



INTERNATIONAL MONETARY FUND

CRYPTO CURRENCIES AND MONETARY POLICY

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January 22, 2019

Money has evolved over time, to meet consumer demand...



Source: coinpeople.com



Source: Bitcoin.com

... but its basic functions have remained the same

1. Store of value

The money you hold today should retain its value over time.

2. Means of payment

The currency should be widely accepted as a means to buy (and sell) good and services.

3. Unit of account

You should be able to easily compare the prices of different goods, because they are all priced in the same currency. Firms and households can use the currency to measure income, profits, wealth, etc.

Basic characteristics of crypto currencies

There are **4 characteristics** of a cryptocurrency like bitcoin:

- 1. Digital in nature;** i.e. they are not physically represented.
This is not an innovation per se though. Over 90% of the money supply in the Euro Area is digital – only 9.4% are currency in circulation.
- 2. Private;** so far no public crypto currencies have been issued.
There have been private currencies before.
 - During the Free Banking Era of the mid-19th century, about 8,000 different currencies were in circulation in the USA.
 - Bank failures, fraud and financial instability eventually led to the creation of the Federal Reserve System.

Basic characteristics of crypto currencies

3. **Global;** basically anyone can exchange bitcoins with anyone around the world. Not limited to a specific country.
4. **Run on an autonomous and decentralized algorithm;** in most cases, this algorithm also ensures that the supply of the currency increases at a predefined pace and is otherwise fixed.
 - **Crypto currencies like Bitcoin do not have a central issuer or a legal counterpart.** As such, they are not the liability of any institution and are not backed by assets.
 - **No discretionary changes to the money supply are possible.**

Why crypto currencies? Why now?

Several factors lie behind the recent rise of crypto currencies:

- Technological progress- the development of blockchain technology
- Concerns about conventional money and banking
 - Banking crisis 2008
 - Unconventional monetary policies/quantitative easing
- Privacy concerns
- Political views about the role of government
 - Libertarian
 - Anti-capitalist

Cryptocurrencies have proliferated



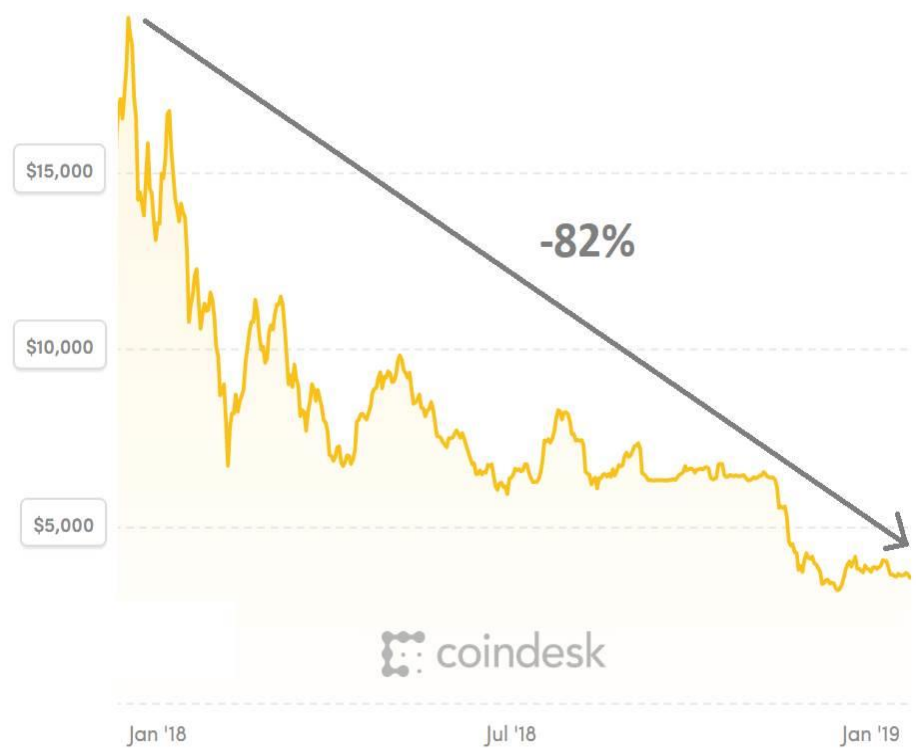
- Bitinfocharts.com lists over 800 cryptocurrencies
- 452 new currencies were created during 2018

Cryptocurrencies showed dramatic growth



How do cryptocurrencies perform in term of the 3 basic functions of currencies?

1. Store of value



How do cryptocurrencies perform in term of the 3 basic functions of currencies?

2. Means of payment

Acceptance of cryptocurrencies is very low.

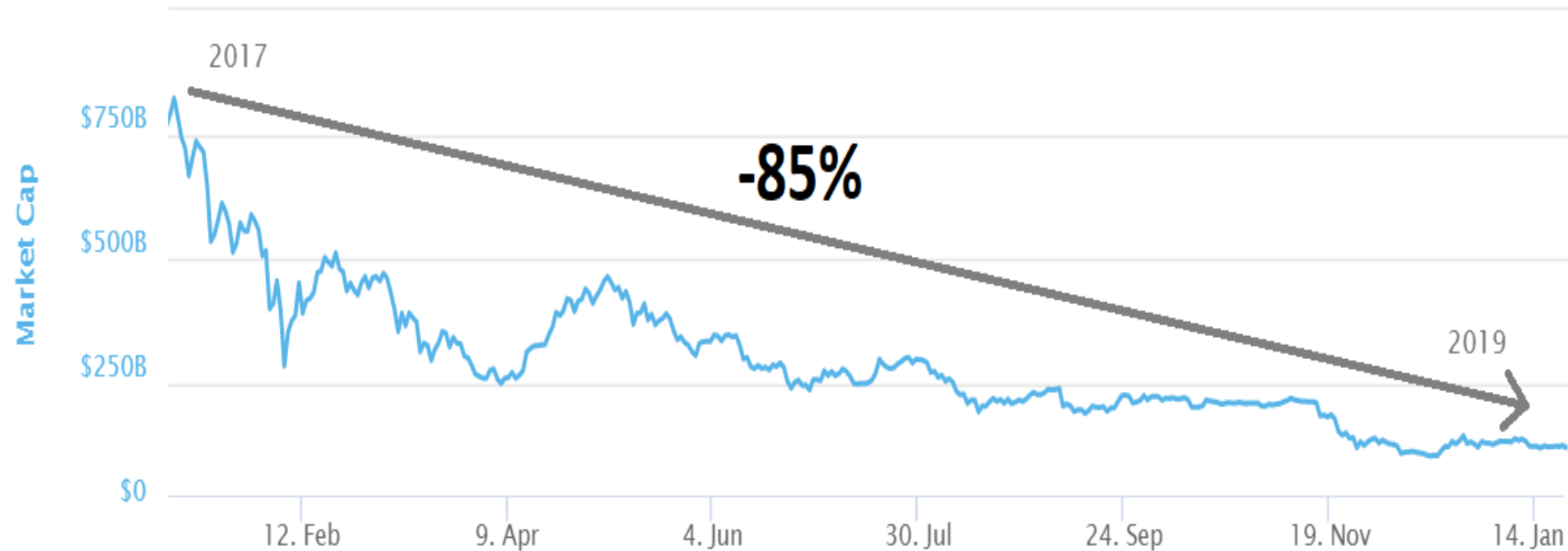
- A few companies (Microsoft, Dish network, overstock.com) have begun to accept bitcoin and a few other currencies, but often for limited transactions.
- Transaction fees of Bitcoin are not fixed and can be volatile. They were as high as 55 USD and are now at around 30 US cents. In addition, changing bitcoin into other currencies requires additional fees (1.49%-10%).

How do cryptocurrencies perform in term of the 3 basic functions of currencies?

3. Unit of account

No goods or services are priced in cryptocurrencies. Companies continue to report in major currencies, not bitcoin.

For these reasons, the crypto currency market has recently fallen sharply



Cryptocurrencies offer unparalleled anonymity. For better or worse...

Kidnappers release cryptocurrency boss after receiving £750,000 ransom in bitcoin

A statement confirmed that Pavel Lerner is safe and was not physically harmed

Pavel Pol

Small Alaskan Town Pays Bitcoin Ransom

NEWS
Nov 17

BY MARK EMEM  | JANUARY 14, 2019 07:37 EST

\$1 Million in Bitcoin Ransom Paid, American in Costa Rica Still Missing

The New York Times

Cryptocurrency Ransom Demanded for Wife of Norwegian Tycoon

Cryptocurrencies are largely outside of financial regulation

Among others, implications for money laundering, consumer protection and taxation...

The Washington Post
Democracy Dies in Darkness

‘Bitcoin is my potential pension’: What’s driving people in Kentucky to join the craze

Floyd Mayweather and DJ Khaled charged for illegally touting crypto offerings

The ICO’s founders were charged earlier this year

By [Makena Kelly](#) | [@kellymakena](#) | Nov 29, 2018, 5:53pm EST

EU Securities Group Advises Regulating Crypto Assets Under Existing Rules



Yogita Khatri



🕒 Oct 22, 2018 at 13:10 UTC

NEWS

Environmental questions about cryptocurrency 'mining' Is this sustainable?

Bitcoin (2018)

22 terawatt-hours p.a.

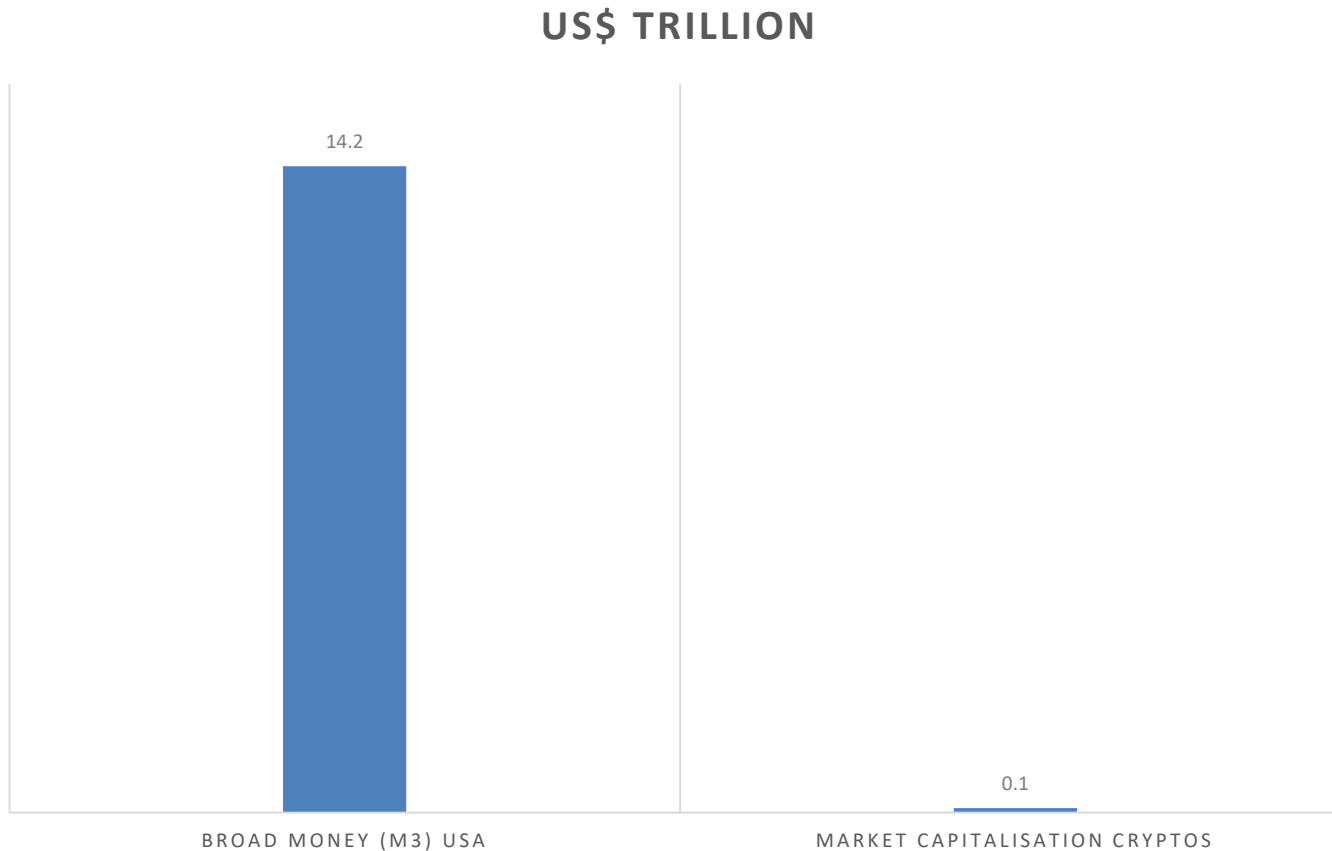
Ireland (2014)

24 terawatt-hours p.a.



Potential impact on monetary policy?

None... for the time being.



Potential impact on monetary policy?

But in the future, large cryptocurrency holdings could complicate monetary policy management.

- Some emerging markets and developing countries have a large share of their money supply in FX today.
- Restricts discretionary monetary policy.

Central Bank Digital Currencies: Pros and Cons

- **If cash is not used anymore, methods of payments will be exclusively offered by private actors** – risk of system failure and emerging monopolies.
- **Emerging economies:** domestic efficiency of existing payment systems and financial inclusion could be improved.
- **The cost associated with the provision of cash is estimated to be 0.5 percent of GDP, or 560 million Euro, for the euro area,** Costs fall mostly on banks, firms, and households.
- **Private digital currencies facilitate tax evasion and criminal activity.** Public digital currencies could avoid this.

Central Bank Digital Currencies: Pros and Cons

Public E-money, could take different forms such as:

- A state-backed token (on a blockchain), or
- An account held directly at the central bank, available to people and firms for retail payments.

Central Bank Digital Currencies: Pros and Cons

Potential effects on monetary policy:

- **A higher degree of financial inclusion would make monetary policy more effective**, since we would be able to reach parts of our economic ecosystems more directly than we currently are.
- **Central banks would have access to much more granular data, of where money is going and where debt is accumulating, in real-time.**
- **The global financial crisis starkly illustrated that interest rate policy can be constrained by the presence of cash.** Interest-bearing digital currencies would eliminate the effective lower bound on interest rate policy, but only with constraints on the use of cash i.e. once it has been abolished.

Central Bank Digital Currencies: Pros and Cons

Challenges that would need a credible answer:

- **If digital currencies are sufficiently similar to commercial bank deposits then why hold a bank account at all?** Who would then engage in maturity and liquidity transformation?
- **Another concern is around anonymity,** which is currently guaranteed when using cash and needs to be guaranteed under e-money as well.

Some Central Banks are experimenting, but none plan to use a blockchain based version

- **Various central banks around the world are seriously considering digital currencies, while others have abandoned the idea for now.**
- Pilot projects completed in **Uruguay and Sweden.**
 - **Both countries have avoided using blockchain in their projects,** because it was deemed still **not mature and stable enough** for the infrastructure of a national currency to rely on.

Conclusions

- **Cryptocurrencies today do not do a good job at fulfilling the main functions of money.**
- **They may be favored by some for ideological, technological, or monetary policy reasons.**
- **The blockchain technology they use does have some important advantages in controlling for fraud and maintaining privacy.**
- **But they also open up avenues for tax evasion and criminal activity.**

Conclusions

- **Public sector cryptocurrencies might provide an interesting solution:**
 - They would be backed by governments and thus better fulfill the three functions of money.
 - They could reduce reliance on private bank and credit card payment systems
 - They could reduce the cost of money compared to paper
 - Better consumer protection
 - And criminal activity and tax evasion could be controlled.
 - ... But government control and discretion are a problem for some.



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