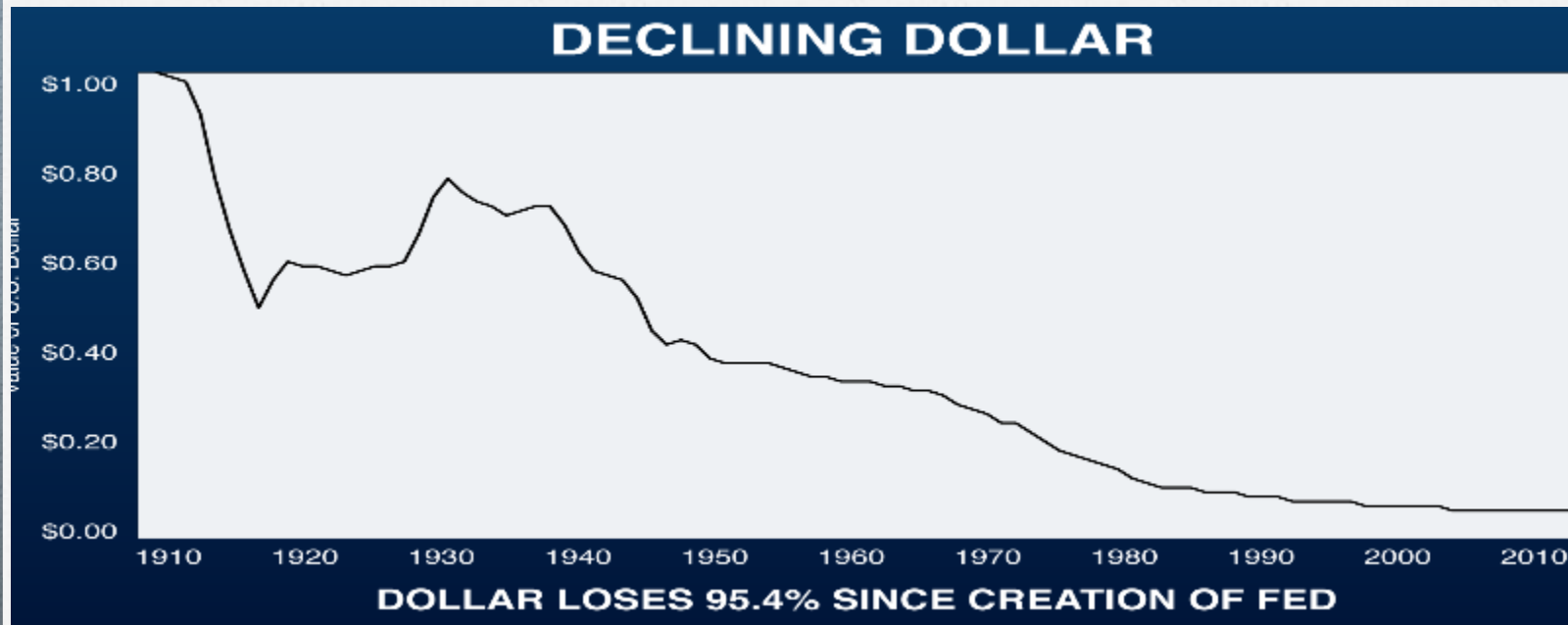


Central Bank Digital Currency

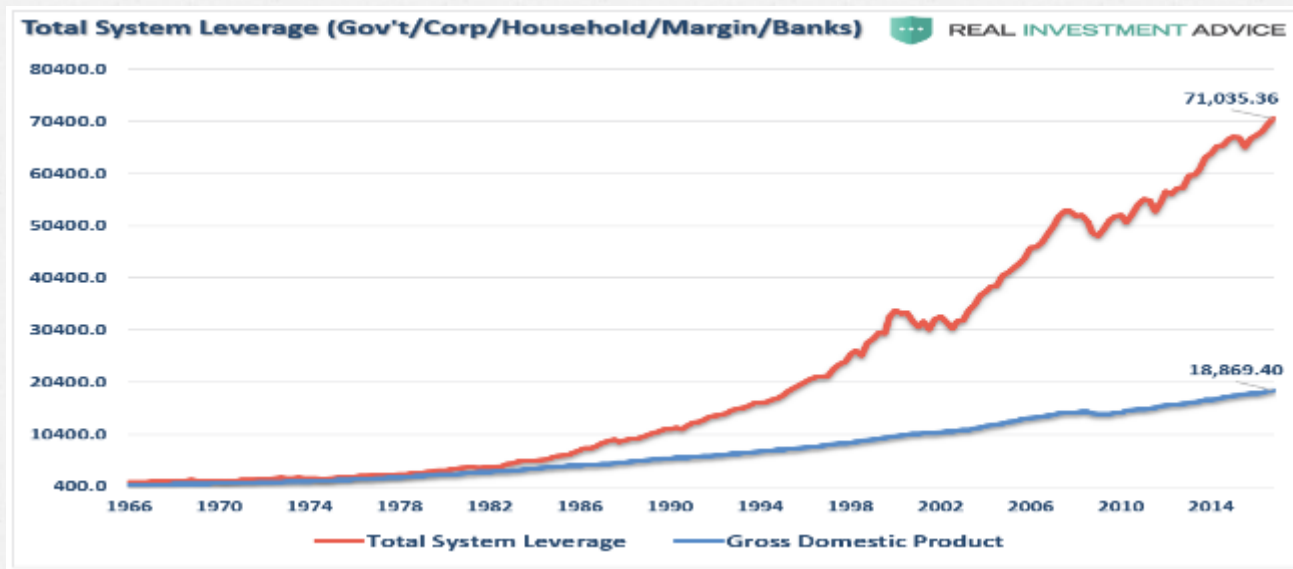
**Konstantin Korischenko,
RANEPA, professor**

What is wrong with modern financial system?

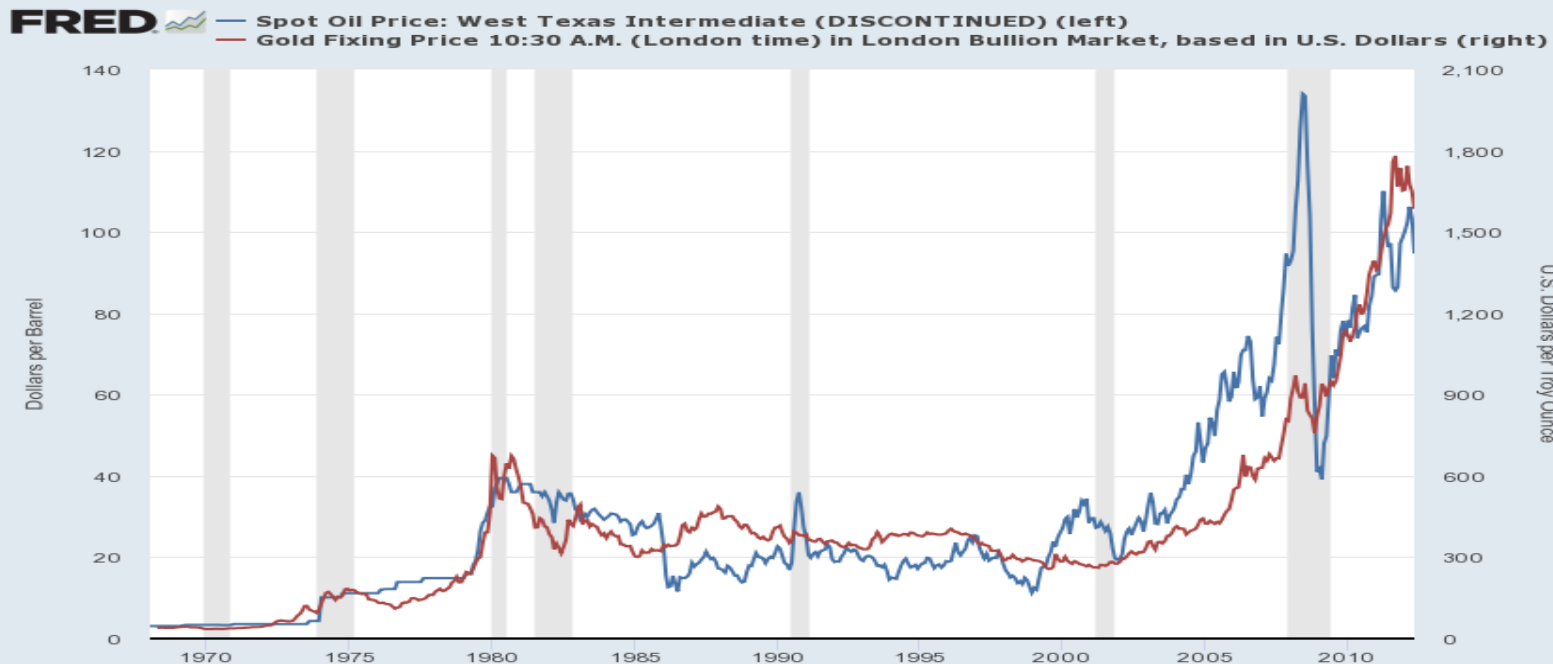
Most powerful currency is not that might



In last 20 years total world debt
grew faster than world GDP by 2% p.a.



Real assets keep their value

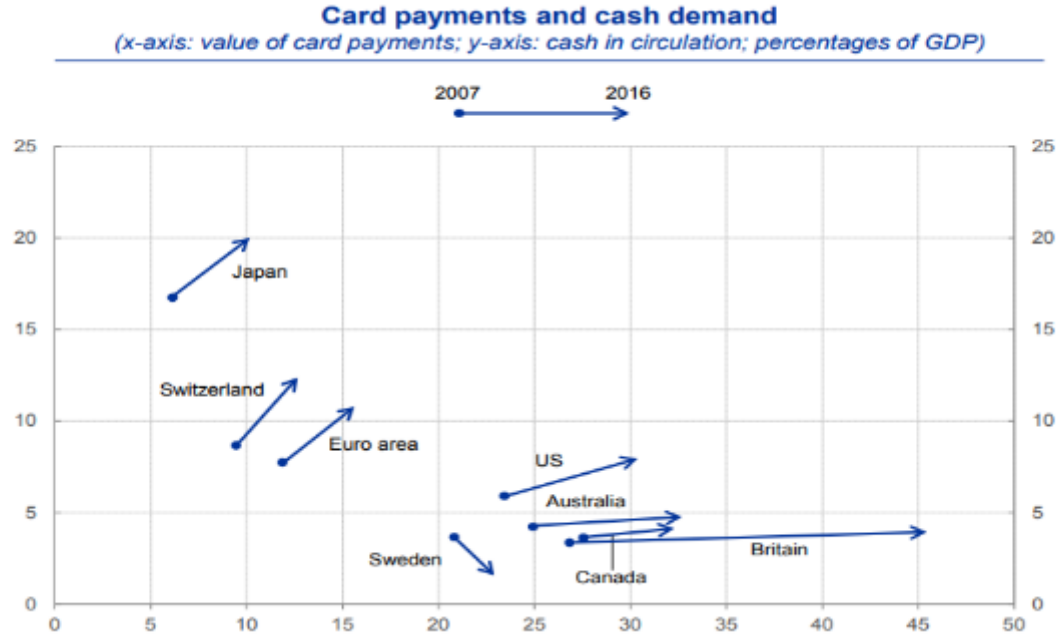


Shaded areas indicate U.S. recessions

Sources: Dow Jones & Co, IBA

myf.fred/g/goYf

CASH is needed even more, then before crisis-2007



Old monetary system is falling apart...

Money

- ❖ Quantitative easing
- ❖ Negative interest rates
- ❖ Cash - safe haven
- ❖ TBTF – Too big to fail
- ❖ Deposit insurance scheme
- ❖ Correspondent banking

Banks

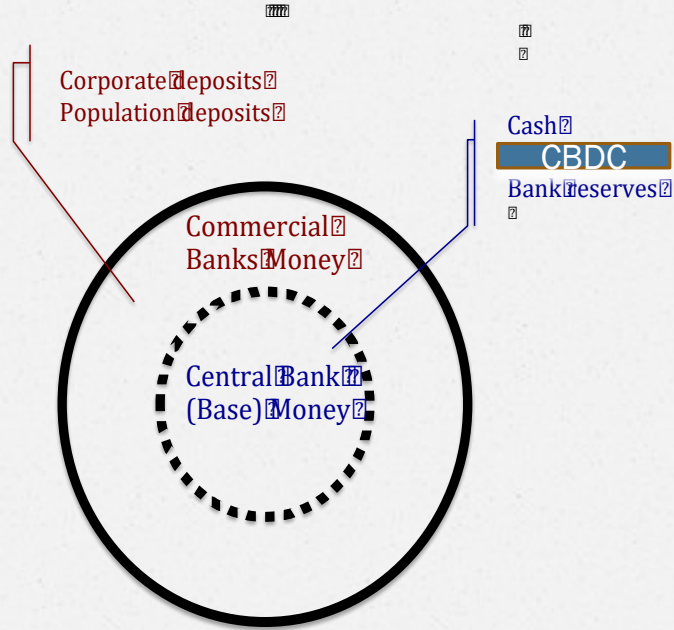
Disruptors

- ❖ The Narrow bank case
- ❖ Cryptocurrency

New Monetary system

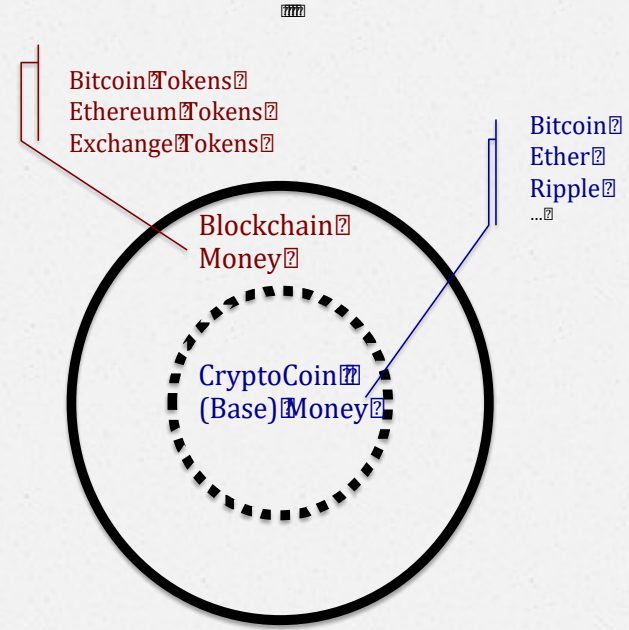
Adding third element

Traditional Monetary System



K. Korishchenko (RANEPA)

Crypto Monetary system



06.02.2020

9

Money is ... ?

❖ Store of value (the best – **Gold ?**)

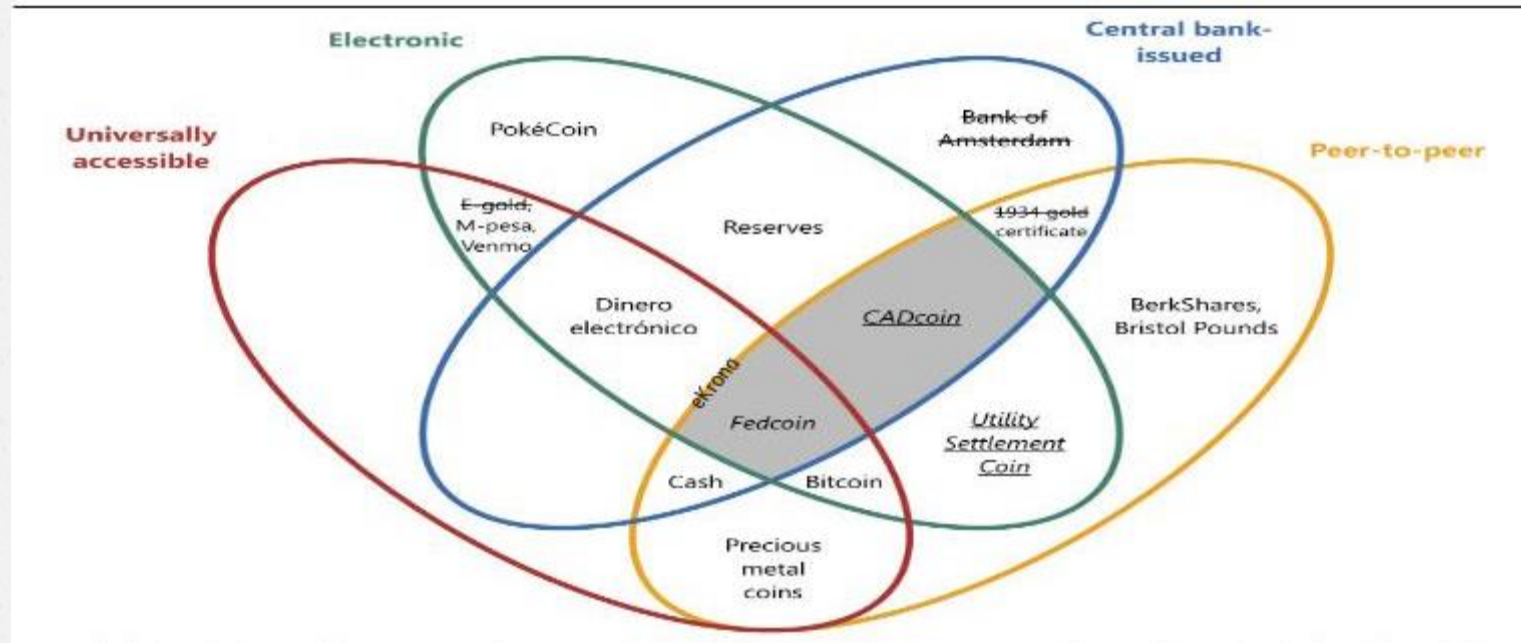
OR

❖ Means of exchange (the best – **IOU ?**)

MAY BE

❖ Balance of both (the best – **CBDC ?**)

The money flower



4 types of CBDC by purpose

- ❖ Retail
- ❖ Wholesale
- ❖ Cross-border
- ❖ “Hybrid”

4 types of CBDC by technology

- ❖ Account-based CBDC
- ❖ Token-based CBDC
- ❖ Two-tiered CBDC

Do we really need DLT to develop CBDC?

CBDC

- Retail -

Objectives

- ❖ **Cash digitalization & decentralization**

- ❖ **Projects short list:**

- Dinero electronico (Ecuador)
- eKrona (Sweden)
- Fedcoin (USA)

Project FEDcoin

- basics -

- ❖ Universal, electronic, 24x7
- ❖ Direct dollar account with CB for exchange to CBDC
- ❖ Exchange rate = 1:1
- ❖ FedWire for all, no bank account to transact, p2p model
- ❖ RSCoin – predecessor (UCofL)
- ❖ 2 Phase notary service (FED – Coin creation, Nodes/Banks – TX confirmation)

CBDC

- Wholesale -

Objectives

Improve centralized payment systems

LVTS (Canada), MEPS+ (Singapore), T2S (EC)

Digitalization of Payments

Central Bank Digital Currency (CBDC) with real-time gross settlement capabilities

Decentralized Processing

Distributed and resilient infrastructure with no single point of failure

Payment Queue Handling

Uniform queuing system with prioritization, holding and cancellation facilities

Settlement Finality

Final and irrevocable settlement of payment instructions with deterministic finality

Privacy of Transactions

Only relevant parties will have visibility to transaction details

Liquidity Optimization

Implement netting and gridlock resolution algorithms to maximize liquidity efficiency

□

Project Jasper

- ❖ DLT-based wholesale payment system
- ❖ DLT system with a group of trusted entities
- ❖ Phase 1 – Ethereum, Phase 2 – Corda
- ❖ Jasper is separate from the modernization agenda (LVTS) and there are no plans to include DLT as part of the improvements

Project Ubin

- ❖ Mirroring Ubin transactions to MAS balance transactions
- ❖ Digital SGD money market
- ❖ LSM
- ❖ PvP, DvP
- ❖ 3 Platforms: Corda, HyperLedger, Quorum
- ❖ Cloud: Microsoft Azure

CBDC

- Crossborder -

Project Stella

- ❖ Cash-Securities-Assets
- ❖ DvP, PvP
- ❖ Cross-chain transactions



CBDC

- Hybrid -

Unchartered territory for Central Bank and Government

Traditional economy

IOT Economy

Economic Resource

Goods
Labor
Capital

Services
Land

Smart device

Tokens

Utility
Collectibles
Reward/Bonus

Commodity
Security/equity
...

Blockchain

Contract

Smart
Contract

Markets

Exchange
Broker

Bank
OTC

M2M Platform
Marketplace

Digital Currency
Digital Payment System/DVP²⁶

Cross-chain

Digital currency for IoT economy

- ❖ Central Bank – issuer, supervisor, **not** IT-provider
- ❖ Blockchain-based, 24/7
- ❖ Divisible down to very small amounts (0.0...01)
- ❖ Ultra-fast payments (thousands per second)
- ❖ No "second-tier" issuer (no commercial bank)
- ❖ No credit risk/DVP
- ❖ No forex risk/Single currency for internet payments

Monetary policy & Financial stability

- ❖ Cash
- ❖ Lender of Last Resort
- ❖ Banking channel
- ❖ Interest rate channel
- ❖ Deposit insurance scheme
- ❖ Bank run
- ❖ Anonymity, KYC & AML
- ❖ Algorithmic Central Bank

Fiscal policy/Financial markets

- ❖ «Seminole County, Florida To Accept Crypto For Tax Payment» - May, 2018
- ❖ Crypto Fiscal policy - instant taxation
- ❖ Marketplace
- ❖ CryptoAnimals: Exchange, Wallet, Bank, Fund