Candy Machines, Cash, Privacy and Autonomy

Peter Van Valkenburgh
Director of Research
What is Coin Center?
DECENTRALIZE ALL THE THINGS
What we do:
Education
Policy Research
Advocacy
Backgrounders

How can law enforcement leverage the blockchain in investigations?

Jason Weinstein  •  May 12, 2015

Former federal prosecutor Jason Weinstein explains how the nature of Bitcoin’s underlying blockchain can be good news for law enforcement, and how law enforcement can ultimately be good news for Bitcoin.

Read More

What is OFAC and how does it apply to Bitcoin?

Joshua Garcia  •  May 5, 2015

Attorney Joshua Garcia explains what OFAC is, how it can interact with cryptocurrency businesses, and why it "always applies.”

Read More
State Digital Currency Principles and Framework
Peter Van Valkenburgh & Jerry Brito
Version 1.3
Oct. 2015
Coin Center Report
Regulatory Filings

Comments to the European Securities and Markets Authority on its Consultation on Distributed Ledger Technology Applied to Securities Markets

Our comments on ESMA’s conclusion that “open” or “permissionless” blockchains may be inappropriate for financial services in its discussion paper entitled, “The Distributed Ledger Technology Applied to
Testimony and Briefings
What can a candy machine tell us about:

- Innovation and Interoperability 🏛️
- Efficiency and Scale 📊
- Privacy and Autonomy 🅱️ 🪐
Innovation and Interoperability💡

Why will cryptocurrencies and the open blockchain networks that power them spur innovation and make things work better?
Innovation and Interoperability
Goal:
Take remaining centralized systems and create free and open peer-to-peer alternatives...
Goal:
Why is Bitcoin with the Lightning Network more efficient and scalable than traditional payments?
Analog
Analog
Peter: $200
Commerzbank: $200
Bank of America: $200
ING: $200

Antonie: $200
Bank of America: $200
ING: $200
Peter: $190

Bank of America: $200

Antonie: $200

Commerzbank: $200

ING: $200

ING: $210
Peter: $190

ING: $210

Bank of America: $190

Commerzbank: $210

Antonie: $200

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ING: $190
Takes about three business days.
Many ledgers becomes one super ledger, the blockchain!
Many ledgers becomes one super ledger, the blockchain.

Identical Copies of that ledger are held by every peer in the network.
The network of peers agrees (reaches consensus) on the state of that ledger.

Blockchain
transaction transaction transaction transaction transaction transaction
transaction transaction transaction transaction transaction transaction
transaction transaction transaction transaction transaction transaction
transaction transaction transaction transaction transaction transaction
transaction transaction transaction transaction transaction

ADD THIS NEW TRANSACTION? Y/N
The lightning network is another free and open protocol built on top of bitcoin. It allows this process of consensus to scale to millions of transactions per second with almost no fees.
Candy Machine
Transaction Fees?

$0.000036
per payment.
Privacy and Autonomy

Sure, you could build fast and efficient payment systems if everyone used the same centralized service...

... but at what cost?
AliPay knows:
Where you are,
what you read,
if you are sick,
and ...
So does the Chinese Government.
In China, government authorities are hard at work devising their own e-database to rate each and every one of the nation's 1.3 billion citizens by 2020 using metrics that include whether they pay their bills on time, plagiarize schoolwork, break traffic laws or adhere to birth-control regulations. And there's no opt-out option.

— Los Angeles Times
“Someone who plays video games for 10 hours a day, for example, would be considered an idle person, and someone who frequently buys diapers would be considered as probably a parent, who on balance is more likely to have a sense of responsibility.”

— Li Yingyun, AliPay Technology Director
BBC News
Low scores could mean:

“slower internet speeds; restricted access to restaurants, nightclubs or golf courses; and the removal of the right to travel freely abroad”

— The Verge
“Your Account is Locked”

= 

You can’t participate in economic life.
League of Its Own

Sweden has the lowest value of cash in circulation as a percentage of GDP in the world.

- Value of cash as a percentage of GDP, in 2016:
  - Sweden: 1.4%
  - South Africa: 3.4%
  - Brazil: 3.7%
  - U.K.: 3.9%
  - Canada: 4.2%
  - Emerging market economies: 8.0%
  - Advanced economies: 9.7%
  - Singapore: 10.4%
  - Euro area: 10.7%
  - Switzerland: 12.3%
  - Hong Kong: 16.9%
  - Japan: 20.0%

Source: Bank for International Settlements data on the five CPMI jurisdictions with the lowest value of cash as a percentage of GDP, and the five with the highest.
Reliance on private intermediaries to punish via payments censorship…

Cannot easily be reconciled with the rule of law.
Nullum crimen, nulla poena sine praevia lege poenali.

No crime and hence no punishment without law.

Paul Johann Anselm Ritter von Feuerbach
China trials 'Deadbeat Map' app to monitor citizens' debts as part of social credit score system
Only digital cash systems like bitcoin preserve a free and open alternative that can’t be taken away by even the most corrupt government or unscrupulous corporation.
Free and open payments technologies embody liberal values.
New Research Report:

Financial Surveillance Law’s Intersection with Human Rights to Privacy and Speech
Financial Surveillance Law

- EU Anti-Money Laundering Directive
- USA Bank Secrecy Act and Patriot Act Amendments
- FATF Guidelines
Bank Secrecy Act (1970)(US)

Obligates Money Service Businesses (MSBs) to do certain things:
- Registration with FinCEN
- Know Your Customer (KYC)
- Recordkeeping
- Anti-Money-Laundering (AML) Program
- Reporting
  - SAR - $2,000+ and suspicious
  - CTR - $10,000+ in cash
Amongst a variety of cryptocurrency actors...
floydmayweather Champion Predictions:
I'm gonna make a $hit t$n of money on August 26th.

I'm gonna make a $hit t$n of money on August 2nd on the Stox.com ICO.

#TMT #STOX #MAYWEATHER #TBE #CRYPTO #CRYPTOCURRENCY #BLOCKCHAIN #ETHEREUM #BITCOIN

load more comments

irmagrajeda Que loco 😈😈😈😈😈
gianluca_cirillo_Fuck mayweather
andreasdiedrich 10×10
boyd.mria Regálame un par de pesos mijo que necesito tengo una gran necesidad para Conprar mi medicinas por favor 😄

❤️ 〇
483,986 likes
3 DAYS AGO
Amongst a variety of cryptocurrency actors:

Does anyone fit into the established definition of “Money Services Business”
And would regulating any of these parties as MSBs trample on their rights to privacy or speech?
Rights to privacy and Speech

- **USA: Federal Constitution:**
  - 1st Amendment Freedom of Speech
  - 4th Amendment Prohibition on Warrantless Search
- **International: Universal Declaration of Human Rights**
  - Article 19: Freedom of Opinion and Expression
  - Article 12: Privacy
Weg der Menschenrechte

Artikel 19 Meinungs- und Informationsfreiheit

Jeder Mensch hat das Recht auf freie Meinungsäußerung; dieses Recht umfasst die Freiheit, Meinungen unangefochten anzuhängen und Informationen und Ideen mit allen Verständigungsmitteln ohne Rücksicht auf Grenzen zu suchen, zu empfangen und zu verbreiten.

Article 19 liberté d'opinion et d'expression

Tout individu a droit à la liberté d'opinion et d'expression, ce qui implique le droit de ne pas être inquiété pour ses opinions et celui de chercher, de recevoir et de répandre, sans considération de frontières, les informations et les idées par quelque moyen d'expression que ce soit.

Article 19 freedom of opinion and expression

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.
Universal Declaration of Human Rights

Article 12: “No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks.”
Rights to privacy and Speech

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- **International: Universal Declaration of Human Rights**
  - Article 19: Freedom of Opinion and Expression
  - Article 12: Privacy
- **EU: European Convention on Human Rights**
- **Switzerland: Swiss Constitution**
- **Art. 16** Freedom of expression and of information

1. Freedom of expression and of information is guaranteed.
2. Every person has the right freely to form, express, and impart their opinions.
3. Every person has the right freely to receive information to gather it from generally accessible sources and to disseminate it.

- **Art. 13** Right to privacy

1. Every person has the right to privacy in their private and family life and in their home, and in relation to their mail and telecommunications.
2. Every person has the right to be protected against the misuse of their personal data.
What makes the BSA constitutional?

Is there not a prohibition on warrantless search?
Privacy Bubble of Reasonable Expectations
Privacy Bubble of Reasonable Expectations
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FREE SPEECH

* CONDITIONS APPLY

FUKT
I WANT YOU TO WRITE ME SOME CODE
Weg der Menschenrechte

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Brown v. Entertainment Merchants Ass’n
Bernstein v. Department of State
United States v. Mendelsohn
“Since the banking transactions of an individual give a fairly accurate account of his religion, ideology, opinions, and interests, a regulation impounding them and making them automatically available to all federal investigative agencies is a sledge-hammer approach to a problem that only a delicate scalpel can manage.

Where fundamental personal rights are involved -- as is true when, as here, the Government gets large access to one's beliefs, ideas, politics, religion, cultural concerns, and the like, the Act should be "narrowly drawn" to meet the precise evil. I am not yet ready to agree that America is so possessed with evil that we must level all constitutional barriers to give our civil authorities the tools to catch criminals.” 416 U.S. 21 at 86
What are regulators thinking?

“Looking at the spectrum of activity, on one side there is the publication of code alone. Absent proof that developers intended that the code facilitate conduct that is illegal, the CFTC should not bring a case against them.”

How the CFTC can take a pro-innovation posture while maintaining orderly markets

A CFTC Commissioner responds to Coin Center’s thinking on publishing code and regulation

BY BRIAN QUINTENZ / February 12, 2019

This past fall, I made a speech in Dubai to highlight what I believe will be a fundamental challenge for financial regulators in the coming years: how do regulators apply or modernize regulatory frameworks in the face of emerging technologies, especially where the functions performed by registered market

https://bit.ly/2tkQjl1
Questions?

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