

10. Potential reforms II. – Currency competition, cryptocurrencies/cryptoassets, CBDC

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Outline

- Hayekian „currency competition“
- Cryptocurrencies/cryptoassets
- Central Bank Digital Currencies

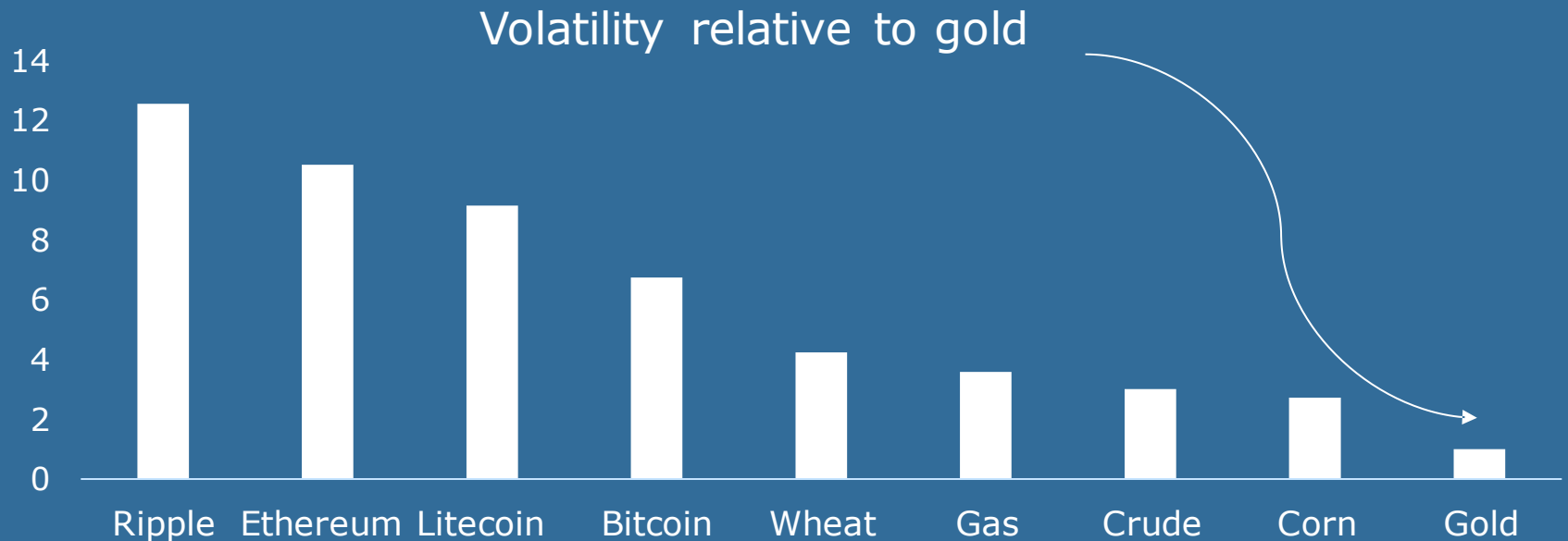
Hayekian „currency competition“

- *Hayek* (1976) argues that money as spontaneous invention should be taken from the hands of government and be exposed to standard market forces
- Only true competition is to determine what kind of money will ultimately dominate and prevail – no one knows this answer in advance!
- He sheds very little light, however, on the whole transition process. Could cryptoassets be the „Hayekian“ monetary alternative?

Are cryptocurrencies currencies or commodities or assets?

- As said money serves as a medium of exchange
 - But little acceptance of cryptoassets!
 - Low and stagnating transaction activity
- Money serves as a store of value
 - But wild swings in cryptoworld
 - Secular decline in value throughout 2018
- Money serves as a unit of account
 - But portfolios constantly recomputed to USD
 - Perhaps only bitcoin for other cryptoassets

Cryptoassets are the most volatile "commodities"



Graph shows price volatility during the last six months (gold volatility normalized to 1).

Bitcoin itself is hardly a good store of value

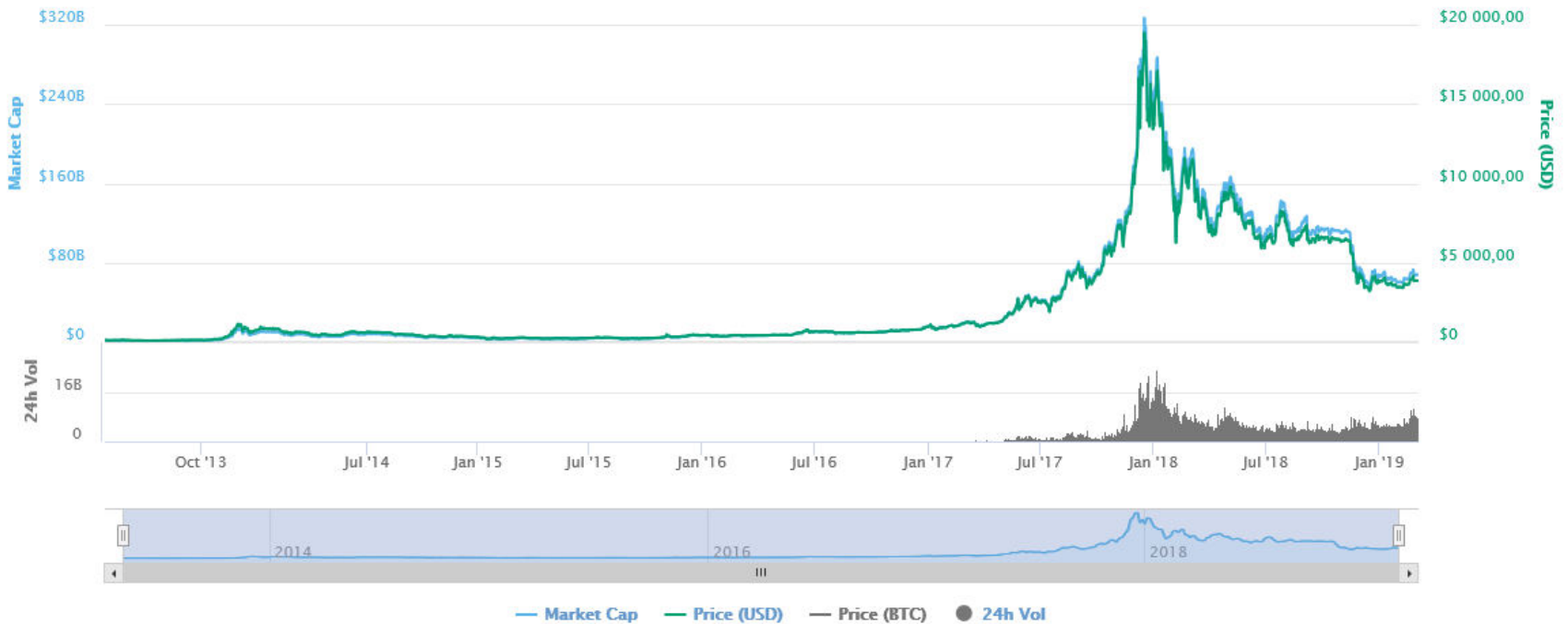
Bitcoin Charts

Linear Scale Log Scale



Zoom 1d 7d 1m 3m 1y YTD ALL

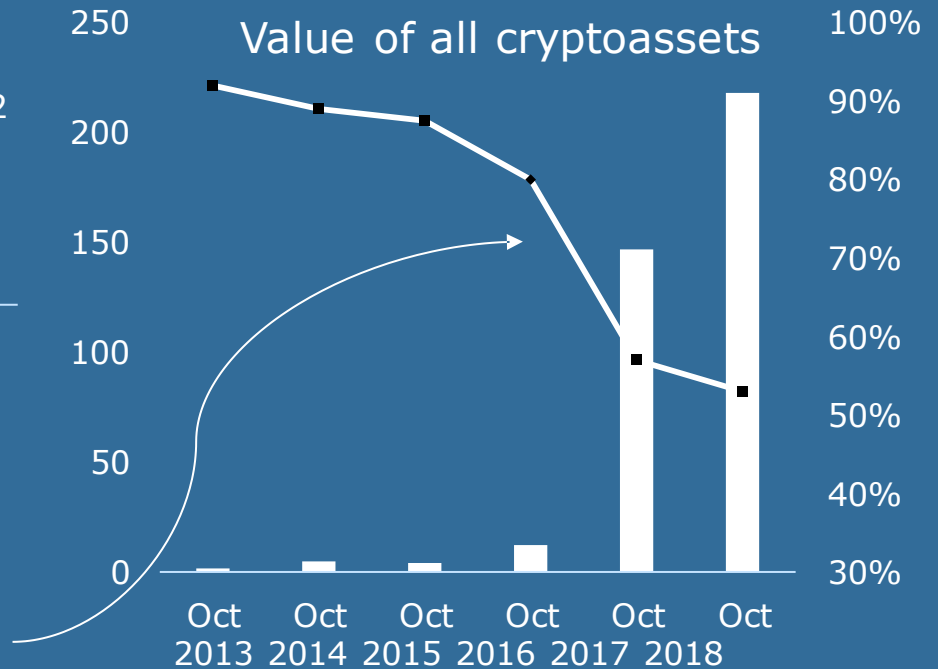
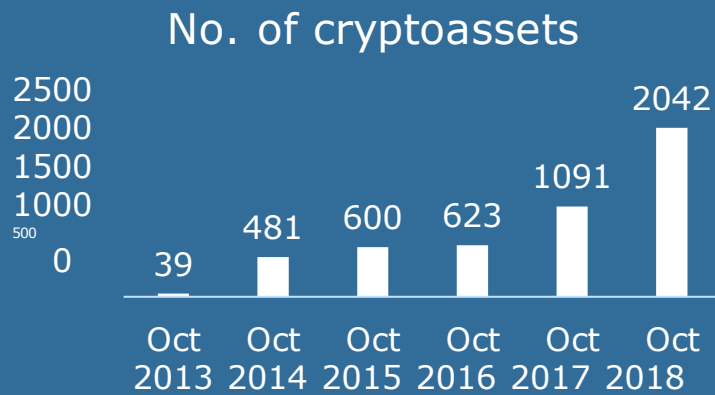
From Apr 28, 2013 To Mar 3, 2019



coinmarketcap.com

Source: <https://seekingalpha.com/instablog/49941368-oleg-spilka/5249219-glance-five-of-best-cryptocurrency-wallet-apps-available-for-smartphone>

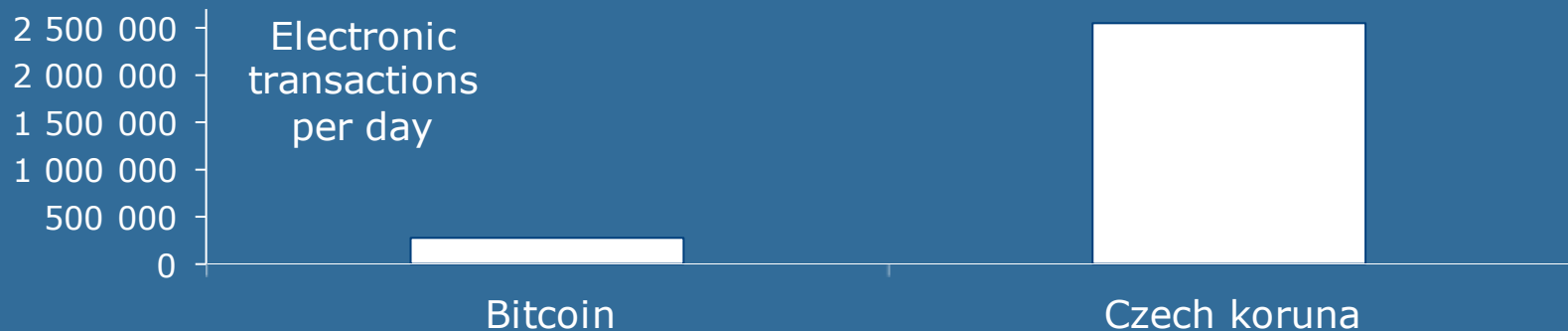
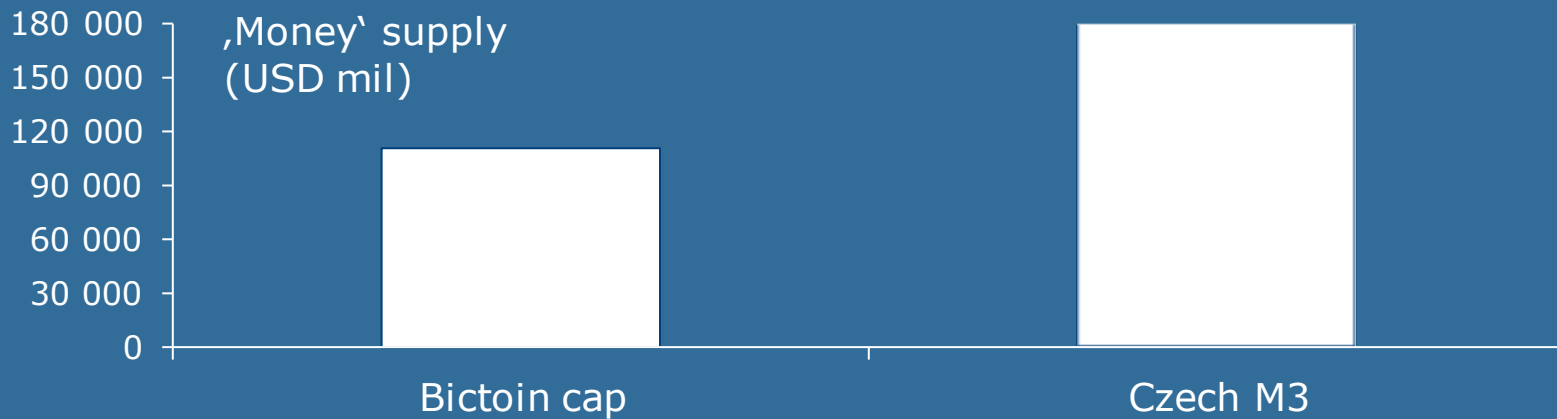
Competition among cryptoassets



Total capitalization of cryptoassets (USD bn)
 Bitcoin market share (right axis)

Source: Author

Bitcoin is globally much less important than CZK



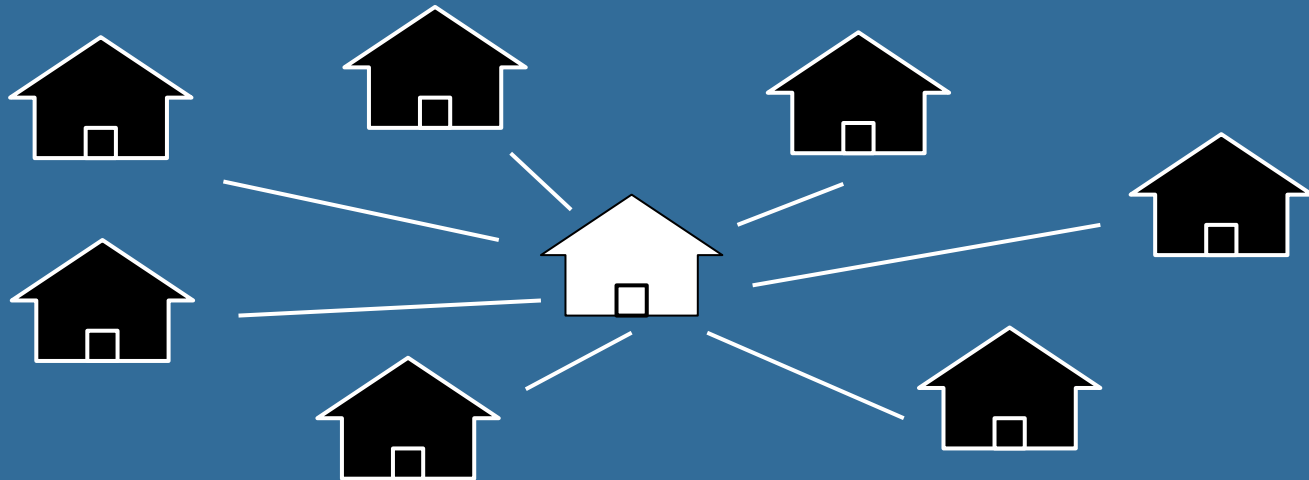
Source: Author

Regulation of cryptoassets

- Discussions mostly due to psychological effects (little systemic importance)
- No unified approach at the EU-level
 - But a clear FSB consensus: cryptoassets are no currencies, they are rather commodities or an asset class per se
- ESMA evaluates all ICOs; outcomes mostly limited to verbal warnings for consumers
- CNB approach: do no harm, do not ban, but also do not actively promote cryptoassets

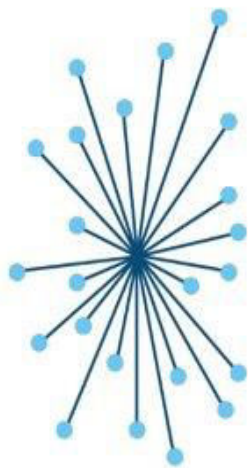
Distributed ledgers predate centralized systems

The original „land registry“:

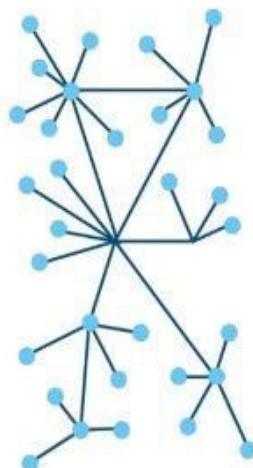


The relative success of bitcoin underpinned by providing economic incentives for verification.

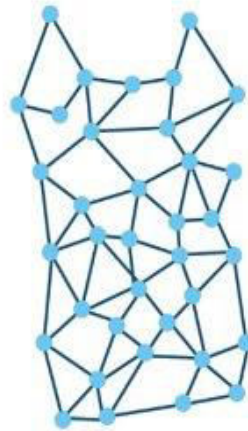
DLT vs. centralization



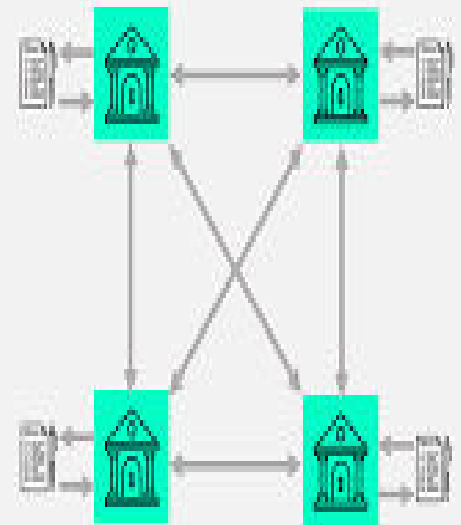
Centralized



Decentralized



Distributed



Distributed Ledger

Source: https://www.sanog.org/resources/sanog30/SANOG30-Conference_blockchain-thefutureofinternet.pdf

Source: دفتر-کل-توزیع-شده-چیست؟/blog/?/dev98.co

Blockchain: usefulness for finance still unclear



Airships were the symbol of the future once...

Source: https://www.cnb.cz/export/sites/cnb/en/public/galleries/media_service/conferences/speeches/download/hamp1_20181129_cms.pdf

Practical use of blockchain outside finance

- Blockchain verification notoriously inefficient in terms of (inter alia) energy use
- For example, in Iceland households consume about 700 GWh of energy per year. Crypto mining consumes 840 GWh
- Benefit: Iceland uses cryptoasset mining as a transatlantic electricity distribution system
- Crypto mining can also provide unlimited batteries for homes with solar panels

Cash in circulation differs among countries

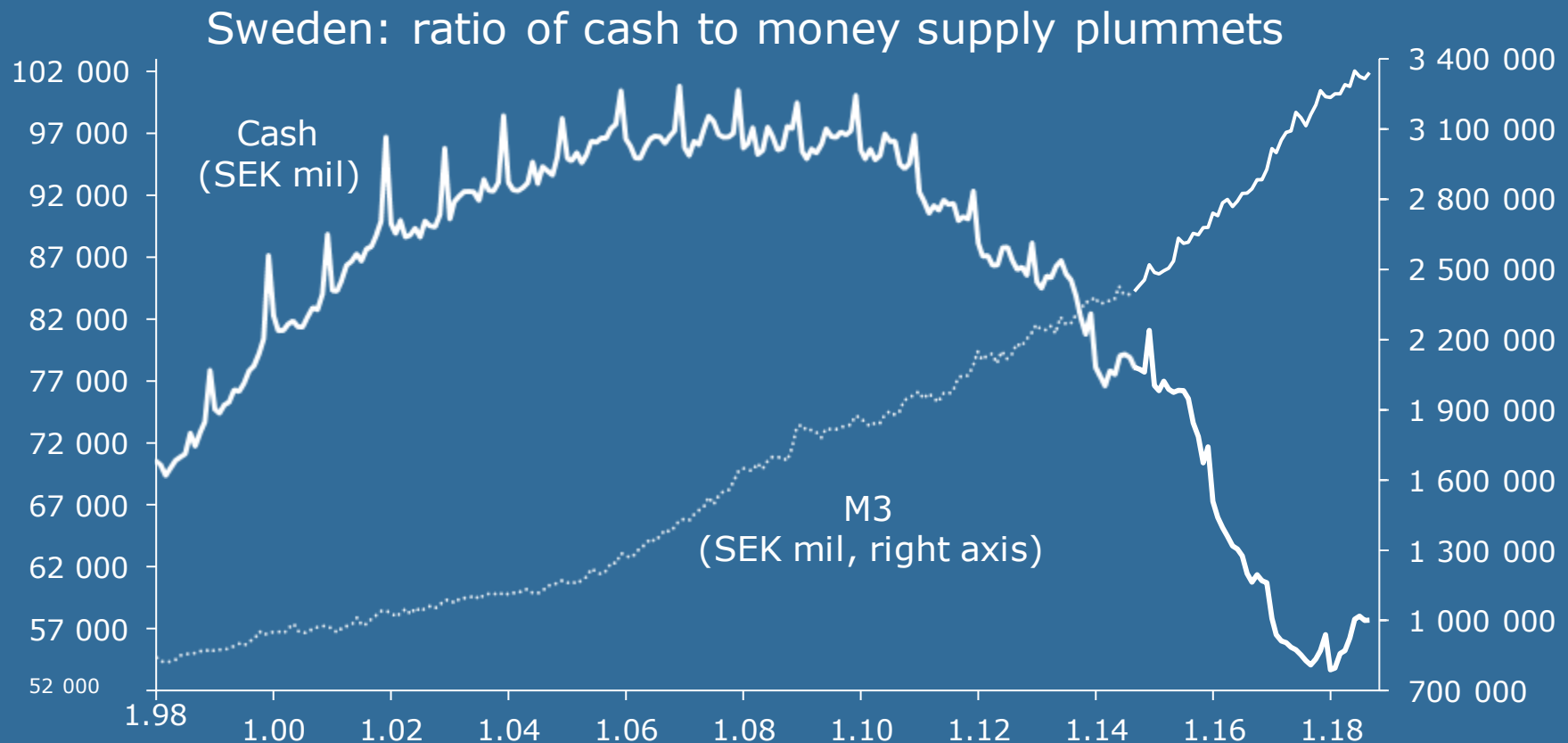
Scandinavia: *below 5%*

Anglo-Saxon world: *5%- 10%*

Central Europe: *above 10%*

Balkan countries: *sometimes above 20%*

Some central banks issue less and less money like Sweden



Source: https://www.cnb.cz/export/sites/cnb/en/public/galleries/media_service/conferences/speeches/download/hamp1_20181129_cms.pdf

Compare with: <https://www.riksbank.se/globalassets/media/rapporter/e-krona/2018/the-riksbanks-e-krona-project-report-2.pdf>

Central bank digital currencies

- The greatest contribution of cryptoassets is intellectual stimulation
- What will central banks do in the next crisis?
- One possible tool is helicopter money. But in the current system, joint venture with the government is necessary. Big difficulty!
- With CBDC, central banks can directly support consumption in a deep recession (Hampl and Havránek, 2019)

The Pros and Cons of CBDC

Benefits:

1. Increases the CB's control over the money supply
2. Allows everybody access to the CB's balance sheet
3. Enables "helicopter money"
4. Allows potentially negative rates on digital "cash"
5. Improves the CB's budget

Threats:

1. Crowding-out of bank money
2. Without psychical cash the economy is more vulnerable to natural disasters and cybercrime

Helicopter Drop

- Proposed by Friedman (1969)
- Previously discarded by most central bankers and economists: necessary to cooperate with the government (tax credit); problems for independence
- But with digital currencies (think e-krona), the CB can implement helicopter money easily
- It can send each month to every person an amount of money that can only be consumed (limited validity)
- More effective than QE (draw a simple balance sheet)
- QE expands the CB's balance sheet, helicopter money creates a loss, but doesn't affect the total value of the balance sheet

Negative Interest Rates

- The main problem with negative rates: when they become sufficiently negative, people switch to cash
 - When the scope for negative rates is so limited, the benefits do not outweigh the costs (uncertainty, financial instability, unintuitiveness)
 - That's why recent experiments with negative rates haven't been universally successful
- Clever solution: create an exchange rate between cash and electronic money (deposit fee on cash); only use it in crisis
- Already used by Kublai Khan in the 13th century: a paper note was exchangeable for the unit of account (gold), but for less than the note's face value

Deposit Fee on Paper Currency

How a deposit fee on paper currency would work

1. When there is a negative interest rate on electronic money (reserve accounts), there would be an increasing discount on withdrawals of cash. With the discount the value of paper money and money held electronically would change in tandem.



2. When there is a negative interest rate on electronic money, there would also be a fee when depositing paper currency. This would prevent the circumvention of negative interest rates by the withdrawal of paper currency.



Source: Agarwal and Kimball (2015)

References:

1. **Friedman, Milton, 1969.** “The Optimum Quantity of Money,” Aldine Pub. Co.
2. **HAMPL, M., HAVRÁNEK, T., 2019.** „Central Bank Equity as an Instrument of Monetary Policy“, Comparative Economic Studies, 17th April.
3. **HAYEK, F. A, 1976.** „Denationalisation of Money “, London, Institute of Economic Affairs.
4. **SKINGSLEY, C., 2016.** „Should the Riksbank Issue E-Krona?“
<http://www.riksbank.se/en/Press-and-published/Speeches/2016/Skingsley-Should-the-Riksbank-issue-e-krona/>.
5. **ROGOFF, K. S., 2016.** „ The Curse of Cash“, Princeton, Princeton University Press.

Thank you for your attention!

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