



Graduate School of Management and Economics
Sharif University of Technology

Business of Blockchain Technology & CryptoCurrencies

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Instructor

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in [Mohsen-Bahramgiri](#)

📷 [Dr.Bahramgiri.Crypto](#)

📍 [Dr. Bahramgiri_Crypto](#)



Lecture Series Zero

Introduction, Motivation and History; The 2008 Crisis



About the Instructor

Dr Mohsen Bahramgiri, received PhD from MIT, United States, in 2007, and worked at some Hedge Funds in Wall Street (Now York and Boston) for a couple of years.

He is now (since ten years ago) Dean of MBA-Finance Program and **Faculty** Member in **Graduate School of Management and Economics** at **Sharif University of Technology**.

He has 13 Years of work experience in Finance; including

- ✓ Advisor to Minister on International Finance
- ✓ Senior Investment Manager
- ✓ International Financial Advisor
- ✓ Corporate Financial Consultant



He is also the Gold Medalist of **International Mathematics Olympiad (IMO 1997, Argentina)**.





Bitcoin, The 2008 Mysterious Birth

- In the three months of August to October, 2008:
 - In the middle of Financial Crisis, **Bitcoin.org** was registered (Aug 18)
 - Sep 12 to 16 (Fri to Tue), Financial Armageddon
 - The Domino of Bankruptcies reaching Huge Banks (Lehman and Merrill) (Fri)
 - Bank of America bought Merrill Lynch for \$50 billion (Sun),
 - US and Britain do NOT support Barclays to buy Lehman (Sun),
 - Lehman Brothers filed for the **largest bankruptcy in American history** (Mon),
 - Then to Stop the Domino, the **U.S. Government** established the **\$700 billion** Troubled Asset Relief Program to Support AIG and other huge companies (Tue)





The 2008 Mysterious Birth



➤ Sep 12 to 16 (Fri to Tue), Financial Armageddon

...

➤ And while the Crisis was going on, on Oct 31, some nobody (Satoshi Nakamoto) published a Super Smart Article that founded a new “Alternative” for current Money, **Bitcoin**.

Wall Street Journal ; "This day in Crisis History: Sep 12"



Satoshi
Nakamoto
(Oct 2008)

”

It's completely decentralized, with no central server or trusted parties, because everything is based on crypto proof instead of trust ... “

The 2008 Financial Crisis,

- The new derivative in Market: **CMO's**
- Role of different organizations in crisis
 - Bank
 - Investment Bank
 - Insurance
 - ...
- What is happening to the **Trust**?

➤ The 2015 Movie "The Big Short" based on the book *The Big Short: Inside the Doomsday Machine* by [Michael Lewis](#)





An Alternative Financial System

- Cost of Financial Crisis for U.S. Government: **\$2.5 trillion**
- Any better time for the birth for one (or The) Alternative?

Bitcoin, A New Generation of Money!





Birth of Bitcoin

- On October 31, 2008: Bitcoin whitepaper released by “?”
- The Genesis Block, Block 0, is released on Jan 3, 2009, at 21:45, by “?”
- Who is “him/her/them/it” (Satoshi Nakamoto) by the way?

“We have proposed a system for electronic transactions without relying on **TRUST.**”

Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi Nakamoto
satoshin@gmx.com
www.bitcoin.org

Abstract. A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.





An Alternative Financial System

- The first ever transaction using bitcoin took place between Satoshi and Hal Finney (Block 170).
- On May 22, 2010, the first exchange for bitcoin was set:

10,000 Bitcoins for Two Pizzas!
in Florida

(Laszlo Hanyecz's on Block 57043)

May 22, Bitcoin Pizza Day

Celebrating the \$100 Million Pizza Order!



60-min CBS News on Behind the Bitcoin Pizza Day





SuperSmart Innovation: Is it really a “New Generation of Money”?

- Gold-Based Money
- Fiat Money

What is **Money** by the way?

- Fungibility
- Scarcity
- Divisibility
- Durability
- Transferability
- Liquidity
- Legitimacy





Really “New Generation of Money”?



- Gold-Based Money
- Fiat Money

Is new Crypto-Innovation, The **Next Generation of Money**?

It holds almost all the properties of Money,
Just One Step Left:

Public Agreement!

(Trust in Something other that Governments to Publish Money!)

Reading the Textbook: CryptoAssets, Chapter One





Bitcoin, birth date to now ...





Welcome To The World That **Bitcoin** Created



Crypto Asset

Monero

Ethereum

Hash

51% Attack

Fork

Ripple

Blockchain

Elliptic Curve

Digital Signature

Segwit

Stellar

Private Key

Dash

Proof of Work

Mine



... and now, the Course Outline ...

