

A row of Bitcoin mining rigs, likely ASICs, with the Bitcoin logo prominently displayed on their front panels. The image is in a blue-tinted, high-contrast style, emphasizing the industrial nature of cryptocurrency mining.

Deloitte.

Bitcoin at the crossroads
There is a race to regulate
Bitcoin. Is it too soon?

Bitcoin has captured the imagination of consumers and businesses around the world as a major breakthrough in how value is exchanged. The Bitcoin “blockchain” is a fundamental breakthrough in computer science that solves what seemed to be an unsolvable problem: how to ensure that a digital transaction happens only onceⁱ. Bitcoin eliminates the need for a trusted third party, such as a bank or credit card company, to verify the transaction; thus allowing parties to do business online in a way that recreates many of the key characteristics of a cash transaction. What’s more, currency transactions might be just the beginning. Over time, Bitcoin and blockchain-related innovations could have a transformational impact on any transaction that requires trust, from digital signatures on contracts to digital house keys, digital stock trading and digital voting.

Yet there is a critical question that is hanging over Bitcoin like a dark cloud, potentially slowing the pace of innovation and adoption i.e., how will Bitcoin be regulated?

Bitcoin has already attracted regulatory scrutiny more quickly and broadly than most emerging technologies in history. The Chinese government has attempted to sharply curtail its useⁱⁱ. The US Internal Revenue Service has declared it to be property, not currency, which could limit or slow its future use as a medium of exchangeⁱⁱⁱ due to associated tax implications. Meanwhile, hundreds of other regulatory bodies in the US and abroad have issued draft regulations about Bitcoin and/or announced plans to rigorously assess it. In fact, it sometimes seems as if every regulatory body in the world is asking, “What role do we have in controlling this thing?”

Highly publicized problems such as the theft of Bitcoins from digital wallets, the on-going potential of using Bitcoins to surreptitiously fund illegal activities, and the spectacular failure of a leading Bitcoin trading exchange (Mt. Gox) after it ‘lost’ more than a half a billion dollars in Bitcoins are good examples of situations that have led policy makers and regulators to feel that they have a critical role in protecting the public interest. However, if we look past the dramatic headlines, it is Bitcoin’s long-term potential to transform existing currency and monetary transactions and

systems that is making policy makers and regulators want to define regulations. In most respects, while policy makers and regulators are acting in accordance with their mission statement to protect the public and the integrity of the financial markets, an important question comes to the fore — is it too soon to try and regulate Bitcoin?

The question is prompted by the inherent nature of new and emerging technologies. If one looks at the history of disruptive technologies, in most cases, it took time for the true value of the technology to emerge. So, is Bitcoin like other disruptive technology before it, where history has shown that a wise course of action has been to step back and allow the technology to develop? We think this may be the case. There is strong historical precedent that suggests giving new technologies breathing room to develop is the best path forward, even if these technologies prove to be highly disruptive.

Curious about Bitcoin — access additional Deloitte publications

Bitcoin — The new gold rush?

Basics of Bitcoin, the Bitcoin ecosystem, factors impacting its entering the mainstream and its role in financial services ^{xxi}

Bitcoin — Fact. Fiction. Future

Overview of Bitcoin, the technology underlying Bitcoin functionality, potential uses and future scenarios ^{xxii}

Bitcoin: Currency 2.0

Overview of Bitcoin, its emergence and adoption, as well as regulatory obstacles ^{xxiii}

The future of exchanging value

Overview of digital currencies, including Bitcoin as a payment system and the regulatory challenges associated with using it ^{xxiv}



Three reasons why global policy makers and regulators may want to consider giving Bitcoin more time to develop

Here are three practical reasons why policy makers and regulators may consider slowing down the pace of regulatory intervention — thus giving Bitcoin and blockchain technology more time and freedom to explore its full potential.

Reason #1: Bitcoin is still very small compared to traditional currency systems and transaction platforms

Bitcoin is receiving a remarkable amount of attention and scrutiny from policy makers and regulators all around the world - far beyond what its current scale and market impact would seem to justify. In fact, by any relevant benchmark, the value currently at risk with Bitcoin is just a drop of water in the ocean that is the financial industry.

At the moment, the total value of all Bitcoins globally is less than \$4 billion^{vi}, which pales in comparison to the nearly \$1.36 trillion in US currency physically in circulation today^v. Similarly, Bitcoin's market penetration as a method of payment is almost non-existent. For example, the highest daily dollar volume for Bitcoin transactions globally in

February 2015 was less than \$57 million^{vi}, which is less than 1 percent of the average daily transaction volume for credit card platforms as measured in 2012^{vii}. With the internet's power to rapidly disseminate information, many US consumers may have heard of Bitcoin, but very few actually own Bitcoin or have conducted a Bitcoin transaction. Individuals who have used Bitcoin are very early adopters and most are only experimenting with it as a new technology, not necessarily as a way to pay for goods and services.

Additionally, while it cannot be denied that venture capital investment in Bitcoin related start-ups has gone up tremendously within the last year (close to \$700 million since 2014^{viii}), we could be cycles away from real products that can generate true demand for Bitcoin related services from mainstream consumers.

Reason #2: Other key innovations had more time to develop before being regulated

Looking back at the history of innovation, other technologies that transformed our society were given much more time to develop before coming under serious regulatory supervision. In fact, serious efforts to regulate disruptive technologies have traditionally been a function of the technology achieving mass adoption. Here are a few noteworthy examples:

- Telephone — invented in 1876, regulated in 1913 (37 years later)
- Airplanes — invented in 1903, regulated in 1938 (35 years later)
- Radio — invented in 1907, regulated in 1927 (20 years later)
- Mobile phones — invented 1965, first targeted wireless spectrum auction by the FCC focused on mobile phones, 1989 (24 years later)
- Internet, invented in 1969^{viii}, only becoming an area of intense regulatory focus over the last few years, close to 46 years into its development

The open source software platform that is Bitcoin was first released in 2009. We are a mere six years into the development of Bitcoin and a long way away from the time it has typically taken for new technologies to achieve mass adoption in the past.

In its infancy, eCommerce was prohibited, too

To understand how Bitcoin adoption might play out, it's useful to compare it to eCommerce, which in its infancy was not just controversial but prohibited in the USⁱ.

It wasn't until 1991 that the National Science Foundation lifted its ban on commercial businesses operating over the internetⁱⁱ. In the background, significant venture capital investment and hundreds of start-ups were working on establishing the underlying technology and legal infrastructure needed to make buying on-line a practical reality for most consumers.

Of course, this is only part of the story. It was the High Performance Computing and Communication Act of 1991ⁱⁱⁱ that paved the way for the rapid development of internet technologies. Congress took proactive steps to both invest in and remove some of the regulatory hurdles constraining more aggressive investment in internet technology.

Additionally, Al Gore had the breadth of vision while still in Congress to argue, "Rather than holding back, the U.S. should lead by building the information infrastructure, essential if all Americans are to gain access to this transforming technology"[11]...], "high speed networks must be built that tie together millions of computers, providing capabilities that we cannot even imagine." (refers to Gore's Essay entitled, "Infrastructure for the Global Village" published in Scientific American^{xiii} in September, 1991)

Bitcoin has been described as the, "Internet of Money" and the US may once again be facing a similar choice to that of 1991, we can either resist or encourage the yet unknown potential of Bitcoin and blockchain technology.



Reason #3: Bitcoin's most valuable and important uses may have yet to be invented

Bitcoin is a breakthrough that could potentially transform and improve how people around the world conduct both financial and non-financial transactions. It is, however, much more than just digital money. In broader terms, the Bitcoin protocol's ability to establish trust between parties who don't know each other may very well change how people live and interact.

While the list of potential use cases for Bitcoin and blockchain technology is expanding every day, it is still in its early days and some of the emerging use cases are tremendously exciting. From enabling new efficiencies

in existing banking and fund transfer networks to providing the state of the art app that can finally bring banking services to billions of people living in third world economies, the ideas are big.

Like others before it, Bitcoin is likely to follow a path where one innovation leads to another and ultimately, the very products, services and capabilities that were once difficult or impossible to imagine, become necessities in our daily lives. Similarly, it is quite remarkable that internet enabled capabilities no one anticipated have now become essential components of both our economy as well as shared culture.

The emerging potential of Bitcoin

Trading of shares in private companies:

A multinational financial services corporation is testing a new use of the technology that underpins the digital currency Bitcoin, in a bid to transform the trading of shares in private companies^{xiv}.

Bitcoins for corporate recognition:

An investment company is planning to test Bitcoins, known internally as BK Coins, as incentives for the company's new corporate recognition program in addition to other uses^{xv}.

Derivatives trading using Bitcoins:

A Bitcoin derivatives exchange announced that its trading platform had received approval from the Commodity Futures Trading Commission, paving the way for new tools with which investors and other market participants can hedge risks and take bets in the fledgling digital currency^{xvi}.

Bitcoin for money transfers:

Two financial services companies are studying ways their customers could use their services to

send and receive money transfers denominated in Bitcoins^{xvii}.

Bitcoins for everyday traditional banking:

A global bank is working with a startup to explore how it could use the technology underpinning Bitcoin in everyday banking^{xviii}.

Blockchain technology for foreign currency digital cash and payments:

A large global technology service provider is considering adopting the underlying technology behind Bitcoin, known as the "blockchain," to create a digital cash and payment system for major currencies - the objective is to allow people to transfer cash or make payments instantaneously using this technology without a bank or clearing party involved, saving on transaction costs^{xix}.

Blockchain startup raises \$2 Million for intellectual property solution:

A startup that uses the Bitcoin blockchain to establish digital ownership of art and other creative works has raised \$2m in seed funding^{xx}.



Considerations for policy makers and regulators

Bitcoin was consciously designed to be a truly open source digital currency and public ledger, beyond the control of any single government or company. At least on the surface, Bitcoin and the blockchain appear to have solved an important problem in enabling the continued evolution of internet commerce i.e., how to conduct publically verifiable transactions without the exchange of increasingly vulnerable personal financial information at extremely low costs. It is a bold experiment.

As Bitcoin takes aim at changing something so fundamental to our economy and ultimately so central to our personal lives, it certainly can seem a bit scary — what is a more fundamental enabler to our way of life than money? However, in looking to protect the public from all of the bad outcomes we might anticipate today, could policy makers and regulators end up stifling the myriad (as yet) unimaginable capabilities that could potentially change the world for the better? In many ways it is the classic challenge that policy makers and regulators have always faced — how do you react to something that is fundamentally different from all that has come before?

It is a challenging dilemma, but the market itself may provide the best guidance in regards to the question of

when and how regulators should intervene. On the one hand, new innovations only achieve mass adoption if they are useful and create value and more often than not, their greatest value is created in ways we never imagined and didn't know we needed or wanted. On the other hand, if a new technology fails to reach critical mass it often disappears as abruptly as it appeared. The same could be true for Bitcoin. This is akin to the typical "chicken and egg" situation i.e., should the adoption of Bitcoin and blockchain technology drive the pace of regulation or will regulation help with broader adoption?

What the future brings is yet to be seen but some important questions still remain — like in the case of the internet, should the United States be the country that provides the most supportive environment for incubating and maturing Bitcoin-related innovation? Or should we take a wait and watch attitude and let others capture the lion's share of value creation, which could be significant in the years to come? Given the potential of the technology to disrupt both the financial services and technology industries, a case can likely be made for industry groups, policy makers and regulators to drive collaboration and a unified dialogue at the national level.

Authors

Jon Watts

Director
Deloitte & Touche LLP
+1 212 436 6561
jonwatts@deloitte.com

Devanjin D'souza

Senior Manager
Deloitte & Touche LLP
+1 212 436 4483
devdsouza@deloitte.com

Radhika Khandelwal

Senior Manager
Deloitte & Touche LLP
+1 215 405 7601
rkhandelwal@deloitte.com

Kailash Pande

Consultant
Deloitte & Touche LLP
+1 212 492 4122
kpande@deloitte.com

The Center would also like to thank the following Deloitte professionals for their support and contributions to the effort:

Christian Sterk

Senior Consultant

Liana Mariano

Consultant

Kevin Eng

Consultant

Karen Nyawera

Consultant

Kavitha Gopalakrishnan

Consultant

Cherry Seaborn

Consultant

Fareed Khan

Consultant

DCRS Deloitte Center for Regulatory Strategies

About the Deloitte Center for Regulatory Strategies

The Deloitte Center for Regulatory Strategies provides valuable insight to help organizations in the financial services, health care, life sciences, and energy industries keep abreast of emerging regulatory and compliance requirements, regulatory implementation leading practices, and other regulatory trends. Home to a team of experienced executives, former regulators, and Deloitte professionals with extensive experience solving complex regulatory issues, the Center exists to bring relevant information and specialized perspectives to our clients through a range of media including thought leadership, research, forums, webcasts, and events.
www.deloitte.com/us/centerregulatorystrategies

This publication contains general information only and Deloitte is not, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor. Deloitte shall not be responsible for any loss sustained by any person who relies on this publication.

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms. Please see www.deloitte.com/us/about for a detailed description of the legal structure of Deloitte LLP and its subsidiaries. Certain services may not be available to attest clients under the rules and regulations of public accounting.

-
- i <https://bitcoinmagazine.com/12839/big-picture-china-bitcoin>
- ii <http://www.irs.gov/uac/Newsroom/IRS-Virtual-Currency-Guidance>
- iii http://en.wikipedia.org/wiki/Two_Generals%27_Problem
- iv Source: bitcoincharts.com, March 21, 2015; (total # of bitcoins in circulation (13,964,225) X current price of one bitcoin (264.30 USD) = total value of all bitcoins in circulation (3,690,744,668 USD)
- v http://www.federalreserve.gov/faqs/currency_12773.htm
- vi <https://blockchain.info/charts/estimated-transaction-volume>
- vii <http://www.statista.com/statistics/279010/total-dollar-volume-of-leading-global-credit-cards>
- viii <http://www.livescience.com/42719-when-was-the-internet-invented.html>
- ix <http://www.coindesk.com>
- x <http://fikobservatory.com/en/post/what-is-e-commerce-and-where-did-it-come-from>
- xi <http://money.howstuffworks.com/history-e-commerce1.htm>
- xii https://www.nitrd.gov/Congressional/Laws/pl_102-194.aspx
- xiii <http://www.scientificamerican.com/article/infrastructure-for-the-global-villa>
- xiv <http://www.wsj.com/articles/a-bitcoin-technology-gets-nasdaq-test-1431296886>
- xv <http://blogs.wsj.com/cio/2015/04/05/bny-mellon-explores-bitcoins-potential/?KEYWORDS=bitcoin>
- xvi <http://www.wsj.com/articles/teraexchange-launches-bitcoin-derivatives-exchange-1410543989?KEYWORDS=bitcoin>
- xvii <http://online.wsj.com/article/SB10001424127887324493704578431000719258048.html?KEYWORDS=bitcoin>
- xviii <http://www.businessinsider.com/barclays-bitcoin-startup-safello-blockchain-fintech-2015-6>
- xix <http://www.businessinsider.com/r-exclusive-ibm-looking-at-adopting-bitcoin-technology-for-major-currencies-2015-3>
- xx <http://www.coindesk.com/blockchain-startup-2-million-intellectual-property>
- xxi <http://www2.deloitte.com/us/en/pages/financial-services/articles/dcf-bitcoin.html>
- xxii <http://dupress.com/articles/bitcoin-fact-fiction-future/>
- xxiii <http://blogs.deloitte.co.uk/customer/2013/10/bitcoin-currency-20.html>
- xxiv <http://www2.deloitte.com/au/en/pages/technology/articles/future-exchanging-value.html>