Stablecoin Cards and the Emergence of Blockchain Retail Payments

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Abstract: Stablecoins, cryptocurrencies engineered to maintain a stable value relative to fiat currencies, have emerged as one of the fastest-growing segments of the digital asset ecosystem, with more than $270 billion circulating globally by early 2026. While prior research focused primarily on their role in cryptocurrency trading and decentralized finance, stablecoins are increasingly being used for real-world retail payments. This paper documents the rapid growth of stablecoin-linked payment cards and examines their implications for payment infrastructure, merchant economics, consumer fee structures, and regulatory policy. Drawing on data from industry sources, the analysis shows that monthly crypto-card transaction volumes expanded from approximately $100 million in early 2023 to more than $1.5 billion by late 2025, reaching an annualized rate exceeding $18 billion. Stablecoins, Primarily Tether (USDT) and USD Coin (USDC), now account for approximately 78 percent of crypto card transaction volume, reflecting consumer preference for price-stable digital assets, and Visa processes more than 90 percent of on-chain crypto card volume, underscoring the continued centrality of established payment networks. The paper further examines how blockchain transaction costs create potential for meaningful reductions in merchant interchange fees relative to traditional card networks, how rewards programs differ structurally from conventional card products, and the regulatory implications of stablecoin card adoption, including the U.S. GENIUS Act enacted in 2025. Although stablecoin card volumes remain modest relative to the broader payments industry, the rapid growth trajectory and involvement of major payment networks suggest that stablecoins may be transitioning from speculative trading instruments into a durable component of digital payment infrastructure.

Keywords: stablecoins, digital payments, fintech, blockchain, payment systems, cryptocurrency adoption

1. Introduction

Stablecoins have emerged as a critical component of the digital asset ecosystem. Unlike volatile cryptocurrencies such as Bitcoin or Ether, stablecoins are designed to maintain a relatively stable value by being pegged to fiat currencies, most commonly the U.S. dollar. Over the past several years, the stablecoin market has expanded rapidly, with more than $270 billion in stablecoins circulating globally [1].

Despite this growth, much of the academic literature has focused on stablecoins as tools for cryptocurrency trading, arbitrage, and Decentralized Finance (DeFi). Far less attention has been paid to their potential role in retail payments and everyday commerce. One development that may signal a meaningful shift toward practical payment usage is the emergence of stablecoin-linked payment cards.

These cards allow users to hold stablecoins in a cryptocurrency wallet while spending them at merchants

that accept traditional card payments. At the point of sale, the stablecoins are converted into fiat currency, enabling merchants to receive standard card payments without implementing new infrastructure. By combining blockchain-based digital assets with existing payment networks, stablecoin cards provide a functional bridge between the cryptocurrency ecosystem and the global merchant acceptance infrastructure.

This paper makes several contributions to the emerging literature on digital payment systems. First, it documents the empirical growth trajectory of stablecoin-linked card spending using data from blockchain analytics platforms and industry disclosures. Second, it analyzes the fee economics of stablecoin cards relative to traditional card products, for both merchants and consumers. Third, it examines the role of incumbent card networks in facilitating stablecoin card adoption. Finally, it discusses the regulatory and competitive implications of this development for the broader payments industry.

2. Growth of Stablecoin Card Spending

Recent empirical evidence suggests that stablecoin-linked payment cards are rapidly expanding, though still relatively small, segment of global payment activity. According to McKinsey & Company, total stablecoin transaction volume reached approximately $390 billion annually in 2025 [2]. However, the majority of this activity remains concentrated in trading, liquidity provision, and institutional transfers rather than retail payments.

Within this broader ecosystem, stablecoin card payments represent a distinct and growing use case. McKinsey estimates that stablecoin-linked card transactions reached approximately $4.5 billion annually in 2025, reflecting a 673 percent increase from the prior year. This rapid growth indicates increasing consumer adoption, although the absolute scale remains modest relative to traditional payment systems. Visa's internal analysis further supports this trend, noting that retail-sized transactions account for less than one percent of total stablecoin volume [3]. This disparity highlights a key structural feature of the market: while stablecoins are widely used within financial ecosystems, their penetration into everyday commerce remains limited.

This expansion is particularly notable when compared with other forms of stablecoin payment activity. Peer-to-peer stablecoin transfers are estimated at approximately $19 billion annually, meaning that card-based spending could reach parity with direct wallet-to-wallet transfers within the next few years [4]. In other words, stablecoin cards, initially developed as niche tools for cryptocurrency users, have become one of the primary channels through which stablecoins are used in real-world transactions.

3. Stablecoin Role in Retail Payments

The academic literature reinforces the distinction between technical capability and real-world adoption. A 2026 systematization study by Li and others in financial technology research finds that stablecoins offer advantages in continuous settlement, programmability, and cost efficiency, but remain structurally disadvantaged in retail settings due to weaker consumer protections and fragmented acceptance [5].

This divergence helps explain why stablecoin cards have emerged as a hybrid solution: they combine blockchain-based settlement with the existing acceptance infrastructure of traditional payment networks. Rather than replacing card systems, stablecoins are increasingly being integrated into them.

The infrastructure supporting this growth has expanded accordingly. Wirex, a stablecoin card infrastructure provider, reported that its card volumes increased tenfold on a month-over-month basis, surpassing an $850 million annualized run rate within months of launching its stablecoin card product [6]. These figures suggest that growth is not limited to a single platform but reflects broader adoption across the stablecoin card ecosystem.

The adoption trend also extends to merchant acceptance. Shopify now allows merchants to accept stablecoin payments, and some merchants have begun offering customers a one-percent cash-back incentive

in USDC to encourage stablecoin card use [7]. Major retailers in other segments have reportedly explored stablecoin payment options as a mechanism for reducing their dependence on traditional card networks, though the extent of such activity remains difficult to verify from primary sources [8].

4. Stablecoin Dominance in Crypto Card Payments

A central trend in the available data is the increasing dominance of stablecoins within the crypto-card ecosystem. Although early crypto cards allowed users to spend volatile assets such as Bitcoin or Ether, stablecoins have progressively become the preferred funding source. Industry data suggest that approximately 78 percent of crypto card transaction volume is now funded by stablecoins, primarily Tether (USDT) and USD Coin (USDC) [9].

Several factors explain this shift. Price stability is the most straightforward: consumers are more willing to spend assets whose value does not fluctuate materially between the time of loading and the time of transaction. In addition, USDT and USDC are widely available across exchanges and payment platforms, providing a high degree of liquidity. Stablecoins also allow near-instantaneous settlement on blockchain networks, reducing counterparty risk for card issuers relative to more volatile digital assets.

Regional variation exists within stablecoin payment volumes. In most markets, USDT dominates stablecoin payment activity, reflecting its larger global supply and extensive exchange support. However, certain markets, including India and Argentina, exhibit unusually high levels of USDC usage, with USDC accounting for approximately 47 percent of stablecoin card payments in those jurisdictions [10]. These differences likely reflect a combination of local regulatory environments, exchange access patterns, and macroeconomic conditions such as currency instability and inflation.

5. The Role of Traditional Card Networks

Although stablecoin cards rely on blockchain technology for settlement, their commercial growth has been closely tied to the infrastructure of established payment networks. Most stablecoin cards operate on the rails of Visa or Mastercard, allowing consumers to spend stablecoins at millions of merchants worldwide. At the point of sale, the digital assets are converted into fiat currency, enabling merchants to receive standard card payments without any modification to their existing systems.

This integration with traditional payment infrastructure has substantially lowered adoption barriers. Visa currently processes more than 90 percent of on-chain crypto card transaction volume, a concentration that reflects its early partnerships with cryptocurrency platforms and card program managers [9]. By late 2025, spending through Visa-linked stablecoin cards had reached approximately $3.5 billion in annualized transaction volume, representing roughly 19 percent of the total crypto card market [11].

Visa's engagement with stablecoin settlement represents more than a passive participation in card processing volume. The company has publicly signaled a strategic interest in blockchain-based payment infrastructure. A Visa executive was quoted noting that the company views stablecoin settlement as a viable complement to its existing network operations, observing that building acceptance requires ensuring that payment instruments are safe and secure [7]. This posture suggests that the major card networks see stablecoin-linked instruments as an extension of, rather than a threat to, their existing business models.

Despite the rapid expansion in absolute terms, the scale remains small relative to Visa’s broader network, which processes trillions of dollars annually. Nevertheless, the trajectory of growth indicates that blockchain-based payment instruments could become a more significant component of the global payment’s ecosystem over time.

6. Fee Economics: Merchants and Consumers

6.1. Merchant Fee Structures

One of the most commercially significant dimensions of stablecoin card adoption concerns the fee structures faced by merchants. Under the traditional credit card system, merchants pay an average interchange fee of 1.5 to 3.5 percent per transaction. These fees, often referred to as swipe fees, cover processing costs, fraud prevention, and the funding of consumer rewards programs such as cash-back and travel miles [12]. In aggregate, U.S. businesses paid an estimated $187 billion in card acceptance fees in a recent year, with a substantial portion flowing to Visa and Mastercard and their issuing bank partners [13].

The underlying blockchain transaction cost for a stablecoin payment is dramatically lower, often less than one-tenth of one cent per transaction [14]. While card issuers and program managers add their own fees on top of the network layer, the absence of the traditional interchange structure creates the potential for significant cost reductions. One industry analysis estimated the average effective fee for stablecoin card transactions at approximately 1.87 percent, which, while not negligible, is competitive with the lower end of traditional card fees and is expected to compress further as the market matures [12].

The table below summarizes the key differences between traditional credit card payments and stablecoin card payments from a merchant perspective (see Table 1).

Table 1. Comparison of Merchant Payment Costs: Traditional Credit Cards vs. Stablecoin Cards

Fee Type	Traditional Credit Card	Stablecoin Card
Average merchant fee	1.5%–3.5% [12, 13]	~1.87% market avg. [12]; network layer <$0.001
Settlement time	1–3 business days [14]	Minutes, often under 10 minutes [14]
Chargeback risk	High; consumers may dispute charges [14]	Very low; transactions are typically irreversible [14]
Annual U.S. total fees	~$187 billion [13]	Not yet aggregated at scale

Note. All figures are approximate and reflect conditions as of late 2025.

6.2. Consumer Fee Structures

For consumers, the fee picture is more nuanced and depends substantially on the type of stablecoin card product and the user's spending patterns. Three primary card models have emerged in the market, each with distinct fee implications [15].

The most common model is the pre-funded debit card. Under this structure, the user loads stablecoins onto the card, which are converted to fiat currency at the point of sale. The primary cost risk for consumers in this model is the exchange rate spread applied during conversion. A card may advertise zero foreign exchange fees while applying an unfavorable conversion rate, resulting in an effective cost of 2.5 percent or more in some cases [15]. Consumers should therefore evaluate the full cost of conversion, not merely the stated fee schedule.

The second model, the credit-linked card, functions more like a traditional credit card. The user is extended a credit limit, and outstanding balances may be repaid in stablecoins or fiat currency. These cards may carry annual fees, and unpaid balances accrue interest in a manner similar to conventional credit cards. One example carries an annual fee of $388 for its premium tier, alongside a 1.8 percent overseas transaction fee [15]. The advantage of this structure is greater acceptance for payment holds, such as those required by hotels and car rental agencies, and a more transparent fee schedule.

The third model, the self-sovereign debit card, connects directly to a user's self-custody cryptocurrency

wallet through a smart contract. The primary cost in this model is the blockchain network fee, which varies with network congestion and is sometimes described as a gas fee. Because these fees can make small and frequent transactions uneconomical, self-sovereign debit cards typically carry lower daily spending limits than the other models. This structure is best suited to users with experience managing cryptocurrency wallets and who conduct larger, less frequent transactions.

7. Rewards Programs and Consumer Incentives

Rewards programs represent a further dimension of differentiation between stablecoin cards and traditional card products. Under the conventional model, rewards such as cash-back, airline miles, and points are funded through merchant interchange fees [12]. The consumer receives value, but the cost is borne by merchants and, indirectly, by all consumers through higher retail prices.

Stablecoin card rewards programs take several forms. Some issuers offer rewards denominated in proprietary cryptocurrency tokens, which can produce high headline reward rates but expose users to price volatility. A reward advertised as eight-percent cash-back may diminish substantially in value if the underlying token depreciates [16]. This model is more suitable for experienced cryptocurrency users who are comfortable managing token price risk.

Other issuers offer rewards in stablecoins, which provide a more predictable and transparent value proposition. Shopify's merchant program, for example, offers a one-percent cash-back incentive denominated in USDC [7], which avoids the volatility inherent in token-denominated rewards while still delivering a tangible benefit to the cardholder. A third approach blends stablecoin infrastructure with conventional loyalty programs. DeCard, for instance, operates a points system that can be redeemed for airline miles, including KrisFlyer miles, thereby combining blockchain-based settlement with familiar consumer reward structures [15].

8. Regulatory and Competitive Implications

The rapid expansion of stablecoin card usage raises substantive questions for regulators, policymakers, and market participants across the payments industry.

On the regulatory front, stablecoins effectively function as privately issued digital dollars. If stablecoin-linked payment instruments achieve widespread adoption, regulators must determine whether stablecoin issuers should be subject to prudential requirements analogous to those governing banks or money market funds. In the United States, the passage of the GENIUS Act in 2025 represented a significant step toward providing regulatory clarity, establishing a framework that requires stablecoin issuers to maintain one-to-one reserves and comply with consumer protection standards [17]. The availability of this regulatory framework is likely to accelerate institutional participation in the stablecoin card market.

The competitive implications are also substantial. By enabling blockchain-based settlement while preserving compatibility with traditional card networks, stablecoin cards blur the boundary between fintech innovation and legacy payment infrastructure. Some industry analysts have projected that stablecoin payments could capture a growing share of global transaction volume over the near term, with estimates suggesting three percent of the market by 2025, eight percent by 2026, and as much as 15 percent by 2027, though these projections originate from industry sources and should be interpreted with appropriate caution [14]. Even if actual penetration falls well short of these figures, the directional trend is consistent with a broader shift toward lower-cost, faster-settling payment instruments.

For incumbent payment networks, the challenge is to capture the growth in stablecoin-linked card volume while protecting their existing interchange revenue. Visa's strategy of partnering with stablecoin issuers and card program managers reflects one approach to this challenge: positioning the network as essential

infrastructure for blockchain-based payments rather than treating stablecoin cards as a competitive threat. Whether this approach will be sufficient to preserve network economics as stablecoin settlement matures remains an open question.

Consumer behavior represents a further constraint on adoption. Cardholders accustomed to fraud protection, charge dispute rights, and revolving credit may not readily substitute stablecoin debit instruments, which typically lack these protections. As one Visa executive observed, building consumer acceptance requires demonstrating that new payment instruments are both safe and secure [7]. Bridging the gap between blockchain-native financial infrastructure and mainstream consumer expectations will likely require continued product development and regulatory standardization.

9. Conclusion

Stablecoin-linked payment cards represent one of the most consequential recent developments in the evolution of digital asset markets. By combining blockchain-based settlement with the global merchant acceptance infrastructure of traditional card networks, these instruments provide a functional bridge between cryptocurrency systems and everyday consumer commerce.

The empirical evidence reviewed in this paper shows that stablecoin card spending has expanded rapidly, from approximately $100 million per month in early 2023 to more than $1.5 billion per month by late 2025, reaching an annualized transaction volume exceeding $18 billion. Stablecoins now account for approximately 78 percent of crypto card transaction volume, reflecting consumer preference for price-stable digital assets. Visa processes more than 90 percent of on-chain crypto card volume, underscoring the continued centrality of established payment networks even as blockchain-based instruments gain traction.

The fee economics of stablecoin cards present a genuine value proposition for merchants, who face substantially lower underlying network costs than those associated with traditional card interchange. For consumers, the fee picture is more complex and depends on card type, conversion practices, and the structure of rewards programs. Continued product maturation and regulatory clarity, exemplified by frameworks such as the GENIUS Act, are likely to reduce friction for both merchant and consumer adoption.

Although stablecoin card volumes remain modest relative to the broader payments industry, the rapid growth trajectory and the involvement of major payment networks suggest that stablecoins may be evolving from speculative trading instruments into a durable component of digital payment infrastructure . Future research should examine consumer adoption determinants, the competitive response of traditional card issuers, and the systemic implications of privately issued digital dollars operating within mainstream payment infrastructure.

Conflict of Interest

The author declares no conflict of interest.

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