

# CSE446: Blockchain & Cryptocurrencies

## Lecture – 6: History and Properties of Money



Inspiring Excellence

# Agenda

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- The history of money
- Properties of money
- Bitcoin

# Let's talk about money....

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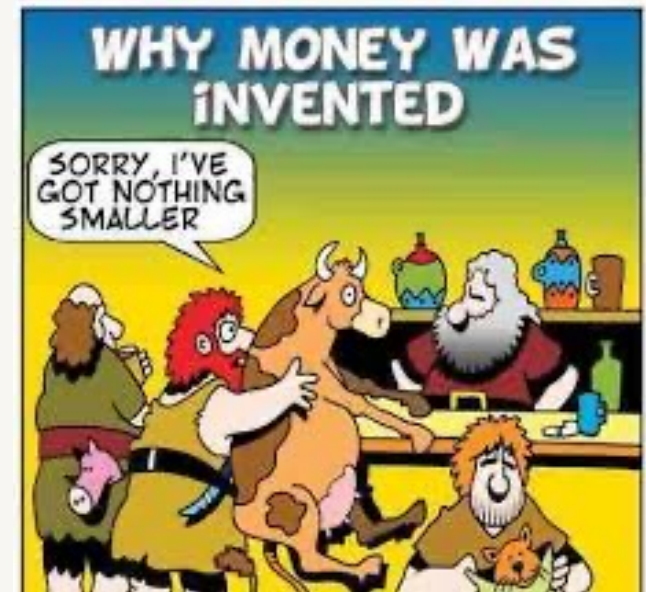
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# Money, money, money.....its history

- Money is a medium of exchange
- Stands in for an arbitrarily long chain of barter
  - exchanging goods or services for other goods or services without using a monetary unit
- Widely accepted



# Money, money, money.....its history

## Bartering and Exchange

Bartering is **exchanging products or services for commodities.**



When one type of commodity is traded for another type of commodity, those commodities are called "**commodity money**," things that are used by most people, such as:



*Taxes were first collected in Egypt close to 5,000 years ago when goods and labor were offered as ways of paying.*



seeds



grain



other livestock



salt



tea



cattle

circa 1200 BC

## Cowry Shells

Archaeologists believe that cowry shells were first used in **China**. These hardy, decorative shells have also been used as currency by other cultures, in other lands, at other times.



circa 1000 BC

## Metals

The first use of metal as money is believed to have been around 3,000 years ago in **China**. The metal was formed into shapes to resemble **cowry shells**.



*Sunny days have people tipping more than dreary days do.*

**TIP** is the acronym for "To Insure Promptness."

## First Coins

The first coins minted were probably the **Lydian electrum** tries from present-day **Turkey**. These coins, made of a gold and silver alloy, sported a lion's head on one side.



circa 600 BC



# Money, money, money.....its history

## Paper Money

Paper money first made its way into marketplaces a mere 1,000 years ago during the Tang dynasty in **China**. Numismatics, scientists who study the history of money, believe that this was the byproduct of **block printing**.



*Marco Polo was amazed by the paper currency he saw during his travels through China.*



*Using the word "buck" to mean a dollar comes from the days when many Americans traded animal skins, including those from deer and elk bucks.*

## Banking in Europe

The modern form of banking had its birth in medieval and early **Renaissance Italy**, particularly in the nation's wealthy northern cities. One of the most famous of the banks from this period is the Medici bank founded by **Giovanni Medici** in 1397.



circa 1000 AD

circa 1400 AD

1637

## The Gold Standard

**Britain** pegged its currency to gold to help govern inflation. **America** went on the gold standard in 1900. They have both since left the gold standard.



*The U.S. government began to print paper "green-backs" to finance the Civil War in July of 1861. These first paper notes were worth 1 cent, 5 cents, 25 cents, and 50 cents.*

## Wampum

The **Massachusetts Bay Colony** declared wampum, strings of clamshells used as money by American Indians, legal tender.



*The paper used in U.S. bills is not made from trees, but rather made up of:*

75% cotton



25% linen



1816

# Properties of money

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- Money is a unit of account
  - a nominal monetary unit of measure used to represent the real value (or cost) of any economic item; i.e. goods, services, assets, liabilities, income, expenses.
- Money is a store of value
- Recognisable
- Fungible (mutually interchangeable)



<https://upload.wikimedia.org/wikipedia/commons/e/e3/Gold-295936.jpg>

# Properties of money

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- Divisible
- Transportable
- Transferable
- Hard to counterfeit
- Stable supply



<https://upload.wikimedia.org/wikipedia/commons/e/e3/Gold-295936.jpg>



# Money, money, money.....its history

- With the evolution of the Internet, the need for digital currency became clear

SSL / TLS – 1996

HTTP- 1990

TCP/IP - 1974

Ethernet - 1974



# Money, money, money.....its history

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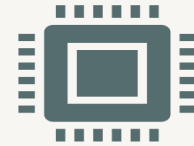


DigiCash - the first ever digital currency invented by David Chaum in 1983, commercialised in 1990, went bankruptcy in 1998 with the paper:

"Blind signatures for untraceable payments"

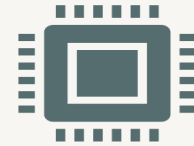


b-money, an anonymous, distributed electronic cash system - by Wei Dai in 1998



Bit Gold a proposal by Nick Szabo in 1998 where he conceptualised the idea of utilising cryptographic puzzles for unforgeable proof of work chains: a direct pre-cursor of Bitcoin idea

# Money, money, money.....its history



All these ventures or ideas failed because they utilised mostly centralised components. And the puzzle to move money online between two entities seems like an elusive idea...until??

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invest  
Ch  
com  
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# Crypto~currency

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- Based on cryptography
- Derives trust from mathematical properties/algorithms/systems
- Based on established, trusted cryptographic primitives NOT from chemical/physical properties
- NOT from coercive (imposed) Legal Tender statutes
  - Legal tender is a medium of payment recognised by a legal system to be valid for meeting a financial obligation



