Recent Topics about Cryptocurrency

Kyoto University School of Government - graduate program for public policy studies Naoyuki Iwashita

Agenda

- 1. Overview of cryptocurrency market in 2017
- 2. ICOs' impact on the price of cryptocurrency
- 3. Cybersecurity issues of cryptocurrency exchange
- 4. Central Bank Digital Currency

1. Overview of cryptocurrency market in 2017

GLOBAL BITCOIN NODES DISTRIBUTION

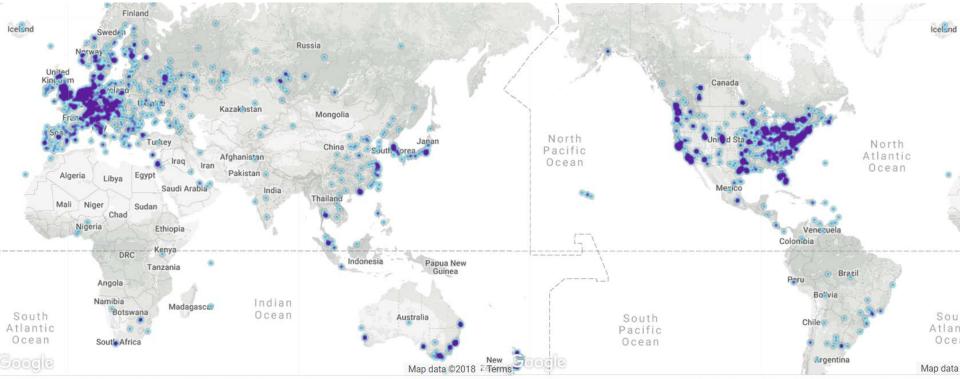
12109 NODES

24-hour charts »

Top 10 countries with their respective number of reachable nodes are as follow.

- 1. United States (2691)
- 3. Germany (1949)
- 5. Netherlands (515)
- 7. Canada (390)
- 9. n/a (315)
- 11. Japan (212)

- 2. China (2047)
- 4. France (697)
- 6. United Kingdom (421)
- 8. Russian Federation (380)
- 10. Singapore (227)
- 12. Hong Kong (183)



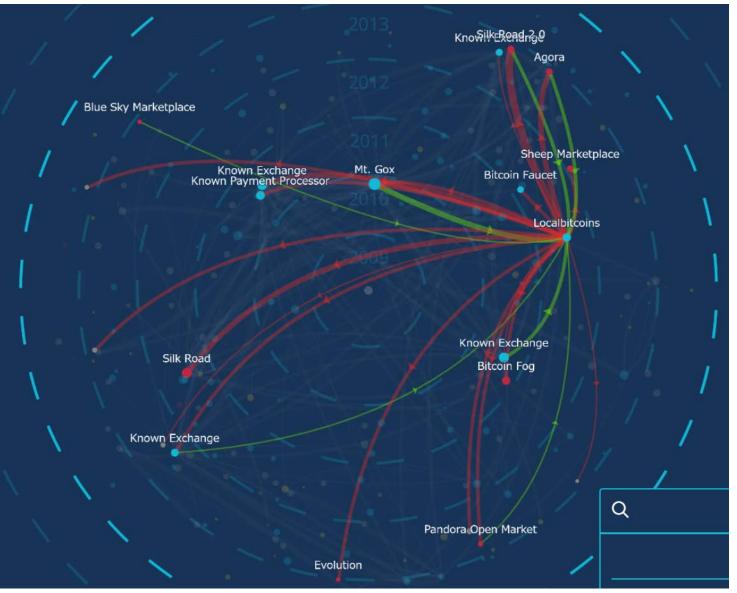
ap shows concentration of reachable Bitcoin nodes found in countries around the world.

, ap shows concentration of reachable Bitcoin nodes found in countries around the world.

(source) bitnodes.earn.com/

THE BITCOIN BIG BANG

A demonstration of our ability to track transactions through entities on the blockchain; the Big Bang shows the emergence of the largest 250 entities on the blockchain, their identity, and interconnectivity.

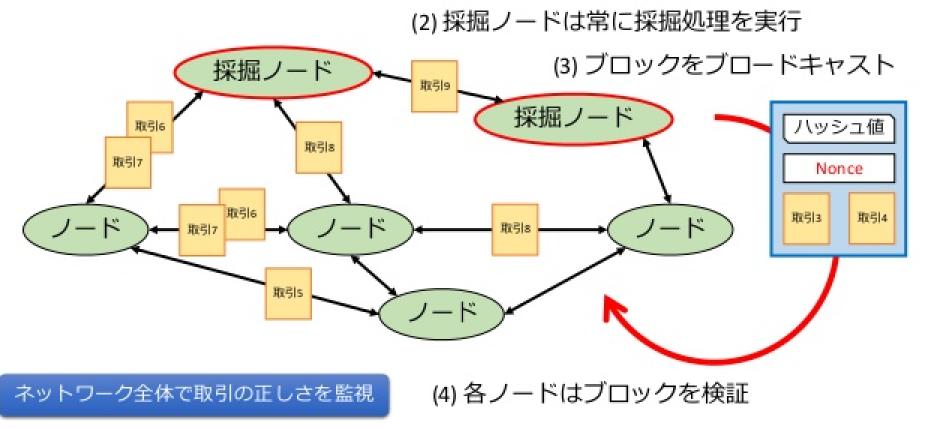


(source) www.elliptic.co

Role of Bitcoin nodes

Proof-of-work

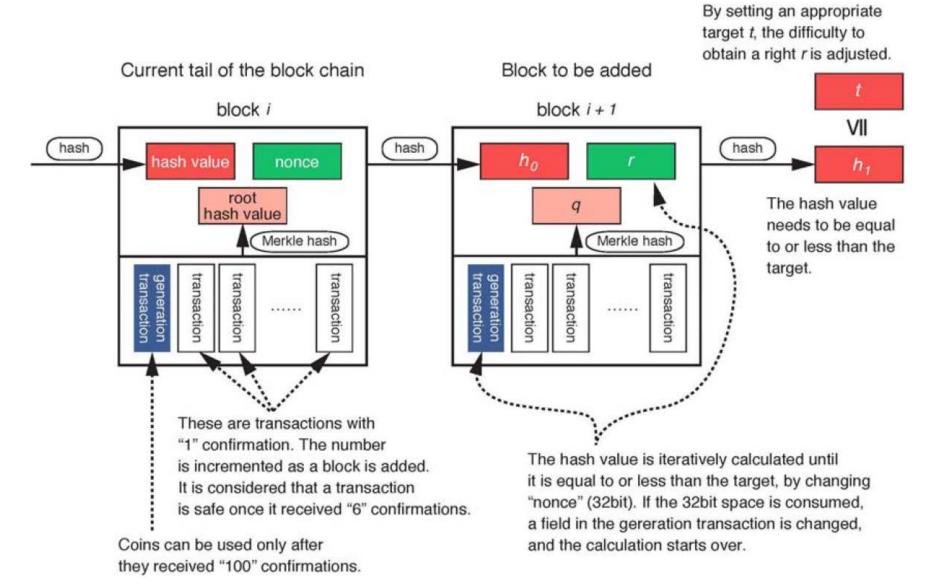
(1) 各ノードは常に新しい取引情報をブロードキャスト



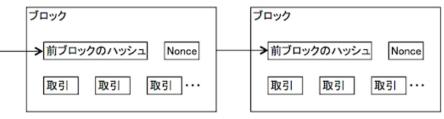
鷲見 拓哉「Bitcoinについて」 https://www.slideshare.net/takuya_sumi/bitcoin-v5

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Figure 1 Flow Chart of the Proof of Work



Bitcoin The magic of mining



Minting the digital currency has become a big, rutniessly competitive pusiness

Jan 10th 2015 | BODEN, SWEDEN | From the print edition

Timekeeper



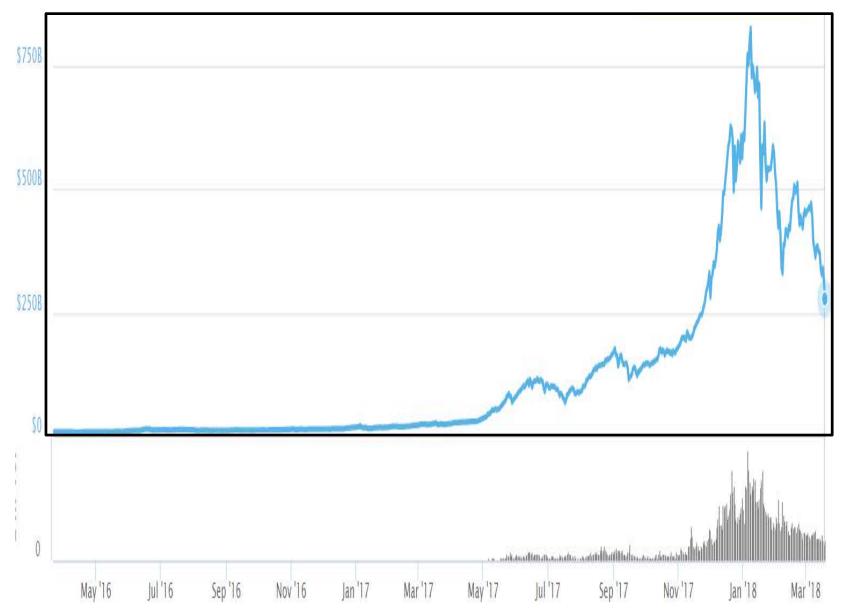
Price of Bitcoin (2013-16)





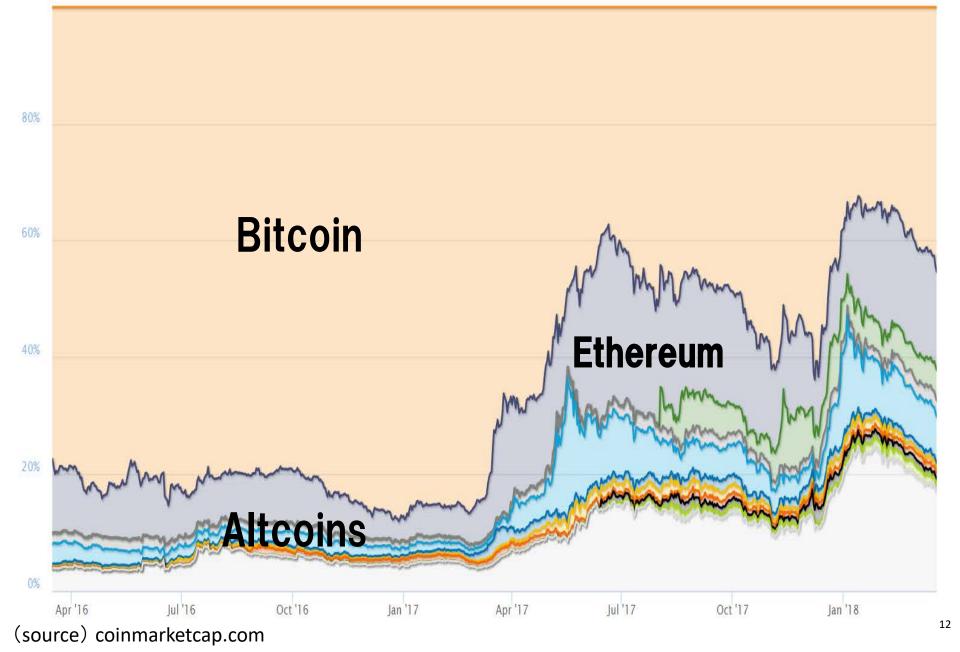
(source) coinmarketcap.com

Market Capitalization of all Virtual Currencies (2016-17)

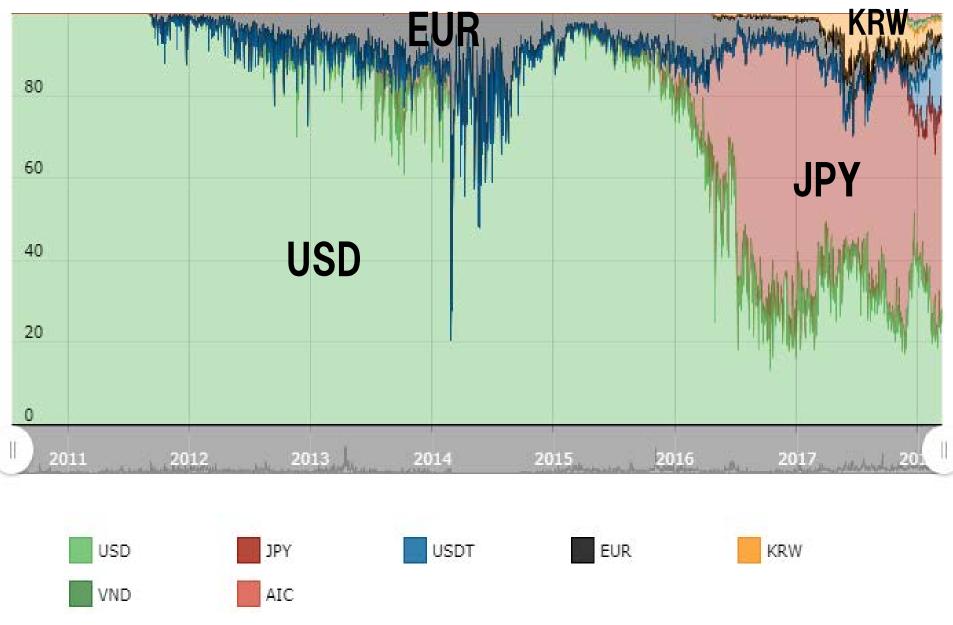


(source) coinmarketcap.com

Share of Virtual Currencies Market Cap (2016-17)



Share of Bitcoin transaction value by currency (2011-17)



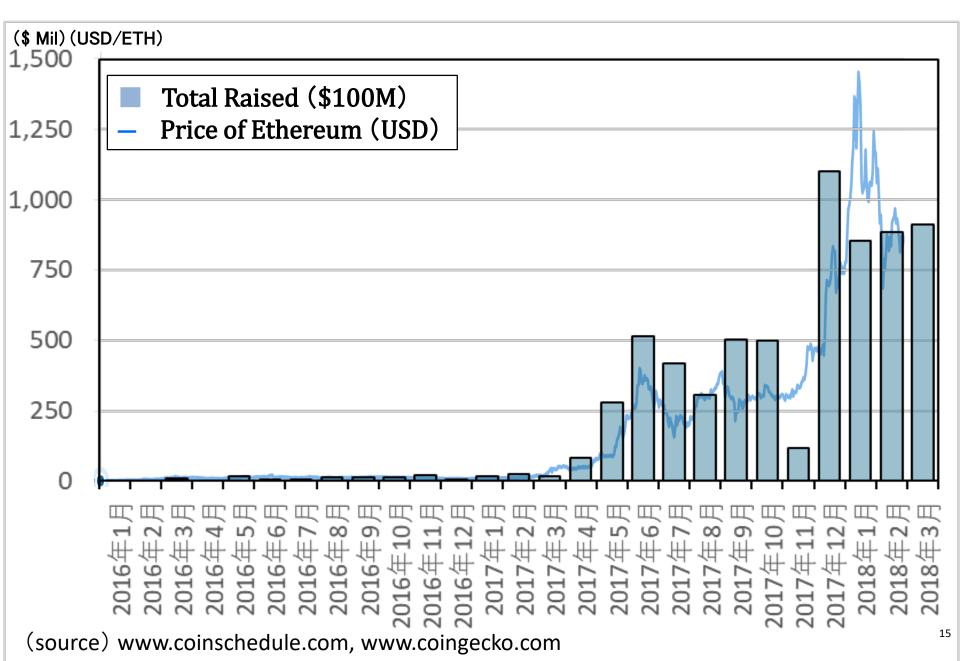
(source) www.cryptocompare.com

Major Cryptocurrencies

^ #	Name	Market Cap	Price	Volume (24h)	Circulating Supply	Change (24h)	Price Graph (7d)
1	8 Bitcoin	\$127,111,696,766	\$7,509.66	\$5,344,280,000	16,926,425 BTC	-5.47%	m
2	Ethereum	\$47,962,413,419	\$488.08	\$2,134,250,000	98,267,525 ETH	-14.72%	
3	- Ripple	\$22,264,882,600	\$0.569555	\$601,581,000	39,091,716,516 XRP *	-11.66%	
4	🛯 Bitcoin Cash	\$14,781,694,285	\$868.25	\$390,972,000	17,024,738 BCH	-9.83%	many
5	Litecoin	\$7,926,053,258	\$142.34	\$492,809,000	55,684,731 LTC	-8.19%	Jun
6	neo	\$3,504,104,500	\$53.91	\$156,246,000	65,000,000 NEO *	-15.64%	
7	Cardano	\$3,426,677,205	\$0.132166	\$125,370,000	25,927,070,538 ADA *	-16.59%	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
8	🕫 Stellar	\$3,380,967,611	\$0.182768	\$68,150,200	18,498,684,731 XLM *	-11.97%	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
9	💮 IOTA	\$3,101,566,662	\$1.12	\$93,363,200	2,779,530,283 MIOTA *	2.14%	my
10	♦ EOS	\$3,021,952,024	\$4.10	\$252,358,000	736,518,960 EOS *	-14.43%	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
11	S Monero	\$2,876,550,131	\$181.62	\$54,841,400	15,838,202 XMR	-8.75%	
12	⊐ Dash	\$2,804,391,559	\$352.59	\$108,387,000	7,953,713 DASH	-10.02%	m

⁽source) coinmarketcap.com

Total Raised Funds of ICOs and Price of Ethereum



2.. ICOs' impact on the price of cryptocurrency

ICO (Initial Coin Offering)

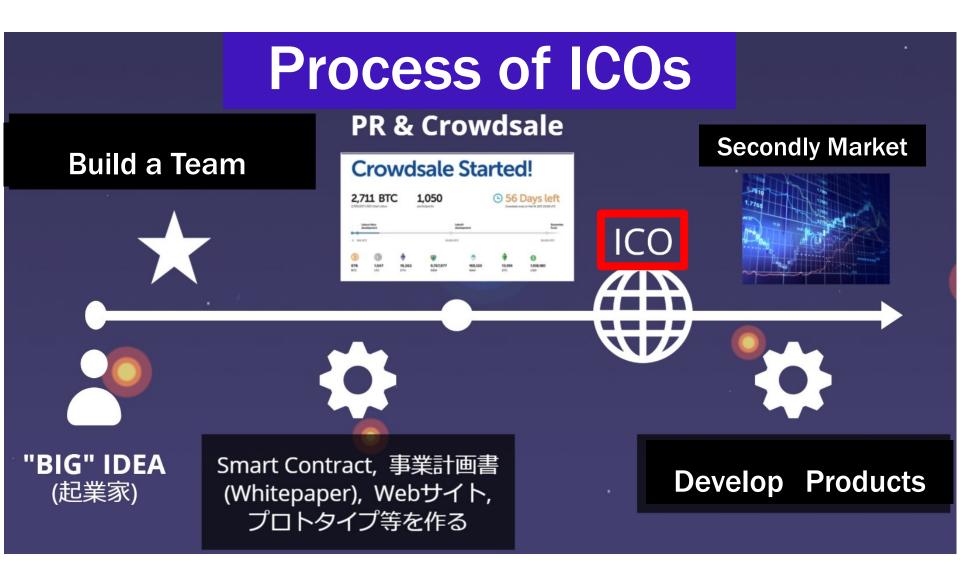
An initial coin offering (ICO) is a controversial means of crowdfunding centered around cryptocurrency, which can be a source of capital for startup companies.

EIP: 20 (2017-9-11) Title: ERC-20 Token Standard Created: 2015-11-19

Simple Summary A standard interface for tokens.

Abstract

The following standard allows for the implementation of a standard API for tokens within smart contracts. This standard provides basic functionality to transfer tokens, as well as allow tokens to be approved so they can be spent by another on-chain third party.



(Source) eventregist.com/e/protostarsalon2

Price of ICO token and rate of return (change from 11th March to 19th)

		USD		♦ Token Sale Price	2018-03-11		2018-03-19	
	Name	Raised Month			price	return	price	return
	Sirin Labs	\$157,885,825.00	Dec 2017	\$0.470	\$0.590	1.26x	\$0.352	0.75x
*	The Bancor Protocol	\$153,000,000.00	Jun 2017	\$3.857	\$3.847	1.00x	\$2.548	0.66x
Q	QASH	\$108,174,500.00	Nov 2017	\$0.309	\$0.648	2.10x	\$0.430	1.39x
•	Status	\$107,664,904.20	Jun 2017	\$0.036	\$0.135	3.77x	\$0.078	2.17x
·:	Envion	\$100,012,279.00	Jan 2018	\$0.803	\$0.592	0.74x	\$0.515	0.64x
×	Kin	\$98,500,326.08	Sep 2017	\$0.000	\$0.000	2.27x	\$0.000	1.52x
C	COMSA	\$95,614,242.43	Nov 2017	\$1.000	\$0.664	0.66x	\$0.487	0.49x
\Leftrightarrow	TenX	\$83,110,818.40	Jun 2017	\$0.805	\$1.277	1.59x	\$1.001	1.24x
*	Elastos	\$70,644,600.00	Jan 2018	\$8.920	\$47.386	5.31x	\$30.549	3.42x

(source) https://www.tokendata.io/advanced

ICO token rate of return by issuance time

Day One ICO Trading Results							
	Day-1 Return Current Return						
	USD	Nr	Average	Median	Average	Median	
Q1 17	\$16M	6	5.1x	3.9x	18.3x	13.3x	
Q2 17	\$892M	43	3.5x	1.9x	3.5x	1.8x	
Q3 17	\$812M	52	1.6x	1.1x	1.9x	0.8x	
Q4 17	\$341M	14	1.6x	1.1x	1.3x	1.1x	
	\$2,061M	115	2.5x	1.4x	3.2x	1.2x	

Source: TokenData.io

TOP 10 ICOs

Top Ten ICOs of 2016

Top Ten	ICOs	of	201	7
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	Projects	Total Raised
1	Waves	\$16,436,095
2	Iconomi	\$10,576,227
3	Golem	\$8,596,000
4	SingularDTV	\$7,500,000
5	Lisk	\$5,700,000
6	Digix DAO	\$5,500,000
7	FirstBlood	\$5,500,000
8	Synereo	\$4,700,000
9	Decent	\$4,178,357
10	Antshares/NEO	\$3,608,378

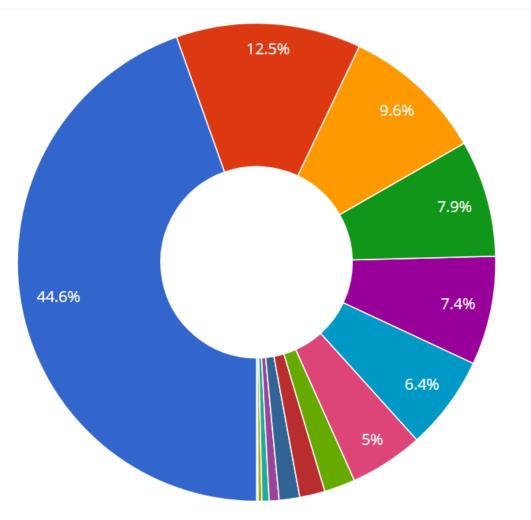
46 ICOs	
Total Raised	\$96,389,917

(source) w	/ww.coinschedule.com
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	Projects	Total Raised
1	Hdac	\$258,000,000
2	Filecoin	\$257,000,000
3	Tezos	\$232,319,985
4	EOS Stage 1	\$185,000,000
5	Paragon	\$183,157,275
6	Bancor	\$153,000,000
7	Kin	\$97,041,936
8	Status	\$90,000,000
9	BANKEX	\$70,000,000
10	TenX	\$64,000,000

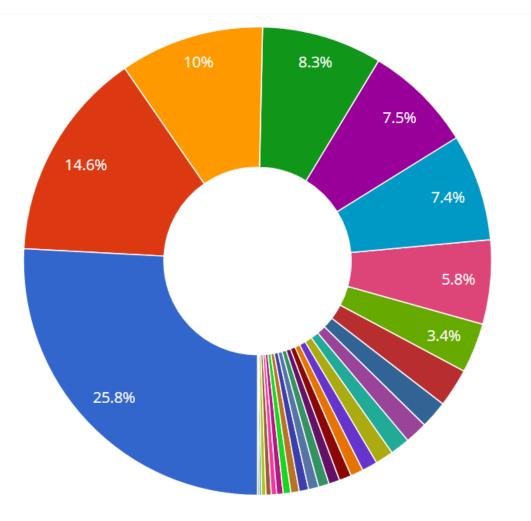
210 ICOs Total Raised \$3,880,018,203

ICOs by Category 2016



Infrastructure 44.6% (\$42,418,850) Trading & Investing 12.5% (\$11,895,650) Content Management 9.6% (\$9,181,357) Events & Entertainment 7.9% (\$7,500,000) Commodities 7.4% (\$7,004,367) Gaming & VR 6.4% (\$6,065,172) Gambling & Betting 5.0% (\$4,728,388) Identity & Reputation 2.1% (\$2,000,000) Payments 1.7% (\$1,629,798) Finance 1.4% (\$1,319,349) Transport 0.7% (\$635,000) Social Network 0.5% (\$459,000) Commerce & Advertising 0.3% (\$244,460) Art & Music 0.1% (\$100,000)

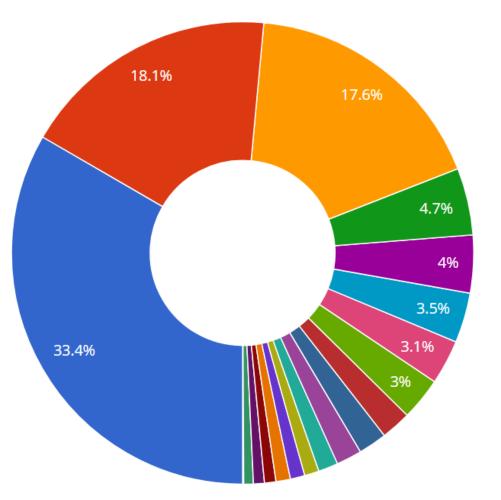
ICOs by Category 2017



Infrastructure 25.8% (\$1,002,499,502) Finance 14.6% (\$564,621,336) Trading & Investing 10.0% (\$386,323,075.47) Communications 8.3% (\$322,565,362) Payments 7.5% (\$291,219,999) Data Storage 7.4% (\$286,222,856) Drugs & Healthcare 5.8% (\$225,326,054) Gaming & VR 3.4% (\$133,418,167) Gambling & Betting 2.7% (\$102,976,302.6) Commerce & Advertising 1.9% (\$73,776,158) Data Analytics 1.5% (\$60,000,000) Machine Learning & AI 1.4% (\$52,658,661) Social Network 1.3% (\$48,557,371) Privacy & Security 1.1% (\$41,491,443) Art & Music 0.9% (\$33,912,088) Identity & Reputation 0.9% (\$33,000,000) Legal 0.8% (\$29,368,234) Energy & Utilities 0.7% (\$28,434,178) ▲ 1/2 **▼**

(Source) www.icocountdown.com

ICOs by Category 2018



Communications 33.4% (\$954,249,600) Finance 18.1% (\$518,210,676) Trading & Investing 17.6% (\$503,354,136) Commerce & Advertising 4.7% (\$134,098,400) Payments 4.0% (\$115,575,329) Mining 3.5% (\$100,000,000) Drugs & Healthcare 3.1% (\$89,169,964) Machine Learning & AI 3.0% (\$85,621,376) Energy & Utilities 2.1% (\$60,000,000) Data Analytics 2.0% (\$57,017,078) Infrastructure 1.8% (\$50,980,000) Compliance & Security 1.4% (\$39,544,101) Privacy & Security 1.0% (\$29,092,221) Data Storage 1.0% (\$29,000,000) Supply & Logistics 1.0% (\$28,932,536) Travel & Tourisim 0.8% (\$22,934,006) Identity & Reputation 0.8% (\$21,776,392) Gaming & VR 0.7% (\$19,263,937) Recruitment 0.1% (\$2,215,535)

Hedge Funds Flip ICOs, Leaving Other Investors Holding the Bag

By Olga Kharif (Bloomberg.com, 2017-10-04 0:21 JST)

..<u>one of the surest ways to get rich quickly</u> with cryptocurrencies is to be in early on <mark>initial coin offerings</mark>.

Hedge funds are proving to be first among equals when it comes to digital token sales by technology startups, receiving preferential discounts and terms and then often cashing out.

"It's not healthy for the ecosystem, and it's pretty abusive," said Kyle Samani, a managing partner at Austin, Texas-based Multicoin Capital, which invests in ICOs. "They are getting a discount because they are a big name, and they think it's going to draw the retail investor. It's the greater fools theory --- I'll buy it if there's someone who's more of a fool than me."

ICO COUNTDOWN



PROOF





OPEN ANX - OPEN



SKYCOIN JOIN THE DECENTRALIZED INTERNET

SKYCOIN





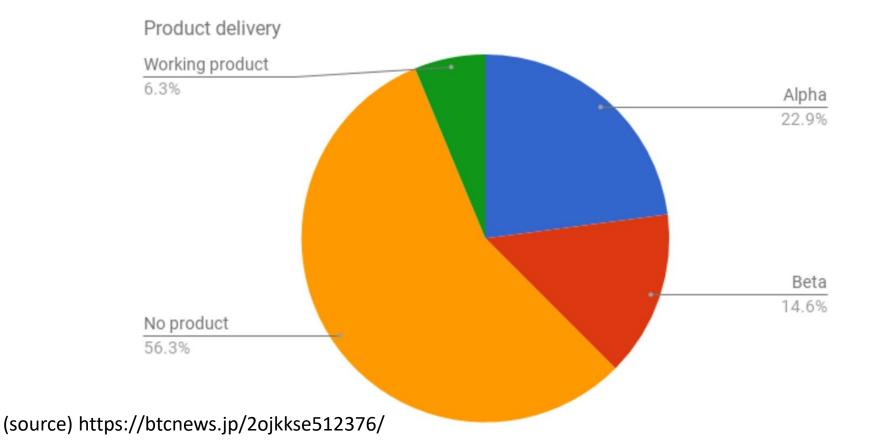
NEVERDIE - OPEN





What Happens After ICOs?

- Working product: 3 (6.25%)
- Beta product: 7 (14.58%)
- Alpha product: **11 (22.92%)**
- No product: 27 (56.25%)



OCTOBER 19, 2017 / 7:09 AM Special Report: Backroom battle imperils \$230 million cryptocurrency venture

Anna Irrera, Steve Stecklow, Brenna Hughes Neghaiwi

ZUG, Switzerland/NEW YORK (Reuters) - Just three months ago, a tech project called Tezos raised \$232 million online in a wildly successful "initial coin offering," in which new digital currency is parceled out to buyers. At the time, it was the most money ever raised from the public in the white-hot cryptocurrency sector.

But the venture is now in danger of falling apart because of a battle for control playing out behind the scenes, Reuters has learned.

The acrimonious dispute pits Tezos' two young founders – Arthur and Kathleen Breitman – against Johann Gevers, the president of a Swiss foundation the couple helped establish to handle the coin offering and promote and develop the Tezos computer network.

https://uk.reuters.com/article/us-bitcoin-funding-tezos-specialreport/special-reportbackroom-battle-imperils-230-million-cryptocurrency-venture-idUKKBN1CN35K



Publication of examination results of SEC



The SEC has charged two initial coin offerings with defrauding investors

Sarah Buhr@sarahbuhr / Sep 30, 2017

The Securities and Exchange Commission today has charged both a diamond and a real estate initial coin offering scheme with defrauding investors.



REcoin, which promoted itself as the first cryptocurrency-backed real estate company and DRC World, a diamond company, are owned by businessman Maksim Zaslavskiy. In a statement, the SEC accuses Zaslavskiy of selling unregistered securities and coins that don't exist to unsuspecting investors under these companies.

Zaslavskiy allegedly told these investors they could expect "sizeable returns" from each operation, all the while misstating how their money would be invested and misrepresenting how much had already been invested, according to the SEC.

The U.S. government has since obtained an emergency court order to freeze Zaslavskiy's and his companies' assets.

Though these appear to be the first initial coin offerings, or ICO's, to come under fire for fraud, they certainly won't be the last.

^{••}

⁽source) https://techcrunch.com/2017/09/29/the-sec-has-charged-two-initial-coinofferings-with-defrauding-investors/

MAS (Singapore Monetary Authority) expresses ICO regulations



Singapore Government Integrity · Service · Excellence

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MAS clarifies regulatory position on the offer of digital tokens in Singapore

Singapore, 1 August 2017... The Monetary Authority of Singapore (MAS) clarified today that the offer or issue of digital tokens in Singapore will be regulated by MAS if the digital tokens constitute products regulated under the Securities and Futures Act (Cap. 289) (SFA). MAS' clarification comes in the wake of a recent increase in the number of initial coin (or token) offerings (ICOs) in Singapore as a means of raising funds.

2 A digital token is a cryptographically-secured representation of a token-holder's rights to receive a benefit or to perform specified functions. A virtual currency is one particular type of digital token, which typically functions as a medium of exchange, a unit of account or a store of value.

3 ICOs are vulnerable to money laundering and terrorist financing (ML/TF) risks due to the anonymous nature of the transactions, and the ease with which large sums of monies may be raised in a short period of time. MAS' media release of 13 March 2014 had communicated that while virtual currencies per se were not regulated, intermediaries in virtual currencies would be regulated for ML/TF risks. MAS is currently assessing how to regulate ML/TF risks associated with

Chinese monetary authorities banned ICO

中国人民银行 THE PEOPLE'S BANK OF CHINA	
About PBC Management Team Former Governors News Speeches Monetary Policy Financial Market Survey & Stat. Regulations Financial Stability Publications Working Paper Links	search Adv.Search
Wed. 13 .9 2017 You are here: Home > News	

Public Notice of the PBC, CAC, MIIT, SAIC, CBRC, CSRC and CIRC on Preventing Risks of Fundraising through Coin Offering

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2017年09月08日

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Recently, a large number of fundraising activities through issuing tokens including Initial Coin Offering (ICO) have taken place in China, giving rise to speculation and inviting suspicion of illegal financial activities. These activities have disrupted the economic and financial order. To implement the spirit of the National Financial Work Conference, protect the legitimate rights and interests of investors and manage financial risks, and in accordance with Law of the People's Republic of China on the People's Bank of China, Law of the People's Republic of China on Securities, Law of the People's Republic of China on Commercial Banks, Law of the People's Republic of China on Securities, Law of the People's Republic of China on Cyber Security, Regulation of the People's Republic of China on Telecommunication, Measures for Banning Illegal Financial Institutions and Illegal Financial Business and Activities, and other laws and regulations, the relevant matters are hereby announced as follows:

I. The Essential Attributes of Fundraising Through Coin Offering

Financing through coin offerings refer to financing bodies raising virtual currencies such as Bitcoin or Ethereum from investors through

China regulates both bitcoin exchange and mining business



ビットコイン、中国での「採掘」に終止符 当局が停 止命令

中国当局はビットコイン採掘活動の停止を命じた。同国では規制によって既にビットコイン取引所が閉鎖されたが、さらに世界のビットコイン供給の大きな部分を...

JP.WSJ.COM

Japanese FSA also announces caution against ICO

I CO (Initial Coin Offering) について~利用者及び事業者に対する注意喚起~

29.10.27 金融庁

1. ICOとは

○ 一般に、ICOとは、企業等が電子的にトークン(証票)を発行して、公衆から資金 調達を行う行為の総称です。トークンセールと呼ばれることもあります。

2. 利用者の方へ(ICOのリスクについて)

○ ICOで発行されるトークンを購入することには、次のような高いリスクがあります。

✓ 価格下落の可能性

トークンは、価格が急落したり、突然無価値になってしまう可能性があります。

✓ 詐欺の可能性

- 一般に、ICOでは、ホワイトペーパー(注)が作成されます。しかし、ホワイトペーパーに掲げたプロジェクトが実施されなかったり、約束されていた商品やサービスが実際には提供されないリスクがあります。また、ICOに便乗した詐欺の事例も報道されています。
- (注) I C O により調達した資金の使い道(実施するプロジェクトの内容等)やトークンの 販売方法などをまとめた文書をいいます。

O トークンを購入するに当たっては、このようなリスクがあることや、プロジェクトの内容などをしっかり理解した上で、自己責任で取引を行う必要があります。

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France to create legal framework for ICO

MARCH 22, 2018 / 6:08 PM

France plans to create a legal framework for raising funds via cryptocurrencies and aims to become a leading center for offerings in bitcoin-style digital currencies, its finance minister wrote on a news website.

In an opinion piece on French website Numerama, Bruno Le Maire wrote that he had asked former central bank official Jean-Pierre Landau to draft a proposal for a legislative framework for digital currencies.

"France has every interest in becoming the first major financial center to propose an ad-hoc legislative framework for companies making an Initial Coin Offering," Le Maire wrote.

(source) https://www.reuters.com/article/us-france-cryptocurrencies/france-to-create-legal-framework-for-cryptocurrency-offerings-idUSKBN1GY0YE



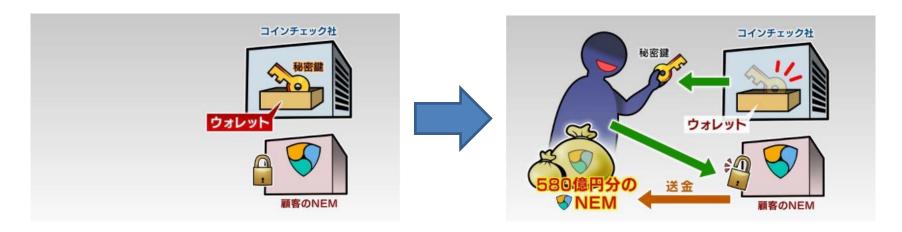
3. Cybersecurity issues of cryptocurrency exchange

Coincheck Incident - Virtual Currency Fraud Spill

- At midnight on January 26, a virtual currency "NEM" equivalent of 58 billion yen, which one of the major virtual currency exchanges "Coincheck" had custody of customers, was illegally remitted and leaked to someone. The company confirmed the fact of the outflow after 10 hours or more and reported it to the FSA, the regulatory agency, and the police.
- Coincheck managed the virtual currency NEM of 58 billion yen which the customer purchased or exchanged with a device called "Wallet" connected to the Internet. It says that Coincheck stored the virtual currency in Wallet, but that is only a similitude, and it does not mean Coincheck wrote valuable digital data in the device. More precisely, the actual state of the virtual currency is the whole of the enormous amount of digital data written in the computers connected to the Internet. In Wallet, a character string called a secret key for authentication to rewrite the virtual currency information is stored, and transactions are carried out using digital signature generated by using this secret key.

Coincheck Incident – How was NEM stolen?

- In the theft case of this time, a secret key that should not be known to outsiders was used by the attacker without permission, and commands were issued to rewrite the virtual currency information in computers around the world. As a result, NEM was remitted to the address prepared by the attacker from the Coincheck's address.
- In other words, in this case, Coincheck managed the large amount of this virtual currency with only one secret key, and it was stolen. Coincheck managed more strictly the virtual currency other than NEM. Measures were taken to lower the risk of being stolen by separating Wallet into multiple different secret keys and not connecting the device to the Internet at all times and manually connecting only when necessary. The attacker targeted NEM that had not taken such measures.



NEM transfer logs at Coincheck incident

date/time	value(XEM)	sender address	receiver address
2018/1/26 8:26	800.000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 4:33	1,000,000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 3:35	1,500,000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 3:29	92,250,000	NC4C6PSUW5	NA6JSWNF24Y
2018/1/26 3:28	100,000,000	NC4C6PSUW5	NDD7VF32WB
2018/1/26 3:18	100,000,000	NC4C6PSUW5	NB40JJCI T7W
2018/1/26 3:14	100,000,000	NC4C6PSUW5	ND77JBH6J7P
2018/1/26 3:02	750,000	NC4C6PSUW5	NBKI OYXFIVF
2018/1/26 3:00	50,000,000	NC4C6PSUW5	NDODXOWFI7
2018/1/26 2:58	50,000,000	NC4C6PSUW5	NA7S775KF67
2018/1/26 2:57	30,000,000	NC4C6PSUW5	NCTWFIOOVIT
2018/1/26 0:21	3,000,000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 0:10	20,000,000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 0:09	100,000,000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 0:08	100,000,000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 0:07	100,000,000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 0:06	100,000,000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 0:04	100,000,000	NC3BI3DNMR2	NC4C6PSUW5
2018/1/26 0:02	10	NC3BI3DNMR2	NC4C6PSUW5

Checkpoints of Crypto-Exchange Security

- The Cryptocurrency Act in Japan does not have a sufficient mechanism for customer protection that considers that cryptocurrency exchanges keep a large amount of customer assets.
- Strengthening the legal regulation from the perspective of investor / consumer protection.
- Institutional measures using trust and insurance mechanisms.
- Disclosure of information on unified security standards, management structure and governance, and status of security.

Design philosophy of "decentralization"

- Basic design concept of bitcoin = "decentralization"
 - Policy that never creates reliable central organization.
 - The cryptocurrencies with these policies were easy used internationally, by crossing over the border and differences in law and political system.
- From the perspective of the ordinary world, which is based on the existence of reliable central institutions such as governments, central banks and courts, the world of virtual currencies is extremely fragile and dangerous.
- Since NEM also has a policy to have no reliable central organization, no one can arbitrarily rewrite information including the any government agency.
- Is it possible for the government to properly control the cryptocurrencies with such a strange philosophy?

4. Central Bank Digital Currency

The three genealogies of central bank digital currency

Among central banks, discussions of digital currency are booming, such as

- CBCC (Central Bank cryptocurrency) by BIS
- DBM (Digital Base Money) by ECB
- DFC (Digital Fiat Currency) by PBOC

Although we can not introduce all these arguments, in order to organize the flow of the discussion, it will be possible to divide them into the following three genealogies.

1. Central banks of developed countries began to consider CBDC inspired by the expansion of bitcoin. Discussions at BIS/CPMI are widely known, and various researches are under way, but no implementation examples yet.

2. Central banks in developing countries such as Africa began CBDC from the perspective of financial inclusion. Although it has been discussed mainly by African countries, China, Russia, India joined recently.

3. Central banks of South American countries that has been suffered by high inflation ratio, actually issue new digital currencies.

Central banks of developed countries began to consider CBDC



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BIS Quarterly Review (September 2017)

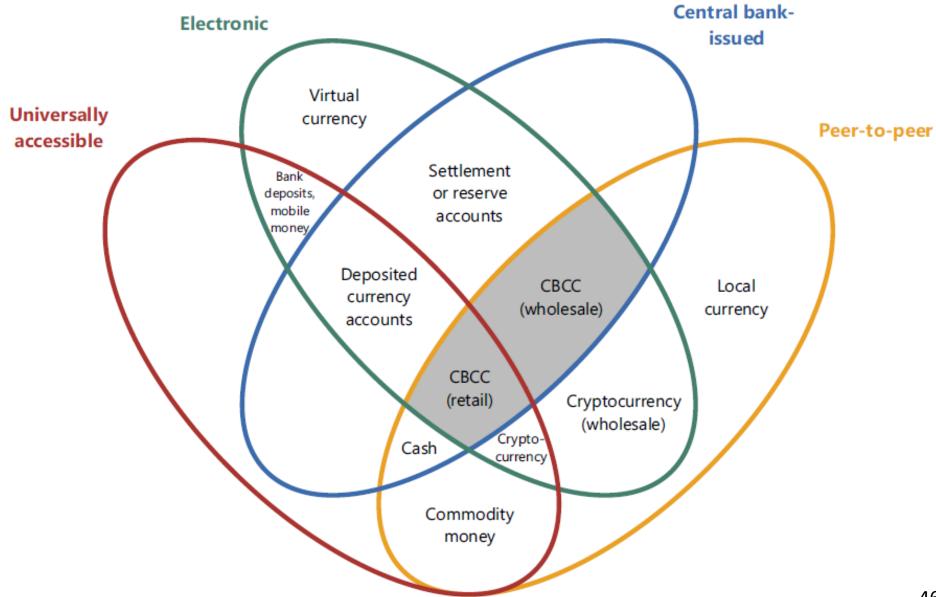
Morten Bech morten.bech@bis.org Rodney Garratt garratt@ucsb.edu

Central bank cryptocurrencies¹

New cryptocurrencies are emerging almost daily, and many interested parties are wondering whether central banks should issue their own versions. But what might central bank cryptocurrencies (CBCCs) look like and would they be useful? This feature provides a taxonomy of money that identifies two types of CBCC – retail and wholesale – and differentiates them from other forms of central bank money such as cash and reserves. It discusses the different characteristics of CBCCs and compares them with existing payment options.

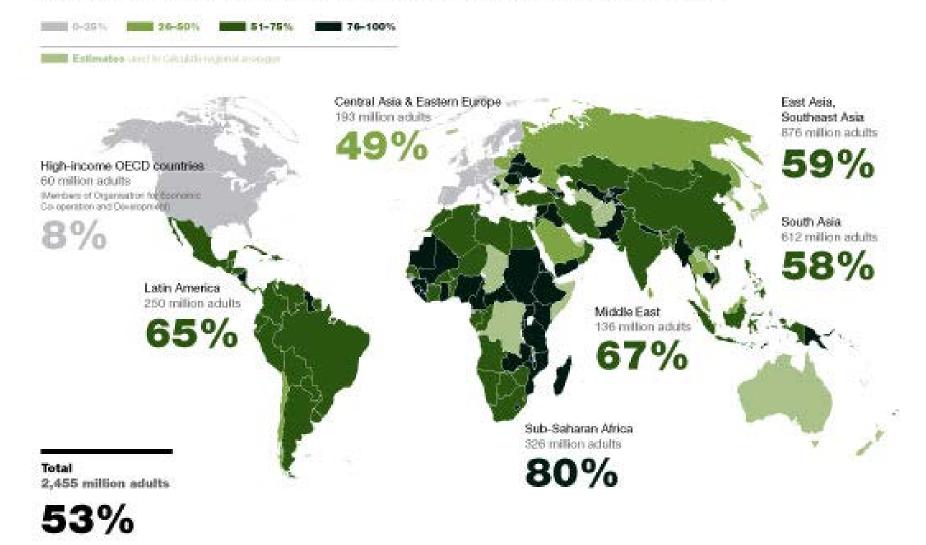
JEL classification: E41, E42, E51, E58.

Money Flower



Half of world population is unbanked

Percentage of total adult population who do not use formal or semiformal financial services



Alberto Chaia, Tony Goland, and Robert Schiff, "Counting the world's unbanked", McKinsey Quarterly, March 2010.

M-PESA realized financial inclusion



M-PESA: Kenya version electronic money By using the SMS function of mobile phones, it is used in various uses such as settlement, remittance, withdrawal.

With M - PES, there was no branch of the bank, carrying around cash, even in dangerous Kenya district A remittance and savings became possible.

図表 4: 国内送金に使用するチャネルの利用率(2006年・2009年・2013年の比較、%)

	2006	2009	2013
家族·友人	57.2	35.7	32.7
バス・マタトゥ(小型乗合バス)	26.7	4.0	5.4
送金サービス	5.3	0.4	1.9
小切手	3.8	1.2	1.3
銀行口座へ直接	9.6	3.2	4.3
郵便局	24.2	3.4	1.3
モバイルマネー	0.0	60.0	91.5

出所: FinAccess National Survey2013(2つ以上選択可能なため、合計は100にならない)

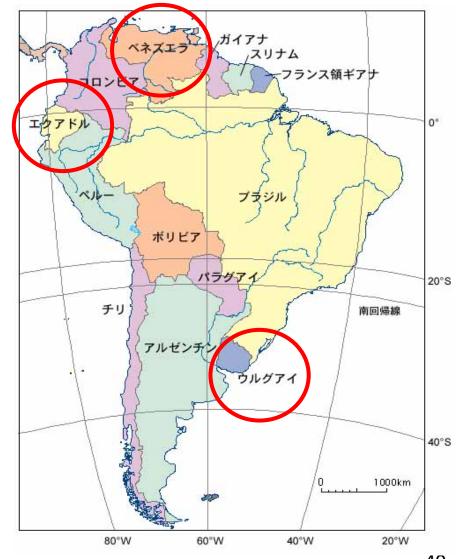
(source)五味佑子、「金融包摂とモバイルマネーサービスを考える」、国際通貨研究所、2015.11.17

Implementation of CBDC in South America

Compared with careful consideration by central banks of developed countries, there is an area where the central banks have already implemented digital currencies.

It is South America.

In countries such as Ecuador, Uruguay, and Venezuela, the digital currency issued by the central bank is not a matter to be considered, but a reality. It is related to the fact that these countries suffered from inflation for a long time.



Venezuela raised \$ 5 billion in "Petro"

In January 2018, President Maduro of Venezuela ordered issuance of the first 100 million petro of Petro, the Central Bank digital money backed by the oil produced by the country. According to the president, one Petro is said to have the value of one barrel of Venezuela oil.

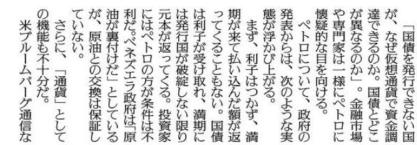
Petro was issued and distributed using blockchain technology similar to bitcoin. As it uses ERC-20 token, it can be thought of as 'ICO by country'.



Venezuela's Oil-Backed Cryptocurrency Declared Illegal -Bitcoin News

The Venezuelan parliament has declared the oil-backed cryptocurrency created by President Nicolas Maduro illegal and in violation of the country's Constitution....

NEWS.BITCOIN.COM





(source) yomiuri shinbun