CRYPTOCURRENCY

QuickStart Guide

AUDIOBOOK COMPANION



YOU HAVE THE AUDIOBOOK...

NOW SAVE 10% ON YOUR NEXT PURCHASE



BUY THIS BOOK IN ANOTHER FORMAT, OR EXPLORE OUR ENTIRE LIBRARY OF

QuickStart Guides...

GET 10% OFF OF YOUR ENTIRE ORDER

WITH COUPON CODE:

companion10

CLICK HERE TO SHOP WITH 10% OFF →

TABLE OF CONTENTS

CHAPTER 1	5
fig. 1	5
fig. 2	6
fig. 3	6
fig. 4	7
fig. 5	7
fig. 6	8
fig. 7	8
CHAPTER 2	9
fig. 8	
fig. 9	
fig. 10	
fig. 11	
fig. 12	10
fig. 13	11
fig. 14	11
fig. 15	12
fig. 16	13
CHAPTER 3	14
fig. 17	
fig. 18	
fig. 19	
fig. 20	
fig. 21	
fig. 22	
fig. 23	
fig. 24	
CHAPTER 4	
fig. 25	
fig. 26	
fig. 27	
fig. 28	
fig. 29	
fig. 30	
CHAPTER 5	
fig. 31	
fig. 32	
fig. 33	21

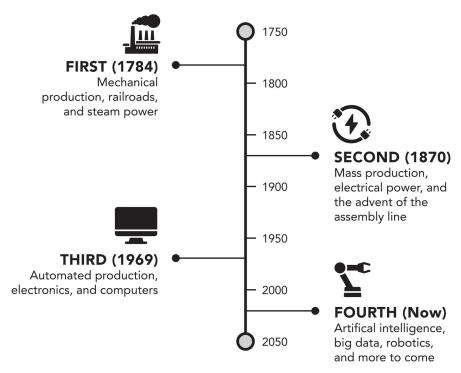
fig.	34	22
fig.	35	22
СНА	NPTER 6	23
fig.	36	23
fig.	37	23
fig.	38	24
fig.	39	.25
fig.	40	26
fig.	41	26
fig.	42	.27
fig.	43	.27
fig.	44	28
fig.	45	29
fig.	46	29
СНА	APTER 7	30
fig.	47	30
fig.	48	30
fig.	49	30
fig.	50	. 31
fig.	51	. 31
fig.	52	32
fig.	53	32
fig.	54	32
fig.	55	33
fig.	56	33
fig.	57	33
fig.	58	34
fig.	59	34
fig.	60	34
fig.	61	35
СНА	APTER 8	36
fig.	62	36
fig.	63	36
fig.	64	.37
fig.	65	.37
fig.	66	38
fig.	67	38
fig.	68	39

fig. 69	39
fig. 70	40
fig. 71	40
fig. 72	40
fig. 73	41
fig. 74	41
CHAPTER 9	42
fig. 75	
fig. 76	
fig. 77	
fig. 78	
fig. 79	43
fig. 80	43
fig. 81	43
fig. 82	44
fig. 83	44
fig. 84	
CHAPTER 10	45
fig. 85	45
fig. 86	45

fig. 87	46
fig. 88	46
fig. 89	47
fig. 90	47
CHAPTER 11	48
fig. 91	48
fig. 92	48
fig. 93	49
fig. 94	49
CHAPTER 12	50
fig. 95	50
fig. 96	50
fig. 97	51
CHAPTER 13	52
fig. 98	
fig. 99	
fig. 100	53
fig. 101	53
CHAPTER 14	54
fig. 102	

The Present, Past, and Future of Money

fig. 1 THE FOUR INDUSTRIAL REVOLUTIONS



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. 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 is the frequires 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.

1. Introduction

Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust based model. Completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes. The cost of mediation increases transaction costs, limiting the minimum practical transactions size and cutting off the possibility for small casual transactions, and there is a broader cost in the loss of ability to make non-reversible payments for non-reversible services. With the possibility of reversal, the need for trust spreads. Merchants must be wary of their customers, hassling them for more information than they would otherwise need. A certain percentage of fraud is accepted as unavoidable. These costs and payment uncertainties can be avoided in person by using physical currency, but no mechanism exists to make payments over a communications channel without a trusted party.

can be avoided in person by using physical currency, but no mechanism exists to make payments over a communications channel without a trusted party.

What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party. Transactions that are computationally impractical to reverse would protect sellers from fraud, and routine escrow mechanisms could easily be implemented to protect buyers. In this paper, we propose a solution to the double-spending problem using a peer-to-peer distributed timestamp server to generate computational proof of the chronological order of transactions. The system is secure as long as honest nodes collectively control more CPU power than any cooperating group of attacker nodes.

Source: https://bitcoin.org/bitcoin.pdf
The first page of the white paper that started cryptocurrency

fig. 3



Cowrie shells: an early form of money.

fig. 4



Source: Dosseman, CC0, via Wikimedia Commons Lydian coins.

fig. 5

THE FUNDAMENTAL QUALITIES OF MONEY						
CHARACTERISTIC	EXPLANATION					
Means of exchange	Will the seller accept your item as payment? If so, your cash, cowrie shells, or ultra-rare Charizard Pokémon card is a means of exchange.					
Method of payment	This refers to the ability to use the item to pay off debts. The bank will take cash; it won't accept ramen noodles.					
Store of wealth	If the asset can be set aside and used at a later date, then it is a store of wealth.					
Standard of value	If everyone agrees that a certain amount of money buys a certain number of items, then it has a standard of value. For example, \$2.00 equals one 20-ounce bottle of soda or one fast-food cheeseburger. The value of different Pokémon character cards may be understood in one school lunchroom but not another, so those are not a great standard of value.					
Unit of account	Can the item in question be used to maintain records for calculating profits, losses, obligations, and account values? If so, it is a unit of account. Government-issued currencies fulfill this function especially well.					



 $\label{eq:source:www.metmuseum.org} Source: www.metmuseum.org$ $A \ proto-cuneiform \ tablet.$

FIAT CURRENCY VS CRYPTOCURRENCY									
FIAT CURRENCY	CRYPTOCURRENCY								
Can be physical (e.g., coins) or digital	Digital only								
Digital transactions run through banking system	Digital transactions run through blockchain								
Issued by governments	Issued by computers								
Government can issue more currency	Each crypto has its own set of rules for creating new currency. For example, some have finite supply, while others have no upper limit on supply.								

How Cryptocurrencies Work

fig. 8

PATIENT ID	LAST NAME	FIRST NAME	EMAIL	PHONE		
1	Frick	Jeffrey	jfrick@example.com	760-555-9786		
2	Messenger	Gil	gilm@example.com	805-555-4983		
3	Buck	Ann	malibu5@example.com	310-555-9320		

An example of a simple database table.

fig. 9

PATIENT ID	DATE	AMOUNT
1	2022-03-15	\$200
2	2022-03-17	\$150
3	2022-03-20	\$100
2	2022-03-24	\$150
3	2022-03-27	\$100

Data from a relational database.

PA	ATIENT ID	LAST NAME	1915 (1995)	RST ME	EMAIL		PHONE		
	1	Frick	Jef	frey	jfrick@example.com		760-555-9786		
	2	Messenger	G	iil	gilm@example.com		805-555-4983		
	3	Buck	Aı	nn	malibu5@example.com	1	310-555-9320		
		PATIE	NT ID		DATE		AMOUNT		
	44	→ 1			2022-03-15		\$200		
	11-	→ 2			2022-03-17		\$150		
	H	→ 3	3		2022-03-20		2022-03-20 \$1		\$100
	14				2022-03-24		\$150		
		→ 3	3		2022-03-27		\$100		

fig. 11

TRADITIONAL CLIENT-SERVER DATABASE ARCHITECTURE

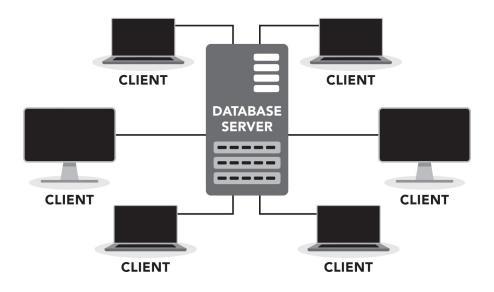
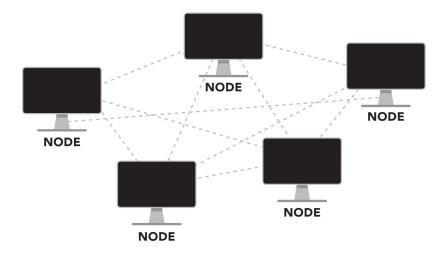


fig. 12

PEER-TO-PEER NETWORK



BLOCKCHAIN BASICS

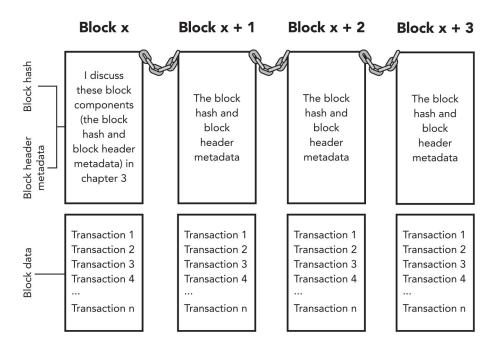


fig. 14



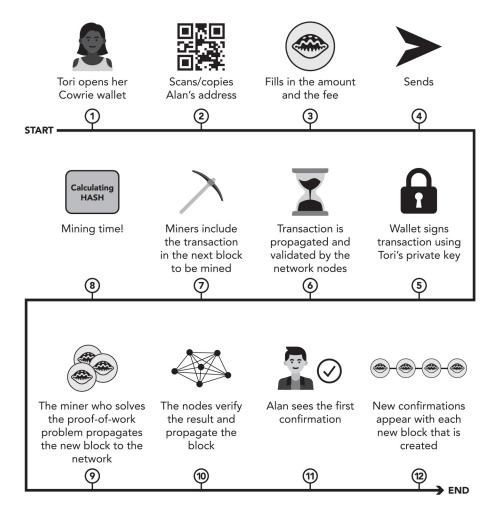
Hardware Crypto Wallet by Ledger, named among the "Top 10 Cryptocurrency Wallets ... in 2023" by Analytics Insight. The wallet can connect to your computer via a USB cable.



A software wallet.

fig. 16 CRYPTOCURRENCY TRANSACTION PROCESS

Tori sends 100 cowries to Alan



The Role of Cryptography

fig. 17

 $53 \ddagger \ddagger \dagger 305))6*; 4826)4 \ddagger .)4 \ddagger); 806*; 48 \dagger 8 \P 60))85; 1 \ddagger); \\ \ddagger \ast 8 \dagger 83(88)5* \dagger ; 46(;88*96*?;8)* \ddagger (;485);5* \dagger 2:* \ddagger 2:* \ddagger 3:* \ddagger 3$

Cryptogram in Poe's "The Gold-Bug."

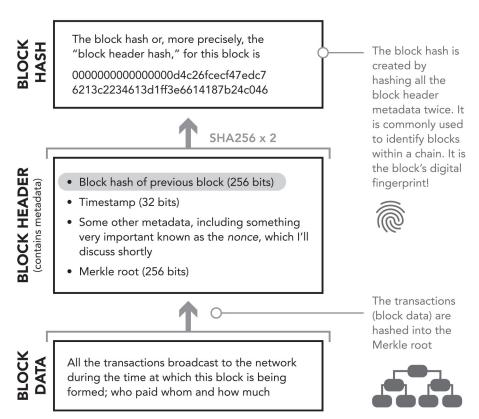
fig. 18

LETTER	а	b	С	а	е	f	g	h	i	I	m	n	0	р	r	s	t	u	v	у
SYMBOL	5	2		†	8	1	3	4	6)	9	*	‡		()	;	?	₽	:

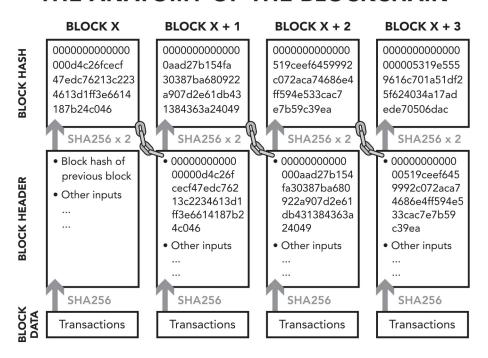
BINARY	HEXADECIMAL
0000	0
0001	1
0010	2
0011	3
0100	4
0101	5
0110	6
0111	7
1000	8
1001	9
1010	А
1011	В
1100	С
1101	D
1110	E
1111	F

INPUT	OUTPUT (HASH)
hi	8f434346648f6b96df89dda901c5176b10a6d83961dd3c1ac88b59b2dc327aa4
100 cowries	e1cd2fc7749fd7b9b577fd6166a05c042a29520d83fe7a223e190b9857bc6ccb
101 cowries	4e2439b663ef22a341e8d8f13d9f1b3aaddc55c51005bfa270342456b8e58601

fig. 21 THE ANATOMY OF A BLOCK



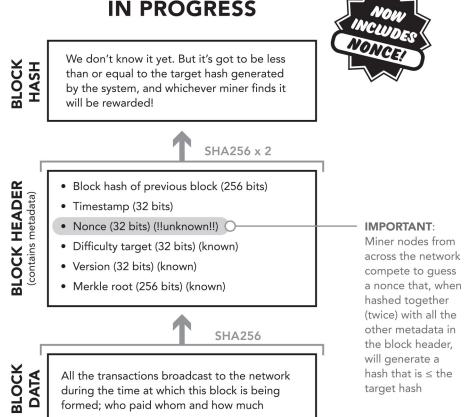
THE ANATOMY OF THE BLOCKCHAIN



Because of hashing, each new block is cryptographically bound to the previous block; it's therefore not possible to interfere with the data they contain.

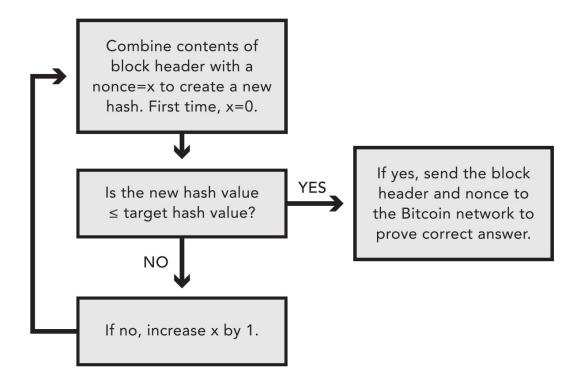
fig. 23

THE ANATOMY OF A BLOCK IN PROGRESS



The word "nonce" is an abbreviation for "number used only once."

fig. 24



It seems simple enough, but this process is done on a massive scale. Across the globe, the estimated 50,000 nodes on the Bitcoin network make about 190 quintillion guesses per second.¹

Bitcoin

fig. 25



Bitcoin has a recognizable logo that appears on the internet, but it doesn't appear on any actual physical currency.

fig. 26 A RECAP OF THE BITCOIN LAUNCH TIMELINE

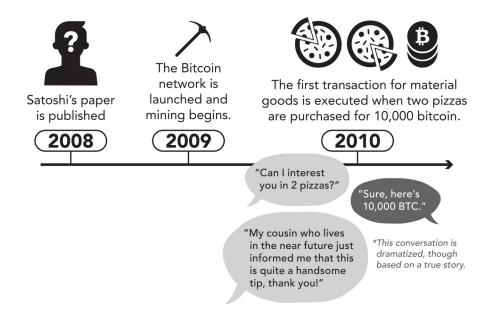
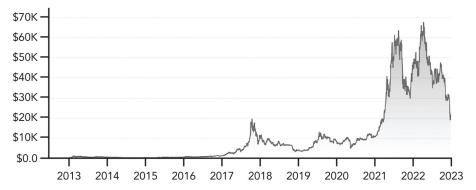


fig. 27 BITCOIN'S PRICE OVER THE LONG TERM



Bitcoin has come a long way since it was at 1:1 parity with the US dollar. Its price history is one of astounding growth but is marked with equally astounding volatility.

THE BITCOIN CASH FORK

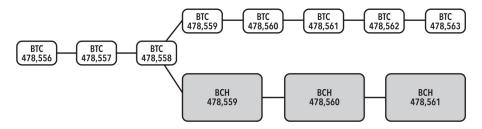
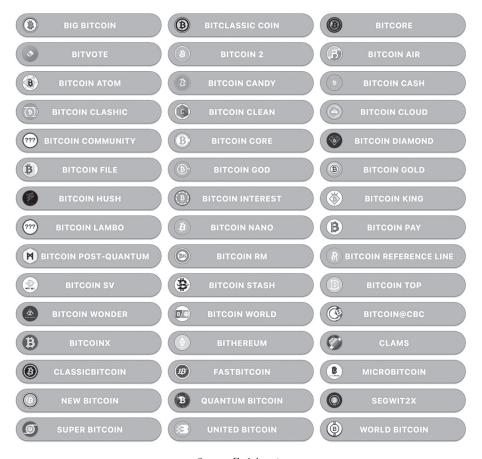


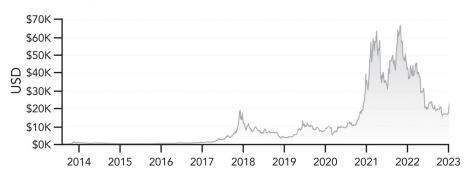
fig. 29



Source: Forkdrop.io

B BITCOIN AT A GLANCE

Value History (per unit):



BRIEF HISTORY:

Introduced by Satoshi Nakamoto in 2008 as a decentralized peer-to-peer currency that could function without intermediaries like banks, Bitcoin's novelty in conception and design has allowed it to retain status as the flagship cryptocurrency

KEY CHARACTERISTICS:

- Dominant cryptocurrency
- Appreciation in value has captured world's attention
- Uses proof-of-work consensus mechanism
- Has finite supply of 21 million bitcoins

KNOWN ISSUES:

- Popularity/restricted block size can make its network busy and its transaction times long
- Mining coins requires a major expenditure of energy and accompanying carbon footprint
- Volatility impedes original goal of becoming a widely used currency

Ethereum

fig. 31



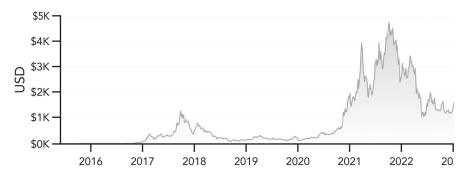
Source: www.gettinsaltyapparel.com

Car rental company Avis campaigned on its second-place status for decades with a slogan that became one of the most famous in advertising history. Today, both Avis and its rival Hertz have been overtaken by Enterprise.

fig. 32



Value History (per unit):



KEY CHARACTERISTICS:

- Ether cryptocurrency is second only to Bitcoin in market size
- Basis of smart contracts
- Ethereum 2.0 upgrade launched in September 2022

fig. 33



BUYING A HOUSE ON ETHEREUM

TRADITIONAL PROCESS



SMART CONTRACT PROCESS

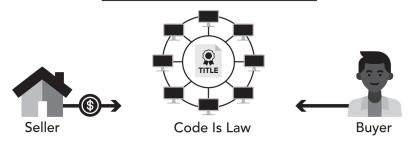
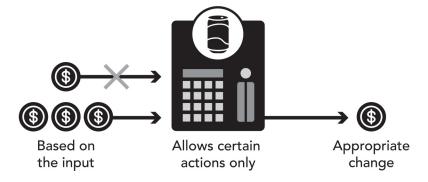


fig. 35

VENDING MACHINE

Analogy to a Smart Contract



Altcoins

fig. 36

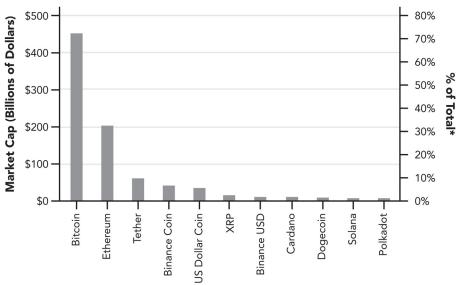


"Dogecoin," based on the Doge internet meme, began as a joke aimed at satirizing crypto speculation. Within two weeks it had a total market value of \$8 million.¹

fig. 37

MAJOR CRYPTOCURRENCIES

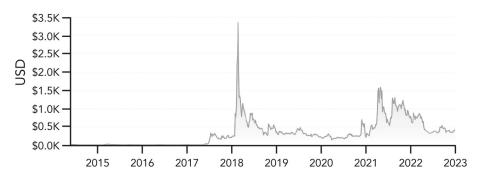
As of February 3, 2023



*% market cap relative only to the major cryptocurrencies listed here



Value History (per unit):



BRIEF HISTORY:

Created in June 2012 by developers David Schwartz, Jed McCaleb, and Arthur Britto, who sought to create a cryptocurrency that could achieve trust in the main ledger without mining

KEY CHARACTERISTICS:

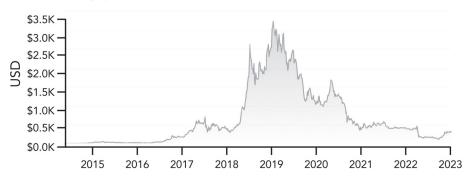
- Native digital asset tracked on the RippleNet
- Provides a method for expediting cross-border transfers
- Allows for fast transaction times (<5 seconds) and high throughput (15,000 transactions per second)
- Infinitesimally small costs for transactions
- Does not require mining, therefore no massive energy consumption
- Consistently within the top ten of all crpytos in terms of total market capitalization

KNOWN ISSUES:

- More centralized—institutional influence is significant
- Arguably less secure—the UNL consensus mechanism is theoretically easier to defraud than proof-of-work or others
- · Under scrutiny by SEC, claiming that it should be treated as a security, not cryptocurrency

SOLANA AT A GLANCE

Value History (per unit):



BRIEF HISTORY:

Created in 2017 by Anatoly Yakovenko, a former software engineer aiming at creating a new blockchain that could scale at a global level while maintaining very fast throughput capabilities

KEY CHARACTERISTICS:

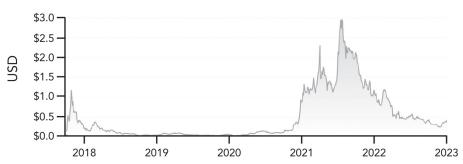
- Applies "proof-of-history" tool that allows for reliable cryptographic verification of timestamps, thereby unencumbering the blockchain and allowing faster throughput (a capacity of up to 710,000 transactions per second)
- Among the fastest of all blockchains in existence

KNOWN ISSUES:

• Known for frequent network outages and episodes of throttled back or failed performance

CARDANO AT A GLANCE

Value History (per unit):



BRIEF HISTORY:

Founded in 2015 by Ethereum cofounder Charles Hoskinson but not launched until 2017, Cardano became the largest cryptocurrency (by market cap) to use a proof-of-stake blockchain

KEY CHARACTERISTICS:

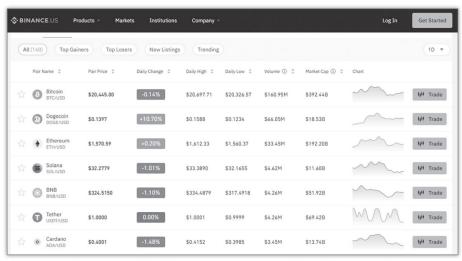
- Facilitates transactions of its native cryptocurrency, ADA, as well as other cryptos using "bridges"
- Uses a two-layer blockchain with a "settlement layer" for transactions and a "computational layer" for dapps and other projects
- Utilizes Ouroboros, a unique proof-of-stake protocol

KNOWN ISSUES:

- Network congestion has led to choppy rollout of some dapps
- Regulatory uncertainty has caused Cardano to be delisted on at least one major exchange

Source: www.coinmarketcap.com

fig. 41



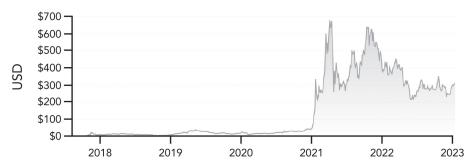
A screencap of the Binance cryptocurrency exchange (binance.com).

BNB QUARTERLY BURN DATA					
DATE	BNB TOTAL SUPPLY	BNB BURN	BURN %	TOTAL (\$)	
2017-10-18	200,000,827	986,000	0.4930	1,311,380	
2018-01-15	199,014,827	1,821,586	0.9153	35,630,222	
2018-04-15	197,193,241	2,220,314	1.1260	29,996,442	
2018-07-18	194,972,927	2,528,767	1.2970	29,991,177	
2018-10-17	192,444,160	1,643,986	0.8543	16,998,815	
2019-01-16	190,800,174	1,623,818	0.8511	9,401,906	
2019-04-16	189,176,356	829,888	0.4295	15,601,894	
2019-07-12	188,346,468	808,888	0.4295	23,797,485	
2019-10-17	187,537,580	2,061,888	1.0995	36,701,606	
2020-01-18	185,475,692	2,216,888	1.1952	38,795,540	
2020-04-18	183,258,804	3,373,988	1.8411	52,465,513	
2020-07-18	179,884,816	3,477,388	1.9331	60,506,551	
2020-10-17	176,407,428	2,253,888	1.2777	67,999,801	
2021-01-19	174,533,652	3,619,888	2.0786	165,790,870	
2021-04-16	170,533,652	1,099,888	0.6450	595,314,380	
2021-07-18	169,433,764	1,296,728	0.7653	393,673,654	
2021-07-18	168,137,036	1,335,888	0.7945	639,462,868	

fig. 43



Value History (per unit):



BRIEF HISTORY:

BNB began in July 2017 as a utility token to aid and incentivize activity on the Binance cryptocurrencey exchange. It has since become a premier cryptocurrency asset with its own blockchain, consistently in the top ten of all cryptos in terms of market cap.

KEY CHARACTERISTICS:

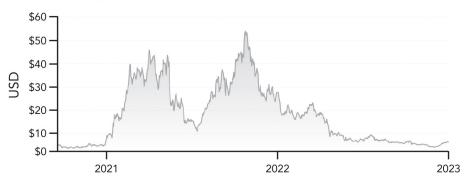
- Usage has expanded from paying transaction fees on the Binance exchange to include payments for more everyday items such as travel booking and entertainment
- Runs on the Beacon Chain (formerly the Binance Chain), one of two blockchains in the Binance ecosystem (the other being the BNB Smart Chain)

KNOWN ISSUES:

- Heavy regulatory scrutiny due to the size of the Binance exchange⁹
- Being the largest crypto exchange in the world, it tends to attract the attention of regulators
- Large amount of BNB (possibly up to 80%) is held by the Binance exchange itself, centralizing the currency's ownership¹⁰

POLKADOT AT A GLANCE

Value History (per unit):



BRIEF HISTORY:

Founded in 2016 by Ethereum cofounder Dr. Gavin Wood, Polkadot is overseen by the Web3 Foundation and Parity Technologies, both founded by Wood

KEY CHARACTERISTICS:

- Interoperability-friendly architecture, with a base blockchain that serves and coordinates a multitude of secondary "parachains," resulting in high flexibility and diversity of use
- Upgrades made to the protocol with democratic voting system, without the need to create a fork

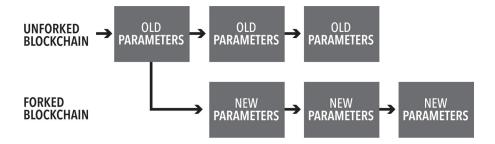
KNOWN ISSUES:

- Limited parachain slots, preventing the testing and development of some projects, especially smaller ones
- Competitive environment pitting Polkadot against Cardano and Ethereum, both of which have loyal developers and user bases¹¹

fig. 45

TYPES OF STABLECOIN COLLATERAL AND EXAMPLE COINS			
COLLATERAL TYPE	DOES IT REQUIRE TRUST? EXAMPLE COINS		
• \$ • Fiat	Yes, a central entity must be trusted to hold the required cash reserves.	USDC	Tether
Crypto	No, collateral assets (cryptos) are verifiable, as they are locked into the blockchain and can be publicly confirmed. However, due to the volatility of crypto, cryptocollateralized stablecoins should be over-collateralized, by a ratio of at least 2:1.	Dai	USTC
None	Yes, but more so because these non-collateralized stablecoins are at highest risk for entering a "death spiral," where a compounding wave of sell-offs causes the coin to become less valuable than the fiat currency to which it's pegged. On some occasions, the crypto may be driven all the way down to zero. After all, what's the worth of a stablecoin if it's not stable?	Zero Collateral Dai (ZAI)	Empty Set Dollar





Tokens

fig. 47





Subway token

Magnetic digital card

fig. 48

COIN	TOKEN
An independent digital asset that acts as an alternative to traditional or fiat currency.	Generally created to be used in conjunction with an application.
Native to its own blockchain with its own protocol.	Created on top of an existing blockchain.



An array of CryptoKitties.

fig. 50

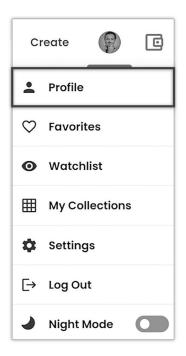
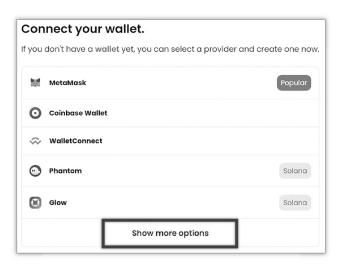


fig. 51



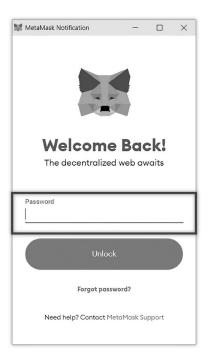


fig. 53





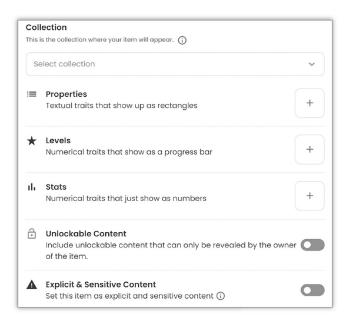
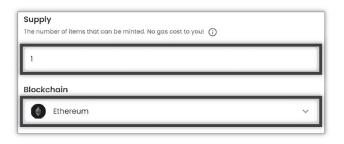


fig. 56



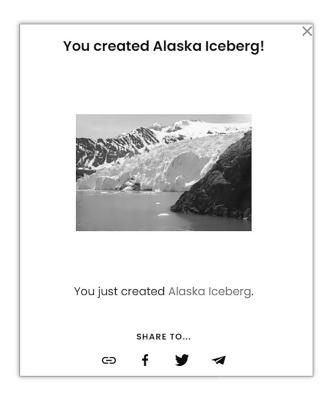
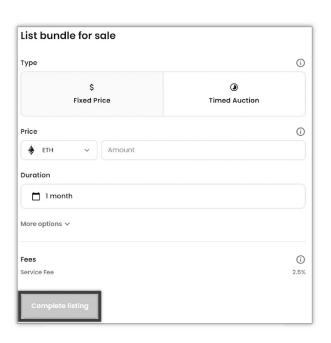




fig. 59



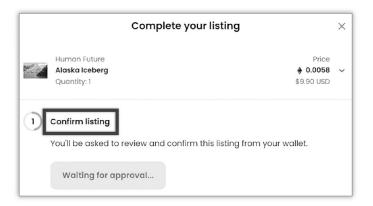
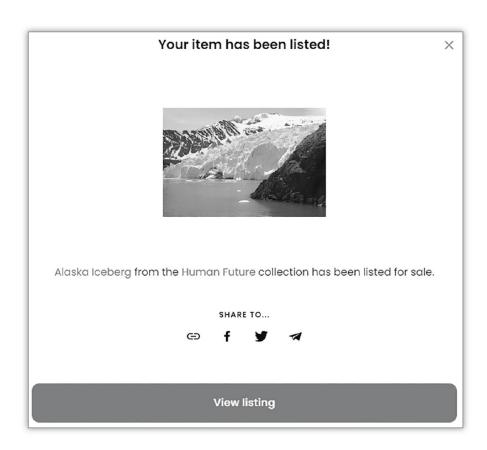


fig. 61

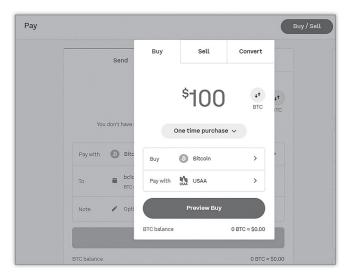


Buying and Selling Cryptocurrency

fig. 62

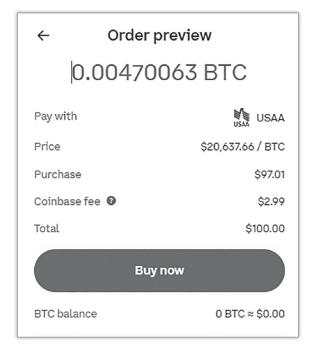
	HOT WALLETS VS. COLD WALLETS		
	HOT WALLETS Types: Mobile, Web, Desktop	COLD WALLETS Types: Hardware, Paper	
Security	Generally thought to be less secure, can be hacked	Generally thought to be more secure and less vulnerable to hacks; just don't let it get lost, damaged, or thieved	
Cost	Often free	Hardware must be purchased, \$50 - \$250	
Transactions	Coins and tokens are delivered and signed for entirely online	Transactions begin online but the final private key signing is done by the cold wallet offline; private key data therefore never needs to be broadcast	
Who can benefit?	Crypto users who wish to complete fast payments and transfers	Crypto owners who want to maximize security	
Lost wallet recovery options	Generally good, most can be backed up and accessed via multiple devices	Not great, recovery options are available for lost passwords, but if you lose your wallet, you're out of luck	
Connecting to exchanges	Definitely, hot wallets are simple to integrate with most of your go-to crypto exchanges	A little more clunky, you have to take an extra step or two to connect your cold wallet to an exchange	

ALONE	SUBMIT	4	GRIEF	SHIELD
GLARE	CORAL	4	CHASE	TRIGGER
PURITY	CONSIDER		BEST	MAID
INNER	INNOCENT		SCREEN	STATE
LIAR	MISERY		TANK	ENEMY
WIRE	BLOOM		SHUFFLE	COOL



Let's buy \$100 worth of Bitcoin.

fig. 65



Take note of how much crypto Peter is buying (4.7 mBTC) and what he's paying in fees (\$2.99 Coinbase fee).

fig. 66

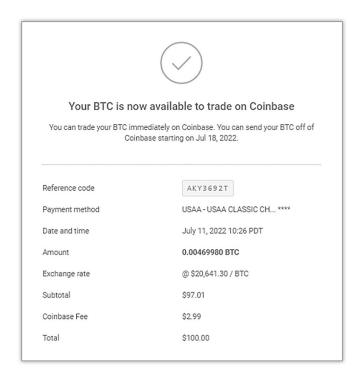


fig. 67

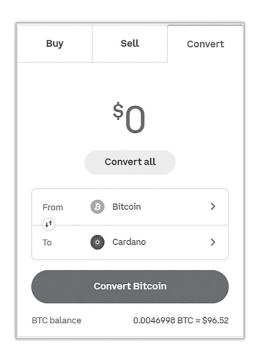


fig. 68

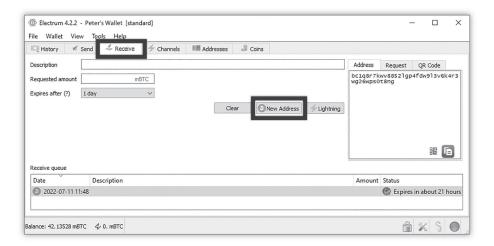
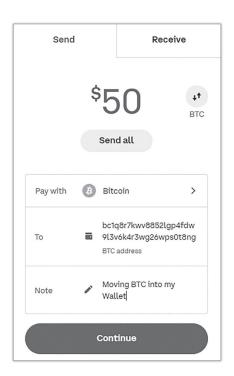
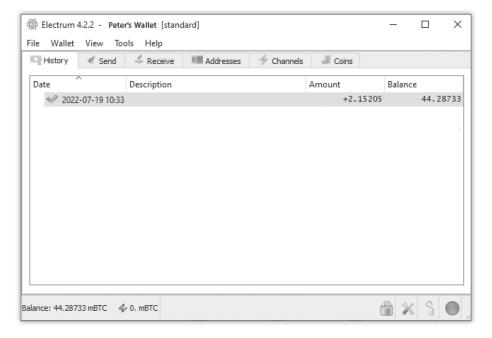


fig. 69





The keys themselves of course are not visible here. Otherwise, they wouldn't be private.

fig. 71

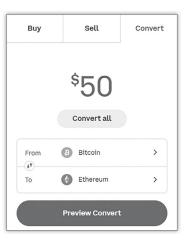
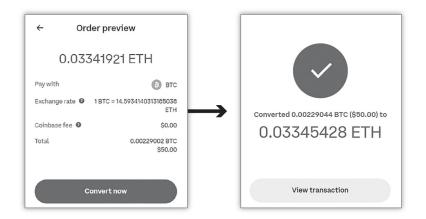
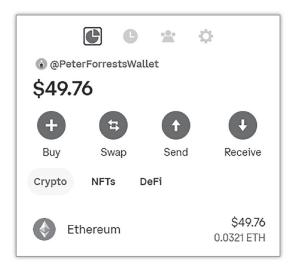
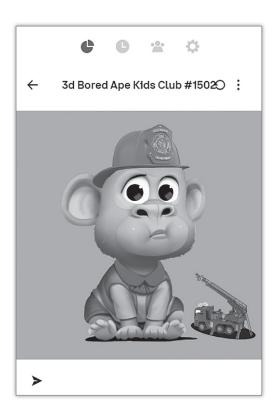


fig. 72



The "Order preview" screen shows the rate of exchange and any associated fees.





Trading Cryptocurrency

fig. 75

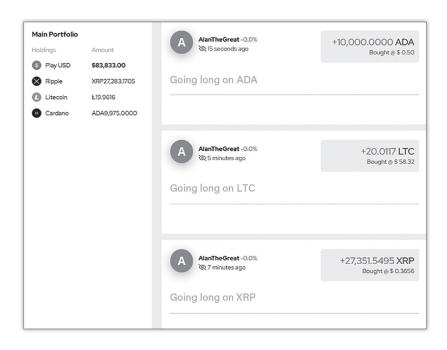
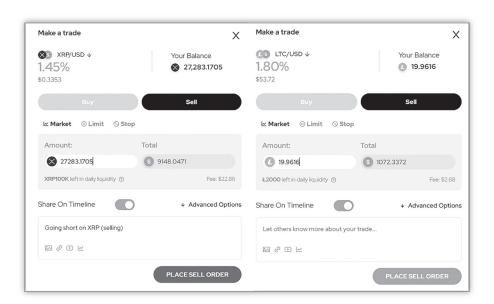
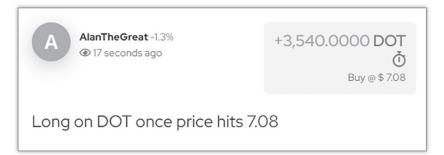


fig. 76

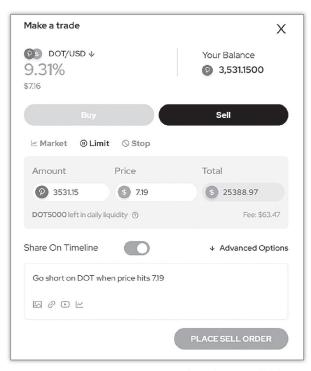






Notice the clock icon in the upper right, indicating that the order has not executed yet but is waiting on a condition to be met—the stop price being reached, in this case.

fig. 79



Notice the current price at the time of the order is \$7.16 (upper left). The 9.31% depicts the extent of a crypto's appreciation or depreciation throughout the day. The down arrow indicates that the price has gone down, depreciated.

fig. 80

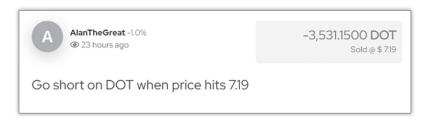


fig. 81

#	ORDER	PAIR	PRICE	VOLUME	COST	LEVERAGE	FEE	OPENED
• 219589	Sell	DOT/USD	7.19	3,531.1500 DOT	25,389.0	n/a	\$ 63.4724	27 Jul, 2022
• 219581	Buy	DOT/USD	7.08	3,540.0000 рот	25,063.2	n/a	DOT 8.8500	27 Jul, 2022

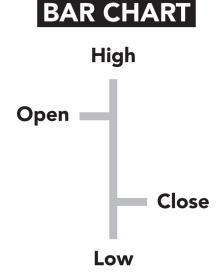
Notice how the "cost" of the sale at the \$7.19 price point was a little over \$300 more than the cost of the purchase at the \$7.08 price point—a textbook case of buy low, sell high, and bank the difference minus fees.



fig. 83

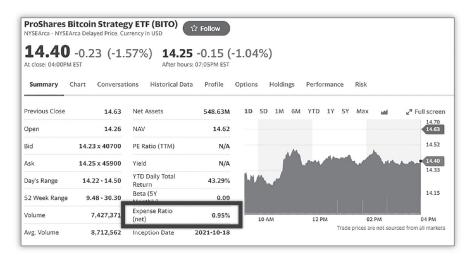


Source: Yahoo! Finance



Investing in Cryptocurrency

fig. 85



Source: Yahoo! Finance

The expense ratio for this ETF indicates that nearly 1% of all the money you put into this ETF will go toward management or other fees not related to the purchase of investable assets. That's about double the average expense of any given ETF in the marketplace.

fig. 86

POSSIBLE ASSET ALLOCATION IN A LONG-TERM INVESTMENT PORTFOLIO

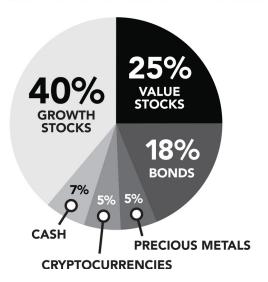
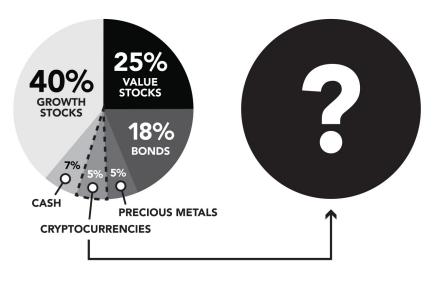


fig. 87 THE CRYPTO-EXCLUSIVE PORTFOLIO



If cryptocurrencies make up 5% of a portfolio, what specifically should that 5% consist of?

fig. 88 SAMPLE CRYPTO PORTFOLIO

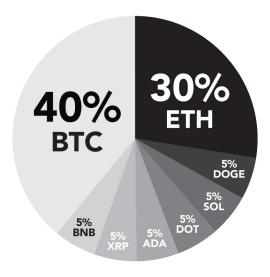
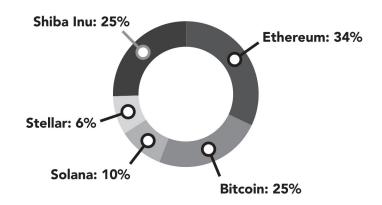


fig. 89 SAMPLE PORTFOLIO TRACKER INTERFACE



 \$6,856
 -\$650
 \$1,856

 Total Balance
 24h Portfolio Change (-10.5%)
 Total Profit/Loss (+37.1%)

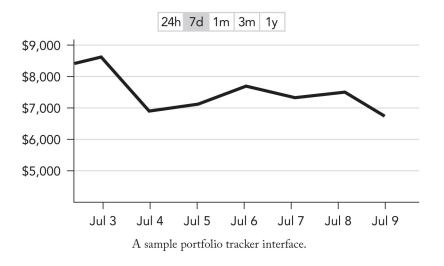


fig. 90



The emblem of Decentraland's MANA token.

Mining Crypto for Profit

fig. 91

THE HALVING OVER TIME OF BITCOIN REWARDS (PER BLOCK)

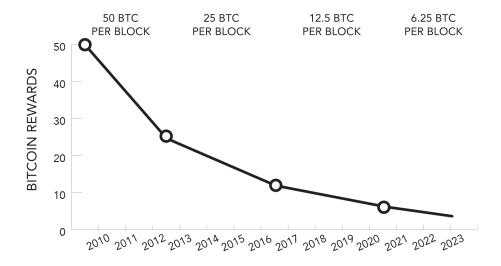
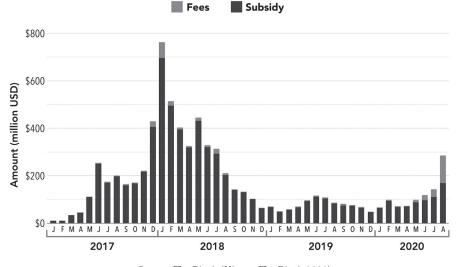
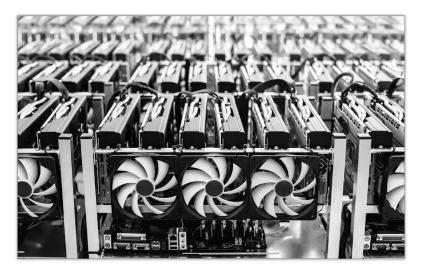


fig. 92

ETHEREUM'S MINER REVENUE BY MONTH



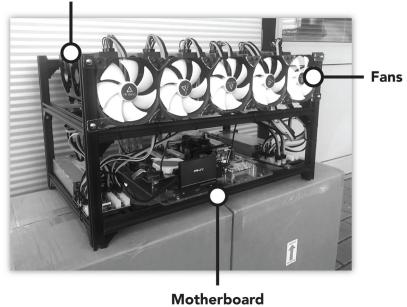
Source: The Block (Khatri, The Block 2020)



Source: www.exame.com
A professional mining rig.

fig. 94 Graph

Graphical Processing Units (GPUs)



Source: https://tekhouse.co.uk/product/6-gpu-mining-rig

DeFi (Decentralized Finance)

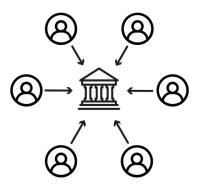
fig. 95

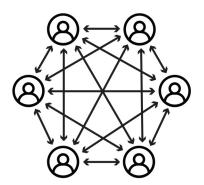
CeFi

CENTRALIZED FINANCE

DeFi

DECENTRALIZED FINANCE





CeFi	DeFi		
Fund transfers often take days.	Fund transfers usually take minutes.		
Transactions are prone to human error.	Transactions are largely free from human error.		
Banks and markets close at night and on weekends.	DeFi blockchains are open 24/7.		
User identity is revealed in most transactions.	Transactions are pseudonymous, increasing security.		
Institutions manage (or mismanage) user money.	Users retain control over funds.		
Users must apply for access to services.	Access is available to anyone with an internet connection.		
Institutions can turn down applicants for any reason.	There is no central authority to deny services or block usage.		





Different Countries, Different Approaches

fig. 98 TIMELINE OF US CRYPTO REGULATIONS

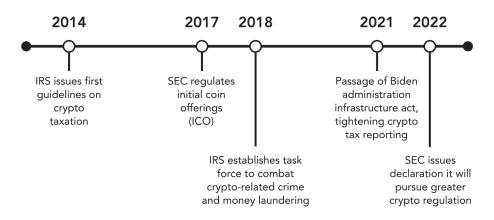
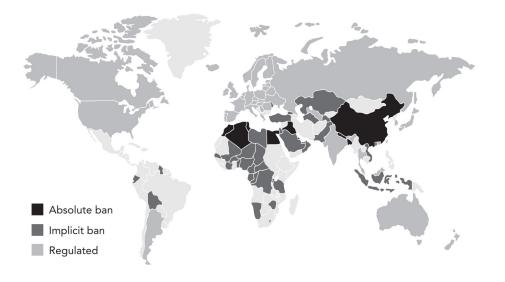
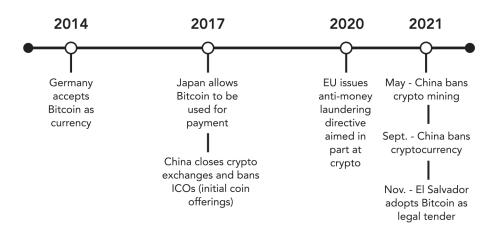


fig. 99

CRYPTOCURRENCY REGULATION WORLDWIDE



TIMELINE OF INTERNATIONAL CRYPTO REGULATIONS



CRYPTO REGULATION PROS AND CONS						
PROS	CONS					
Increased investor protection: Crypto ideals are supposed to democratize digital money.	Going against the spirit of cryptocurrency: Crypto ideals espouse a trustless system that doesn't require government intervention.					
Encouragement of more cautious investors: There may be investors who are hesitant to get involved in such an unregulated environment, but would feel comforted by greater government oversight.	Limiting innovation: Some bold future ideas derived from blockchain technology may not come to fruition if excessive regulation scares off more revolutionary thinkers.					
Prevention of money laundering and tax evasion: Reduces the significant risk and ongoing challenges of criminal activity that hurts governments and consumers.	An uneven playing field: As more countries adopt regulations that serve their needs, barriers will go up between borders that go against the frictionless and global intent of crypto.					
Limiting economic damage: A popular but unregulated crypto market could have catastrophic economic effects in the event of a major crash.	Driving down crypto prices : Part of cryptocurrency's appeal is its independence, and regulation could throttle its growth.					

What's Next

fig. 102

TRUST TRIANGLE

