



## Is Bitcoin money? Bitcoin and blockchain from a financial services perspective

Professor dr juris Olav Torvund NRCCL

#### My background

## I have been working with payment systems on and off for 35 years

# US has for long time had primitve and unsophisticated retail payment systems

## US has for too long been relying on checks and credit cards

Many has taken for granted that US is leading, and if you can beat the US system, you can conquer the world

### I have seen many systems come and go

#### They should all be "The Next Big Thing"

#### They have all been technology driven

#### Many have been based on asymmetric encryption

# Optimistic technologists saying that a new technology will change everything and conquer the world

#### How many times have we heard this before?

In the near future we will have systems with encryption that is so advanced that we will no longer need banks

= saying: In the future we will have printers so sophisticated that we will no longer need central banks. We can print our own money

# New payment systems failed because of lack of understanding of how a payment system works

### They are all long forgotten

## PayPal managed to profit from the inefficiency in US retail payment system

PayPal saw a need in the **US** retail market for payment services It is simple and unsophisticated No fancy technology It works

#### I am discussing BitCoin as "Money"

### I am sceptic to BitCoin as money

I am not sceptic to the BlockChain technolgy, just as I am not sceptic to SmartCards, Assymetric Cryptography, etc.

But I am sceptic to naive technooptimists who say this technology will make the world as we know it obsolete in short time.

#### A double message

- BitCoin: Anonymous
- BlockChain: Everything can be traced and verified

ONE CARDON WANTER CARDON ON THE CARDON ON TH



### Is it just a change of religion?





#### **Functions of money**

Means of exchange
 Universally, or at least widely accepted

# Measurement of value Must have a stable value

## Value storage Must have lasting value

 Anything that is accepted as a means of exchange can function as money

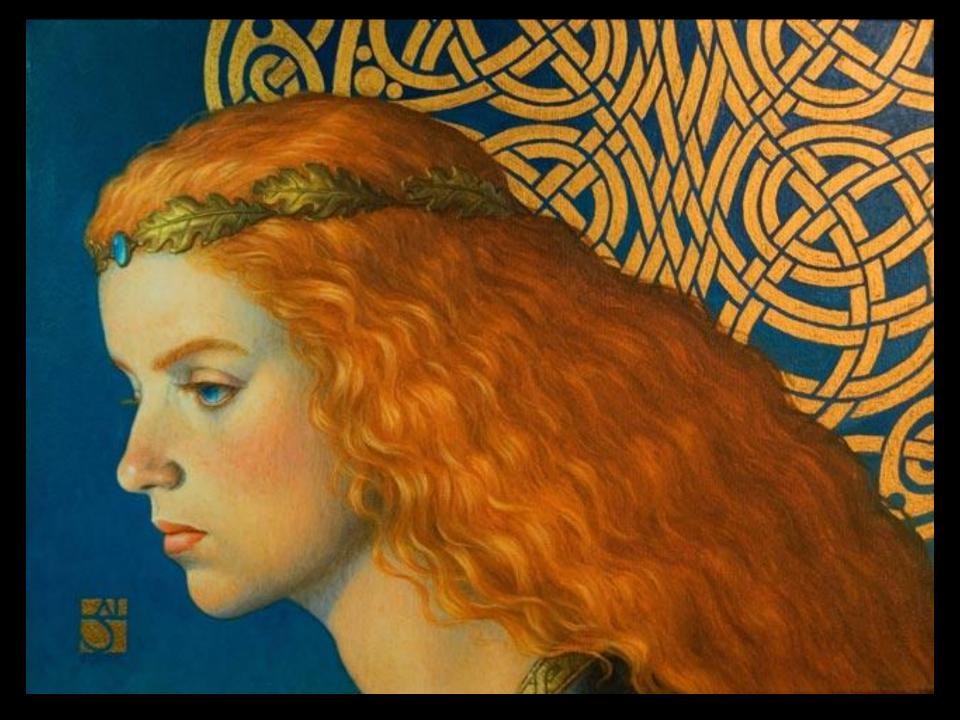
#### BitCoin can function as money, just as anything else.

#### **Examples of "money"**















wiseGEEK

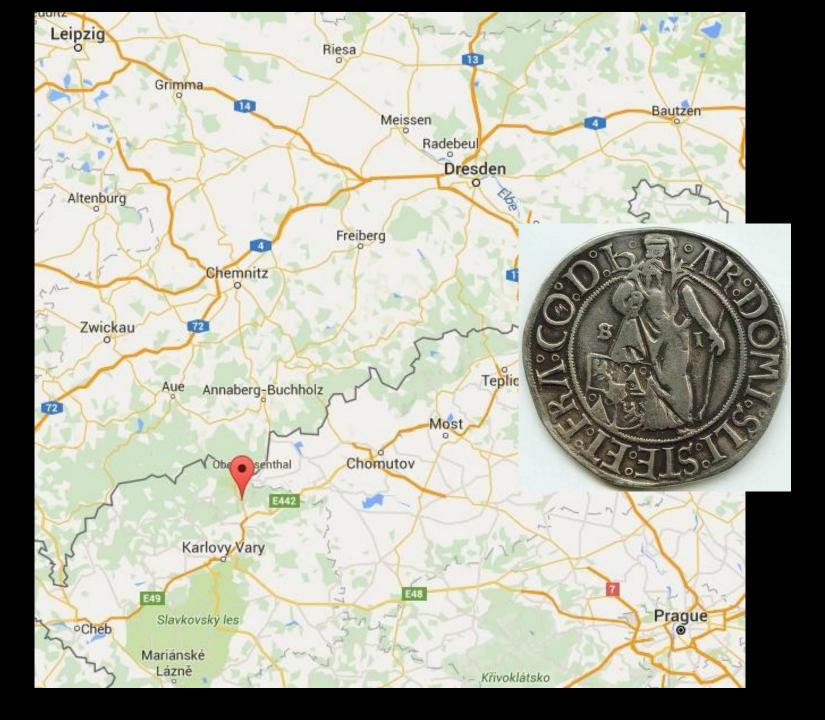
### Names of currency

# Weight units-Mark-Pound

## Material-Gulden

### Weight and material: Pound sterling

# Place of origin-Florin-Dollar



#### Fiat money



### What is money?



- Deposits in bank accounts that can be managed by payment instruments
- Credits given by banks and other financial institutions



• Banknotes and coins are of marginal importance in today's society.





### A limited number of BitCoins

- Inflation is not a result of massiv printing
- -Despite that the term "run the money press" is often used

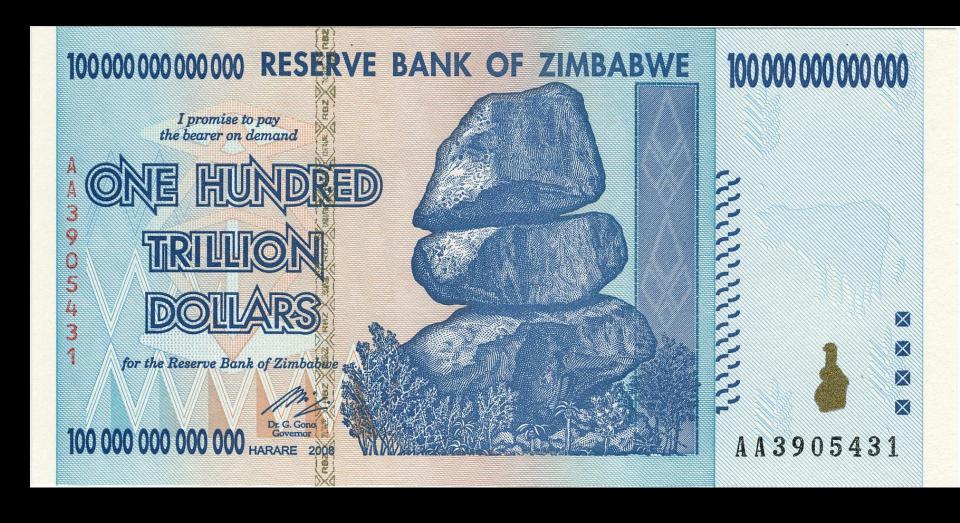


### A limited number of BitCoins

- The amount of money in circulation is not determined by the amount of cash
- Inflation, or hyper inflation is a result of lack of trust in the economy of the state issuing the money.

#### Zimbabwe wallet





### Two types of payment

#### Cash

# A chattel is handed over from payor to payee

### Bank transfer

### -Commercial and financial payments

-Salary

-Credit cards

- BitCoin mimics cash
  - -Probably based on an assumption that cash is the ideal payment system
  - -Which it is not

### How is money made?

## Money is not made by minting





## Money is not made by printing



## Money is not made by mining



## Money is mostly made by banks when giving credit





A has 1000€ as deposit in bank M



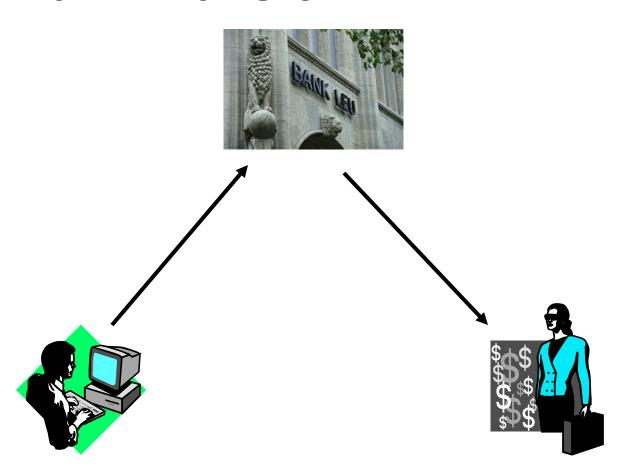


B has 1000€ borrowed from bank M The money is most likely depositet in a bank And the story goes on and on and on.

Debts and credits can of course be denominated in BitCoins



#### **Bank Transfer**





### Main difference between BitCoins and other eMoney

- eMoney is denominated in a "real" currency
- eMoney is issued by an identifiable institution
- A regulated institution with solidity requirements, and under supervision
- An obligation to repay in "real" currency
- BitCoins are self referential
- Taken out of thin air
- No obligation to repay

### BitCoin: Digital alchemy



## Do we need BitCoins? The selling points

### **Anonymity?**

## Who really cares about anonymity?







### Google





# An emerging market for a new, anonymous payment system?

## Will BitCoins really be anonymous?









# They act as market makers do in the scurities markets

Sellers and buyers of BitCoins, interface between BitCoin and real payment systems, will be regulated and supervised

## There is no reason to verify a chain of payments

- A deposits 1000€ in bank M
  - -The result: Bank M owes A 1000€
  - No asset is as generic as money
  - An obligation to repay 1000€,
     but not to return the same
     1000€ that was deposited

When my bank informs me that my account is credited with 10.000 NOK:

Do I care from where the bank has gotten these money?

#### Is BitCoin efficient?

- From bitcoin.org "How it works":
  - -" All transactions are broadcast between users and usually begin to be confirmed by the network in the following 10 minutes, through a process called *mining*."

# 10 minutes!!!! Who can wait for 10 minutes?

#### Pricing is not transparent

### Other applications



But a system for electronic, negotiable bills of lading is less sexy than a new currency.

#### Is BitCoin another 42?