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## Virtual Currency

*Money symbolizes value. In 2008, an anonymous computer programmer wrote open-source code that created the increasingly popular virtual currency, Bitcoin, free of government regulation, identification of buyers and sellers, and middlemen fees (Grinberg, 2011; Vigna & Casey, 2015). People can download the software to “mine” Bitcoins (Popper, 2015) and create their own virtual currencies (e.g., Ramos, 2014; Ward, 2014). Bitcoin is valuable for its ease of use, instantaneous international transfer of funds, and stability in countries with weak financial or property rights systems (Ember, 2015; Yu, 2014). And its own dollar value, perhaps surprisingly, temporarily skyrocketed (Phillips, 2013).*

*Despite these benefits, very little agreement – or even understanding – of Bitcoin exists. Is it a currency used to buy and sell stuff, or an investment traded for profit or loss, or property? From 2013 to 2015, governments debated but did not coordinate: Bitcoin is not a currency in China (Popper, 2013), is a currency in Japan, and is property in Singapore (BBC Staff, 2014g). In the US, different regulatory agencies compete over whether it is an investment (Popper, 2013), property (Peralta, 2014), or something else (Caesar, 2014). New York licenses Bitcoin exchanges (Merced, 2015).*

*With Bitcoin, we turn over our money and perhaps financial well-being to a computer program. How much trust do we place in computers? Is removal of human experts in financial transactions cause for concern or celebration? If something goes wrong – hacker “hold-ups,” a software bug or computer glitch, or misdirected funds – who (or what) do we turn to for help? If the whole virtual currency network went awry, the lost value of the Great Depression may seem just a whimper in comparison. This case depicts real issues related to virtual currency in a fictional format. The event, names, and quotes are all fictitious.*

# The Value of Instant Anonymity

*with Yonathan Bassal*

*Newscaster:* This international panel on virtual currency follows government debates worldwide (e.g., Popper, 2013; Zak, 2014). Virtual currencies are not issued or backed by governments (Satran, 2013), but are increasingly accepted worldwide (Popper, 2015). We now go live to the discussion...

*Secretary-General:* Money pervades our lives. An innovative form – so-called virtual currency – is basically bits of computer code. What role will it have for the well-being of our people locally and globally? Thank you to our panelists addressing, from various perspectives, four ethical issues that virtual currencies evoke: anonymity, illegality, security, and volatility. With virtual currency, people in transactions do not have to disclose their personal identities, so it may be unclear who we are dealing with, which leads to a fertile environment for illegal transactions. Plus, software code can be hacked, so would our digital wallets be safe? And in the last few years, the value of the most well-known virtual currency, Bitcoin, has gone up and down wildly, causing fear and loss. Let's start with: How does virtual currency work?

*Computer Programmer:* Bitcoin was created by a pseudonymous coder. It is created through software, which anyone can download and run to become part of a worldwide network that “mines” Bitcoins (Nakamoto, 2008). The software solves equations that verify Bitcoin transactions, which once verified become part of a “block chain” ledger of every Bitcoin transaction ever. The computer that “completes” a block has “mined” a Bitcoin, which is stored in a digital wallet (Sawyer, 2013).

*Ambassador:* Thanks for the technical details. I would like to jump to ethics with a case: Mt Gox, a Tokyo-based Bitcoin exchange, which got huge media coverage in 2013–2014. A hacker took advantage of a bug in Bitcoin code and stole millions of dollars from Bitcoin's largest exchange, which contributed to Bitcoin's ongoing volatility (BBC Staff, 2014c). Who knows who's at fault? This security breach shut down the largest exchange and many people lost money (Villar, Knight, & Wolf, 2014). They fixed the technical glitch (BBC Staff, 2014e), but how can we trust our money going who knows where?

*Law Enforcement Official:* Mt Gox was not the only exchange hit by hackers and ended up folding (e.g., Kelion, 2014). I want to focus on virtual currencies' association with crimes. I think the focal case

should be Silk Road, an exchange *designed* for illegal activity (BBC Staff, 2014d)! Everyone there used Bitcoin for anonymity, so it's hard to find the criminals (Kaplanov, 2012). When the FBI dismantled Silk Road, it confiscated and auctioned Bitcoins (BBC Staff, 2014b, 2014d, 2014k), but only a pittance of the amount circulating through illegal transactions (Satran, 2013). We need to keep illegal marketplaces off the grid.

*Merchant:* But most people don't go there, right? For regular commerce, you can't deny businesses are accepting Bitcoin (Ember, 2014a). There are many stores with "Bitcoin Accepted" signs in the window.

*Ambassador:* Politicians accept Bitcoin for their campaigns, too (Caesar, 2014; Lichtblau, 2015).

*Merchant:* My business accepts Bitcoin. More well-known companies are doing it (BBC Staff, 2014j; Ember, 2014a).

*Law Enforcement Official:* How do you know you aren't laundering money inadvertently (BBC Staff, 2014c)? You're hurting the hard-working, law-abiding citizens if we aren't protecting them from crime.

*Computer Programmer:* In some countries, Bitcoin is becoming *the* regular currency for consumers (Popper, 2015)!

*Merchant:* At the day-to-day level, Bitcoin makes things easier. People like it. Fewer fees (Ember, 2014a). I give customers discounts for using Bitcoin. There are even ATMs (Morisy, 2014; Pressman, 2013).

*Consumer Advocate:* If Bitcoin becomes common and integrated with apps (BBC Staff, 2014i), shopping (Lee, 2014), even pensions (Castronova & Fairfield, 2014), every consumer might be affected by volatility or security (Ember, 2014b). Could you imagine your grandparents losing their entire retirement as Bitcoin values drop or cyberthieves strike (Ward, 2014)? Governments need to make some decisions (BBC Staff, 2014h) and coordinate with each other (BBC Staff, 2014g; Popper, 2013). Everyone thinks Bitcoin is independent of governments, but its value responds to government actions (Popper & Gough, 2013) as much as investor speculation (BBC Staff, 2014a, 2014l) or technical issues (BBC Staff, 2014c).

*Law Enforcement Official:* Falling values actually keep crime at bay. When Bitcoin was hot, malware and ransomware were infecting unsuspecting people's computers (Perloth & Wortham, 2014; Wakefield, 2014). If these currencies aren't worth much, cyberthieves are less interested (BBC Staff, 2015b).

*Economic Adviser:* I'm concerned virtual currencies might destroy our banking and financial services system. Not the Bitcoins themselves,

but how they are created and tracked (Ember, 2015). If they become the norm, whole professions may suffer: accountants, lawyers, bankers could be replaced by block chain technology.

*Consumer Advocate:* If they go away, what happens if there is a problem or dispute?! Who would the consumer turn to (Ember, 2015)?

*Law Enforcement Official:* Or worse, imagine the system was hacked and all the digital money disappeared, what would be left? No government, no money backed by an institution. If Mt Gox was a regular American bank, deposits would've been insured (BBC Staff, 2014f; Lee, 2013).

*Ambassador:* Also, virtual currency makes it difficult to tax transactions. How are governments going to raise money for services?

*Economic Adviser:* Yes, let's not forget all the government employees, recipients of government funds like Social Security and Medicare/Medicaid, and college students with federal financial aid. If we can't trace Bitcoin transactions for taxes, then no more support a lot of people depend on.

*Law Enforcement Official:* After the Mt Gox hack, the exchange updated its version of the software to issue unique transaction identifiers (BBC Staff, 2014e). Maybe that would help. It doesn't identify the person, but does identify the transaction (Castronova & Fairfield, 2014). Maybe tax digital wallets and it doesn't matter who the person is.

*Secretary-General:* What I'm really thinking about now is feasibility. What is feasible for governments to do, now with all the people already involved with virtual currency? And what are individuals responsible for regarding their own behavior?

*Economic Adviser:* The younger generation is tech savvy, and the rest of us adapt. Investors and venture capitalists are interested, if wary (Briere, Oosterlinck, & Szafarz, 2013; Krugman, 2013), especially about security (Ember, 2015; Miller, 2014). Maybe a reputation system, like online auction and travel review sites have?

*Computer Programmer:* Bitcoin is controlled by supply – there are only so many that can be mined. It's not run by a person or a policy, which distinguishes it from cash. Regulation isn't needed in terms of following transactions. Those are trackable. And if one virtual currency fails, another one would gain momentum (Popper, 2014). We need to build in trust systems for *people*.

*Economic Adviser:* There are strong opinions on this innovative virtual currency. Actually, we don't really agree what Bitcoin is yet – a currency, property, investment (e.g., BBC Staff, 2014g)?

*Researcher:* That is the problem...we need to understand how it will work (BBC Staff, 2015a). And the experiment is occurring in the real world with real money, not studied in a lab far from financial markets. Knowledge might help us make better decisions. Time is of the essence, since virtual currency is already in use.

*Secretary-General:* Thank you for your expertise. Although it is scary, new, and disruptive, virtual currency has global implications and the chain effect that our decisions could have all around the world could have irreversible consequences. Virtual currency brings to light ethical gray areas in our financial system. Is it a fad or the future of money?

### **Further exploration**

1. As a lawmaker, how would you address the pros and cons of virtual currency in your deliberations? A vote is called: would you support or reject virtual currency outright or only in particular circumstances? Defend your decision.
2. How is “value” constructed? How do the roles of virtual currency users, toward both legal and illegal ends, contribute to this value?
3. Imagine a world where virtual currency was the only form of payment. Describe that world.

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