



Introduction to Bitcoin

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Deputyship of Research and International Affairs

SAMA QUARTERLY WORKSHOP, RIYADH
December 21, 2014

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Bitcoin in the News



CNNMoney.com

Forbes
com

THE BUSINESS TIMES

AMERICAN BANKER.
THE FINANCIAL SERVICES DAILY

FINANCIAL POST

PERSONAL MONEY

Audit Bureau of Circulations

THE **EDGE** MAGAZINE ON MANAGING YOUR FINANCES

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TC TechCrunch

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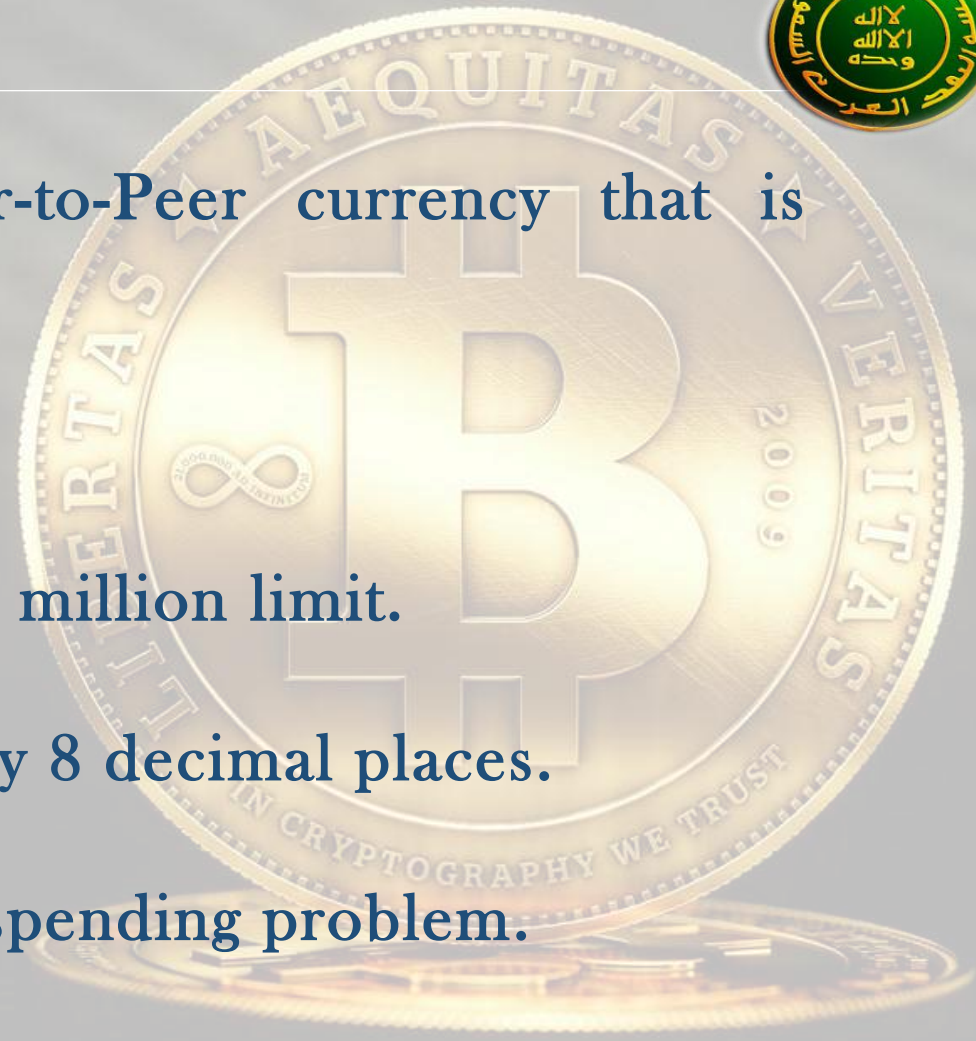
- What is Bitcoins?
- How do you get Bitcoins?
- Where do you store Bitcoins?
- Historic Bitcoin Events
- Bitcoin Markets
- Is Bitcoin a Currency?
- Implications for Central Banks



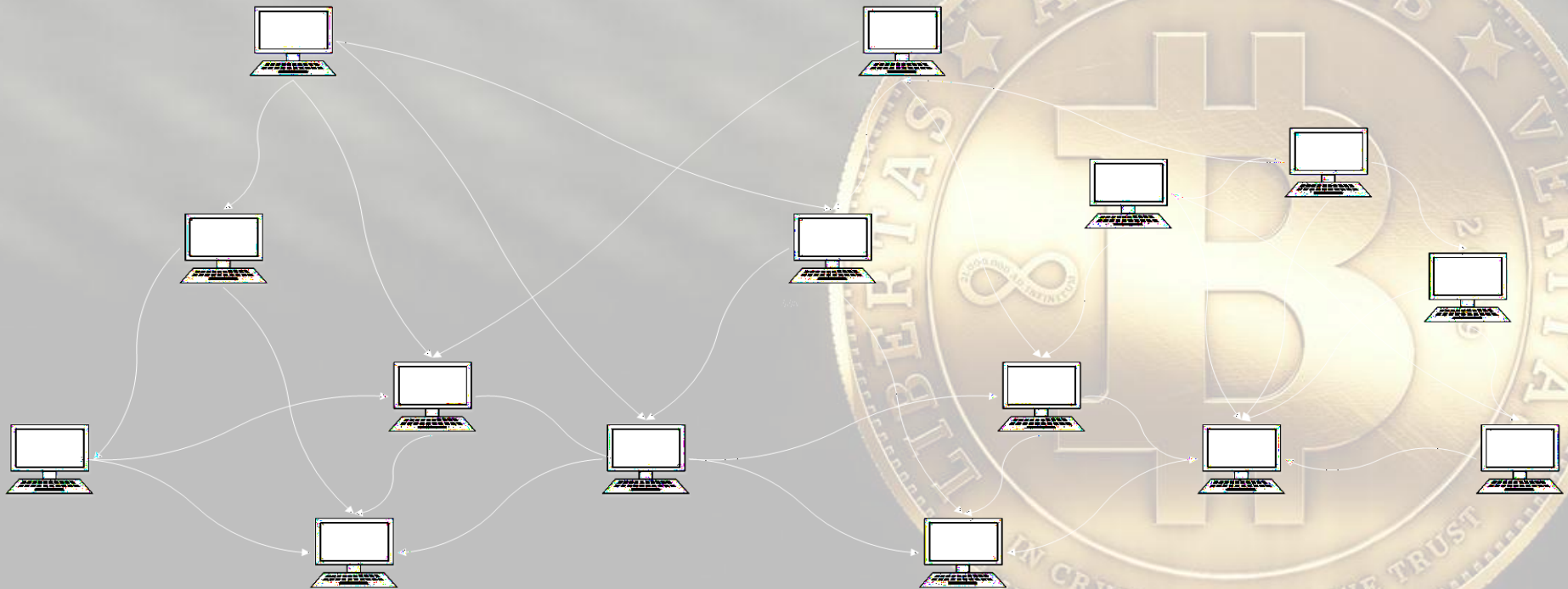
What is Bitcoin?



- Bitcoin is a global Peer-to-Peer currency that is designed for the Internet.
- Bitcoin is primarily digital.
- Bitcoin has a maximum 21 million limit.
- The currency is divisible by 8 decimal places.
- Bitcoin solves the double spending problem.



What is Bitcoin?



Units		
BTC	Bitcoin	1 Bitcoin
mBTC	milliBitcoin	0.001 Bitcoin
μBTC	microBitcoin	0.000001 Bitcoin
Satoshi		0.00000001 Bitcoin

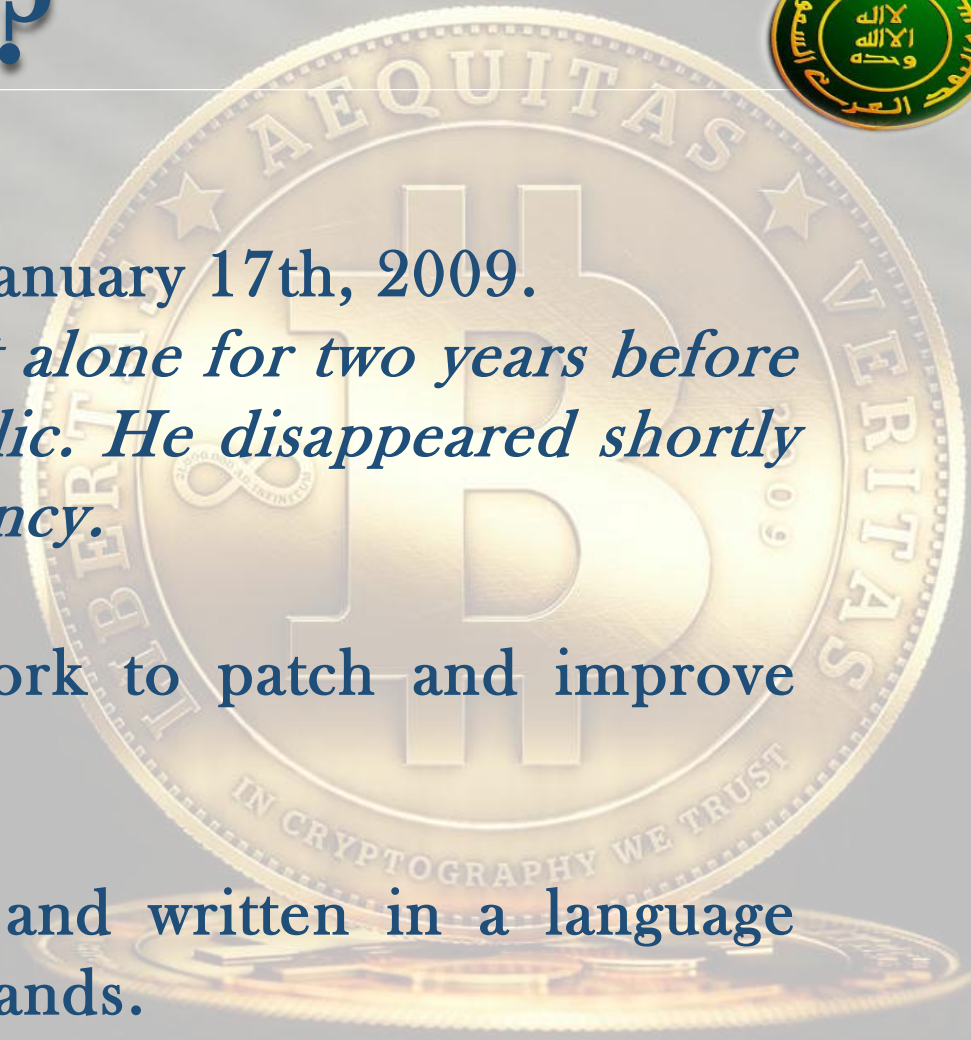
Who Invented It?



Satoshi Nakamoto, January 17th, 2009.

Satoshi worked on the project alone for two years before releasing the code to the public. He disappeared shortly after creating the crypto-currency.

- Volunteer programmers work to patch and improve the code over time.
- Open-Source and It's big and written in a language that almost nobody understands.



How do you get Bitcoins?



There are four main approaches of obtaining Bitcoins:

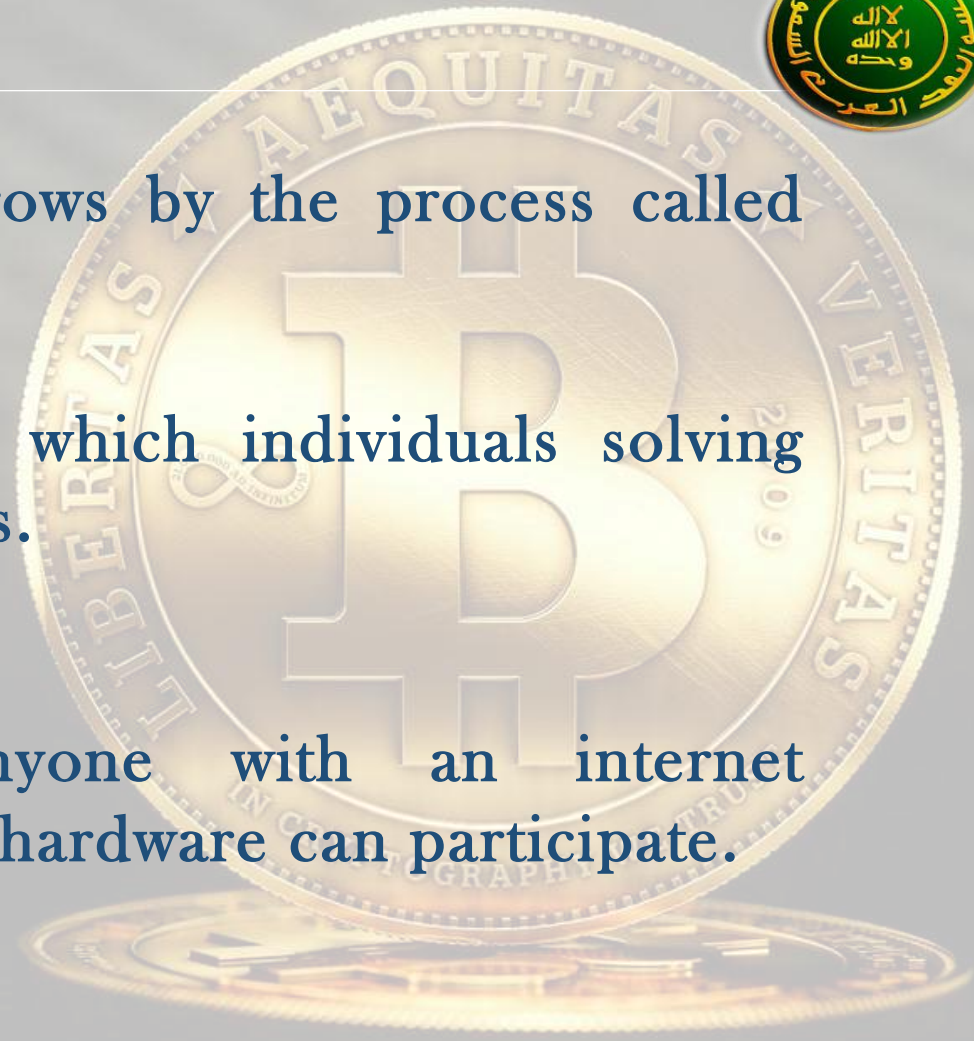
1. Mining which needs time and money.
2. Trade in BTC exchange.
3. Buying BTC from people for money.
4. Selling products for BTC.



Bitcoin Mining



- The supply of Bitcoins grows by the process called “mining” Bitcoins.
- Mining is the process by which individuals solving complicated math problems.
- It is decentralized. Anyone with an internet connection and the proper hardware can participate.

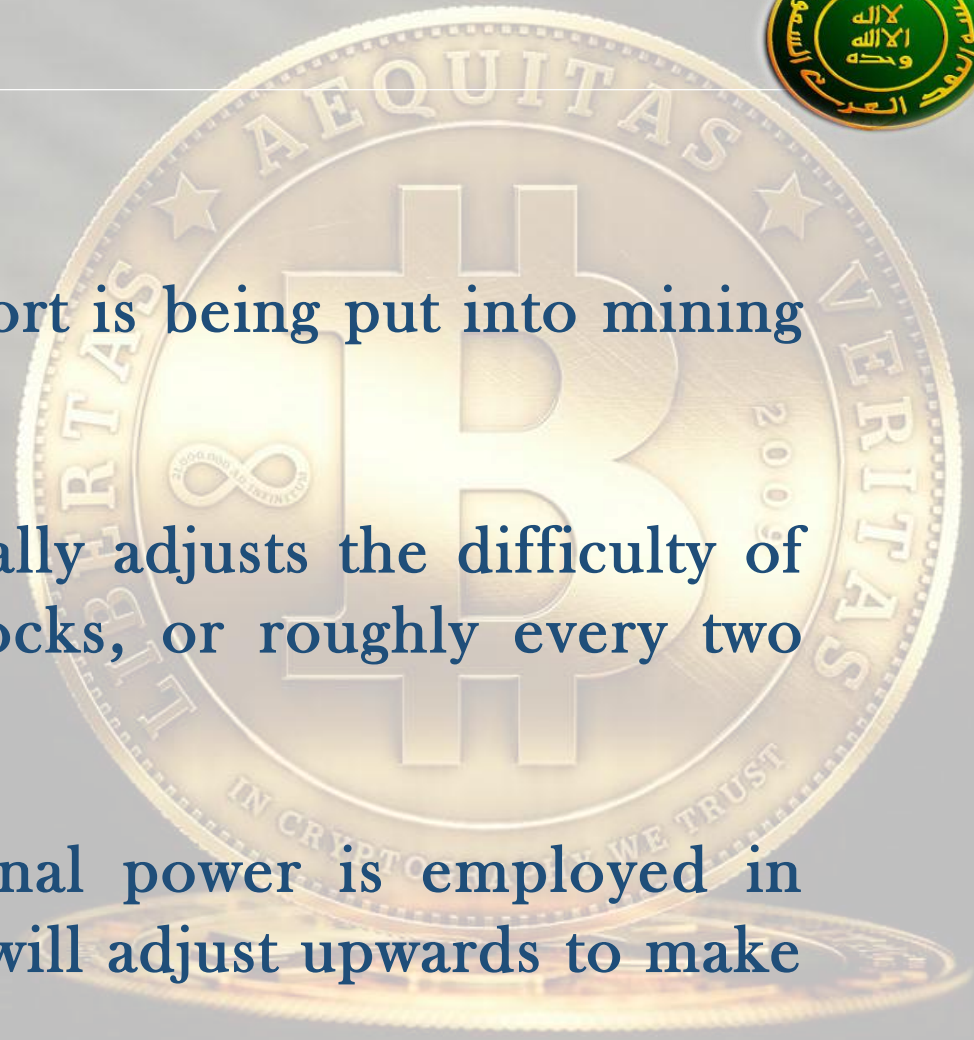


Bitcoin Mining



Mining Difficulty

- Depends on how much effort is being put into mining across the network.
- Bitcoin network automatically adjusts the difficulty of the mining every 2016 blocks, or roughly every two weeks.
- Thus, if more computational power is employed in mining, then the difficulty will adjust upwards to make mining harder.

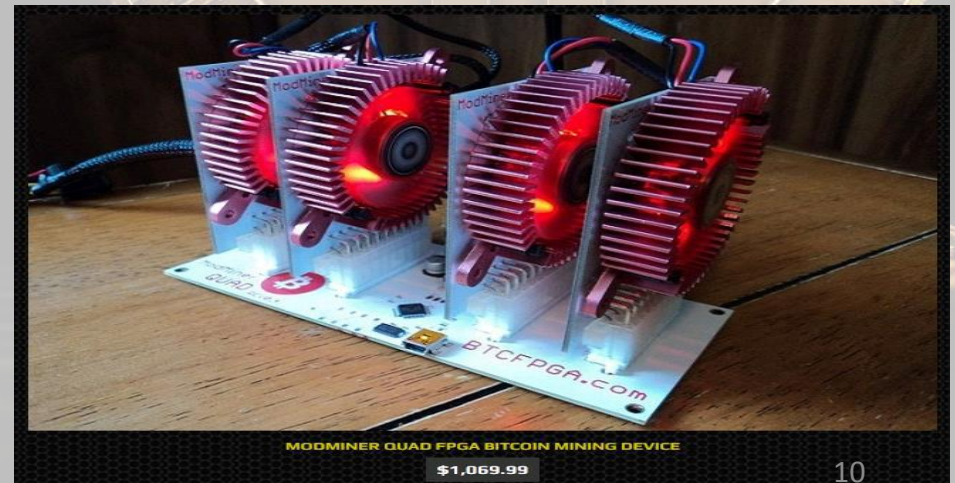


Bitcoin Mining



Mining Hardware

- Anyone with access to the internet and suitable hardware can participate in mining.
- Hardware: CPU > GPU > FPGA > ASIC.



Where Do you Store Bitcoins?



Bitcoins are stored in what are called wallets

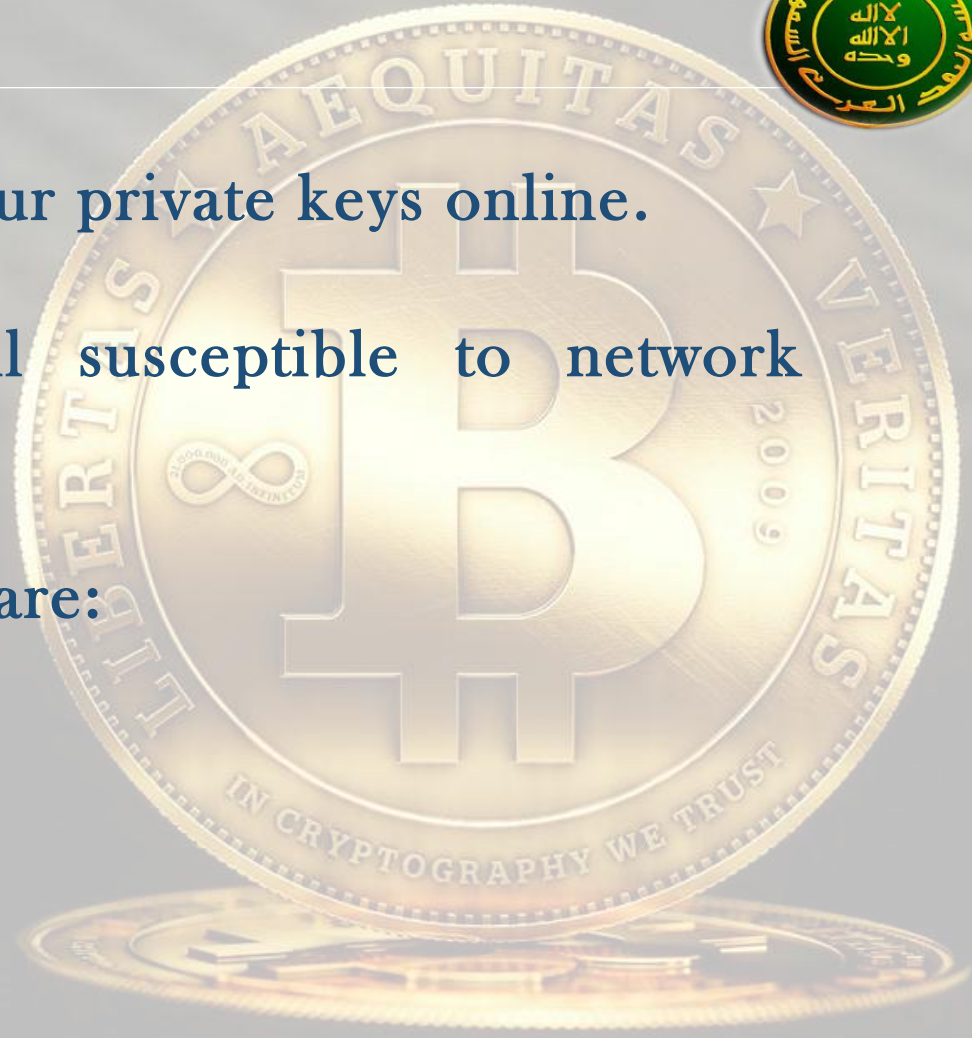
- Three different types of Wallets:
 1. Online Wallet.
 2. Local Wallets or Offline Wallets.
 3. Paper Wallets.



Online Wallet



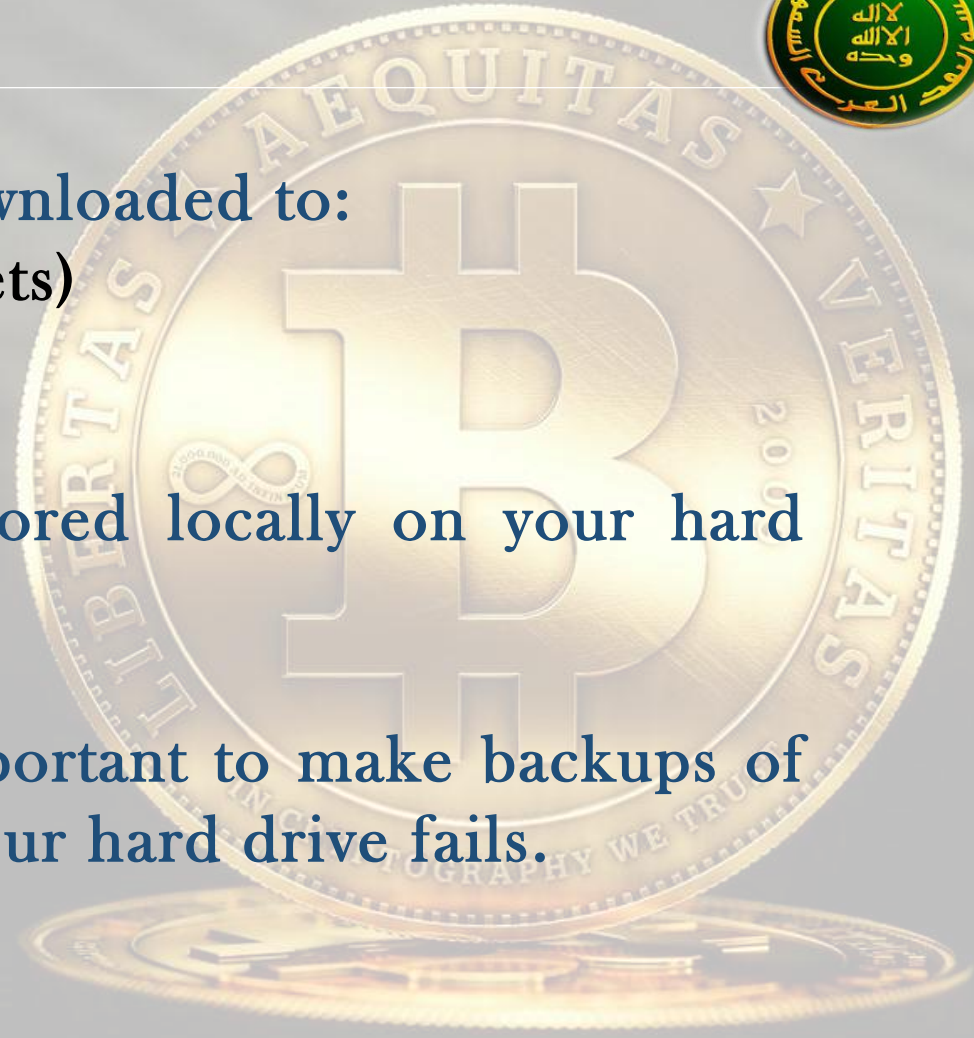
- Web-based wallets store your private keys online.
- Considered safe, but still susceptible to network failures and hacking.
- The most popular services are:
 - [Blockchain.info](https://blockchain.info).
 - [Coinbase](https://coinbase.com).



Local Wallets or Offline Wallets



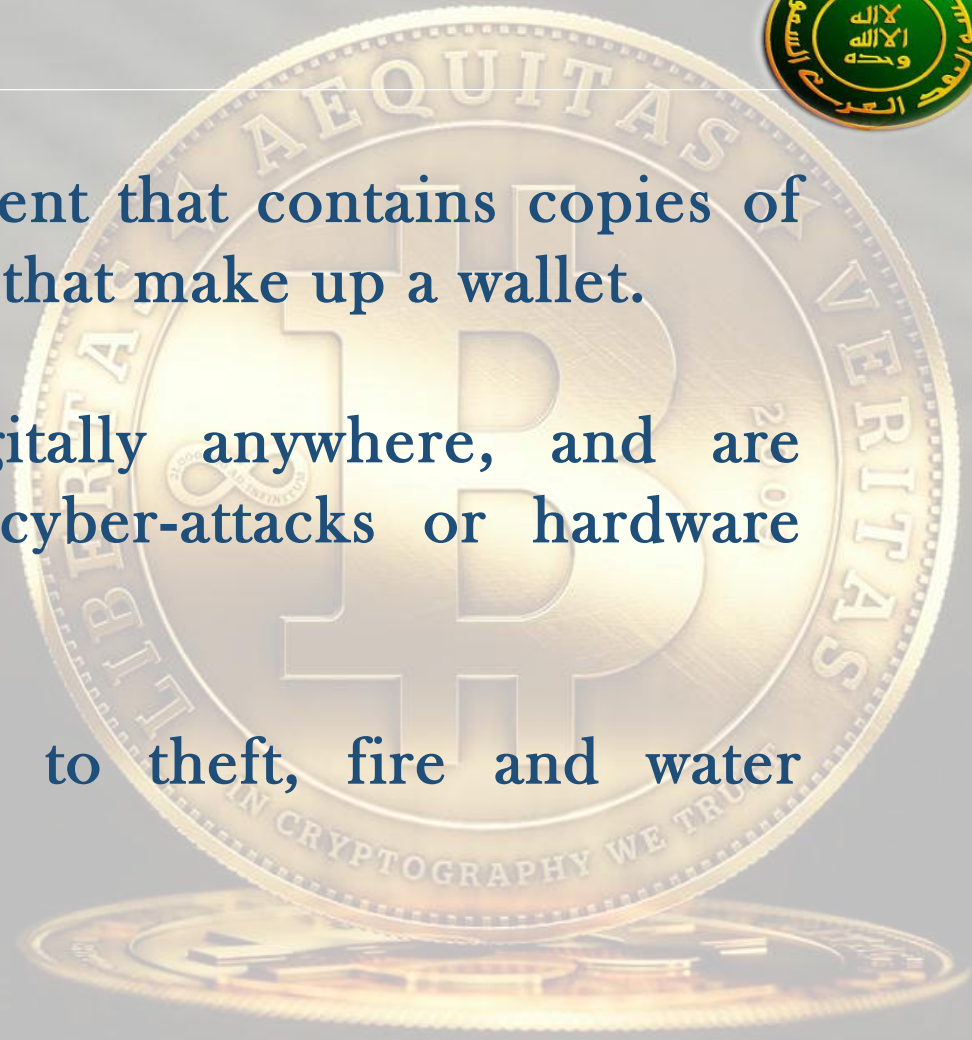
- An application can be downloaded to:
 1. Desktop (Desktop wallets)
 2. Mobile (Mobile wallets)
- Your private key(s) are stored locally on your hard drive.
- Considered safe, yet is important to make backups of your private keys in case your hard drive fails.



Paper Wallets



- A paper wallet is a document that contains copies of the public and private keys that make up a wallet.
- Keys are not stored digitally anywhere, and are therefore not subject to cyber-attacks or hardware failures.
- They are still susceptible to theft, fire and water damage.



Create a web based wallet



- A wallet is a randomly generated string of numbers and consists of two parts.

- Public Key

14GabW85FUMQy62CMWLCToQLo81w7iXL2x

- Private Key



Create a web based wallet (BlockChain)



QKOS SERVICES LIMITED [GB] <https://blockchain.info/wallet/>

Blockchain Home Charts Stats

NEW USERS
Creating a new bitcoin wallet takes literally a few seconds. You will be able to send and receive payments immediately.

Start A New Wallet

My Wallet Be Your Own Bank.

 My Wallet is a free online bitcoin wallet which you can use to make payments for free. We make paying with bitcoins easy and secure available on your phone or desktop.

We are not a bank, you retain complete ownership of your Money. With your balance, see your transactions or make payments on your behalf.

[Create My Free Wallet](#) [Try A Demo Account](#)

SERVICES LIMITED [GB] <https://blockchain.info/wallet/new>

Blockchain Home Charts Stats Markets Developers **Wallet**

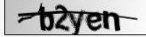
Create A New Wallet.
Please choose an alias and password for the new wallet.

Alias:

(Optional) Choose an alias to help locate the wallet.

Password:

Confirm Password:



Captcha:

[Continue](#)




Don't Forget Your Password!
WARNING: Forgotten passwords are UNRECOVERABLE and will result in LOSS of ALL of your bitcoins!


S SERVICES LIMITED [GB] <https://blockchain.info/wallet/login>

Blockchain Home Charts Stats Markets Dev

My Wallet Be Your Own Bank.

[Wallet Home](#) [My Transactions](#) [Send Money](#) [Receive Money](#) [Import / Export](#)

Total Transactions	825	
Total Received	231.44986483 BTC	
Total Sent	231.44852083 BTC	
Final Balance	0.001344 BTC	



This Is Your Bitcoin Address
16xTqmGebFBAZZMgyKAsykuelfaAXHm1H
Share this with anyone and they can send you payments.

Bitcoin Main advantages



- A major plus of the new crypto-currency is the very low cost for sending and receiving BitCoins.



Bitcoin Main disadvantages



- Untraceable: Bitcoin is anonymous: there is no name that goes along with the Bitcoin address.

Blockchain Home Charts Stats Markets Developers Wallet Search

Largest Recent Transactions

8c84516ecd2ad493f1977e4e6595b4003c0883f6af6383a2281d36d7ca08f2a3	2014-01-17 18:04:49
1CYbTxnU3pmmmcYe7K1ZeaFmRzbMsUhEaa	18eQ3BXjMQrZLo3x5ikXTdcWmr9NbwAmmW 1GbMnVRt7EinRqjwdcyQAoeHipz9kp2ed
	0.35808 BTC 205.47416552 BTC 205.83224552 BTC
69cb8f098f7ce1689879d174f7fde6bfe0ff01e26f1d1e3269977021c4b84c6e	2014-01-17 18:54:06
1H9Nh1cgrGQ469xqdKPV7Nv1CtPnFZHjGT	1J5BVrueoDWjLAtjYqvizkrjYzSB3VnmPM 18F3JfgKCVLbaU6h6nhxVCJUeRTk8NPn5 17zu5xT6JQgDqPWfuiiGr1y4Pf5uA7rQ6i 1GkA1hpNmCx4XhVGBL3r1djcQbVvPmX3g
	11.42137244 BTC 0.21358622 BTC 0.29273787 BTC 194.47301131 BTC 206.40070784 BTC
d73d455b989a0a2331a528870a9760032d50cb35afeb5b654a758058e7fe3732	2014-01-17 18:11:06
	12ATsBmBtAp36QZ9dhrs6cwnhfm5AYywCt
	0.5356 BTC

About & Contact: [About Us](#) - Status: **Ok** (703 Nodes Connected) - Advanced: [Enable](#) - Currency:

Bitcoin Main disadvantages



- Easy to lose. There is no mechanism to recover stolen or lost Bitcoins.
- Hard to trade, Still too new, Can't buy stuff.
- Too volatile.
- There is no central bank for Bitcoin (Bitcoin is not legal tender nor is it backed by any government or any other legal entity).



Historic Bitcoin Events



18 Aug, 2008

Domain name "bitcoin.org" registered.

31 Oct, 2008

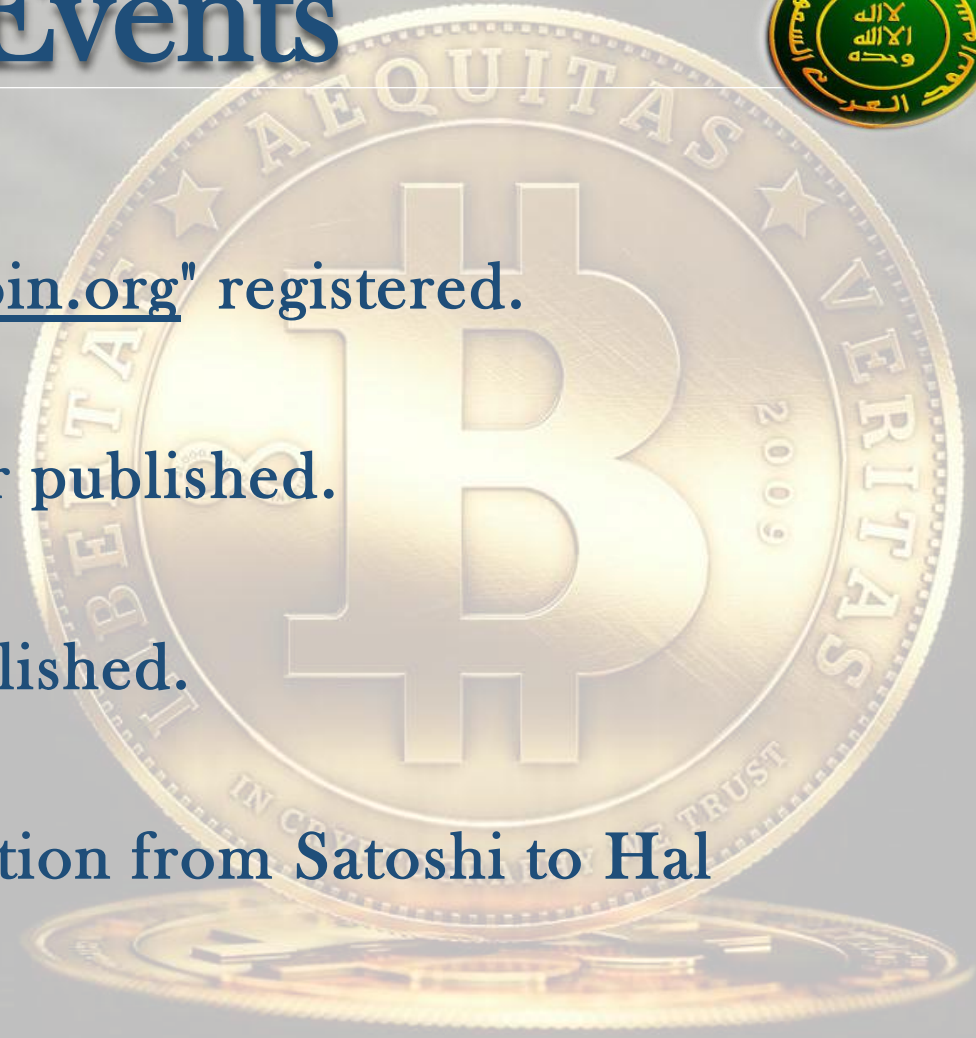
Bitcoin design paper published.

03 Jan, 2009

Genesis Block established.

12 Jan, 2009

First Bitcoin transaction from Satoshi to Hal Finney.



Historic Bitcoin Events



05 Oct, 2009

Exchange rates published by New Liberty Standard. \$1 = 1,309 BTC.

22 May, 2010

Bitcoin user Laszlo Hanyecz pays 10,000 BTC for two pizzas valued at about \$25.

17 July, 2010



opens for business.

06 Nov, 2010

The Bitcoin economy passed US \$1 million. The price touched USD \$0.50/BTC.



Historic Bitcoin Events



09 Feb, 2011

Bitcoin value equals the US dollar.

01 Mar, 2012

Linode Hacked, over 46,000 BTC stolen.

09 Aug, 2013

Bloomberg gets Bitcoin ticker.

01 Oct, 2013

Dread Pirate Roberts (owner Silk Road) arrested.

29 Nov, 2013

Exchange rate peaks at \$1,242 on



Historic Bitcoin Events



05 Dec, 2013

Chinese government bans Financial Institutions from using Bitcoin.

24 Feb, 2014



Closes.

17 Jul, 2014

New York DFS releases proposed “BitLicense”.

18 Jul, 2014

Dell accepts Bitcoin.



Bitcoin Markets



Bitcoin Exchange Markets

Exchange	Volume %	Volume ₪	Last Price
Bitfinex	44.95%	12,692.47	350.99 USD
Bitstamp	30.33%	8,565.45	353.54 USD
BTC-e	17.49%	4,939.17	349.12 USD
LocalBitcoins	6.06%	1,711.25	395.28 USD
Hitbtc	0.76%	213.54	354.52 USD
Cointrader	0.29%	81.88	351.92 USD
Rock Trading	0.05%	14.12	346.86 USD
CampBX	0.04%	10.81	368.00 USD
Bitex.la	0.02%	4.40	350.00 USD
BitKonan	0.01%	1.70	370.00 USD
Cryptonit	0.01%	3.20	359.87 USD
Kraken	< 0.01%	0.04	364.30 USD
Vault of Satoshi	< 0.01%	0.01	440.00 USD
Virucurex	< 0.01%	0.00	421.01 USD

Bitcoin Markets



USD/BITCOIN Weighted Price

Bitcoin Prices

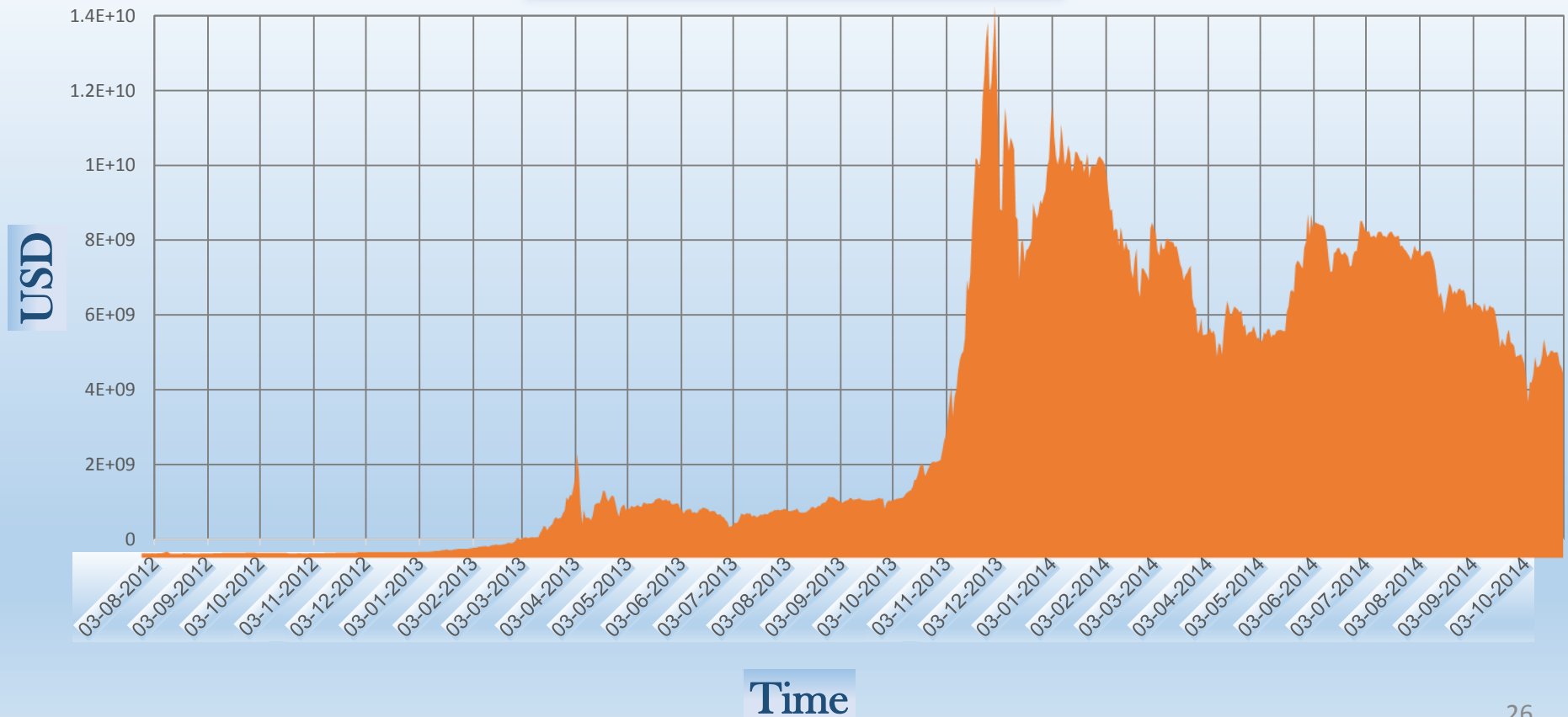


Bitcoin Markets



Bitcoin Market Capitalization

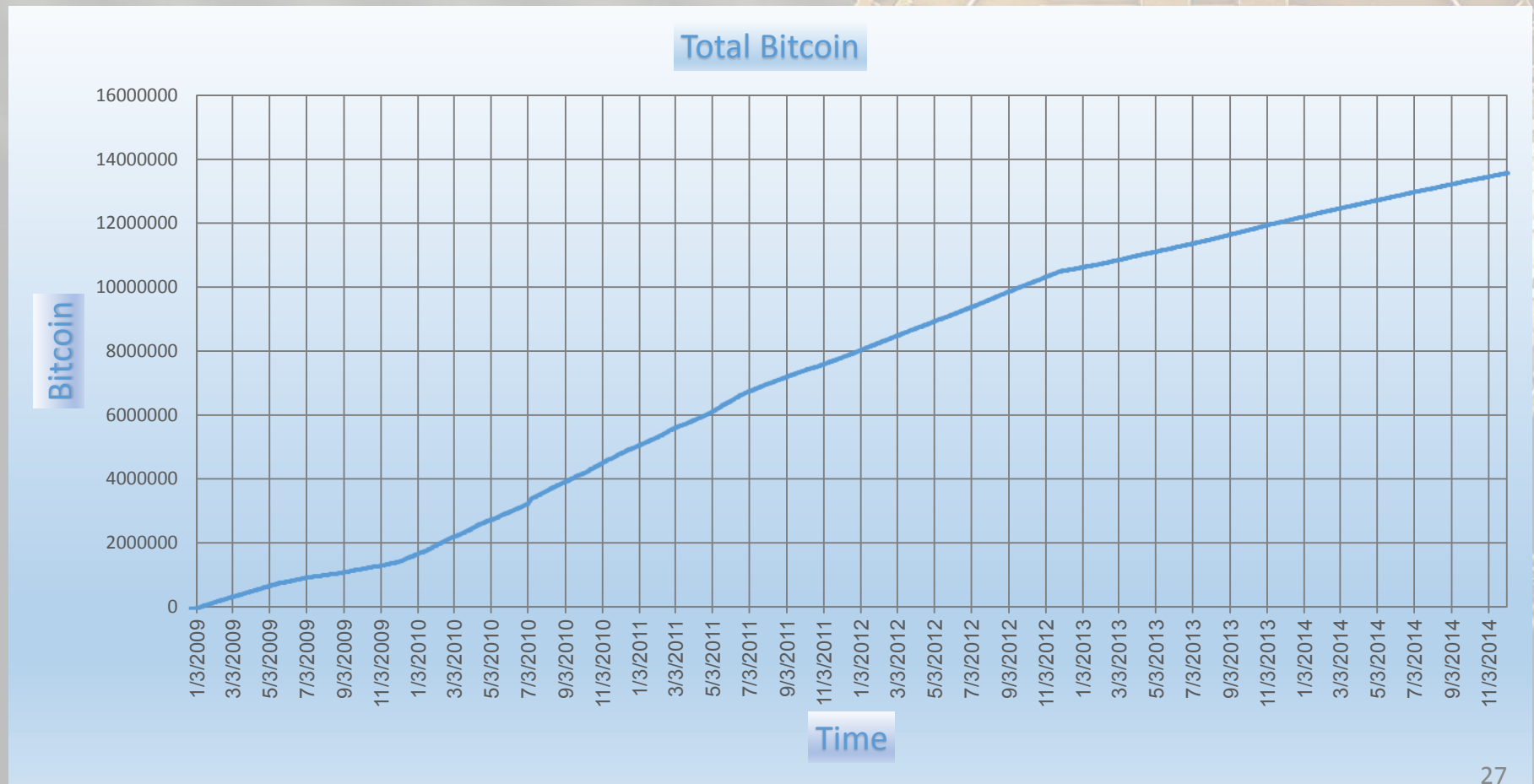
Bitcoin Market Capitalization



Bitcoin Markets



Total Bitcoins

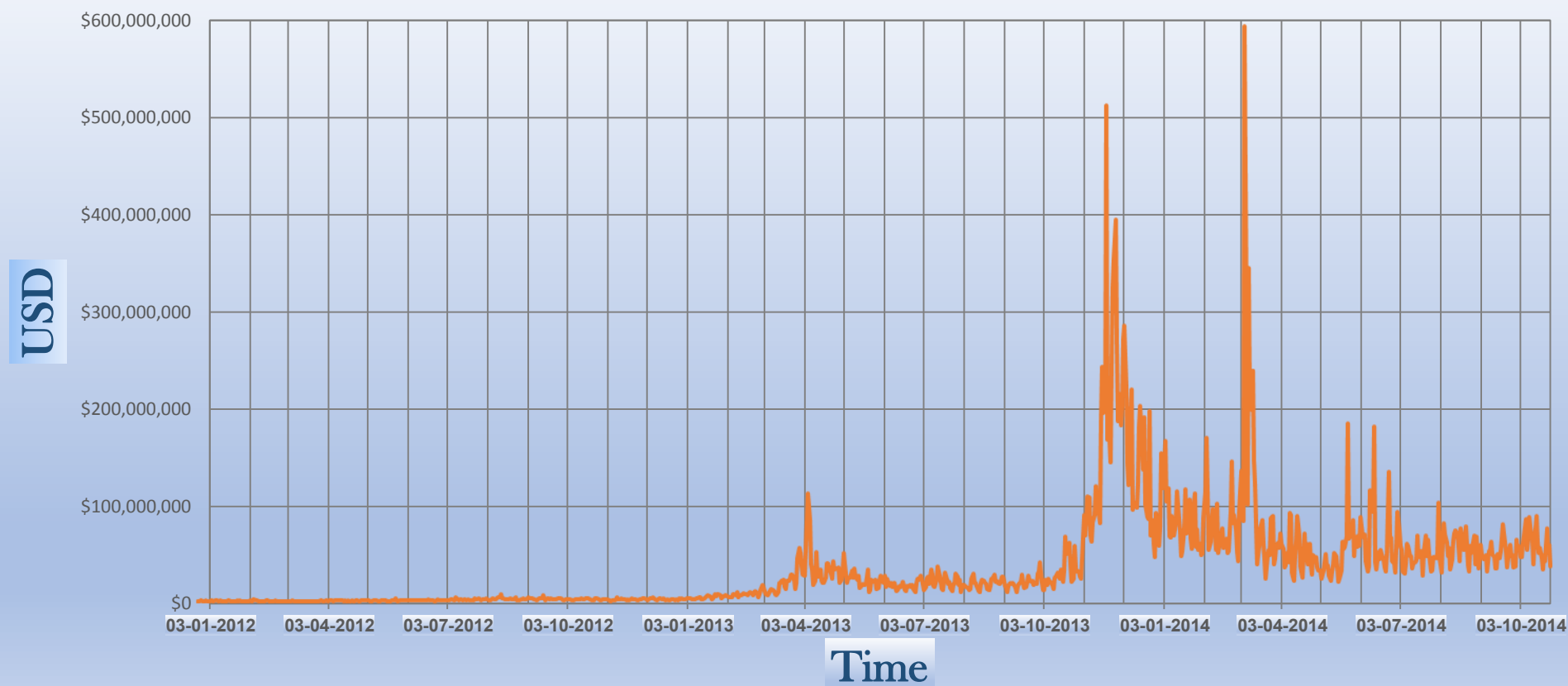


Bitcoin Markets



Bitcoin Transaction Volume USD

Transaction Volume USD

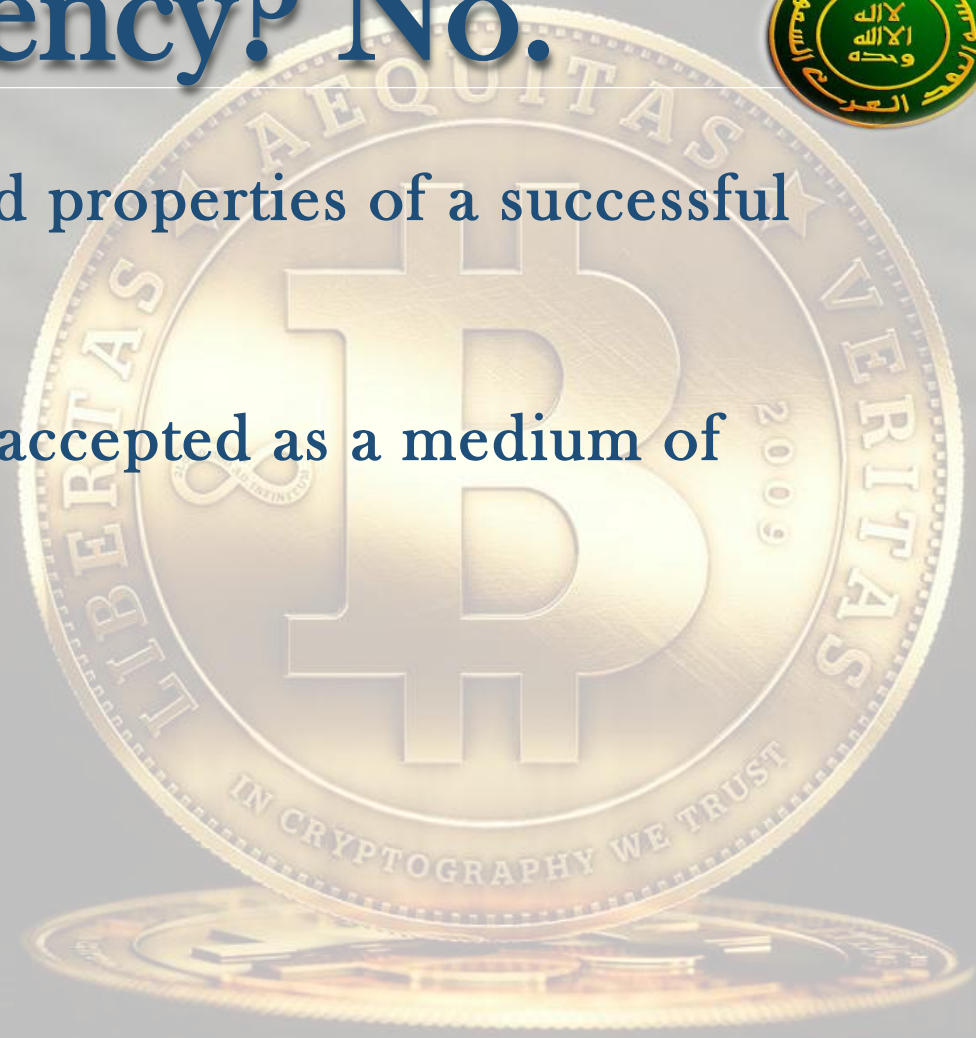


Is Bitcoin a Currency? No.



The most commonly identified properties of a successful currency are that it is:

1. Widely (if not universally) accepted as a medium of exchange.
2. A stable store of value.



Widely accepted as a medium of exchange



To achieve this:

- It has to be generally protected by extensive regulation.
- They are usually recognized as legal tender.
- The government is generally obliged to accept them for tax payments.
- The central bank is almost always the sole issuer.



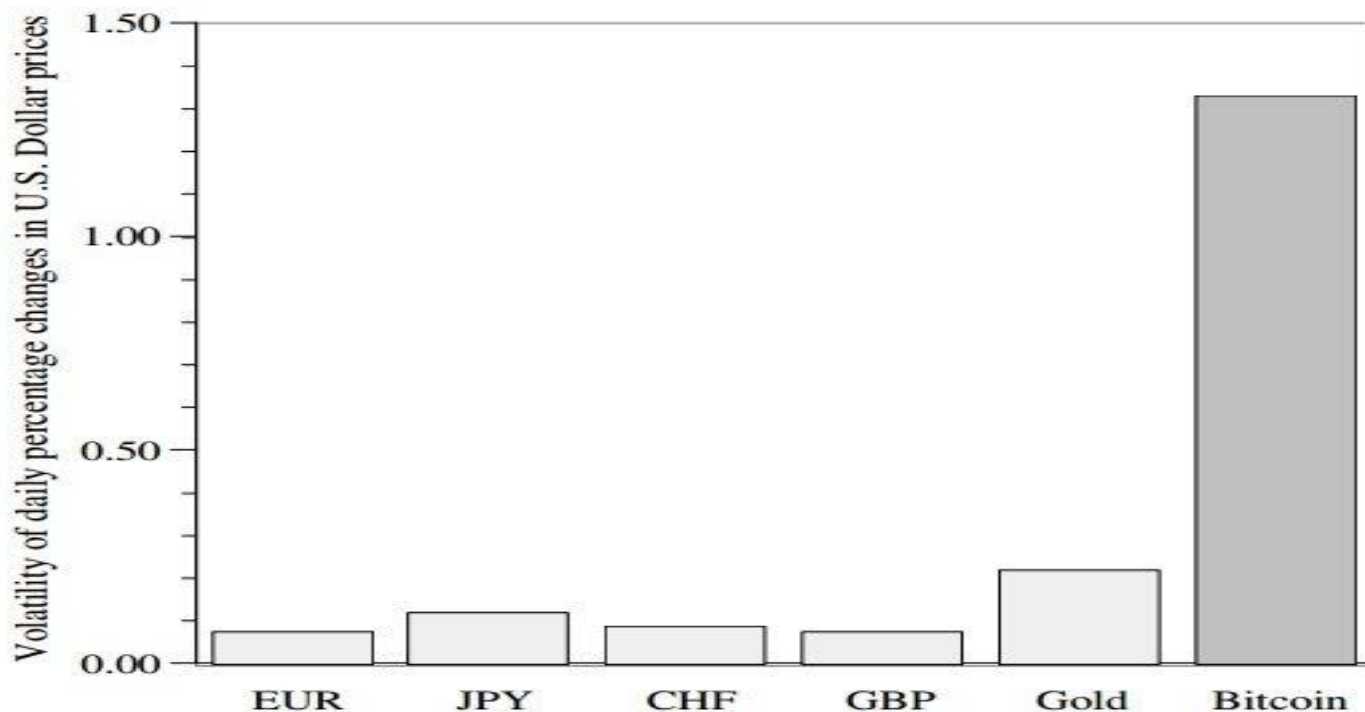
A stable store of value



Figure 3

Volatility of Bitcoin compared to major currencies

The figure shows the annualized volatility of the percentage change in daily exchange rates for four major currencies, gold, and Bitcoin, all measured against the U.S. dollar. Volatilities are calculated for the period January 1, 2013 up to November 29, 2013.



Possible Implications for Central Banks



- System integrity and reputational risk
- Payment system oversight
- Financial stability
- Monetary policy



Bitcoin: Case of the GCC



- No Exchange Markets .
 - ❑ Igot has expanded its services to countries like Singapore, India, and now, the UAE.
 - ❑ Some groups are continually working on new platforms for Bitcoins in the region to make them popular and easy to use.



Bitcoin: Case of the GCC



•Limited but Rapidly Increased Access for Bitcoin

1. LocalBitcoin.com (indirect approach):

Trader	Description	Price / BTC
quick_btc (100+; 100%)	Bank transfer Saudi Arabia	1490.01 SAR
hussamoo (0)	Bank transfer Saudi Arabia	1492.75 SAR
anyousse (100+; 99%)	Western Union	1900.00 SAR
frenken00 (100+; 91%)	Western Union	2095.33 SAR
kostasck (100+; 100%)	Moneygram	2127.60 SAR
stephane.viglielmo (100+; 100%)	Western Union	2326.78 SAR

2. Directly through websites Such as: Kipochi, Coincafe.....



Thank You