

# Cryptocurrencies and Beyond

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National University of Singapore

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# MONEY

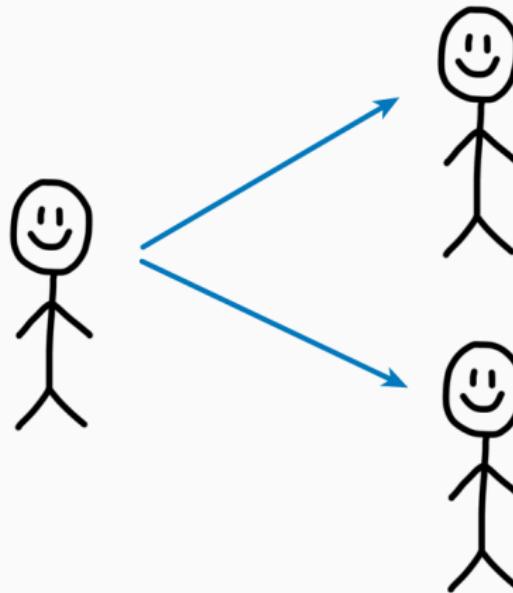


THE COUNTRY EDITOR—PAYING THE YEARLY SUBSCRIPTION.—[DRAWN BY F. S. CHURCH.]





# Why Banks at all?

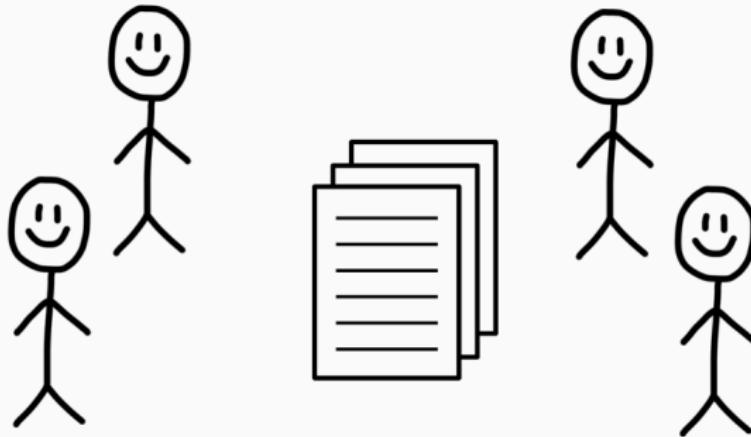


**Double Spending!**

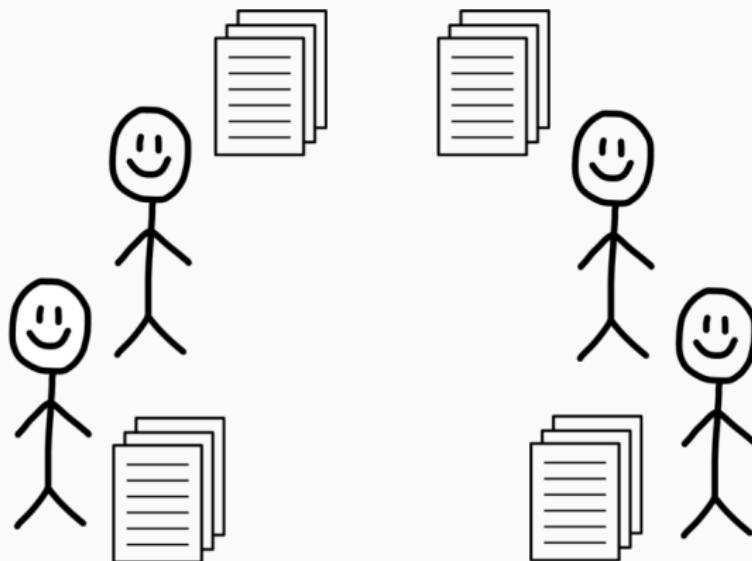
# Transactions



# List of Transactions



# Transactions are Public



# Cryptocurrencies: Disruption

Peer-to-peer (P2P) anonymous transactions

No central authority

No regulations — direct effect of market

CURRENCY OF  
THE INTERNET

# Cryptocurrencies: Differences with Fiat Currency

Coins are mined (by anyone),  
not printed by an authority

Miners solve tough puzzle  
and verify past transactions

It takes huge computing power to  
mine a set of coins

Normal users do not mine coins,  
only use as a currency

# Cryptocurrencies: Benefits over Fiat Currency

Very low transaction fees

Transparent and secure

Fewer risks for merchants

Can not be inflated by  
a single authority

# Commodity or currency?

Hold onto it or use for payment?

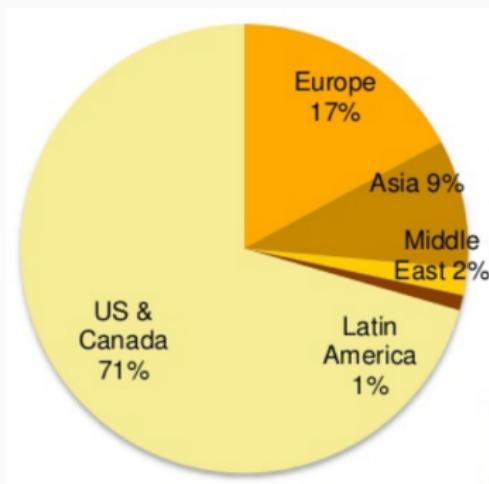
Countries are yet to regulate properly

High volatility but increasing  
total exchange trading volume

#	Name	Market Cap	Price	Available Supply
1	 Bitcoin	\$ 5,334,125,247	\$ 395.15	13,499,125 BTC
2	 Ripple	\$ 147,489,778	\$ 0.005088	28,989,252,282 XRP *
3	 Litecoin	\$ 133,518,472	\$ 3.95	33,798,637 LTC
4	 BitShares	\$ 36,541,872	\$ 0.018272	1,999,883,512 BTSX *
5	 Dogecoin	\$ 22,579,160	\$ 0.000236	95,509,288,777 DOGE

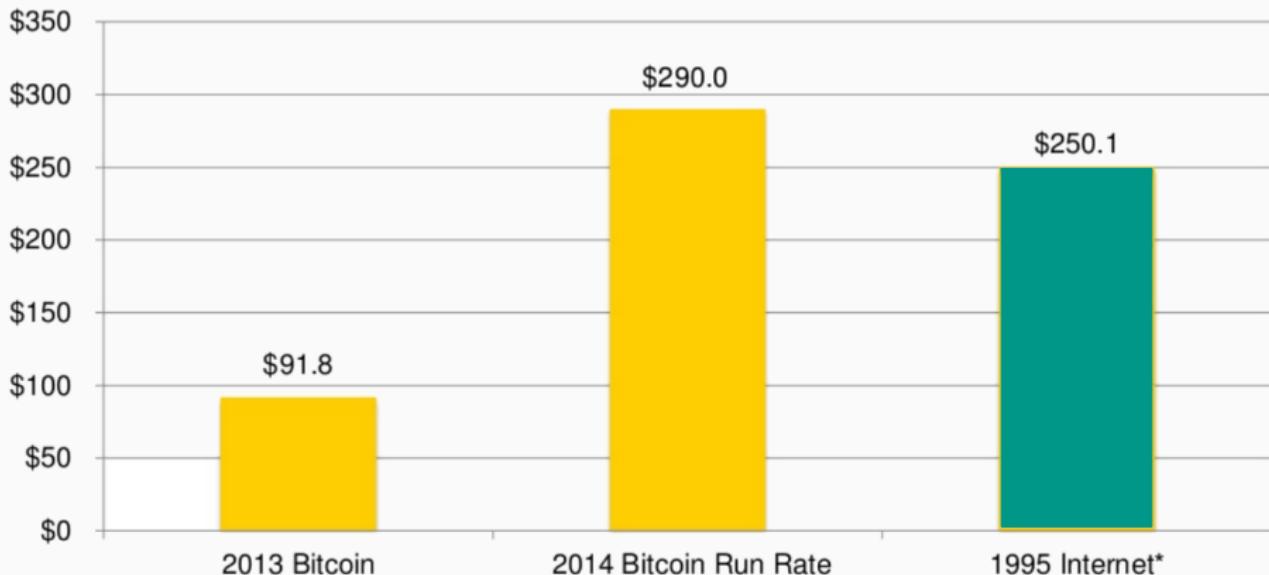
# INVESTMENT

# Investment in Bitcoin (up to Q3'14)



Total: \$285m

## Bitcoin vs Early Internet VC Investment (millions)



\*Includes first sequence venture deals but excludes late-stage 1995 internet investments (\$257.6m). For additional disclosure on methodology see <http://www.coindesk.com/following-money-trends-bitcoin-venture-capital-investment/>

Source: CoinDesk, PricewaterhouseCoopers

# Nature of Startups



# Nature of Startups: Wallets



investment:

**44.2 mil**

- Secure and convenient way to store and use bitcoins
- Almost zero fees, instant transactions
- Example: Blockchain.info grew from 110k to 2.3 mil wallets in 2013-2014

# Nature of Startups: Financial Services



investment:  
**49.8 mil**

- Varieties of financial services
- gogocoin: giftcard of bitcoin
- lamassu, robocoin: ATM machines

# Nature of Startups: Mining



investment:  
**48.0 mil**

- Bitcoins mining in cloud — open to all
- Example: CEX.IO holds 30% total bitcoin mining power

# Nature of Startups: Exchange



investment:

**41.1 mil**

- Exchange with fiat currency
- Example: Bitstamp is largest so far

# Nature of Startups: Payment Processing



investment:  
**38.2 mil**

- Payment gateway for merchants
- Similar to what VISA is to fiat currency

# Payment Processing: Merchants

Largest Bitcoin-Accepting Retailers

Rank	Company	Annual Revenue (\$bn)
1	Dell	56.9
2	Dish Network	13.9
3	Expedia	5.0
4	Monprix*	4.3
5	NewEgg	2.8
6	Overstock	1.3
7	TigerDirect*	1.0
8	1-800 Flowers	0.8
Total		85.9

- 75,000 merchants accept Bitcoin
- Example: Overstock.com
  - Averaging:* \$15k sales per day via Bitcoin
  - Forecasting:* \$1mil per month by Q4'14

# Nature of Startups: Universal



investment:  
**63.0 mil**

- More than one aspect of Bitcoin
- The giant startups in Bitcoin economy
- Example: Coinplug provides payment processing, wallet and ATM

# What lies in the future?

Hard to predict numbers

More investment, widespread use cases

Maybe evolve into something  
beyond cryptocurrencies:

Distributed Payment Systems

What lies in the future?

The invention is  
here to stay!

**THANK YOU**  
**Questions?**