Silicon, Satoshis, and Superpowers

INVESTMENT THEMES FOR THE NEXT DECADE

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With increasing media attention on digital assets and related technologies, many of the concepts associated therewith (and the terms used to encapsulate them) are more likely to be encountered outside of the digital space. Although a term may become relatively well-known and in a relatively short timeframe, there is a danger that misunderstandings and misconceptions can take root relating to precisely what the concept behind the given term is.

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A Brief Introduction
UNDERSTANDING THE STATE OF THE CRYPTO INDUSTRY
Money is a technology that enables us to preserve information about ownership with permanence.
BITCOIN TURNS COMPUTATION INTO MONEY

shiny rock

“banks”

not a shiny rock
not a bank

Source: Stock photos accessed from Google
The bitcoin network is the world’s most secure, independent financial network.

The demand for block space is a function of the demand for secure financial transactions.

Ethereum extended this concept by introducing financial computation, in the form of smart contracts.

Newer, emerging L1 protocols are introducing different models for pricing network computation by offering different security guarantees or opting for certain measures of centralization.
CRYPTOCURRENCY IS AN INDUSTRY

THE COMPOSITION OF CRYPTO MARKETS

- BTC
- ETH
- USDT
- BNB
- USDC
- SOL
- ADA
- XRP
- DOT
- LUNA
- OTHER

$2 T

INDUSTRY INSIGHTS

- The aggregate market cap of all cryptocurrencies is now over $2T, having more than doubled over the last 14 months.
- Bitcoin dominance is 40%, reflecting the growing diversification within the industry - assets no longer have a beta of one to bitcoin.
- Daily transactions volumes on public blockchain networks and decentralized applications exceeds $100B per day.
- Stablecoins now comprise over $200B or 10% of crypto’s market cap.
WAVES OF CRYPTO INNOVATION

2013 - 2017

- Exchanges & Wallets
- Payment Processors
- Self-custody solutions

2017 - 2022

- Institutional exchanges
- Institutional custodians
- Lending markets
- Derivatives & options

2022 AND BEYOND

- Banking deposits
- Insurance
- Investment products
- Cross-border payments
- Sovereign currency
- And so much more...

CRYPTO EATS EVERYTHING

Source: CoinShares Research
IT’S IMPACTING PUBLIC MARKETS

While cryptocurrencies themselves are a $2T asset class, crypto equities are also becoming a prominent asset class.

There are nearly 100 companies worth over $100B who are considered “pure play” crypto companies.

These companies are facilitating trillions of dollars in regulated economic activity and billions of dollars in shareholder value.

In H1 2021 alone, over $32B of SPAC capital was raised to fund crypto pure play IPOs.
AND THE POLITICAL LANDSCAPE

BITCOIN OWNERSHIP IS GROWING

• **4.4%** of the adult population owns Bitcoin
• In the EU, London has the **highest concentration** of crypto holders
• **46 million** Americans own Bitcoin
• **22%** of the adult population
• **300 million** people around the world own bitcoin

AND IMPACTING VOTERS AND POLICY

• Crypto and related businesses generate hundreds of millions in tax revenues every year and employ tens of thousands of people in high-paying jobs
• Many crypto industry members are moving to jurisdictions with favorable regulation
• In the US, political action committees have been funded with tens of millions of dollars to back pro-crypto candidates
• Cryptocurrency related lobbying is on track to pass $50M in the US

Source: Newsweek, The Guardian, CoinShares Research
An Investor’s Perspective
RETHINKING GLOBAL INFRASTRUCTURE IN A DIGITAL WORLD
Technology has radically reshaped the allocation of capital and distribution of wealth.
The digital world is the next frontier.

**Physical World**

\[ \text{Price of Physical Things} = p \]

**Digital World**

\[ \text{Price of Digital Things} = p^d \]
THE DIGITAL WORLD HAS THREE KEY INPUTS

ENERGY

COMPUTE (CONNECTIVITY & STORAGE)

DIGITAL CURRENCY

These vital resources that fuel the digital economy will all be secured using strong cryptography.
Companies and nations alike will spend trillions on R&D, IP, and physical infrastructure needed to secure their data and access to global blockchain networks.
WE LIVE IN A MULTI-POLAR WORLD
BUT THE PLAYERS ARE CHANGING

CORPORATION STATES

BITCOIN & PUBLIC BLOCKCHAIN PROTOCOLS
DECENTRALIZED DIGITAL STATE

ROBLOX FORTNITE METAVERSE
EVERY COMPANY WILL BE A FINANCIAL SERVICES COMPANY

WORLD’S LARGEST DIGITAL PLATFORMS

<table>
<thead>
<tr>
<th>Company</th>
<th>Active Users</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>2.9 billion+</td>
<td>US</td>
</tr>
<tr>
<td>WeChat</td>
<td>1 billion+</td>
<td>China</td>
</tr>
<tr>
<td>Alipay</td>
<td>1 billion+</td>
<td>China</td>
</tr>
<tr>
<td>Samsung Pay</td>
<td>1 billion+</td>
<td>Korea</td>
</tr>
<tr>
<td>Apple Pay</td>
<td>400 million</td>
<td>US</td>
</tr>
<tr>
<td>PayPal</td>
<td>250 million</td>
<td>US</td>
</tr>
<tr>
<td>Amazon Pay</td>
<td>50 million</td>
<td>US</td>
</tr>
</tbody>
</table>

GLOBAL SHARE OF PAYMENTS

- Cash
- Debit Card
- Credit Card
- Mobile Payments / eWallet

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A BROADER REVOLUTION IN CAPITAL MARKETS

DIGITISATION
• All assets will be digitally represented
• Digitisation enables information to transcend physical borders
• Markets will be global, interconnected, and operate 24/7/365

DISINTERMEDIATION
• On-chain financial products enable speed, cost efficiency, and broader access
• Users can access a wide range of financial products and services with or without a bank

DISTRIBUTION
• Digital, blockchain-based financial products can be distributed directly to end consumers
• While banks have tens of millions of customers, digital platforms have much wider reach, with billions of users

Companies and nations alike will spend trillions on R&D, IP, and physical infrastructure needed to secure their data and access to global blockchain networks
## POWERED BY PUBLIC BLOCKCHAIN INFRASTRUCTURE

<table>
<thead>
<tr>
<th>FinTech</th>
<th>Social Finance</th>
<th>Open Banking</th>
<th>Permissioned Blockchains</th>
<th>Open Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 -</td>
<td>2011 -</td>
<td>2016 -</td>
<td>2017 -</td>
<td>2019 -</td>
</tr>
</tbody>
</table>

Start-ups building new financial services applications, often targeting a slice of the value chain.

Digital platforms and ecosystems leveraging consumer data to offer or distribute financial services products.

Enabling 3rd party developers to either co-create new offerings, or improve customer experience.

Consortia-led efforts to re-platform existing FS “plumbing” onto distributed ledger technology (DLT) and use smart contracts.

Using open financial protocols like bitcoin, value can be transmitted in new ways not constrained by physical borders.

- **Square**
- **stripe**
- **robinhood**
- **LendingClub**
- **Tencent**
- **Anbang Bank**
- **Xero**
- **Finicity**
- **c·rda**
- **r3·**
- **Coinbase**
- **AAVE**
- **Binance**
- **Hyperledger**
- **Uniswap**
Bitcoin is not only a way of moving monetary value across space and time, it’s a secure, telecommunications network and database that can help fuel a renewable energy revolution.

Bitcoin is a paradigm shift, but few are looking beyond bitcoin as an asset class.
CRYPTO INFRASTRUCTURE WILL BE A MASSIVE CATEGORY

As we begin to refine the relationship between physical assets and the maintenance and management of blockchain networks as secure communication protocols...

Firms, Nation States, and communities will compete to secure access to public blockchain networks
OUR NEW DIGITAL WORLD HAS NEW THREATS

ENERGY

Inside the Cunning, Unprecedented Hack of Ukraine's Power Grid

The hack on Ukraine's power grid was a first-of-its-kind attack that sets an ominous precedent for the security of power grids everywhere.

Pipeline Hack Points to Growing Cybersecurity Risk for Energy System

Energy infrastructure has increasingly come under assault, and analysts said the attack that cut off fuel supplies this week should be a “wake-up call.”

COMPUTE

(Connectivity & Storage)

UK military chief warns of Russian threat to vital undersea cables

Adm Tony Radakin says any attempt by submarines at damage would be treated as ‘act of war’

NETWORKS / CYBER, SPACE

US needs to temper reliance on at-risk undersea internet cables, satellites can help: Aerospace

“Undersea cable infrastructure is ripe for sabotage,” said Karen Jones, one of the authors of the study.

CAPITAL MARKETS

Explained: The story of how North Korea hackers stole $81 million from Bangladesh Bank

Trucker protests: Freezing bank accounts is fundamentally against Canadian Charter of Rights and Freedoms, MP argues
## A NEW ERA OF GEOPOLITICS

<table>
<thead>
<tr>
<th>Start</th>
<th>End</th>
<th>Scarce Resource</th>
<th>Resulting Global Landscape</th>
</tr>
</thead>
</table>
| 1945  | 2011| Oil            | - Wars to secure access to oil, conflict in oil-rich regions  
|       |     |                | - Shift off Gold Standard, Dominance of the Petrodollars  
|       |     |                | - OPEC cartel  
|       |     |                | - Oil supermajors rule the world |

| 2020  | ?   | Semiconductors | - Wars to secure access to rare earth metals, semiconductor fab  
|       |     |                | - Shift away from Petrodollar to Multi-polar currency world  
|       |     |                | - Rise of FAAMG and Tech Overlords  
|       |     |                | - Semiconductor fabs rule the world |
THE NEW FINANCE STACK

A NEW MODEL FOR MARKET STRUCTURE

<table>
<thead>
<tr>
<th>Layer</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregation Layer</td>
<td>Zapper, Zerion, Social Trading Apps</td>
</tr>
<tr>
<td>Application Layer</td>
<td>Decentralized Exchange, Decentralized Lending, Decentralized Derivatives</td>
</tr>
<tr>
<td>Protocol Layer</td>
<td>Decentralized Exchange, Decentralized Lending, Decentralized Derivatives</td>
</tr>
<tr>
<td>Asset Layer</td>
<td>Native Protocol Asset, Fungible tokens, Non-fungible tokens</td>
</tr>
<tr>
<td>Settlement Layer</td>
<td>Core Blockchain Protocol</td>
</tr>
</tbody>
</table>

- Much of traditional FinTech has innovated around the edges of the banking system without addressing core infrastructure.
- Crypto applications are utilizing public blockchain protocols as new banking infrastructure and enabling the creation of new financial primitives.
- The crypto ecosystem includes decentralised platforms as well as traditional companies.

Source: CoinShares Research
CRYPTO IS JUST THE BEGINNING

- 2T
- 12T
- 40T
- 106T
- 300T

Crypto
Precious Metals
M2 Money Supply
Equities Markets
Real Estate
THANK YOU
## APPENDIX: MARKET CAPITALIZATIONS

<table>
<thead>
<tr>
<th>Company</th>
<th>Market Cap, $T as of 3/7/22</th>
<th>Sector</th>
<th>Cult Status?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>2.64</td>
<td>Hardware</td>
<td>High</td>
</tr>
<tr>
<td>Saudi Aramco</td>
<td>2.37</td>
<td>Energy</td>
<td>Low</td>
</tr>
<tr>
<td>Microsoft</td>
<td>2.11</td>
<td>Digital</td>
<td>Low</td>
</tr>
<tr>
<td>Alphabet</td>
<td>1.69</td>
<td>Digital</td>
<td>Medium</td>
</tr>
<tr>
<td>Amazon</td>
<td>1.43</td>
<td>Digital</td>
<td>Medium</td>
</tr>
<tr>
<td>Tesla</td>
<td>0.86</td>
<td>Energy</td>
<td>High</td>
</tr>
<tr>
<td>Berkshire Hathaway</td>
<td>0.71</td>
<td>Finance</td>
<td>High</td>
</tr>
<tr>
<td>NVIDIA</td>
<td>0.55</td>
<td>Hardware</td>
<td>Low</td>
</tr>
<tr>
<td>Meta</td>
<td>0.54</td>
<td>Digital</td>
<td>Medium</td>
</tr>
<tr>
<td>TSMC</td>
<td>0.53</td>
<td>Hardware</td>
<td>Low</td>
</tr>
</tbody>
</table>