

# A Brave New World The Promise and Challenge of Cryptocurrency

### **Rus Newton**

With thanks to Meltem Demirors for most of these slides, and Steve Moffatt for his invaluable advice



### **THE BLOCKCHAIN APPLICATION STACK**

#### THE INTERNET

Innovation in Information Transfer

Application Universe: Streaming video and music, data sharing, cloud computing

Killer App: Email

Network: ISPs

Protocols: TCP/IP, HTTP, DNS, FTP

#### THE BLOCKCHAIN

Innovation in Value Transfer

Application Universe: Smart contracts, distributed computing, tokenization

Killer App: Bitcoin

Network: Miners, Full Nodes, Staking Pools

**Protocols:** Bitcoin, Ethereum, IPFS, RSK, Blockstack

We are still in the early stages of defining, building, and implementing protocols, but this time, billions of dollars of value are at stake at the protocol layer instead of the application layer

### **BLOCKCHAIN USE CASES**



- Hedge against government instability
- Potential analogs:
  - Market cap of gold
  - Money held in Swiss bank accounts

- Global payment network
- Remittance & money transfer
- Potential analogs:
  - Some % of global payments volume
  - Cross border payments \_

- Web 3.0 infrastructure
- Computational capacity
- Potential analogs:
  - FANG & internet stocks
  - Some % of the Enterprise SaaS market

### THE CURRENT STATE OF CRYPTO

### FINANCIAL FRENZIES AREN'T NEW



Source: Carlota Perez, Technological Revolutions and Financial Capital @Melt\_Dem

Time

### **USE CASES EVOLVE OVER TIME**



Source: Bloomberg Amazon daily ticker data. Logos sourced from Google images.

@Melt\_Dem

### AND "VALUE" ISN'T ALWAYS OBVIOUS



## **PUTTING THIS IN CONTEXT**

#### LOW TO NO CORRELATION BETWEEN PRICES AND UTILITY

- Market prices for crypto-assets are decoupled from metrics around usage and utility
- Few, if any, metrics are publicly available to enable investors to understand "utility"



#### EVERY ENTRY POINT IS GOING TO BE TOO EARLY OR TOO LATE

- Market timing is an impossible game high volatility makes it difficult
- Every firm wants to be a fast follower, but someone needs to take the first step



### FOCUS ON PRODUCTION INSTEAD OF SPECULATION

- Many firms starting to mobilize on plans to produce crypto projects
- Speculation can yield short term financial results but is distracting in the long run

### **EVOLVING CAPITAL FORMATION**

### **CAPITAL FORMATION IS EVOLVING**



Source: IPO data from SIFMA, VC data from PwC Money Tree Explorer, ICO data from proprietary CoinShares Research. Note 2018 H1 data was multiplied by two to obtain YE 2018 projections, @Melt\_Dem

### **TOKENS PAINT A COMPELLING PICTURE**

STAGE	# ROUNDS / CO'S	TOTAL RAISED, USD	AVERAGE DEAL, USD	TIME TO LIQUIDITY	INVESTOR POOL	DEGREE OF HOMOPHILY
VENTURE	2,713	\$45B	~\$17M	3 – 5 years	3,000	Medium
IPO	107	\$32B	~\$295M	8+ years	1,000	High
ICO*	359	\$18B	~\$29M	<1 year	10,000+	Very High

## **MAGICAL INTERNET MONEY BABY**

Legacy Asset	Market Size	Blockchain Asset	Expression
Gold	\$7 trillion	Store of Value (SOV)	Bitcoin
Oil (Commodities)	\$1.7 trillion	Digital Utility	Ethereum
VC	\$60 billion	New blockchain protocols and early stage	ICOs
HF / PE growth investing	\$1.2 trillion	Securitizing equity for private companies	Security Tokens (STOs)
Real Estate	\$1.4 trillion	Fractional ownership and tokenized REITs	Securitized Asset Offering (SAOs)

Liquidity, exchangeability, and efficiency are primary features - can crypto capture that premium?

Source: Global Alternatives Survey, CoinShares estimates. @Melt\_Dem

### **NEW INVESTMENTS**



#### IMPLEMENTATION

- Regulated security "token" offering
- Each token represents one share of common stock in the St. Regis Aspen
- Can purchase tokens with USD or BTC

#### IMPACT

- How many investors will participate?
- Will tokens / shares **be liquid**?
- How widely distributed will ownership be?

# **QUESTIONS TO ASK**

#### HOW DO NETWORKS DEVELOP?

- Initially driven by financial incentives including speculative demand and artificial scarcity
- Some networks are driven by mission and vision, but this is rare



#### HOW DO NETWORKS GROW

- Continued management of financial incentives, purpose-driven messages, and brands
- Development of real use cases and applications



#### HOW DO NETWORKS MAINTAIN AND EXTEND USAGE

- Traditional business practices like customer experience, design, and marketing
- Increasing network value due to variety of applications uniquely and specifically enabled

### WHERE WE ARE IN THE CRYPTO LIFECYCLE



Source: Market data retrieved Sept 7 2018 from OnChainFX, personal assessment of lifecycle state

## THE REALITIES OF THIS MARKET



### RAISING MONEY IS AS EASY AS IT'S EVER BEEN

- Everyone raises massive amounts of money with no product, no plan, and no market.
- Massive amounts of wasted time and effort 7k total "users" for billions invested



### BUILDING SHIT IS AS HARD AS IT'S EVER BEEN

- Struggling to find actual use cases and product market fit and user adoption
- Arguably, there has never been this big of a disconnect between DAUs and \$\$\$ invested



### THE MARKET WILL CONTINUE TO CANNABILIZE AND CONSUME ALL VALUE

- Unless crypto projects start creating and delivering valuable services to users, we're going to continue to see market value evaporate
- Any market rally leads to a wave of capital raising that further dilutes value

### **AN INCOMPLETE ASSET LIFECYCLE**



Projects are focusing on product creation and distribution as the end of a process, when really it is just the beginning of a years -- if not decades -- long obligation to manage the lifecycle of these assets

#### NASCENT (NON EXISTENT) PROJECT MANAGEMENT PRACTICES

Most crypto assets are traded on pure speculation, and have little or no emergent utility. Many projects have not yet launched their networks. Limited information is available about how projects are developing, even once networks are live and assets freely tradeable.

#### NO PROJECT HAS REACHED "END OF LIFE" YET

Given the fundamental uncoupling of assets from the protocols and projects which they're supposed to be associated with, many tokens with no value keep trading in perpetuity, with no clear plans as to how these assets get wound down or removed from circulation.

### **SOME GENERAL SHITCOIN INDICATORS**

- UTILITY | Does a token need to exist or does it simply add friction? Could an existing digital asset or digital currency like BTC, ETH, etc fulfill the same function? Is it solving some problem that can't be solved using existing technology?
- VALUE CREATION | Does this technology or network or application existing create benefit for individuals or society as a whole?
- **TECHNICAL INNOVATION** | Is it introducing a technical or feature innovation that makes it distinctive in some capacity?
- EFFORT INVESTED | Does it have its own network / blockchain that was costly to develop or is it built on another network using a standard like ERC-20, ERC-721, NEP5, etc? How long has the team been grinding on this problem? Has material effort been expended?
- STAKEHOLDER INCENTIVES | How are various stakeholders in the network identified, what role do they play, and are they participants in value creation? Has there been time spent on articulating how stakeholder engagement will evolve over time?
- COMMUNITY ENGAGEMENT | Does the project have a well-developed community that seems to discuss protocol development, network state, and application creation more than price? Is there a reason for people to give a shit about this project that isn't tied to greed and self-interest?

### **DECENTRALIZATION IS AN ESOTERIC GOAL**

	MEASURE	METRIC	₿	•	XRP	•
APPLICATION	Applications	# of independent applications that have VC \$ or users	<b>100</b> s	<b>100S</b>	?	?
AFFLICATION	"Ecosystem"	Amount of capital dedicated to ecosystem?	\$B	\$B	\$M	\$M
	Network Cost	Annual "mining" reward or cost to maintain network	\$6B	\$120M	\$0	\$0
NETWORK	Nodes in Network	# public nodes in network	<b>100K+</b> various types	10K	?	156
	Node Concentration	# entities with >50% of network power in consensus	4	3	2	1
PROTOCOL	Distribution of Tokens	% supply held by top 100 accounts	<b>19</b> %	34%	<b>81</b> %	<b>62</b> %
TROTOCOL	Development	# client codebases that account for >90% of nodes	1	2	1	1

Source: arewedecentralizedyet.com, OnChainFX, BitInfoCharts.com, Blockdaemon research, my back of the envelope math

## **TOKEN FINANCING – HUH?**

Assets	Liabilities + Equity			
Assets	Liabilities			
Cash or cash equivalents (BTC, ETH)	Notes Payable (ST or LT)			
Inventory (tokens held by project)	Accounts Payable			
Accounts receivable	Wages Payable			
	Interest Payable			
Investments	Taxes (current +deferred)			
Ecosystem fund investments				
•	Company Equity			
Property Plan & Equipment (PP&E)	Preferred Stock			
	Common Stock			
Goodwill				

NOTE: Tokens do not have any rights, uses, purpose, attributes, functionalities or features, express or implied, including, without limitation, any uses, purpose, attributes, functionalities or features on the "decentralized blockchain computing network" platform.

# THE REALITY OF THE SHITCOIN SELL SIDE

### WAY TOO MANY \*DUMB\* IDEAS FLOATING AROUND

- Any and every project that could possibly be tokenized is being tokenized
- The siren song of raising non-dilutive capital in unregulated markets is irresistible

### WAY TOO EASY TO PRINT MONEY

- Token standards like ERC-20 enable instant asset creation at virtually no cost
- Community ethos of permissionless financial innovation means no one can "police" the money printing process

### ENGINEERS TRYING TO BE ECONOMISTS IS JUST SAD

- Trying to engineer incentives like input / output functions isn't working
- Few projects understand supply and deman: "tokenomics" is an immature pseudo-science practiced by self-proclaimed shitcoin gurus and crypto promoters

### **RESULT: THE SHITCOIN WATERFALL**



@Melt\_Dem

# SHITCOIN RETURNS ARE STILL STAGGERING

#### US INVESTMENT RETURNS LAST 5 YRS

RETURN		
6%		
11%		
11%		
11%		
13%		
16%		
18%		
21%		
179%		

### **CHANGING INVESTOR SENTIMENT**

- Global macro uncertainty and sky-high valuations
   across asset classes
- Venture investors increasingly concerned with valuations, exit environment, and performance
- Hedge fund performance has been sub-par: in 2017, 43% of funds fell short of performance expectations
- Exits less frequent IPO valuation premium is low, staying private often better for juicing valuation
- For investors who missed BTC and ETH 10,000x returns, ICO investing looks very attractive

Source: Majority of return data from PitchBook 2018 Global PE & VC Fund Performance Report. IPO data from Renaissance Capital research, referencing Fidelity Investments data. ICO data from Benedetti, Kostovetsky, "Digital Tulips? Returns to Investors in Initial Coin Offerings."

# WHAT WE'RE THINKING ABOUT

### HOW DO WE CAPITALIZE AMBITIOUS CRYPTO PROJECTS?

- What's the growth story for investing in protocols, networks, or applications?
- How does the cost of capital impact fundraising choices and investor rights?

### HOW DO WE KEEP ICOs FROM VAPORIZING VALUE?

- Permission-less financial innovation means anyone has the right to print money
- Continued erosion of any positive value creation makes it difficult to preserve value

### HOW DO / SHOULD WE SHAPE THE NARRATIVE AND PUNISH BAD ACTORS?

- Little to no social cost for repeatedly engaging in predatory, self-interested behavior
- The narrative is quickly spiraling as exit scams become more and more egregious
- Should there be more "self policing" or is that inherently antithetical to crypto?

### **CHALLENGES FOR JERSEY**

# **RISK & INNOVATION**

- Fear of failure leads to risk aversion
- Risk aversion kills innovation
- "What happens in Fear Cultures is often that some innovation gets done but the commercialisation is blocked. Once you hear terms like 'gatekeepers'... where anyone other than the team making the product can limit commercialisation, then generally the chances of success are vastly reduced. And remember the chances of success are low anyway, at best around 1:10 assuming we start with a winning Problem Statement. Gatekeepers reduces this to about 1:500"

# GATEKEEPERS/INTIMIDATION

#### Case study: Jersey Lifts App (Glint Ltd)

23 May 2017 - start development

14 July 2017 - announced Jersey Lifts App on Facebook 27 July 2017 - launch iOS app (reaches 17.8k people on FB)

14 Aug 2017 - hit 2000 users

22 Aug 2017 - launch Android app

11 Sept 2017 - continue meeting with SoJ infrastructure regarding platform and Digital Dispatcher licence.

2 Nov 2017 - respond to Police leaflet threatening 'JL' drivers and passengers will be reported to their insurers and recommended to cease insurance.

Nov - Dec 2017 - see numbers of drivers on the app start to decrease

2 Jan 2018 - respond to data protection issues regarding the information sharing between SOJP & insurers

Jan-Mar 2018 - emails/phonecalls to SoJ infrastructure go

unanswered. Eventually told not to call anymore.

17 May 2018 - shut down app (total users 5500+)

#### How to kill innovation

Meanwhile, rest of the world embraces ride-sharing....



#### States of Jersey Police

...inspiring confidence

The States of Jersey Police are now working in partnership with the insurance industry, the Tax Office and the Social Security Department to tackle the risks posed by untrained, unlicensed and uninsured drivers to the users of Jersey Lifts. We have agreed with them to share information regarding the activity of drivers who use their personal vehicle in a capacity which is not a ride share.

IF YOU ADVERTISE YOURSELF AS AVAILABLE FOR LIFTS, CONDUCT MULTIPLE JOURNEYS WITH DIFFERENT PASSENGERS, USE YOUR VEHICLE FOR HIRE AND REWARD, OR CONDUCT ANY LIFTS WHICH ARE NOT A CAR SHARE AS DEFINED OVERLEAF. AFTER TODAY, WE WILL PROVIDE INFORMATION RELATING TO YOUR ACTIVITY TO YOUR INSURER WITH A RECOMMENDATION TO WITHDRAW YOUR INSURANCE COVER. WE WILL ALSO NOTIFY THE TAX OFFICE AND SOCIAL SECURITY DEPARTMENT. WE DO NOT NEED TO PROVE A PROFIT HAS BEEN MADE TO DO THIS.



To ensure you have sufficient cover you must notify your insurer that you are providing lifts through social media or by using an app.

If you have had insurance withdrawn for any reason you must declare the reason for the withdrawal to your new insurer. This may result in other insurers refusing to provide you cover.

# **FEAR OF (PERCEIVED) FAILURE**

🦉 gov.je	Information and public services for the Island of Jersey L'information et les sèrvices publyis pouor l'Île dé Jèrri	<u>Contacts Translate Login</u>			
	Search gov.je	Search			
Home > Government a	and administration > Government planning and performance > Innovation in Jerse	₽X			
Jersey Inn	ovation Review: action plan				
On this page:		Email <u>Tweet</u>			
About the acti		Contact			
<ul> <li>Implementing the recommendations of the action plan</li> <li>Get in touch</li> <li>Money (recommendations 1 to 6)</li> <li>Talent (recommendations 7 to 14)</li> <li>Knowledge (recommendations 15 to 19)</li> <li>Business environment (recommendations 20 to 24)</li> <li>Science and innovation policies (recommendations 25 to 31)</li> </ul>		Innovation review T 01534 440482 E innovation@gov.je			
		PO Box 140 Cyril le Marquand House The Parade			
	tputs (recommendations 32 and 33)	St Helier			

#### About the Jersey Innovation Review

The Jersey Innovation Review is a major independent review which looked at innovation in Jersey and the impact it's had on our economy.

The review was led by Tera Allas, a recognised expert in innovation policy who has advised the UK and the OECD on innovation strategy.

Review of innovation in Jersey

Jersey JE4 8QT

#### In this section

Review of innovation in Jersey

The Jersey Innovation Review took place in September 2015.

This website was supposed to track the progress being made using Red/Amber/Green system.

This part of the Gov.JE website was taken offline in 2016, and the link gov.je/innovationreview is not accessible.

Any lessons learned? No evidence.

# **REJECTION OF CRITICISM**



Following

V

The Jersey Taxi Drivers Association launched their new app today. I posted some legitimate questions on their Facebook page and a technical expert asked some more serious security questions. Sadly the JTDA chose to delete all the questions and ban him from their page. Worrying.

10:28 PM - 1 Oct 2018



# WHEN IS A TOKEN NOT A TOKEN?

Shoppers buy goods at Jersey Co-Op. Get stamps representing 4% of spend. Stick them on cards, spend cards as money in Co-Op. No AML, KYC.



"Is not a token"

Donors donate to online charity. Get ERC20 voting tokens that have no value. Use tokens to vote on how money deployed. JFSC Requires AML, KYC of donors.



"Is a token, might even be a security"



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