



Crypto Valuations

Frameworks, Considerations and Inputs

Version 1.3



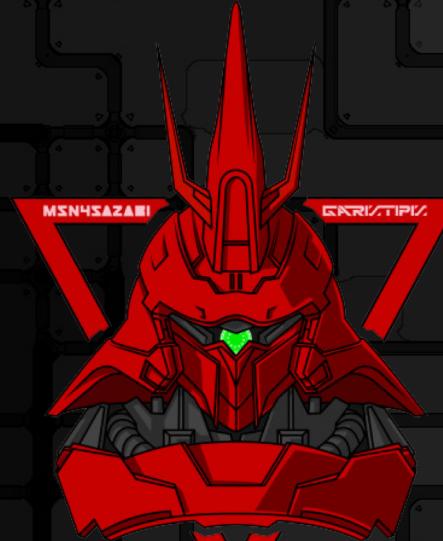
A little about Mark

Past life: IT infrastructure <3 code

Work: Consultancy and Advisory

Kids & MBA: Strategy and incentives

Fell down crypto rabbit hole





What this session **is** and **isn't** about

Immature frameworks and ideas

Constant flux around inputs

Focus on inputs **not** numbers

These are **not** mine

Sexy: Chris Burniske, Ryan Selkis, John Pfeffer et. al.

This is not investment advice **LUL**





Content overview

Utility vs Speculation

Simple model

Complex model with inputs

A crapload more inputs

What else to keep in mind

Put you out of your misery

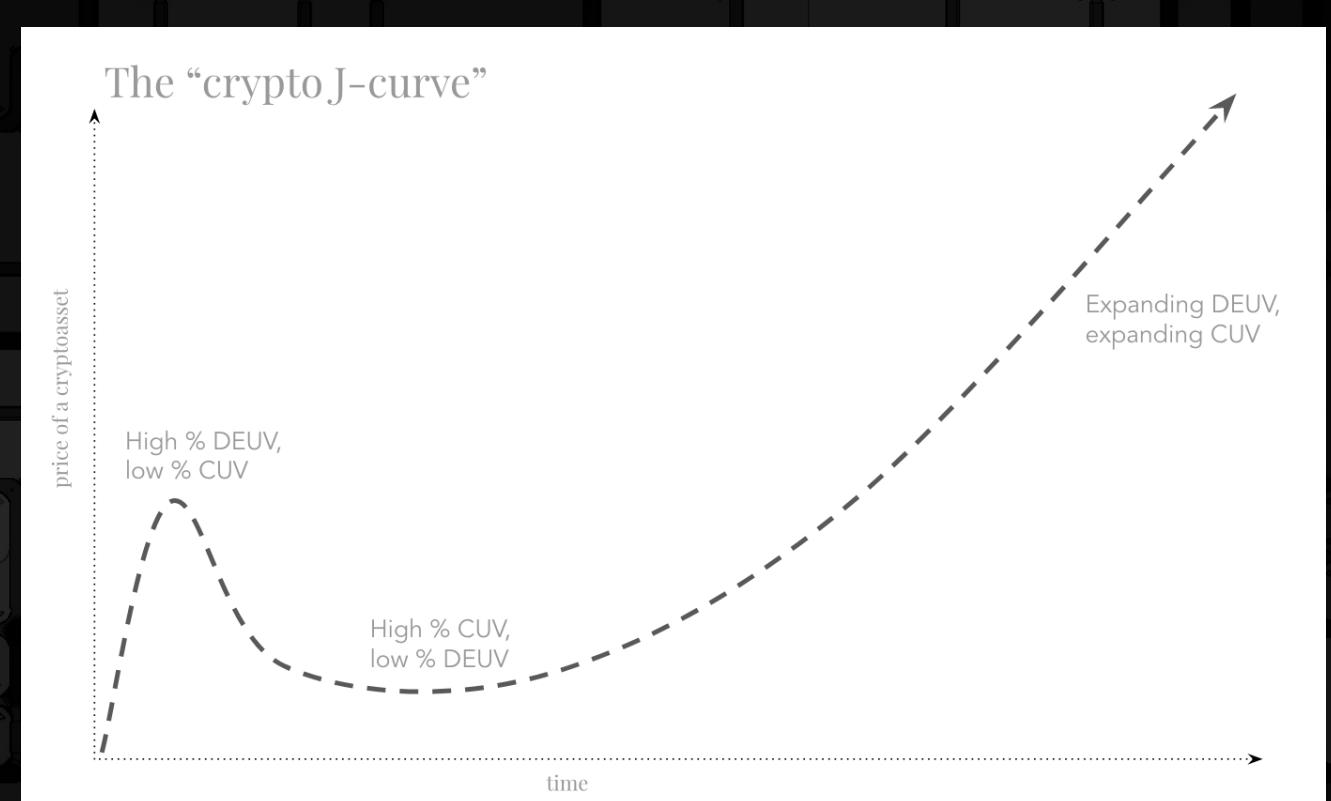


Utility vs Speculation – Crypto J-Curve

Background

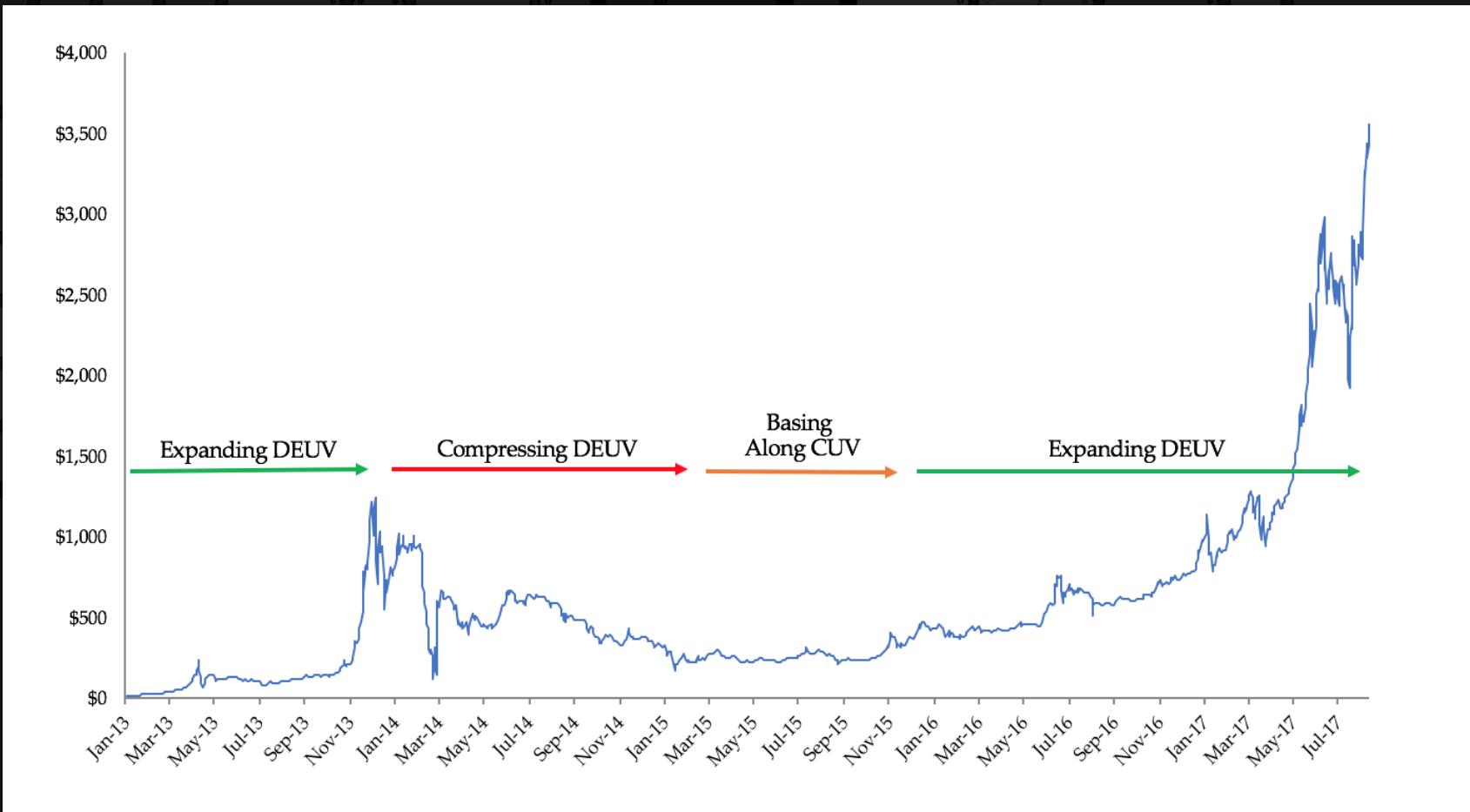
Current Utility Value (CUV)

Discounted Expected
Utility Value (DEUV)





Early BTC example





BTC remittances

TAM: 600B (2016)

Penetration: 10%

Velocity: 4.5

Coins supply: 16.8Mil



$$\text{Math: } 600\text{B} \times 10\% / 4.5 = 13\text{B}$$

$$13\text{B} / 16.8\text{M} = \$771 \text{ per BTC}$$



BTC remittances

Framework has holes

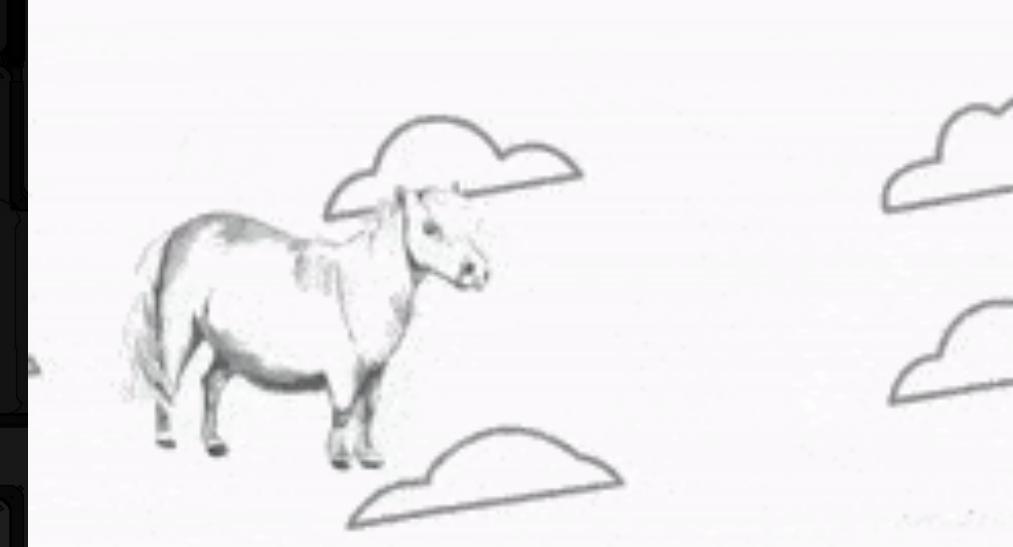
- No growth of TAM

- No penetration timeframe

- Current supply

Other use cases?

Sexy: Spencer Bogart & Gil Lauria
(Grayscale's GBTC)





Basics

Cryptoassets != companies

Equation of exchange

$$MV = PQ$$

Considerations

Controversy

{

- (P) Price level
- (Q) Index of expenditure
- (M) Money supply
- (V) Velocity of money

BTC velocity reference:

$$PQ/M = V$$

$$58B/8.9B = 6.5$$





Token INET

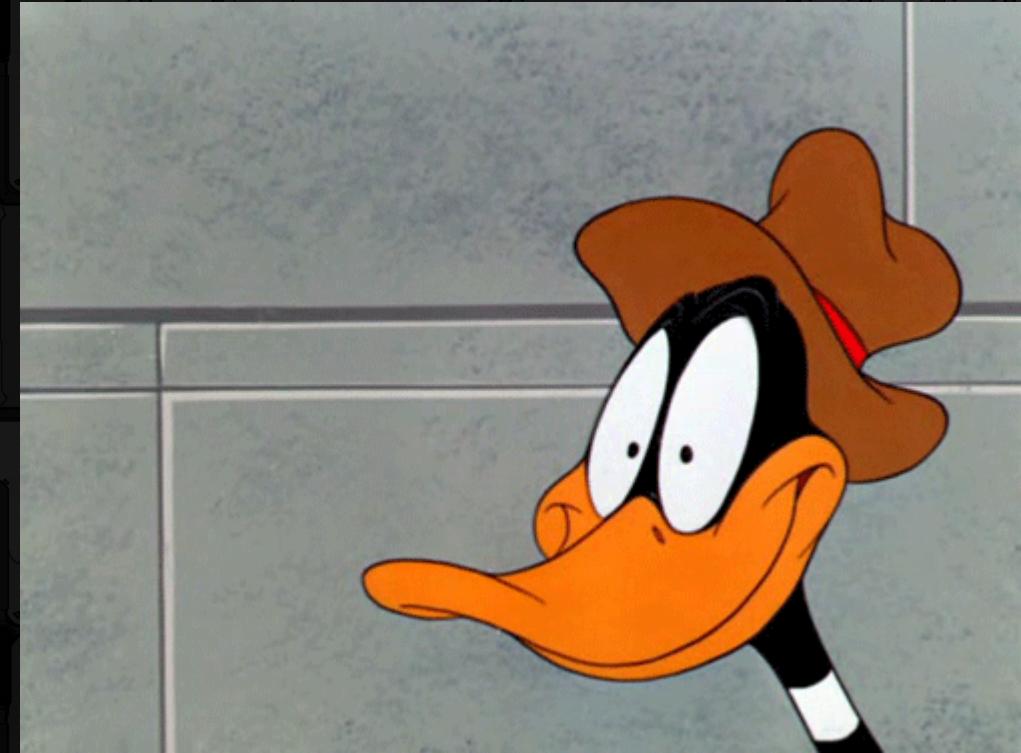
Utility token

Bandwidth GB for \$

ICO

Airdrop

Insert flavour of the month





Recap

TAM: 600B (2016)

Penetration: 10%

Velocity: 4.5

Coins supply: 16.8Mil

Playing: <https://goo.gl/mFn69Q>



Math: $600B \times 10\% / 4.5 = 13B$

$13B / 16.8M = \$771$ per BTC





Better TAM

Costs /GB & decline

Total IP traffic

Growth (CAGR)

% addressable

What else?

INET Economy Inputs		
Metric	Assumption	
Cost per GB for INET	\$	0.25
Cost decline for bandwidth		16%
Annual global IP traffic (2016)		1,200,000,000,000
CAGR for global IP traffic (2016-2021)		24%
% of global IP traffic addressable for INET		75%
Velocity		20

Blue represents a particularly subjective assumption

Addressable Market?



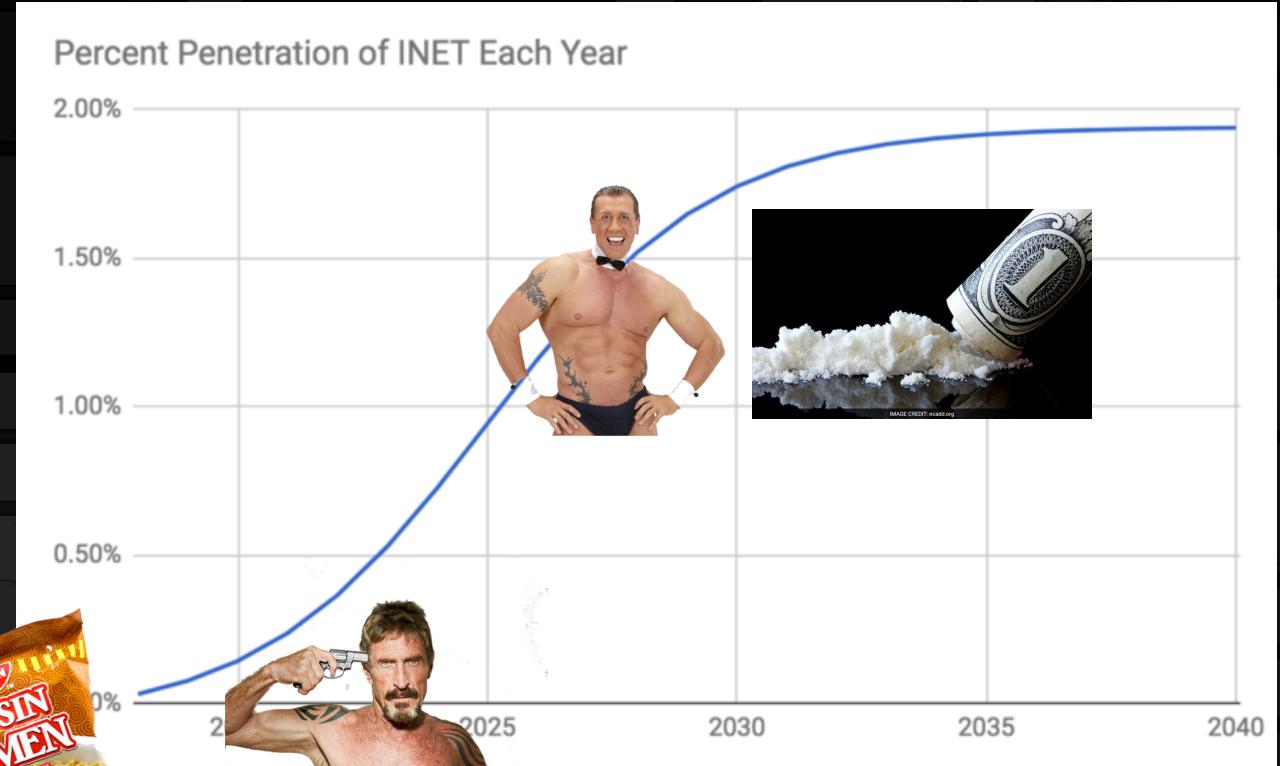
Better penetration

Base year

Saturation % (max TAM)

Start of fast growth

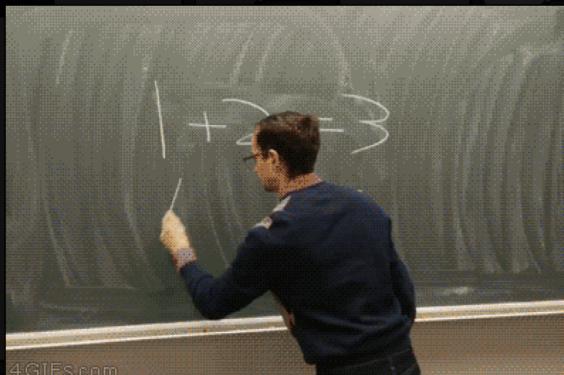
Time from 10% to 90%



Combine TAM with penetration

(a)	Annual global IP traffic (GB)	1,845,120,000,000
(b)	Annual global IP traffic available to INET (GB)	1,383,840,000,000
(c)	% Share of VPN Market Facilitated by Token	0.01%
(d)	Traffic Facilitated by INET Each Year (GB)	172,666,079
(e)	GDP Facilitated by INET Each Year	\$ 43,166,520

We now have PQ in $MV = PQ$



Math:

$1.2T \times ((1+24\%)^2) = (a)$
 $(a) \times 75\% = (b)$
 $(c) \text{ From stripper chart}$
 $(b) \times (c) = (d)$
 $(d) \times 25c = (e) \text{ aka } PQ$



Revisit velocity

F*cking Hard

- 1) HODL'ers + Bonders
- 2) Foundation & Staff
- 3) Normal users

Inside knowledge helps

Alex's criticisms

Sexy: Alex Evans, Brett Winton



Math (hybrid velocity):
% of token use 1 x Velocity 1
+ % of token use 2 x Velocity 2
+ % of token ...
Chris used velocity **20** for **INET**



Better coins supply

Foundation & Founders

Private sale

Public sale

Bonding

HODL'd

Considerations

Metric	Assumption
Total Planned Supply	100,000,000
Percent of Tokens Issued in Private Sale	5%
Lock-up Period for Private Sale Investors	3
Percent of Tokens Issued in ICO	75%
Percent of Tokens Issued to Foundation	10%
Lifetime of Foundation	50
Percent Issued to Founders	10%
Lock-up for Founders	5
Percent of Tokens in Float Bonded by Nodes	20%
Percent of Tokens in Float Initially hodl'd	60%
Decrease in percent of INET that is hodl'd each year	1%

Blue represents a particularly subjective assumption

Current coins outstanding:
15.5Mil for 2018



Solve $MV = PQ$

INET Economy and Utility Value Output

Year From Launch	2018		
Cost per GB for INET use (\$/GB)	\$	0.25	\$
Annual global IP traffic (GB)		1,845,120,000,000	
Annual global IP traffic available to INET (GB)		1,383,840,000,000	
% Share of VPN Market Facilitated by Token		0.01%	
Traffic Facilitated by INET Each Year (GB)		172,666,079	
GDP Facilitated by INET Each Year	\$	43,166,520	\$
Monetary Base Necessary for INET's GDP	\$	2,158,326	\$
Current Utility Value of Each Token in the Float	\$	0.14	\$





So what now?

Critiques and improvements

Discounting future value

Expected Value

Other factors

Sweet release





Discounting Future Value – Part 1

Holding period (H)

Discount rate (D)

Market value (MV)

Forecast 2028

	2028
	0.06
15,857,746,390,538	
11,893,309,792,904	0.61%
	72,755,670,185
	4,123,129,372
206,156,469	
	7.45

Math



Current utility value (CUV)

Future expected utility (FEU)

$$MV \text{ on FEU} = CUV / ((1 + D) ^ H)$$

$$MV \text{ on FEU} = 7.45 / (1.4^{10}) = 0.258$$





Discounting Future Value – Part 2

$MV - UV = \% \text{ of speculation (FEUV)}$

$$MV \text{ on FEU} = 7.45 / (1.4^{10}) = 0.258$$

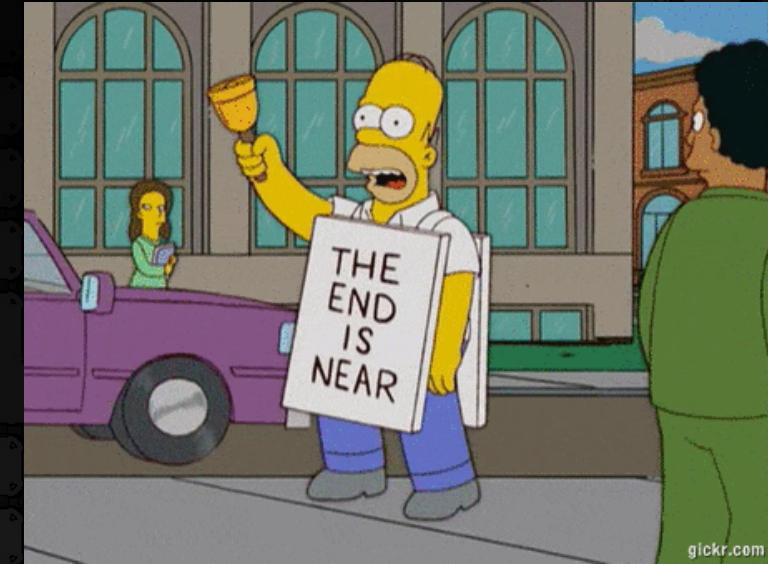
$$0.258 - 0.14 = 0.118 \text{ (46\% speculation)}$$

Second order valuation

Converges on current utility value

% of speculation

Sexy: @woonomic



gickr.com



Expected Value

What do I do now? Coin X is \$10k

Does that mean I buy?

X has a 1% chance success

Math: $1\% \times 10k = \$200$

How much do I buy?

What happens if I win?





Other things...

Reflexivity

Government regulations

Competition

Human greed

Stock markets

Accessibility drives up \$

Institutional money

MPT & Sharpe Ratio



Sexy:

@AriDavidPaul, @TuurDemeester,
@KyleSamani



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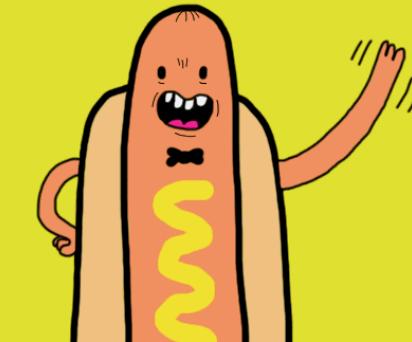
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Questions & Feedback

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