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for Digital Currencies and Blockchain*"**

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Thank you Chairman Crapo, Ranking Member Brown, and the members of the committee. It is my pleasure to appear before you today to testify about the promise of digital assets and blockchain technology and their potential to fundamentally improve and democratize financial services globally — improving access to capital, eliminating and reducing costs and risks, more effectively fighting financial crime, and ultimately improving opportunities for creating value in our economy.

I have spent the past twenty-five years helping to build internet technology platforms and companies in the United States, including multiple global, publicly traded technology companies with products and services that have been adopted by millions of businesses and hundreds of millions of consumers. Throughout my career as an internet entrepreneur, I have consistently focused on how the open, global, and decentralized internet could empower people and businesses to better connect, communicate, and transact through innovations in software.

It is these experiences that brought me to the possibilities of cryptocurrencies and blockchain technology, and led me to co-found Circle in 2013. Our vision was that digital currency and related technologies could transform the global financial system in ways that made it much easier for people and businesses everywhere to create and exchange value with the same ease that we

create and share information and content on the internet, while eliminating the gatekeepers, toll takers and middlemen that extract value from the real economy and limit access for all.

Today, Circle is one of the leading crypto companies in the world, providing regulated products and services to millions of people who use our products to exchange value, trade, invest, and store digital assets. In the next several years, the adoption of digital currency technologies and blockchains will accelerate, begin to help hundreds of millions if not billions of people, and transform the economies of the countries that participate in the innovation.

Today, I will share my perspective on several things. First, I will discuss the challenges faced by the existing financial system and a vision for what is becoming possible in the next five to ten years because of the innovation of digital assets and blockchains.

Second, I will discuss the fundamental innovation of digital assets and blockchains, including an overview of the different forms that these technologies take and what they can enable for society and the economy. This will include a discussion around "stable value" digital currencies, or stablecoins, which are critical building blocks for the future digital economy.

Third, I will discuss major international and United States-specific policy issues. As one of the earliest crypto companies to embrace licensing and regulation virtually everywhere licensing is available, we have well informed views on the gaps, limitations, and opportunities around national crypto policy and regulation, and believe this is becoming a major issue. Jobs, investments, and technical innovations are leaving the United States or becoming inaccessible to US citizens and businesses because projects and companies, including Circle, are relocating to other jurisdictions and blocking US persons from even accessing the technology and services.

Finally, I will offer perspective on major issues surrounding identity, privacy, and data security, which I know are important topics for the Committee. Public blockchain technologies have enormous potential for simultaneously increasing our security and privacy while also enabling law enforcement to more effectively execute their mandate for public safety and national security.

Challenges in the Existing Global Financial System and A Vision of the Future

Today's global financial system, including our own domestic financial system, faces significant challenges. Billions of people lack basic access to financial services. Those who do have access face a system with exorbitant fees and excessive time delays — limiting economic opportunity and removing real value from the economy.

Our existing financial system is also riddled with crime and money laundering. According to the UN Office of Drugs and Crime, annual illicit proceeds laundered through our financial system exceed $2 trillion, with greater than $300B laundered in the United States alone. Rob

Wainwright, the former director of Europol, reports that 99% of money laundering goes undetected in the existing banking system. Only detecting 1% of financial crimes is clearly not good enough.

Access to capital for small businesses, both here in the United States and globally, is extremely limited with capital markets reserved for only the largest companies. Investment into small and growing private businesses are only accessible to the wealthy and connected, limiting investment opportunities for people everywhere. Venture capital investment remains extremely geographically concentrated. A new, more open and accessible system of capital formation must be possible.

Finally, our existing financial system, built on legacy technology, is riddled with privacy violations and data breaches. Our identities are no longer secure. Banks, credit card companies, and credit reporting agencies have failed to adequately plug the holes in the dike as cyber criminals and hostile nation states take aim at our financial infrastructure. According to Juniper Research, the annual cost of data breaches could reach over $2 trillion.

Our existing financial system is in desperate need of transformation. We currently have a global system with limited access and exorbitant fees that impose a tax on real economic activity; a system rife with money launderers and financial crime that is failing 99% of the time to stop bad actors and leads to trillions in losses because our existing data and financial infrastructure are not secure enough; a system where entrepreneurs and small businesses don't have access to capital to build and innovate, while mainstreet investors are left on the sidelines, blocked from investing in the most promising young companies and technologies.

There is absolutely a better future ahead of us, one that is built on a technological transformation ushered in by digital assets and blockchains.

I am often asked what the world will look like in the next five to ten years, based on the trajectory of this innovative new technology. If policy makers, regulators and industry can successfully work together, we can transform the financial system to address the deep problems outlined here. With a coordinated effort, in the next ten years we will see a series of profound changes that will benefit individuals and businesses in the US and around the world:

- Sovereign and non-sovereign global digital currency models will proliferate and become usable by billions of people through their mobile devices. We will become comfortable with the adoption of a mix of private and public monies being available to everyone, everywhere, and will see the rapid development of global basket currencies that become preferred for settlements and storing value.

- Payments and value exchange will be commoditized and become free services on the internet, in the same way that sharing content or data and communicating online are free

today. This will ultimately return hundreds of billions of dollars of value to the real economy, as the fees that people and businesses pay to intermediaries to move value drops to zero. This will also lead to greater economic activity between people around the world.

- A new set of internet-based global capital markets built on digital assets will emerge. We imagine capital markets that more closely resemble the multi-sided internet marketplaces we have in commerce, content, advertising, and transportation. Internet-based markets can support an incredibly diverse and global base of suppliers and buyers, scaling from the individual to the largest enterprise, with incredible choice and access. Our capital markets will resemble the Amazon and Alibaba commerce marketplaces or the Google advertising marketplace more than the NYSE or NASDAQ. This will open up capital formation for businesses globally, while creating new ways for individuals everywhere to save and invest into value-producing enterprises.

- Economic and commercial relationships will increasingly be mediated by smart contracts running on public blockchains, as businesses, labor market participants, and consumers seek to operate in a digital commerce environment with greater security, efficiency, transparency, certainty, and enforceability across borders.

- Decentralized, self-sovereign forms of secure identity and privacy built on public blockchains will become available. These new identity protocols will allow for much safer use of digital services globally, ensure compliance with KYC/AML rules, and radically improve privacy and reduce data leakage while more effectively thwarting financial crimes than our legacy financial system.

All of these things can come to pass within a decade, driving us towards a 21st century architecture for commerce and finance that can deliver greater economic opportunity for all, while enhancing our collective ability to cope with the challenges and risks of the digital age.

Understanding Blockchains and Digital Assets

To understand how we can realize this vision, I would like to give an overview of the fundamental technical innovation of blockchains and a review of the different types of digital assets in the marketplace today, including their use cases and potential for society.

First, in terms of nomenclature, I will be referring primarily to the innovations offered by public blockchains, which are built as freely available, open source software that anyone can connect to and run using an internet-connected device. This differs from private blockchains or permissioned chains, which do not offer the same level of openness, security, privacy, and global reach. Also, the terms crypto assets, cryptocurrencies and digital assets are often used

interchangeably. I will be using digital assets as the term to talk about these new, innovative forms of financial assets.

The introduction of Bitcoin in 2009 was a momentous occasion, releasing a proverbial genie from the bottle that we will never put back. That genie was the invention of a new form of decentralized, global, and public record-keeping system that is tamper-proof, irreversible, highly secure, and private. This specific blockchain had a relatively narrow focus — to create a new kind of non-sovereign digital money inspired by the implicit monetary policy of gold.

The technical breakthrough of Bitcoin was not missed by leading technologists, computer scientists, cryptographers, economists, and many others, and has spawned a rapidly growing global ecosystem of competing blockchains, as well as new forms of financial assets built upon these blockchains.

Why are such inventions so important and valuable right now for our country and the broader global community?

The rapid growth of the internet has led to a hyper-connected world, but one where our major institutions—financial, government, and communications platforms—are built on legacy technology platforms that are centralized and therefore inherently more fragile and at risk of cyber attacks, data breaches, and privacy violations.

Public blockchains, for the first time in human history, are creating new record-keeping and transaction processing systems that are designed to be inherently decentralized, tamper-proof, highly secure, and private. In fact, the most popular blockchains, such as Bitcoin and Ethereum, use nation state attacks as the security threshold that they must defend against. During the past 10 years, they have maintained that level of security, while the rest of the internet has become more porous and vulnerable to hostile nation states and criminals.

Digital assets and blockchains are also a technical and economic response to what is broadly felt to be a financial system that is rigged against the everyday person, one that is not fully serving the needs of people and businesses to participate in global economic activity, and which places an inordinate burden on the economy through bailouts and excessive fees, while limiting access.

Finally, digital assets are part of a broader societal focus on digital services. People everywhere have felt the benefits of an open internet that connects people, information, and commerce globally. However, expectations have shifted among generations who have grown up with the internet. People already expect that online communication should be instant, global, free, and frictionless. Soon, everyone will have these expectations about money and finance.

Types of Digital Assets and Blockchains

While people and businesses are already using and trading more than 2,300 distinct, publicly-available digital assets, I want to broadly talk about three major types of public blockchains and associated digital assets: (i) non-sovereign digital currencies, (ii) blockchain platforms, and (iii) tokenized digital assets. Although the lines and distinctions between these sometimes blur, this categorization is still helpful. I will also provide specific thoughts on a major and important sub-category, stablecoins.

Non-Sovereign Digital Currencies

Dozens of distinct blockchains with native digital assets aim to provide a decentralized, private, and secure form of digital money. This digital money is issued algorithmically and secured using an open network of participating computers which are incentivized to honestly verify transactions and shared ledger entries. The most notable and popular of these blockchains is the Bitcoin Network and the associated bitcoin native digital asset.

In addition to Bitcoin, there are many other popular blockchains that aim to compete with Bitcoin based on improved speed, scalability, security, and privacy features. Some notable examples are Ripple, LiteCoin, ZCash, Bitcoin Cash, Bitcoin SV, Monero, and newer assets such as Grin.

The developers of nearly all of these projects and assets share a common belief in the need for non-sovereign, secure, and private forms of value storage and exchange. The projects also typically create a fixed or highly predictable monetary supply. These attributes make digital assets attractive to those who believe that a predictable supply of money is preferable to fiat currency. Similar to gold and other "commodity monies," these digital assets have grown in popularity in the face of global economic uncertainty, rising nationalism, currency manipulation, and trade war risk.

Given their privacy-preserving characteristics, digital assets pose unique but solvable risks for abuse in financial crimes. Recent FinCEN guidance and the new FATF guidelines for the AML requirements for "Virtual Asset Service Providers" provide an international roadmap for regulating businesses that act as intermediaries in the transfer of digital assets. However, as I will discuss in more detail later, the proposed global AML rules also create an unintended consequence of privacy risk for people everywhere because they require personal information to be shared, and potentially exposed, between digital intermediaries all around the world.

Blockchain Platforms

Another rapidly growing category of public blockchain and associated digital assets are blockchain platforms. The most well-known and popular blockchain platform is the Ethereum

blockchain and its associated digital asset, Ether. Other notable examples include EOS, Tezos, Tron, NEO, Cardano, and Algorand, but there are many more competing in this space. The proposed design of the Libra blockchain could also very much be characterized as a blockchain platform.

These blockchains have a broader scope than pure digital currencies. As their name suggests, they seek to provide a platform for building apps and financial assets on top of them. In many respects, these platforms represent one of the most important new infrastructure layers of the internet, providing a means for storing and exchanging data, facilitating transactions, and executing contracts in a decentralized, tamper-proof, and private manner.

These innovations have a collateral benefit: they address the surging privacy and security risks that people, businesses and society confront in the internet age. Earlier versions of the internet created larger and larger risks for data breaches and privacy violations through the centralization of massive amounts of personal, financial, and other sensitive data in a few large internet services. Blockchain platforms seek to increase internet decentralization and better secure private data.

Most of these platforms are purpose-built; some are focused on the introduction and automation of financial assets and financial contracts, others on more diverse applications in content, games, entertainment, or social media, and still others as general purpose computing platforms aiming to compete with centralized cloud services offered by companies such as Amazon.

The native digital assets of these platforms operate as digital commodities, often referred to as "fuel," which is used to pay for the use of the infrastructure services the platform's provide. Just as oil and gas became the fundamental commodities that powered the industrial economy, these blockchain digital commodities may become the fuel for digital commerce in the 21st century.

We are seeing significant competition and innovation in the development of blockchain platforms, with many of the most innovative projects being designed to accommodate mass market adoption of digital assets and applications. While most current blockchain platforms can support tens of millions of users, we expect to see next-generation platforms that will support applications that can reach hundreds of millions and eventually billions of people. This is likely to happen in the next 2-3 years.

One of the most important functions of these platforms is to provide a means for developers to create custom digital assets, often dubbed "tokens," which are attached to code, called "smart contracts," that enable and enforce features, behaviors or economic incentives associated with the tokens. The ability to create tokenized digital assets is one of the most profound innovations in the modern history of finance, economics, and internet commerce, and a significant category in and of itself in the topology of digital assets.

Tokenized Digital Assets

Of the greater than 2,300 digital assets available to the public, a significant percentage of them are tokens issued on top of popular blockchain platforms such as Ethereum.

Tokens allow businesses and technology projects to create digital assets that can incentivize and provide utility to customers, be sold and used in novel ways to raise capital, and serve as a means of payment. Some examples of tokenized digital assets include:

- New decentralized infrastructure services for storing data and content, sharing files, or streaming and encoding video.
- New identity infrastructure that provides a means for people to control their own data and private identity information.
- Tokens that reward and incentivize content creators, publishers, and end-users of internet content services and games.
- The development of purely digital financial contracts that are implemented in code, including tokenized forms of debt and lending, tokens that provide voting and governance features, and tokens that provide access to underlying royalties or revenue streams.
- Tokens that digitize existing financial contracts such as equities and bonds, enabling more efficient access to capital for business and new investment opportunities for investors globally.
- Tokenization of physical property including real estate, property, and fine art, opening up historically illiquid and inaccessible asset classes for global investors.

The benefit of tokens is that they can be easily stored, transferred, traded, and exchanged, while providing utility to users and benefits to businesses, all within a public infrastructure that is highly secure, tamper-proof, open, and interoperable.

These digital assets often defy easy classification as securities, commodities or currencies. In fact, one of the greatest benefits of digital assets is that they can simultaneously have investment contract, utility, and payment currency characteristics. While this introduces new complexity for financial regulators, it also creates incredible opportunities for businesses and projects that seek to employ digital assets to innovate. Indeed, as I will discuss shortly, this is one of the largest and most important policy and regulatory issues the industry faces.

Stablecoins

A very specific form of tokenized digital asset is the emerging category of stable value tokens, or stablecoins. While the recent announcement of the Libra cryptocurrency was the first time many people heard about the concept of a stablecoin, they have been around for years and are growing

steadily. Stablecoins represent one of the most important areas of innovation in our global financial system.

There are several flavors of stablecoins. The first are tokens where the stablecoin is backed by a single fiat currency and the backing is held in M1 or M2-style bank deposits. There are other types which are backed by fiat, including the proposed Libra digital currency, but which are held in a basket of currencies and potentially other bonds and securities. There are also a number of non-fiat backed stablecons, such as DAI, which are backed by crypto currency collateral with incentives to peg the token to $1.

I will focus today on the fiat currency or asset-backed stablecoin variety, sometimes referred to as fiat tokens. Beyond the attention garnered by Libra, fiat tokens are also noteworthy because of the rapid growth in new digital assets such as US Dollar Coin, as well as proposals around the world for central bank-issued or regulated digital currencies.

In their recent history, these fiat tokens have largely been used in the digital asset trading and exchange markets to support trading strategies, including hedging and arbitrage. In the crypto exchange market, traders need to be able to easily hedge in and out of volatile currency positions, and stablecoins created a tool to achieve this. Stablecoins' advantage over dollars in traditional bank accounts is that they move at the speed of the internet and with the same security and transaction permanence as other digital currencies, helping to reduce or altogether eliminate counterparty risk.

When we founded Circle six years ago, we believed that a digital currency based on existing fiat currency would emerge and that new open standards and technologies would allow fiat currency to gain all of the benefits of crypto currency. Fiat-backed digital currency would offer speed, security, privacy, global reach and nearly free transmission. Moreover, we were confident this kind of digital fiat money would become programmable using smart contracts, creating the possibility of a broad transformation of the global financial system.

Just over two years ago, technology emerged to make these new standards possible, and we embarked on the creation of the CENTRE Consortium and its first stablecoin, the US Dollar Coin (USDC).

The CENTRE Consortium is a new membership-based network that provides an open source and open standard protocol for using fiat currencies on blockchains. CENTRE's self-governance scheme requires consortium members to ensure compliance with financial regulations and the demanding security, custody, audit, and accounting methods needed to operate such an enterprise. CENTRE was co-founded by industry leaders Circle and Coinbase and recently

opened up for new member applications. Conceptually, CENTRE is a mix between an open source software project and a self-governed payment network such as Visa or Mastercard.

The first stablecoin issued on the CENTRE Network is the US Dollar Coin, a digital currency that is 1:1 dollar backed with reserves held in high-quality US banks, with public monthly reserve attestations provided by a leading global public accounting firm. Issuers, which today include Circle and Coinbase, are regulated money service businesses under FinCEN rules and are licensed and regulated under money transmission and state banking statues around the United States.

Over $1 billion has been tokenized, and over $500 million redeemed, through our services. US Dollar Coin is now the largest and fastest growing financially transparent stablecoin issued by regulated financial institutions.

How does CENTRE and US Dollar Coin compare to Libra?

USDC has been available to customers since Q4 of 2018. We published our white paper nearly two years ago, launched the protocol and associated services, and recently opened up the consortium to new members. USDC is already supported by dozens of digital wallets, exchanges, and custodial services, and is being used daily by leading digital asset market makers and liquidity providers.

While USDC was initially launched with a focus on trading and markets use-cases, similar to Libra, it has been designed to expand into payments and settlement for both consumers and businesses. Because it is built on the most popular smart contract platform, Ethereum, we also expect USDC to be used for financial contracts and other tokenized digital assets.

Unlike Libra, which is attempting to establish a new global currency and unit of account, the CENTRE protocols provide a path for major reserve currencies to work as digital currencies. Over the next several years, the most important payments and financial contracts use-cases that use digital currency will be denominated in popular global reserve currencies.

Also, unlike Libra, which has tied its stable-value token to its own blockchain, CENTRE is becoming blockchain agnostic, as we are moving to enable the CENTRE protocols and stablecoins to work on all major public blockchain infrastructures. Major public blockchain platforms are still in the early stages of development and adoption. Moving forward, people and businesses will want to use fiat digital currencies across these different platforms, in the same way that we want our content and websites to be accessible by any operating system, web browser or device. We believe in openness, interoperability and cross-platform standards.

The Regulatory Environment for Digital Assets

I am both deeply familiar with and actively involved in regulatory and policy issues surrounding crypto currencies, digital assets, and blockchain technology. Circle itself has embraced a regulated approach to crypto, with money transmission licenses from 48 states, the first New York BitLicense, the first Electronic Money Issuer (EMI) license for a crypto company in the UK and EU, and one of the first FINRA-regulated broker dealers operated by a crypto company. We have devoted significant time over the past 6 years to engaging constructively with financial regulators and policy makers all around the world.

It is incorrect to think that US crypto companies are unregulated. We focus every day on our obligations under federal and state law, as well as the supervisory agreements of the licenses we carry. But being a law-abiding US citizen should not put US companies, or US industry, at a disadvantage in the development of this global technology. To harness its promise, the industry needs consistent and globally coordinated national policies on digital assets. Because digital assets present a new kind of custody and security risk, the appropriate response of governments should be to ensure that there is supervision and compliance around the fundamental protections needed for financial services — enterprise risk, cyber security risk, fraud and financial crime risk, and the risk of theft.

At the same time, there is a tremendous amount of technical and business model innovation emerging in this field, with new developments moving at an accelerated pace. To support this innovation and experimentation, it is crucial that governments approach this new asset class with a relatively light touch.

A number of governments around the world have started to pass laws that take just this approach, including smaller jurisdictions such as Singapore, Bermuda, Switzerland, and Malta. Recently, larger countries such as France and Japan have put forward and are contemplating cohesive national policy frameworks for the digital asset industry.

Governments and regulators globally are taking very different approaches, creating a significant impact on the industry. In the United States, regulatory uncertainty and the application of laws that do not contemplate digital assets has led to the loss of significant opportunity for US crypto companies, and ultimately for consumers, businesses, and the national economy as a whole. The Securities and Exchange Commission, for example, is forced to apply federal laws written in the 20th century to technologies created in the 21st. In the US, one of the main factors that determines whether or not a crypto asset should be regulated as a security is the *Howey* test, formulated by the Supreme Court in 1946.[1] If an asset is deemed a security, it must be registered with the SEC and the team behind it must abide by a wide range of regulatory obligations. The

[1] *Securities and Exchange Comm'n* v. *W.J. Howey Co.*, 328 U.S. 293 (1946).

consequences of a mistake can be serious financial and legal consequences for an organization as well as its officers and employees. This has had a material impact on the competitiveness of US crypto companies, and is a backward- rather than forward-looking approach. Congress should consider new laws that protect consumers while not causing companies to fixate on nearly century-old definitions rather than innovation. While the US has been working through these issues, foreign, mostly Asian-based, crypto companies have begun to dominate, while US companies have lost considerable market share.

The result of the uncertain and restrictive regulatory environment has led many digital asset projects and companies to domicile outside of the United States and to block US persons and businesses from accessing products and technologies. In Circle's case, we have begun the process of moving our international-facing products and services into a licensed Bermuda entity. Bermuda's forward looking Digital Asset Business Act provides a comprehensive regulatory framework for companies offering this new type of financial service. We believe that the approach the Bermuda government has taken can and should be emulated by other countries. Some of the positive aspects of their regulatory framework include:

- They have established a comprehensive national policy for digital assets businesses.
- Rather than try and fit digital assets into banking and payments or securities and investments laws, they established a new set of laws specific to digital assets, including a new set of definitions of what constitutes digital assets, reflecting the dynamic and multi-faceted nature of this new asset class.
- The licensing and supervisory framework is broad, spanning digital asset activities including storage and custody, payments, dealing and trading, and operating exchanges.
- Compared to a patchwork of regulators here in the United States, across the federal government and the states, there is a single regulator to supervise firms.
- There is an acknowledgement from both policymakers and regulators that this is a dynamic and fast moving field with constant technology and business model innovation, and they have committed to proactively working with industry to evolve the laws and supervisory requirements as the market grows and matures.
- The core of the risks they are focused on regulating are in our view the most important risks — enterprise risk, financial crimes risk, cyber security risk, and custody risk.

As the largest economy in the world, and the home of the largest financial markets infrastructure, the United States has built robust regulatory and supervisory frameworks for financial institutions that have served as a model for other countries. This is a huge asset for the US and the global economy, and the legal frameworks that have been adopted and amended over the past eighty years are without a doubt foundational to market stability and risk management.

However, just as the joint-stock corporation and private banking emerged and transformed how economic activity could be organized during the late industrial revolution, the development of the global digital economy and a new financial system built on digital assets will lead to massive changes in the nature of finance and economic organization.

It is vital that we allow innovators and digital assets projects room to grow and develop here in the United States. Congress should adopt national policies that define and establish digital assets as a new asset class and develop appropriate rules and exemptions for digital assets. This will require legislation that likely changes our existing commodities, securities, and banking laws, among others. Such policies should have the effect of enabling rapid technological progress within the context of sound risk management.

Without a sound, pragmatic, and agile national policy framework for digital assets, I am concerned that the United States will not be the world's leader in this critical new technology, that it will continue to fall behind, and that it will not fully reap the benefits of the economic transformation that digital assets will bring.

Thank you for your increased interest and attention to this area of significant transformation. I look forward to continued dialogue as we work to ensure that the United States remains a center of technological advancement of the financial system.