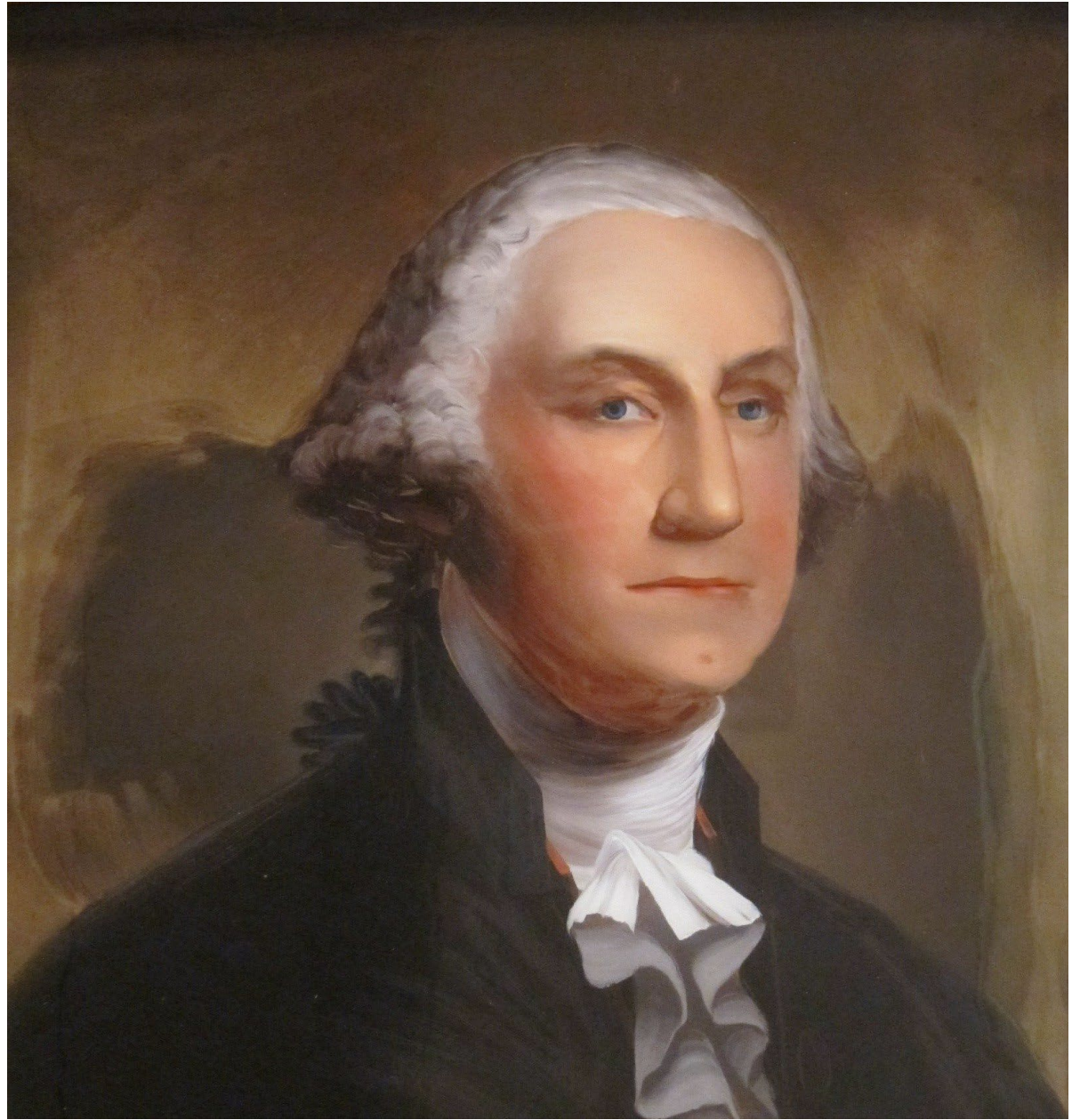
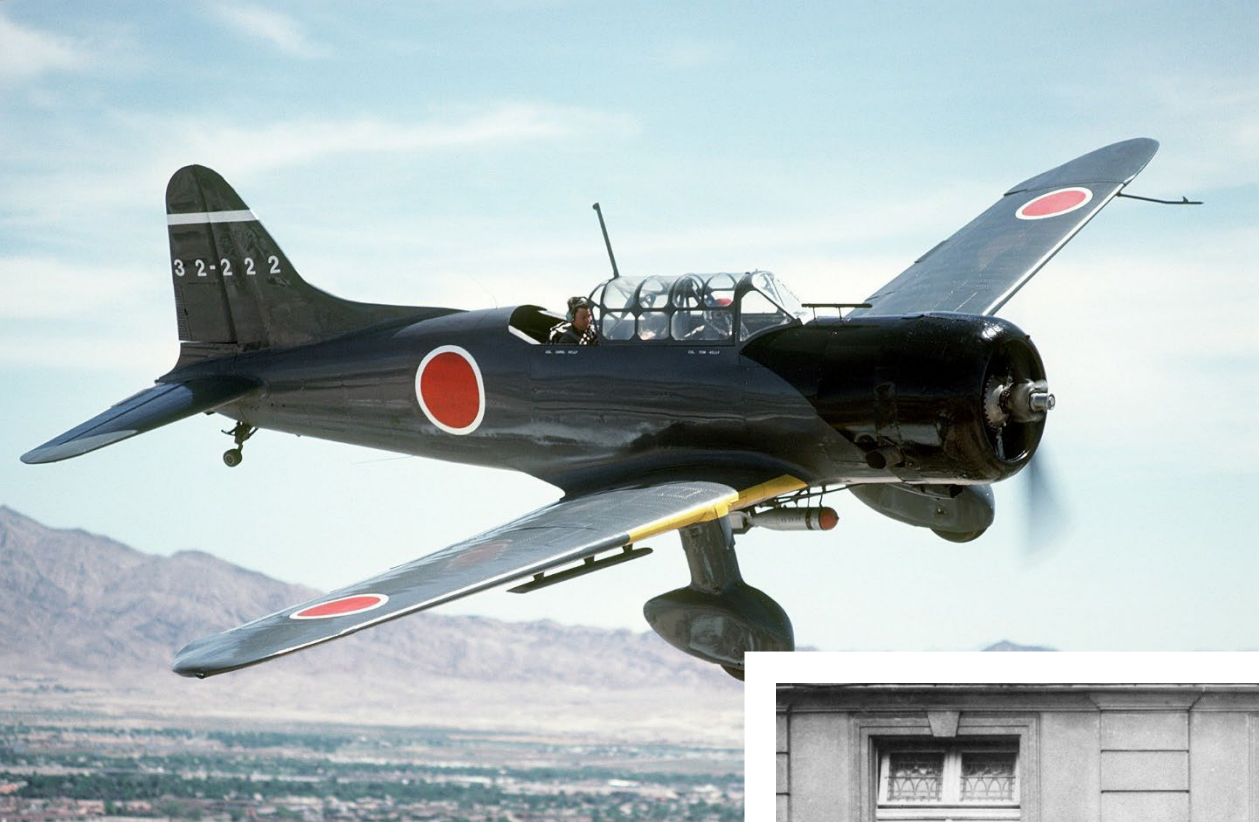


Historical Walk

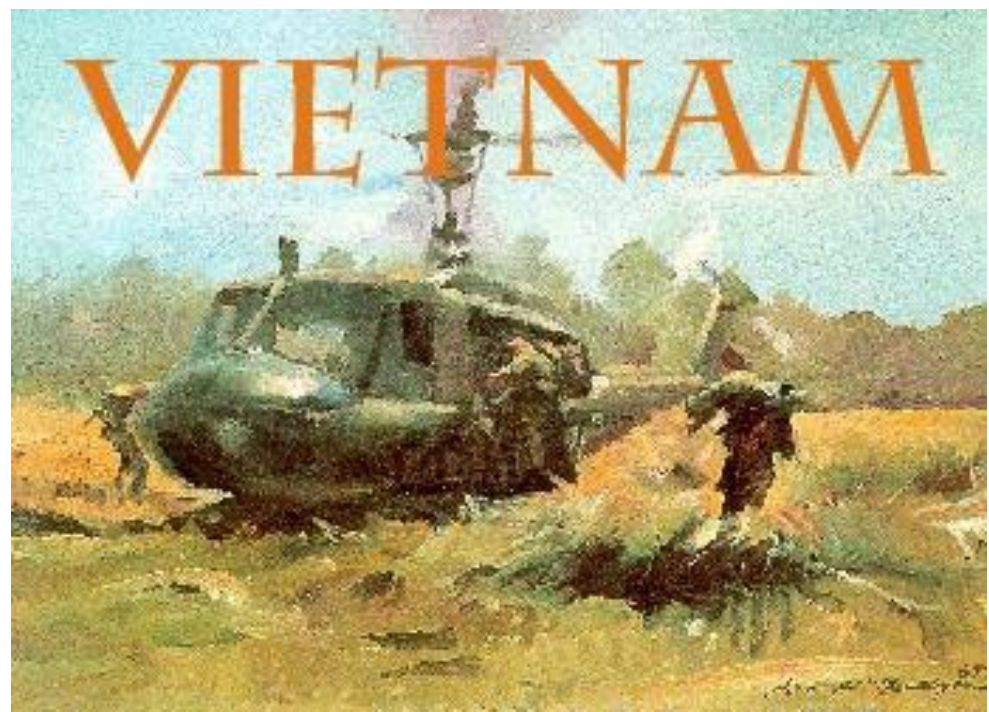
Established Money











August 1971



On deposit in the U.S. Treasury



Legal tender

Federal Reserve Note



Legal tender

Pays bearer nothing



A newspaper clipping with the year **2008** in large red letters. The text "Financial Crisis" and "Wash of" is visible in a large serif font. Other text includes "Major real e", "also started to", "erty trans", "belief, and a punter re", and "Market yesterday dealt a", "estors' confidence, as", "ecided to inter", "ing ser".

The word **CRISIS** is cut out from newspaper text and placed over a background of US currency, including a \$100 bill and a \$5 bill. The word is in large, bold, black letters with a white background.





What is a Currency?





What is money?

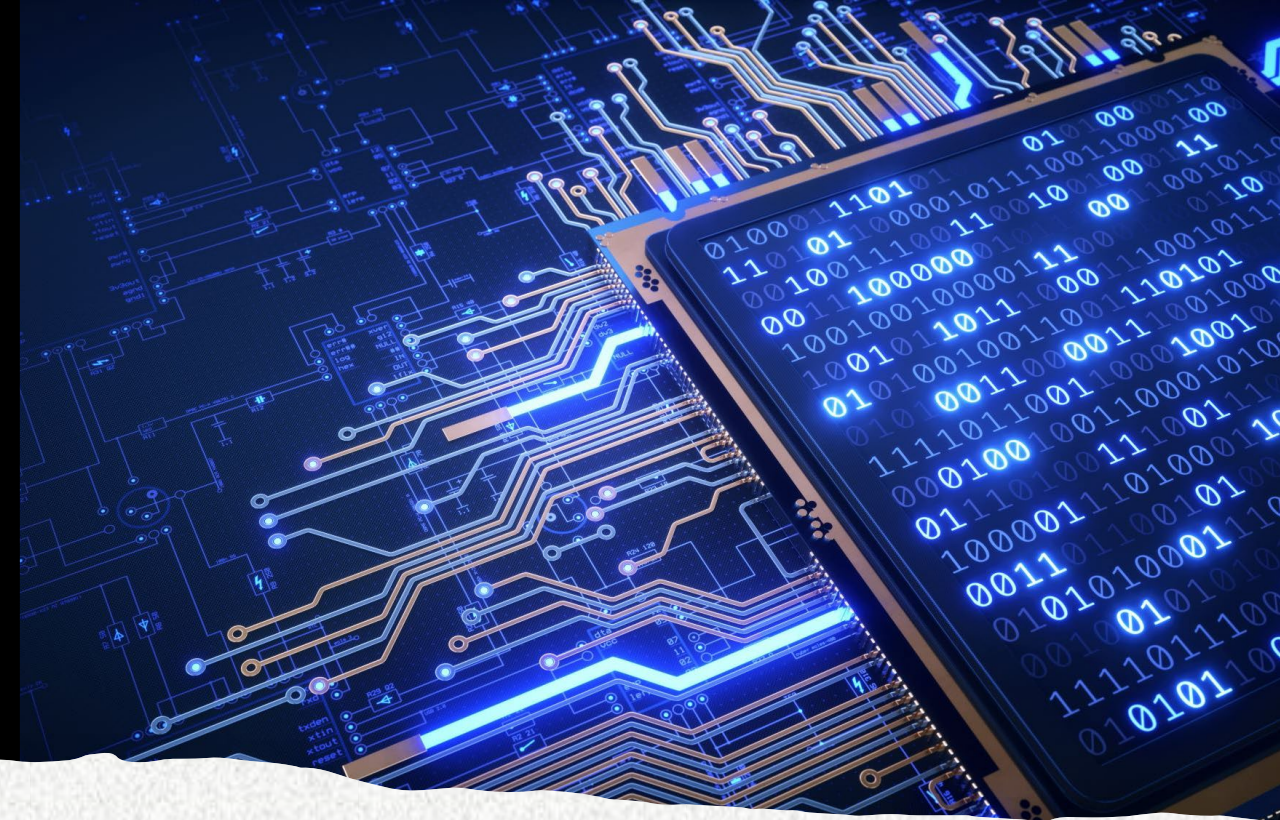
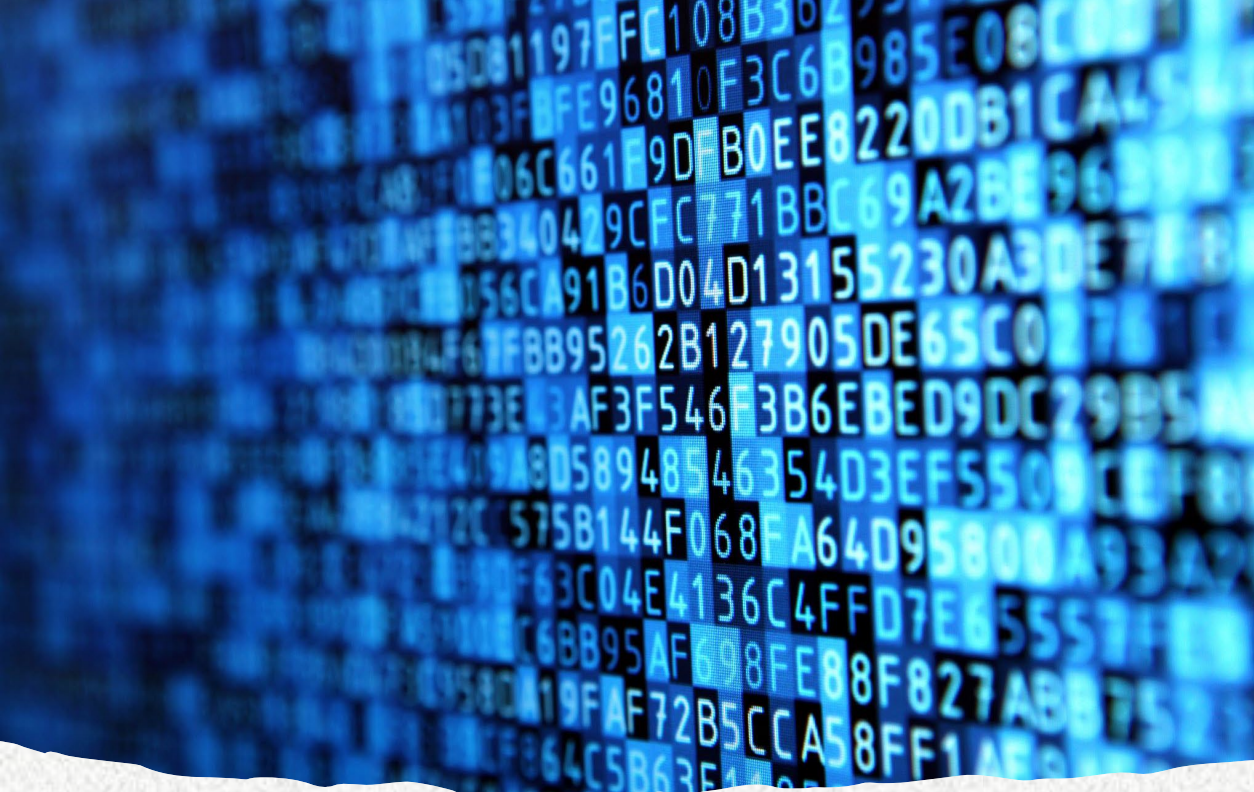
-
- Medium of Exchange
 - Unit of Account
 - Store of wealth
 - Fungible



Audience Participation

Why does this have value?

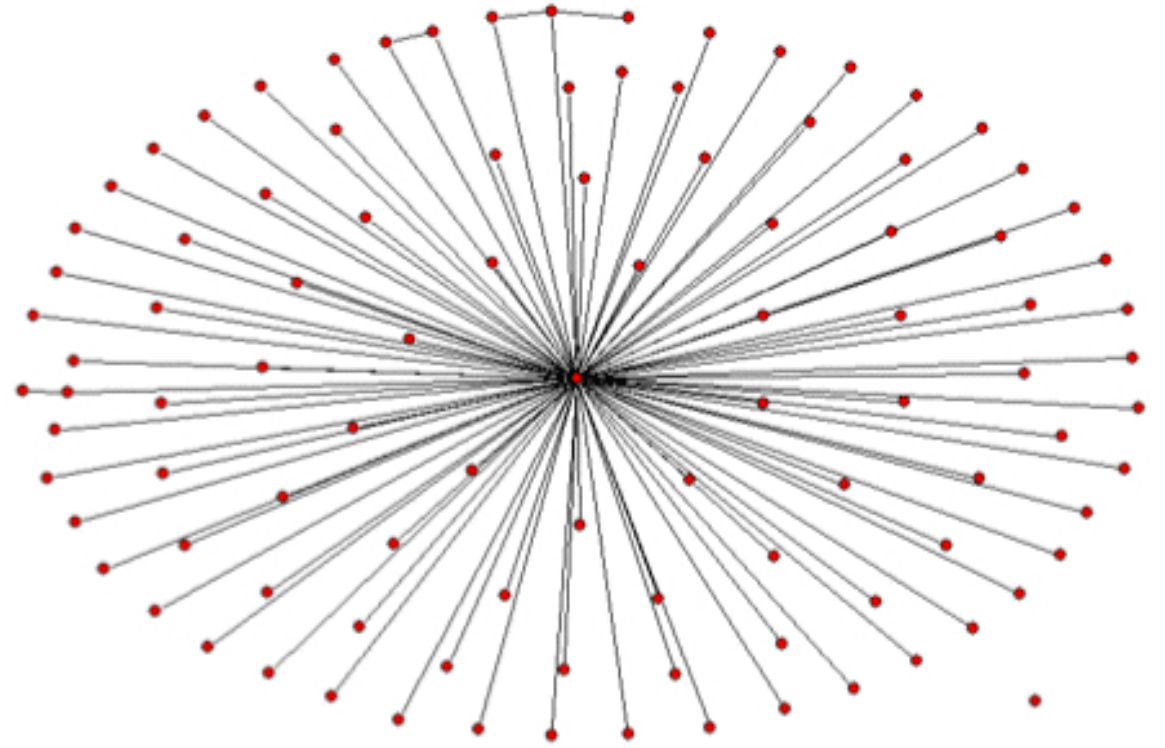




Future of Money Is Digital

Isn't Money Digital
Already?



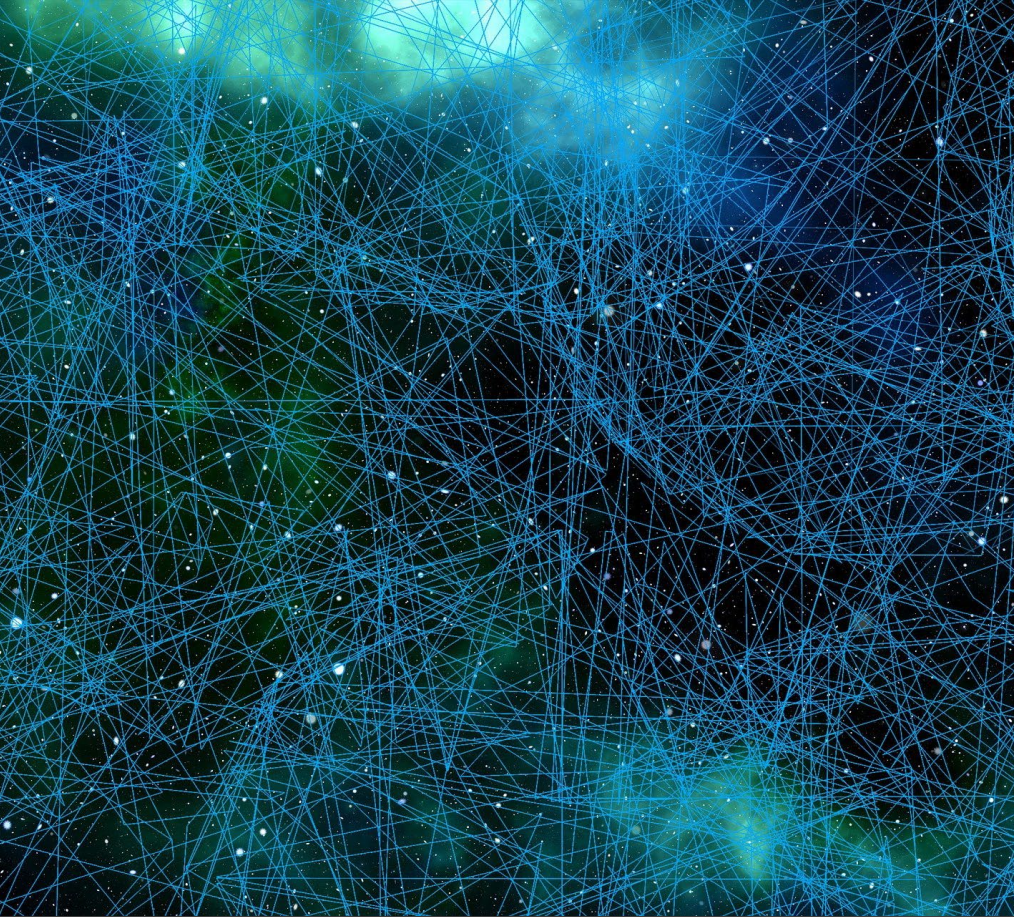


Paper Money in
Digital World

Central Accounting System

Decentralized Future



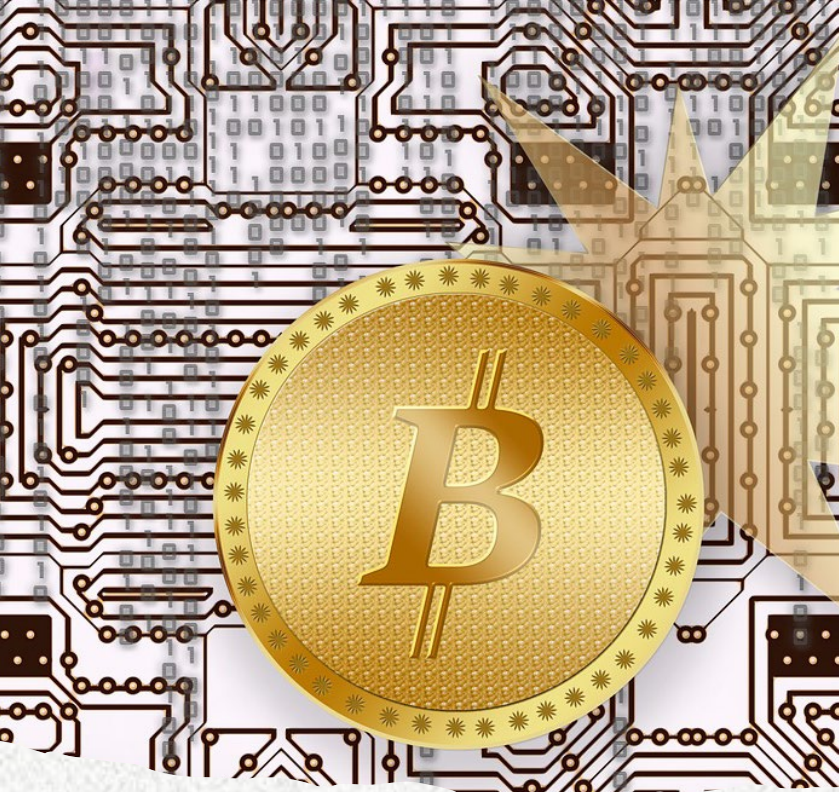


You Are A Bank



Establishing Trust

- How do we know users have value in their balances?
- How do we know user authorized transfer of value?
- Double spend problem.



Bitcoin as money

Medium of
Exchange

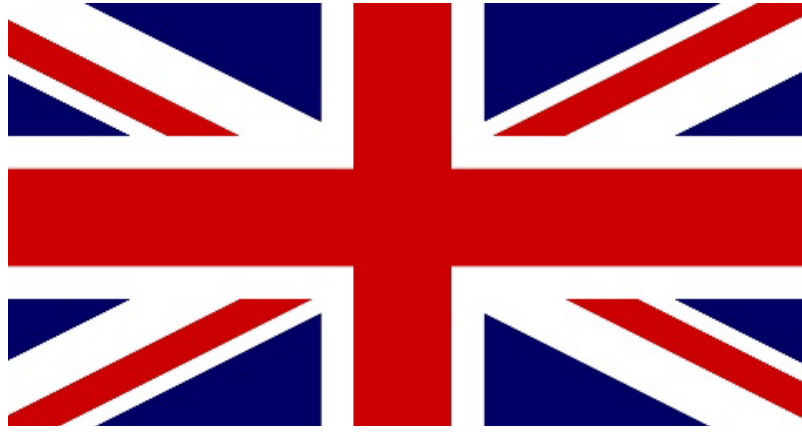
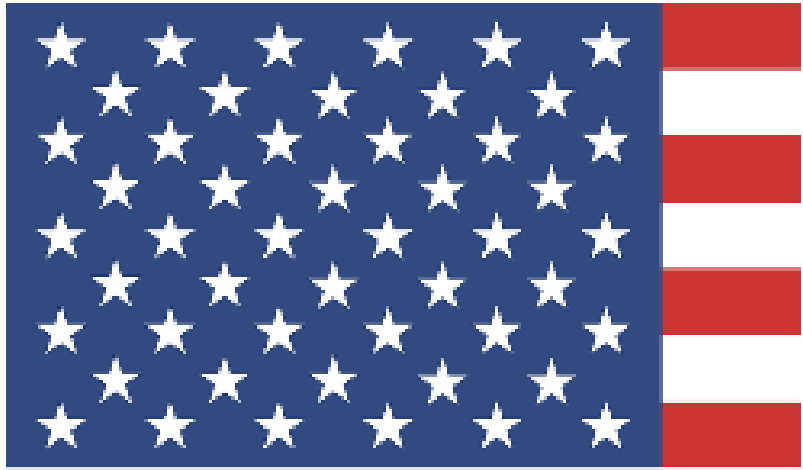
Unit of
Account

Store of
wealth

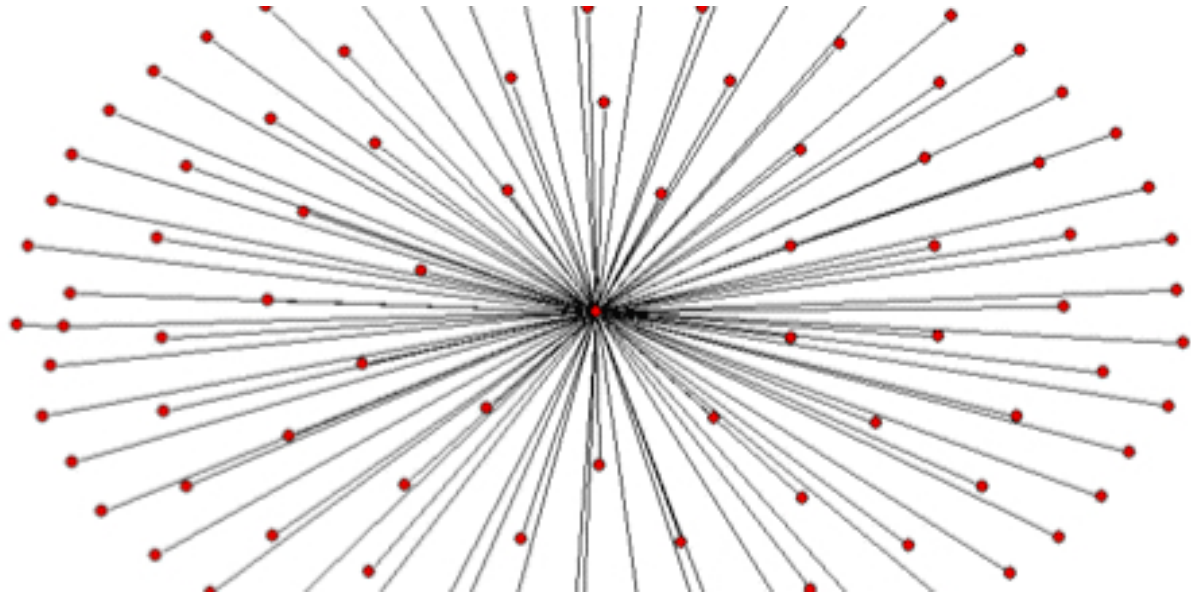
Fungible

STAR ^{THE} **EMPIRE** **STRIKES BACK** *

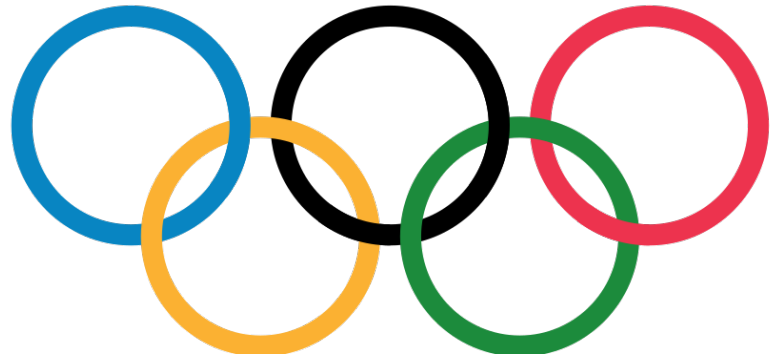




Central Bank Issued Digital Money



BEIJING 2022



You earn \$1000. Which would you choose?

Accept the equivalent of \$1000USD in Bitcoin and hold for 3 months.

Accept \$1000USD for 3 months in a savings account compliant with FDIC standards.



Students, drag the icon!



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Do not remove this bar

Explain your choice...



Students, write your response!

- Objective: Three Functions of Sound, Fiat Money in Modern Society
- Use to determine if crypto is money.



1. Medium of exchange



2. Store of value



3. Unit of account

Three Functions of Sound, Fiat Money in Modern Society



1. Medium of exchange



2. Store of value



3. Unit of account

Sound money
backed by
limited
government
support:

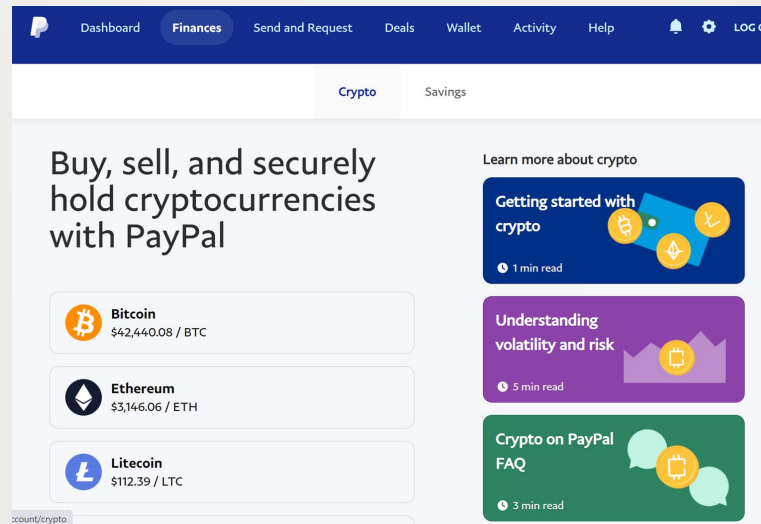
Permits
specialization,
division of labor,
and operation on
basis of
comparative
advantage.

All of this contributes
to:
Growth in production
and income through
voluntary trade without
necessarily increasing
resources.
Investment in capital is
a plus!

Assessment for Sound Money

1. Have you purchased cryptocurrency using PayPal, Coinbase, or another venue?

YES



NO



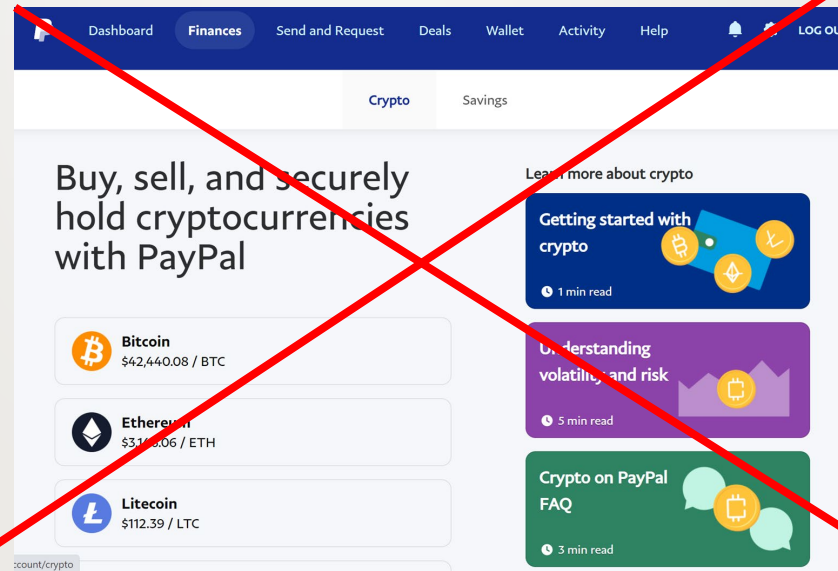
Students, drag the icons!



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Assessment for Sound Money

1. Purchased crypto, NTF, or other digital tech?
2. Have you accepted cryptocurrency using PayPal, Coinbase, or another venue in payment for something?



Some Have: NFL

Sports analysts business analyst, Darren Rovell, tweeted the report, pointing out that it provides a cautionary tale for everyone wishing to take their salary in Bitcoin.



Darren Rovell ✓
@darrenrovell



The amount of people applauding players changing their salary into Bitcoin as if they were heroes has been comical.

Rams WR Odell Beckham Jr., at least in the moment, provides a cautionary tale.

On November 12, Odell Beckham Jr. signed a deal with the Rams worth \$750,000. He announced he would take that in Bitcoin.



Cleveland Browns' Odell Beckham Jr.

Adejumo, O. (2022, January 26). *Issues arise with NFL's star Bitcoin salary*. Yahoo! Retrieved April 21, 2022, from <https://www.yahoo.com/video/issues-arise-nfl-star-bitcoin-163331473.html>

At the time, Bitcoin was worth \$64,293.

So, \$750,000 translated into how many Bitcoins?

- A. 11 Bitcoin
- B. 1,100 Bitcoin
- C. 11,000 Bitcoin
- D. 11,000,000 Bitcoin



Cleveland
Browns' Odell
Beckham Jr.



At the time, Bitcoin was worth \$64,293.

So, \$750,000 translated into:

- A. 11 Bitcoins
- B. 1,100 Bitcoins
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Cleveland
Browns' Odell
Beckham Jr.

At the time, Bitcoin was worth \$64,293.

So, \$750,000 translated into:

- A. 11 Bitcoin
- B. 1,100 Bitcoin
- C. 11,000 Bitcoin
- D. 11,000,000 Bitcoin

On Jan 26, 2022, the 11 Bitcoin received in Nov 2021 was worth \$385,760.98 USD.

55% drop

On Apr 10, 2023, the 11 Bitcoin is worth \$321,372 USD.

57.15% drop

OBJ's
pay

Cryptos, NFTs, etc. are volatile



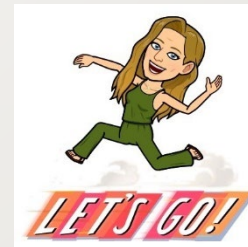
But wait!

Volatility is not the only issue.

There are 2021 taxes.

There is another layer. The Federal and California tax for OBJ is 50.3%. That is right, over half of his pay will be taxed. Which amount does OBJ use to calculate taxes due?

- A. 11 Bitcoins
- B. 6 Bitcoins
- C. \$412,953
- D. \$750,000



But wait! There are taxes.

Federal and California tax for OBJ is 50.3%. That is right, over half of his pay will be taxed. Which amount is taxed?

1. 11 Bitcoin
2. 6 Bitcoin
3. \$412,953
4. \$750,000

2021 Taxes Due: \$377,250

But wait! There are taxes.

Federal and California tax for OBJ is 50.3%. That is right, over half of his pay will be taxed. Which amount is taxed?

- A. 11 Bitcoins
- B. 6 Bitcoins
- C. \$392,733, holding 11 Bitcoins
- D. \$750,000

1. 2021 Taxes Due: - \$377,250 USD
2. 11 Bitcoins (Odell)
3. Jan 2022: The price of a Bitcoin fell to \$35,703 per Bitcoin Net Pay (~Bitcoin)
4. Never recovered to ~ \$64,000

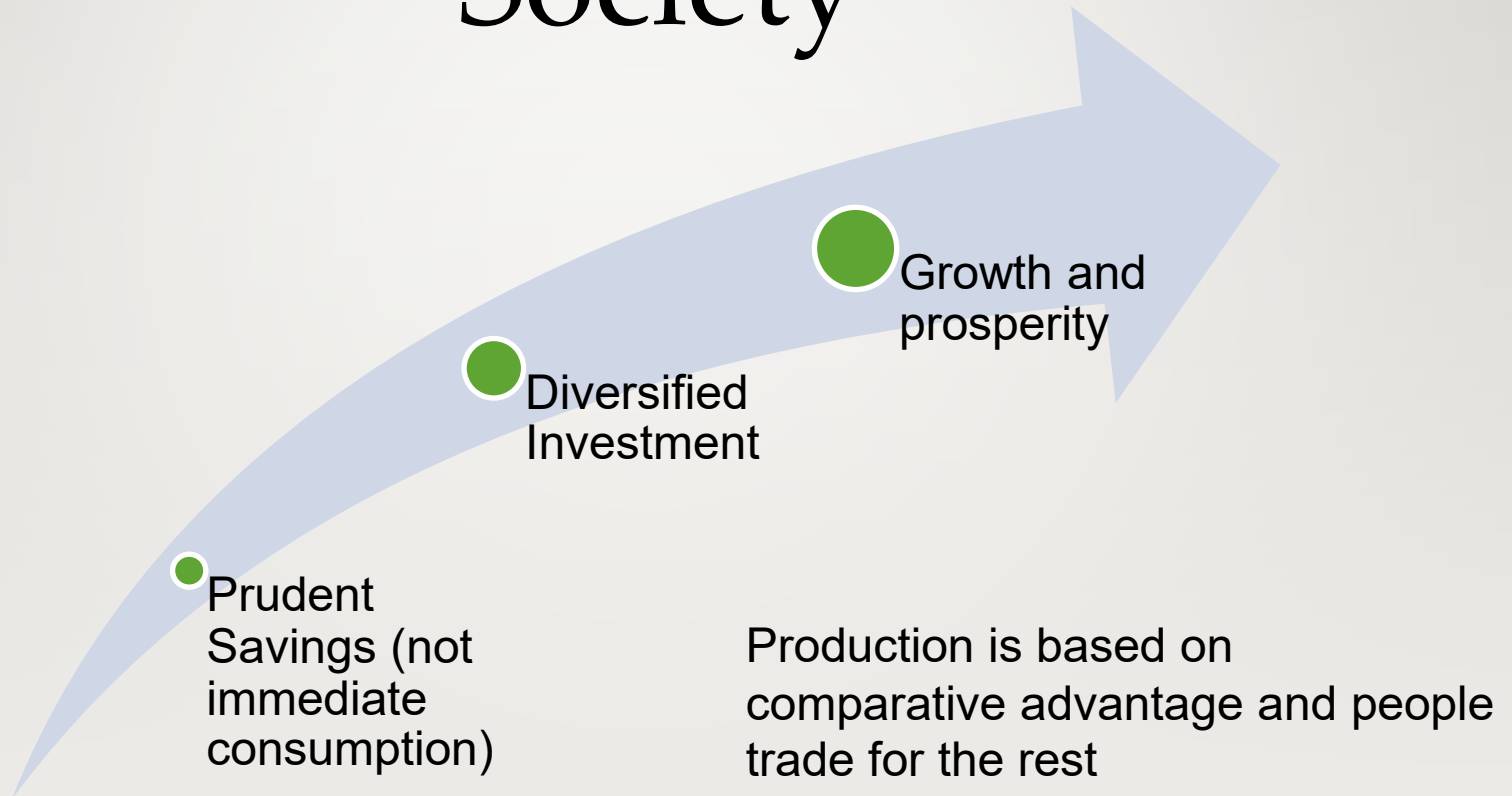
But wait! There are taxes.

Federal and California tax for OBJ is 50.3%. That is right, over half of his pay will be taxed. Which amount is taxed?

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- D. \$750,000

1. 2021 Taxes Due: - \$377,250 USD
2. 11 Bitcoins (Odell)
3. Jan 2022: The price of a Bitcoin fell to \$35,703 per Bitcoin (~Bitcoin) or \$392,733
4. Net Pay is \$15,483 USD after conversion from Bitcoin and paying taxes in USD
5. Bitcoin is far from ~ \$64,000

Growth through Savings and Investment in Modern Society



Saving/Dissaving

COUNTRY STORE LEDGERS PROVIDE AN INTIMATE LOOK AT LIVES FROM THE PAST

May 8, 2018 Mike Aday



Long before the rise and decline of Piggly Wiggly and the A&P, before electronic cash registers and barcode scanners, and before the cash and carry business model, the country store was where people in Southern Appalachia bought their dry goods and sundries. Customers brought in their "greenbacks" (if they had them) and traded with the proprietor for needed items.

If they didn't have ready cash, they were often given credit and allowed to take what they needed. At some date in the future, the customer would pay off the debt with currency or goods the proprietor could sell to other customers: eggs, butter, bacon, mutton, firewood or whiskey. These transactions were usually recorded in the store keeper's ledger book. Sometimes arranged by name, the entries recorded the date of the transaction, items purchased and their cost, and whether the payment was received in cash, credit or kind. Not only did the store ledger serve as the store keeper's accounting system, but surviving volumes also provide a fascinating glimpse into the everyday lives of ordinary people.

This ledger is one of 17 we have here in the archives at the Collections Preservation Center. It belonged

Search...



GSMA AND NATIONAL PARK NEWS

NATIONAL PARK ADVENTURES & HISTORY

SMOKY MOUNTAINS WILDLIFE & BIODIVERSITY

TRAILSIDE TALK

Recent Posts



Word from the Smokies: Meet the Wild Creatures Native to Appalachia's 'Sky Islands'



Word from the Smokies: Retired Biology Professor Dan Pittillo Still Digs Research



Mountain Time: Rock of Ages



An aerial, high-angle photograph of a bustling night market. The market is densely packed with numerous small, colorful tents in various colors including red, blue, yellow, green, purple, and white. The tents are illuminated from within, creating a vibrant, glowing effect. People can be seen walking through the aisles between the tents. The overall scene is a colorful and busy marketplace at night.

From the local store to
installment credit to small
loans to credit cards to
cryptocurrency

What is cryptocurrency?

- Cryptocurrency offers a peer-to-peer electronic cash system.
 - Provides an alternative to the current system of money
 - Do not have to go through the central banking system, a financial institution, or electronic payment system such as Paypal*





Image source: <https://www.iflg.uk.com/blog/should-cryptocurrency-be-part-my-divorce-settlement>

bitcoin

- Bitcoin is the most notable cryptocurrency. There are thousands of others.
 - Was introduced by “Satoshi Nakamoto” in late 2008 and early 2009
 - Concurrent with the **Great Recession of 2008**
 - Thousands of competitive cryptocurrencies exist, including **ETHEREUM, LITECOIN, DOGECOIN, and others**

What is the blockchain technology that supports cryptos?

- Blockchain describes the computerized networks that allow peer-to-peer transactions **without** central planners, government, banks, or financial intermediaries of any type.
- It is maintained by a network of computer “geeks” or “geniuses” known as miners. They are paid cryptocurrency for their work.

References:

- "[Bitcoin: Money or Financial Investment?](#)," by Scott A. Wolla, Page One Economics®, March 2018
- [Explainer: What is a blockchain?](#) - MIT Technology Review, June 14, 2021
- [Bitcoin and Beyond: The Possibilities and Pitfalls of Virtual Currencies](#) – Federal Reserve Bank of St. Louis, October 21, 2014

Three traits of cryptocurrency in a
blockchain
(a decades old computerized network)



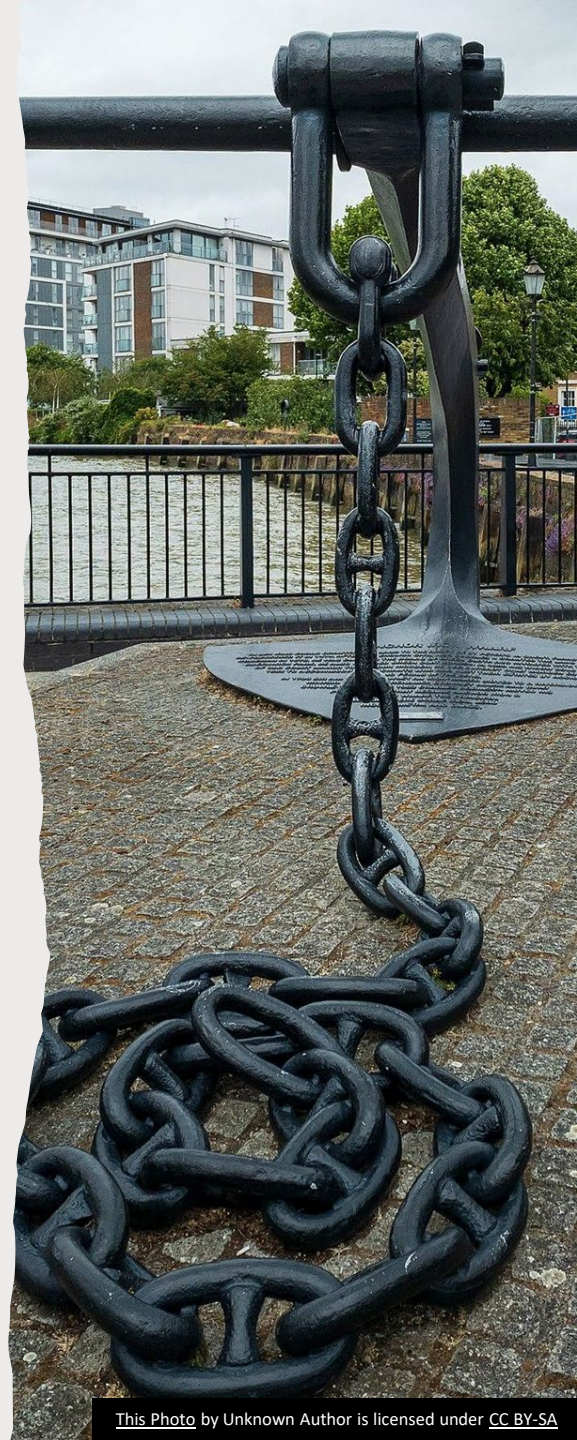
Transparent



Authenticated



Can be
audited





Who uses it?

- Peer-to-peer exchanges
- A few retailers like Overstock, Expedia, Dish, subway, and Microsoft
- Mt. Gox (2010-14), the largest Bitcoin exchange which was based



Above is my list from 2018 of retailers accepting Bitcoin. Little has changed in four years. See: <https://www.buybitcoinworldwide.com/who-accepts-bitcoin/>



Cryptocurrency

IT IS...

- Part of a decentralized different than “fiat” money
- A system subject to no government regulation or insurances
- Governed by consensus of its users
- Network is supported by the transactions by consumers, savers, producers, and investors through blockchain technology

IT IS NOT...

- A widely utilized medium of exchange
- Unit of account
- Store of value

You earn \$1000. Which would you choose?

Accept \$1000 USD worth of Bitcoin and hold the Bitcoin for 3 months.

Accept and hold \$1000USD for 3 months in a U.S. savings account insured by the FDIC.



Students, drag the icon!



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Bottom line...

- Proceed with caution and information. Invest only what you can lose - at this point in time.
- Bitcoin is a speculative asset at this point.
- Watch for developments and consider its diffusion among the masses, number of businesses and people accepting it for payment and using it as a store of value, and unit of account.

Upside to Bitcoin

- It is transparent, authenticated, and can be audited.
- From the first chain forward, you can trace the origins of the chain and everything that makes it up.
- It is not directly subjected to government policy influences, political interests, and short-sightedness.
- It makes **use of blockchain technology** – an advancement in technology.

Blockchain Technology

- Used to **track healthcare services** by patients and their providers
- **Mobilized in the supply chain** to track everything from original extraction of natural resources to final consumer
- NTFs allow artists to create original art and sell it without the risk of copyright infringement
- In theory, it allows consumers and others to trace property – even intellectual property (NFT).

Blockchain Technology



Blockchain Technology

NTF



Supply and Demand

History of his NTFs(non-fungible tokens)

Larva Labs

Cryptopunks / 3365



CryptoPunk 3365

One of 6039 Male punks.

Transaction History

Type	From	To	Amount	Txn
Offered			97.95Ξ (\$123,877)	Jan 07, 2023
Offered			99.95Ξ (\$128,816)	Nov 10, 2022
Transfer	punksotc...	2.punkso...		Nov 09, 2022
Sold	soby.eth	punksotc...	84Ξ (\$98,326)	Nov 09, 2022
Offered		punksotc...	84Ξ (\$98,326)	Nov 09, 2022
Offer Withdrawn				Nov 08, 2022
Offered			125Ξ (\$200,969)	Nov 06, 2022
(Unwrap)	WrappedC...	soby.eth		Nov 06, 2022
Bid Withdrawn	punksotc...		90Ξ (\$137,489)	Oct 27, 2022
Bid	punksotc...		90Ξ (\$139,545)	Oct 27, 2022
(Wrap)	0xd5f7a1	WrappedC...		Aug 18, 2021
Transfer	objj3.et...	0xd5f7a1		Aug 18, 2021
(Unwrap)	WrappedC...	objj3.et...		Aug 18, 2021
(Wrap)	0x6f0fca	WrappedC...		Aug 18, 2021
Transfer	soby.eth	0x6f0fca		Aug 18, 2021
Offered			888Ξ (\$2.17M)	Jul 31, 2021
Sold	riess.et...	soby.eth	35.50Ξ (\$64,884)	Jul 19, 2021
Bid	soby.eth		35.50Ξ (\$64,884)	Jul 19, 2021
Bid Withdrawn	soby.eth		33Ξ (\$60,315)	Jul 19, 2021
Bid	soby.eth		33Ξ (\$60,315)	Jul 19, 2021

As an educator...

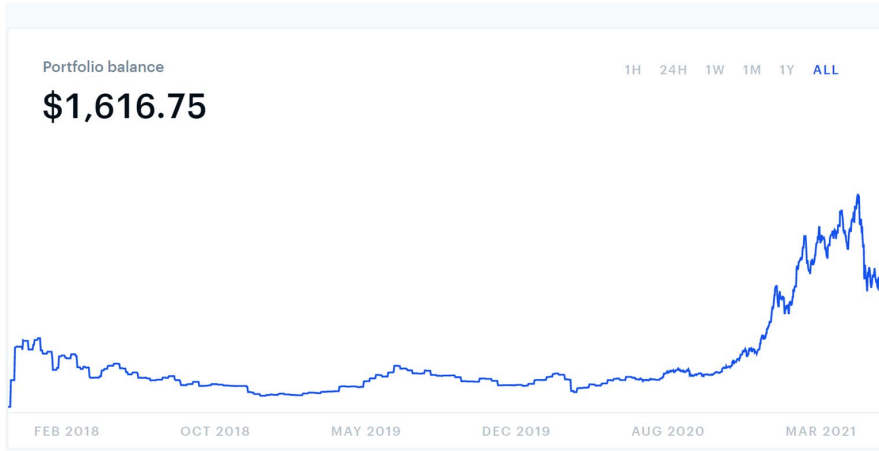
- It provides teachable moments for students, other educators, and family members
- Educate others about blockchain technology, long-term investment practices, cryptocurrencies, and sound money
- Understand when “speculative” investments make sense







My “Bitcoin” Story

- Within a year of first purchase of \$841 in cryptos, I lost 70 percent of the value of my cryptocurrency portfolio!!!
- Yikes! It was not a growing asset.
- Since December of 2017, “Bitcoin” has not used it to purchase anything, I haven’t been paid in Bitcoin, BUT....



March 30, 2021



 Bitcoin	\$1,086.46 0.02722069 BTC	 67.20%
 Ethereum	\$368.60 0.14489949 ETH	 22.80%
 Litecoin	\$161.69 0.93172493 LTC	 10.00%

My portfolio has grown in value...



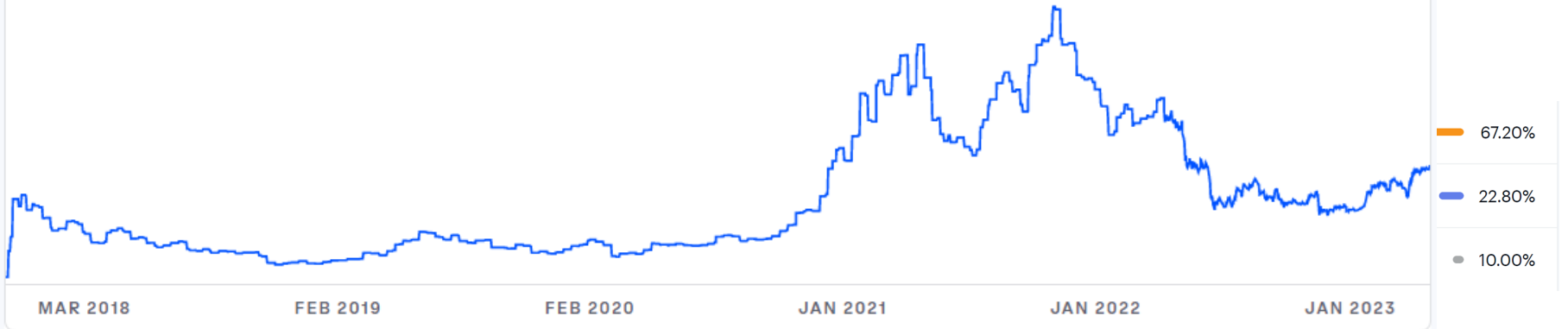
My balance

\$1,153.50 >




↗ \$312.50 All time

April 14, 2023

1H 1D 1W 1M 1Y ALL



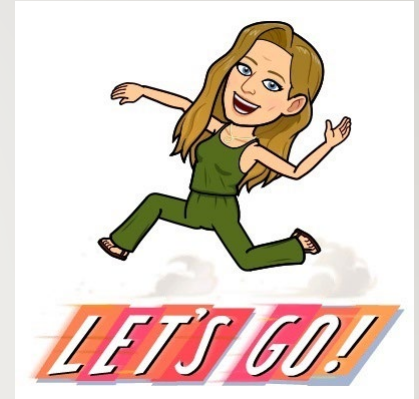
My assets

Name	Total balance	Price	Performance
 Bitcoin BTC	\$793.72 0.02722069 BTC	\$29,162.81 ↗ 3.70%	↗ \$393.83 ⋮
 Ethereum ETH	\$273.47 0.14489949 ETH	\$1,887.02 ↗ 1.55%	↗ \$173.43 ⋮
 Litecoin LTC	\$86.31 0.03172403 LTC	\$92.64 ↗ 2.73%	↘ \$254.69 ⋮

Advice from all of you...

If I have \$1000 USD, what advice would you give to me?

1. Buy Bitcoin
2. Buy NFT
3. Save it for a “rainy” day or use it for emergencies (\$\$ expenses due to car problems)
4. Invest it in an index fund



Students, drag the icon!



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- Clark, J.R., M. Scott Niederjohn, and William C. Wood. 2018. “Understanding Bitcoin: Money, Asset, or Bubble?” *Social Education*.
- Wolla, Scott. 2017. “Bitcoin: Money or Financial Investment? (Page One Economics),” *St. Louis Federal Reserve Bank*,
[https://files.stlouisfed.org/files/htdocs/publications/page1-econ/2018/03/01/bitcoin-money-or-financial-investment SE.pdf](https://files.stlouisfed.org/files/htdocs/publications/page1-econ/2018/03/01/bitcoin-money-or-financial-investment_SE.pdf).