INVESTMENT REPORT

BLOCKCHAIN SELECT AMC
Q2 2023

VIRA
VENTURES

Our Investment Thesis in the Current Macro Environment

Our investment thesis is based on an in-depth analysis of the economic situation in many countries and the role of productivity, population growth, and debt growth in determining GDP growth. It is well known that it is crucial for nations to achieve GDP growth that exceeds their expenditures in order to effectively repay their debts and interest payments. This requires an increase in productivity through the use of new technologies, with blockchain identified as one of these future technologies.

To understand our exponential investment thesis for cryptocurrencies, particularly blockchain infrastructure networks, we would like to first share our perspective on the current macro landscape and explain the implications we expect for the future.

The familiar world we know is undergoing significant changes. We are now facing holistic challenges caused by various factors such as demographic shifts, productivity stagnation, and exponential debt growth.

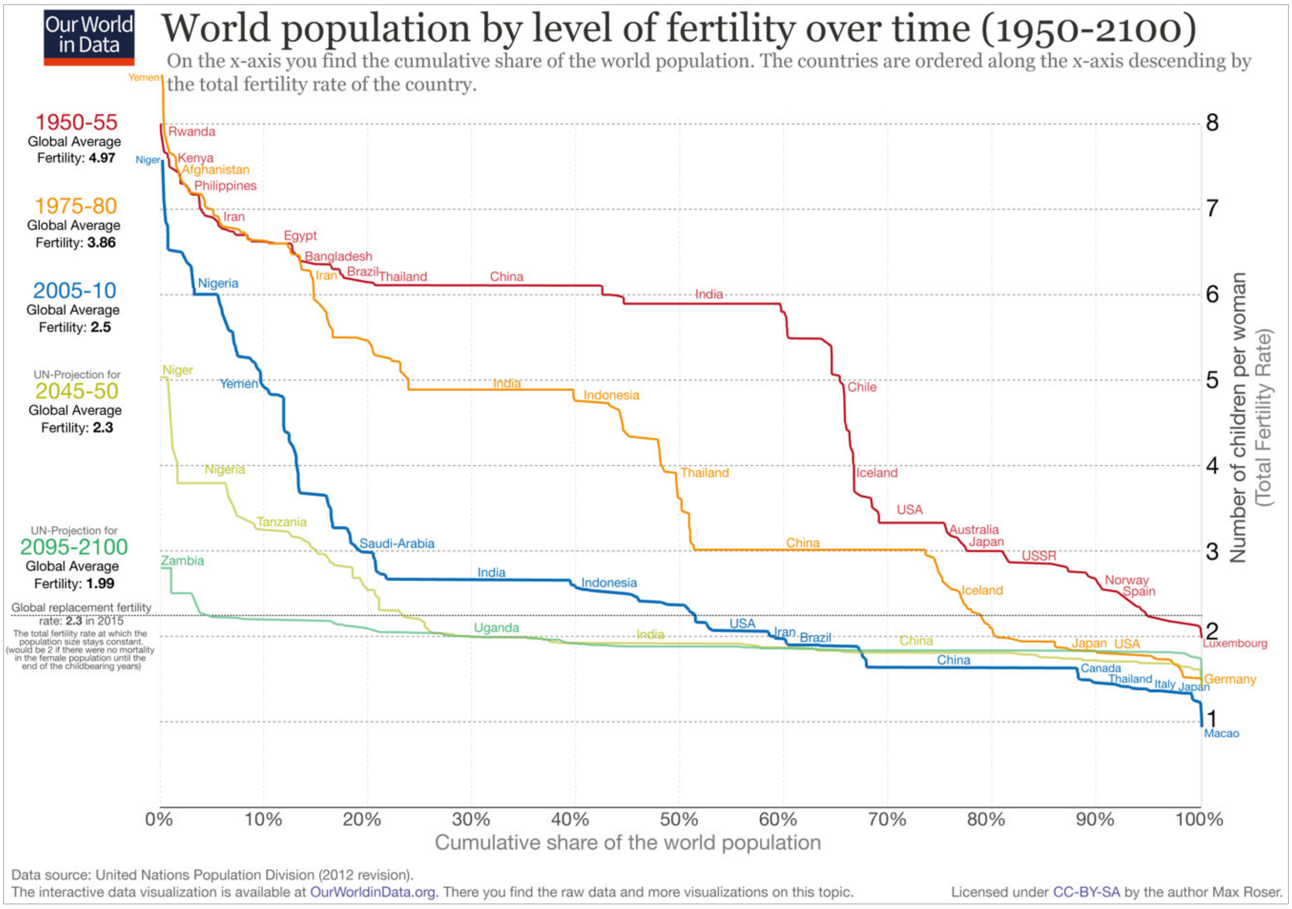
We aim to elucidate our thoughts using a simplified formula by asking the question: What is economic growth?

Esentially, economic growth consists of:
Population growth + Productivity growth + Debt growth

To illustrate the current challenges faced by nations and support our assumption of exponential growth in blockchain infrastructure networks, we will examine each component of the formula in the following sections.

Population Growth

It is widely known that the population in most western countries, as well as in China, is declining. This has direct implications for potential economic growth, as a shrinking population means fewer workforce and a smaller market for goods and services.

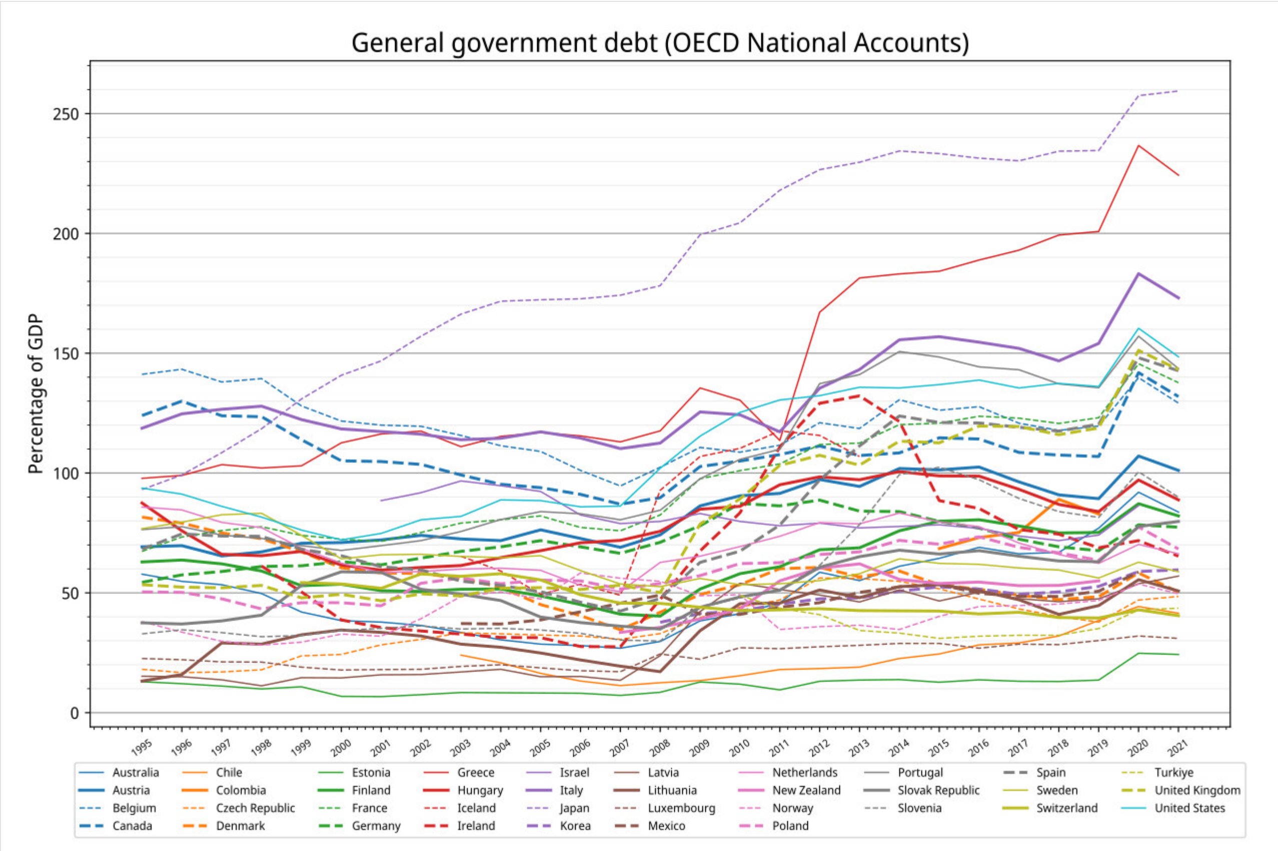


World Population (Source: United Nations Population Devision, Our World in Data)

Achieving economic growth solely through population growth is becoming increasingly challenging, as birth rates are drastically declining, and nations are confronted with declining population growth.

Debt Growth

Another crucial factor is debt growth. The indebtedness of many countries has reached unprecedented levels in recent years and is slowly approaching its limits. Servicing this debt and paying interest requires a significant portion of the government's total expenditure. If GDP growth is not sufficient to cover these rising expenses, states can fall into a persistent debt crisis that can jeopardize their long-term economic stability.



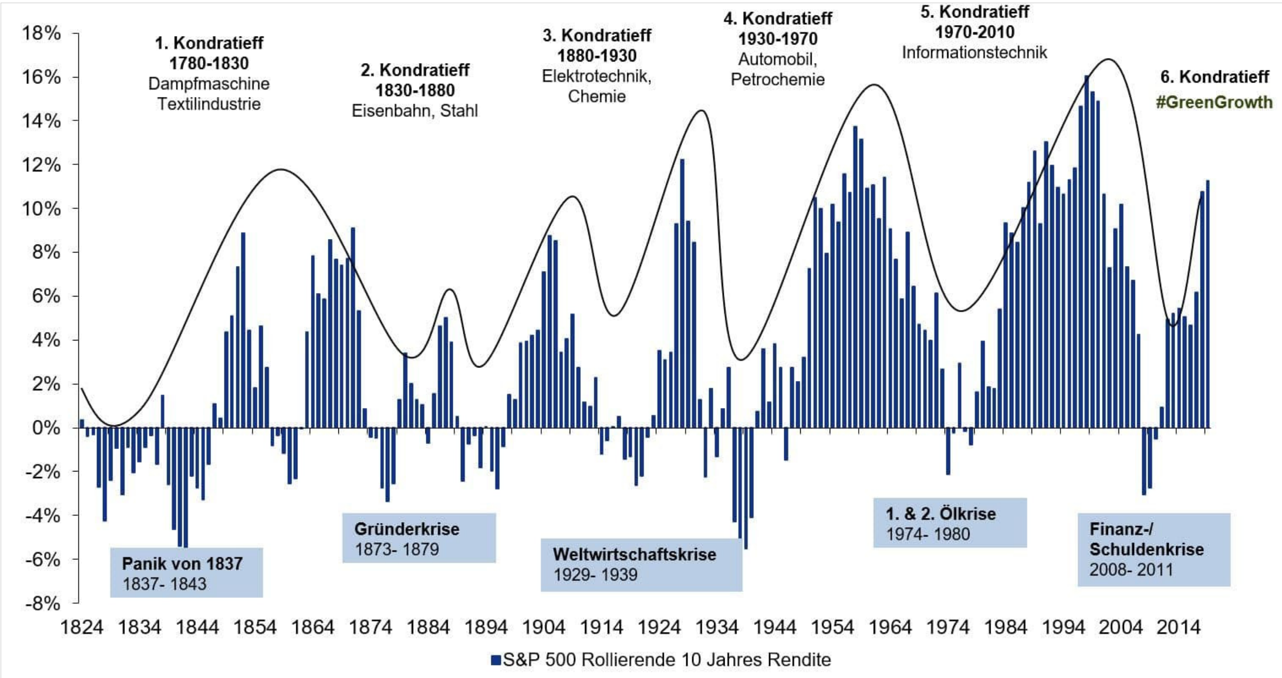
Governmental Debts (Source: OECD)

The sharp increase in interest rates has exerted additional pressure on most states (primarily the USA), as interest payments on the debt have also risen significantly. The great dilemma lies in rising costs amidst declining revenues.

Productivity Growth

The variable of productivity is of crucial importance in sustainably increasing GDP growth and achieving a balance between expenditures and revenues, potentially serving as the only way out of the negative GDP-to-Debt compounding spiral in the current situation.

Long-term productivity growth is linked to Kondratieff cycles, which are initiated by groundbreaking technologies that enhance productivity. However, the effects diminish over the course of a cycle, necessitating the emergence of such pioneering technologies to initiate the next cycle and drive economic growth.



Kondratieff Cycles (Source: Shiller, 2005, Irrational Exuberance)

New technologies play a significant role in this regard, and we view blockchain as one of these key technologies for the future, shaping the exponential age that is already in full swing.

Conclusion

The growth of Gross Domestic Product (GDP) plays a crucial role in financing investments and servicing debts. However, when GDP growth is lower than the interest payments on the debts, a problem of debt sustainability arises.

To address this issue, low interest rates have been pursued since 2008, sometimes even close to zero, making debt more manageable for market participants. These measures were taken to stimulate economic growth and mitigate the consequences of the debt burden.

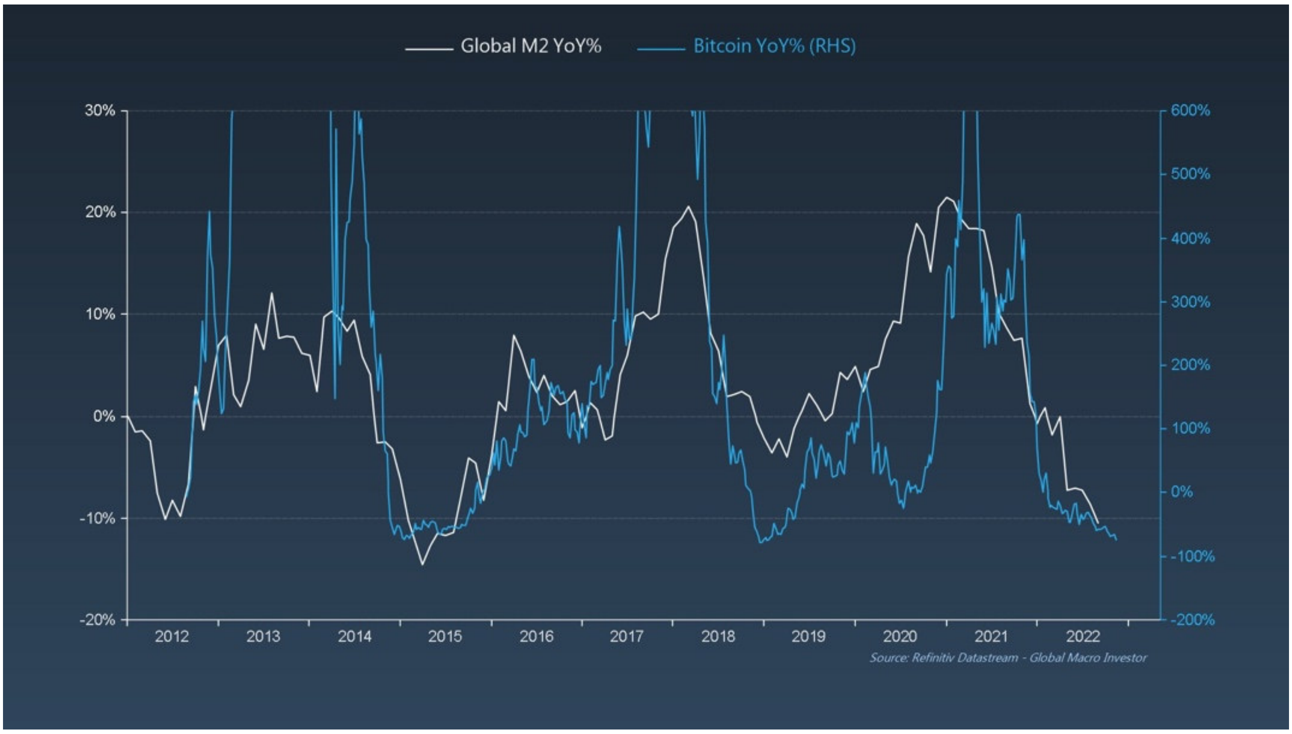
However, this policy, combined with expansionary monetary policy, has led to an increase in inflation. As a response, interest rates had to be raised rapidly to counter the rapid inflationary pressures. This had implications for the banking system, as many banks faced difficulties, leading to an increasing banking crisis and a sell-off in asset markets.

Given this situation, questions arise about the future development of inflation and how the interest rate environment will change. **Which assets should one invest in under such circumstances?**

The concept of the "Everything Code", an overarching thesis by Raoul Pal, suggests that all interest payments are merely the monetization of debts incurred about three and a half years ago. This cycle of debt payments repeats every three to five years, resulting in economic cycles. To prevent the negative consequences, central banks need to monetize interest payments, which, in turn, expands their balance sheets.
As a consequence, currencies devalue while assets gain value in an apparent manner. Within this context, technology companies and cryptocurrencies have proven to be particularly promising investment classes. They benefit from both currency devaluation and increasing acceptance of the technology.

In fact, they are the only investment sectors that have significantly gained purchasing power over time, even when using M2 (money supply) as a denominator instead of fiat currencies.

The forecast of future liquidity enables us to predict the future development of assets based on this assumption, which supports the thesis of the "Everything Code". Overall, the prospects for assets, especially cryptocurrencies, are extremely positive, as the economic situation potentially remains unstable and further monetary measures are expected.



Global M2 to BTC (Source: Definitiv Datastream - Global Macro Investor)

With increasing money supply (liquidity) in the market, crypto typically exhibits strong outperformance and absorbs excess liquidity in the market like a sponge.

Therefore, contrary to general consensus, we believe that expectations of a recession based on unfavorable prospects have already been factored into the low prices of 2022, and the upcoming economic measures will herald a turning point in the liquidity cycle. If this assumption proves true, we will find ourselves in a market environment where technology and crypto historically perform best.

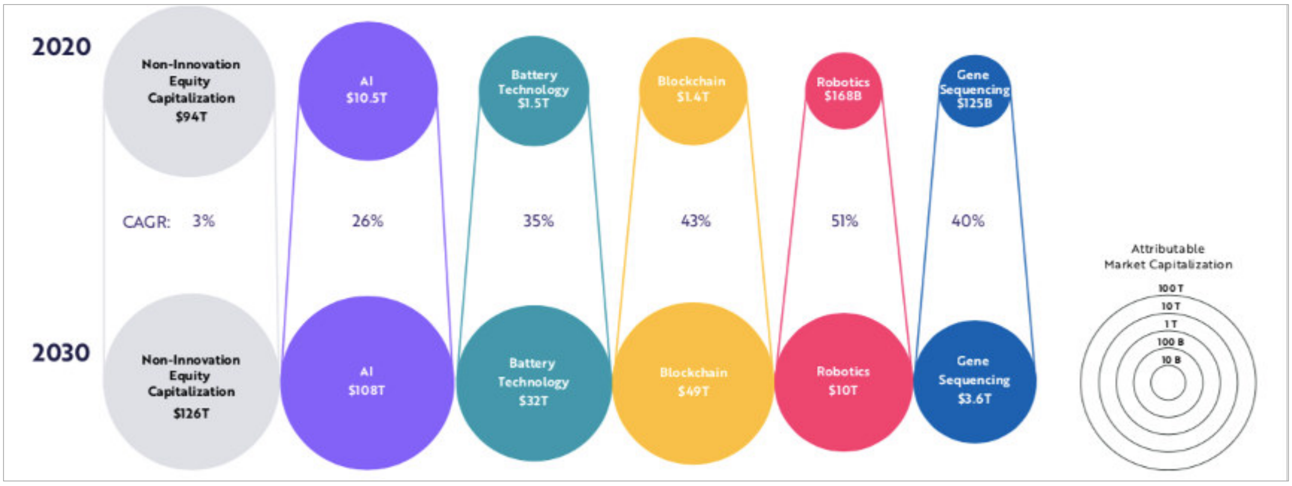
Throughout this year, we have already witnessed a recovery rally in cryptocurrencies primarily driven by macroeconomic factors. This development confirms our previous assumption. Should this trend continue as expected and be accompanied by a technological breakthrough, we could find ourselves in an optimal scenario for further price increases.

We like to view bear markets in the crypto world as a type of dam, where innovation and development accumulate in an unfavorable market environment but are not reflected in prices. However, once a reversal occurs, this dam breaks, and the impact of new applications becomes visible in prices as well.

Of course, there will always be phases of setbacks, which occasionally can be more significant. Nevertheless, we believe that we are in a secular growth market.

Blockchain Technology: The Digital Infrastructure of the Exponential Age

After conducting a holistic analysis of the economic context and considering the productivity growth driven by technological innovation at a macroeconomic level, we now aim to provide more detailed insights into the key areas of our Blockchain Select AMC, in order to deepen our investment thesis at a microeconomic level.



Expected Market Caps (Source: ARK Invest)

Cathie Wood's ARK Invest, one of the world's largest technology-focused investment funds, identified five innovation platforms in their BigIdeas2022 report that would significantly transform our world and generate substantial long-term returns for investors, with blockchain being one of them. We firmly believe that historians will look back on this era as a time of unprecedented technological advancement and remark that **everything has changed.**

Through the following explanations, we will elucidate some (not all) of our investment priorities and illustrate the market potential with specific figures.

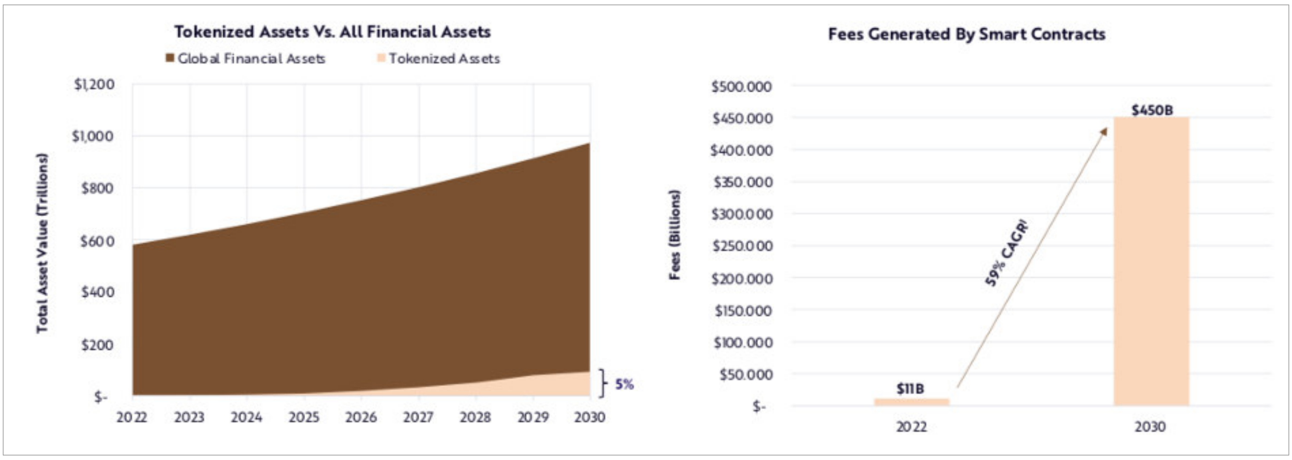
Layer 1s as Dominant Infrastructure Networks

(WEB 3, NFTS, DIGITAL IDENTITY, TOKENIZATION, GAMING, ETC.)

According to our investment thesis, layer 1s, specifically public blockchains, will form a fundamental pillar of our digital economy. These blockchains will host a diverse range of applications that are used daily by billions of people.

There are various use cases and potential killer applications being actively developed, which will drive the mass adoption of such networks and generate significant economic value on a protocol level for layer 1s.

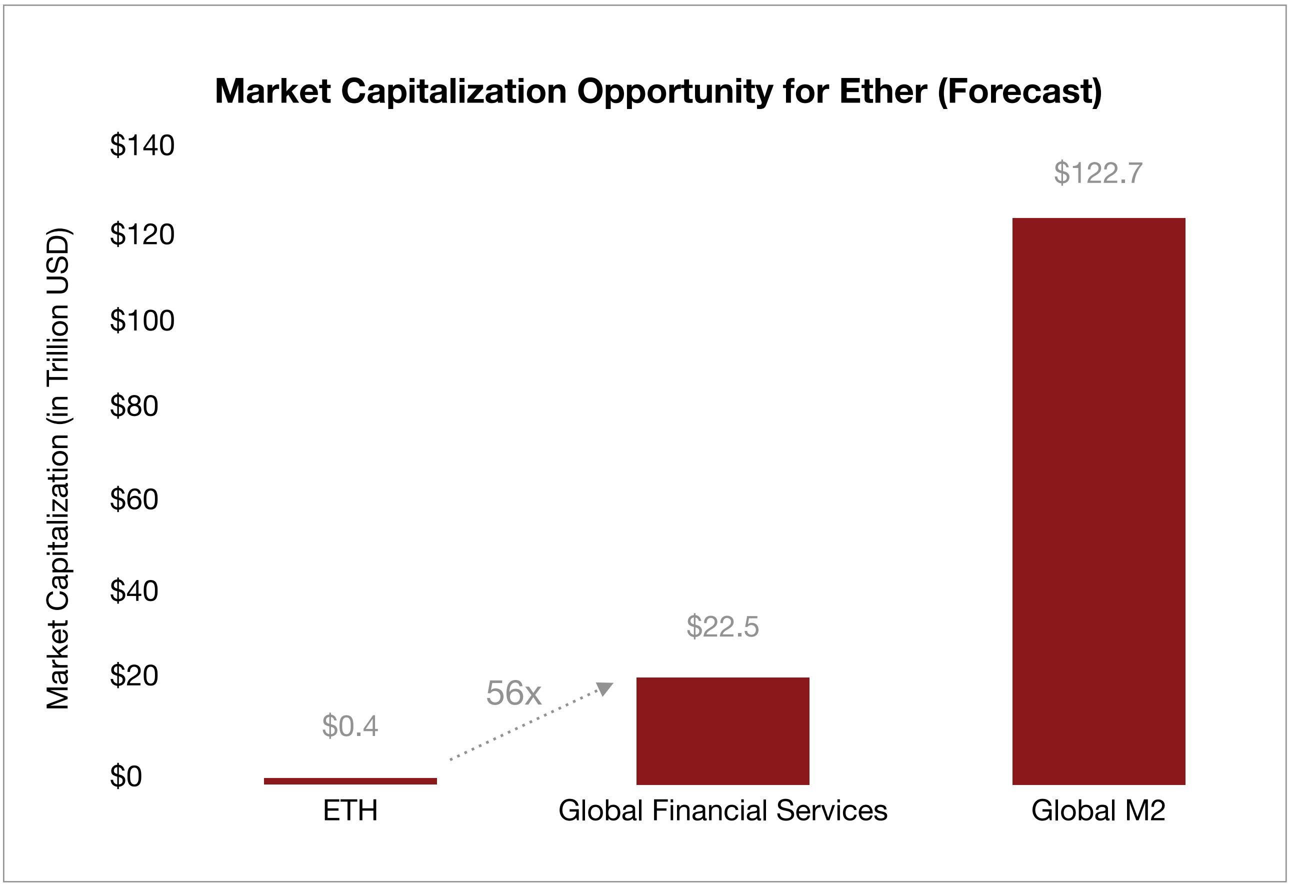
Through tokenization alone, traditional assets such as bonds, stocks, real estate, etc., are onboarded onto blockchains, making the underlying network more useful and consequently more valuable (the higher the value traded on a blockchain, the more valuable the respective blockchain becomes).



Tokenized Assets (Source: ARK Invest)

The total market capitalization of these traditional asset classes amounts to hundreds of trillions of US dollars, while the aggregated value of layer 1s (smart contract platforms) currently stands at approximately 450 billion USD. Through the applications of tokenization alone, dominant layer 1s have the potential to absorb a significant portion of these volumes, leading to immense market and price growth.

Given that the entire blockchain and cryptocurrency market currently amounts to only about 1.2 trillion USD (including Bitcoin market capitalization), we see tremendous growth potential over the next 5-10 years.



Ether Market Cap Opportunity (Source: ARK Invest)

ARK Invest's analysis also recognizes Ethereum as playing a key role in enabling decentralized finance applications (DeFi), scaling blockchain transactions, and the development of smart contracts.

Ethereum has the potential to evolve into a global, decentralized operating system that supports a wide range of applications and services through its programmability, security, and scalability, thus assuming a significant role in the future digitized economy.

Layer 1 Tokens – A New Asset Class

Layer 1 tokens, such as ETH in the Ethereum network, represent a new asset class with diverse characteristics and value, making them an attractive investment for investors. These tokens possess the properties of capital investments, commodities, and money simultaneously.

As capital investments, layer 1 tokens offer the opportunity to generate income, similar to investments in real estate, rental properties, stocks, or bonds. Holding tokens of networks built on layer 1 protocols allows token holders to earn rewards. These rewards can be obtained through activities like staking or governance participation.

Furthermore, layer 1 tokens also serve as commodities. They are fundamental goods that provide intrinsic utility by granting access to decentralized networks and services. Through the burning of tokens, a mechanism often implemented in tokenomics, as blockchain-based applications are utilized, tokens are destroyed, similar to the consumption of commodities in the physical world.

Another notable feature of layer 1 tokens is their function as money. Within a blockchain-based ecosystem, often referred to as a digital nation, these tokens can serve as a medium of exchange, facilitating transactions within the network.

Unlike traditional currencies, layer 1 tokens maintain their value in the long term, driven by mathematical models rather than unpredictable inflation or other external factors. This stability and predictability may make layer 1 tokens attractive as a store of value during times of economic uncertainty.

Overall, layer 1 tokens offer a unique opportunity to diversify traditional investment portfolios due to their diverse value characteristics. By combining features of capital investments, commodities, and money, they provide investors with new perspectives and contribute to the transformation of the financial system through decentralized technologies.

The utilization of layer 1 protocols and blockchain infrastructure networks forms the core focus of our Blockchain Select AMC, as we strongly believe in their potential for widespread acceptance and high activity. These layer 1 networks serve as the foundation for a variety of applications and services, providing a robust and scalable infrastructure for the seamless operation of blockchain ecosystems.

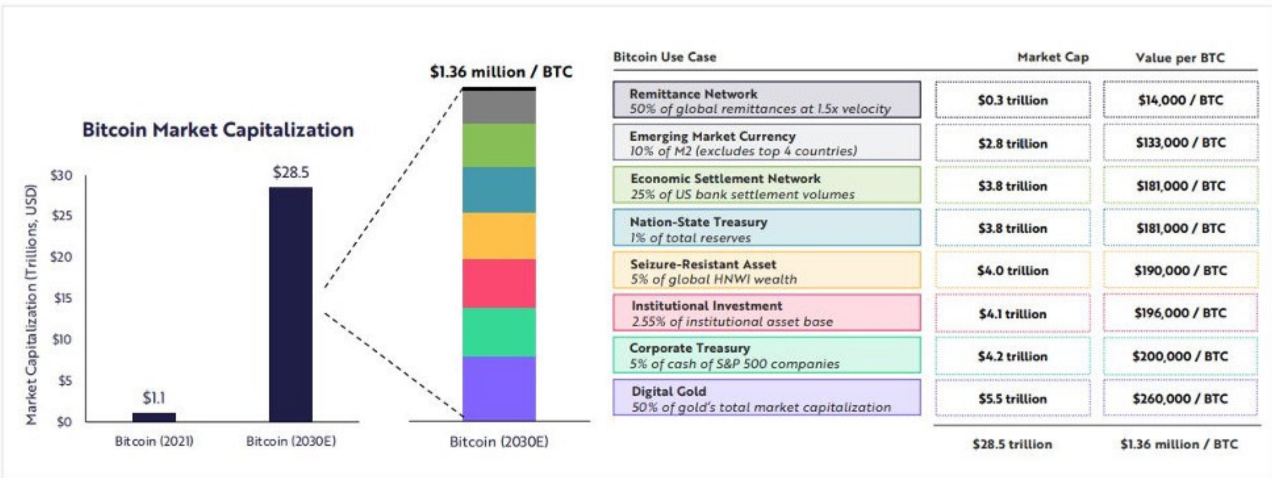
Through targeted investments in this sector, we can seize the opportunities presented by the continuous development and integration of layer 1 technologies. Our goal is to build a diversified portfolio that benefits from the most promising and forward-thinking projects in the layer-1 space, thereby enabling long-term value appreciation.

BITCOIN

Bitcoin is an essential component of our Blockchain Select AMC due to its unique characteristics such as censorship resistance, decentralization, store of value, fixed inflation rate, limited supply, transparency, and openness. We believe that Bitcoin will establish itself as digital gold in the long term and find its way into traditional portfolios as an uncorrelated asset.

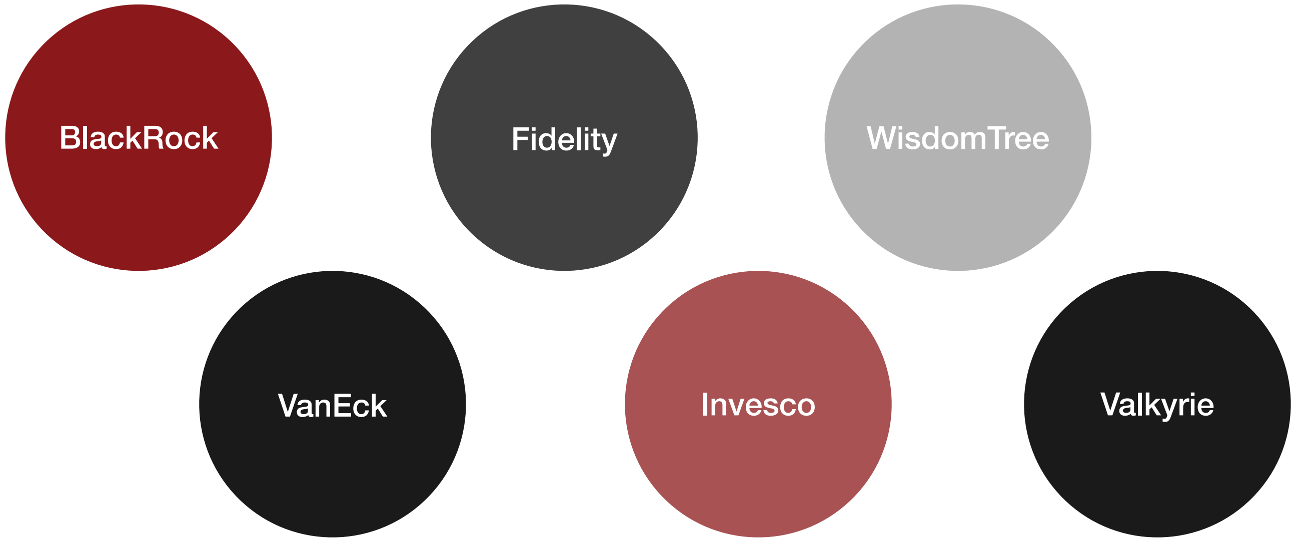
In recent news, following initial regulatory pushback from the United States, many other countries such as the UK, EU, Hong Kong, Singapore, Switzerland, and more have seized the opportunity to establish clear and innovation-friendly regulations, attracting Web 3 companies & talents in this field.

Beyond its function as a digital payment system, Bitcoin possesses additional properties that have the potential to play a significant role in various application areas. Particularly in the domains of cross-border payments, remittances, establishing a financial system for the unbanked, and protecting against inflation of fiat currencies, Bitcoin demonstrates its potential. The limited supply of Bitcoin compared to traditional currencies could lead to strong demand, especially as a corporate treasury asset, thereby contributing to its value appreciation.



BTC Market Cap Opportunity (Quelle: ARK Invest)

In the United States, various asset managers such as BlackRock, VanEck, and Fidelity have filed applications to launch Bitcoin spot ETFs. This institutional interest indicates a fundamental acceptance to come. When considering a five-year time horizon, the current phase could potentially be seen as a pre-IPO phase for Bitcoin.



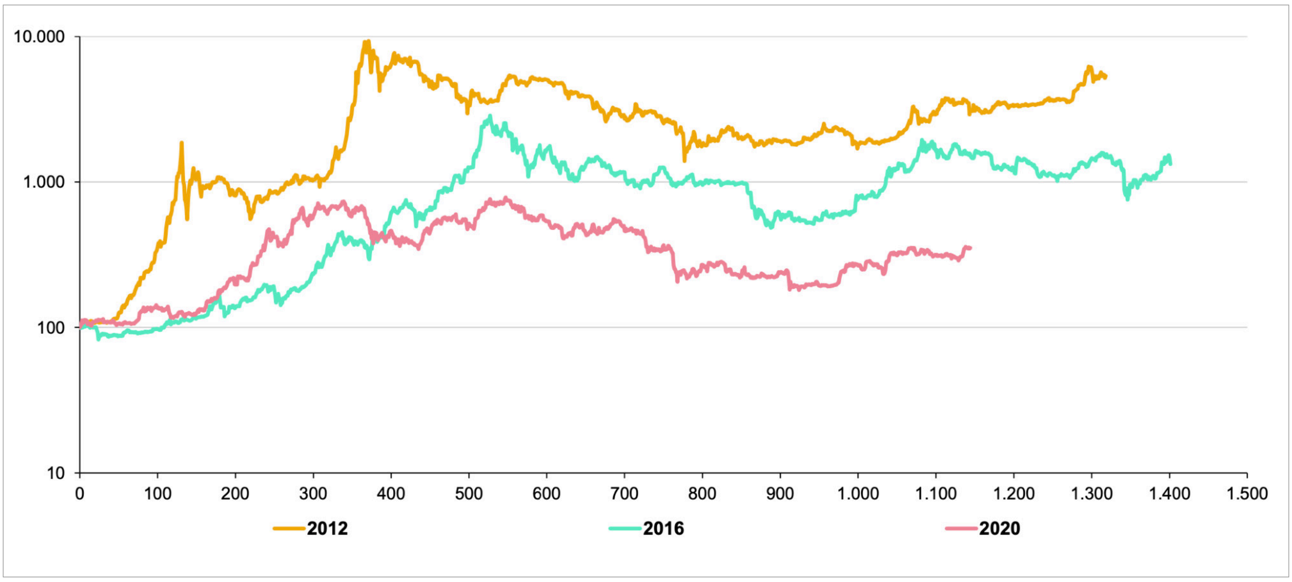
Bitcoin ETF Filings (Source: VIRA Ventures)

We believe that further regulation and easier access for institutional capital will attract a significant amount of volume into the market.

The Bitcoin halving, an event that occurs every four years and reduces the mining reward for new Bitcoins, has significant implications for Bitcoin's price cycle. Historical data shows a positive correlation between the halving and an increase in Bitcoin's price. This can be attributed to the reduced supply of new Bitcoins and the rising demand.

The halving event can indeed impact miner behavior as it temporarily reduces the hash rate. However, the network typically adjusts quickly, and the hash rate stabilizes again.

The Bitcoin halving is an important factor especially for investors and observers as it potentially has far-reaching effects on the price cycle and the Bitcoin mining ecosystem. Currently Bitcoin has a market capitalization of around $570 billion and could surpass a market capitalization of approximately $7.5 trillion in the next five years. If it were to reach parity with gold, we would be talking about a market capitalization of around $14 trillion, which would imply a Bitcoin price of approximately $760,000.

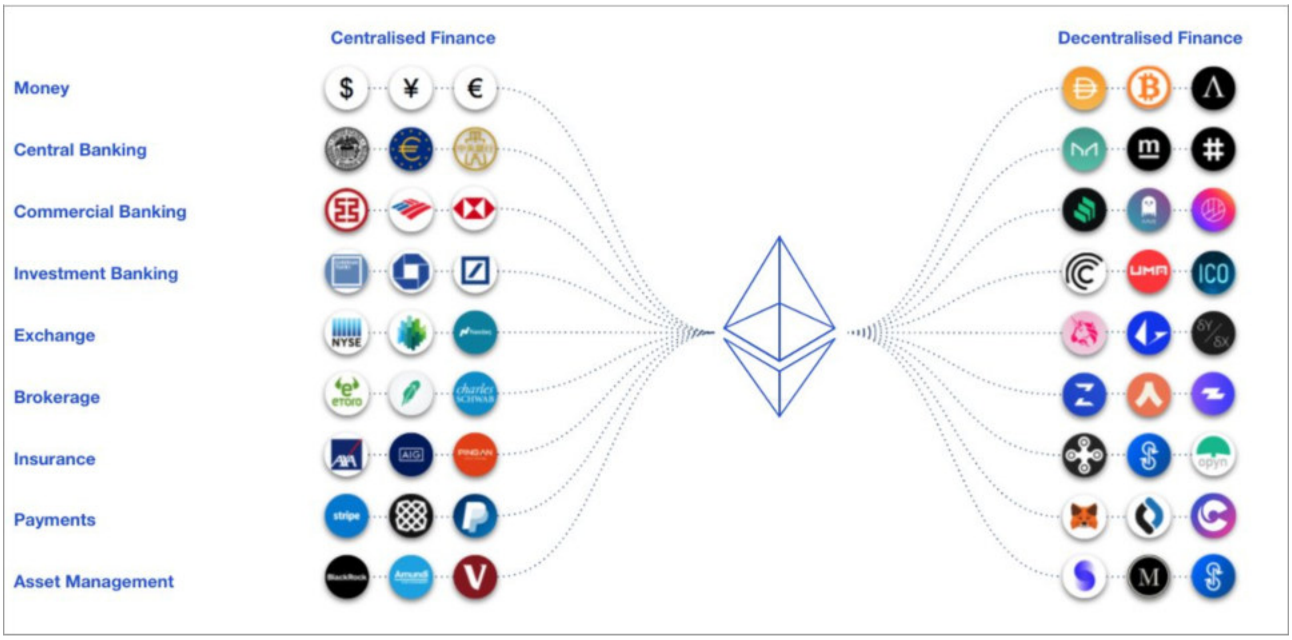


Bitcoin Performance after Halving (Halving=100, log), (Source: incrementum)

We aim to allocate around 20%-30% of our portfolio in our Blockchain Select AMC to Bitcoin as we share the narrative of Bitcoin as a store of value and consider it a solid foundation for our portfolio.

OPEN FINANCE ECOSYSTEM

Through the seamless integration, programmable nature and interoperable structure of assets such as stocks, bonds, real estate, currencies, etc. on open, distributed blockchain platforms, capital markets are experiencing increasing accessibility and efficiency.



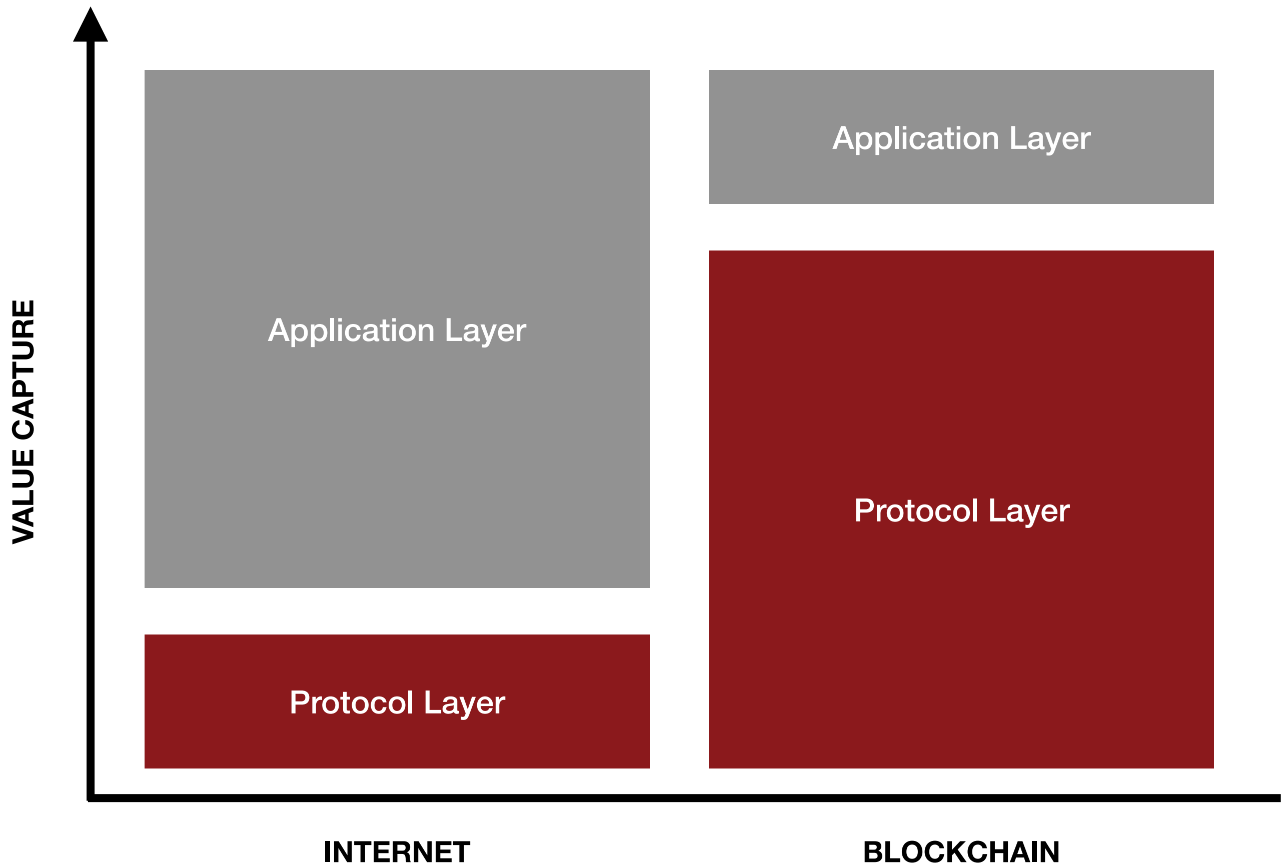
Open Finance Ecosystem (Source: ARK Invest)

This development opens up promising prospects for generating wealth and resembles the impressive growth of capital markets in the past 100 years. The significant technological breakthrough holds immense significance.

For the first time, financial markets can operate cross-border and without limitations. Moreover, they are free from counterparty risks across a variety of financial instruments. We anticipate a strong migration of financial applications and payment systems to the open finance stack in the next decade, as well as the emergence of numerous new ecosystems.

Open finance, as a groundbreaking change in the financial sector, optimizes the functioning of capital markets and provides people worldwide with the opportunity to participate.

This development opens up a completely new dimension of potential for investors and encourages them to seize the economic opportunities within the global financial system.



Value Capture of Networks (Source: VIRA Ventures)

Intersections of Blockchain & AI

The convergence of blockchain and artificial intelligence (AI) opens up a wide range of possibilities and synergies. One key focus of our investments within the Blockchain Select AMC is the emerging DePIN sector, which revolutionizes the way physical infrastructure is provisioned through distributed incentive structures and smart contracts, solving a fundamental problem in the present and future world. One concrete example of this is the scarcity of GPUs (Graphics Processing Units) and computational power, which can be best explained through the current shortage of these resources.

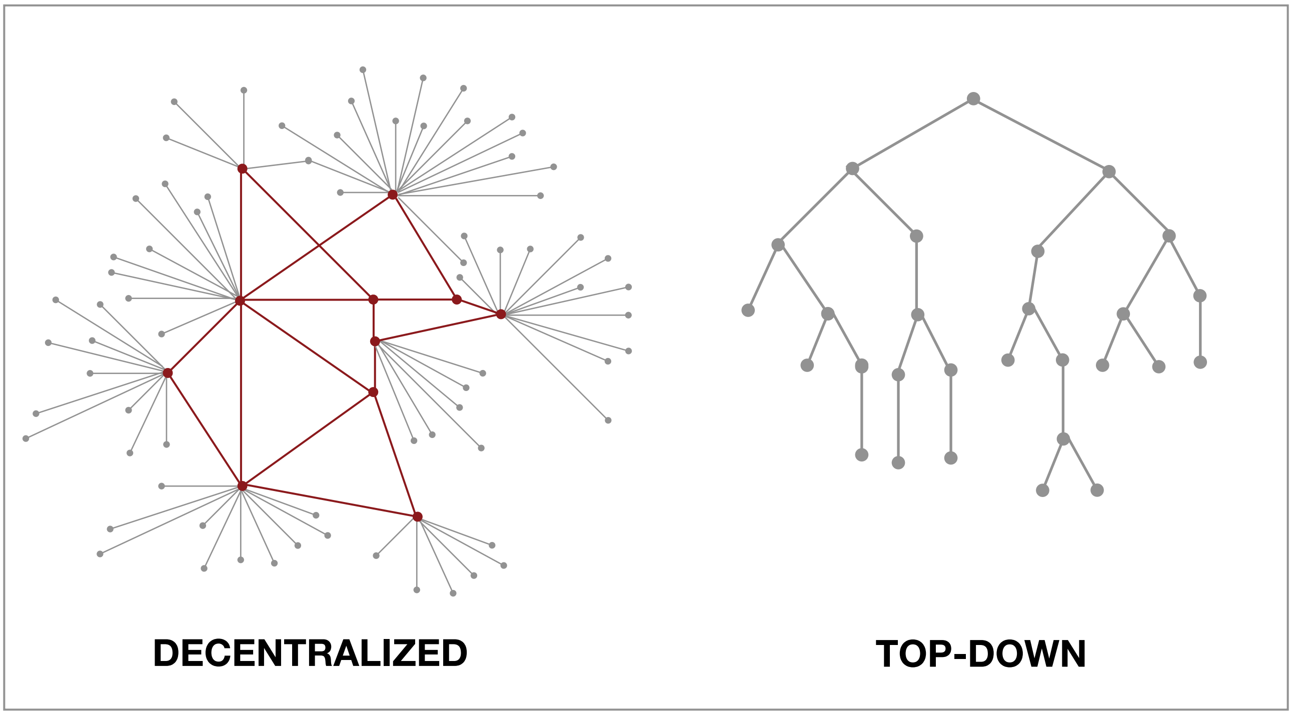
The increasing demand for GPUs due to the AI boom has led to a persistent shortage as traditional manufacturers struggle to keep up with the exponential growth. Chip prices have significantly risen after likely more than a tenfold increase in demand in the last 6 months, and availability is heavily constrained. Over the next 12 months, we expect further significant demand growth due to the emergence of new applications such as autonomous driving, AI-generated games, spatial computing applications (including Apple's headset in 2024) and more.

To solve this problem and drive crypto adoption, the use of DePIN (Decentralized Physical Infrastructure Networks) could be fundamental. Think of them as a kind of "AirBnB for computational resources," connecting blockchain technology with the real world.

The idea behind DePIN networks is that any GPU owner (including GPUs in consumers' smartphones or laptops) has the opportunity to share their excess computational resources with other users in need. Through the use of cryptographic incentive systems, they are rewarded for providing their GPUs for AI computations and other tasks via a distributed network. Similar to Airbnb, where people rent out their homes and are rewarded for it, DePIN allows users to share their hardware and derive value from it — essentially an open marketplace for on-demand hardware rental with automated payment processing through smart contracts, bootstrapped by a decentralized blockchain network.

This development could be a significant breakthrough for crypto adoption as it connects blockchain technology with the real world. With this bottom-up concept of DePIN networks, costs can be significantly reduced, availability massively increased and network capacity maximized through the efficient utilization of existing hardware resources, which is simply not possible with the traditional top-down approach of centralized physical infrastructure.

Furthermore, an incentive system is created that motivates more people to join the crypto world and collectively contribute their resources. The integration of DePIN networks using blockchain opens up new possibilities for the sharing of hardware and could be a significant milestone for the widespread adoption of blockchain technology.



Types of Network Structures (Source: VIRA Ventures)

Conclusion

As discussed, our exponential investment thesis for blockchain assets is based on the assumption that a reversing liquidity cycle can be expected in the near future. We also anticipate that nations/central banks will be forced to introduce easing measures (in various ways) at some point, which in turn will lead to a gradual appreciation of assets, especially cryptocurrencies. Furthermore, we see enormous potential in terms of market relevance and returns for investors driven by the exponential adoption cycle of new technologies. Multifunctional blockchain networks play a crucial role in this and enable the emergence of numerous new applications.

It should be noted that the majority of the applications we see today did not exist five years ago. This demonstrates how rapidly these innovation cycles develop. *"The Gini is out of the bottle"*, and this development is unstoppable. Strong regulation may slow down or shift adoption to other countries, but it cannot stop it. We have already witnessed this during the rise and spread of the internet.

For the coming years we expect numerous new applications to emerge or migrate onto blockchain infrastructure and experience exponential adoption. While it may make sense for inexperienced retail investors to allocate a small portion of their portfolio exclusively to Bitcoin and Ethereum to superficially cover the market, we see emerging narratives that have yet to be discovered by the broader market. Our principle is: “If you want extraordinary returns, you need to have a contrarian but thoughtful thesis about the market and be right in the long term with your assumption.”

For experienced investors additional undiscovered potentials arise in the (still) niche sectors of the crypto world. The Blockchain Select AMC offers a holistic solution by carefully analyzing and strategically investing in promising blockchain infrastructure protocols and crypto assets based on our investment theses. This investment strategy allows us to benefit from the potential of blockchain technology and the underlying use cases while ensuring broad diversification within the crypto market.

Through strategically low-risk cash flow strategies, such as staking, we aim for disproportionate compounding of returns. With this cash flow strategy, our goal is to accumulate selected assets along the secular growth trend and achieve significant outperformance compared to the overall markets.

This report attempts to provide a simplified insight into our hypothesis. Of course, there are many other important aspects, but we hope to have provided fundamental insights for better understanding.

Our goal is to present investment opportunities that meet the requirements of the new investment paradigm, particularly in times of structural over-indebtedness and global crises.

If you would like to learn more about our services and investment opportunities, visit us at **www.vira.ventures**.

Philipp Racher
Managing Partner VIRA Ventures

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Managing Partner VIRA Ventures

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