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Regulating the Outlaw

The Bitcoin Bandit

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Introduction

After only three years in existence the web-generated currency, Bitcoin, can pay for you to fly to space, shop on eBay, buy a luxury electric car, pay for a house deposit or order pizza. But the mainstream uptake of Bitcoin has left regulators wondering if governments should help or hinder this financial phenomenon.

The US Congressional Law Library recently reviewed how more than 40 governments are dealing with digital currencies like Bitcoin.¹ Governments are scrambling to regulate digital currencies, while still keeping in mind the potential for digital currencies to restore faith in the global economy and allow savvy countries to help businesses engage more securely and cost-effectively with global markets.

Bitcoins can no longer be dismissed as a faddish fast form of payment: more than 12.4 million Bitcoins worth

almost US\$8 billion are in circulation and each day there are US\$100 million Bitcoin online transactions. But the market size and scandals -- like the use of Bitcoins by online drug traffickers and the US\$500 million theft that crashed the world's largest Bitcoin exchange -- have put regulators on alert.²

What is Bitcoin?

Bitcoin is a web-generated currency that allows online transactions without credit cards, direct debits or other traditional forms of payment.

Bitcoin is currently in the spotlight but there are more than 150 other digital currencies in the market. Bitcoin is a "cryptographic currency" or "cryptocurrency" because it uses computers to solve complex algorithms from which limited numbers of coins can be 'mined'. Other cryptocurrencies include:

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From the editors...

This issue considers a broad range of ways that technology is challenging the law: from the difficulties of regulating the burgeoning phenomena of borderless, anonymous, crypto-currency, to the practices and processes of our courts in the face of social media and the pervasive cloud technology at our fingertips.

Our 2013 Student Essay Prize winners, Isuru Devendra and Raghav Gupta, consider how the courts have responded to substituted service over social media, and the difficulties that such process has in context of the social media habits of celebrity rappers.

Dr Andre Oboler, considers another legal quandary raised by social media – that of online hate speech, and the application of traditional legal doctrine – in his analysis of how hate speech should be characterised and how existing legal doctrine should apply, where such speech occurs on the internet.

Finally, in our last article, Jennifer Farrel considers how the principle of ‘open courts’ is being transformed by technology, including amateur reporting via twitter, virtual courtrooms, and online video recorded hearings.

We encourage all students to consider submitting an article to our 2014 Student Essay Prize – the closing date for submissions is 9 December 2014 and further details may be found on page 5.

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Daniel Thompson, Isaac Lin, David Ng and Moses Kakaire

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- Bitcoin’s largest competitor, Litecoin (**LTC**). Limited to 84 million coin (four times Bitcoin’s 21 million coin limit). Value US\$10 to US\$20 per coin.
 - Peercoin (**PPC**). Infinite coin supply. Value US\$2 to US\$10 per coin.
 - Namecoin (**NMC**). Limited to 21 million coins. Value US\$2 to US\$10.
 - Dogecoin (pronounced ‘doggy coin’) (**DGC**). Most notable market entrant. Value US 0.0007 to 50 cents per coin.³

The subtle differences between each cryptocurrency—particularly in how each is ‘mined’—will continue to challenge regulators who are also grappling with the question of whether too much regulation too soon could stymie future cryptocurrency related innovation.

Are we on the path to innovation?

Businesses like Overstock.com, Virgin Galactic, Wordpress, Reddit, PayPal, eBay, Tesla Motors and Domino’s Pizza (in the U.S. via a third party) are using Bitcoin’s low transaction fees, daily cash outs, lack of payment reversals and merchant tools to cut costs and engage consumers in new ways. Bitcoin is also touted as a future ‘micro-transaction’ platform for online transactions that now incur bank fees higher than the cost of goods or services offered.

Bitcoin’s online transactions do not require the provision of personal or financial information. Because of this, they are likely to improve consumer confidence undermined by the inadvertent online releases of personal information by businesses including recent data security breaches by Telstra and, in the US, Target.

Or are we on the path to annihilation?

The biggest threat to Bitcoin is volatility. Most businesses find it difficult to adopt a currency whose value can move several hundred dollars in a day because of the unregulated philosophy underlying the Bitcoin protocol.

The Silk Road drug trafficking website boosted Bitcoin until the FBI shut it down and Bitcoin’s value plummeted from US\$240 per coin to less than US\$80 in a day. However, six months later Bitcoin was worth \$1200. A Silicon Valley venture capitalist recently predicted it could rise to US\$100,000 per coin.⁴

Bitcoin’s value also dropped and then recovered after hackers stole \$500 million that led to the crash of the largest Bitcoin dealing site, Mt. Gox. Its closure fed concerns about the lack of security of Bitcoin trading platforms dominated by small tech start-ups.⁵

In such a rapidly changing environment, governments are updating their responses to cryptocurrencies almost daily. The information below, drawn partly from the US Congressional Law Library’s cryptocurrency report and recent media coverage, is our snapshot of regulation at the time of writing.

Regulating the Outlaw: The Bitcoin Bandit

¹ Refer to <http://www.loc.gov/law/help/bitcoin-survey/>, 1 July 2014.

² Refer to <http://finance.yahoo.com/blogs/daily-ticker/mint-incorporates-bitcoin-143402650.html>, 1 July 2014.

³ Refer to <https://coinmarketcap.com/>, 12 June 2014.

⁴ Refer to <http://spectrum.ieee.org/view-from-the-valley/at-work/innovation/silicon-valley-luminaries-predict-next-big-thing>, 1 July 2014.

⁵ Refer to <http://www.coindesk.com/polish-law-firm-flags-lack-safeguards-bitcoin-consumers/>, 1 July 2014.

Australia	Bitcoin is subject to the same taxation requirements as commercial transactions, including GST. The Australian Tax Office advises Bitcoin traders to keep detailed records of their transactions as they are subject to tax. It is not clear how the ATO will link series of anonymous transactions to an individual Tax File Number without the individual self-reporting, so future enforcement is likely to be an issue.
Brazil	Brazil is one of only two countries to enact specific laws. <i>Law No. 12,865</i> applies to transactions of ‘electronic currencies’ and gives the Brazilian Central Bank regulatory power over electronic currencies. The Bank recently announced that it would distinguish between “electronic” currencies and “virtual” currencies (such as Bitcoin) so as to give it more time to consider whether cryptocurrencies should be regulated under this law. ¹
Canada	The Bank of Canada says Bitcoin should have less intensive oversight and regulation than traditional payment systems. In 2013 FINTRAC (Canada’s financial intelligence department) told Canada’s major Bitcoin exchange operators that they were not ‘money services businesses’ under the <i>Proceeds of Crime (Money Laundering) and Terrorist Financing Act</i> . Therefore they are not subject to FINTRAC registration or rules.
China	Chinese banks and payment institutions have been prohibited from Bitcoin dealing since 3 December 2013. – be that Bitcoin pricing, buying or selling, providing Bitcoin services to customers or trading Bitcoin with other currencies.
European Union	Bitcoin does not fall within either of the major EU payment directives (Electronic Money Directive 2009/110/EC and Payment Services Directive 2007/64/E) but, the European Banking Authority warns that consumers using cryptocurrencies still need to pay tax.
United Kingdom	Bitcoin trading is not subject to VAT but any Bitcoin transactions for goods and services will still be taxed at between 10 and 20 percent, depending on the goods or services.
USA	Internal Revenue Service guidelines stipulate that Bitcoin will be treated (at least for tax purposes) as ‘property’ rather than ‘currency’ -- like stocks, bonds or real estate that are subject to capital gains tax when sold at a profit or loss. ²

Ten Bitcoin Basics

1	A person called Satoshi Nakamoto invented an algorithm in 2009 (called the <i>Bitcoin protocol</i>) that anyone could task their computer with trying to decipher. This algorithm was actually really, <i>really</i> difficult. As a result, the person whose computer was first to solve the algorithm “won the lottery” and was awarded 25 Bitcoins (in 2009 they didn’t actually have any value, so it wasn’t much of a win).
2	The algorithm was so clever that once it was “solved”, it reset itself and you could task your computer with trying to solve it again. Again and again, every time it was solved, 25 Bitcoins were awarded to the “winner”. The process of tasking your computer with solving the algorithm was given the term <i>mining</i> .
3	Even though the algorithm continues to reset itself every time it is solved, it is programmed to only ever give out a maximum of 21 million Bitcoins (as at time of writing, there are currently 12,319,500 Bitcoins in circulation). In other words, there is only so much Bitcoin in the mine, The algorithm allegedly can’t be broken or hacked, so there is little risk of anyone “creating” or “mining” more Bitcoin once the limit has been reached.
4	The computing power required to solve the algorithm is so intense that anyone intent on “winning the lottery” either teams up with others in the community to share the load (as well as the winnings) or they purchase powerful gaming hardware at a cost of tens of thousands of dollars. Most followers of the Bitcoin phenomenon agree the profitability of “mining” has passed its peak, so it may be better to put that money toward another investment if you were thinking of purchasing a supercomputer to get rich on the back of the Bitcoin boom.

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5	Given (a) the difficulty of solving the algorithm and (b) the finite number of Bitcoin that will ever be distributed, the value that the community placed on Bitcoin has increased beyond its 2009 level (which was near 0) to over US\$1000 (at certain points in 2013).
6	The actual Bitcoin that the algorithm gives you is sent to a piece of software on your computer called a “Bitcoin wallet”. This is basically an address that is not unlike a physical wallet with a padlock on it. In order to pay for an item using Bitcoin, you input your own confidential “key” to the padlock and list the number of Bitcoin to be transacted. The ownership of the Bitcoin is then transferred from your address (or wallet) to the vendor’s address. Whilst someone’s address (or wallet) may be commonly known, only they have the confidential key that allows them to open the wallet and transfer Bitcoin. This means that if someone accidentally transfers Bitcoin to the wrong wallet, there is no way of retrieving it.
7	If you lose your confidential key (e.g. if your computer is stolen or your hard drive fails) then—unless you have backed it up somewhere or have kept it in hard copy—you will lose access to your Bitcoin wallet. Famously, the U.S. Federal Bureau of Investigations is sitting on a significant goldmine of Bitcoin thanks to its raid on servers used by the alleged operator of online illicit drug marketplace Silk Road. Those servers are now sitting in an FBI evidence locker gathering dust—but also contain the key to the Bitcoin wallet of Silk Road’s alleged operator. That wallet is speculated to contain many millions of dollars worth of Bitcoin.
8	Record-keeping of Bitcoin transactions is oddly enough both very public and highly confidential. Any transaction of Bitcoin is inserted into a public ledger known as the “block chain”. For example, if someone knows your Bitcoin address/wallet then they can see all the transactions you have made. This ensures that no one can try and exploit the system by transferring the same Bitcoin to multiple people. However, the address of the Bitcoin wallet is the only thing that anyone else knows about you. There is no record of a name, address nor any indication as to what the transfer involves.
9	Bitcoin has proven fertile ground for entrepreneurs looking to help the public take advantage of this new form of payment. Start-ups have been created to offer people the opportunity to withdraw Bitcoins from traditional ATMs (Bitwal), to provide specialised security for Bitcoin businesses (CrowdCurity), to give residents of Latin American countries—where credit card processing fees are as much as 50%—a portal to convert their savings to Bitcoin (BitPagos), to allow users to transact Bitcoin using simple text messaging (Gliph) and a portal that businesses can easily integrate into existing online payment mechanisms in order to accept Bitcoin from customers (Coinbase).
10	Satoshi Nakamoto does not actually exist. Or, if he did, he has most certainly disappeared. No records have ever been found of someone going by the name “Satoshi Nakamoto” prior to the release of the Bitcoin protocol. In Japanese, <i>Satoshi</i> is a male name that translates as “wise” but in all of his known communications he spoke fluent English with Commonwealth colloquialisms such as “bloody hard”. For these reasons, journalists have speculated that Satoshi could be anyone from Finnish economic sociologist Dr Vili Lehdonvirta, Irish cryptography student Michael Clear, developer Charles Bry, file-sharing guru Jed McCaleb or even a time traveller from the future (this last option is currently the most viable alternative as the others have been cleared by investigative journalists). In early March 2014 journalists claimed they had ‘discovered’ the real Satoshi Nakamoto living in Los Angeles. However, Mr Nakamoto has denied he is <i>the</i> Satoshi Nakamoto, inventor of Bitcoin.

¹ Refer to <http://www.receita.fazenda.gov.br/Legislacao/leis/2013/lei12865.htm>, 1 July 2014.

² Refer to <http://www.bloomberg.com/news/2014-03-25/bitcoin-is-property-not-currency-in-tax-system-irs-says.html>, 1 July 2014.