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## **The Future of Cryptocurrency and Blockchains in the U.S.** *Navigating risks with a clear eye to the opportunities*

By Jo Ann Barefoot

Cryptocurrencies are much in the news, with recent failures and plummeting values sparking doubts about their future. While they have existed for well over a decade, we are still in the early days of analyzing and debating their benefits, risks and likely impacts, as well as how they should be regulated. Corporate boards need to consider whether and how to get involved in this dynamic space.

### **THE BASICS**

Countries issue traditional money — sometimes called “fiat currency” — in the form of physical cash and through central banks working with commercial banks to manage and clear payments. Cryptocurrency was originally invented to bypass this government-controlled system by creating a private and unregulated means for people to exchange funds. That process obviously relies on a mechanism for generating trust, so that all parties are confident that a payment is credited as received. To create this environment of trust in the absence of centralized controls, the creator of cryptocurrency — an anonymous person or persons using the pseudonym Satoshi Nakamoto — invented the “distributed ledger,” commonly known as a blockchain. The blockchain posts every transaction on an open and immutable ledger that shows the movement of all funds, nearly in real time. The movement of the transactions can be seen by everyone at all times, making it impossible for anyone to engage in deceptive activities like diverting the funds, paying the same money to more than one party, or “kiting” by buying goods with funds that ultimately will not clear.

### **CRYPTO RISK AND POTENTIAL**

The introduction of Bitcoin in 2008 sparked excitement from technologists, entrepreneurs, libertarians, privacy advocates and investors. Since then, the crypto market has swelled in volume and real value due to pricing growth for Bitcoin and other cryptocurrencies, including Ether that is supported by the Ethereum blockchain. A major development was the invention of so-called stablecoins, which are still decentralized but correspond with the value of fiat currency. However, the recent steep pricing drops for major cryptocurrencies, combined with the failures of a number of stablecoin ventures, highlight the risks for investors and consumers posed by a still-volatile digital asset market. More broadly, these innovations pose other risks, including facilitating the ability of criminals to use anonymity-providing crypto platforms to hide illicit activity, significant climate impacts from some crypto operations, and, eventually, the possibility that these new forms of money could destabilize the financial system and with it, the economy.

That said, the turmoil may just be a sign of growing pains and could even be healthy in the long term, by wringing speculative froth out of the market and strengthening crypto's potential to solve problems and satisfy real needs. As the industry matures, companies face the parallel risk of missed opportunities if they do not consider the ever-expanding use cases for crypto and its underlying distributed ledger technology (DLT). Developers are now at work on a blockchain-based option for the Worldwide Web — known as Web 3.0, or Web3 — in hopes of enhancing consumer privacy and countering the power of “Big Tech” firms to dominate internet activity. Efforts are also underway to expand the virtual online worlds known as the Metaverse, where people can play games, shop, conduct business and banking activities, and more. Web3 and the Metaverse envision a future in which e-commerce, payments and other facets of a digitized economy are based around crypto transactions.

Other blockchain use cases include smart contracts, which can execute legally bound transactions through embedded computer code, without the need for third parties. An additional type of digital asset is the non-fungible token (NFT), popularized recently by celebrities and even sports leagues like the National Hockey Association. Whereas all units of a cryptocurrency — such as Bitcoin — are the same, an NFT is a unique item that exists in cryptographic instead of physical form. A common example is digital art. Separately, smart contracts provide the foundation for Decentralized Autonomous Organizations (or DAOs), which are for-profit or nonprofit entities governed by computer code rather than centralized authorities.

DLT use cases could grow even more as developers aim to expand the processing capacity of various blockchain networks. Early Bitcoin and Ethereum blockchains — known as Layer 1 — have limitations regarding scalability and continued innovation, spurring market participants to create “Layer 2” blockchain systems such as Bitcoin Lightning Network and Ethereum Plasma. These refinements could extend the reach of crypto-related services in the consumer economy. Finally, central banks, including the Federal Reserve, are exploring a digital form of actual fiat currency known as central bank digital currency, or CBDC. This movement could push crypto even more into the mainstream.

At its peak in November, the crypto market was valued at an estimated \$3.1 trillion, but fell to just over \$2 trillion in April. The fallout of that volatility is ongoing. In just the past couple

## The World of Crypto: Terms to Know

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**Bitcoin:** The world's first well-known decentralized cryptocurrency and still the most prevalent. It was introduced in 2008 by Satoshi Nakamoto, whose real identity remains unknown, possibly referring to a single person or to a group of people. Like other digital currencies, Bitcoin transactions are validated on an open-source distributed ledger referred to as a blockchain. After experiencing months of pricing declines, Bitcoin has been valued at roughly \$20,000 per unit and its market capitalization exceeds \$400 billion.

**Blockchain:** A blockchain, often referred to as a “distributed ledger,” is essentially the technology behind cryptocurrency. It is a computerized system of time-stamped recordkeeping for financial transactions and other data that is maintained by members of a network without a centralized authority. Some blockchains, such as the public ledger supporting the distribution of bitcoin, are open-sourced. Others are non-public and may be administered by a private enterprise for non-financial purposes, such as conference management or medical recordkeeping. In either scenario, the ledger is visible at all times to those authorized to see it, thereby eliminating the need for centralized managers to ensure its integrity.

**Ethereum:** Another decentralized, open-source blockchain, which was developed in 2013 by Vitalik Buterin. Its native cryptocurrency is Ether, which has the second-largest market capitalization behind Bitcoin. Whereas Bitcoin was developed largely to conduct decentralized, peer-to-peer exchanges of value, Ethereum has gained popularity for supporting more advanced applications, such as smart contracts,

of months, the TerraUSD stablecoin and its affiliated Luna cryptocurrency collapsed, the crypto bank Celsius paused withdrawals amid an apparent liquidity scare and the price of Bitcoin dipped to below \$20,000 for the first time since 2020. Still, much like the dot-com crash at the turn of the millennium resulted in losses that gave way to a more robust tech sector, the recent tumult in crypto valuations is likely to be followed by a more sustained maturing of the digital-asset industry. Boards should weigh what this evolution means for customers, back-end operations, risk mitigation and government policy.

**The following sections explore issues that boards and board risk committees may want to weigh as they evaluate whether and how to engage with crypto and blockchain technology.**

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## **PRACTICAL USES FOR CRYPTO AND BLOCKCHAIN WILL PERSIST DESPITE GROWING PAINS**

Recent headlines about falling valuations or a “crash” in the crypto sector are alarming and point to continued questions about digital assets as investment vehicles. But companies should beware the risks of viewing these developments as a sign of crypto’s demise rather than as a period of disruption and evolution.

Indeed, earlier technological innovations went through a similar downturn before maturing. In the 1990s, the ease of launching Internet startups created a bubble that burst, but what followed was massive growth of a tech sector — led by behemoths like Google and Amazon — that is now among the primary drivers of the U.S. economy.

There are reasons to predict a similar trajectory for crypto. Companies increasingly are experimenting with accepting crypto for e-commerce purchases. For example, Overstock.com accepts Bitcoin. Digital wallet providers, including companies like Paypal, are jockeying to attract younger Gen Z consumers who have grown up not using cash. Even central banks (including the Fed) are focusing on the potential of digital forms of national currency. Some commentators are clamoring for the U.S. to move ahead with creation of a “digital dollar,” to keep pace with China and ensure that the dollar remains the world’s dominant reserve currency.

Meanwhile, a recent Gartner report predicted that at least a

## **Terms to Know (continued)**

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decentralized finance (DeFi) services and the market for non-fungible tokens (NFTs). In effect, it provides a decentralized foundation on which a wide variety of other innovations can be built.

**Smart Contracts:** A common use of blockchain technology other than a simple exchange of value. A smart contract is a computerized application on a blockchain that can execute a series of steps based on preset conditions agreed to by the various parties. The outcome can be verified without an intermediary such as an attorney. Examples include carrying out the results of a bet in a gaming environment, or payment of counterparties in a derivative transaction.

**NFTs:** A non-fungible token is a digital asset that holds value but that is not a unit of cryptocurrency. If one thinks of cash as the equivalent of digital currency, an NFT is the digital version of a physical object that costs money. NFTs can include digitized pieces of art, sports memorabilia, magazine or comic books, and games, which are all exchanged for crypto on a blockchain.

**Metaverse:** The metaverse refers to various online virtual-reality platforms, where users can socialize, use a virtual financial institution, play games and be members of a community. On the face of it, the metaverse is unrelated to crypto technology. But as immersive online platforms expand, many expect the metaverse to be the setting for a new subset of the consumer economy, where one can shop and carry out digital financial transactions and where cryptocurrencies will be a primary medium of exchange.

## Terms to Know (continued)

**Web3:** Also known as Web 3.0, Web3 is a reimagining of the Worldwide Web powered by blockchain technology. The idea is a decentralized web platform that sidesteps reliance on large internet companies and utilizes cryptocurrencies and NFTs to conduct e-commerce and other transactions. Proponents suggest that Web3 can address concerns about data privacy and security that have arisen under today's Web 2.0 and may also open potential for new economic arrangements that decentralize and empower individuals and small enterprises in relation to large firms and Big Tech.

quarter of consumers will spend at least an hour a day in the metaverse by 2026, shopping and pursuing other activities in a virtual environment, and that the use of digital currencies and NFTs could contribute to the establishment of parallel economies. The metaverse is often associated with online gaming, but plans are underway to make it central to online shopping, business conferencing and experiential learning. Numerous banks and other companies have already experimented with having a brand presence in certain virtual-reality platforms. Longer-term, the prospect of Web3's emergence offers even more possibility that consumers will engage in crypto-related activity.

Crypto offerings like NFTs and other investment vehicles have already attracted a growing and passionate following. Champions include celebrity athletes and musicians, creating considerable crossover between finance and pop culture.

Notably, crypto use is disproportionately higher among young people and people of color, which some leading advocates

say is evidence these new systems can be fair and inclusive in ways that traditional financial services are not. Some even suggest that the efficiency of these systems could enable new systems of property ownership and compensation, such as enabling creators to obtain new kinds of artistic and invention patent rights, as well as to receive sale proceeds and royalties automatically through NFTs.

### Here are key questions that Boards should consider:

- Should our company explore accepting cryptocurrencies as a form of payment for customers, vendors and other partners?
- Does the Board have effective processes for examining digital payments systems, monitoring consumer payments vehicles used by our competitors, analyzing the impact of a potential digital dollar issued by the Fed and weighing the risks of accepting crypto payment?
- Should our company consider having a presence in the Metaverse or Web3 through branding or marketing exercises or through selling products and services on new digital platforms?
- Does our business model rely on maintaining and increasing the interest of younger consumers and/or investors and if so, should we develop crypto offerings as part of a growth strategy?

## MAKING SENSE OF BLOCKCHAIN TECH TO MODERNIZE COMPANY OPERATIONS

Boards should also weigh the benefits and risks of back-office, customer-facing and partner-facing innovations that are based on the blockchain or DLTs.

Separate from facilitating medium-of-exchange transactions, blockchain technology creates an “immutable” ledger that is visible to all parties who have access. This combination of immutability and transparency is driving the rise of systems and records that the parties can trust without traditional contracts, brokers and middlemen, because they know that the other participating entities cannot conceal or alter information. Such systems can readily make data available to any verified user on a network, prevent tampering, and automate and validate activities based on set preconditions. They can greatly reduce transaction settlement time, verification processes and the cost of correcting errors compared with traditional methods.

For example, such technology could allow medical providers to maintain patient records on trusted, decentralized platforms, and can help manage the distribution of credentials and tickets for meetings or other large events, potentially sidestepping the need for a ticketing service. Countries are moving toward registering property titles on blockchains to obviate the need for title searches and the risk of ownership disputes. One of the most recent innovations is the buying and selling of credits for carbon-reducing projects on the blockchain.

Perhaps the best-known method for incorporating blockchain technology into operating systems is through smart contracts. These can automatically execute the desired outcomes of financial and legal agreements without the need for an attorney. Smart contracts along with NFTs are increasingly common in the gaming industry, enabling in-game purchases to be transferred to other players.

**Here are key questions that Boards should consider:**

- Are there any current back-office or front-facing operations supported by legacy, analog-based systems where it makes sense to move the function to a system that operates on a blockchain?
- Do the company and Board currently have access to the technological, legal and operational expertise and capability needed to move necessary functions on to a blockchain-based system?
- Does it make sense for the company and Board to employ smart-contracts technology?

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## **NAVIGATING STILL-PRESENT RISKS AND A DYNAMIC POLICY ENVIRONMENT**

To be clear, crypto-based innovations are still new and evolving, and they present unique material risks that companies need to combat. The crypto world is also subject to a dynamic regulatory and political environment. For example, under the Trump administration, bank regulators embraced the notion of banks managing digital assets through their custody operations, as well as allowing nonbank crypto firms to obtain trust bank charters to offer such services. Biden administration regulators have been more cautious. Boards should be mindful not only of the risks associated with implementing relatively untested models, but also that legal restrictions and compliance requirements could change.

**Some risks from crypto-related activities are:**

1. Since crypto platforms are decentralized and unregulated, they are popular among criminals who want to move money. These include money launderers seeking to obscure the purpose and source of funds, as well as other cyber criminals who often will demand ransomware payments in crypto.
2. Since decentralization is seen as a way to protect users' privacy, allowing crypto to be used in payments or for other purposes means the identity of certain parties may be hidden. This can prove challenging for companies that are trying to maintain security.
3. While experienced investors have benefited financially from the long-term price gains of Bitcoin and other cryptocurrencies, the price volatility exposes everyday investors to the risk of severe financial loss — as has been seen recently with the sharp drops in value for certain coins.

Businesses, just like consumers, should weigh the risk of loss from volatility in the crypto markets before taking crypto-related investment positions. A related matter are the disclosure requirements and potential reputational risk for companies that enable consumers to make such investments.

On the regulatory front, the Securities and Exchange Commission (SEC) has signaled its interest in establishing prescriptive rules for crypto investment instruments, while the federal banking regulators have

held interagency talks about potential crypto-related guidance for the banking industry. In Congress, lawmakers are debating a broad set of reforms for digital assets proposed by Senators Cynthia Lummis, R-Wyoming, and Kirsten Gillibrand, D-New York. Their bill would, among other things, treat the best-known digital assets as commodities overseen by the Commodity Futures Trading Commission (CFTC). Some have also pointed to efforts by several nations to develop central bank digital currencies as a potential macroeconomic and geopolitical risk. According to the Atlantic Council, 10 nations have fully launched a digital currency and China is set to expand a pilot program in 2023. With the U.S. still in a research phase, some worry that the more advanced efforts by other countries could threaten the dollar's reserve currency status.

The dynamic policy environment means a Board and/or Risk Committee at a company considering the use of crypto platforms for various purposes should ensure that any adoption can tolerate uncertainty. Because the legal parameters for crypto are so undeveloped, it is important that companies avoid risk mitigation strategies that follow "the letter of the law." Boards should be committed to maintaining transparency, avoiding reputational risk and maintaining good-faith efforts to ensure company systems are not used by bad actors. Risk managers may develop internal controls that extend beyond current legal requirements. The law will catch up.

### **Here are key questions that Boards should consider:**

- If we employ the use of crypto technologies to support payment mechanisms or internal operations, do we have risk mitigation strategies to combat the threat of bad actors utilizing our channels to obscure their activities?
- Has the Board and/or Risk Committee sufficiently weighed direct financial exposure or the indirect financial stability impact of dramatic valuation losses and/or runs in the crypto markets, as well as the potential impact of our customers experiencing such losses?
- Are crypto risk mitigation strategies at the Board and/or Risk Committee levels developed in a way that they can incorporate changes in legislative and regulatory policies?
- Has the Board and/or Risk Committee sufficiently weighed the macroeconomic effects of countries around the world developing a central bank digital currency?

In summary, the emergence and mainstreaming of crypto and blockchains are raising novel opportunities and challenges that will probably impact most businesses in the years ahead. Board and risk committees will need to monitor this fast-changing sector and be alert to developments that may open doors, create business dangers, or both.

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## **ABOUT THE AUTHOR**

### **Jo Ann Barefoot**

Jo Ann Barefoot is CEO & Cofounder of the Alliance for Innovative Regulation, host of the global podcast show Barefoot Innovation, and Senior Fellow Emerita at the Harvard University Kennedy School Center for Business & Government. She has been Deputy Comptroller of the Currency, partner at KPMG, Co-Chairman of Treliant Risk Advisors, and a staff member at the U.S. Senate Banking Committee. She serves on the board of Oportun; on the fintech advisory committee of FINRA; on the California Blockchain Working Group Advisory Board; and on the Milken



## ***About Jo Ann Barefoot (continued)***

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Previously, Jo Ann served on the CFPB's Consumer Advisory Board and chaired the board of the Financial Health Network. She now serves on the boards of FinRegLab and the National Foundation for Credit Counseling. She has published nearly 200 articles and is a popular keynote speaker, addressing thousands of people annually throughout the world.

Jo Ann was named Fintech Woman of the Year in 2021 by Finovate and selected to the Forbes list of 50 Over 50. The prior year she was inducted into the Fintech Hall of Fame by CB Insights. In 2021, AIR was honored in Fast Company's World-Changing Ideas awards.

**Link to longer bio, LinkedIn, Twitter**

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## **UPCOMING EVENT**

### ***Risk Management: Gaining a Strategic Advantage and Instilling a Key Discipline at the Board Level***

Thursday, July 21, 2022

10:00am – 11:00am ET via zoom

***CLICK HERE TO REGISTER***

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