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INTRODUCTION

Good morning and thank you Chairman Burgess and the entire Subcommittee for the invitation to testify today about digital currencies and blockchain technology. I would also like to take this opportunity to commend your staff for the thoughtful engagement and preparation going into today's hearing.

My name is Matthew Roszak and I am very pleased to be here on behalf of the Chamber of Digital Commerce, where I serve as Chairman. The Chamber is the world's largest trade association representing the digital asset and blockchain industry. Our mission is to promote the acceptance and use of digital assets and blockchain-based technologies. Through education, advocacy, and working closely with policymakers, regulatory agencies and industry, our goal is to develop a pro-growth legal environment that fosters innovation, jobs and investment. Our membership is open to all those investing in and innovating with blockchain technology and is composed of the key blockchain companies, global technology firms, and financial institutions.

I'm from Chicago, Illinois, and have been working as a venture capitalist and technology entrepreneur for 20 years – and have invested over a \$1 billion of capital, and founded a dozen companies during my career. Over the last 3 years, I have invested in over 20 companies in the digital currency and blockchain industry through my investment firm, Tally Capital – and more recently, I co-founded a blockchain enterprise software company called Bloq with Jeff Garzik, a technology visionary and core developer of bitcoin. Bloq enables leading companies to scale their blockchain platforms with supported software and services.

In only a few short years, a technology that began as an alternative digital currency has captured the imaginations of thousands of innovators around the globe, and has created a generational opportunity for entrepreneurs and investors – that translates into *once in a lifetime* – think railroads, automobiles, telephony and the Internet – it has the potential to play on that scale, or even greater. This potential and sharing these perspectives is why I am here to testify today.

From the recent covers of the Economist¹ and Bloomberg², if it feels like you're reading about blockchain technology everywhere, well it's because you are – and there's a good reason for that.

Blockchain technology is one of the most important inventions in the history of finance – and the functions of many middlemen will soon get disrupted – and decentralized, peer-to-peer networks will move in, to reduce tons of friction and save billions in transaction costs, while unlocking incredible financial access and personal privacy to the world.

New products and services derived from blockchain technology have the potential to revolutionize entire categories of industry – including banking, government records, title and asset ownership, digitization of and encryption of medical records, digital identity, trading, clearing and settlement, secure voting systems, and many others.

¹ *The Promise of the Blockchain*, The Economist (Oct. 31, 2015) <http://www.economist.com/news/leaders/21677198-technology-behind-bitcoin-could-transform-how-economy-works-trust-machine>

² Edward Robinson and Matthew Leising, *Blythe Masters Tells Banks the Blockchain Changes Everything* (Aug. 31, 2015) <http://www.bloomberg.com/news/features/2015-09-01/blythe-masters-tells-banks-the-blockchain-changes-everything>

Digital currencies allow for money to be programmable. With bitcoin, the world's smartest and most creative software developers have an open platform on which to build products and services that will allow individuals, businesses, governments and even machines to do business with each other more efficiently and productively.

The blockchain is a newly created medium of and platform for money (or anything of value for that matter). Money has been redefined in the past -- from bricks of salt, to cowry shells, to wampum, to tally sticks – the utility of paper money will soon go away. Today, banking and finance are again in the process of being completely redefined. Digital currencies and blockchain technology create an entirely new operating system for money.

Not only is all of this a technological marvel, but it has also become the start of an impactful social movement for individuals, industries and governments.

WHAT IS BITCOIN AND WHAT IS THE BLOCKCHAIN?

When we talk about bitcoin, it is important to make a distinction between bitcoin the currency and the blockchain. While most of the discussions, hearings and debates (and the often sensational press coverage) among regulators, innovators, and public policymakers regarding bitcoin have focused on its use as a digital currency, some of the greatest potential for bitcoin does not lie in its use as a currency, it lies within the blockchain.

The blockchain is a peer-to-peer digital asset transfer system that is independent of any third-party intermediary, including financial institutions and governments. In short, it is open-source

software that is available to the public. Anyone and everyone may have access to it and innovate with it.

The first blockchain application was bitcoin the digital currency and is still what most people think of today when they think of bitcoin. What makes the bitcoin digital currency so unique is that it is based entirely on mathematics. In other words, no longer do consumers need to rely on a financial institution to settle transactions, the settlement process is integrated into the software network, via complex math verification features, making sending money instant, globally accessible, and extremely cost-effective.

Bitcoins can be bought from exchanges, ATMs or from other users. Bitcoin users are assigned a unique encrypted identity and can conduct transactions with other users that are recorded on a public ledger (i.e., blockchain) and are visible to computers on the network, but does not reveal any personal information about the parties to the transaction.

The blockchain holds a radically transparent, public ledger of all bitcoin transactions. It also verifies and authenticates these transactions. In addition, anyone may independently audit the transactions.

Bitcoin would not have happened without open source, and the transparency associated with it. Engineers and early enthusiasts could read the source code for themselves. Adopters did not have to trust Satoshi (bitcoin's creator) – just trusted the math, not the man. There are no hidden pieces of the puzzle with open source software.

Open source creates more secure, trusted software through peer review, just like biology or chemistry or another science. Bitcoin and blockchain technology is trusted because it has been widely reviewed by cryptography experts as well as battle tested in the field for years.

Open networks spur permissionless innovation, which creates a vibrant, fast-paced technology community that promises a more secure, more transparent world.

THE INTERNET AND THE BLOCKCHAIN

We are still very early in the evolution of digital currencies and blockchain technology – akin to the dial-up phase of the early Internet

Blockchain technology possesses many of the same attributes as the Internet. It is an open and global infrastructure upon which many other technologies and applications can be built upon.

The Internet is used to connect people and send information around the world instantly.

However, sending anything of value over the Internet is an issue developers have been working on for decades, as the process was very susceptible to hacks, attacks, double spending, criminals, and other issues.

The invention of the blockchain's decentralized, cryptographically secured, public ledger is a technological leap in computer science allowing anyone to send anything of value or to establish an immutable record over the Internet instantly, efficiently, securely, and without the need for a trusted third-party intermediary.

On the horizon we are going to combine the Internet of information with the Internet of money -- these two things compound each other – the Internet as we know it is great for collaboration

and communication, but deeply flawed when it comes to commerce and privacy – blockchain technology fixes that – which means loans without banks, contracts without lawyers, and stocks without brokers, executed and recorded across hundreds of servers at all corners of the earth.

Some things are hard to explain, or understand, until you experience them. In 1994, *The Today Show* ran a small discussion of a new technology called "The Internet". It did not go well as Katie Couric thought that the "@" symbol stood for "about" – and they eventually had to ask a producer off-camera "what Internet is."³

By the way, the 1994 Internet had 2,700 web pages, compared to today's Internet with over 1 billion web pages.

BITCOIN'S STATE OF THE UNION

Taking a famous quote from Charles Dickens' book, *A Tale of Two Cities*: "It was the best of times, it was the worst of times..." – this very much applies to bitcoin today.

Bitcoin has certainly had its share of negative PR – between SilkRoad and Mt. Gox – to price volatility, wallet hacks and ransomware – however the tide has turned dramatically over the last couple of years.

Investment in and innovation on the blockchain, since the publication of the original Bitcoin Whitepaper⁴ in 2008, has grown exponentially. Venture investment has eclipsed \$1 billion in

³ The Today Show. "Flashback! The Internet in 1995 | Archives" YouTube (Jun. 13, 2014)
<https://www.youtube.com/watch?v=95-yZ-31j9A>

⁴ Satoshi Nakamoto. "Bitcoin: A Peer-to-Peer Electronic Cash System." (Nov. 2008)
<https://bitcoin.org/bitcoin.pdf>

the past year⁵, some of the best and brightest from Silicon Valley to Wall Street to K Street are all racing into the industry, along with over 100,000 merchants now accepting digital currency for their goods and services.

Prominent financial institutions and technology companies including Bank of America, Citi, Deloitte, Foxconn, Goldman Sachs, IBM, Intel, PwC, Microsoft, NASDAQ, Samsung, UBS, and many more have dedicated significant resources to study, experiment, and innovate with blockchain technology.

Over 50 household name global banks have publically announced their respective blockchain initiatives, Wall Street is now marching to the beat of the blockchain drum. So are banks on the brink, or on the offensive? A report from Santander InnoVentures⁶ estimates that blockchain technology would yield over \$20 billion in annual costs savings for banks by 2022.

Historically, banks have had a love-hate relationship with technology going back to the early days of the Internet and even Y2K, mobile proliferation and then having their systems pressure tested during the 2008 financial crisis. Today, banks don't face competition by other banks, but by the developer sitting in Silicon Valley. The unbundling of financial services is playing out in front of our eyes – starting with companies like PayPal, to today's challengers like Lending Club, Square and Venmo – all of which will only be further magnified with the proliferation of blockchain enabled payment rails.

⁵ CoinDesk. Bitcoin Venture Capital Report. <http://www.coindesk.com/bitcoin-venture-capital/>

⁶ Mariano Belinky, Emmet Rennick and Andrew Veitch. *"The Fintech 2.0 Paper: rebooting financial services."* Santander InnoVentures <http://santanderinnoventures.com/wp-content/uploads/2015/06/The-Fintech-2-0-Paper.pdf>

DEBATE IS A FEATURE, NOT A BUG

Bitcoin is a car going down the road at 1,000 mph. Developers are not the drivers of this car, yet they are tasked with repairing and upgrading this car without turning it off, stopping it or rebooting it.

I'd like to discuss a challenge the Bitcoin community is currently facing – something tells me this Committee might be able to relate.

Making decisions in a decentralized system is not easy — the bitcoin ecosystem is currently facing some significant growing pains as the number of transactions has been growing exponentially — over 200,000 transaction per day. This is a clear measure of success and a testament to bitcoin's adoption and evolution. The current challenges reside in finding a path forward on how to increase the throughput of the system, and drive more transactions to support the growth of this platform.

Unlike a government or corporation, there are no “Members of Congress” in Bitcoin, nor a CEO or board of directors. That is all purposeful and part of the fundamental power and beauty of Bitcoin's math-based system. However when there is friction in the system on a particular topic, the gridlock can be overwhelming. It is a bit like trying to change the rules to “rocks-paper-scissors.”

Furthermore, the current challenges do not really reside in any specific technical component. Instead, the issues reside in the human factor of communication, and finding a way of building

consensus during the early days of this \$6.5 billion railway. The debates, fights and passions involved are in many ways a feature and not a bug of the network.

There's an opportunity on the horizon to create a more robust forum for discussion, debate and consensus building — with clearer ways to outline goals, priorities and risks involved in any particular scaling path moving forward. This discussion forum could act like a barometer for various stakeholders, which ultimately vote on which scaling path to run on their systems.

There are several well-known examples of sharing ideas and driving consensus, even with your greatest competitor or your worst enemy. Some of these platforms include W3C, ICANN, Wikipedia, Linux, and even the United Nations — a subset of the best practices utilized by these organizations could be leveraged and applied to Bitcoin.

Any healthy community will draw on the strength of its members. Bitcoin has done this to a degree which is, frankly, astounding. It is living proof that, when people are dedicated to a common cause, the best and brightest ideas will rise to the top. Extremely talented and brilliant people have solved some of Bitcoin's toughest problems. These "statesmen" usually work for free, as volunteers, purely out of a love of the technology.

Through their efforts, the systems' features, security and resilience have all improved dramatically. Problems are identified and solved. Bitcoin learns, and heals; it reacts to stresses and it evolves.

But, as it grows, it faces governance challenges which it is currently struggling to overcome. These challenges, I would imagine, are similar to those faced by the US Congress on a daily basis. This industry needs a *call to action* to resolve its differences and find a path forward.

CONCLUSION

Digital currency and blockchain technology is an important emerging area that has the potential to transform the financial services industry, and beyond. An October 2015 Congressional Research Service (CRS) report⁷ cites three potential benefits of bitcoin: 1) Lower transaction costs for electronic economic exchanges; 2) Increased privacy; and 3) No erosion of purchasing power by inflation. These benefits continue to increase as the number of bitcoin users and businesses entering the digital currency market grows. These factors will call for greater oversight of the industry not just by federal agencies but by Congress as well. Additionally, states are now starting to weigh in through legislation and regulation. Congress could play an important role by establishing uniform standards that could preempt conflicting state laws and provide greater clarity to the industry and its stakeholders.

Given the amount of financial and intellectual capital being poured into this ecosystem, I see great promise in blockchain technology – and that development will require cooperation among industry, technologists and regulators – an open dialogue with policymakers is a critical ingredient to this industry’s long term success.

⁷ “Bitcoin: Questions, Answers, and Analysis of Legal Issues.” Congressional Research Service (October 13, 2015) <https://www.fas.org/sgp/crs/misc/R43339.pdf>

However government does not move at the speed of innovation and there needs to be a balanced approach applied as to not impair investment flows, job creation and innovation.

There are currently over 1,000 startups betting their lives on blockchain-enabled technologies.

Applying light touch regulation – similar to the UK, Singapore and Canada – with a “wait and see attitude” (much like the early Internet) will create jobs for Americans and help keep innovation in the United States.

In conclusion, I believe digital currencies and blockchain technology have the potential to benefit society with privacy, security and freedom of conveyance of data — which in my mind, ranks up there with life, liberty and the pursuit of happiness.

Thank you, and I look forward taking questions and discussing these topics further with you.