William Blair

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Programmable Money: Stablecoins Are the Future of Cross-Border Commerce

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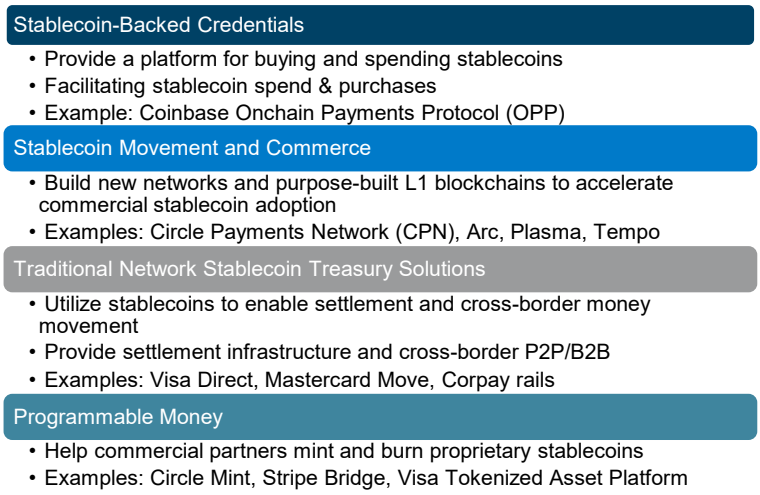
A Stablecoin Primer and Outlook for Use-Cases, Winners, and Losers

In this report, we present the case that stablecoins will revolutionize the global financial system, replacing traditional cross-border B2B money movement rails and, to a lesser extent, consumer commerce infrastructure. Unlike fiat-based cross-border commerce, which is comparatively slow, expensive, and fragmented, stablecoin commerce essentially eliminates FX risk; can be conducted 24/7, 365 days a year; requires fewer intermediaries; and offers near-instant and immutable transaction finality and exposure to stable currencies, like the U.S. dollar. Stablecoins can also be programmed to automatically initiate transactions. These attributes are a major technology upgrade on the fiat-based model, in our opinion, and growing global regulatory clarity will unlock a golden age of stablecoin commerce, in our view.

We argue that the rise of stablecoin cross-border commerce, particularly for B2B transactions, is inevitable, but the timing remains unclear. Although the recently passed GENIUS Act improves regulatory clarity, we do not think that is enough to drive adoption. Rather, our view is that volume growth will be catalyzed by a series of key events, including: the availability of new digital networks; corporate demand; infrastructure development at traditional networks like Mastercard, Visa, and Corpay; ecosystem partnerships; stablecoin standardization; and ultimately traditional finance (TradFi) capitulation. Perhaps the greatest near-term risk facing stablecoin-exposed stocks like Coinbase and Circle is that the market grows impatient with adoption timing. We encourage investors to build positions on any uncertainty and reiterate our view that Circle and Coinbase are the highest-quality public crypto companies.

The stablecoin market will coalesce around a handful of payment tokens, in our view, creating standardization that facilitates liquidity and commercial adoption. Although individual entities may issue proprietary coins, we believe liquidity and network integration will force adoption of a few leading stablecoins. This outlook informs our bullish view on Circle and Coinbase as key beneficiaries of rising USDC adoption. Among other stablecoin winners, we include Visa, Mastercard, and Corpay, and, to a lesser degree, Block and Fiserv. We believe that stablecoin commerce poses the greatest risk to traditional correspondent banks. Even if they pivot to integrate stablecoins, we see incremental share accruing to new market participants, creating an economic headwind.

Exhibit 1
Various Stablecoin Use-Cases Under Development



Source: Visa inc. company reports, William Blair Equity Research

What Are Stablecoins?

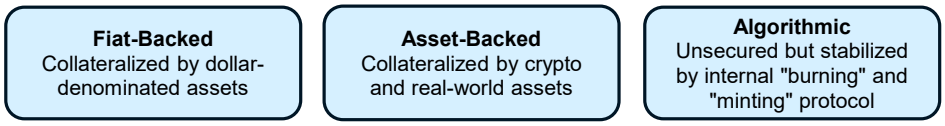
Backing Stablecoins
There are three types of stablecoins:

1. ***Fiat-backed stablecoins*** are collateralized by dollar-denominated assets, such as U.S. Treasurys, held at a traditional financial institution or a token issuer. Aggregate circulated token supply is held proportional to the underlying value of reserve assets. Following the failure of TerraUSD, fiat-based stablecoins are widely considered the ecosystem standard. Importantly, leading stablecoin issuers, like Circle, offer a monthly proof of reserve, assuring that holders have transparency and complete information on the assets backing their stablecoins.

2. ***Asset-backed stablecoins*** are collateralized by crypto assets, such as Ethereum or Bitcoin, where the underlying digital asset is held in an escrow-like smart contract in exchange for a stablecoin. In some cases, like USDT (issued by Tether), backing can include Treasurys, crypto, and even land and gold. While Tether is reportedly set to launch a U.S. stablecoin, it does not currently report a proof of reserve. As a result, we do not think it is appropriate for U.S. cross-border commerce.

3. ***Algorithmic stablecoins*** are unsecured and stabilized by internal "burning" and "minting" protocols that regulate the number of tokens in circulation. As mentioned earlier, we think the TerraUSD stablecoin failure in 2022—and negative knock-on effects for its sister coin Luna—make algorithmic stablecoins untenable. While some could be issued with the specific purpose of interaction with decentralized finance (DeFi) protocols, we consider this entirely speculative.

Exhibit 2
Types of Stablecoins



Source: William Blair Equity Research

Following passage of the GENIUS Act, regulated payment stablecoin issuers are required to report periodically on their reserves. While Circle is 100% backed by U.S. Treasurys and is government regulated, it remains unclear how Tether, an unregulated entity, backs its USDT stablecoin with a mix of Bitcoin, gold, and other investments. In addition, prior to GENIUS, Circle issued a once-monthly reserve report, while Tether has only offered quarterly disclosure. We think the GENIUS Act is positive for stablecoin commerce in many ways, as it codifies how they are issued and backed. In addition, the elimination of a possible U.S. central bank digital currency (CBDC) is structurally bullish, in our opinion. We expect that regulatory clarity will lower stablecoin transaction costs, paving the way for wider commerce adoption.

Breaking Down Functionality: Deposit Versus Payment Tokens

Deposit tokens
Blockchain-based deposit tokens are transferable deposit claims against a licensed depository institution, issued on a blockchain. These assets are economic equivalents to existing deposits recorded on traditional bank ledgers and represent digitized deposits. They are regulated in the same way as traditional deposits and are backed by banks' fiat deposits.

Deposit tokens are being used in many cases as an alternative to stablecoins for B2B commerce and other payments. Tokenizing commercial deposits on a blockchain enables fast, efficient, and sophisticated payment operations through enhanced programmability and liquidity. In addition, deposit tokens enable direct P2P transfers between banks by removing bank and technology intermediaries from the transfer value chain. In this sense, a bank's role shifts from direct intermediation and transaction clearance to establishing controls in the design of the deposit token and, in some cases, the design of a chosen distributed ledger environment.

In many ways, deposit tokens are a bank's answer to commercial stablecoins, like USDC. In our view, banks aim to achieve three primary goals by issuing deposit tokens:

1. preserve liquidity by providing immutable, programmable blockchain commerce (i.e., remove the incentive for depositors to take funds out of the traditional banking system)—this can be achieved on either a private blockchain, like J.P. Morgan's Kinexys, or via issuance on an Ethereum layer 2 (L2) solution, such as Base;

2. improve commerce efficiency as a means of preserving market share; and

3. create a regulatory argument for eliminating non-bank issuers' ability to offer a yield or rewards on commercial stablecoins, like USDC.

We think this last rationale is key to long-term stablecoin commerce adoption. If stablecoin issuers cannot offer yield, the desirability of payment stablecoins versus tokenized deposits is significantly reduced. The foregoing notwithstanding, our understanding is that while GENIUS may prohibit stablecoin issuers from paying a yield, the distribution partners like Coinbase still can.

Citi, J.P. Morgan, Bank of America, and others have announced plans to issue deposit tokens to protect deposit bases. As mentioned, the GENIUS Act ostensibly prohibits issuers from offering yield for holding stablecoins. Many view this provision as a giveaway to commercial banks that saw risk to their deposit bases. That said, USDC generates a U.S. Treasury-like yield when held on Coinbase and other distribution platforms. *We would be surprised to see this change, although it is a notable risk to our bullish Coinbase and Circle investment thesis.* In addition, Fiserv announced its FIUSD stablecoin, in partnership with Circle and Paxos, and discussed the possibility of share rewards with payment partners. We ultimately see this model prevailing and think it is within the ethos of the GENIUS Act, the stated intention of which is to promote codified stablecoin regulation with an eye toward increased use.

Payment tokens

In contrast to deposit tokens, payment tokens are exactly what the name implies: a fiat currency substitute that can be used for all types of payments, including domestic consumer, domestic B2B, cross-border consumer, and cross-border B2B. Whereas deposit tokens offer the same functionality, payment tokens are not directly regulated in the same way as bank deposits, and may be backed by a variety of collateral (although we see USDC's Treasury backing as the prevailing model). To the extent we are bullish on cross-border stablecoin commerce, and some isolated consumer use-cases, payment coins are the most likely tender, in our opinion.

While projects like Kinexys rely on private blockchains, the J.P. Morgan deposit token (JPMD) will be issued as a *permissioned* ERC-20-compatible token on Base, Coinbase's Ethereum L2. By nature of being Ethereum-compatible, JPMD is comparable to USDC in that it has clear collateral behind it and will operate with an immutable public blockchain record. Although functionality is essentially the same as payment tokens, we think adoption will be limited by 1) a relatively

closed ecosystem focused on J.P. Morgan clients; 2) less robust economics due to a lack of yield or rewards; 3) less utility for crypto trading liquidity versus USDC; and 4) likely lower liquidity given its lack of universality.

Exhibit 3
Comparison of Blockchain-Based Digital Money

	Payment Stablecoins	Deposit Tokens	CBDCs
Common Issuer	**Non-Bank Private Entities**	**Commercial Banks**	**Central Banks**
Examples	- USDC by Circle and Coinbase - USDT by Tether - BUSD by Paxos and Binance	- SGD deposit tokens by JPMorgan - Blockchain deposit account on Kinexys Digital Payments	- Digital yuan - Swedish E-Krona - Digital Euro (proposed)
Adoption	- About $260 billion market capitalization; launched 2014	- Kinexys Digital Payments (live) - SWIFT blockchain-based	- Over 90% of central banks reportedly investigating CBDCs
Backing assets	- 1:1 U.S Treasury assets held by issuer to meet redemptions, typically held as HQLA	- Claim on issuer, like regular deposits	- Central bank balance sheet
Yield	- Issuer ineligible under GENIUS Act (U.S.) - Yield payments to be made by third-party distributors	- Prerogative of bank issuer	- Prerogative of central bank
Regulatory oversight	- GENIUS Act (U.S.) - No Unified regulatory framework in most markets outside the United States	- Subject to similar supervision and oversight as other regulated bank deposits	- Anti-CBDC Surveillance State Act (U.S.) - Secured and governed directly by national entities
Risk management	- No unified risk management framework - Subject to issuers' internal risk management practices	- Subject to mandatory minimum liquidity, capital and risk management requirements by regulators - Subject to banks' internal risk management practices	
Emergency protections	- Liquidation of reserve assets - Resolution under traditional bankruptcy laws	- Strength of existing bank balance sheet - Access to contingency funding sources at central bank - Resolution and recovery planning to overcome financial distress	

Source: J.P. Morgan Chase & Co., Oliver Wyman, William Blair Equity Research

We believe Ethereum is best understood as a software operating system. Core to this operating system is the Ethereum Virtual Machine (EVM), a decentralized computation engine that executes smart contracts written in Ethereum's native programming language, Solidity. EVM facilitates a programming environment where developers can build, deploy, and execute smart contracts foundational to decentralized applications (dApps) running on the blockchain (versus a centralized server). EVM operates across a distributed network of thousands of computers, or nodes, all running the EVM program, to maintain shared consensus on the state of the blockchain and its data attributes, ensuring the network's security and integrity. After deploying a smart contract, EVM compiles and converts the contract's Solidity code into low-level bytecode that issues specific tasks.

EVM compatibility describes any blockchain that can execute this bytecode to run similar smart contracts compiled from Ethereum-based programming languages. This enables developers to deploy existing Ethereum-based dApps on other EVM-compatible chains without the need to rewrite code. This contract interoperability is why an estimated 80% to 90% of crypto developers are EVM developers, which we think widens the moat.

Examples of EVM-compatible blockchains include Binance Smart Chain layer 1 (L1), Avalanche C-Chain (L1), Polygon (L2), and Arbitrum (L2). While not all L1 solutions are EVM-compatible blockchains, they can use Ethereum ecosystem L2 scaling solutions, like optimistic rollups or zero knowledge rollups to optimize transaction fees and throughput.

Ethereum Request for Comment 20 (ERC-20) describes a technical standard for issuing and implementing fungible assets on the Ethereum blockchain, including a set of common rules outlining how assets must function within the Ethereum ecosystem.

USDC, for example, is an ERC-20 token. This standard ensures interoperability across different Ethereum-based assets and applications. ERC-20 tokens represent any fungible asset established on the Ethereum Network via smart contract, meaning they can be sent to all Ethereum addresses and stored in most Ethereum wallets.

Consistent with our bullish USDC and stablecoin ecosystem thesis, we see a few highly liquid, yield-generating, public blockchain, crypto-centric, and effectively open (no direct financial institution relationships) stablecoins prevailing. We view USDC as the clear leader in all these categories. While we have little doubt that large financial institutions and core processors like Fiserv will pursue their own stablecoin strategies, we expect them to be built around specific use-cases, rather than offering true global B2B commerce operability.

Stablecoins Hold the Key to Crypto Value Unlock

To date, we think the crypto ecosystem has mostly been viewed in one of three ways: 1) as a store of value—Bitcoin; 2) as virtual compute infrastructure on which DeFi applications are built—Ethereum Virtual Machine (EVM); and 3) for speculation—memecoins. Stablecoins had not surfaced much in industry conversations until early this year, when investors became aware of their potential to fundamentally alter the global financial system.

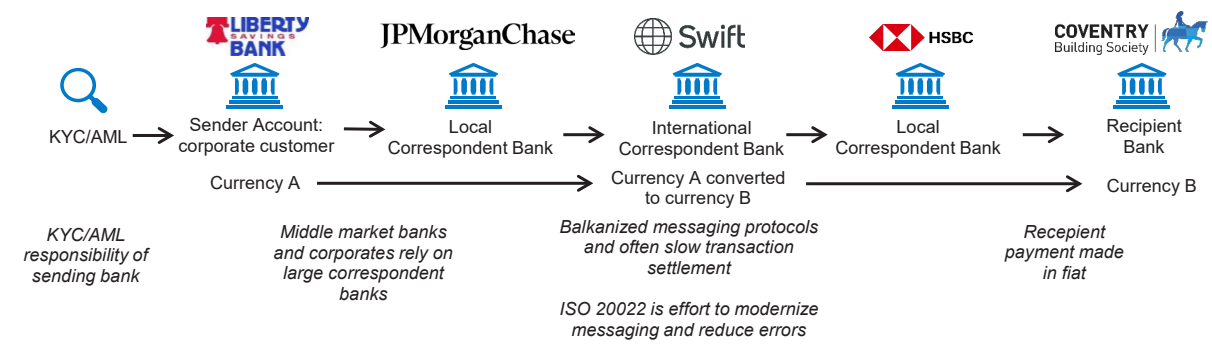
On the face of it, stablecoins are mundane. They are Treasury-backed fiat currency proxies that often generate a yield or pay rewards but offer no explicit price appreciation or speculative value. However, this misses the point. Stablecoins have characteristics that make them faster and less expensive than fiat currencies for cross-border B2B transactions.

Primarily issued on the Ethereum blockchain (EVM infrastructure), stablecoins are effectively immutable commerce tokens running on a blockchain network that provide fast transaction finality with less settlement risk than fiat. Because transactions occur on the blockchain, they can be conducted 24/7, 365 days a year, and in many cases without a financial intermediary. Further, given the nature of EVM and permissionless smart contracts, stablecoin commerce is inherently programmable. This means that transacting parties can set certain conditions under which a transaction is to be automatically consummated. This can be done at any time, based on any criteria, meaning that commerce can occur without specifically being initiated by one transaction participant.

Typical Cross-Border B2B Transaction Using Fiat

In exhibits 4 and 5, we illustrate fiat and stablecoin cross-border transactions. In the fiat example, a sending bank will initiate a payment on behalf of a correspondent banking customer. Traditional KYC and AML technology is deployed before the payment is consummated, ensuring compliance. In the next step, the sending bank communicates with the Society for Worldwide Bank Interbank Financial Telecommunication (Swift) via an increasingly standardized—albeit still bank-specific—protocol known as ISO 20022. Each sending and receiving bank has a unique identification number used to track transactions. Once a transaction has been authorized, Swift communicates with the receiving bank that then accepts the messaging instructions, converts from sender currency to recipient currency, and settles the transaction.

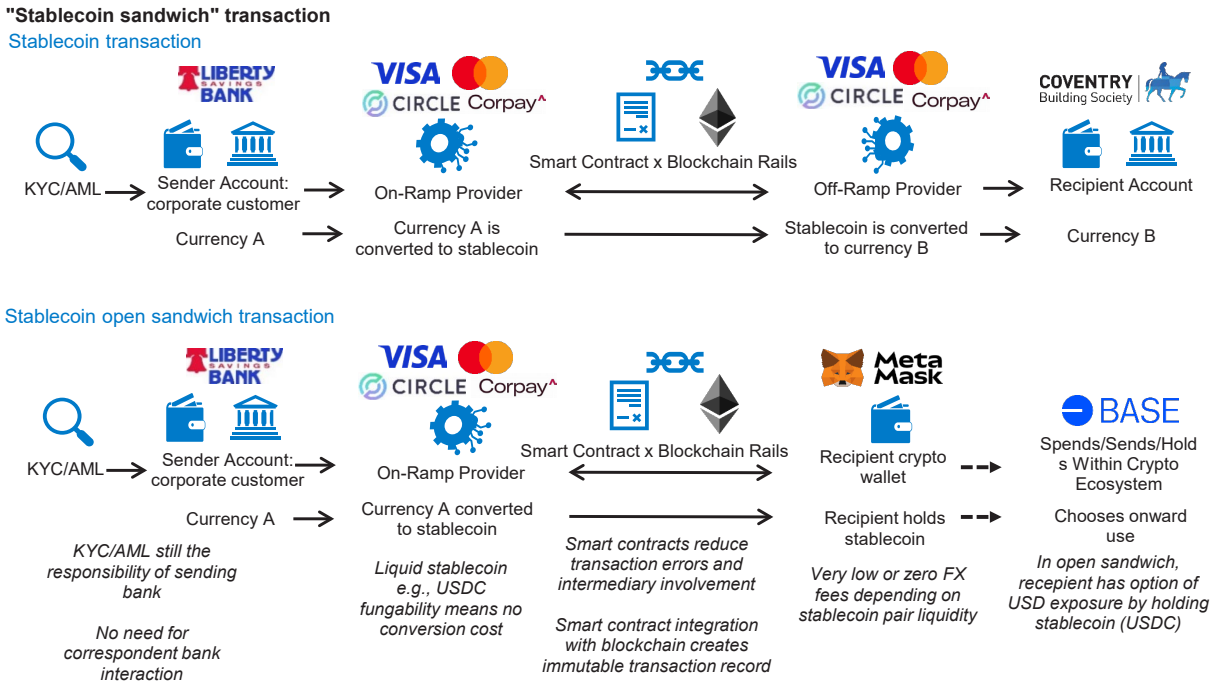
Exhibit 4
Traditional Fiat Payment Transaction Value Chain; Cross-Border Commerce Is Slow and Expensive



Source: FXC Intelligence analysis, company announcements, William Blair Equity Research

Importantly, a few areas are marked by inefficiency in this construct: 1) although ISO 20022 is an effort to standardize messaging and provide greater real-time transaction data, it will likely remain somewhat inconsistent as banks around the world adopt it; 2) in less liquid currency pairs, FX fees and latency can be high, creating risk for all transaction participants; and 3) in countries with high inflation, holding local fiat may not be desirable. There is no mechanism in a fiat transaction for a receiving entity to hold a more stable currency.

Exhibit 5
Stablecoin Cross-Border B2B Transaction Flow; Immutability, Speed, and Low Cost



Source: FXC Intelligence analysis, company announcements, William Blair Equity Research

Cross-Border Commerce Example Using Stablecoin (USDC)

Using USDC as an example, a stablecoin transaction begins with the sending bank receiving instructions from a corporate customer, and upon satisfying KYC and AML requirements, the bank swaps fiat for USDC in a near cost-free transaction. This swap is facilitated by an on-ramp provider, which might be proprietary bank technology or provided in partnership with a third party, like Visa, Mastercard, Corpay, or Circle. Whereas we believe many banks are building their own on-ramp technology, partnering with specialized scale players may ultimately make more sense. Once swapped to USDC, the sending banking interacts with the Ethereum blockchain and signs a permissionless smart contract through the EVM. This transaction can occur at any time, is instantaneous, and contains specific instructions about how the transaction is to be made and settled. Once the sending bank has interacted with the Ethereum blockchain, the smart contract executes and delivers USDC to a recipient bank, which either chooses to convert to fiat (stablecoin sandwich) or to hold USDC. Transaction instructions are defined by the smart contract, which is immutable and documented on the blockchain.

We highlight several key advantages of USDC cross-border commerce.

- Transaction initiation can occur at any time, based on preset guidelines that counterparties cannot alter.
- KYC and AML functions are integrated into the transaction, and the cost to on-ramp from fiat to USDC is essentially zero.
- Once the sender has interacted with the smart contract, all transaction details are uniform and cannot be changed. This alleviates the risk of messaging protocol fragmentation, lack of interoperability, or human error.

- Upon settlement, the recipient can convert to local fiat or hold USDC, providing inflation protection. USDC can be subsequently swapped for fiat at any time at near-zero cost. Lastly, we note that in many less-liquid currency pairs, FX risk and settlement latency are significant cost drivers. These inefficiencies are eliminated in a USDC transaction, creating what we see as a material value unlock.

Regulatory Progress Is Bullish

GENIUS Act

On July 18, 2025, President Trump signed into law the Guiding and Establishing National Innovation for U.S. Stablecoins Act (GENIUS Act), which is the first federal legislation establishing a regulatory framework for payment stablecoins. The GENIUS Act dictates what a payment stablecoin is, who is allowed to issue a payment stablecoin, which regulatory bodies supervise stablecoin-related matters, limitations to custody and safekeeping, reserve requirements, redemption, issuer insolvency, and more.

As an extension of President Trump's U.S.-first agenda, we think GENIUS has international and competitive ramifications in terms of how foreign authorities will shape future crypto regulation, and the barriers-to-entry that protect the most compliant domestic players, like Circle.

Under GENIUS, payment stablecoins are defined as digital assets intended to function as a means of payment or settlement, with a stable and fixed monetary value, backed by an issuer's obligation to redeem them at a fixed value. This definition excludes digital assets that are national currencies, like CBDCs, deposits defined under the Federal Deposit Insurance Act, or securities defined by the Securities, Exchange, or Investment Acts. This means tokenized money market funds are exempt.

Importantly, GENIUS mandates that payment stablecoin issuers must maintain reserve backing on at least a one-to-one basis, consisting of U.S. dollars, federal reserve notes, funds held at certain insured or regulated depository institutions, certain short-term Treasurys, and Treasury-backed reverse repurchase agreements, and money market funds.

Notably, a stablecoin issuer may not offer any form of interest or yield to stablecoin holders, but the law does not explicitly prohibit affiliate or third-party arrangements that might offer interest-bearing products. The debate around this aspect of the GENIUS Act will likely persist for some time and a path of resolution is not immediately clear. Given the apparent intention of the GENIUS Act, we believe the most likely outcome is that the administration will issue an executive order clarifying the yield discussion. As it stands, we think Circle's relationship with Coinbase is effectively a distribution deal under which Circle pays Coinbase a fee for promoting USDC and Coinbase elects to pass this fee on to USDC holders in the form of yield or rewards.

Banks have a clear interest in disallowing the payment of yield or rewards; they worry that it will cause deposit outflows and/or higher funding costs. Although we acknowledge this risk, it seems to us that the banks want to have their cake and eat it too. They want to offer virtually no interest to deposit holders while developing deposit tokens with arguably less utility than stablecoins, which they will force their customers to use. In an era of open banking and growing choice, we find it difficult to believe that Washington will offer another giveaway to commercial banks, although the possibility exists.

In addition, the GENIUS Act codifies the following.

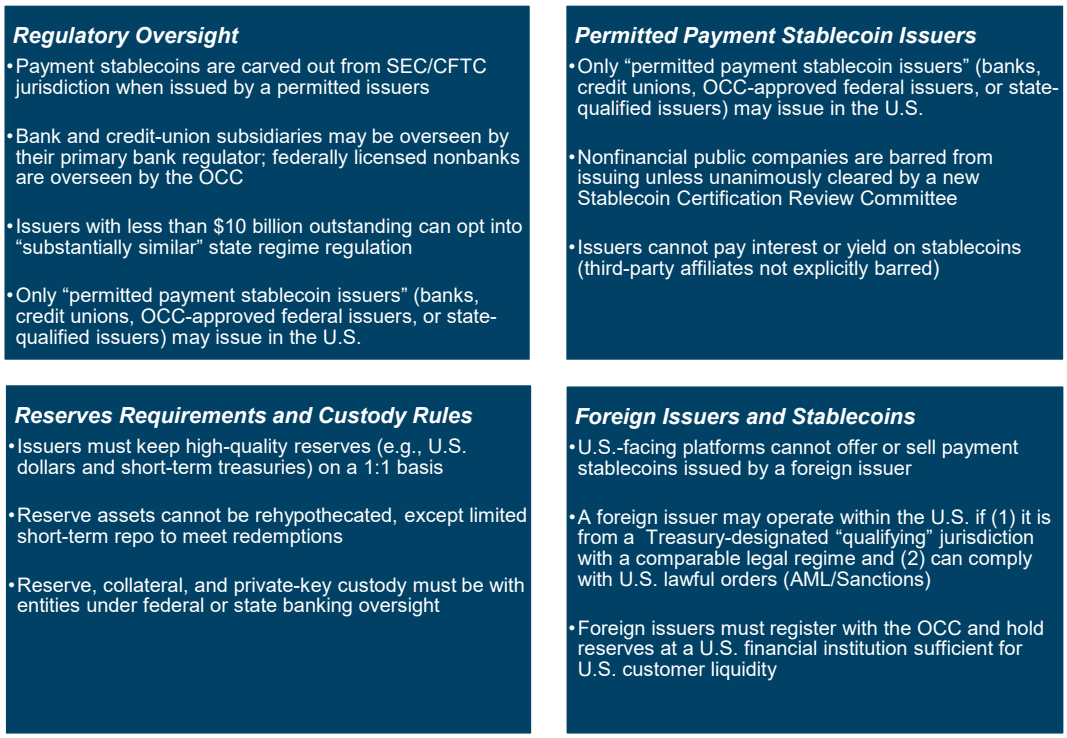
1. It defines permitted payment stablecoin issuers as U.S.-formed entities authorized to issue payment stablecoins through federal or state approval, including: 1) subsidiaries of insured banks or credit unions approved under GENIUS Section 5; 2) non-bank entities or uninsured national banks approved by the Office of the Comptroller of the Currency (OCC) as federal-qualified issuers; or 3) state-qualified issuers approved by state regulators under comparable federal oversight—excluding entities tied to uninsured banks, federal branches of non-U.S. banks, or insured institutions.

2. Payment stablecoin issuers with less than $10 billion in outstanding issued stablecoins may opt for state-level regulation if the regulatory regime is "substantially" similar to the federal framework. The GENIUS Act prohibits digital asset service providers from offering or selling payment stablecoins issued by foreign entities in the U.S. unless the foreign issuer is from an approved jurisdiction with a comparable regulatory framework as determined by the Treasury secretary. Further, foreign issuers from comparable jurisdictions must register with the OCC and hold sufficient reserves at a U.S. financial institution.

3. GENIUS requires issuers to provide monthly public reporting of reserves that must be audited by a registered public accounting firm and certified for accuracy by the issuer's CEO and CFO. Issuers exceeding $50 billion in outstanding issuance must also publish annual, audited financial statements.

We encourage investors to consider that while Circle meets all GENIUS prerequisites for becoming a permitted stablecoin issuer, El Salvador-based Tether, its closest competitor, faces significant criticism regarding a perceived lack of transparency on the quality of its reserves—particularly whether Tether's reserves are backed one-for-one by dollar-denominated assets. In addition, as a public company, Circle is compelled by the SEC to release annual, audited, and certified disclosure of its financial performance. We think these attributes, reporting, and regulatory requirements put Circle on a short list of companies likely to be fast-tracked through the permitted stablecoin issuer process.

Exhibit 6
GENIUS Act Creates Regulatory Clarity



Source: Latham & Watkins LLP

Anti-CBDC Surveillance Act

Central Bank Digital Currencies (CBDCs) are digital forms of national currencies issued by central banks on behalf of governments. The Anti-CBDC Surveillance State Act prohibits the Federal Reserve from creating or adopting any central bank digital currency tied to the U.S. dollar. In addition, the act requires that any government-created digital dollar be authorized via Congressional legislation. In combination with the GENIUS Act, the anti-CBDC Surveillance State Act rejects government-controlled digital currencies while embracing the development of privately issued, regulated alternatives, creating a barrier-to-entry against state competition.

We view this as a meaningful positive for Circle and other potential U.S. commercial stablecoin issuers because it means they won't have to compete with the U.S. government. In addition, we believe the absence of a U.S. CBDC will provide incremental support for the U.S. dollar as stablecoin demand rises, because it will be collateralized with liquid U.S. Treasurys.

Global Regulatory Framework

While the global crypto regulatory environment is evolving, there have been several notable pieces of legislation codifying the issuance and use of stablecoins. Exhibit 7 describes the most pertinent international regulatory initiatives.

Exhibit 7
Enacted and Pending Global Crypto Regulation

Legislation / Rule	Country / Bloc	Status	Enacted Date	Summary	Source
Markets in Crypto-Assets (MiCA), including stablecoin Titles III-IV (ARTs/EMTs)	European Union	Passed	6/29/23; stablecoin titles apply 6/30/24	EU-wide licensing, disclosures, reserve, governance and market-abuse rules for issuers and CASPs; dedicated regimes for ARTs/EMTs.	Link
Transfer of Funds Regulation (EU) 2023/1113 - Travel Rule	European Union	Passed	6/9/2023	Extends originator/beneficiary data rules to crypto transfers. Guidelines set required fields, handling procedures, and supervisory expectations.	Link
MiCA Level-2/Level-3 (ART/EMT) measures	European Union	Pending		Details MiCA stablecoin obligations like authorization, reserves/liquidity, reporting, governance, redemption/recovery, supervisory guidance, etc.	Link
Financial Services Markets Act (FSMA) 2023 - digital settlement assets (DSAs)	United Kingdom	Passed	8/29/2023	Brings DSA payment systems under BoE/FCA/PSR via HMT designation; enables special administration for systemic DSAs.	Link
CP25/14 - Stablecoin issuance and crypto asset custody	United Kingdom	Pending		Rules for issuing stablecoins and safeguarding crypto assets (Handbook drafts include new CRYPTO & CASS changes); final rules pending.	Link
Regime for systemic stablecoin payment systems	United Kingdom	Pending		Proposed BoE framework for stablecoin payments including supervisory oversight, prudential standards, and operational standards.	Link
Japan Payment Services Act amendments - stablecoin framework	Japan	Passed (amendments)	6/1/2023	Creates legal category for fiat-denominated stablecoins with issuance limited to banks/trusts; lifts ban on domestic distribution of stablecoins.	Link
MAS Stablecoin Regulatory Framework	Singapore	Passed	8/15/2023	Defines digital payment tokens and established regulatory regime for single-currency SGD/G10 stablecoins.	Link
Stablecoins Ordinance (Cap. 656) - Issuer licensing	Hong Kong (SAR)	Passed	8/1/2025	Creates HKMA-run licensing and oversight for specified stablecoins with reserve, redemption, disclosure and conduct rules.	Link
AMLO/SFC Virtual Asset Trading Platform (VATP) regime	Hong Kong (SAR)	Passed	6/1/2023	Mandatory SFC licensing for centralized VATPs; rulebook sets prudential/financial soundness, token admission, disclosure, custody/segregation, and investor-protection controls.	Link
Payment Token Services Regulation (PTSR)	UAE (federal)	Passed	8/31/2024	Central Bank of UAE framework for payment tokens including licensing or registration for token issuance, conversion, custody, and transfer.	Link
Virtual Asset Regulatory Authority (VARA) Virtual Asset Issuance Rulebook	UAE - Dubai (VARA)	Passed	6/19/2025	Establishes required licensing for virtual assets issuance, issuance categories, baseline disclosure, and Emirate enforcement framework.	Link
Swiss Digital Ledger Technology (DLT) Act	Switzerland	Passed	8/1/2021	Introduces ledger-based securities and a FINMA-licensed DLT trading facility, plus bankruptcy/custody clarifications.	Link
FINMA Guidance on Stablecoins	Switzerland	Passed (guidance)	7/26/2024	Outlines supervisory expectations on structures, guarantees, AML and risk controls for stablecoin projects.	Link
Virtual Asset Under Protection Act	South Korea	Passed	7/19/2024	Mandates user-asset segregation/custody, bans unfair trading, and sets heavy penalties. Empowers FSC/FSS to supervise and enforce.	Link
Act on Reporting & Use of Specified Financial Transaction Info - Travel Rule	South Korea	Passed	3/25/2022	Travel Rule in statute mandates transmission of sender/recipient data on wire transfers, extended to virtual-asset service providers (VASPs); supervised by KOFIU under the FSC.	Link
Won-stablecoin bill	South Korea	Pending		Anticipated bill on issuer eligibility, reserves, and controls for KRW-stablecoins.	Link
FSCA Notice 1350/2022	South Africa	Passed	10/19/2022	Brings crypto-asset financial services under FAIS Act (licensing, conduct rules, etc.).	Link
Treasury Laws Amendment (Payments System Modernization) Act 2025	Australia	Passed	9/4/2025	Expands payments scope and oversight tools of regulators, laying groundwork for future licensing and oversight of stablecoins.	Link
Virtual Assets Law (Law No. 14,478/2022)	Brazil	Passed	6/19/2023	Federal guidelines for virtual assets and virtual asset service providers (VASPs) where central bank leads licensing and supervision.	Link
Retail Payment Activities Act (RPAA) + regulations	Canada	Passed	9/8/2025	Bank of Canada oversight of payment service providers (PSPs) with phased implementation from 2024 through 2025.	Link

Sources: Bank of England, Central Bank of the United Arab Emirates, Cointelegraph, Dubai Virtual Assets Regulatory Authority, European Banking Authority, European Securities and Markets Authority, European Union (EUR-Lex), Financial Conduct Authority, Government of Canada – Department of Justice, Government of South Africa, Hong Kong e-Legislation, Hong Kong Securities and Futures Commission, Korea Legislation Research Institute, Mattos Filho (law firm), Monetary Authority of Singapore, Money Today (Korea), Parliament of Australia (ParlInfo), Swiss Federal Council (admin.ch), Swiss Financial Market Supervisory Authority (FINMA), UK Government (legislation.gov.uk).

Stablecoin Initiatives Highlight Cross-Border Commerce as the Most Compelling Commercial Use-Case

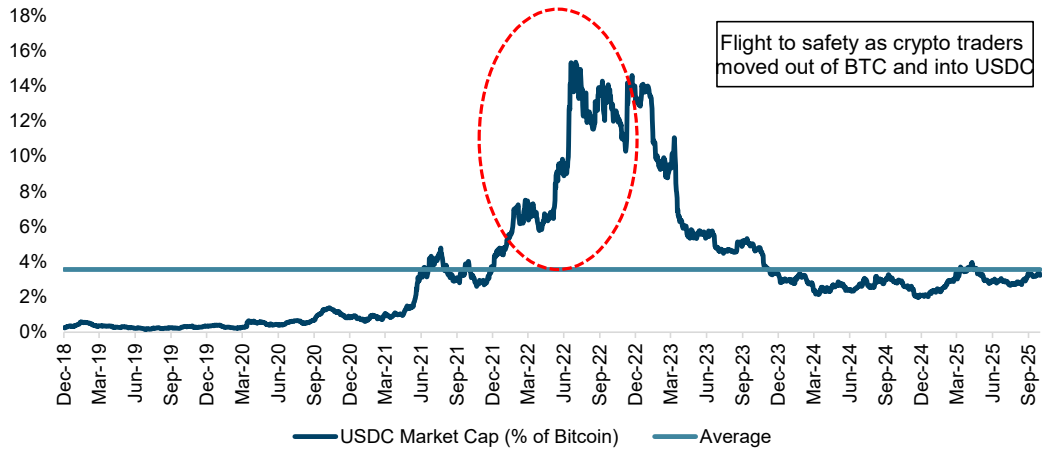
Our view is that stablecoin commerce is inevitable, but the timing is difficult to predict. In this section, we discuss various potential stablecoin use-cases and associated risks. This is not an exhaustive list, rather a discussion of how we see stablecoins potentially unlocking value across different payment modalities.

Crypto Liquidity

At present, stablecoins are principally used for crypto liquidity. When a crypto holder swaps out of a token, they can choose to hold stablecoin, like USDC. Alternatively, they can opt for U.S. dollars, which are transferred back into the TradFi ecosystem. USDC is more attractive than U.S. dollars on domestic crypto exchanges, like Coinbase, because it offers yield. It is also free to swap on Coinbase, making it easier for crypto traders to move in and out of positions.

As illustrated in exhibit 8, the growth of USDC market capitalization has generally tracked crypto ecosystem growth. We expect this relationship to hold for the near term and note that a divergence could be caused by either greater commercial USDC use or a crypto flight to safety. We believe the latter seems less likely than in past cycles as traders will probably be more willing to hold USDC on exchanges, owing to greater security and yield.

Exhibit 8
USDC Market Cap Has Historically Correlated With Bitcoin's We Believe a Meaningful Divergence Could Imply Commercialization



Source: CoinGecko and William Blair Equity Research

Cross-Border B2B Is Key Evolving Use-Case

Commercial payment stablecoin issuance and adoption remain nascent, but we expect the market to move quickly and at times approach commercialization in unsustainable ways. Since the recent GENIUS Act passage, we have read about myriad potential commercial stablecoin launches, including those from Fiserv, Amazon, and Walmart. We do not exclude the possibility that stablecoins will emerge as a substitute to bank card payments, but we currently consider them a solution in search of a problem. Our view reflects the fact that bank cards are ubiquitous, secure, and fast. There is seldom a question, at least in the developed world, about whether a merchant will accept Visa and Mastercard credit and debit—with even American Express making meaningful acceptance inroads. By contrast, a proliferation of branded stablecoins might confuse consumers in ways that

could meaningfully undermine the seamless nature of e-commerce and card-present checkout. *We push back against the idea that stablecoins are cheaper for merchants to accept, especially if consumers cannot or are reluctant to use them.*

So, if they're not used for consumer payments, how will stablecoins be commercialized? We believe they make the most sense in the modernization of B2B cross-border money movement. We also suspect that stablecoins will play a growing role in consumer-to-consumer remittance, but our view is that the B2B total addressable market (TAM) is larger, with a significantly greater relative value unlock.

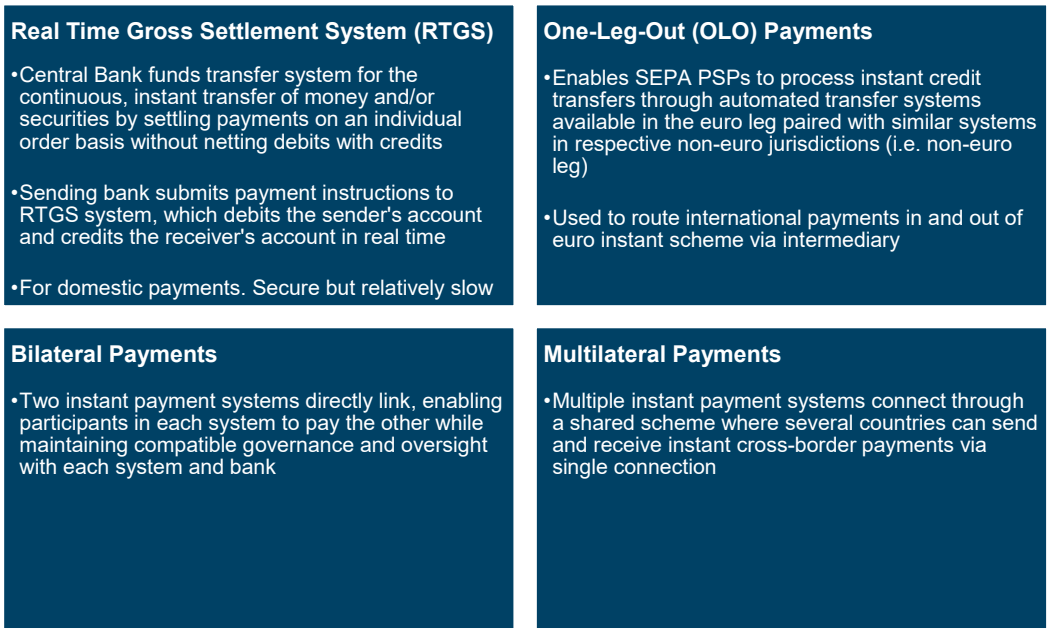
As discussed earlier in this report, we believe multinational corporations will increasingly adopt stablecoins to conduct cross-border commerce. Our conversations with industry participants suggest that prior lack of regulatory clarity was a major hurdle to adoption, owing to unclear financial industry rules and resulting high costs. Now that the GENIUS Act has done much to clarify the regularity landscape, we anticipate greater commercial adoption.

To reiterate the benefits of cross-border B2B stablecoin commerce, we highlight the following attributes:

- ***Always on.*** Unlike fiat currency, which requires banks to be open during business hours, restricting the timing of transactions, stablecoins never sleep. Business can be conducted 24/7, 365 days a year, and in some cases without human intervention, based on preset logic. Considering time zones and slow fiat settlement, we view the always-on aspect of stablecoins as an important unlock.

- ***Instant settlement.*** Many economies, including the U.S., are moving toward faster domestic payments settlement via innovations like FedNow and RTP. Although we think domestic bank-to-bank payments are settling more quickly, there remains considerable latency, and these solutions do not address cross-border commerce. Instead, Swift, the most widely used global payments clearinghouse, only recently introduced cross-border faster settlement and employs several different protocols. We believe Swift is moving in the right direction; however, its approach remains a patchwork. Swift is building integrations to real-time gross settlement (RTGS) systems for faster domestic transactions, standing up a one-leg-out approach, which recruits intermediary banks, and introducing an emerging bilateral or multilateral instant payment system link scheme, which is immature. The result is that while cross-border Swift payments may be poised for faster settlement, interoperability remains a hurdle and costs are unlikely to be dramatically reduced.

Exhibit 9
Legacy Correspondent Banking Framework Being Upgraded, but Still a Long Way to Go



Source: European Payments Council, Lightspark.com, Swift, William Blair Equity Research

By contrast, stablecoins in an EVM environment—like USDC, which was developed on the Ethereum blockchain—operate in a uniform fashion, regardless of geography. They are governed by smart contracts, and transactions are often completed in the absence of intermediaries or third-party message systems. This means that USDC can be used for instant cross-border payment settlement, irrespective of FX pairs with varying liquidity. So, while Swift is working toward faster global settlement, USDC offers it today, and without exception.

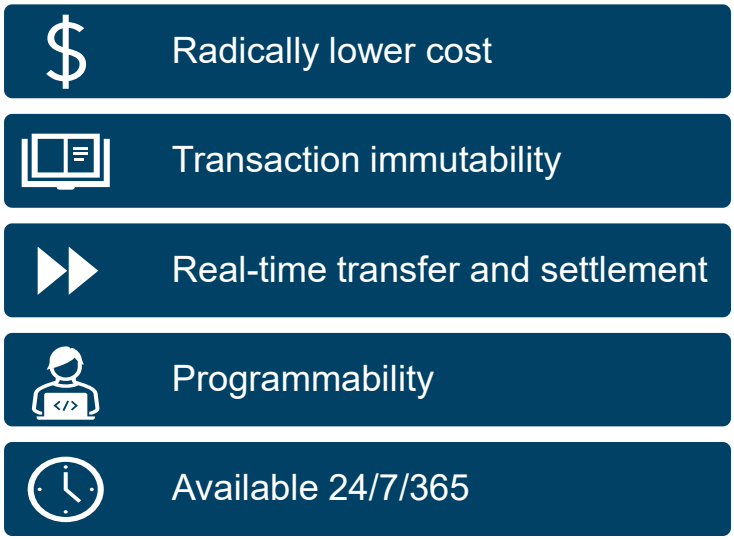
- ***Radically lower cost.*** Although stablecoin commerce hasn't reached anything approaching critical mass, the potential for sharply lowering cross-border commerce costs is clear. According to Ramp, the cost of a cross-border B2B transaction can be more than 6%, depending on payment modality and FX pair. Even when cross-border fees are low, such as with Swift where they can be as little as $50, FX conversion often increases cost. In stark contrast, a white paper by software lab BytePitch highlights that stablecoin cross-border commerce can cost just pennies, reducing the cost of a transaction by up to 90%. Although we recognize that such radical cost savings may not always be available, we submit that along with the other benefits of cross-border stablecoin commerce and regulatory clarity, there are fewer reasons for corporations to ignore the benefits.

- ***Smart contract-based immutability.*** Unlike traditional fiat-based cross-border commerce, which often involves error-prone intermediaries that need to convey payment instructions, EVM-based smart contracts and permissionless signing are replicable and virtually eliminate the "fat finger" problem. Immutability means that smart contract terms cannot be changed once finalized. In addition, instant settlement and transaction finalization mean there is no room for mistakes to be made in how a transaction is handled. These benefits do not eliminate KYC and AML requirements, nor do they ensure that a signing wallet does not interact with malicious code. However, KYC, AML, on-ramp, and off-ramp capabilities in an institutional setting will likely be hardened, as will contract execution. It is possible that private blockchains offer a greater level of security, but they will likely not be as efficient, in our opinion.

- ***Inflation protection.*** In some emerging markets with high inflation, we think corporations would prefer to own U.S. dollars instead of local currency. This is not a feature of traditional fiat-based cross-border commerce, however, where settlement occurs in local currency. By contrast, cross-border stablecoin commerce, using USDC for example, allows payees to hold stablecoins with the option to swap them for fiat as needed. Unlike fiat currency, where FX fees would be incurred on every transaction, even if a payee could practically hold U.S. dollars, USDC's liquidity reduces or eliminates FX fees, depending on the market. This is another compelling attribute of stablecoins in emerging markets.

- ***Programmability.*** The programmable nature of stablecoins, along with always-on capabilities, means the end of bankers' hours. Because stablecoin commerce is governed and validated on the blockchain via EVM-compatible smart contracts, money is said to be programmable. This means that commerce can occur any time based on preset conditions that cannot be altered after being incorporated into a smart contract. For example, a cross-border transaction could be triggered by certain external conditions, like inventory levels that are validated by oracles communicating real-world data onchain. Time-based payments are supported, as are value-partitioned payments, such as those made upon completion of a designated portion of a contract or sent to multiple recipients.

Exhibit 10
Stablecoins Are Key Value Unlock for Cross-Border B2B Commerce



Source: William Blair Equity Research

Taken together, we submit that the preceding attributes highlight the advantages of stablecoins in cross-border commerce. How the market evolves, when stablecoins move into the mainstream, and whether standardization around a few leading stablecoins, like USDC, occurs, are open questions. *Cross-border stablecoin commerce appears inevitable to us and is a matter of when, rather than if.*

In the remainder of this report, we discuss why we believe cross-border B2B commerce is a better application for stablecoins than consumer payments, size the market, and highlight the likely winners and losers as stablecoins replace fiat for commercial payments.

Consumer Payments Is Likely a Niche Opportunity

Much like cross-border commerce, there are ample theoretical benefits of consumer stablecoin payments. We highlight the theoretical nature of these value unlocks in the context of a consumer payment system that operates much more efficiently than cross-border. In discussing consumer payments, we distinguish between card-based POS and remittances. The latter is beyond the purview of this report, although stablecoin commerce will likely reshape this market too.

For reasons we discuss in more detail below, our view is that consumer stablecoin payments will remain a niche and likely confined to e-commerce—at least for the near term. This isn't to say that initiatives, including the Circle Payments Network (CPN), Coinbase's agreement with Shopify, and retailers' foray into stablecoin issuance, won't propel some consumer solutions. *We simply do not anticipate stablecoins becoming ubiquitous in consumer payments the way we see them emerging in cross-border commerce.*

Our skepticism regarding broad-based consumer stablecoin payments stems from our positive view of bank cards. Specifically, we consider bank credit and debit cards to be the most ubiquitous, low-cost, and secure tender type for consumers and merchants. Whereas some large merchants persistently push back on supposedly high card-acceptance costs, we think these complaints are baseless. The idea that cash or stablecoins are less expensive than cards is disingenuous without considering the opportunity cost of lost revenue, higher fraud, and cash handling costs. In addition, we argue that the ubiquity of Visa, Mastercard, and even American Express is an integral part of the card ecosystem value proposition. When consumers hold these cards, they are all but assured of acceptance, at least in most developed markets. Further, there is seldom a question about whether the card will be authorized by modern POS technology—an assurance that has been bolstered by contactless and tokenized payments.

Any technology, including stablecoins, that undermines this assurance will be dismissed by consumers, as it should be by merchants, out of hand. Lastly, we highlight that consumer payment behavior has historically demonstrated significant inertia. This is one reason, along with POS technology challenges, why it took years for Apple Pay to gain momentum after its 2014 launch. We anticipate similar uptake challenges for consumer stablecoin payments, and the risk of market fragmentation, which we discuss below, further undermines the use-case.

That said, there are some fringe use-cases for consumer stablecoin payments, in our opinion, and growth of the crypto ecosystem could drive more volume across existing relationships, like Coinbase and Shopify. We could also see CPN engage enough e-commerce merchants and processors to drive some stablecoin volume across its fledgling network. The consumer value proposition in this case is elimination of friction associated with swapping stablecoins for fiat and transferring into a TradFi account. The ability to pay directly from a crypto wallet is attractive, in our view. Further, should crypto ecosystem market cap expand meaningfully, we think USDC will remain a critical liquidity vehicle. This could drive demand for consumer USDC payments, especially as traders take profits. Lastly, we note Visa and Mastercard are rolling out credit and debit cards that can be used to pay merchants in crypto. Although acceptance is in the early days, this is another potential consumer function for which transactions will run across traditional network rails. That said, we contend that consumer stablecoin payments will be confined to small transaction sizes and interaction with trusted merchants such as Shopify, given the risk of fraud, disputes, chargebacks, and authorization declines.

Tokenization of Real-World Assets Could Power Stablecoin Transaction Growth Acceleration, Although Market Fragmentation Is a Risk

There is a growing focus on tokenized assets of all kinds, including equities, ETFs, mutual funds, bank deposits, real estate, and bonds, etc. Initiatives such as Arc, Circle's L1 blockchain, and Stripe and Paradigm's Tempo initially strive to provide cross-chain liquidity and privacy for stablecoin transactions—similar to what others, including Visa, Mastercard, and Corpay, offer—and ultimately seek to bring real-world, fiat-based financial assets onchain.

Real-world asset tokenization efforts are in their infancy, but we see a concerted move in this direction. We contend that the value proposition is like cross-border stablecoin commerce: immutability, near-instant finality, transaction speed, always-on, and low transaction costs. Equities are probably the clearest example of real-world asset tokenization, creating the opportunity for global investors to trade U.S. equities 24/7, 365 days a year, with low latency and transaction costs. In addition to opening markets to foreign investors who could not otherwise own U.S. equities, this construct allows easy access to dollar-denominated stablecoins, like USDC, free of local government regulation and FX risk.

Real-world asset tokenization is potentially positive for stablecoin transaction velocity because nascent offerings like Arc and Tempo are positioned as stablecoin-agnostic networks. Although Arc is designed around USDC as native gas—or transaction fees—the idea behind both is that stablecoin issuers, merchants, PSPs, and holders can transact on these bespoke blockchains using any U.S. Treasury- or dollar-backed stablecoin, or they can easily bridge to stablecoins on other chains.

In theory, greater interoperability, high transaction speed, zero latency, and instant cross-chain finality all sound like positives for the stablecoin commerce ecosystem. *However, these initiatives also threaten to eat their young, in our opinion.* Market fragmentation is the biggest long-term risk to stablecoin commerce growth. Although the idea of fast transaction speeds and interchain operability is great in a litepaper, we see it creating unnecessary complexity and practical user and transaction cost challenges, especially in the early days. Expensive swaps, liquidity-constrained stablecoin pairs creating expensive on-ramp and off-ramp transactions, the risk of maximal extractable value (MEV) attacks, GENIUS Act compliance, and other risks lurk just below the surface of these bespoke L1 value propositions, in our opinion. In addition, the proliferation of networks themselves poses risk, in our view, as ecosystem participants may not be able to identify best execution or guarantee that counterparties all operate on a given chain.

This is the beauty of Visa and Mastercard, in our opinion: all ecosystem participants play by the same ground rules and there is never a question about security, transaction speed, network messaging protocols, or data exchange, etc.

As such, we argue there is a real risk that stablecoin commerce is stymied, rather than stimulated, by the proliferation of bespoke L1s. Looking past the debate over whether these types of solutions should be built as Ethereum L2s (the issues are often public versus private blockchain data and redundancy, given that they are EVM-compatible), which is beyond the purview of this piece, the question to us is why aspiring network developers don't agree on a stablecoin standard and jointly promote it to drive faster adoption and ubiquity. This is why we like USDC and Circle and think CPN has the best chance to take share from traditional correspondent banks: USDC is the clear stablecoin adoption and liquidity leader, and Circle can credibly claim to build an orchestration layer and rails supporting native stablecoin finance. From this perspective, we see market fragmentation as the biggest risk to stablecoin adoption.

Stablecoins Address Massive Global Cross-Border TAM

We delve more deeply into Circle's volume and revenue TAM in our initiation report, but we examine the theoretical stablecoin addressable market here.

Because U.S.-regulated payment stablecoins, notably USDC, are backed by U.S. dollars and U.S. Treasury securities, the upper bound of the stablecoin TAM is approximated by the roughly $21.9 trillion U.S. M2 money supply. Viewed differently, FXC Intelligence recently put the base cross-border stablecoin TAM at roughly $16.5 trillion, which represents the approximate cross-border volume of non-G20 nations. In an upside case, which considers the non-G10 market, FXC puts the cross-border stablecoin TAM at $23.7 trillion. In either case, we assert that the cross-border stablecoin TAM represents a compelling opportunity for all ecosystem participants.

We note that the current market cap for USDC, the largest U.S.-regulated stablecoin, is about $75 billion, and for USDT, which is not GENIUS compliant, is around $180 billion. So, the combined market cap of the most dominant stablecoins, which account for well over 90% of the market, is just about $260 billion against an estimated TAM ranging from $16.5 trillion to $23.7 trillion. This puts total stablecoin market cap at just over 1% of its TAM, highlighting the market's potential.

FXC's research supports our assertion that cross-border B2B is the biggest stablecoin unlock. Of the estimated $16.5 trillion non-G20 TAM, FXC puts B2B at $13 trillion, or nearly 80%. In the upside non-G10 case, FXC estimates B2B at 70% of the potential TAM. So, while there is some room for niche consumer use-cases, FXC sizes the B2C stablecoin TAM at just 5% and 4% of its base-case and upside-case TAMs, respectively. *This is a central reason why we do not worry about Visa and Mastercard being at risk from stablecoin commerce: FXC puts the global market at less than $1 trillion, versus Visa and Mastercard's roughly $22 trillion combined processing volume.*

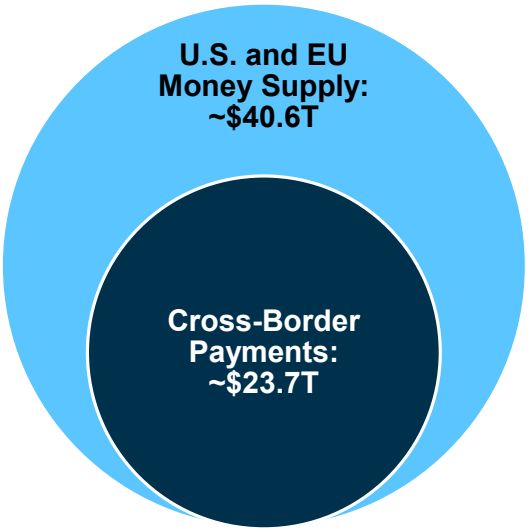
Exhibit 11
Cross-Border Fiat Transactions Are Expensive

Fee Type	Estimated Range	Example $10,000 Transaction
Cross-border fee	0.6% - 1.4%	100
Foreign transaction fee	1% - 3%	200
FX fee	0.5% - 2%	125
Total Fees	**2.1% - 6.4%**	**$425**

Source: Ramp

Importantly, trying to size the stablecoin revenue TAM is more difficult given the complexities of cross-border commerce. However, if we assume stablecoin commerce is radically less expensive than fiat and use Ramp's estimate that fiat cross-border commerce fees range from 2.1% to 6.4%, this implies that stablecoin cross-border fees are somewhere between 20 basis points and 64 basis points. This is based on BytePitch's assertion that cross-border stablecoin commerce costs are about 90% lower than fiat. Using these assumptions, we can put potential cross-border stablecoin commerce revenue at $33 billion to $150 billion. This is a wide range, but it compares with $520 million to $1.7 billion of implied revenue based on today's roughly $260 billion stablecoin market capitalization.

Exhibit 12
Enormous Market Capitalization TAM for Stablecoins and Stablecoin Commerce



Source: Federal Reserve Bank of St. Louis, European Central Bank, FXCIntelligence, William Blair Equity Research

Competitive Landscape and Our Views on Standardization

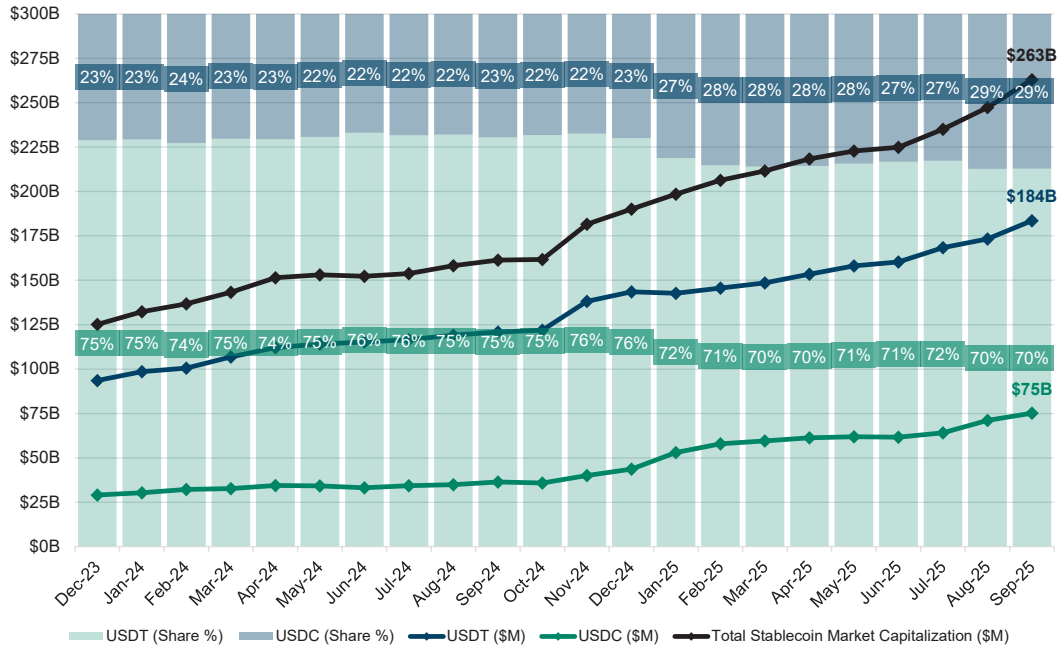
To date, the stablecoin market has been dominated by two coins: USDC, issued by Circle, and USDT, issued by Tether. There are smaller players, some of which we discuss below, but none have emerged to rival the largest two stables. We have reviewed the extent to which stablecoins are being used primarily for crypto liquidity today, which is one of the factors contributing to USDC's domestic market dominance, given Coinbase's roughly 50% U.S. share. We anticipate that USDC market dominance will grow with commercial stablecoin adoption.

USDC
Issued by Circle, USDC has a roughly $75 billion market capitalization, making it the largest domestic, GENIUS Act-compliant stablecoin. USDC has always been backed 1:1 by U.S. Treasurys, and Circle issues monthly proof-of-reserve reports. USDC is distributed, and its use promoted, by partners. Today, Circle's primary distribution partners are Coinbase and Binance. The company also recently announced a new distribution deal with Kraken. We expect that Circle will sign more distribution deals as it positions USDC as crypto's default liquidity vehicle, with clear commercial aspirations.

USDT
USDT is issued by El Salvador-based Tether. Launched in 2014, Tether has a roughly $180 billion market capitalization, making it the largest stablecoin. USDT has been adopted by some exchanges operating in the U.S., including Kraken. It has also emerged as the preferred tender for ad hoc online commerce, perhaps because many users hold crypto in Binance accounts. Although Binance does not operate in the U.S., it is roughly six times larger than Coinbase by volume. USDT is not currently GENIUS Act compliant, limiting its domestic adoption, owing to non-U.S. Treasury reserves and lack of consistent proof-of-reserve reporting. It is, however, pegged to the U.S. dollar.

Tether recently announced its intention to launch a GENIUS Act-compliant U.S. stablecoin, called USAT, in collaboration with Anchorage Digital. We believe this is a bid to unseat USDC as the dominant U.S. stablecoin, but it is far from clear to us that Tether will be successful, given Circle's first-mover advantage, strong distribution relationships, and leading market cap and liquidity. A possible U.S. Binance return could shift the market dynamic, however.

Exhibit 13
USDC (GENIUS-compliant) and USDT (non-GENIUS-compliant) Dominate Stablecoin Market



Source: Visa inc., Allium, William Blair Equity Research

Other Players

After the two largest stablecoins, market capitalization breaks down quickly. The number three stable is Ethena's USDe, with a nearly $14.5 billion market cap. Ethena is an algorithmic, or crypto-backed, stablecoin collateralized by crypto held in smart contracts. Following Ethena, the market cap for DAI comes in at just over a $5 billion, World Liberty Financial's USD1 is $2.6 billion, and PayPal's PYUSD comes in at $2.5 billion. From this, it should be easy to understand why we think the market is rapidly coalescing around a stablecoin standard. That said, this is not a fait accompli, and ongoing efforts to promote proprietary stablecoins could still drive fragmentation.

The Need for Stablecoin Standardization and Why USAT Success Could End Other Stablecoins' Bids for Relevance

We contend that commerce only gains critical mass and scale when characterized by standards that create clear expectations and confidence for all ecosystem participants. In developed world consumer payments, this standard has long been the four-party payment model anchored by Visa, Mastercard, issuing banks, acquiring processors, and cardholders. Even American Express, a vertically integrated closed model, has established near-ubiquitous acceptance, security, and ecosystem value such that cardholders can be confident pulling out their AmEx cards almost anywhere in the world. Lastly, we highlight that even in situations where large issuers or merchants have an opportunity to close the loop, they have not—for example, J.P. Morgan, which owns an instance of VisaNet, and Apple, whose Apple Pay is the leading digital wallet. Either company could have pursued new payment infrastructure or rails but instead chose the most reliable and productive path forward.

We see little reason that stablecoin commerce will develop in a materially different way to developed market carded commerce. Specifically, we believe leading stablecoin ecosystem participants and incumbents will come together in a few environments to power commerce. For example, we could envision middle-market correspondent banks tapping Circle for USDC issuance and CPN orchestration capabilities, along with Visa and Mastercard in concert with corporate clients, to support accelerated stablecoin cross-border commerce. Whereas some correspondent banks, like J.P. Morgan, may initially attempt to stand up proprietary stablecoins, we believe the utility of this approach is limited by factors that we have previously discussed, namely liquidity and interoperability.

To be clear, our view is that the stablecoin commerce market will iterate before it ultimately arrives at the conclusion that standardization is the way to scale. This will probably create volatility for Circle, and we wouldn't be surprised to see elevated volatility at Visa and Mastercard as consumer payment tie-ups and proprietary stablecoins are announced. Ultimately, we believe that scaled cross-border B2B commerce will blossom from market standardization, benefiting a handful of scale participants whose economics will likely benefit at the expense of traditional correspondent banks.

As we discuss in the next section, we see the biggest stablecoin commerce winners as Visa and Mastercard and non-traditional cross-border networks, including Corpay, Circle, and Coinbase. We think traditional banks will likely be the biggest economic share losers. This is not an exhaustive list of winners, and it is not lost on us that fragmentation of the traditional correspondent banking system may not give way to standardization of cross-border stablecoin commerce. However, in this context, we think about the new stablecoin winners getting fat on the crumbs that fall from J.P. Morgan's table. We also discuss next-generation purpose-built L1s seeking to create purpose-built stablecoin money movement ecosystems. These efforts are in the earliest days, so we will pay close attention to their progress, noting that the range of outcomes is large. That said, we encourage investors to note that Circle is actively pursuing Arc, its own purpose-built stablecoin payment network.

Risks and Opportunities Abound for a Variety of Stablecoin Ecosystem Stakeholders

We see the traditional correspondent banking market fragmenting to the benefit of some traditional fintech ecosystem participants, which historically have had limited cross-border B2B volume. It is our view that the era of traditional large-bank cross-border B2B commerce dominance is ending as stablecoins level the playing field for corporations and middle-market banks, and they look for new partners whose infrastructure is better suited to stablecoin commerce. The market will not evolve in a straight line, as traditional banks seek to keep large treasury customers on their platforms. We suspect that some of these efforts will be successful and that correspondent banks will cut pricing to keep deposits on their balance sheets. As we've seen with Corpay's high-teens corporate payments revenue growth, though, some middle-market customers are choosing next-generation cross-border commerce and FX management solutions. Our view is that this trend will accelerate as stablecoin commerce moves into the mainstream.

Exhibit 14
Cross-Border Stablecoin Commerce Winners and Losers

Source: William Blair Equity Research

Winners

Traditional Networks
We are bullish on Visa's and Mastercard's ability to capture a meaningful share of cross-border stablecoin commerce. B2B volume is less than 15% of the networks' total, and we think the majority is travel and expense cards. Notably, both companies have highlighted B2B as a meaningful opportunity where the most upside is in cross-border stablecoin B2B volume, not domestic payments.

Importantly, Visa and Mastercard have been investing in stablecoin infrastructure, including on- and off-ramp and rails for several years. *It is this prescient market outlook and commitment to technological relevance that separates them from other fintechs, in our opinion.*

Visa
Visa is targeting roughly $60 trillion in global B2B payments, $25 trillion of which is money movement. Visa Direct, the world's largest money movement network with over 10 billion fiscal 2024 transactions and $1.7 trillion of commercial payments volume, is equipped to handle cross-border stablecoin commerce through the issuance and management of stablecoin credentials, Treasury solutions, and programmable money.

Whereas we believe the company is currently conducting cross-border stablecoin commerce for a select group of customers with relatively small bank relationships, this will change as stablecoins move into the mainstream. We note that Visa Direct settled about $100 billion of annualized stablecoin volume in August. This represents a small share of the overall TAM, but is consistent with growing stablecoin demand, in our opinion.

Mastercard
Like Visa, Mastercard has connected stablecoins to its network, just as it has with any other tender type. The company provides infrastructure allowing partners to settle stablecoin transactions and even issue stablecoins. More importantly, in our opinion, the company has integrated stablecoin money movement into its Move network. Move boasts 10 billion global end-points across 150 currencies and 200 countries. Mastercard puts Move's addressable market at roughly $20 trillion.

Our impression is that Mastercard's view of stablecoin commerce is less expansive than Visa's. This is one of only a few areas in which we would make this argument. Nonetheless, we think Mastercard will still benefit from on- and off-ramp capabilities as it integrates stablecoins into

Move as another currency type. In a recent public call, management expressed views that stablecoins do not drive significant economic growth in the fractional banking system. This may be true, but we submit that standardized commerce, based on USDC, for example, has the potential to reduce money movement costs for all ecosystem participants, and Mastercard stands to benefit from this transformation.

There is at least one important nuance to this discussion we encourage investors to keep in mind: we believe B2B payments carry a lower yield than consumer payments. As a result, we anticipate network yield could blend down over time as Visa and Mastercard process more B2B volume, even though a meaningful portion will likely be cross-border. We do not believe this alters the economic attractiveness of this business given the enormous addressable TAMs and high incremental profitability.

Digital Networks

Digital networks might be the most interesting stablecoin topic of discussion, as they run the gamut from established fiat-centric networks, like Corpay, to nascent purpose-built next-generation stablecoin networks, like Circle's CPN, Coinbase Commerce, Stripe and Paradigm's Tempo, and Tether's Plasma. The key takeaway for us is that these networks as a group will benefit from cross-border B2B stablecoin commerce with some exposure to niche consumer commerce opportunities.

TradFi – Corpay

Outside of Visa and Mastercard, several companies are working to stand up stablecoin payment rails. In TradFi, our view is that Corpay's corporate payments business will take share from traditional correspondent banks through its robust cross-border money movement and FX risk management rails. The company has built a proprietary network over which roughly 50% of its approximately $220 billion of annual payment volume flows. At just over 1% of the estimated cross-border TAM, we think Corpay has ample room to expand as it builds on its cross-border commerce capabilities and integrates USDC into its system. To this end, Corpay's announced deal with Circle will integrate Circle Mint and related APIs into its cross-border infrastructure and will add USDC wallets to customer accounts. We expect that the corporate payments segment will enjoy high-teens-plus revenue compounding with possible acceleration as it takes share in a growing USDC-enabled ecosystem.

Crypto – Circle's CPN

As we describe in our initiation of coverage report, we see CPN as one of the clear incremental cross-border USDC commerce winners. Our view is that USDC will emerge as one of a few stablecoin standards, and it has a clear first-mover advantage. CPN is effectively a USDC orchestration layer that brings together ecosystem participants in an environment facilitating USDC commerce. While it does not move money, CPN will act as a clearinghouse for USDC commerce, unlocking associated benefits. CPN will orchestrate on- and off-ramp capabilities for participants and in its final iteration will provide smart contract protocol (SCP) architecture and cross-chain transfer (CCTP) capabilities.

Complementing CPN, Circle has introduced Arc, a purpose-built EVM-compatible L1 blockchain that provides infrastructure for tokenized asset development. Arc will provide an onchain stablecoin settlement layer for CPN participants and offers automated off-ramps to fiat. Arc also offers onchain credit, tokenized collateral, and programmable payments. It uses USDC as native gas and its smart contract compatibility with EVM allows for near-instant finality with opt-in privacy. We view Arc as comparable to Base, Coinbase's Ethereum-based L2. The difference is that Arc is purpose-built for commerce, with a nod to tokenization, and is positioned to support CPN. Even though TradFi networks, like Visa and Mastercard, have what we view as more robust, vertically

integrated money movement platforms—Visa Direct and Mastercard Move—we believe USDC dominance will support cross-border commerce volume on CPN, powered by Arc. This should position Circle as a clear cross-border stablecoin commerce winner.

Crypto – Coinbase Commerce

Coinbase has taken a slightly different approach to stablecoin commerce, choosing at least initially to focus on consumer applications. Coinbase Commerce has developed infrastructure to support merchant acceptance of stablecoins for payment. Coinbase Commerce abstracts crypto complexity, offering a seamless, always-on payment stack that can easily integrate into existing payment software without requiring crypto engineering expertise. Base is the company's DeFi infrastructure layer 2 aimed at bringing a billion users onchain. It also functions as the smart contract settlement layer for Coinbase Commerce via Onchain Payments Protocol (OPP). OPP was jointly developed by Coinbase and Shopify, and it allows Coinbase Commerce to support fast, secure, near-instant settlement for USDC payments. So, unlike Arc, which was developed as a purpose-built L1, Coinbase Commerce utilizes Base as the settlement layer for commerce.

Regardless of architecture, we believe that Coinbase Commerce will capture some consumer USDC payment volume, but we continue to view stablecoins as most applicable to cross-border commerce. Coinbase will nonetheless be a significant beneficiary of growing USDC market cap, in our opinion, as it emerges as the stablecoin standard.

Crypto – Stripe and Paradigm's Tempo

Tempo, in partnership with Paradigm, is like Arc in that it is a purpose-built L1 blockchain. Stripe determined that existing stablecoin infrastructure is not sufficiently robust or fast to operate well within its ecosystem. While we are not crypto engineers, this strikes us as a bold, hubristic claim that may be justified by Stripe's leadership in next-generation merchant processing. Tempo's speed claims are impressive at 100,000 transactions per second, versus Visa's peak claimed processing time is 65,000 transactions per second, Ethereum at just 18 transactions per second, and Solana at a few thousand. Tempo is EMV-compatible, but it differs from Arc in that it allows fees to be paid in any stablecoin, rather than using USDC as native gas. Like Arc, it supports all major stablecoins and offers seamless conversion. That said, our view remains that liquidity is a critical barrier to stablecoin fragmentation, suggesting that USDC will maintain dominance. Lastly, we believe Tempo will offer opt-in privacy that L2s, like Base, cannot.

In summary, Tempo offers the possibility of abstracting crypto complexity while positioning itself as the most traditional network-like infrastructure—essentially a blockchain-native Visa and Mastercard alternative. Unlike CPN and Arc, however, where we see a clear value unlock owing to Circle's place at the center of the USDC ecosystem, Tempo strikes us as more of an "on-us" blockchain that Stripe can use to market stablecoin commerce to existing customers. As a result, it will probably gain some stablecoin commerce volume, but it isn't as well positioned as other digital networks, in our opinion.

Crypto – Bitfinex's (Tether) Plasma

Like Arc, but with perhaps a modestly narrower focus, Plasma is standing up a stablecoin movement platform. Plasma's premise is that there are billions of people in emerging markets who want access to U.S. dollars but don't have the means to obtain them or are faced with high remittance fees. In this sense, it is purpose-built to move stablecoins, particularly USDT, around the world almost instantly and with no fees. It claims a processing speed of more than 1,000 transactions per second, will be compatible across multiple stablecoins, and is built to EVM smart contract standards. Plasma interestingly also offers a native bitcoin bridge that allows for the seamless onboarding of bitcoin, which can be freely swapped into USDT or other stablecoins. Lastly, Plasma

offers integrated access to stablecoin infrastructure, such as on- and off-ramps. In this sense it is also like Arc, but our understanding is that Arc will source its infrastructure from the CPN orchestration layer, rather than building natively.

Plasma's capabilities and stated goals are like Arc, and we see it as Tether's answer to Arc. However, while Circle is also aimed at stablecoin market-making liquidity and asset tokenization, Plasma seems committed to stablecoin movement. It is also notable that Plasma was funded by a public token sale. The native XPL token allows for governance, and like Ethereum, XPL creates token holder participation in Plasma's growth and an opportunity for validators to earn rewards for validating blocks. It also creates an incentive for investors to participate in Plasma. We think this is a clever financing approach that avoids the need for Tether to issue shares like Circle did in its IPO. Plasma has an integrated app and debit card, positioning it as a vertically integrated crypto-native neobank. Also notable, in our view, is that Plasma is currently in mainnet beta, putting it ahead of Arc from a development perspective.

Digital Finance Providers
Without going into exhaustive detail, we contend that stablecoin commerce is a positive for digital finance providers like SoFi. As the company prepares to reenter the crypto market later this year, we believe it will initially offer crypto investing and remittances with an eye on payments. Although CEO Anthony Noto has spoken publicly about developing a proprietary stablecoin and has initially elected to build remittances with Bitcoin on Lightning Network, we believe the benefits of USDC and EVM-compatible infrastructure will become clear. As a result, SoFi should see growing cross-border remittance and even consumer commerce volume. Although we do not believe stablecoin revenue will be a huge unlock given our skepticism regarding consumer payments, we encourage investors to consider that all commerce volume and revenue will be incremental.

Neutral Impact

Traditional Processors
We put companies like Fiserv, Global Payments, Block, and PayPal in this group. Whereas rising crypto values, especially Bitcoin in Block's case, could be a tailwind, we see limited economic benefit to these companies from stablecoin commerce. To the extent that consumer stablecoin payments become more widespread, we expect these companies to support acquiring, just as they do for any tender type. Even though we are broadly neutral on traditional processors' stablecoin prospects, we make a couple of callouts below.

Block
Block holds just over $1 billion of Bitcoin on its balance sheet at current prices. It is also rolling out Bitcoin acceptance technology for sellers on the Square platform. While this does not position the company to directly benefit from growing stablecoin commerce, rising Bitcoin price could prompt holders to spend appreciated tokens. We recognize that this is not a stablecoin-specific comment, but these holdings and tech offerings position the company as a modest beneficiary of crypto commerce growth.

Fiserv
As previously discussed, Fiserv has announced its intent to launch FIUSD, a proprietary stablecoin deposit token. FIUSD should help Fiserv's financial solutions customers maintain deposit liquidity, more deeply embedding them in the company's infrastructure. In addition, Fiserv announced a collaboration with Circle, in which the companies will work together to develop stablecoin commerce solutions for Fiserv's merchant and financial institution customers. Fiserv will become a CPN member, which we believe signals the company's intent to pursue USDC-based commerce more broadly. We expect the company will use USDC to further cross-border remittance—and

possibly consumer payment—capabilities. Fiserv has also suggested that it will offer rewards to participants in its stablecoin ecosystem, but how this would work remains unclear to us. Nonetheless, these initiatives suggest Fiserv could get a modest economic boost from the growth of stablecoin commerce, principally supported by USDC.

Exhibit 15
Proliferation of Purpose-Built Blockchain Solutions Highlights Focus on Interoperability and Stablecoin Movement

Solution	Provider	Solution Type	Native Gas	EVM-Compatible	Security Model	Functionality
Bitcoin	Open-Source / Bitcoin Foundation	L1 payments blockchain	BTC	No	Proof-of-work consensus	Bitcoin-based payments
Lightning Network	Open-Source / Lightning Labs	Bitcoin L2 payments blockchain	BTC	No	Inherited from Bitcoin L1	Scaling for Bitcoin-based payments
Ethereum	Open-Source / Ethereum Foundation	L1 general-purpose blockchain	ETH	Yes	Proof-of-stake consensus	Ethereum Virtual Machine (EVM) for programming
Cross-Chain Interoperability Protocol (CCIP)	Chainlink Foundation	Interoperability middleware	Underlying chain gas	Yes	Dual-network security	Oracle DONs + independent RMN for data feeds and interoperability
Base	Coinbase	Ethereum L2 general-purpose blockchain	ETH	Yes	Inherited from Ethereum L1	DeFi infrastructure
Onchain Payment Protocol (OPP)	Coinbase	Payments middleware	Underlying chain gas	Yes	Contract-level guarantees + operator policy	Operator-signed transfer intents for smart-contract enabled commerce
Arc	Circle Internet	L1 blockchain	USDC	Yes	Proof-of-authority consensus	Stablecoin movement and tokenized assets
Cross-Chain Transfer Protocol (CCTP)	Circle Internet	Interoperability middleware	Underlying chain gas	Yes	Circle attestation + onchain verification	Burn-and-Mint for interoperability
Circle Payments Network (CPN)	Circle Internet	Orchestration middleware	NA	NA	Permissioned network	Orchestrates fiat/stablecoin flows
Plasma	Tether affiliated	L1 payments blockchain	USDT or BTC	Yes	Proof-of-stake consensus	Stablecoin movement
Tempo	Stripe/Paradigm	L1 payments blockchain	Stablecoin gas	Yes	Proof-of-stake consensus	Stablecoin movement and tokenized assets
Kinexys	JP Morgan	L1 payments blockchain	Unknown	Yes	Proof-of-authority consensus	Deposit-token rail (JPMD) on EVM

Source: Company reports, William Blair Equity Research

Losers

Traditional Correspondent Banks

Any way we cut it, traditional correspondent banks, namely the largest U.S. financial institutions, are losers as stablecoin commerce grows. Even as they move to develop deposit tokens and try to keep correspondent banking business on their platforms through related solutions, we believe lack of technological sophistication, an apparent insistence on going at it alone, rather than partnering with crypto-native entities, and ultimately a lack of stablecoin liquidity mean that these banks will lose share to TradFi networks like Visa, Mastercard, and Corpay, not to mention next-generation digital networks.

Even as we see traditional banks losing share, we note that Visa and Mastercard have built robust cross-border stablecoin-based money movement networks that are more token agnostic than what we have seen from banks like J.P. Morgan. So, to the extent that traditional correspondent banks elect to partner with the leading traditional networks, they can likely protect some volume and revenue. That said, we view Visa and Mastercard as the clear beneficiaries of this shift, as we described earlier in this section.

Timeline for Commercial Adoption

Uncertainty

We see the timing of cross-border stablecoin commerce adoption as the greatest near-term risk to our bullish USDC calls, the immediate stock market beneficiaries of which would be Circle and Coinbase. Notably, other potential winners in the stablecoin commerce ecosystem probably have little downside if UDSC is not commercially adopted in a timely manner. This reflects the fact that we do not believe investors have incorporated incremental volume into estimates. Conversely, if stablecoin commerce grows more quickly than expected, traditional fintech probably won't see a big valuation bump for the same reason. *As a result, timing of commerce-driven USDC market cap growth is the most important driver for Circle and an important consideration for Coinbase.* We note, however, that rising USDC market cap driven by higher token prices also benefits both companies, with Coinbase having the added benefit of being a leading crypto exchange.

We see crosscurrents buffering stablecoin commerce growth. On the positive side, the GENIUS Act creates regulatory clarity, which should be important for ecosystem participants' planning and technology building. We have also heard that regulatory concern had previously resulted in a nearly 10% premium being placed on stablecoin transactions, which was effectively a tax undermining stablecoins' economic value proposition. The GENIUS Act should therefore streamline stablecoin commerce by reducing transaction costs. Despite these tailwinds, we believe lack of standardization across stablecoins and networks is slowing adoption. We went into some detail regarding new digital networks being stood up, but most, like Tempo and Arc, are just in testnet phase. While the technology is interesting, it is also nascent and unproven. Further, the idea of stablecoin interoperability has not been tested; market participants do not know that the promise of low-cost or free token fungibility can be kept. In many instances, we suspect that technological and cost promises are ambitions that will be too aggressive, creating an uneven path to commercialization.

Given the foregoing, and as we wrote in our Coinbase and Circle initiations, we encourage investors to use likely weakness around stablecoin monetization timing as an opportunity to add. We have high conviction that stablecoins will transform cross-border B2B commerce, creating a "when, not if" situation. That said, it seems to us that investor enthusiasm has gotten ahead of itself in some cases, evidenced by recent sub-scale crypto IPOs and high valuations being justified by questionable gross profit or transaction profit multiples.

How to Track

Aside from anecdotal news accounts, token, and network launches, we believe it will be difficult to track commercial stablecoin adoption. From what we can tell, the overwhelming majority of stablecoin volume is still tied to crypto, offering little economic utility to ecosystem participants described in this report. There are some clues for which investors can look, however. Perhaps the most important indication that USDC is being used outside of crypto will be the relationship between its market cap and Bitcoin's. As shown in exhibit 8, there is a strong correlation between Bitcoin's and USDC's market cap. Commercial adoption would probably create a meaningful divergence. However, USDC market capitalization growth could also result from crypto traders deciding that they need liquidity or want to take profits. This could prompt a rush into USDC unrelated

to commercial uptake. We also expect that Visa and Mastercard will continue discussing volume across their respective next-generation money movement networks, and we believe management will highlight the extent to which stablecoins are driving growth. Disclosures and KPIs for Visa Direct and Move have been somewhat inconsistent, though, so this may not be the best indicator.

We will be alert to data points supporting our long-term bullish stablecoin view, particularly as it relates to USDC. Notably, in our opinion, Circle predicted a 40% multiyear through-the-cycle USDC market cap CAGR during its recent second-quarter earnings call. The company based this outlook on qualitative interest it has received from financial institutions and other potential ecosystem participants. The company also cited some third-party research as supporting this outlook, characterizing it as conservative. Again, we do not know how to directly track USDC adoption outside of crypto, but we are bullish on Circle, owing to what we see as its inevitability. We again caution investors that stablecoin adoption is unlikely to occur in a straight line.

The prices (as of 10/10) of the common stock of other public companies mentioned in this report follow:

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American Express Co. (Outperform)	$316.26
Apple Inc.	$245.27
Bank of America Corp.	$48.65
Block Inc. (Outperform)	$74.67
Circle Internet Group Inc. (Outperform)	$132.94
Citigroup Inc.	$93.93
Coinbase Global Inc. (Outperform)	$357.01
Corpay Inc. (Outperform)	$280.27
Deutsche Bank AG	$34.56
Fiserv Inc. (Outperform)	$122.66
Global Payments Inc. (Market Perform)	$82.85
J.P. Morgan Chase & Co.	$300.89
Mastercard Inc. (Outperform)	$557.48
PayPal Holdings Inc. (Market Perform)	$69.81
Shift4 Payments, Inc. (Outperform)	$77.23
Shopify, Inc. (Outperform)	$151.02
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