, **the payments industry has grown into one of the largest in the world**, currently estimated to be producing US\$2.83T in revenues as of 2024.<sup>2</sup> It is also one of the fastest growing sectors, and is expected to reach US\$4.7 trillion by 2029, growing at a compound annual growth rate (“CAGR”) of 10.8%. Global payment flows reached about US\$150 trillion in 2022, a 13% increase in a single year from 2021.<sup>3</sup>

Looking at growth in the number of purchase transactions on global general purpose card brands (American Express, Diners/Discover, JCB, Mastercard, UnionPay, and Visa) over the past 9 years tells us a similar story. Purchase transactions have been steadily increasing since 2014, at a CAGR of around 15.1%.<sup>4</sup>

**Figure 1: Number of credit card transactions worldwide has been growing at a CAGR of 15.1% since 2014**



Source: Statista, Binance Research

Despite being one of the largest, and fastest growing industries in the world, the majority of the payments sector still runs on 50 year old technology rails. **The global payments landscape has evolved into a sort of Frankensteinian conglomeration**, rife with numerous middlemen parties which stand between the merchant and consumer, each taking rents on every transaction that passes through them. **Innovation in the payment-fintech world over the past five years has done wonders** for the merchant and consumer experience. However, it has **not been able to shield them from the high costs caused by inefficiencies in the legacy systems** to which even the most cutting-edge fintech solutions still remain tethered.

Broadly, there exist in the modern payments ecosystem two types of payment systems: **open loops and closed loops**.

## Open Loop Payments

**Card network providers like Visa and Mastercard power the global open loop payment infrastructure.** They make it possible for a multitude of acquiring and issuing banks from all around the world to plug into a card network, and enable payments to flow from one bank to another via communication through the card network. Card networks have been an invaluable innovation. **They allowed for fast communication between banks** all around the world, in a world where banks were the only means of storing digital money. This is **an extremely consumer-friendly system**, which allows for the use of a single Visa/Mastercard

to pay for goods and services all around the world. As a result, they have grown to be the main means of digital payment in the world today. Visa and Mastercard are two of the most valuable public companies in the world today, ranked [18th](#) and [20th](#) respectively.<sup>5</sup>

In a typical open loop payment transaction enabled by card networks like Visa and Mastercard, there are up to **6 middlemen parties that sit between the merchant and the consumer.**

**Figure 2: The Modern Global Payments Stack**



Source: Binance Research, as of August 2024

1. **Point of sale (POS)** is the physical or digital terminal where the transaction is initiated. It captures payment details and sends them for processing. Square for example, which is one of the most dominant POS service providers, charges merchants 2.6% + US\$0.10 per transaction. This fee is then split across the remaining 4 rent-taking intermediaries in the payment stack (E-Wallets like Apple Pay and Google Pay currently do not take any per-transaction fees).
2. **Payment aggregators** consolidate transactions from multiple merchants, simplifying the process of accepting payments. They provide a single point of integration for various payment methods. Most payment aggregators like Stripe also screen transactions for fraud detection purposes, in order to protect their merchant clients.
3. **The acquirer** is a financial institution that processes credit or debit card payments on behalf of the merchant. It ensures the transaction is authorized and funds are transferred from the issuer to the merchant's account.

4. **Card networks** facilitate the transfer of transaction information between the acquirer and the issuer. They set the rules and standards for card transactions.
5. **The issuer** is the bank or financial institution that provides the cardholder with a credit or debit card. It authorizes the transaction and debits the cardholder's account. Card networks like Visa and Mastercard also monitor transactions for fraud detection purposes, in order to protect their bank clients.
6. **E-Wallets** are digital wallets that store payment information and facilitate online and in-store transactions. They offer a convenient way for users to pay without directly using their cards.

Put simply, **blockchains can function as alternative, global, decentralized payment networks** - a new form of open loop system that is untethered from the current middleman-rife global payments stack and slow, costly traditional banking system.

## Closed Loop Payments

Closed loop payments on the other hand, are a growing trend in the payments space popularized by the likes of PayPal and Starbucks. Within a closed payment loop, consumers only interact with the PayPal application, as various merchants are acquired by PayPal itself and enabled to accept payment via PayPal's network. In Starbucks' case, customers can only spend funds stored in the Starbucks digital wallet at Starbucks outlets.

There is a **growing trend of merchants** [\*\*implementing\*\*](#) **their own closed payment loops** in the vein of what Starbucks has done. This is being done chiefly as a means of deepening customer stickiness by running their own loyalty programs and so as to bypass the hefty processing fees levied by the incumbent open payments stack. However, **closed payment loops as they exist today are highly fragmented systems** that still remain tied to the slow and costly traditional banking system. To transfer funds into and out of the Starbucks closed loop, users still need a bank account. Moreover, many merchant-specific closed loop systems like Starbucks do not allow for customer-to-customer transfer of funds, and are [\*\*not seamlessly available\*\*](#) in many countries around the world. **Blockchain technology offers an alternative backbone for the payment fintechs of the future**, allowing them the option of avoiding the traditional, fragmented banking system entirely, which eventually results in lower fees levied on merchants and consumers alike down the line.

Binance Pay is an example of one such payment fintech. It enables instant, low fee peer-to-peer transfers and [\*\*direct merchant payments\*\*](#) within a closed loop payment system. As a closed loop model, **the newest generation of fintechs like Binance Pay are able to offer merchants and consumers a familiar, polished, and customizable fintech experience**. In order to facilitate the transition from traditional banking rails to blockchain rails, Binance Pay approaches payments with a hybrid mentality. This offers consumers and

merchants the flexibility to leverage public blockchains to [facilitate open loop](#) crypto transfers, as well as allowing direct deposits and withdrawals via traditional bank accounts.

## A Major Pain for Cross-Border Transactions

**The cost of transferring money increases exponentially when it comes to cross border transactions** and remittances. Worker's or migrant remittances, as [defined by the IMF](#), are when "migrants send home part of their earnings in the form of either cash or goods to support their families."<sup>6</sup> This is one specific area of cross-border transactions that blockchain technology could have immediate impact on.

Worldwide, remittance flows are [estimated to have risen](#) by 1.6%, from US\$843B in 2022 to US\$857B in 2023. They are expected to grow at an even higher rate of 3% in 2024. In 2023, the leading five low and middle-income countries (LMICs) receiving remittance inflows in current USD were India (US\$120B), Mexico (US\$66B), China (US\$50B), the Philippines (US\$39B), and Pakistan (US\$27B).

According to The [World Bank](#) as of Q1 2024, **the average cost of sending US\$200 globally remains at 6.35% of the transfer amount**, resulting in a total of US\$54B in fees collected annually.<sup>7</sup> Due to their extremely high costs, international remittances are a key area in the payments industry where blockchains can truly have an outsized impact.

**Cross-border remittances involve transferring money internationally through a series of banks situated in different countries.** The process starts when the sender initiates a transfer at their local bank or money transfer service, providing the recipient's details and the amount to be sent.

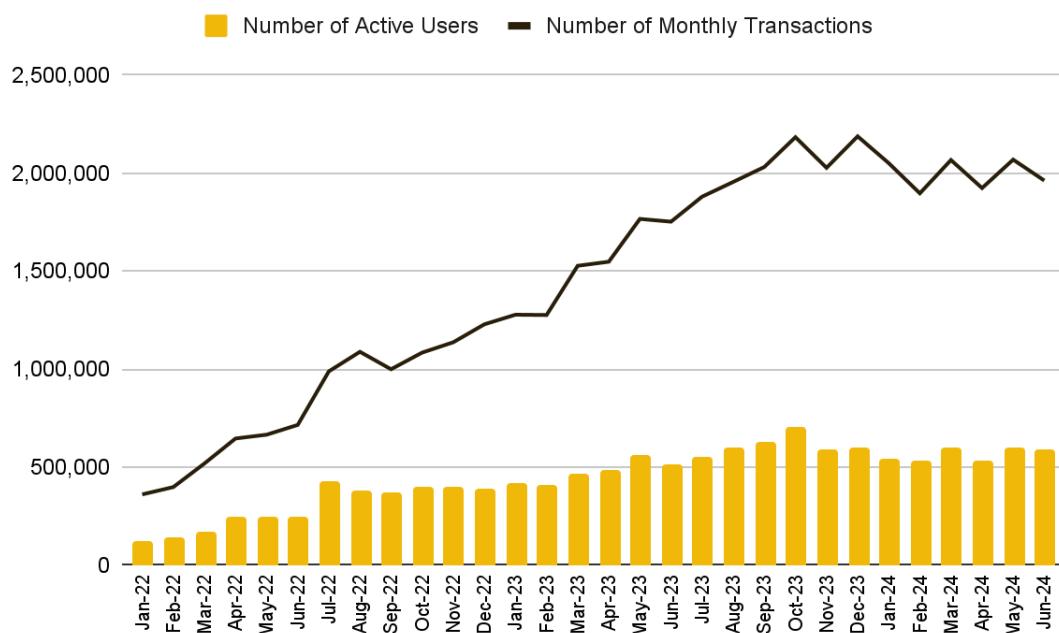
Since the sender's and recipient's banks may not have a direct relationship, **intermediary banks, known as correspondent banks, facilitate the transaction**. The sender's bank sends the funds to its correspondent bank, which may pass the funds through additional correspondent banks, each charging a fee. The SWIFT network is commonly used for sending such payment instructions.

If different currencies are involved, the funds are converted, usually at one of the correspondent banks, often at a less favorable rate. Each bank must comply with anti-money laundering (AML) and know your customer (KYC) regulations, verifying identities and ensuring the transaction's legitimacy. The transaction is also screened against international sanctions lists.

Once processed and compliance checks are complete, the funds are transferred to the recipient's bank, which credits the recipient's account. The sender receives a confirmation of the completed transaction. **The entire process can take several days**, making it slow and costly. See the section entitled [Advantages of Using Blockchains for Payments](#) for a more in-depth comparison between the speed and cost of traditional payment systems versus blockchain-enabled ones.

The traditional payments system is not only costly and slow for cross-border transactions, but is **also currently unable to reach a significant proportion of the global population**. Today, **up to 1.4 billion adults globally remain unbanked**. Driven by these reasons, we have seen users around the world transition to using blockchain-enabled solutions like Binance Pay as a cheaper and faster means of cross border transfers. Since 2022, Binance Pay's monthly active users and monthly transaction count have both increased almost 5x to ~13.5 million users globally and ~1.96m transactions respectively.

**Figure 3: Binance Pay has seen an increase of 5x in terms of users and activity in the past 3 years**



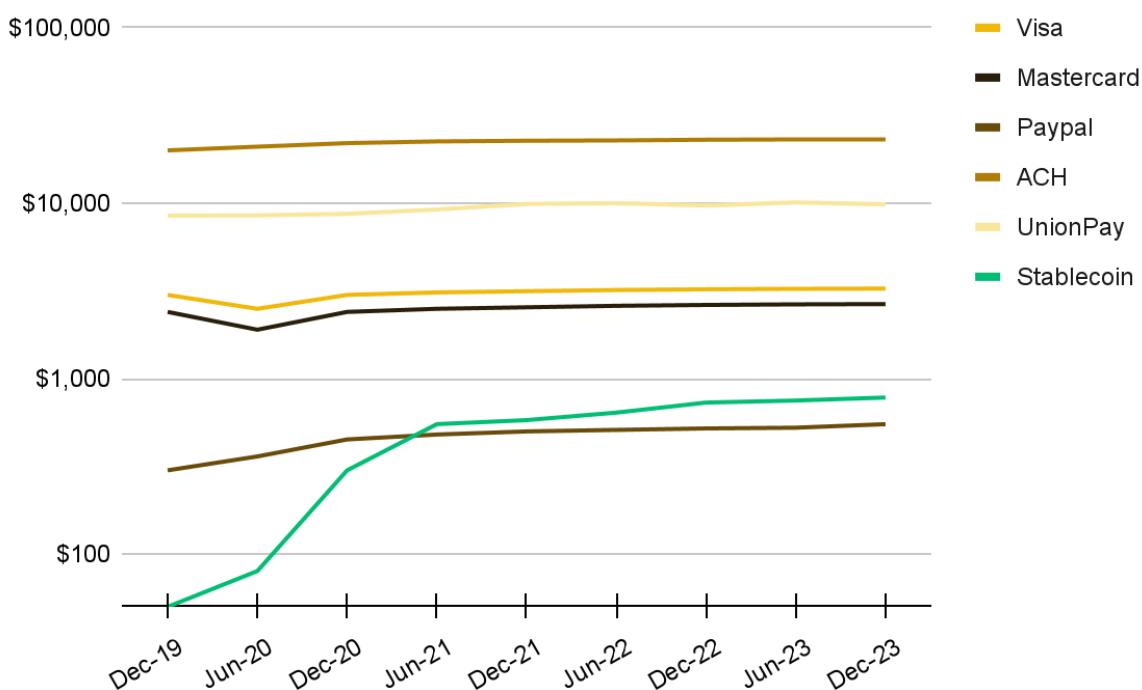
Source: Binance Research, as of August 2024

Blockchains and distributed ledger technology (“DLT”) have the potential to disrupt many of the current players in the payment space, **by offering a uniform, global, transparent environment in which payment transactions can be accessed with just a smartphone and an internet connection**. This means a more direct line of communication between merchants and consumers, facilitated by distributed ledgers, and the elimination of the need for correspondent banks. Untethering the fintechs of the future from the traditional banking system could be the key to enabling cheaper and faster payments across the globe. To quote [Jason Clinton](#), Head of Financial Institution Group Sales Europe at J.P. Morgan: “Ultimately, where we want to get to, is **the ability to instantly settle any payment in any currency, anywhere, any-time, and that will probably require using blockchain technology**.”<sup>8</sup>

# The Current State of Blockchain Payments

Stablecoins, due to their high degree of cash-equivalency, have become a crucial component of payments processing on blockchains. **In 2023, the stablecoin market settled over US\$10.8T in transactions.** Excluding "inorganic" activities such as bots or automated transactions, the figure stands at US\$2.3T.<sup>9</sup> Looking at stablecoin payments as compared to traditional payment rails, we can see that they have been gaining on their traditional counterparts in terms of quarterly volumes.

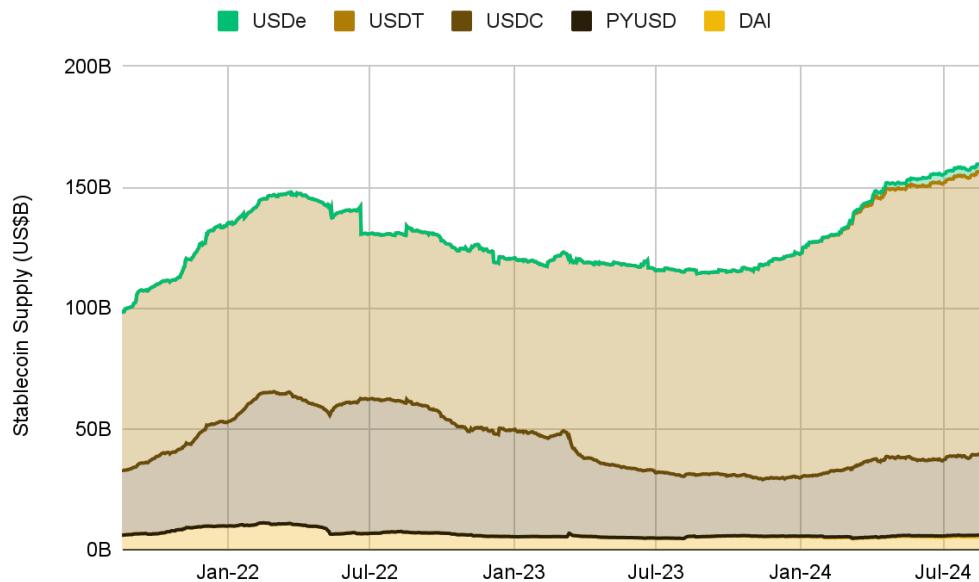
**Figure 4: Quarterly volumes of stablecoin payment activity is gaining on those of traditional payment systems**



Source: Coinbase, Binance Research, as of August 2024

The total stablecoin supply has also been on the rise since mid-2023, signaling a steady growth in demand. The combined market capitalization of the major stablecoins sits at over US\$160B, with USDT and USDC making up the lion's share at a market dominance of 73% and 21% respectively.

**Figure 5: USDT and USDC make up the lion's share of the stablecoin supply**



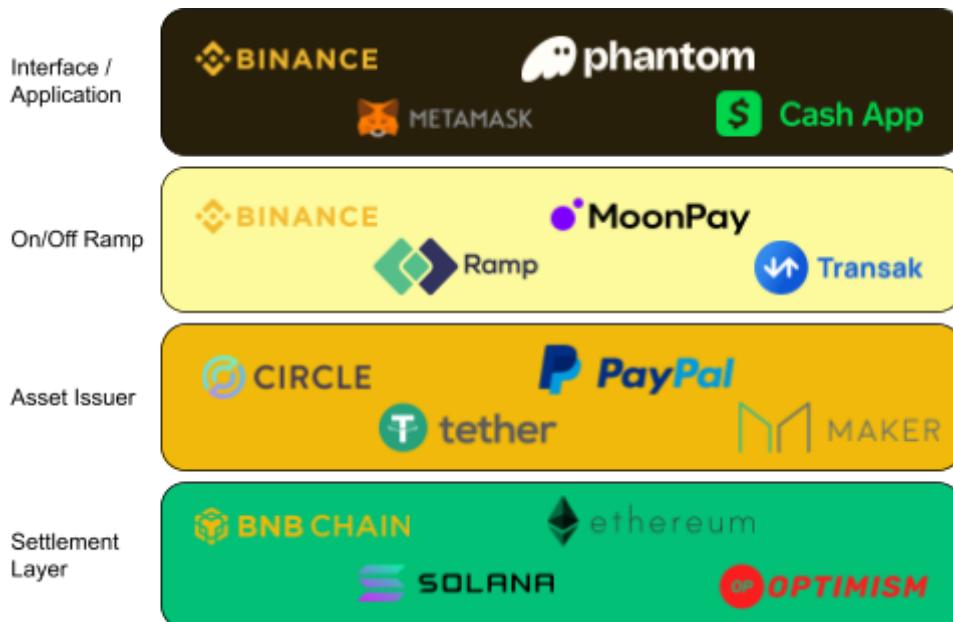
Source: Artemis, Binance Research, as of August 2024

Leveraging the low volatility provided by stablecoins, the blockchain payments ecosystem and its associated infrastructure has come a long way since 2009.

4.1

# Infrastructure Overview

Figure 6: The Blockchain Payments Stack



Source: Galaxy Digital, Binance Research, as of August 2024

## Settlement layer

**The foundational blockchain infrastructures responsible for transaction settlements**, such as Layer 1 blockchains like Bitcoin, Ethereum, and Solana, along with versatile Layer 2 solutions like Optimism and Arbitrum, are essentially in the market of selling blockspace. These platforms compete on various fronts, including speed, cost, scalability, security, and distribution. **Over time, the payments use case could become a significant consumer of blockspace.**

We can imagine this layer as the blockchain alternative to the network of banks that make up the current payments system. Rather than consumers and merchants storing their money in centrally-managed bank accounts, they can store their assets in on-chain externally owned accounts (“EOAs”) or smart contract accounts.

It is worth noting that **in the modern payments stack, authorization and settlement are handled separately**. Visa and Mastercard’s card networks provide the service of payment authorization; it is the network of issuing and acquiring banks that handle the actual settlement of payments. For blockchains, authorization and settlement can theoretically be handled almost simultaneously. A consumer can authorize for a transaction of 100 USDT to be sent directly from their EOA to a merchant’s EOA by signing the transaction, and the validators would process and settle this transaction immutably on the blockchain. However,

it is worth noting that relying solely on blockchains for settlement and authorization of P2P payment transactions could mean bypassing the system of clearing, transaction monitoring, and fraud detection services that payment aggregators like Stripe and card networks like Visa have in place.

Over the past few years, **Visa has itself been a frontrunner in piloting blockchains for payments use cases**, and the company [imagines a future](#) where “Visa’s network of networks involves more than just multiple currencies and bank settlement rails, but also multiple blockchain networks, stablecoins, and CBDCs or tokenized deposits.”<sup>10</sup>

## Asset issuer layer

Asset issuers are organizations **tasked with the creation, management, and redemption of stablecoins**—crypto assets engineered to maintain a stable value relative to a reference asset or a basket of assets, most commonly the US dollar. These issuers often operate with balance sheet-driven business models similar to those of banks. **They accept customer deposits, invest these funds into higher-yielding assets such as US treasuries, and issue stablecoins as liabilities**, generating profit from the spread or net interest margin.

The Asset Issuer is a new type of ‘intermediary’ that exists in the crypto payments stack, which has no direct equivalent reflected in the traditional payments stack. Perhaps the closest equivalent would be the government which issues the fiat currency in which transactions are conducted.

Unlike the middlemen found in traditional payments, Asset Issuers do not take a fee from every transaction using their stablecoins. Once the stablecoin has been issued on-chain, it can be self-custodied and transferred without any additional costs paid to the Asset Issuer.

## On/Off Ramp layer

**On/Off-ramp providers are essential in boosting the usability and adoption of stablecoins for financial transactions.** Fundamentally, they act as the technological bridge connecting stablecoins on blockchains to fiat systems and bank accounts. Their business models are typically flow-driven, earning a small percentage of the total dollar volume that passes through their platforms.

Presently, the on/off ramp layer is the usually most expensive piece of the crypto payments stack. Popular providers such as Moonpay [charge up to 1.5%](#) to bring assets from a blockchain to a bank account.<sup>11</sup> To make a transaction that flows from consumer bank-held fiat, to on-chain stablecoin, to merchant bank-held fiat could cost up to 3% on the on/off ramp fee alone. In terms of cost, this aspect is likely the most prohibitive towards widespread adoption of blockchain payments, especially by merchants and consumers that may still require fiat in their bank accounts for day to day transactions. To get around this, products like Binance Pay are building their own network of merchants at which users can directly spend their crypto, eliminating the need for users to bear the off-ramp cost.

## Interface/Application Layer

**Front-end applications serve as the customer-facing software in the crypto payments ecosystem**, offering user interfaces for crypto-enabled transactions and leveraging other components of the stack to facilitate these payments. Their business models typically include a mix of platform fees and transaction-based fees, earning revenue based on the volume processed through their interfaces.

4.2

## Advantages of Using Blockchains for Payments

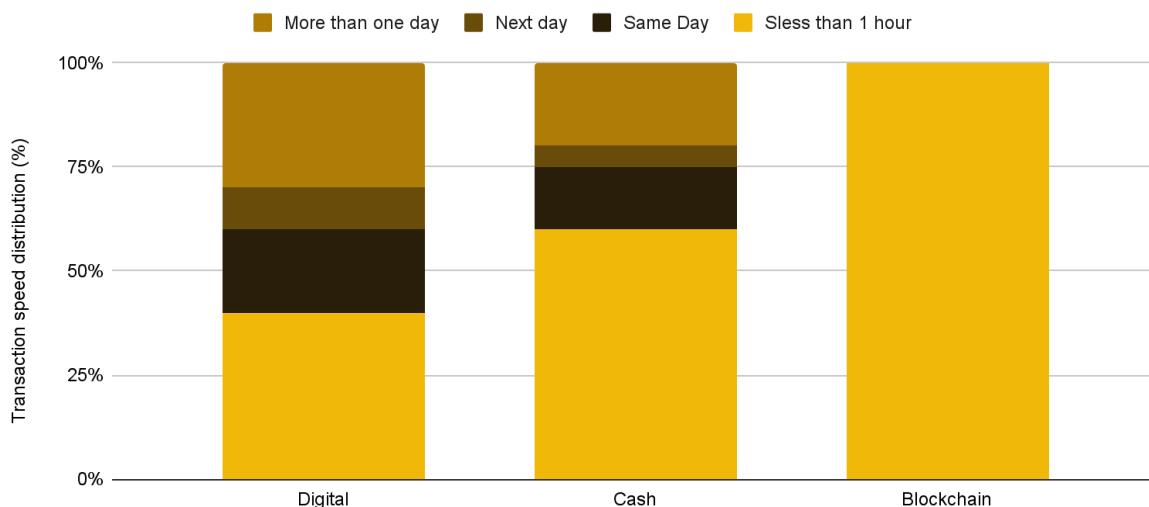
### Near instantaneous settlement

When a transaction is made using a Visa or Mastercard card, the consumer experiences the convenience of nearly instant payment authorization. **The actual settlement for the transaction however, meaning the moving of funds** from the customer's bank account (issuing bank) to the merchant's bank account (acquiring bank) oftentimes **does not happen until at least a day later**. While card networks allow for the consumer to make digital payments within seconds, the merchants usually only receive the funds for that purchase the next day or later. Settlement times are even more drawn out when funds need to be moved across borders, as this requires communication between banks from different countries.

Inefficiencies in the cross-border interbank communications system are clearly reflected when looking at remittance transaction times. Somewhat counterintuitively, around **30% of digital remittances are taking more than one day to reach their destination**; a higher percentage than the 20% of cash remittances that take the same amount of time. [The World Bank](#) attributes this to 2 reasons:

- (1) digital remittances encompass traditional banking services, i.e. bank account to bank account services, that have a slower speed.
- (2) most non-bank remittance service providers may be pre-funding the transactions, offering a fast service to the end users using cash.

**Figure 7: Around 30% of digital remittances are taking more than one day to reach their destination**



Source: The World Bank, Binance Research, as of August 2024

For illustration's sake, between the three mediums of remittances (digital, cash, and blockchains), blockchains clearly come out ahead in terms of speed, with 100% of transactions settling in less than an hour.

In 2021, Visa [conducted a pilot](#) with Crypto.com, utilizing USDC and the Ethereum blockchain to process payments from Crypto.com for cross-border transactions on their live card program in Australia. Currently, Crypto.com uses USDC to meet its settlement obligations for the Visa card in Australia and plans to expand this capability to other markets.<sup>12</sup>

Prior to this pilot, settling cross-border purchases made with Crypto.com Visa cards involved a lengthy currency conversion process and expensive international wire transfers. Now, **Crypto.com can send USDC cross-border via the Ethereum blockchain directly to a Visa treasury account managed by Circle**, significantly reducing the time and complexity associated with international wire transfers.

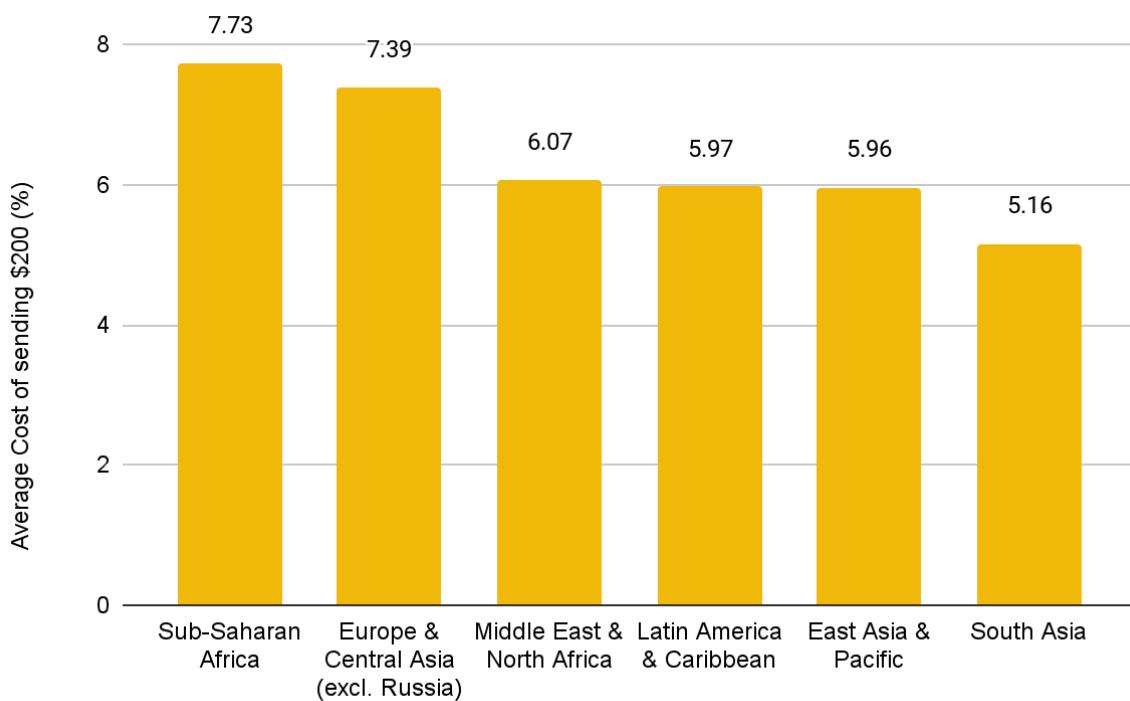
At the individual user level, services like Binance Pay allow users to instantly transfer crypto across borders.

## Lower costs

According to data from [The World Bank](#), the average cost of sending remittances across international borders has decreased from 6.39% in Q4 2023 to 6.35% in Q1 2024.

According to their breakdown of average costs by region of the world, Sub-Saharan Africa is the most expensive to send money to, at an average cost of 7.73%.<sup>13</sup>

**Figure 8: The global average cost of sending remittances across borders currently sits at 6.35%**



Source: The World Bank, Binance Research, as of August 2024

For comparison sake, the average cost of sending US\$200 worth of stablecoin (or any amount of stablecoins for that matter, as most blockchains charge a fixed gas fee independent of the amount being transferred) over an alt-L1 like Solana would be around US\$0.00025. Products like Binance Pay, allow users to conduct borderless, peer-to-peer transfers of stablecoins at a comparatively much lower fee, as long as the transfer amount is under 140,000 USDT. For values over that amount, a fee of US\$1 is levied.

It is worth noting that on/off-ramping is currently the most expensive part of any transaction involving on-chain assets. Services like that provided by CryptoConvert, which [Binance partnered with in Q4 2023](#), are allowing South African consumers to spend their digital assets to purchase groceries.<sup>14</sup> This eliminates the need for the expensive off-ramp transaction, and is the beginning of incorporating a network of merchants into a form of crypto-native closed payment loop.

## Greater Transparency and global trustless standards

In an era where traditional payment systems like SWIFT are weaponized for geopolitical purposes, blockchain technology offers a [revolutionary alternative](#). With its inherent transparency, every transaction on a blockchain is recorded on an immutable ledger, visible to all network participants. **This openness fosters trust and accountability**, deterring fraud and manipulation.

Decentralization is another key advantage. Unlike centralized systems, blockchains distribute control across a vast network, reducing the risk of single points of failure and abuse of power. No single entity can impose sanctions or restrictions, ensuring a neutral and accessible global payment system.

Blockchain's security is enhanced by its decentralized nature, making it resilient to attacks. Compromising a blockchain network requires immense computational power, far more than traditional systems. Additionally, **blockchain streamlines transactions by enabling peer-to-peer payments, reducing intermediaries, and lowering fees**. Cross-border payments that once took days can now be completed in minutes, fostering real-time global commerce. Blockchains offer a viable globally-unified alternative system of storing and transferring digital value to the existing, fragmented banking system.

5

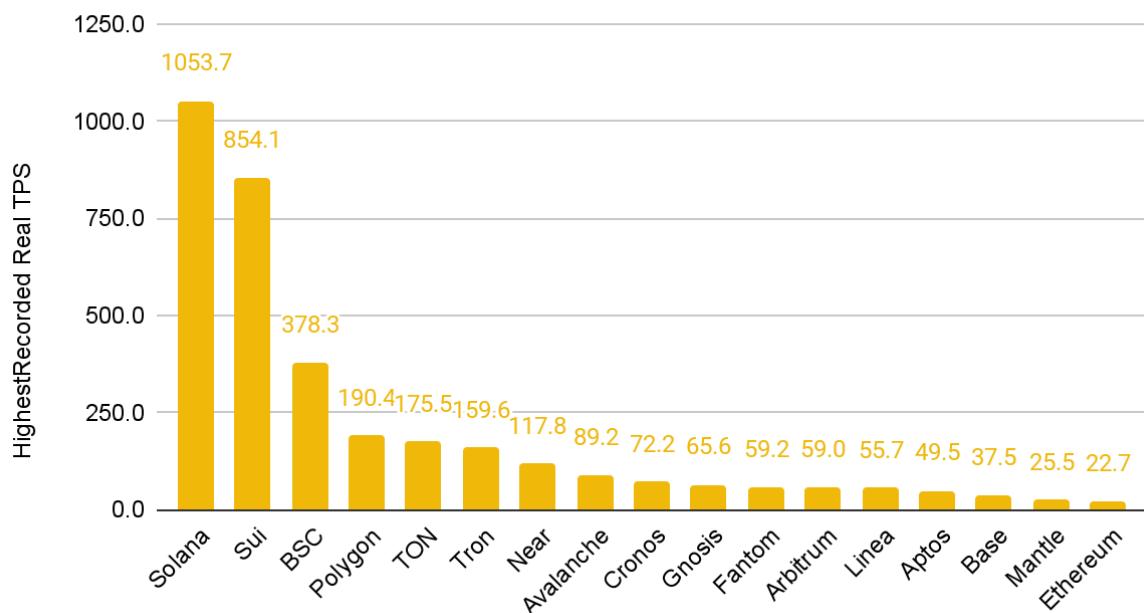
## Current Problems with Blockchain Payments

5.1

### Scalability and Liveliness

A globally utilized payments network must be able to support cheap, fast transactions, with zero downtime. With thousands of transactions being processed per second, even momentary delays can have a significant impact on business operations worldwide. Visa, for example, has the [capacity to process](#) over 65,000 transactions per second.<sup>15</sup> Solana, the blockchain with the highest recorded user generated transactions per second (“TPS”) to date, has a max daily average TPS of just over 1,000. Sui is reportedly not far behind, with a highest real TPS of over 850. BNB Chain comes in third place on this metric, with 378.3 TPS.

**Figure 9: Solana's highest recorded real TPS clocks in at 1053 TPS**



Source: Coingecko, Binance Research, as of August 2024

Visa processed around [0.72 billion transactions per day](#) in 2023, which gives us a daily average of TPS for 2023 of approximately 8,300.<sup>16</sup> This is still almost 8x the max recorded user generated TPS for Solana.

On top of the TPS issue, Solana has also demonstrated a liveliness issue. Since the mainnet launched in 2020, Solana has experienced [7 major outages](#) which brought block production to a halt, with the latest occurring in February 2024. **Such growing pain problems would understandably cause institutions to be cautious about relying on blockchains** for key business operations, such as payments.

Despite these growing pains however, Solana remains the vanguard blockchain for institutional payments use-case adoption. Due to its “significant level of demonstrated throughput”, [Visa has described it](#) as a “viable to test and pilot payments use cases.”<sup>17</sup>

PayPal also selected Solana as the second chain after Ethereum on which to launch their PYUSD stablecoin. At the time of writing, PYUSD supply on Solana (US\$377M) has already surpassed its supply on Ethereum (US\$356M), despite having launched almost a year later.

5.2

## On-Chain Complexities

Blockchains, largely due to their decentralized nature, **possess certain complexities that make their adoption over centralized systems inconvenient** for consumers and merchants. Requirements placed on the end users such as seed phrase management, paying for gas fees, and lack of unified front-ends make the adoption of blockchain technology a major pain for the average consumer and merchant.

Meanwhile, over the past 5 years, the payment-fintech world with **the likes of Square and Stripe has refined the merchant and consumer payment experience to a very high degree**. By and large, it has done this by abstracting away all the underlying complexities of middlemen, correspondent banks, and other third parties. As a result, with regard to the traditional global payments stack, what we have now is a highly refined system from the consumer and merchant's point of view, that offers, for the cost of up to 3% per transaction, **a glossy spray-on-paint cover for the aforementioned Frankensteinien conglomeration of rent-taking middlemen that make up the traditional payments stack**.

Fortunately, alongside the rise of faster and cheaper alt-L1s, there have also been **many improvements made to the UI/UX of blockchain-enabled applications**. Binance Pay offers users the familiar centralized fintech experience, whilst remaining untethered from the traditional banking system. This allows users the freedom to send each other crypto on a global scale with low fees, whilst also having the option to easily withdraw their crypto assets into self-custody should they choose to do so.

5.3

## Regulatory Uncertainty

The current regulatory environment for cryptocurrencies and blockchain technology is still evolving, creating uncertainty for businesses and consumers. Regulations vary widely across different countries, complicating global operations and cross-border transactions.

Countries like [Switzerland](#) and [Singapore](#) are developing clear regulatory frameworks to provide guidance and foster innovation in the blockchain space. The European Union's [Markets in Crypto-Assets \(“MiCA”\)](#) regulation is another example aiming to create a harmonized regulatory environment.

The blockchain industry is also in the process of developing compliance solutions to help businesses navigate the regulatory landscape. Providing people and businesses with the necessary tools for monitoring and ensuring compliance with anti-money laundering (“AML”) and know-your-customer (“KYC”) regulations is key to adoption.

# The Future for Blockchain Payments

**Blockchains provide a unified technological infrastructure that streamlines the payments landscape**, surpassing the fragmented nature of the modern banking system. As global, decentralized ledgers, blockchains eliminate inefficiencies inherent in traditional banking, which relies on maintaining and synchronizing changes across multiple centrally-managed bank account ledgers. As a result, blockchains offer a new medium that has the potential to reduce costs and increase the speed of payments on a global scale.

As mentioned earlier in this report, the payment giant Visa is experimenting with blockchains as a cheaper and faster means of global settlement for its institutional customers. Today, Crypto.com, one of Visa's customers, can [send USDC cross-border](#) via the Ethereum blockchain directly to a Visa treasury managed Circle account. This reduces the time and complexity of international wire transfers, which previously took days to process. **As companies grow more comfortable with blockchain technology, it is possible that many will opt to transact in on-chain stablecoins over the slower, costlier fiat banking system.**

On the smaller peer-to-peer scale, blockchains could have an even faster and more dramatic effect on the global payments industry, particularly the area of remittances. Many recipients of remittances are unbanked or underbanked. Blockchain technology [offers the possibility](#) of 'leap-frogging' over the traditional banking-enabled system, in order to quickly allow anyone with an internet connection and a smartphone to begin receiving payments from anywhere in the world.

Blockchains in essence, offer a new, decentralized medium via which payments can take place more seamlessly on a global scale. As the modern payments industry continues to experiment with this new technology and integrate it into parts of the overarching global payments system, **the end goal we should always keep in mind is that of creating a world where there exists cheaper, faster, and more efficient freedom of money for everyone.**

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