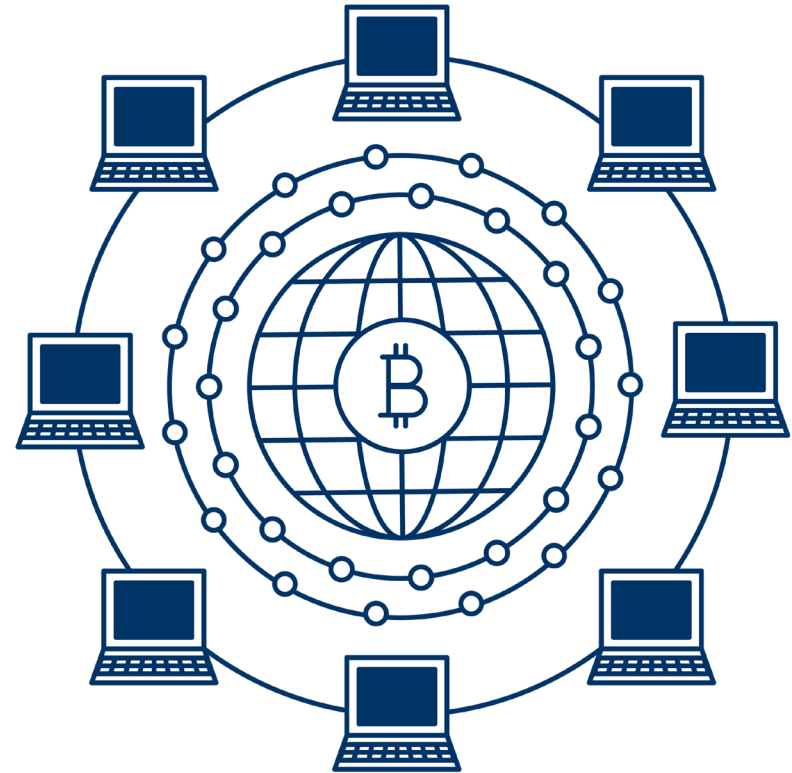


Where's blockchain headed next?

A data-driven exploration of major trends in blockchain technology.



WITHIN 24 HOURS

Briefing recording will be distributed



The presentation will also be sent to you. Feel free to share with colleagues. The resolution of some slides may be suboptimal due to the webinar software. Those slides will look fine in the presentation that we send you.

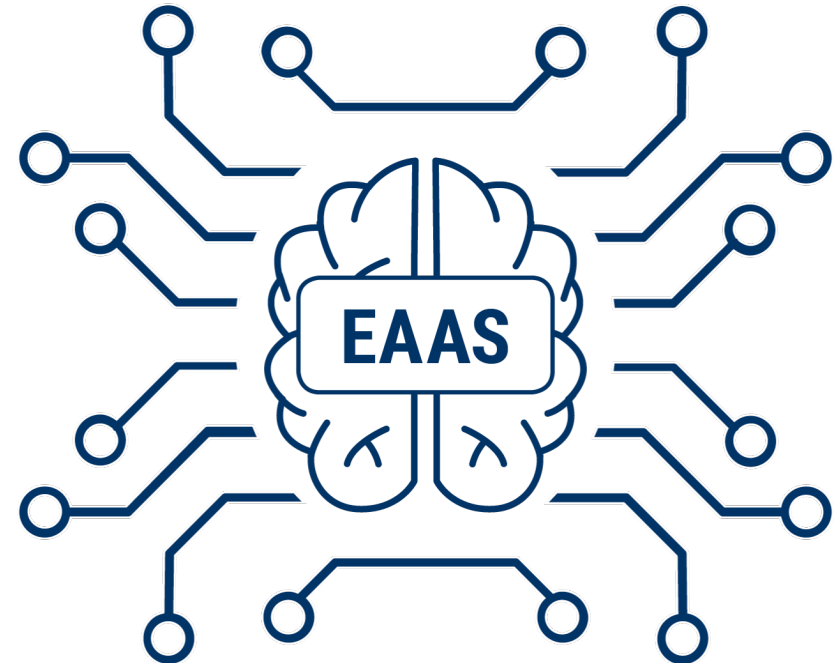
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@cbinsights
@arieh313
#CBIblockchain

WHO WE ARE

The technology market intelligence platform.

CB Insights software lets you predict, discuss, and communicate emerging technology trends using data in ways that are beyond human cognition. We are a leader in the Expert Automation & Augmentation Software (EAAS) space.



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F-PRIME

FIRSTMARK



NORWEST VENTURE PARTNERS

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“We use CB Insights to find emerging trends and interesting companies that might signal a shift in technology or require us to reallocate resources.”



Beti Cung, Corporate Strategy, Microsoft





FUTURE OF FINTECH

 CBINSIGHTS

June 12 - 13, 2019

New York, NY

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Save with early bird pricing until Dec 31, 2018

ABOUT THE ANALYST

Arieh Levi



Tech Industry Analyst

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Arieh Levi is a tech industry analyst at CB Insights, where he produces data-driven analysis and research reports on private company financing, exit and performance trends across emerging industries, geographies, and investors – specifically, blockchain, and fintech.

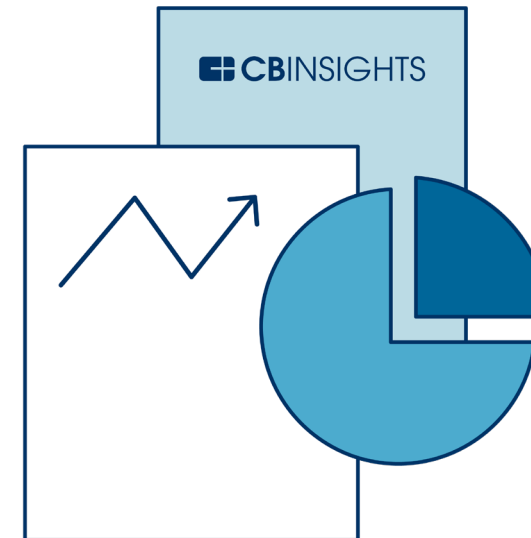
Prior to joining CB Insights, Arieh held roles in healthcare and financial services. Arieh is a summa cum laude graduate of Yeshiva University.

Arieh's most popular research:

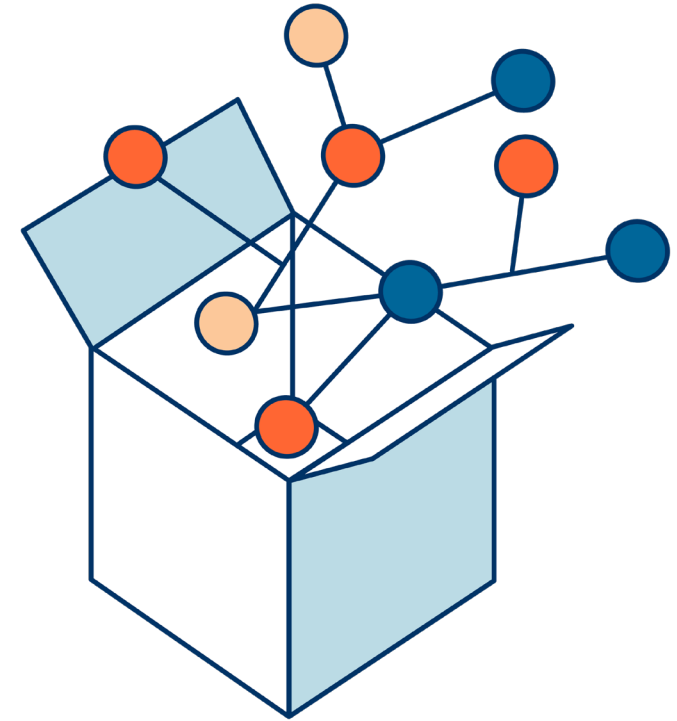
[What Is Blockchain Technology?](#)
[Blockchain Investment Trends In Review](#)
[Coinbase Strategy Teardown](#)

What We'll Cover Today

- 9 A shifting nomenclature
- 15 Trends in distributed ledgers (DLT)
- 25 Trends in public blockchains
 - 28 Utility tokens
 - 40 Security tokens
 - 51 Cryptocurrencies
- 63 To recap

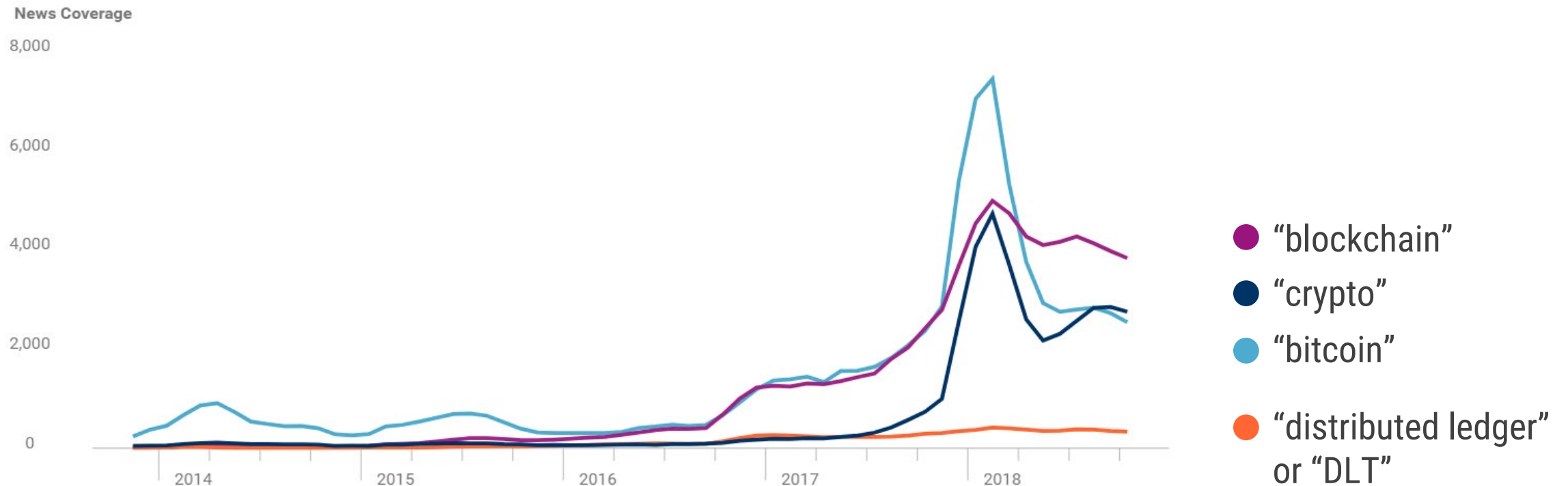


A shifting nomenclature

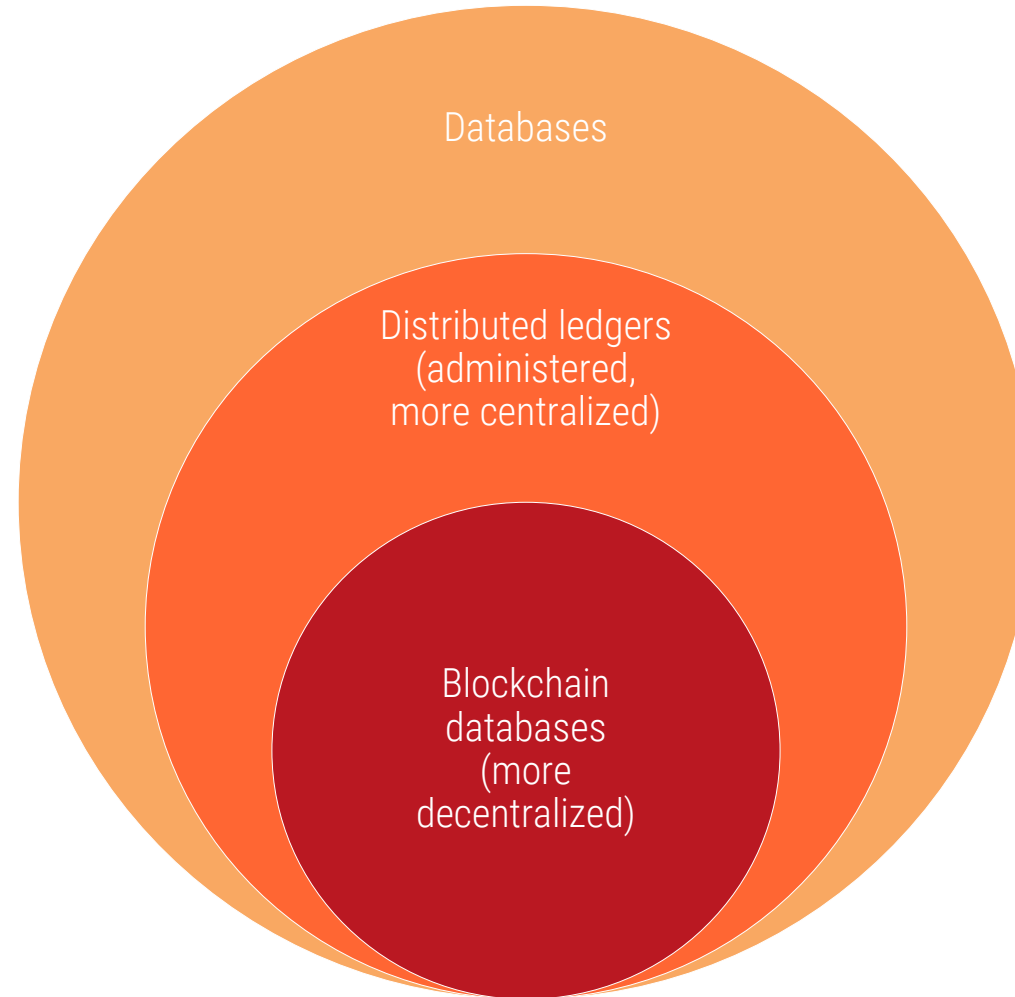


Diverse terms highlight the sector's nomenclature

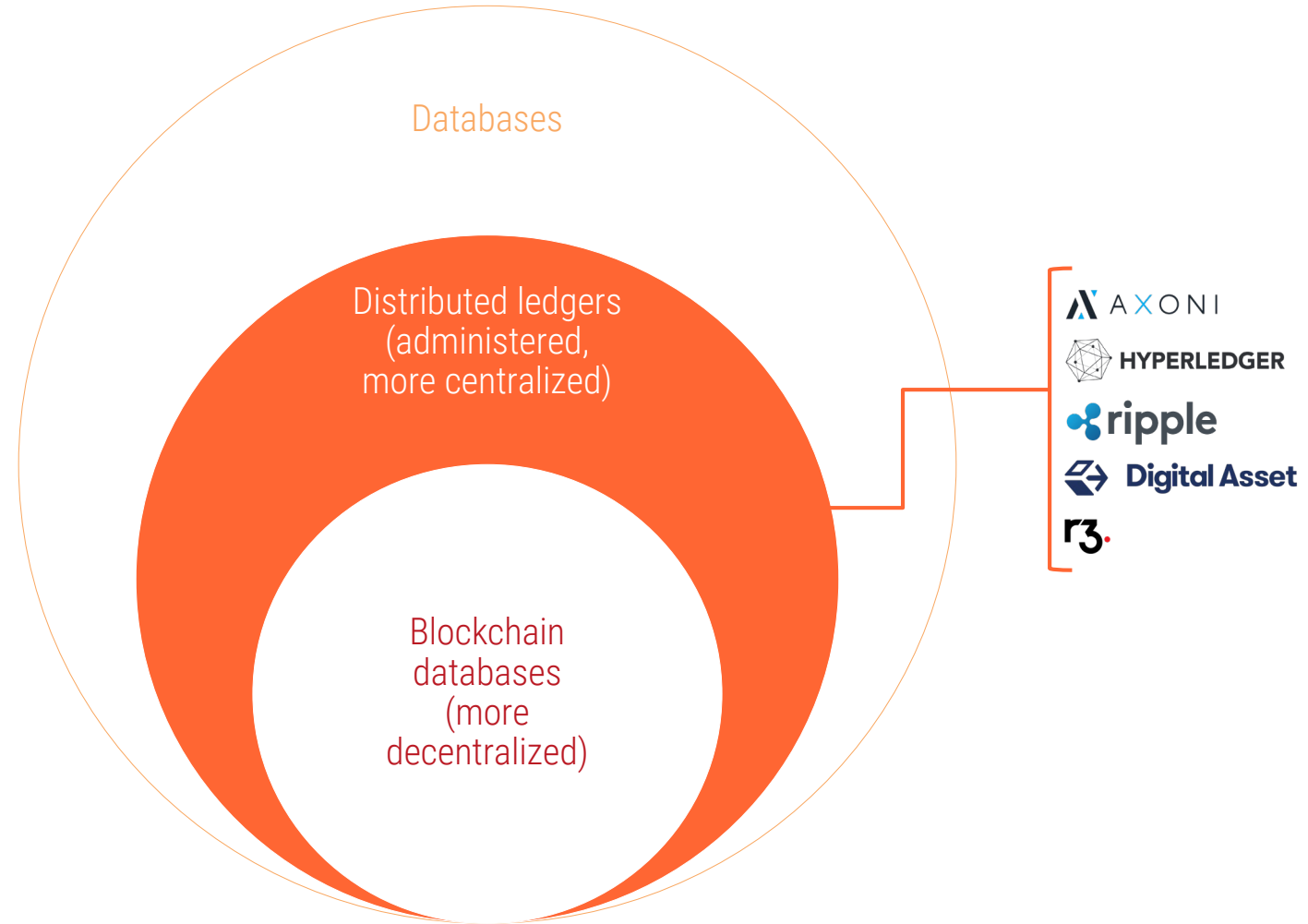
News coverage of blockchain-related terms. Q4'13 – Q4'18 YTD (11/26/2018).



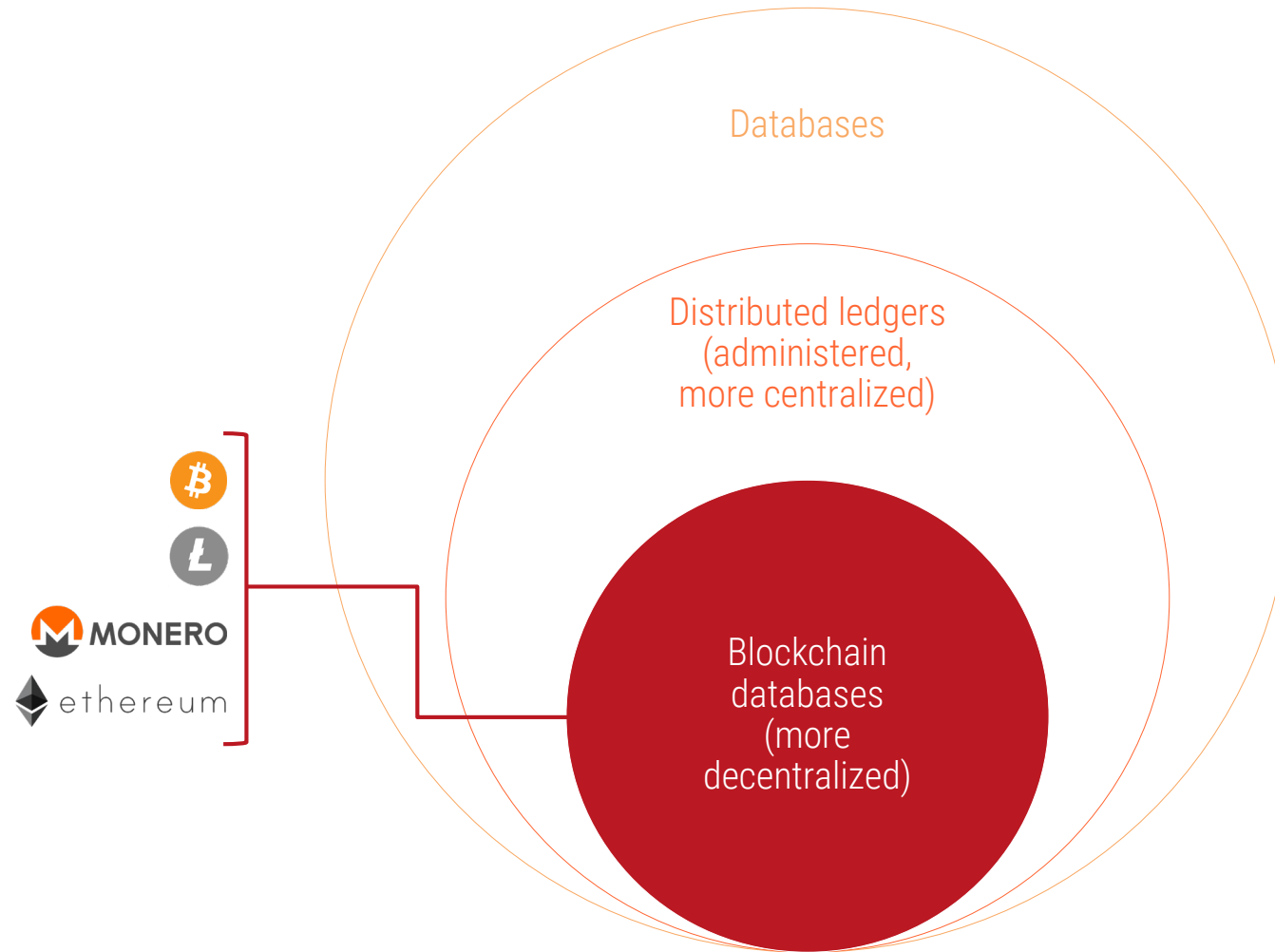
'Blockchain' is different things to different users



Corporates are looking at less centralized DLT

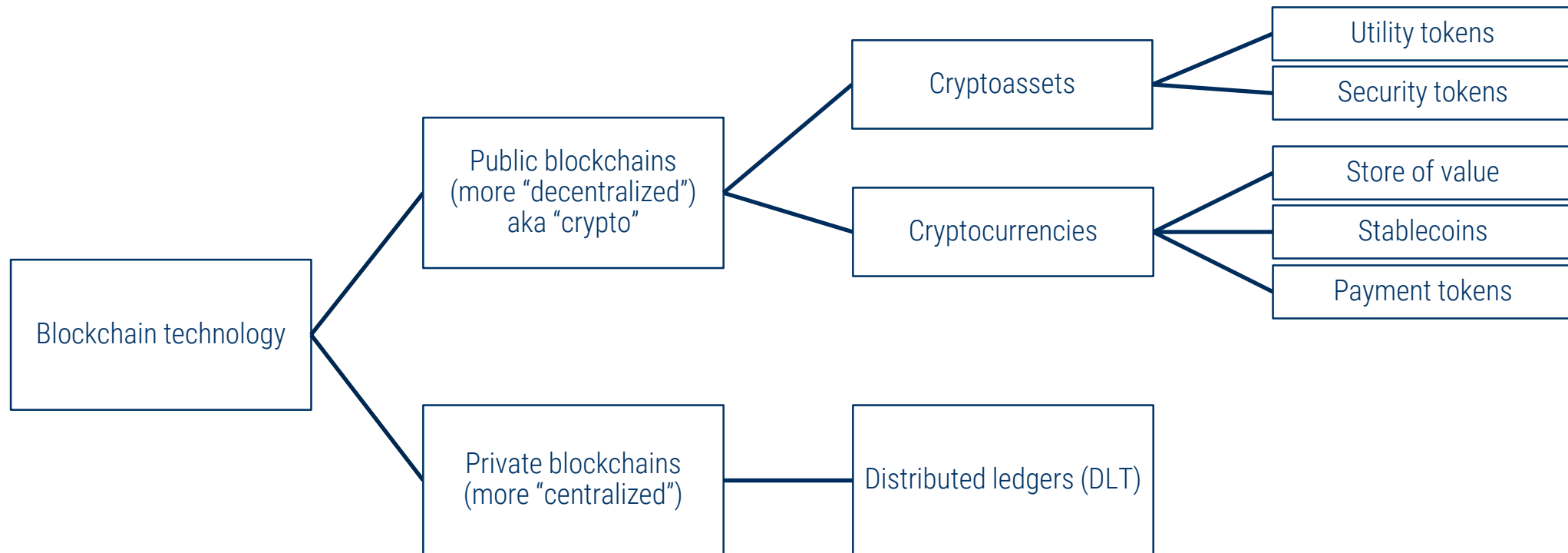


Public blockchains are rethinking money, web 3.0

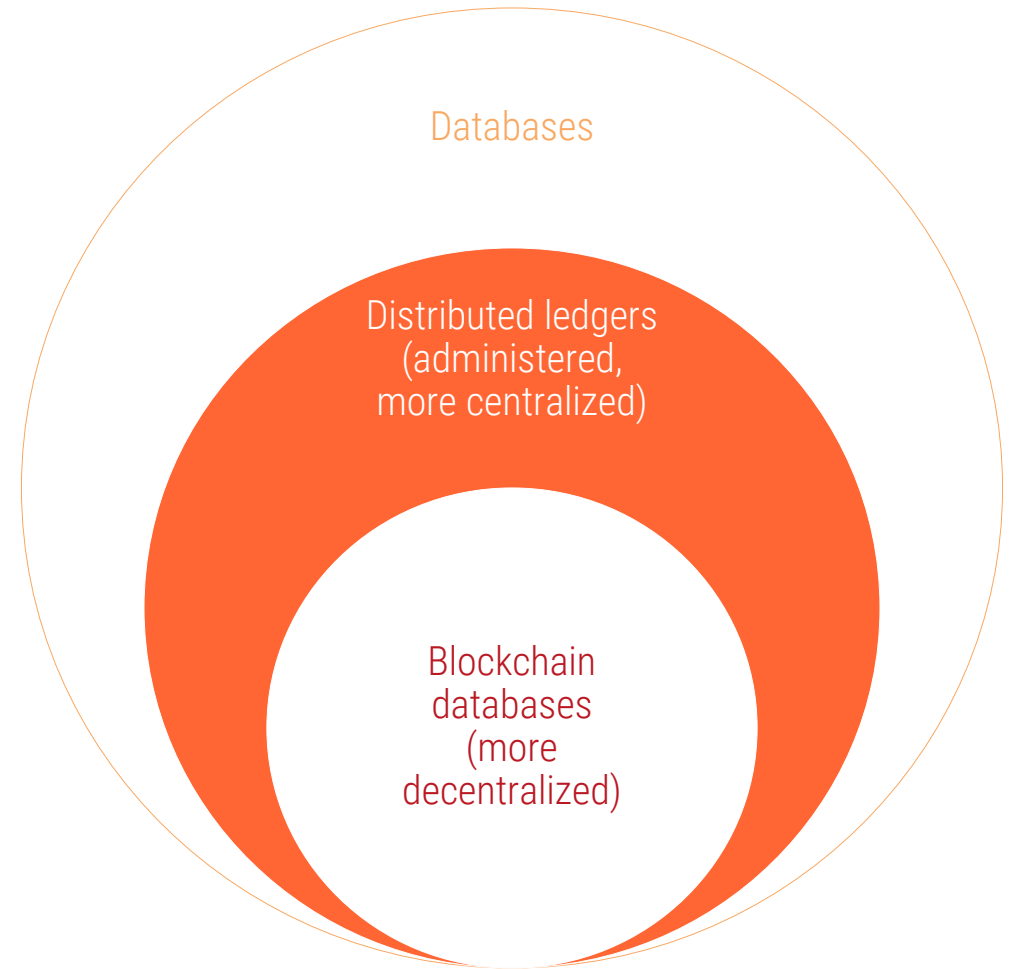


The conversation is much larger than Bitcoin

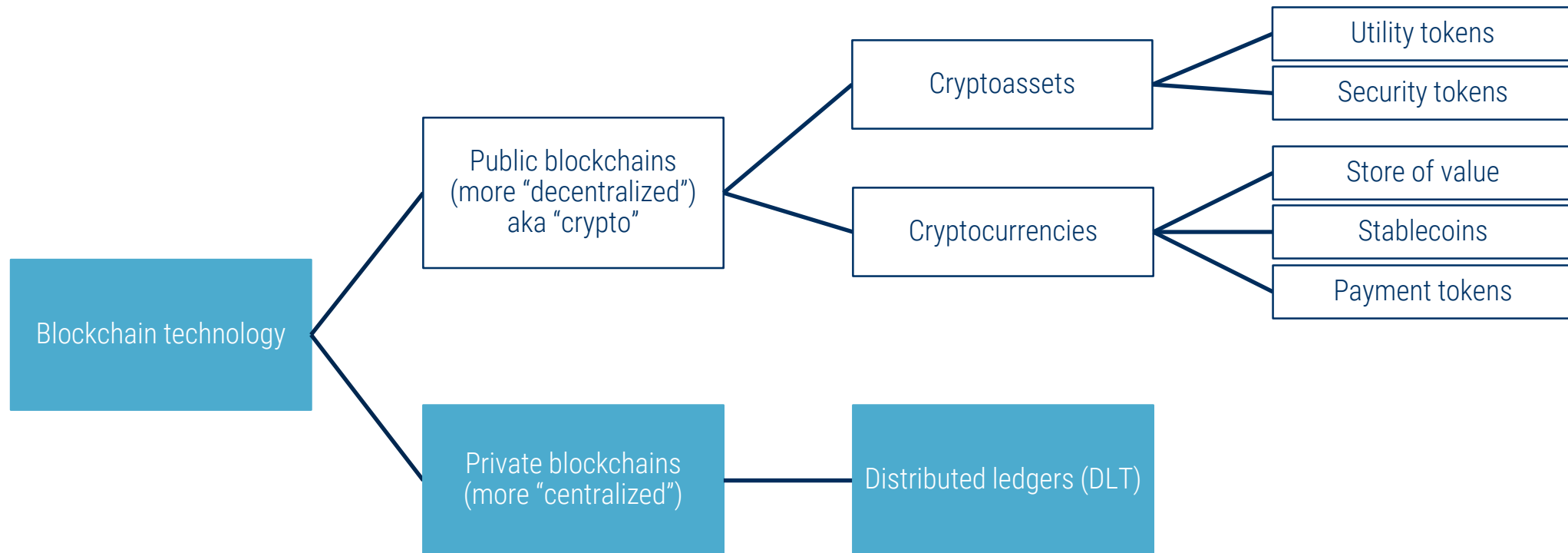
The ingredients for public blockchains have existed for decades. Bitcoin was the first to put them together. In this way, Bitcoin has reinvigorated conversations around pre-existing “distributed” technologies, as well as expanded the conversation to more novel blockchain-focused use cases.



Trends in distributed ledgers



Corporates have been looking at 'enterprise blockchain,' DLT for years



BLOCKCHAIN, NOT BITCOIN

“We really want to distinguish **the blockchain**, which is an area of huge emphasis and investments across our industry and across many industries, from **a particular application of blockchain** which tends to get all the news cycles; which is **cryptocurrencies**.”





















Martin Chavez
CFO, Goldman Sachs

Q1'18 Earnings Call

Big banks are among the most active investors

Equity investments and consortia involvement. Q1'12 – Q1'18

			
INVESTMENTS	 Digital Asset  AXONI  Cobalt  SETL  Chain	 Digital Asset  AXONI  CIRCLE  BitGo.  veem	 Digital Asset  AXONI
CONSORTIA			 HYPERLEDGER  ENTERPRISE ETHEREUM ALLIANCE

Lots of pilots have stalled, while the jury is still out on some high-profile projects

STALLED



TO BE DETERMINED



Technology consultancies – like IBM – are the middlemen enabling distributed ledger solutions

IBM Food Trust

IBM Food Trust officially launched in October to help businesses track food through the supply chain. The project has signed a number of key partnerships with major players, like Carrefour, Nestle, Dole, Tyson, Kroger, Unilever, and Walmart.



IBM-powered We.Trade launched in June to enable European banks to execute cross-border financial transactions. Notable participants include Deutsche Bank, HSBC, Rabobank, Santander, and Société Générale, among others.



IBM-powered CLSNet provides payment netting services to banks, and launched in November. Early backers include Goldman Sachs and Morgan Stanley, with six more participants joining in the next few months.

Supply chain is a promising use case for distributed ledger technology



Ocean freighter APL is creating a DLT platform for bills of lading. The project includes members like AB InBev, and third-party logistics provider Kuehne & Nagel, Accenture.



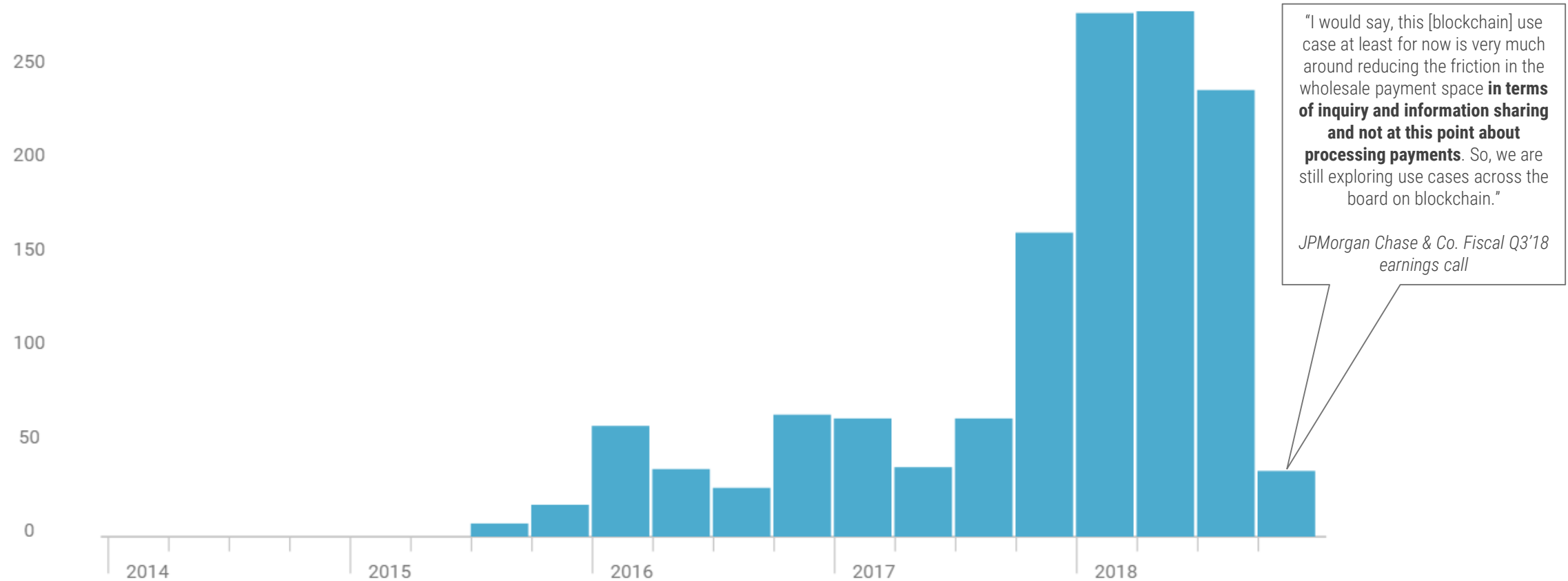
Working with SAP HANA's offerings, UPS is piloting and securing patents for new supply chain systems using DLT. UPS is also part of a consortium started by SAP that has attracted food suppliers.



TradeLens uses DLT to help supply chain stakeholders track freight and replace related paperwork with tamper-resistant digital records. The project is expected to be commercially available by the end of 2018.

The corporate blockchain hype cycle is slowing

Mentions of “blockchain” on corporate earnings calls. Q1’14 – Q4’18 YTD (11/26/2018)



BLOCKCHAIN FOR BUSINESS

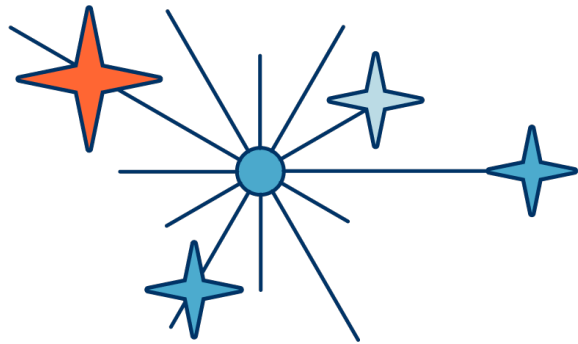
“To [implement a corporate blockchain] you need to form some sort of consortium, define standards, and set governance. Generally when you’re doing that, you end up forming some central body. **Once you’ve formed a central body, you’ve done all the complex coordination required. [...] When you want to build a blockchain, the tough bit is getting all the different parties together.** And once you’ve done that, [blockchain technology] is a pretty inefficient technology to use to implement the solution.”



Angus Champion de Crespigny
Former FSO Americas Blockchain Leader, Ernst & Young

Bloomberg “Odd Lots” podcast

Why a blockchain might not be the best solution for corporate coordination problems



Consensus isn't easy

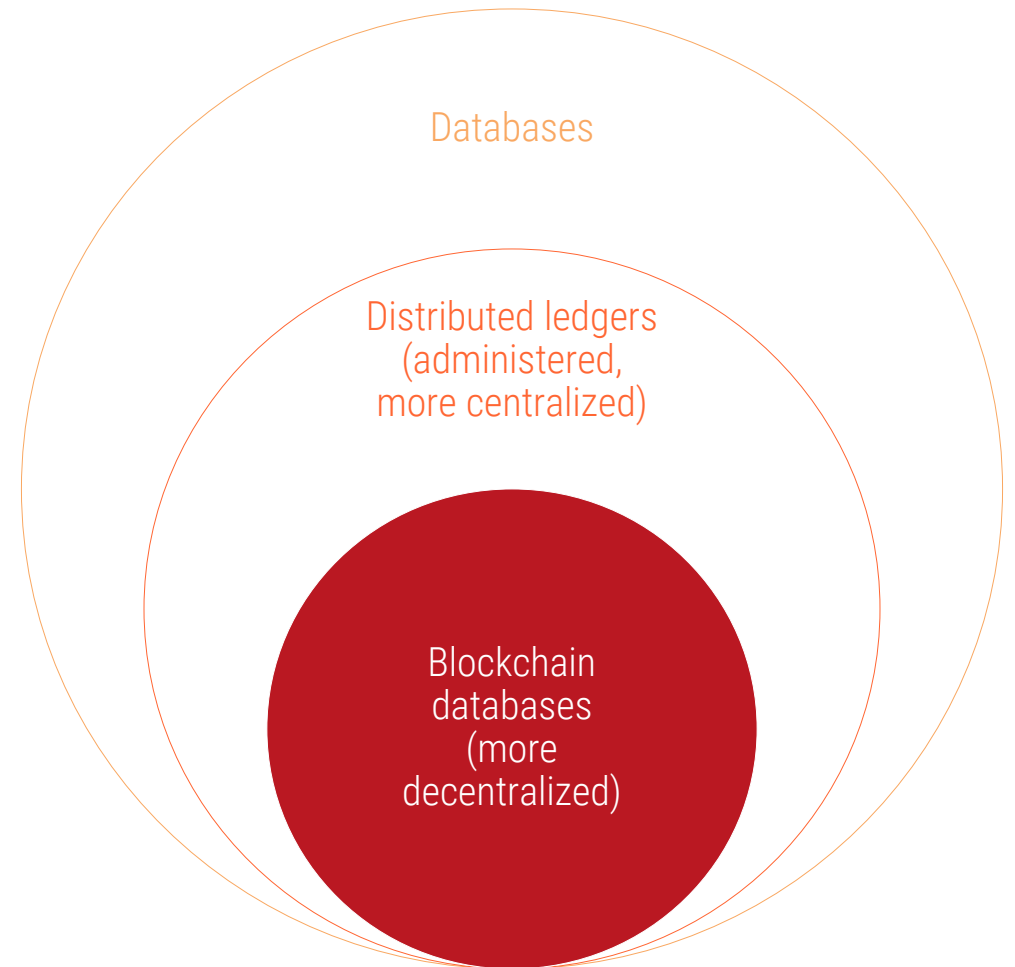


Users are **sovereign**



Centralization is faster

Trends in public blockchains



WHAT IS BLOCKCHAIN TECHNOLOGY?

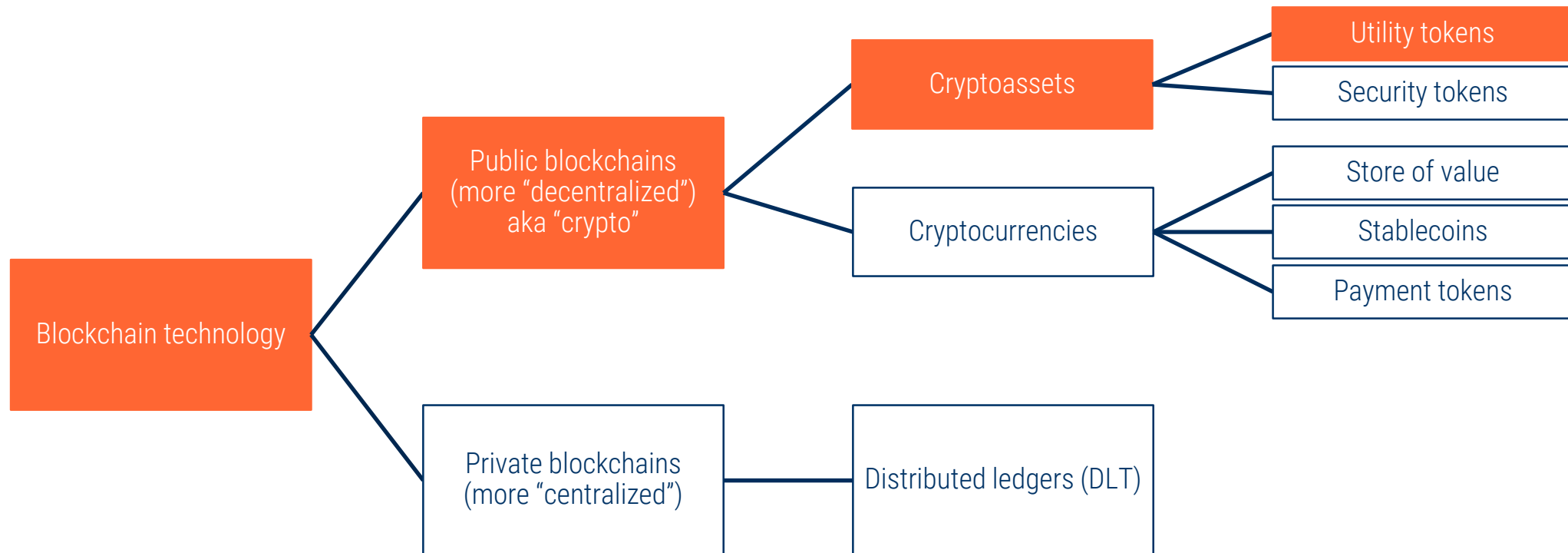
A blockchain is a database where **untrusted parties** come to agreement on the state of the database, **without using a middleman.**

Cryptoassets

1. **Utility tokens:** Plans to reshape the web haven't quite panned out, with speculation drying up, regulators clamping down, and users failing to show up.
2. **Security tokens:** In what looks like crypto's next act, security token projects are seeing lots of investment, but could face similar challenges to those faced by corporates in earlier attempts to tokenize financial assets.

1. **Utility tokens:** Plans to reshape the web haven't quite panned out, with speculation drying up, regulators clamping down, and users failing to show up.
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Developers are looking to use public blockchains and utility tokens to build a decentralized web



The centralized web has its share of issues

facebook

Facebook faces fresh lashing from nine countries
for its inability to stop the spread of fake news

November 27, 2018 | *The Washington Post*

The Privacy Battle to Save Google from Itself

November 1, 2018 | **WIRED**

Fixing the internet

November 23, 2018 | *Science* MAGAZINE



WEB 3.0

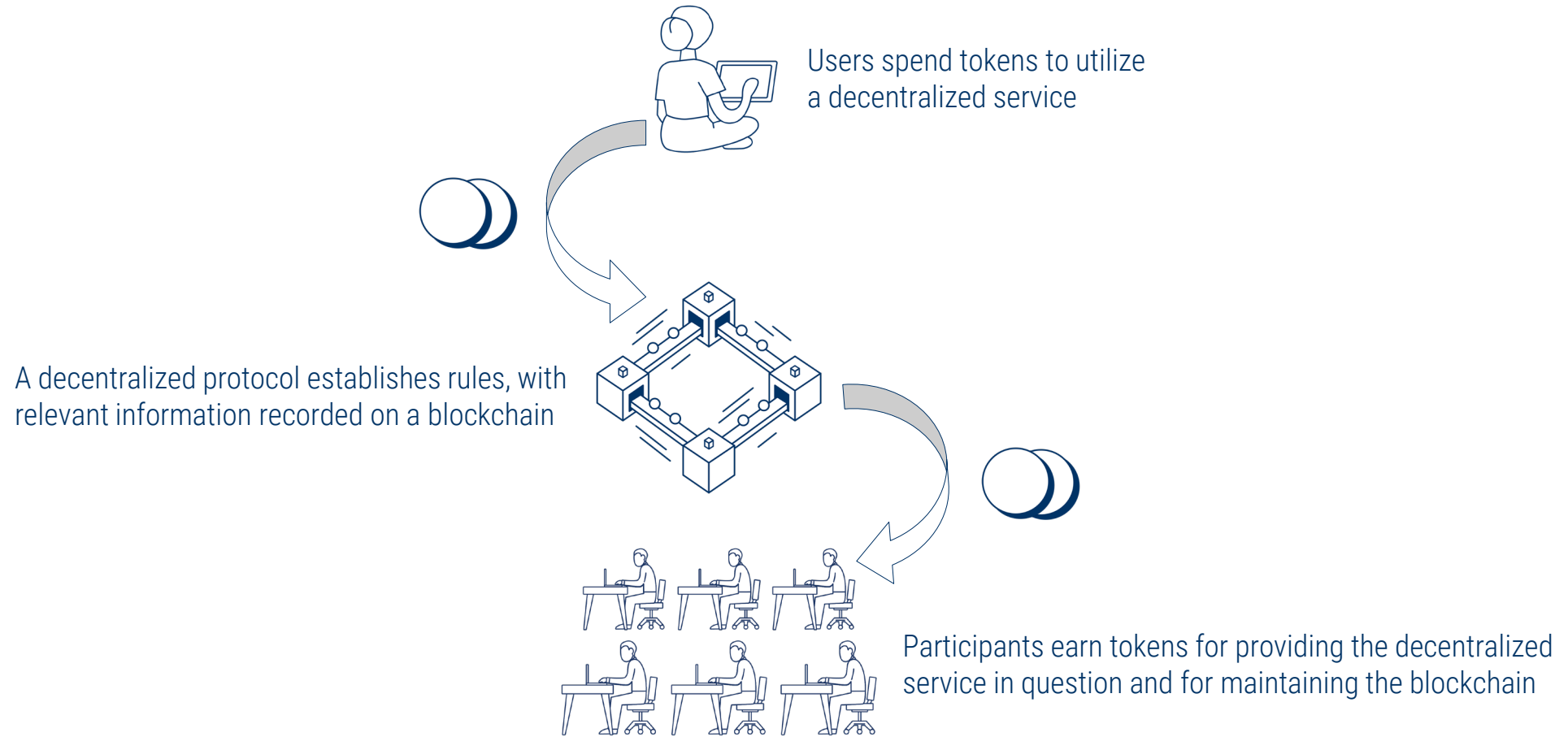
“The **real promise** of these new technologies, many of their evangelists believe, lies not in displacing our currencies but in replacing much of what we now think of as the internet, while at the same time **returning the online world to a more decentralized and egalitarian system.**”



Steven Johnson
Author, *Beyond the Bitcoin Bubble*

Could utility tokens reorganize the web?

Native tokens incentivize various stakeholders in decentralized networks and applications.



Most companies building 'utility token' networks received funding via ICOs

EXCHANGES & WALLETS



TRADING & INVESTMENT



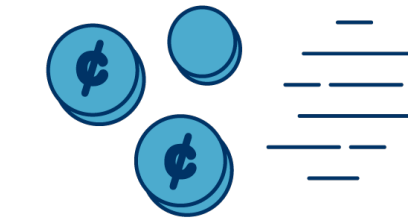
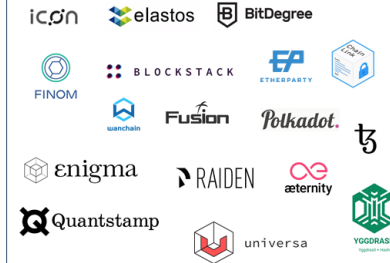
CROWDFUNDING & LENDING



PAYMENTS & BANKING



INFRASTRUCTURE & DEVELOPMENT



GAMBLING & GAMING



SUPPLY CHAIN



IDENTITY & INTERNET OF THINGS



Computing & Storage



DAO & Token Creation



Browsers & Social



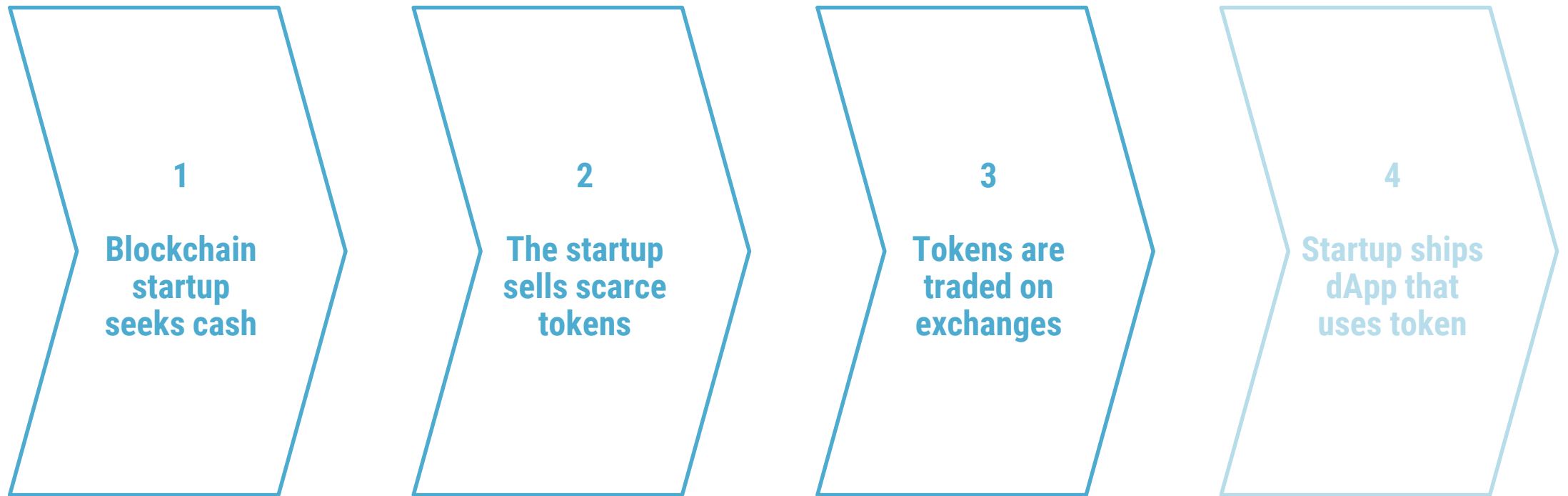
MARKETPLACES



OTHER



Many ICOs were unregulated, and played a game of 'regulatory arbitrage'



ICOs LOOK LIKE – ILLEGAL – UNREGISTERED SALES OF SECURITIES

“If you finance a venture with a token offering, you should start with the assumption that it is a security.”



Jay Clayton
Chairman, SEC

Consensus Invest – November 27, 2018

SEC, other regulators are cracking down hard

SEC Charges EtherDelta Founder for Operating Unregistered Exchange

November 8, 2018 | **THE WALL STREET JOURNAL**

The SEC Brings its ICO Crackdown Out Into the Open

November 20, 2018 | **YAHOO!**

SEC Charges Two Firms with ICO Violations

November 18, 2018 | **PYMNTS.com**

Regulators are Hunting Dodgy Cryptocurrency Firms on UK's Wall Street

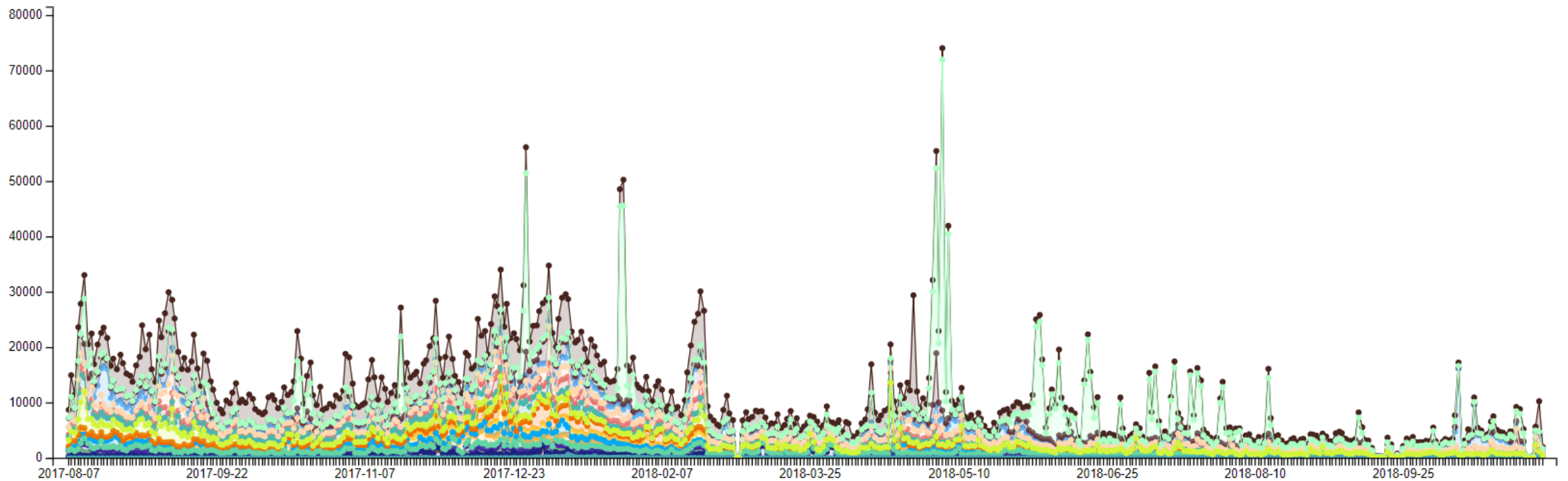
November 26, 2018 | **TNW**

The Taming of Initial Coin Offerings

September 18, 2018 | **The New York Times**

Almost nobody is using decentralized applications, with some seeing no usage at all

User metrics of 19 popular decentralized applications (dApps). 08/07/2017 – 11/26/2018



'Institutional money' has largely stayed away

A common refrain in late 2017 and early 2018 was around the entrance of "institutional money," which would inject capital into the sector and rubberstamp crypto as a valid, emerging asset class. With institutional-focused projects, like the Coinbase Index Fund, shutting down, this logic is under fire.

"After assessing demand from retail, accredited and institutional investors, Coinbase has decided to shut down Coinbase Index Fund. We will focus on providing diversified exposure to all investors through Coinbase Bundle."

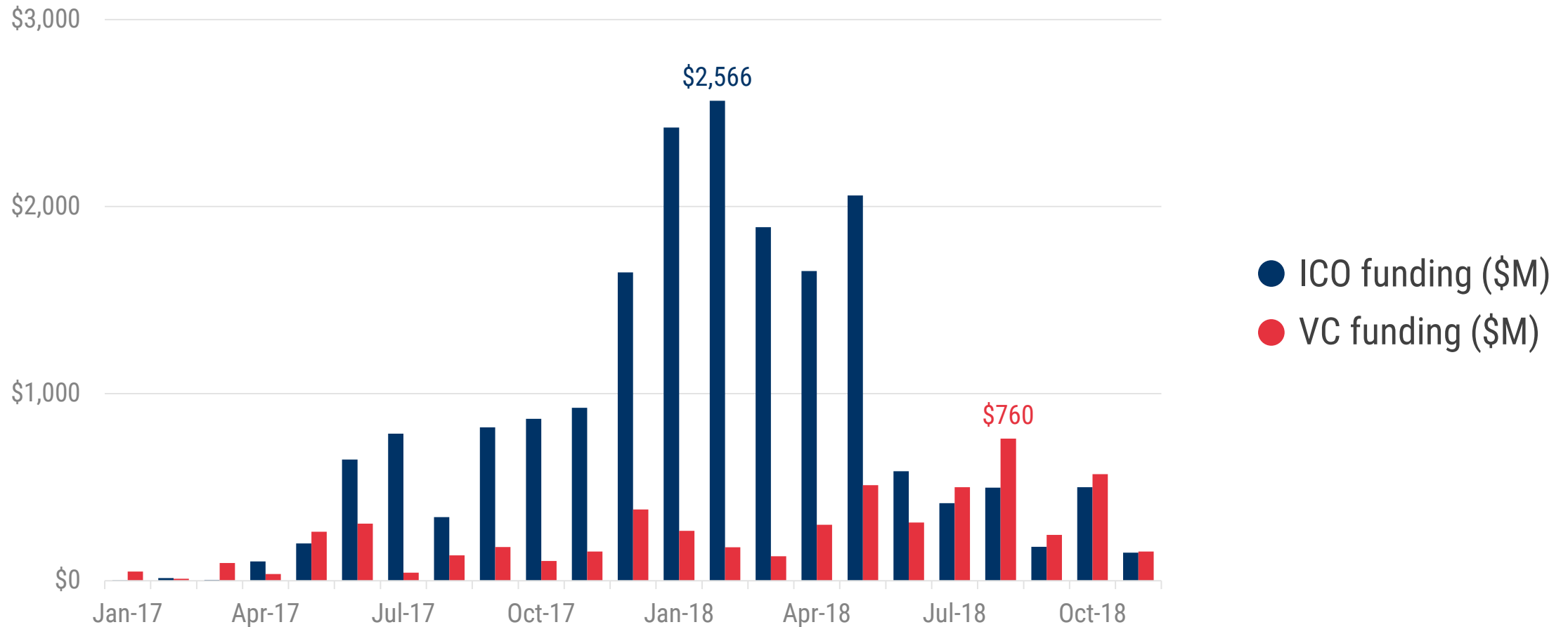


Current Composition

 Bitcoin	79.34%
 Ethereum	13.52%
 Bitcoin Cash	3.80%
 Litecoin	2.11%
 Ethereum Classic	0.55%
 Ox	0.42%
 Basic Attention Token	0.25%

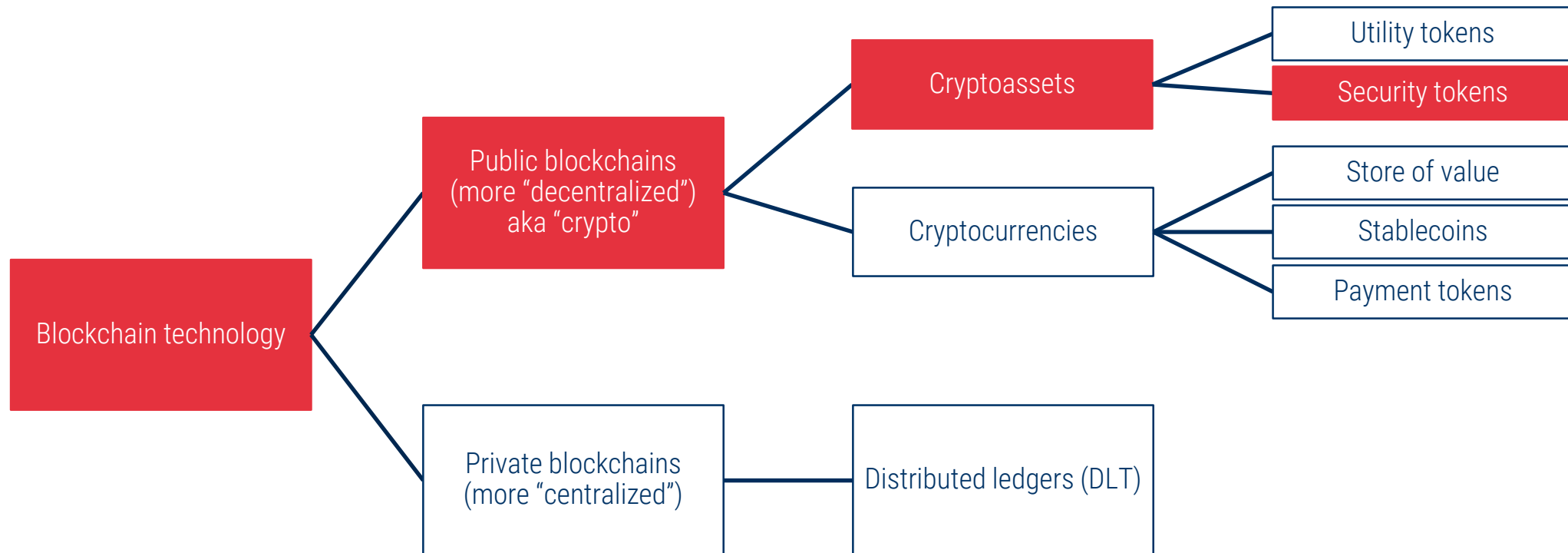
VC funding rises, as ICO funding falls off a cliff

Funding (\$M) into ICOs, venture-backed blockchain companies. 2017 – 2018 YTD (11/21/2018)

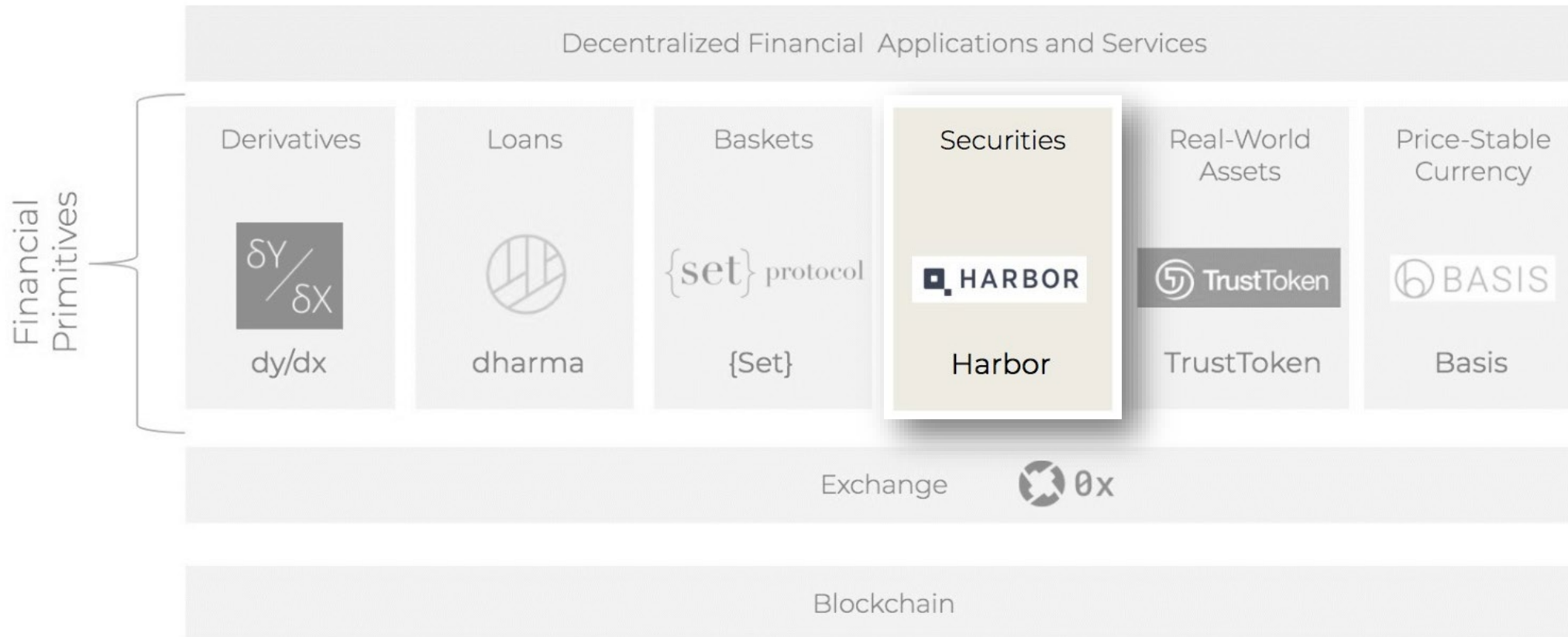


1. **Utility tokens:** Plans to reshape the web haven't quite panned out, with speculation drying up, regulators clamping down, and users failing to show up.
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Security tokens hope to enable an open, decentralized financial system

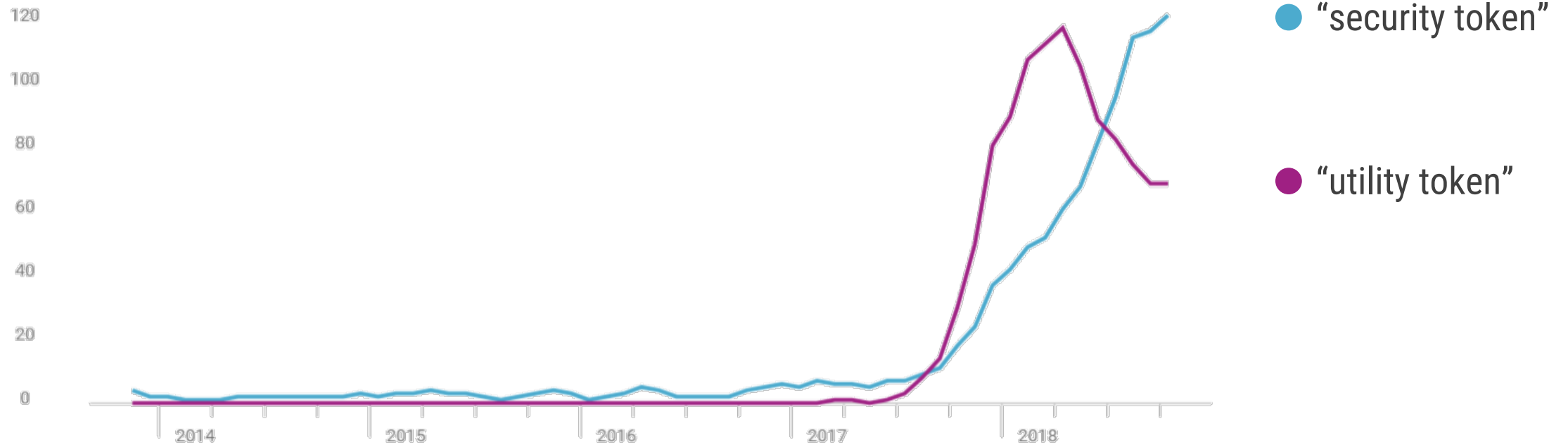


Security tokens are one piece of a blockchain-based financial stack



Are security tokens blockchain's next act?

News coverage of "security token," "utility token," and related terms. Q4'13 – Q4'18 YTD (11/27/2018)



TOKENIZE THE WORLD

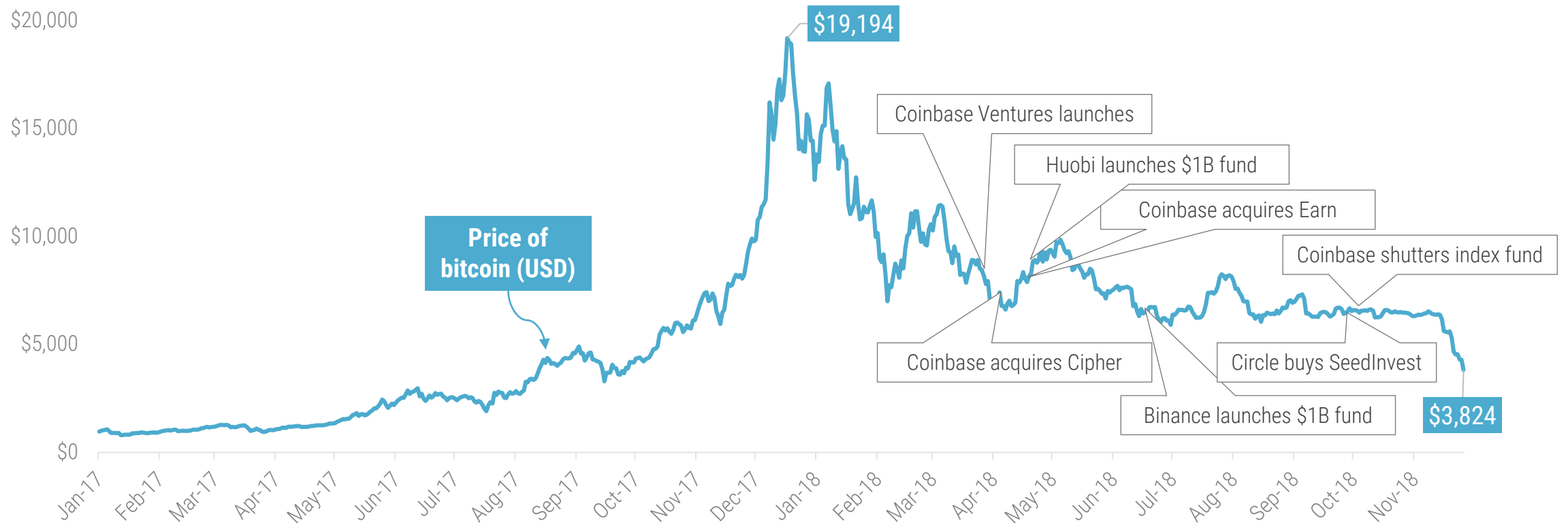
“We envision a world in which **all forms of value are tokenized on public blockchains**. Combined with a set of open financial primitives, we can build a global financial system that is more **efficient, transparent, and equitable** than any system that has existed in the past.”



Will Warren
CEO, 0x

Exchanges invest to find blockchain's 'Netscape' moment, as retail trading revenues dry up

BTC/USD price. 2017 – 2018 YTD (11/26/2018)



COINBASE INVESTS IN SECURITIZE TO TOKENIZE DIGITAL SECURITIES



Total Funding

\$12.8M

Latest Funding

\$12.8M Series A, Q4'18

Securitize hopes to develop the frameworks necessary to tokenize companies.

Trading of security tokens will take place on exchanges like Coinbase (an investor in Securitize). Indeed, Coinbase received approval in July to list security tokens on its exchange, after the company's purchase of registered broker-dealer Keystone Capital.

SELECT INVESTORS

Blockchain Capital, Coinbase Ventures, Ripple, Global Brain

WHY TOKENIZE WITH DIGITAL SECURITIES?

Digital securities modernize raising capital by upgrading a traditionally illiquid, tedious, and costly process. Some features of digitized securities are:



COMPLIANCE

Built-in global regulatory compliance coded into the DS and protocol levels



PROGRAMMABLE

Self-executing Investor & Issuer rights (dividends, buybacks, etc...)



LIQUIDITY

Access to global markets 24/7/365



FRACTIONAL OWNERSHIP

Driving further liquidity for Issuers and Investors



TRANSPARENT AND IMMUTABLE

Providing more direct and certain ownership to Investors

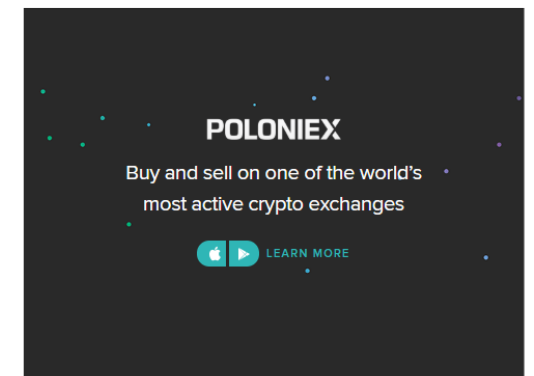
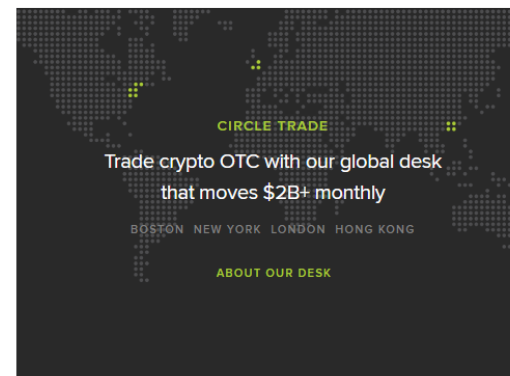
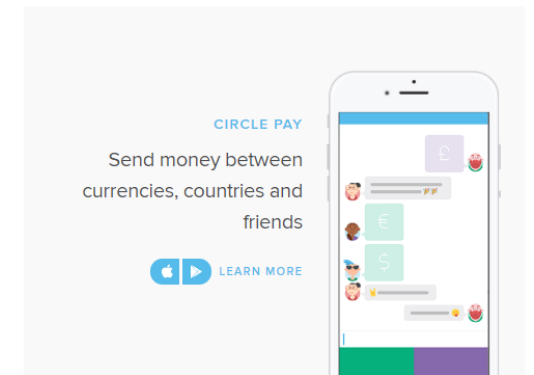
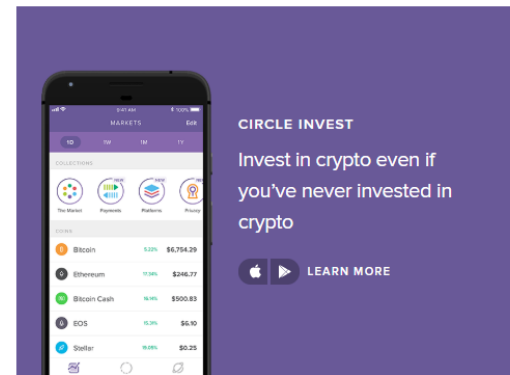


EFFICIENT

Eliminate friction and middlemen

Circle acquires broker-dealer SeedInvest

Circle's acquisition of registered broker-dealer and crowdfunding player, SeedInvest, positions the company to help businesses (1) raise capital in security token offerings, and then (2) exchange those securities through its trading arms.



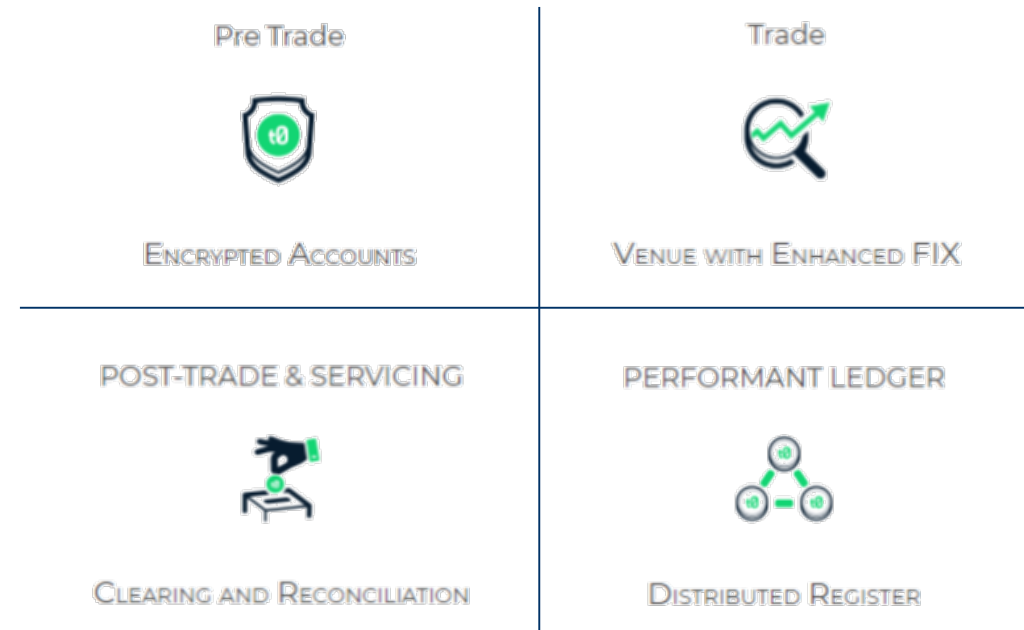
Overstock plans pivot to security tokens

Overstock's CEO, Patrick Byrne, has made repeated bets on blockchain technology, often via blockchain venture arm (and subsidiary of Overstock) Medici Ventures. Among them is tZero, which hopes to be platform to track and trade security tokens representing traditional assets (e.g. stocks and bonds). While tZero has yet to launch commercially, it raised \$134M in its own security token offering.



Our platform integrates cryptographically secure distributed ledgers with existing market processes to reduce settlement time and costs, increase transparency, efficiency and auditability.

tZERO is actively working to develop new technology that will help make markets more efficient, more transparent, and more liquid. We believe that tZERO has the potential to democratize, expand, and strengthen capital markets through the use of technology, with a focus on Blockchain technology.



HARBOR

Total Funding

\$38M

Estimated Valuation

\$120M+

Harbor offers a compliant platform to tokenize securities, with a focus on “illiquid assets” – like real estate.

In November, the company announced its first tokenized investment, the \$100M Hub at Columbia REIT (part of the University of South Carolina).

SELECT INVESTORS

Andreessen Horowitz, Founders Fund, Fifth Wall Ventures, Valor Equity Partners



The Hub at
Columbia REIT

Columbia, SC

Premier off-campus student housing serving the University of South Carolina.

ISSUER
Convexity Properties

- \$21,000 per token

[See Details](#)



Secondary liquidity

The potential to trade 24/7/365 on licensed trading platforms or peer-to-peer under prevailing market conditions and the applicable transfer rules.

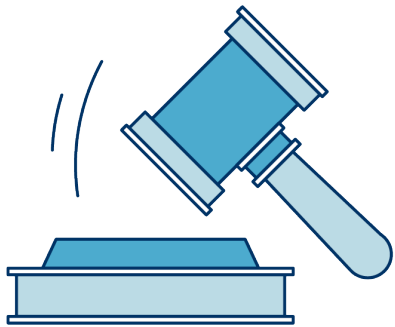
Lower the illiquidity discount

Private investments are often resold at severe discounts to their net asset value. Harbor helps reduce the friction to trade, lowering the illiquidity discount.

Reach an expanding global market

Exchanges and other market participants around the globe are providing services to connect buyers and sellers in ways previously not possible.

Roadblocks for security tokens look similar to those faced by early corporate experiments



Regulatory buy-in
is still needed

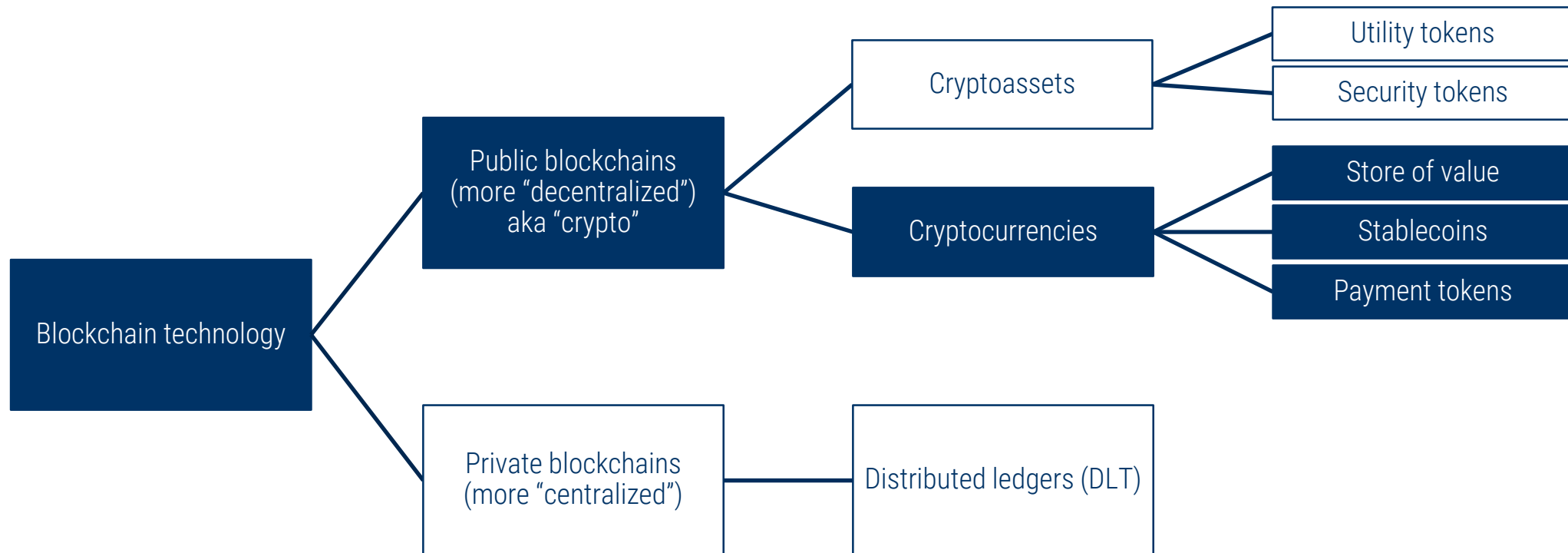


Ledgers will likely **have**
to be mutable



Existing systems
often work just fine

Development on blockchain's first use case – censorship-resistant money – continues apace



LET'S REVISIT BITCOIN

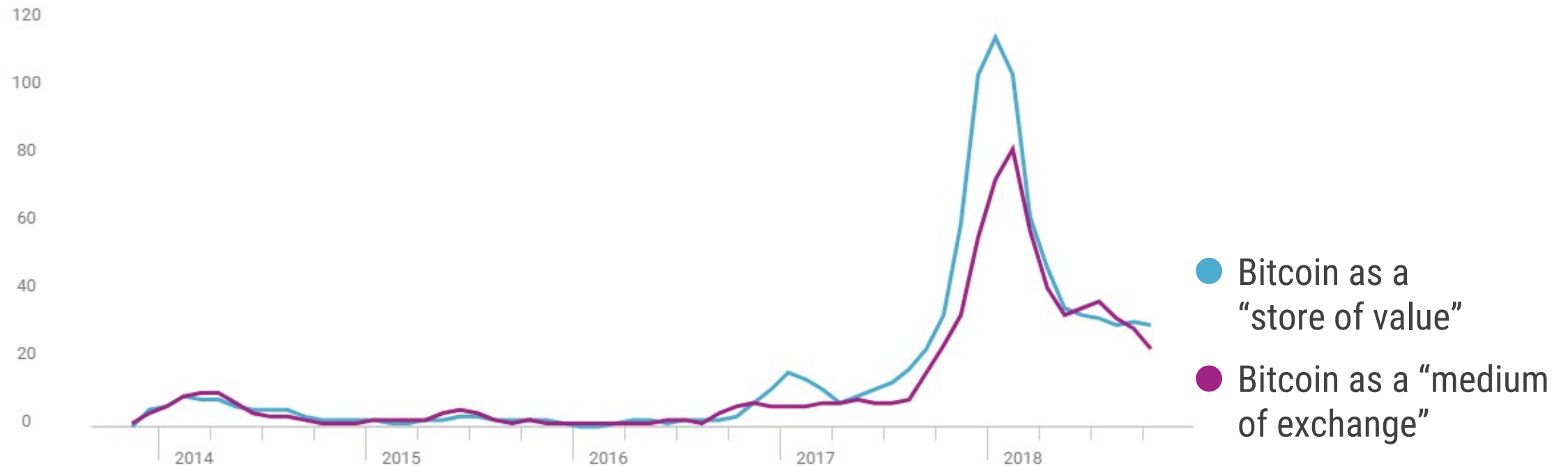
“[Cryptocurrencies] may one day serve as alternative means of payment and, possibly, units of account, which would **reduce the demand for fiat currencies or central bank money**. It’s time to revisit the question, will monetary policy remain effective in a world without central bank money?”



Dong He
Deputy Director, IMF, Monetary and Capital Markets Dept.

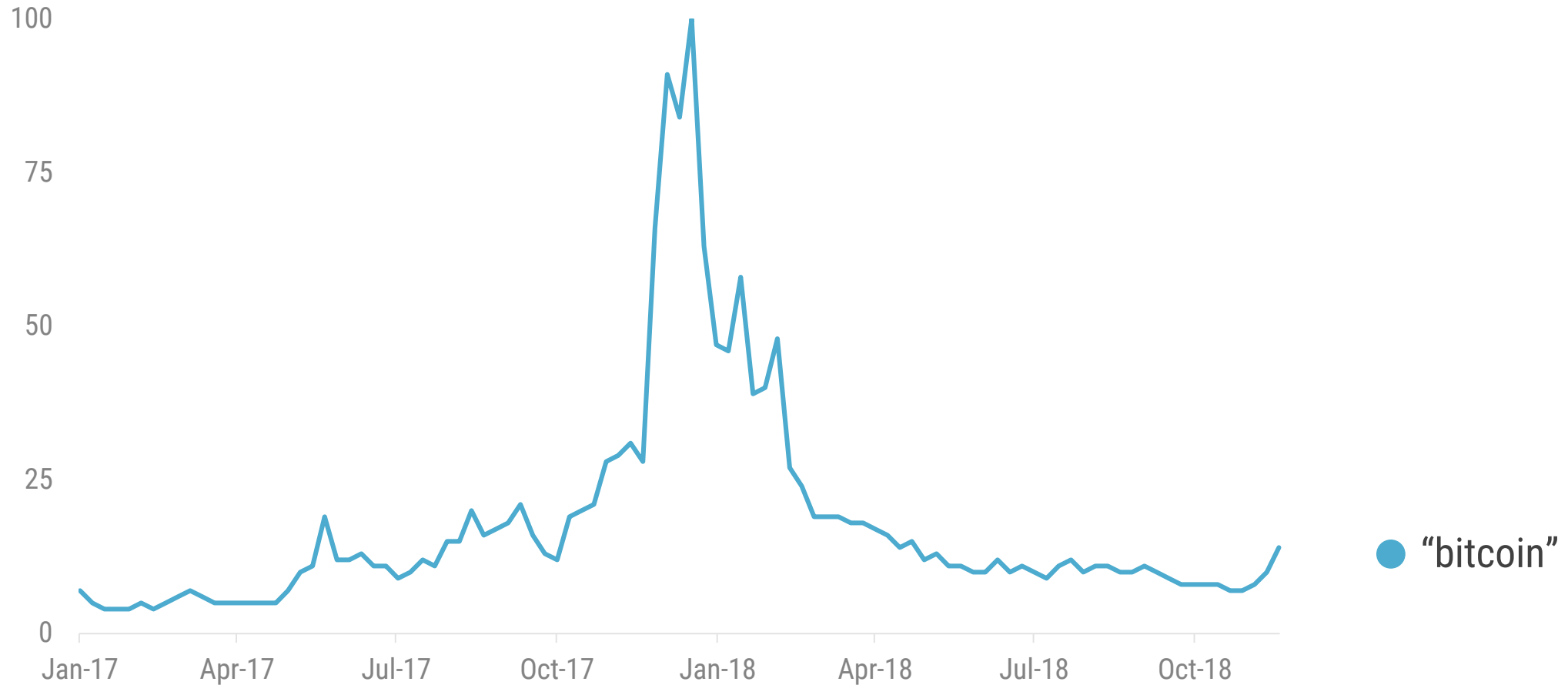
Bitcoin isn't yet 'peer-to-peer electronic cash'

Media mentions of bitcoin as a "store of value" and as a "medium of exchange." Q4'13 – Q4'18 YTD



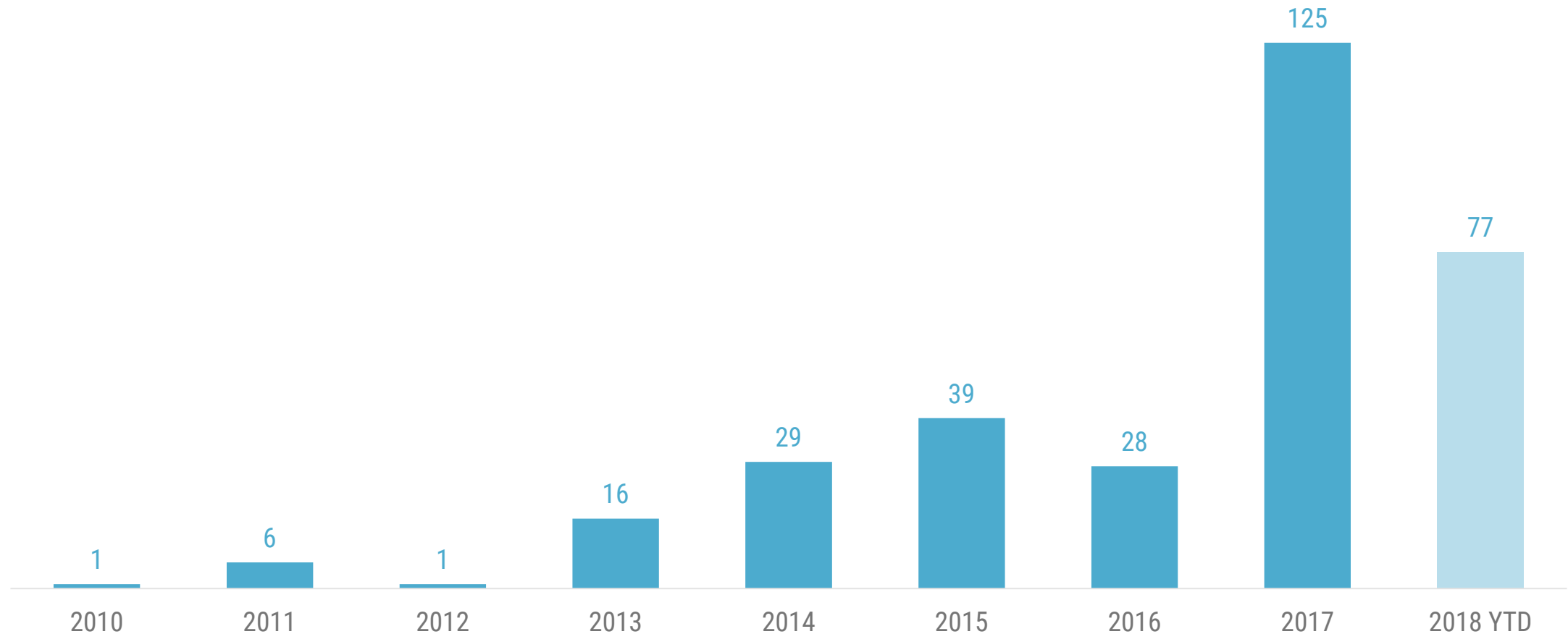
Interest in Bitcoin plummets alongside price

Google search interest (with 100 being the highest). 2017 – 2018 YTD (11/26/2018)

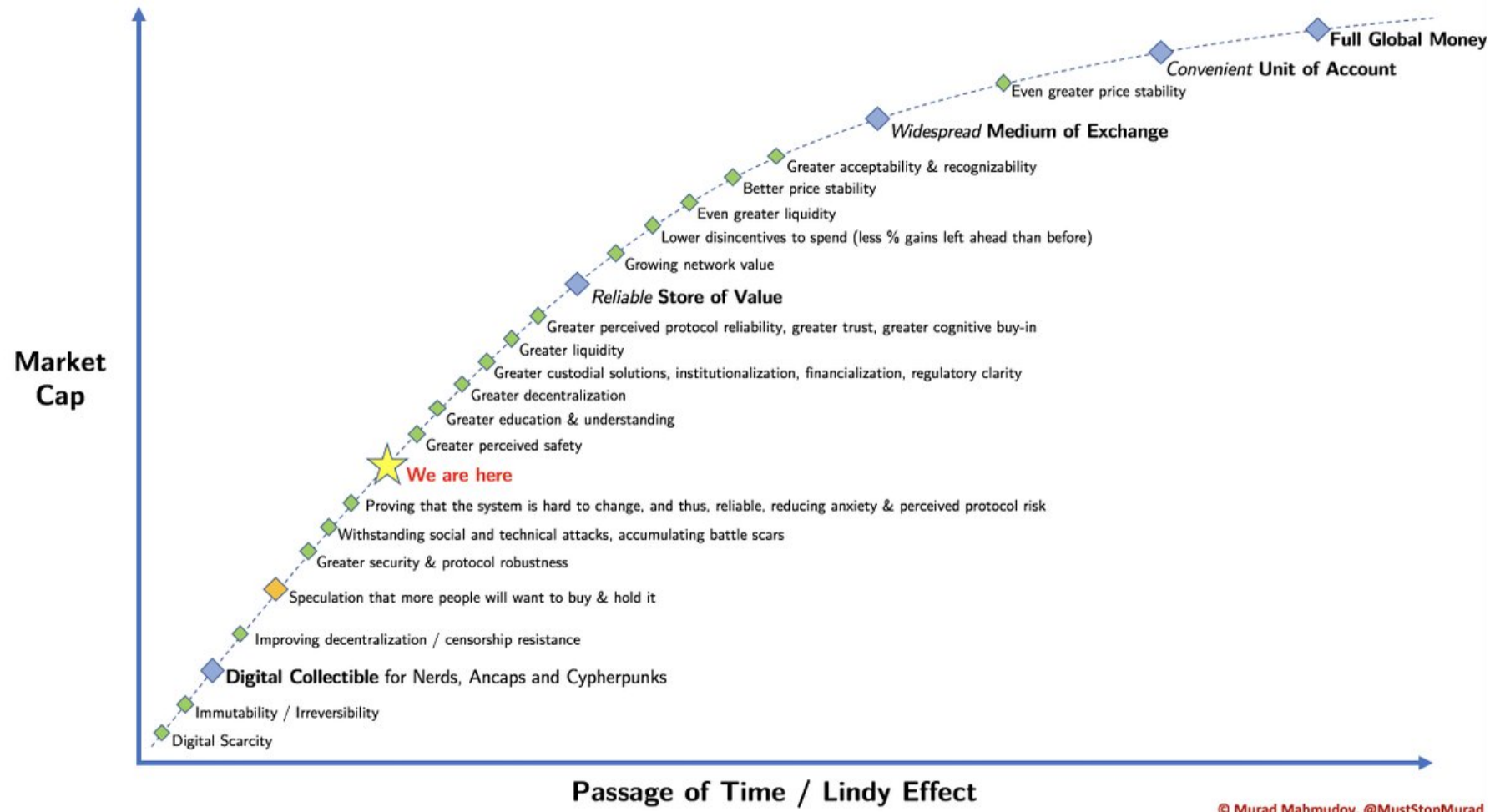


Still, Bitcoin hasn't died yet – even as its price falls

Bitcoin “obituaries” by year. 2010 – 2018 YTD (11/26/2018)

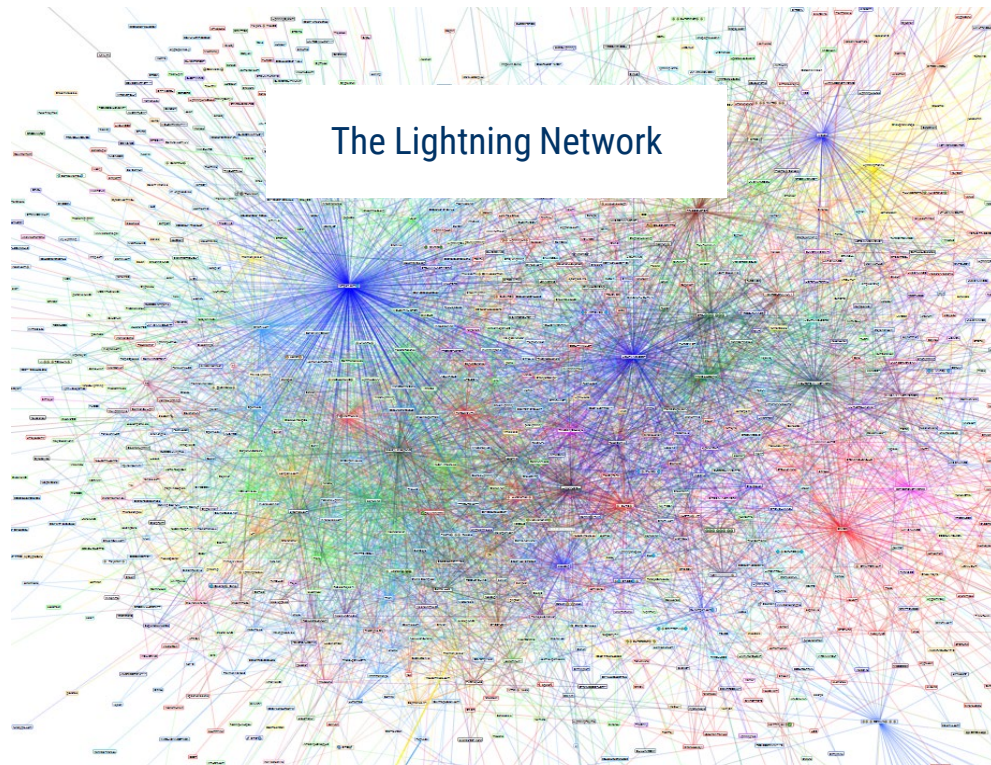


Bitcoin proponents: “we’re just getting started”



Scaling solutions are starting to roll out

Bitcoin's Lightning network, which hopes to improve transaction speed, is finding (very early) users, and companies like Casa are selling hardware to further adoption.



Casa Node.

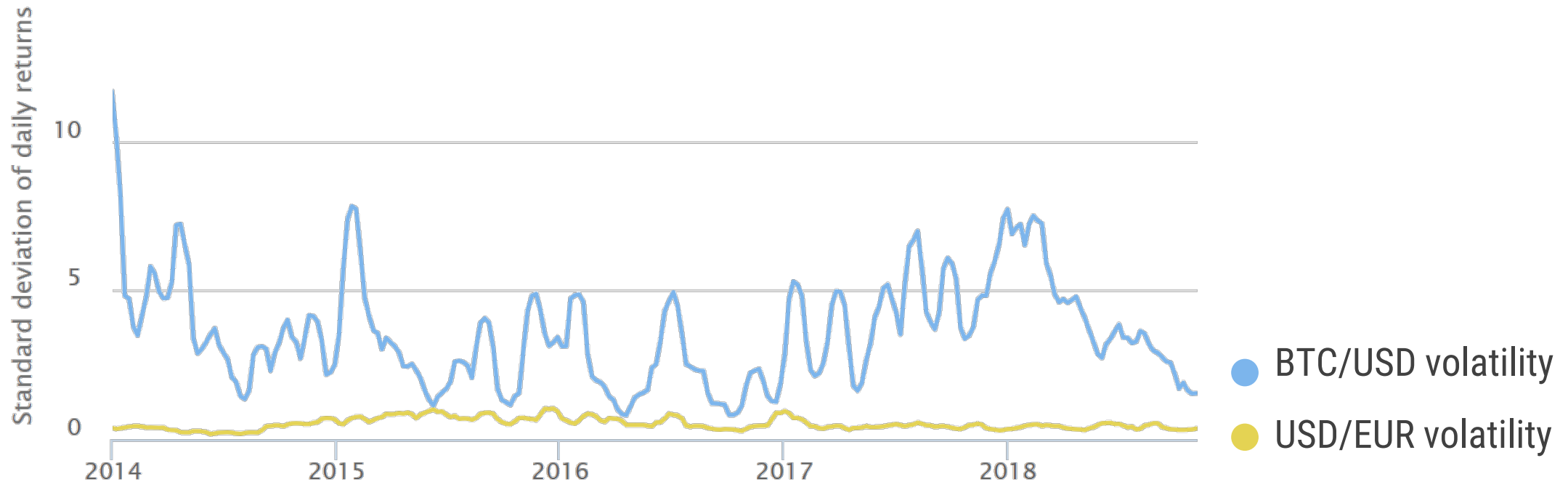
Lightning in a Box.

Access the Lightning Network and run a full Bitcoin node with one plug & play device.



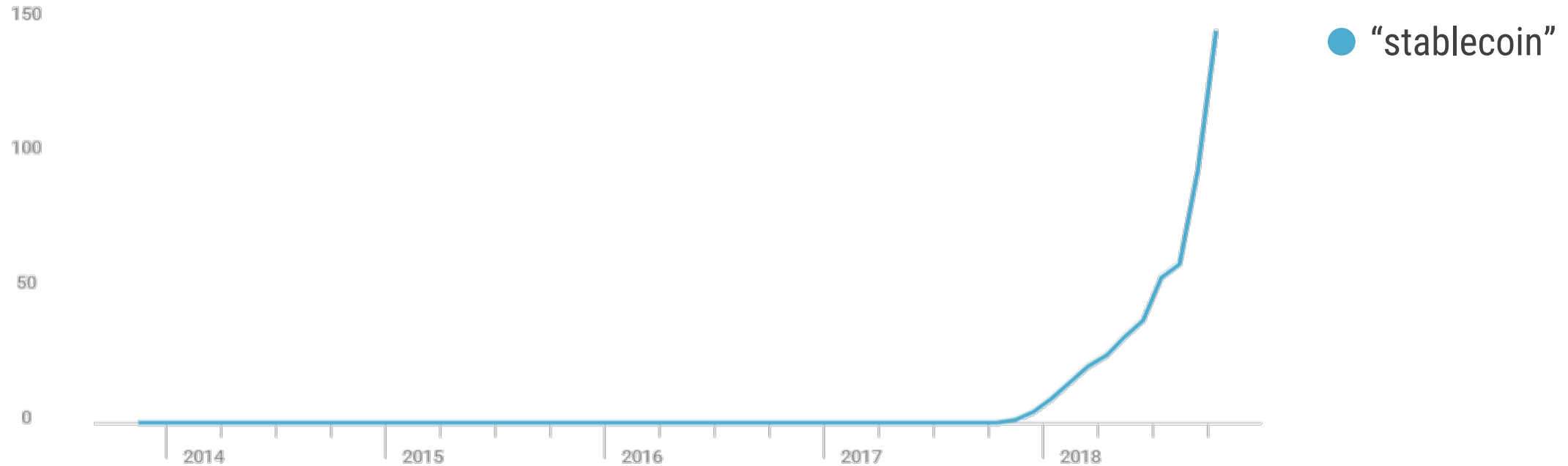
Bitcoin's volatility remains a barrier to adoption

30-day BTC/USD volatility vs. 30-day USD/EUR volatility. 2014 – 2018 YTD (11/08/2018)



Stablecoins hope to enable 'open finance'

News coverage of "stablecoin" and related terms. Q4'13 – Q4'18 YTD (11/27/2018)



Companies are employing different strategies to create stable cryptocurrencies



Fiat-Collateralized



Commodity-Collateralized



Crypto-Collateralized



Non-Collateralized



THE STABLECOIN THESIS

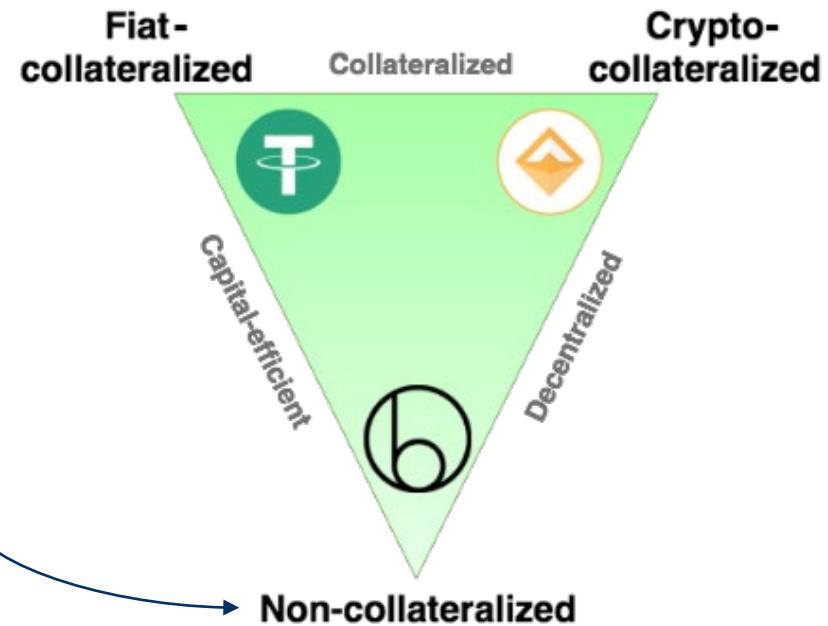


Funding

\$125M

Basis is building a “stablecoin,” that hopes to be less volatile than other cryptocurrencies.

Creating an “algorithmic central bank,” Basis’s blockchain will automatically sell “bond tokens” to peg the price of a single Basis token at a dollar.

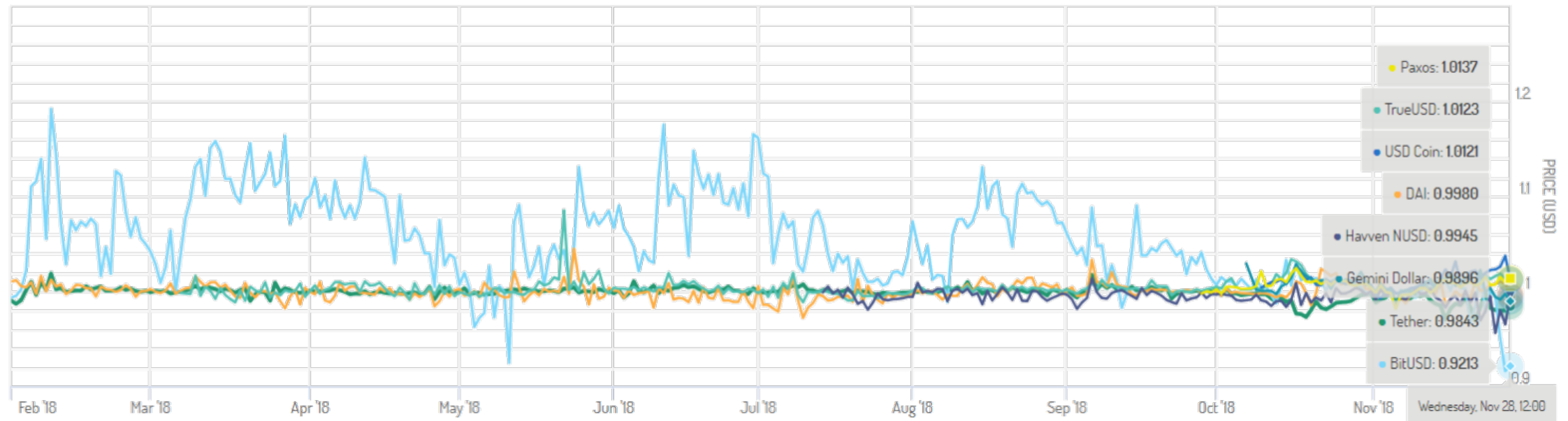


SELECT INVESTORS

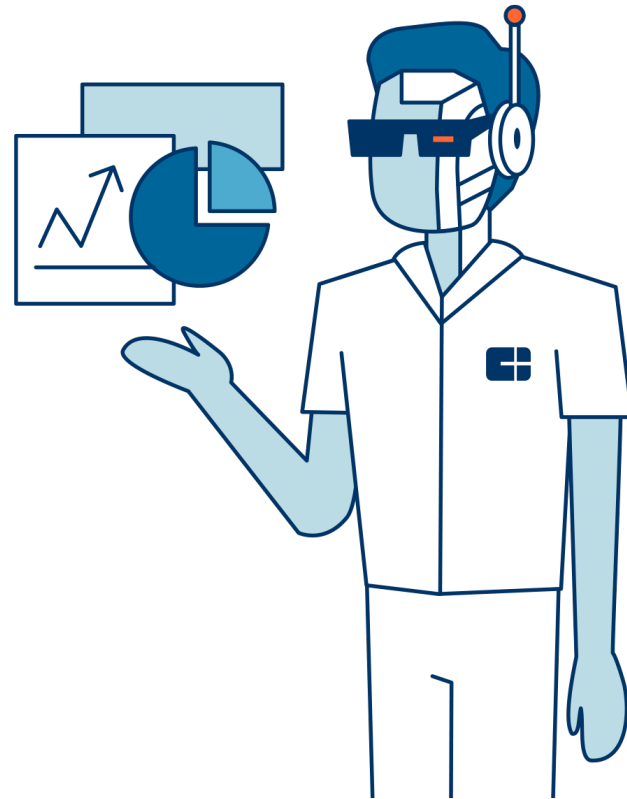
Andreessen Horowitz, Bain Capital Ventures, Lightspeed, Google Ventures, Polychain Capital

Some stablecoins are more volatile than others

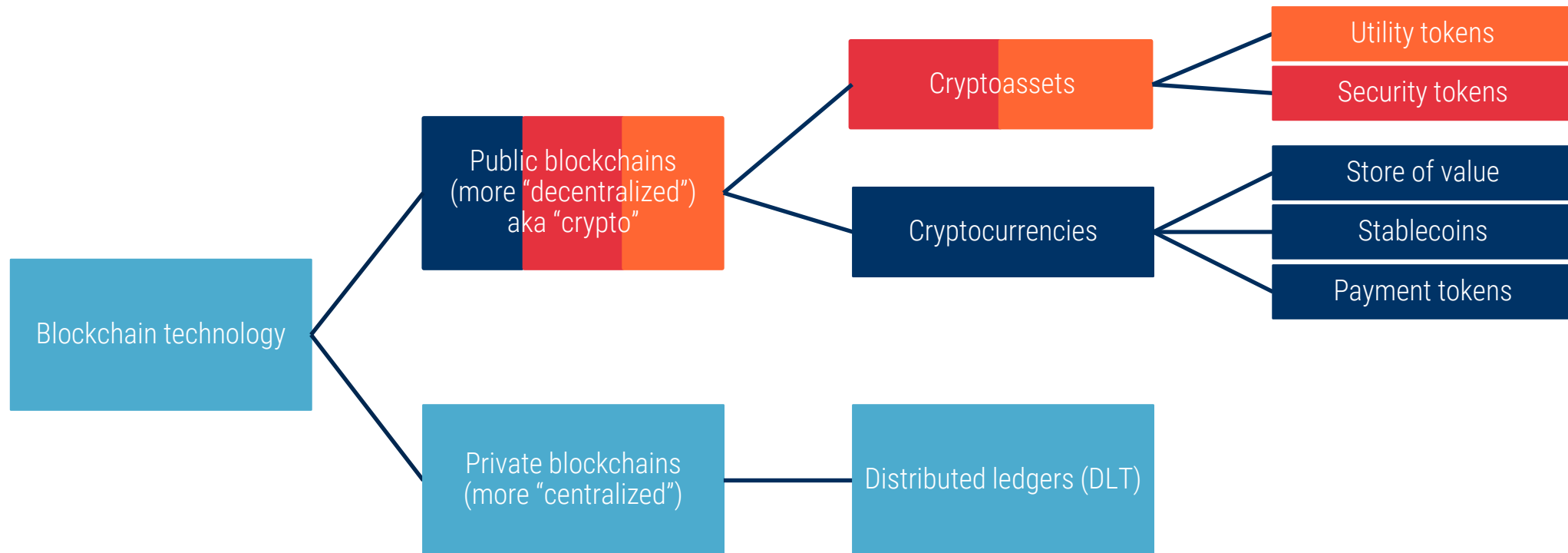
Price of major stablecoins in USD. 2/1/2018 – 11/28/2018



To recap



'Blockchain' is different things to different users



1. **Distributed ledgers:** While not blockchains per se, distributed ledgers could reinvigorate conversations around corporate data sharing, governance.
2. **Utility tokens:** Plans to reshape the web haven't panned out yet, but development continues apace as crypto's bear market flushes out bad actors.
3. **Security tokens:** Security token projects are seeing lots of investment, but could face familiar challenges faced by earlier asset tokenization projects.
4. **Cryptocurrencies:** Blockchain technology's first use case – money – might still be its best one, as stablecoins and second-layers hope to enable adoption.

Questions?

Twitter: @arieh313

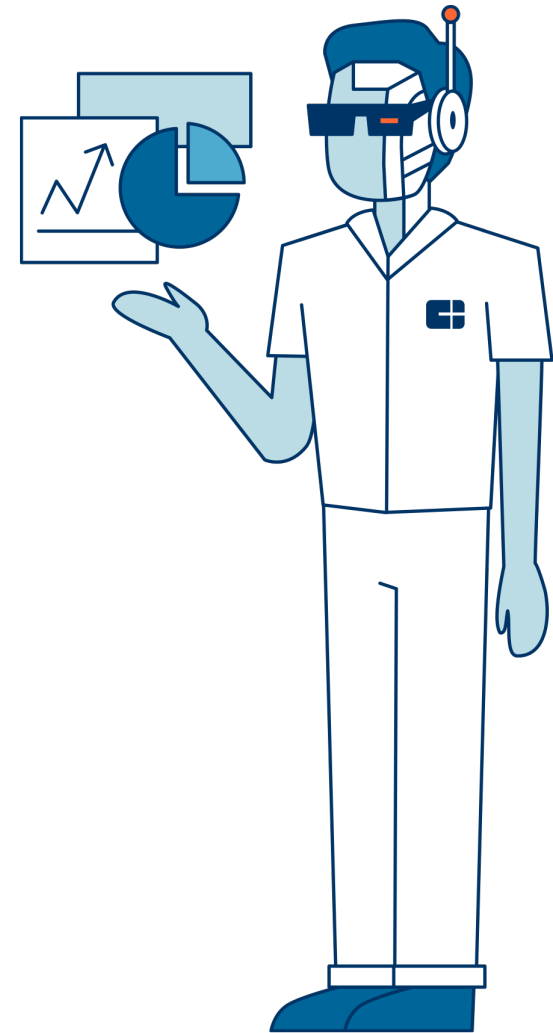
alevi@cbinsights.com



WHERE IS ALL THIS DATA FROM?

The CB Insights platform has the underlying data included in this report

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