Cryptocurrency 2022:

Converting a Threat into an Opportunity

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It's become impossible to argue that cryptocurrency remains a fringe phenomenon. A recent Visa study shows that a third of American households own crypto - usually Bitcoin, but increasingly newer assets such as Ethereum, Solana, and Cardano as well. Although most have focused on crypto's value as an investment vehicle, opportunities to use cryptocurrency stablecoins like USDC and USDT as a means of exchange are rapidly expanding. PayPal, Venmo, and Square now enable Bitcoin in their digital wallets, Flexa is allowing for crypto to be spent at point of sale, and Visa and Mastercard are actively working on stablecoin-based payment solutions.

With a combined market capitalization approaching $2 trillion (40% in Bitcoin alone), financial institutions need to take notice, given the potential long-term impact on their core business. Multiple credit card issuers have introduced crypto-based rewards programs, and leading processors have struck partnerships with crypto infrastructure providers to enable Bitcoin trading. Regulators have solicited market input to help them assess the best approach to establishing guardrails for such activities. Even the Federal Reserve has joined the fray, collaborating with MIT to explore the potential for a central bank-issued digital currency. The Fed is also seeking comments about the creation of a CBDC, though it stated that it has no plans to act "without clear support" from the White House and Congress, "ideally in the form of a specific authorizing law."

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Interest isn't confined to the banking sector, either. Forward-thinking companies including Amazon, Apple, and Walmart have open job requisitions for crypto experts, signaling their likely involvement in the space.

The good news is that most Americans express interest in conducting their crypto activities through their financial institution. SRM has been advising its bank and credit union clients for some time to stay up to speed on crypto's evolution and to develop a strategy so they are ready to act once the regulatory environment and market conditions warrant.

Toward this end, this report provides a primer of the key terms and concepts underpinning crypto and decentralized finance (DeFi), an overview of their value proposition for financial institutions, recent developments in the regulatory landscape, and practical examples of crypto-enabled banking services.

Key Terms and Principles

Blockchain is the foundational technology underpinning cryptocurrency as well as a growing array of DeFi applications. A blockchain is a distributed ledger hosted across multiple computers - or "nodes" - that tracks activity between various users. These nodes continuously cross-reference each others' local copies to validate the blockchain's accuracy. The digital ledger documenting these ownership and transaction records is called the blockchain. In contrast to traditional models relying on a single, centralized source of truth, the blockchain is said to be "trustless" because its distributed model is not dependent on universal trust in a single entity.

Blockchain networks can be either **permissioned** (requiring approval before a node can connect) or **open** (to which any interest party can connect). Early blockchain experiments and proofs of concept - including Bitcoin - primarily took place on open networks. By contrast, the initial wave of commercial applications, often addressing B2B pain points in supply chain management and trade finance, have been built on permissioned networks.

A blockchain serves as the basis for each **cryptocurrency,** which in broad strokes refers to a digital asset used as both a store of value and a medium of exchange. Although there are over 14,000 cryptocurrencies in existence as of November 30, 2021 (according to Investopedia), roughly 60% of the overall market capitalization resides in the top two (Bitcoin and Ethereum), and leading market exchanges like Coinbase support trading in the top 150 or so.

The term **altcoin** is applied to the long tail of cryptocurrencies extending beyond the name brands. There is no strict definition for altcoin - some consider everything other than Bitcoin to be an altcoin; others also exclude Ethereum. Some altcoins attempt to distinguish themselves by building additional functionality into their platforms to facilitate use cases like **smart contracts,** which we will address in greater detail below.

Another important category of cryptocurrency is **stablecoins.** Most of crypto's notoriety to date is a byproduct of its success as an investment vehicle. The price of Bitcoin has more than quadrupled over the past 15 months, with many altcoins following a similar trajectory. However, this same volatility inhibits its usefulness as a means of exchange. For instance, over the course of 2021, Bitcoin doubled in value, fell back to its January price, and then doubled again.

Further complicating matters, because tax authorities regard crypto as property, any price appreciation realized in the process of making a purchase is conceptually subject to capital gains tax - a recipe for an administrative nightmare should Bitcoin become the currency for ordering one's daily latte.

Top 5 Stablecoins	Market cap ($B)
Tether	$77.98
USD Coin	$51.55
Binance USD	$17.05
TerraUSD	$11.24
Dai	$10.08

Source: *CoinMarketCap (as of Feb. 8, 2022)*

Stablecoins, notably USDC, USDP, and Tether, are designed to overcome these barriers to adoption. These coins' values are pegged to - and collateralized by - an existing market asset (usually the US dollar) in order to minimize price fluctuations. This approach eliminates any upside as a speculative asset class (as well as the risk) while well positioning the coins for crypto's projected adoption as a vehicle for institutional and consumer payments.

Governments have taken notice of crypto's momentum, leading to the emergence of **central bank digital currencies (CBDCs),** digital versions of currency issued by state-backed agencies in part as a means of preserving and expanding existing monetary policy levers. This model is quite controversial with many of crypto's early proponents, who consider community governance a key part of the value proposition, as opposed to control and issuance by a central or national authority.

China has been the most aggressive on the CBDC front, including a large-scale pilot planned during the Beijing Olympics. US regulatory authorities are scheduled to weigh in on the CBDC topic soon, and the Federal Reserve Bank of Boston is already collaborating with MIT to evaluate potential models.

The "programmable money" potential of CBDCs also holds considerable appeal for policy makers. Consider that government support payments could be more efficiently and promptly distributed - with their use limited to defined categories of goods. Expiration dates could also be set on currency, either to encourage consumption or discourage consumption. Also lurking beneath this is the potential to track usage, both to stamp out illicit activity and eliminate leakage of tax revenues. Of course, the more complexity built into CBDCs, the more challenging they will be to design and implement - and to supplant existing cryptocurrencies for which the lack of government control is often a key selling point.

Why FIs Need to Take Notice

For banks and credit unions looking for a solid rationale to offer crypto-based services, consider the following non-exhaustive list:

DEFEND DEPOSIT BALANCES

Deposits remain the life blood of financial institutions - both as a source of funds and a bellwether for the depth of customer relationships. Given that perspective, consider the warning flag being raised by recent transaction activity. Several institutions have analyzed the outflow of balances and found crypto exchanges like Coinbase to be the most common destination - by a factor of more than two over other destinations, in the case of at least one big bank.

This means deposits that, until recently, were held at insured institutions are increasingly residing in the form of crypto at non-chartered players. Once such a base of operation is established, the next logical move for these exchanges will be to offer expanded services such as lending, encroaching further on traditional FI relationships and revenue streams.

GAIN NEW CLIENTS

Not only has ownership of crypto assets become increasingly common across the US population (as much as 33 percent by some measures), but it is also particularly high among demographic groups prioritized by many financial institutions. For instance, a Morning Consult study found that while 10% of fully banked Americans hold crypto, this ratio is 37% for the underbanked. Younger age brackets and non-white cohorts, both significant growth opportunities, are also disproportionately engaged in the trend.

As evidence of the potential upside, Vast Bank in Oklahoma became the first nationally chartered US bank to offer the ability to buy, sell, and hold crypto - "the benefits of crypto combined with the simplicity and security of a bank," as touted on its website. The institution saw a 25% increase in customers in the first few months following the rollout.

INCREASE ENGAGEMENT

Banks and credit unions have long sought the secret sauce to drive a level of engagement with their digital channels on a par with apps such as Amazon, Netflix, and LinkedIn. Consider the success story of PayPal, which saw logins more than double when it added crypto functionality to its mobile app.

Fascination with the price fluctuations of Bitcoin and other altcoins - even among those who aren't actively trading them - leads consumers to check their balances far more often than a standard checking balance. Moreover, these crypto exchanges remain open 24/7/365, unlike NYSE and NASDAQ windows that are limited to six and a half hours, five days a week.

AVOID DISINTERMEDIATION

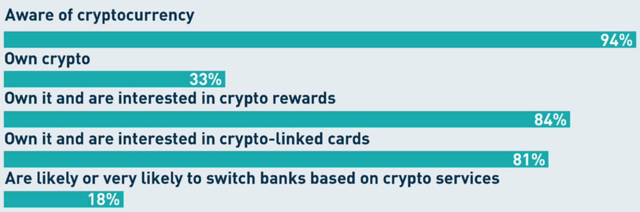
As the above examples indicate, other competitors - disruptive new market entrants as well as traditional banks and credit unions - are already staking their claims across several fronts in the crypto space. This first mover advantage could establish them as providers of choice for crypto services - at the expense of longstanding bank and credit union relationships as the scope of crypto activities inevitably expands. Over three-quarters of Americans indicate that they prefer to conduct their crypto activities through a financial institution. While this is an encouraging data point confirming that banks and credit unions still hold an incumbent's advantage, history tells us that such an advantage is not necessarily permanent. As exchanges and wallets like Coinbase, FTX, and Crypto.com become better known and establish a history, consumers' comfort with them will likely increase. Therefore, the time for FIs to act on this advantage is now.

DEVELOP NEW SOURCES OF INTEREST AND NON-INTEREST INCOME

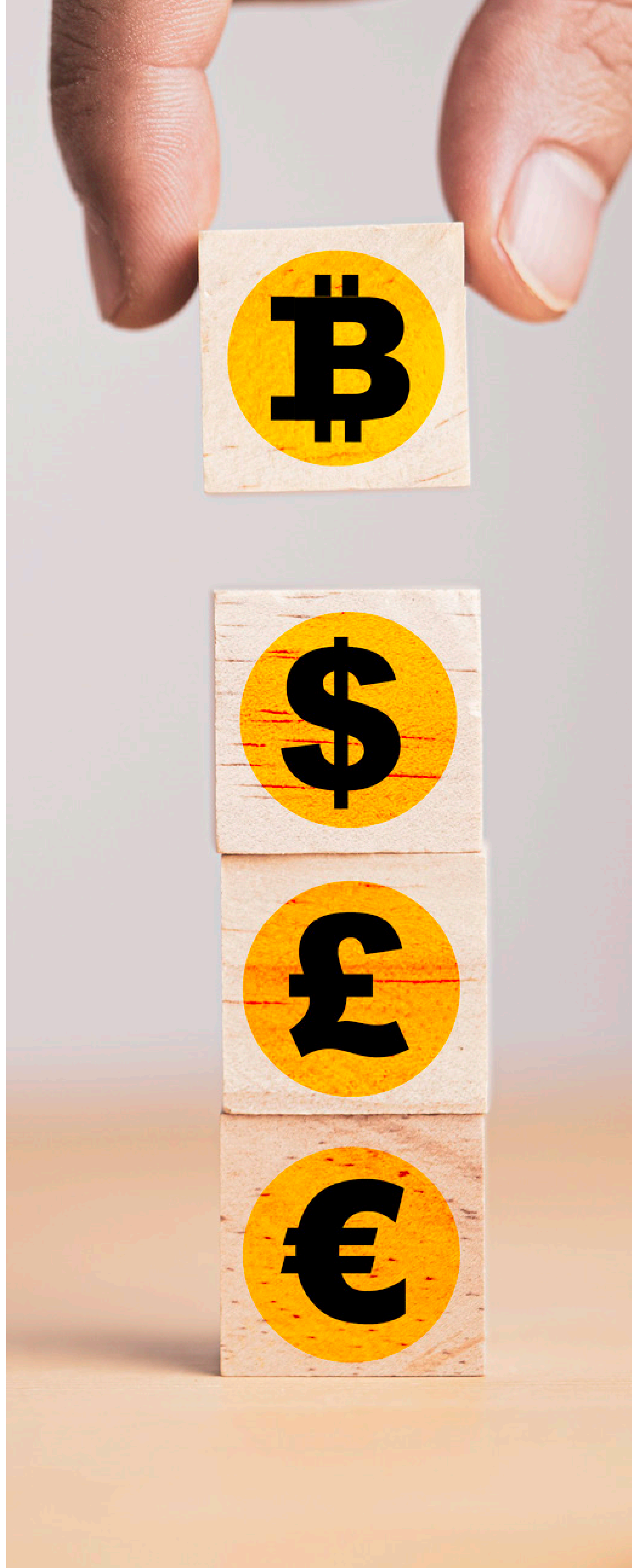
Although customer engagement is a noble goal, a direct path to revenue and profit is even more compelling. Crypto offers several near-term commercial opportunities as well as even more lucrative longer-term plays and the regulatory environment becomes clearer.

FAMILIARITY FACTOR

Most consumers are familiar with crypto and owners of it are open to broader applications



Source: *Visa (survey of 6,000 household decision-makers)*



TAMING THE WILD WEST

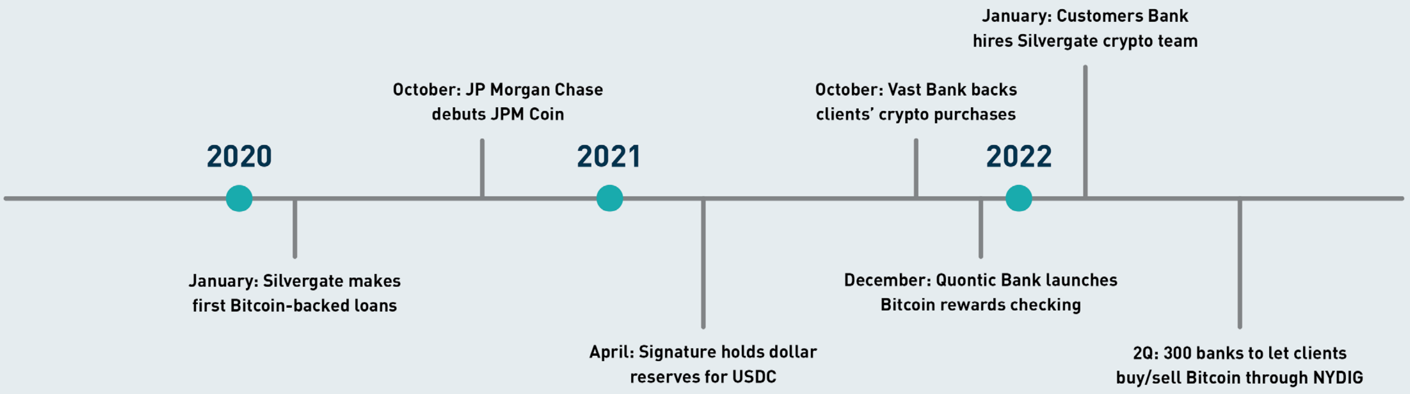
Some regulators have compared the cryptocurrency arena to the "Wild West." This analogy certainly has merit, particularly from the standpoint of open frontiers offering significant opportunity amid rules of engagement that have yet to be fully defined. It's the latter point that causes discomfort for many regulators, and by extension the chartered entities they oversee.

The absence of a clearly defined rulebook is often mistaken for lawlessness - a misperception that is overdue for correction. In the minds of many, Bitcoin transactions are equated with illegal activity. While there was some basis for this reputation in crypto's early days, the sector's ongoing maturation attracted billions of dollars from established investment funds keen on cultivating a broader market. These increasingly mainstream adopters demand greater transparency, giving rise to enhanced compliance and control procedures. As a result, the share of crypto activities tied to money laundering and other illicit trade has trended significantly downward over the past ten years and is estimated to be well under one percent.

Although criminal activities certainly remain an issue (its use as a vehicle for ransomware payments has been widely publicized) credible sources project that cash transactions are more likely than crypto to be illicit.

This shift stems in part from a debunking of the early notion that crypto transactions are "anonymous." Numerous real-world examples have demonstrated that crypto transactions on the blockchain can indeed be traced, particularly when executed through mainstream services like Coinbase that require a measure of onboarding and know your customer validation as part of the price of admission for a streamlined,

CRYPTO ADOPTION SINCE 2020



more user-friendly experience. Transactions are better characterized as "pseudo-anonymous," which may come as a disappointment to some early adopters but certainly serves as a prerequisite to mass adoption.

Opportunities for FIs to Participate in Crypto

Despite an unsettled regulatory landscape, banks and credit unions are gradually stepping into the crypto arena. Here are five areas - in order of logical rollout sequence and complexity of implementation - for FIs to consider as entry points.

CUSTODIAL SERVICES

As previously stated, American consumers have stated a preference to conduct their crypto activities through financial institutions. The most prominent components of these activities are buying, selling and safekeeping. The latter provides the most straightforward on-ramp for both holder and FI. Crypto assets can be isolated from standard deposits in much the same way as investment management units, with similar disclosures as deposit insurance. Such services are also a natural digital extension of safe deposit boxes, a fundamental FI offering for decades.

> "It's essential for a bank or credit union to carefully consider its approach to custody, as the choice of provider will impact flexibility to expand future product options."

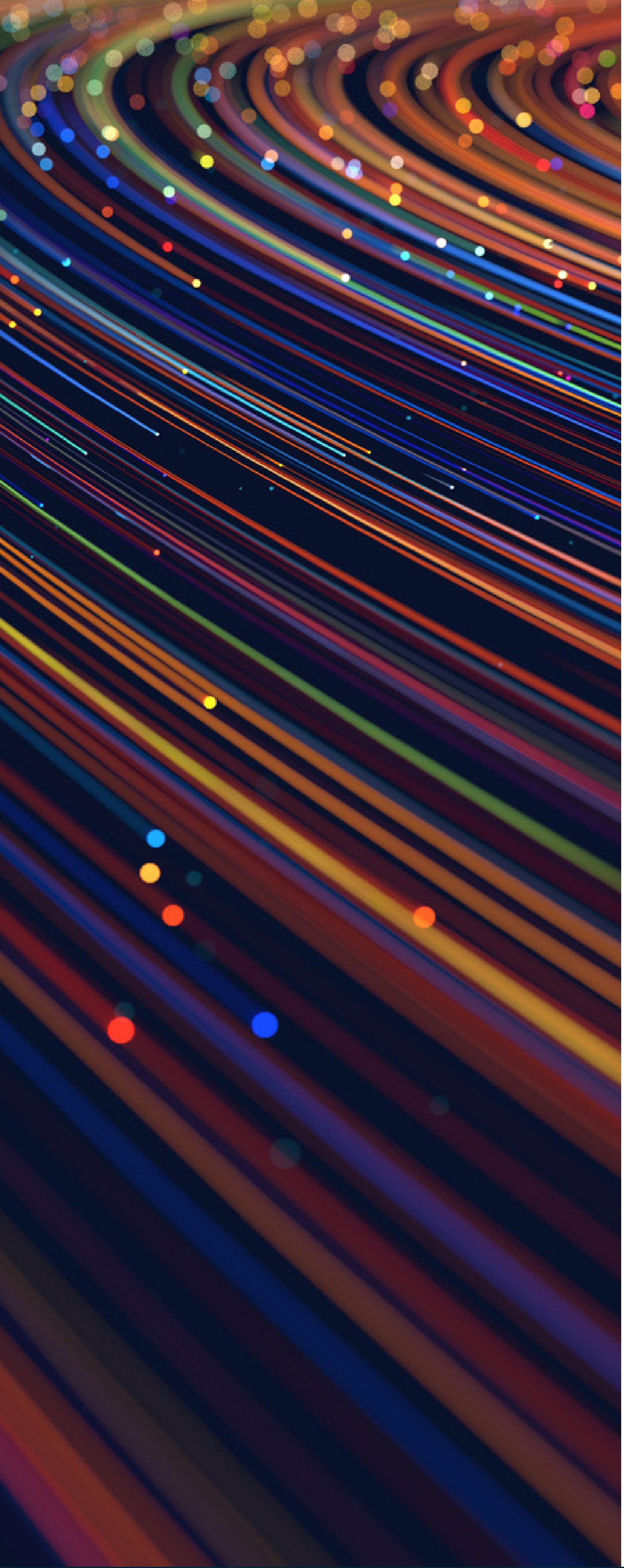
Among the nightmare scenarios giving pause to potential mass market adopters is the risk of losing one's crypto keys, and with it access to one's Bitcoin portfolio. FIs can provide safekeeping through traditional means, and/or enhance the safeguarding of sensitive information through cryptography services, further masking info using blockchain capabilities. In October 2021, US Bank announced it had gone live with such custody services for institutional investment managers.

Custodial services are also a prerequisite building block to the provision of other value-added crypto offerings. It's essential for a bank or credit union to carefully consider its approach to custody, as the choice of provider will impact flexibility to expand future product options.

REWARDS PROGRAMS

Mass market interest in crypto assets is certainly high, even among those who have yet to execute a coin purchase. Given that rewards programs are aspirational in nature (and given the reduced utility of frequent flier miles) an offer of crypto currency as a premium could be appealing across multiple demographics - existing crypto holders as well as those interested is dabbling with "mad money," as rewards balances typically represent. Crypto firms stand ready to enable such programs. Quontic Bank, a digital-first institution with $1 billion in assets, received wide coverage as the first financial institution to offer a checking account accruing Bitcoin rewards.

Ideally these capabilities would be integrated with an FI's debit or credit card, mobile wallet, and/or digital banking app to benefit from the full increase in engagement described earlier. An additional twist on this model would give account holders the option to be **paid interest in cryptocurrency -** although this potentially adds complexity in terms of segregating insured from uninsured balances.



TRADING SERVICES & MOBILE WALLET INTEGRATION

The success of PayPal and Venmo in introducing crypto buy/sell/hold capabilities to their existing apps provides a clear proof of concept for this approach. This is the level of functionality most consumers anticipate when they refer to banks getting into crypto.

Complete integration with existing digital banking apps will be required for financial institutions to realize the full benefit of this model. An array of vendors is available to assist with such initiatives but compared to rewards programs such projects involve significantly more touchpoints with existing systems. They potentially raise more questions regarding regulatory clarity as well. Nonetheless, FIs would be well advised to explore the necessary steps so they can act promptly once such clarity is provided. Vast Bank, with $750 million in assets and five branches, bills itself as the first nationally chartered US bank allowing account holders to buy, sell and hold cryptocurrency assets through its mobile banking app.

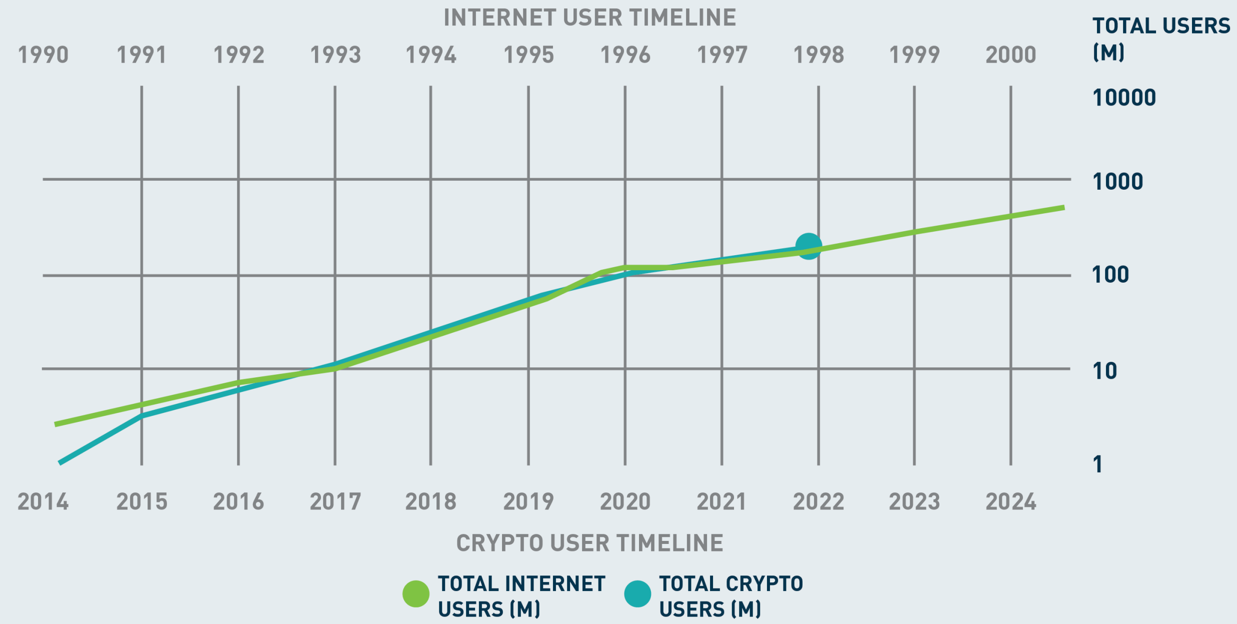
LENDING SERVICES

There already exists a material population of crypto investors with significant portfolios but limited liquidity due to reluctance to divest a portion of their holdings. Nothing technically precludes FIs from extending credit to such individuals today; the typical barrier is lack of consensus on how to value the volatile underlying asset as collateral. A frequent approach to this challenge is "over-collateralizing" the loan, with an option to liquidate the underlying digital asset if its value falls significantly. With nominal adjustments to credit policy and the potential implementation of third-party systems, however, such lending programs can be pursued in a more programmatic fashion. San Diego-based Silvergate Bank, a publicly-traded institution, has made crypto-based lending a central tenet of its value proposition as a leading bank for fintech and entrepreneurs.

> "With nominal adjustments to credit policy and the potential implementation of third-party systems, however, such lending programs can be pursued in a more programmatic fashion."

Large institutions may also wish to explore additional ambitious avenues to monetize crypto. Some are considering issuing their own stablecoin as an alternative payment vehicle, potentially for P2P or B2B use cases. Blockchain-based funds transfer could also accelerate settlement periods for large B2B transactions, where efficiency and documentation confirming execution generate significant value add.

INTERNET VS. CRYPTO ADOPTION



STAND STILL AND RISK IT ALL

By most measures, US adoption of cryptocurrency is running at or slightly ahead of the pace set by the internet in the 1990s. This would place crypto in the Early Majority stage of evolution - or to continue the internet metaphor, the "AOL Stage." The good news is that the window remains open for engagement - and banks and credit unions continue to enjoy several advantages in terms of infrastructure and consumer preference.

On the other hand, this window could close, and perceptions shift quite rapidly. As history has shown with e-commerce and the rise of companies like SoFi and PayPal, such cycles continue to accelerate. If banks and credit unions fail to act promptly, players like Coinbase and Crypto.com could easily be playing a similar disintermediating role in just a few years' (or months') time.

The related field of decentralized finance (DeFi), a natural outgrowth of crypto riding much of the same technological and philosophical momentum, is evolving rapidly enough to warrant its own report. Suffice it to say, however, that DeFi's downstream impacts strike even more directly at financial institutions' profit centers such as secured and unsecured lending.

The Bottom Line

The cryptocurrency space remains a work in progress, with significant inflection points on the horizon to be driven by the future form of regulation, central banks' actions on CBDCs, and other factors potentially impacting mass-market perceptions.

Even if they choose to move incrementally at first, banks and credit unions cannot afford to get caught flat-footed when the fog lifts and market evolution kicks into an even higher gear. We strongly recommend the following preparatory steps:

1. **Gather information on how crypto is impacting your FI's** current business. For example, interrogate current transaction data for indications of the extent existing customers are already engaging with crypto.

2. **Closely follow the traction and functionality of emerging** players in the crypto space, with an emphasis on those focused on capabilities traditionally associated with banks. Continuously seek out ways to differentiate friend (potential partners) from foe (pure competitive threats).

3. **Accept the reality that the market's trajectory will be neither** linear nor predictable. Plan to roll with the changes and develop plans that can be executed on short notice as the market clarifies itself.

SRM would welcome the opportunity for a deeper discussion, providing further perspectives tailored to your institution's situation and helping to formulate an appropriate strategy. Stay tuned for ongoing insights from us on the critical topics of cryptocurrency and DeFi.

About SRM's Cryptocurrency Advisory Services

In early 2021, as our industry experts gathered data on crypto and blockchain solutions, SRM launched an advisory service to assist our clients by providing education and strategic guidance on blockchain, cryptocurrencies, and decentralized finance. Our team of experienced, certified consultants and analysts also specializes in product development and vendor selection and negotiation for our clients in the financial services space.

About the Authors

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Larry Pruss has 25 years of expertise in payments. His background includes work with the National Bank of Canada, where he served as Head of Cards, Payments, and Transactional Solutions. He previously served as Senior Managing Director of Credit Cards and Loan Revenue for Profit Insight and as Senior Vice President of Portfolio Analytics for Bank of America. Larry has worked with leading financial institutions such as Royal Bank of Canada, Canadian Tire Financial Services (now Scotiabank), and MBNA. Regularly published and quoted in trade media, Larry is now gaining awareness as SRM's cryptocurrency lead, helping FIs develop strategies for the next phase of the digital revolution.

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Patti Wubbels has over 20 years of business development experience, with 16+ years in the banking industry, and is a Certified Cryptocurrency Expert via the Blockchain Council. Prior to joining SRM, Wubbels spent three years helping financial institutions across the US with their vendor oversight programs, and three years at Jack Henry & Associates, where her team assisted clients in developing commercial lending programs for alternative revenue sources. Recently, Patti helped launch SRM's crypto advisory, delivering education and strategic planning services for financial institutions integrating cryptocurrency and blockchain concepts and technology.

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About SRM

SRM (Strategic Resource Management) has helped financial institutions, manufacturing, retail, and other industries across the US and Europe add $5+ billion of value to their bottom line in areas such as payments, digital transformation, core processing, artificial intelligence, and operational efficiency. SRM's decades of experience have lowered costs, grown revenues, increased productivity, and provided a competitive edge for clients in an environment of constant and accelerating change. Visit us at **www.srmcorp.com** for more information and follow us on **LinkedIn** and **Twitter** for timely and relevant insights.