

Market Outlook Q4 2024

Recalibrating for the New Monetary Cycle

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Executive Summary

Our market outlook for digital assets anticipates continued influence from macroeconomic shifts and technological progress. We view the growing appetite for Bitcoin and Ether ETFs as a tipping point, positioning them as integral pieces of diversified portfolios. On the macro front, subsiding inflation and rate cuts are likely to support increased asset valuation and investor sentiment. We expect November's election to provide more clarity on industry regulation, ultimately creating both opportunities and challenges as a comprehensive framework eventually emerges. Technologically, Ethereum's Layer 2 solutions are revolutionizing transaction capabilities, cementing its leadership in DeFi and stablecoin markets.



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1. Market Summary

Market Recap

Bitcoin Halving, Spot ETFs, and the Regulatory Spotlight

Year to date, digital assets have demonstrated resilience and growth, marked by significant milestones in institutional adoption. The launch of spot Bitcoin ETFs in the United States has been a pivotal moment, attracting over \$37 billion in net fund flows and reaching over \$50 billion in total assets under management. This unprecedented growth has outpaced the initial trajectory of gold ETFs and any new asset class in ETF history, signaling a new era of mainstream acceptance for digital assets. The subsequent approval of spot Ether ETFs in the U.S. further expanded regulated access to the cryptocurrency market. The success of these products has spurred asset managers to explore opportunities for spot ETFs in other cryptocurrencies like Solana.

The macroeconomic landscape has presented a complex backdrop for digital assets. Stubborn inflation and volatile economic data challenged expectations for interest rate cuts in the first half of the year, creating a data-dependency 'feedback loop' between the Federal Reserve and financial markets. However, signs of a loosening labor market and progress in curbing inflation led to the Federal Reserve's decision to cut interest rates by 50 basis points at the September meeting.

Amidst these economic fluctuations, the digital asset market has been influenced by a combination of industry-specific events and broader market sentiment. The anticipation of Bitcoin's halving event and the potential for new regulatory frameworks provided constructive narratives at the beginning of the year. However, these have been counterbalanced by periods of increased market volatility, such as the unwinding of the "Yen Carry Trade." Political developments have also come into focus, with the upcoming U.S. elections drawing attention to potential policy changes. Notably, digital assets have gained advocates across the political spectrum, with some endorsing Bitcoin as a potential strategic reserve asset for the U.S. Treasury. This growing political recognition, combined with steady institutional interest despite price fluctuations, underscores the increasing integration of digital assets into the broader economic and political landscape.

Digital Assets Remain in Positive Territory



Source:
CF Benchmarks, Bloomberg, as of September 16, 2024

2. Market Backdrop

“The time has come”

How Low Can We Go?

The Federal Reserve's recent policy shift marks the first pivot since Fall 2021, signaling a recalibration of their monetary policy. Additionally, central banks worldwide have already begun cutting policy rates over the summer months, moving ahead of the Fed. Market participants are pricing in a terminal rate range of 2.75-3.00% by September 2025. We believe this trajectory is more realistic than the central bank's official guidance, and we expect the Fed will eventually align closer with the market as they reengage their "auto-pilot" trajectory (or a persistent 25 bps rate cut pattern). **Ultimately, we anticipate that softer than expected labor market growth and economic activity will guide us towards a slightly lower than expected terminal rate of 2.50%-2.75% over the next 12 months.** Through year-end, we foresee two additional 25 bps rate cuts at each of the remaining meetings. This would result in a total of 100 bps in cuts for the full year. Key risks to our forecasts include a resurgence in inflationary pressures. Additionally, a material increase in job growth or overall labor market strength would likely put an end to our anticipated trajectory for future rate cuts.

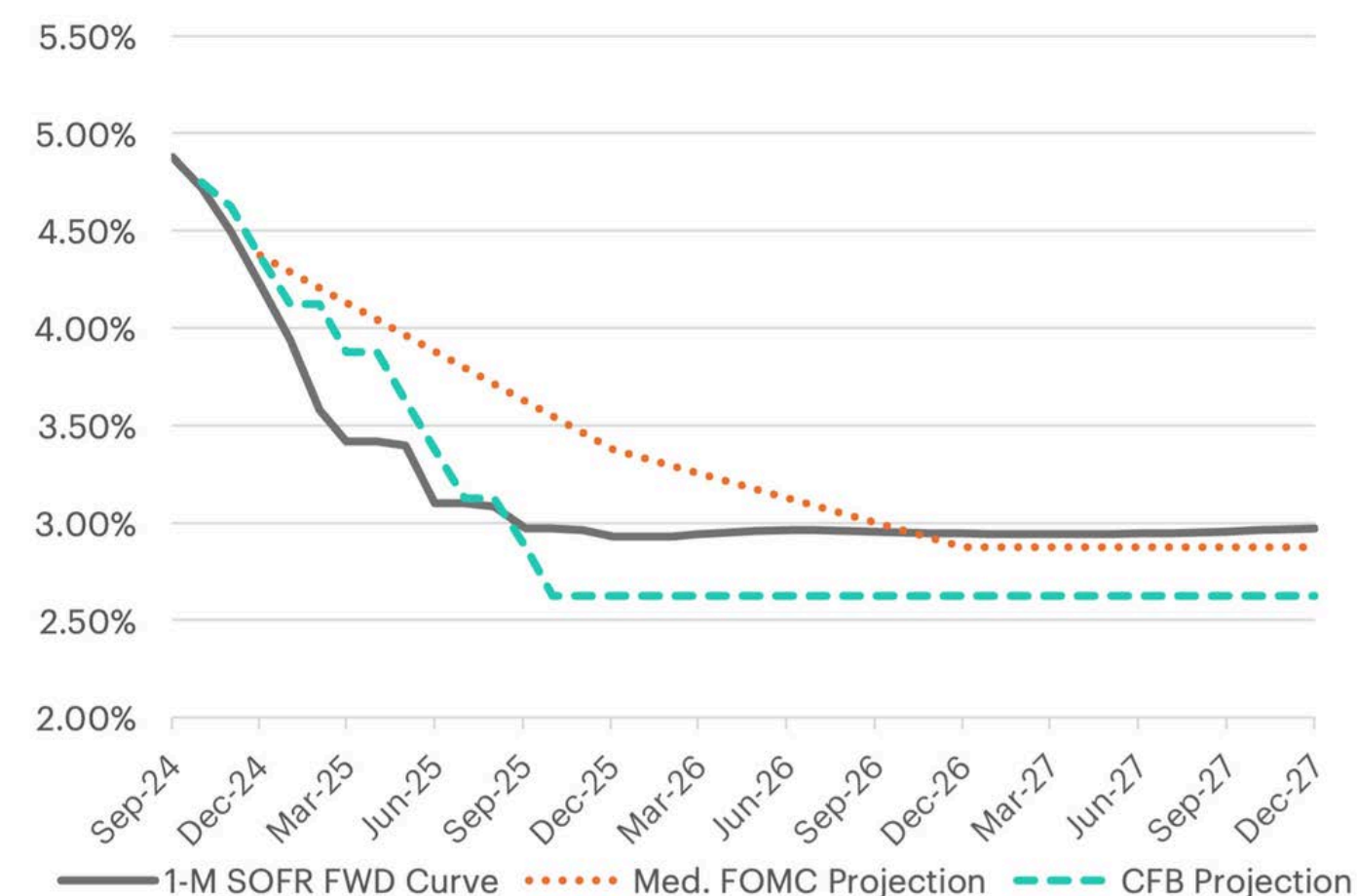
The ‘Material Constraints’

Net interest expense for the U.S. grew by 38% to over \$658 billion USD in 2023, and is now projected to pass the \$1 trillion watermark this year. With mounting debt and rising borrowing costs, we anticipate central banks globally will tolerate stickier inflation in favor of easier financial conditions and to deter potential economic weakness.

Portfolio Perspective

With sovereign balance sheets under pressure, positioning for the next monetary cycle and recognizing constraints from higher deficit spending and stubborn inflation should support investor appetite for long-term hedges, such as Bitcoin and digital assets.

Markets Are on a Steeper Cutting Path



Source: CF Benchmarks, Bloomberg, chathamdirect.com, as of September 19, 2024

Chart takeaway

The Fed has found itself behind the curve again, with markets now pricing in a more aggressive rate-cutting trajectory, leaving risk that this path may not fully materialize. However, we expect a looser labor market, coupled with slowing aggregate demand, to help mitigate this potential negative surprise.

Growth Outlook

Prepare for landing

Global growth is projected to stabilize, following recent years of economic disruption. Recession probabilities for leading economies are now materially lower than at the start of the year, at a time when global economic activity is becoming surprisingly less negative. We anticipate that economic growth in the U.S. is likely to moderate below its potential in the near term. This is led by a slowdown in cyclical activity and reduced consumer spending, coupled with recent surges in immigration trends and their impact on expanding the labor pool. Over the long-run, productivity growth across major developed markets should be aided by disruptive technological factors, such as Artificial Intelligence (AI) and blockchain technologies.

Our Base Case

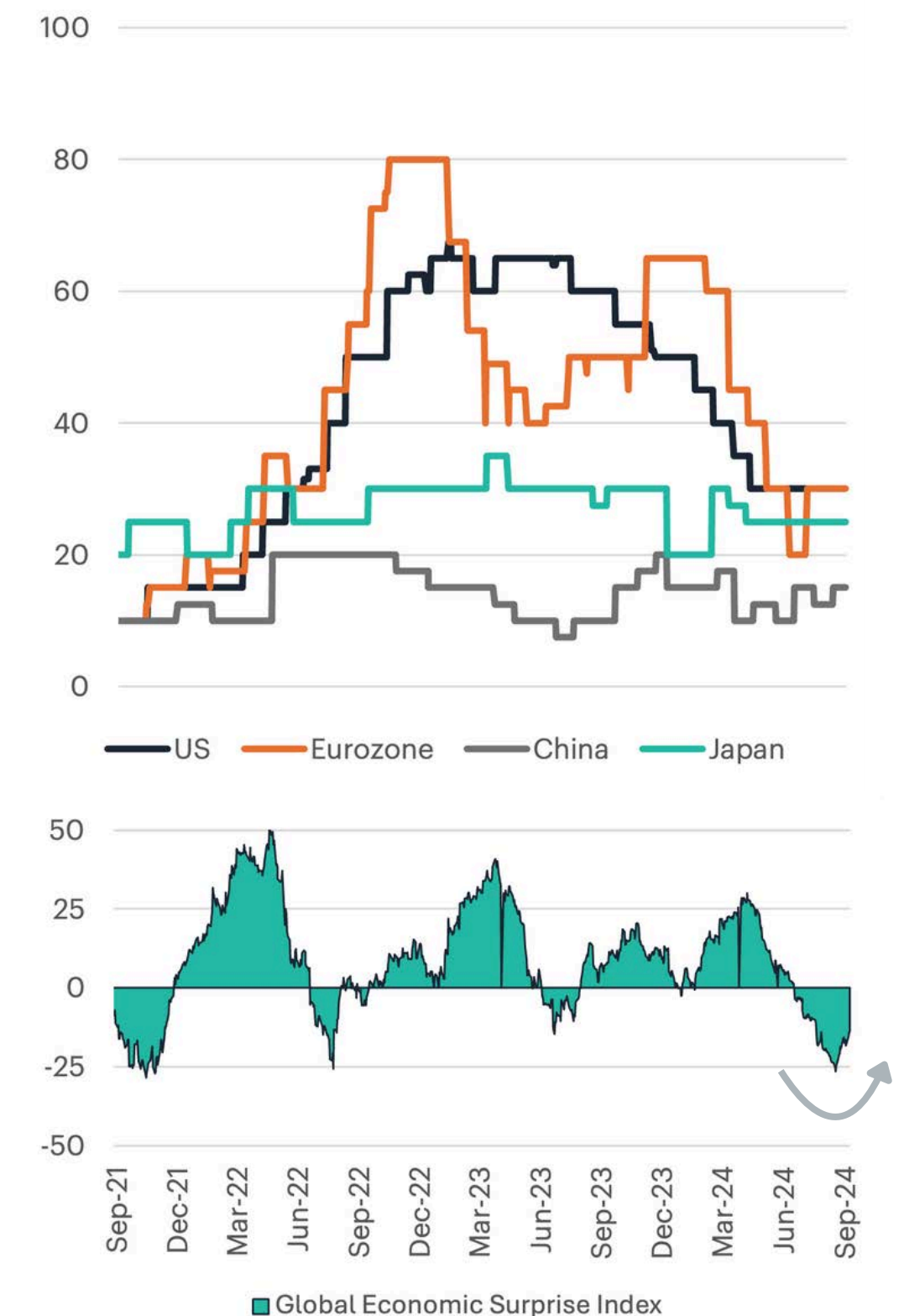
We are still anticipating a “soft landing” as our most probable outcome, with the scenarios and risks outlined below.

Scenario	Inflation Trend	Economic Growth Trend	Recession
Soft Landing	▼	▶	No
Hard Landing	▼	▼	Yes
No Landing	▲	▲	No
Stagflation	▲	▼	Yes

Portfolio Perspective

We view bouts of volatility stemming from macro uncertainty as tactical buying opportunities for long-term investors. Risky assets with positive asymmetry are likely to remain appealing for their outsized return potential.

12-Month Recession Probabilities (%)



Source:
CF Benchmarks, Bloomberg, Citi Economic Indices, as of September 12, 2024

Back to the Ballot Boxes

If Trump wins...

Donald Trump has made digital assets a key issue for his presidential platform. The former president has positioned himself as the "pro-crypto" candidate, even floating the idea that Bitcoin could be used as a strategic asset for the U.S. Treasury. While some investors may solely be focused on the price impact of a Trump victory, the more substantive change will come in the form of deregulation and pro-business policies that should foster innovation and a return of digital asset company formation to the U.S.

If Harris wins...

If Kamala Harris wins the presidency, we should expect her influence on the industry to be less clear. The Biden administration has taken a hardline approach, with the SEC pursuing enforcement actions against major firms. However, some pro-crypto Democrats are now pushing Harris to pivot to a more dovish approach and embrace blockchain technology. Without a strong public stance, internal debates are likely to shape the ultimate path and broader regulatory approach.

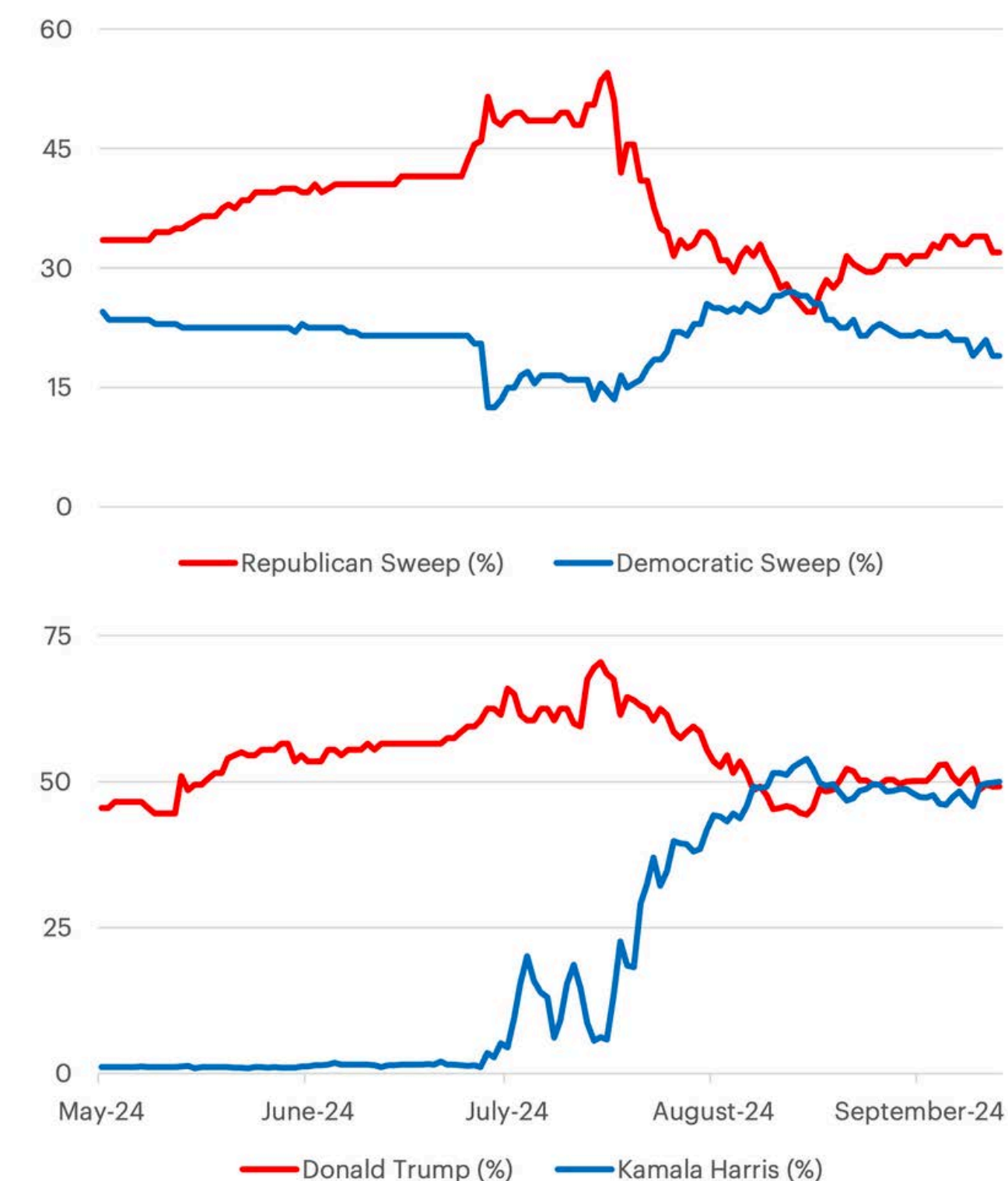
Too close to call

The race for the presidency has tightened considerably since President Joe Biden decided to drop out. **With a lot of time left until election day, we ultimately view this election as an opportunity for a relatively more favorable regime change overall for the digital asset industry.**

Chart takeaway

Betting markets are currently split between the two presidential candidates. However, market participants are more confident that neither a red nor a blue "wave" is likely to materialize this fall. Given this, we expect that political gridlock will likely hinder the political agenda of whoever wins the Oval Office.

Election Odds Suggest Political Gridlock



Source:
CF Benchmarks, Bloomberg, polymarket.com, as of September 13, 2024

Regulatory Outlook

A chance for change

Regardless of the U.S. election outcome, we see the potential for a significant shift in the regulatory landscape for digital assets. **A comprehensive framework is likely to emerge, fostering investor confidence and catalyzing capital formation in the industry.** This regulatory evolution could serve as a critical inflection point, potentially attracting institutional capital and enhancing market stability. However, the efficacy of any new regime will depend on striking a balance between fostering innovation and ensuring market integrity. This regulatory clarity may stimulate growth and innovation in the digital asset ecosystem, benefiting both established institutions and emerging organizations. Below, we highlight some key aspects of the anticipated regulatory regime:

- **Legislative Progress:** Bipartisan bills like the Blockchain Regulatory Certainty Act and FIT 21 are addressing key issues such as stablecoin regulation, self-custody rights, and asset classification, signaling growing recognition of crypto's legislative focus and importance.
- **Industry Tension:** The SEC's aggressive enforcement stance, viewing most tokens as securities, has led to lawsuits against major exchanges. The industry criticizes the lack of clear guidelines, creating ongoing legal uncertainty.
- **Regulatory Clarity:** Efforts to redefine SEC and CFTC roles could provide much-needed guidance, potentially reducing legal uncertainties and creating a more conducive environment for responsible industry growth.
- **Global Competition:** Rapid regulatory advancements in countries like the UK and EU (e.g., MiCA regulation) are pressuring the U.S. to accelerate its framework development to maintain its competitive edge in crypto innovation.
- **Stablecoin Focus:** Proposed legislation like the Clarity for Payment Stablecoins Act aims to regulate stablecoin issuers and ensure consumer protections. We anticipate an opportunity for this or a similar bill to be quickly enacted and help facilitate wider adoption of crypto as a medium of exchange.
- **Innovation vs. Protection:** Policymakers will likely focus on balancing innovation with consumer safeguards. Bills protect self-custody rights while focusing on market integrity and fraud prevention, aiming for a framework that doesn't stifle growth.
- **CBDC Considerations:** Growing interest in Central Bank Digital Currencies could significantly impact private crypto regulation. While the U.S. hasn't launched a CBDC, its potential introduction should be less likely should Republicans advance their position in Congress or win the presidency.

Timeline of Proposed Legislative Bills

Jun 7, 2022	Bill Name:	Lummis-Gillibrand Responsible Financial Innovation Act
	Purpose:	Comprehensive crypto regulation, including stablecoin oversight, tax rules, and SEC/CFTC authority.
Jul 20, 2023	Bill Name:	Clarity for Payment Stablecoins Act
	Purpose:	Establishes a regulatory framework for stablecoin issuance, setting reserve and redemption requirements.
Jul 20, 2023	Bill Name:	Financial Innovation and Technology for the 21st Century Act (FIT 21)
	Purpose:	Clarifies the roles of the SEC and CFTC in regulating digital assets, and adds consumer protections.
Jul 20, 2023	Bill Name:	Keep Your Coins Act
	Purpose:	Protects the right of individuals to self-custody digital assets without government interference.
Jan 17, 2024	Bill Name:	Preventing Illicit Finance Through Partnership Act
	Purpose:	Enhances public-private collaboration to combat illicit finance activities related to cryptocurrencies.
July 31, 2024	Bill Name:	Strategic Bitcoin Reserve Legislation (BITCOIN Act)
	Purpose:	Creates a strategic Bitcoin reserve to bolster the U.S. financial system and strengthen the U.S. dollar.

Source: CF Benchmarks, as of September 18, 2024

3. Secular Themes

Scalability will take Center Stage

Layer 2 Tech is in Focus

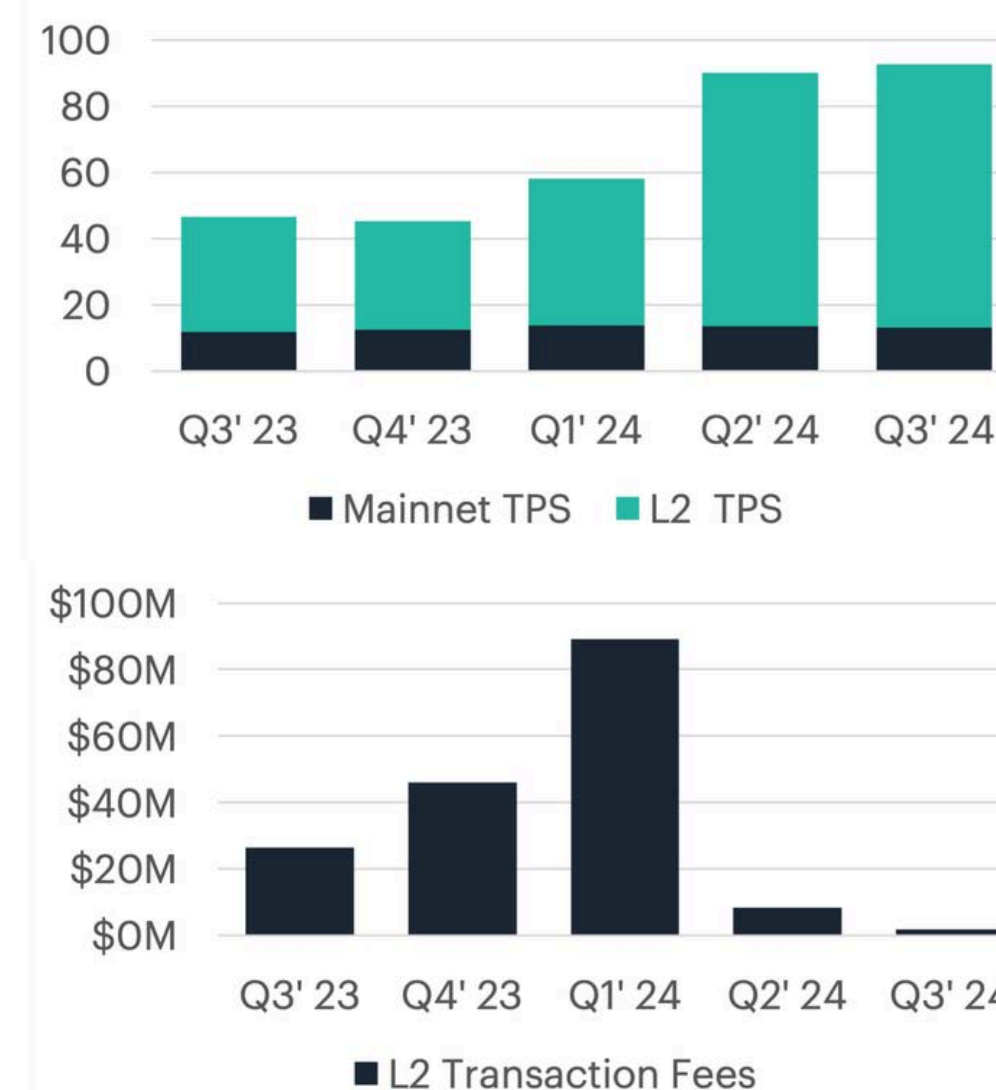
In 2024, high-throughput, low-fee Layer 1 networks like Solana have gained attention from both investors and end users, highlighting the importance of fast settlement and low fees in making distributed ledgers competitive with centralized data processing services. **Despite the emergence of competitors offering faster, cheaper transactions, Ethereum is likely to remain the preferred choice for developers and end users due to its robust, interoperable ecosystem and large user base.** Ethereum boasts over 200 million unique addresses that transact more than 50 million times per week, demonstrating its widespread adoption. Its ecosystem is rich with decentralized applications (dApps) across various sectors, particularly in decentralized finance (DeFi). The network has significantly benefited from Layer 2 solutions such as Optimism and Arbitrum, which enhance scalability by handling transactions off-chain and settling them on the mainnet.

This allows Ethereum to process far more than the 7 million weekly transactions possible on Layer 1 alone, dramatically increasing transaction capacity while maintaining security and decentralization. The recent Dencun upgrade has further reduced the costs of posting transactions to Layer 1. In the two quarters following the upgrade, Ethereum experienced a 73% increase in Layer 2 transactions, while fees for posting data to Layer 1 decreased by 91%. This development is expected to create necessary headroom for additional on-chain activity while keeping per-interaction costs low. Over the next year, we anticipate continued growth in the Ethereum ecosystem, with the majority occurring on Layer 2s as Layer 1 approaches its transaction processing limits.

Portfolio Perspective

With scaling solutions rising to meet the growing demand for Ethereum block space, tokens in the CF DACS scaling segment are poised to benefit as the growing activity on Layer 2s translates to increased network revenues.

Ethereum TPS and L2 Costs



Source: CF Benchmarks, Dune Analytics, as of September 12, 2024

Chart takeaway

After the Dencun upgrade went live on Ethereum in Q2 2024, the cost for 1 TPS on Layer 2 fell from \$2 million to \$110 thousand. This means Ethereum Layer 2s would be able to scale to over 800 TPS before incurring more costs than in Q1 2024.

Stablecoin Use to Rise Further

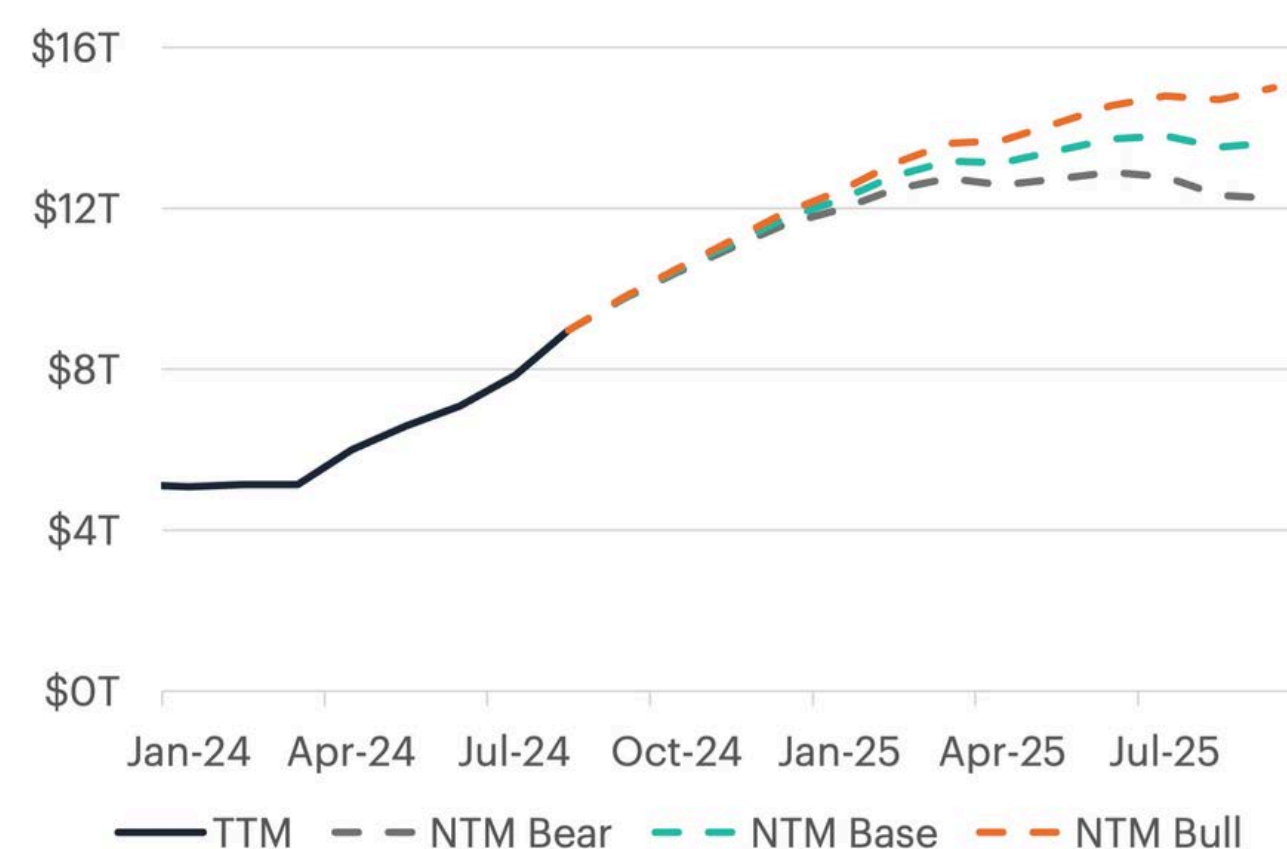
Ethereum Set to Disrupt Payment Processing

The most widely adopted tokenized asset on Ethereum is the US dollar in the form of stablecoins. Currently, 55% of all stablecoins are on the Ethereum blockchain. Additionally, over 100 million Ethereum addresses hold a non-zero stablecoin balance. The recent Dencun upgrade reduced fees on Ethereum's Layer 2s, bringing the cost of stablecoin transfers as low as \$0.0007. These low transaction costs have accelerated Ethereum's market share growth. With nearly \$9 trillion in year-to-date stablecoin transfer volume, Ethereum has processed almost 40% of the volume handled by credit card networks in 2023. The Dencun upgrade also improved scalability, enabling Layer 2 solutions to handle over 10,000 transactions per second, allowing Ethereum to compete with legacy systems on volume. Credit card networks processed around 212 billion transactions last year, or roughly 6,800 transactions per second. A key advantage for Ethereum as a payment network is its permissionless nature, anyone with internet access can create a wallet and participate in the global economy. This open access facilitates faster, cheaper cross-border transactions, benefiting both the Ethereum network and the global economy.

Payment Companies are Likely to Drive Adoption

In August 2024, Mastercard announced a debit card that enables users to spend cryptocurrency, including stablecoins from their non-custodial wallets, at over 100 million merchants worldwide. PayPal and Venmo have also enabled sending and receiving tokens on the Ethereum network using easy-to-read Ethereum Name Service (ENS) addresses for their 270 million customers. For payment processors, this move can potentially reduce costs as they do not have to rely on their own infrastructure to support payments. **It is our view that this push towards supporting payments via public blockchains could drive significant growth, with our projections indicating a 37% to 67% increase over the next 12 months, potentially propelling the transaction volume beyond the \$12 trillion mark.**

Stablecoin Transaction Volume is Set to Grow



Source:
CF Benchmarks, Dune Analytics, as of September 12, 2024

Portfolio Perspective

Increased stablecoin volumes have boosted activity on Ethereum's Layer 2s and cross-chain bridges. The CF Blockchain Infrastructure Index is likely to benefit from the on-chain revenue these protocols generate as stablecoin adoption grows. Ether is also poised to gain as institutions integrate Ethereum as a payment network.

Tokenization is Trending

Money Market Funds Lead the Way

In 2024, Franklin Templeton and BlackRock launched the BENJI and BUIDL tokenized money market mutual funds, respectively. Currently, each fund has around \$500 million in assets under management. While attracting nearly \$500 million in under a year makes these fund launches successful, we believe this is only the beginning. There are currently over \$170 billion in stablecoins that are unable to earn yield. As institutional participation grows, it is likely that we will see increased demand to earn a return on stablecoin holdings similar to the cash holdings in a portfolio.

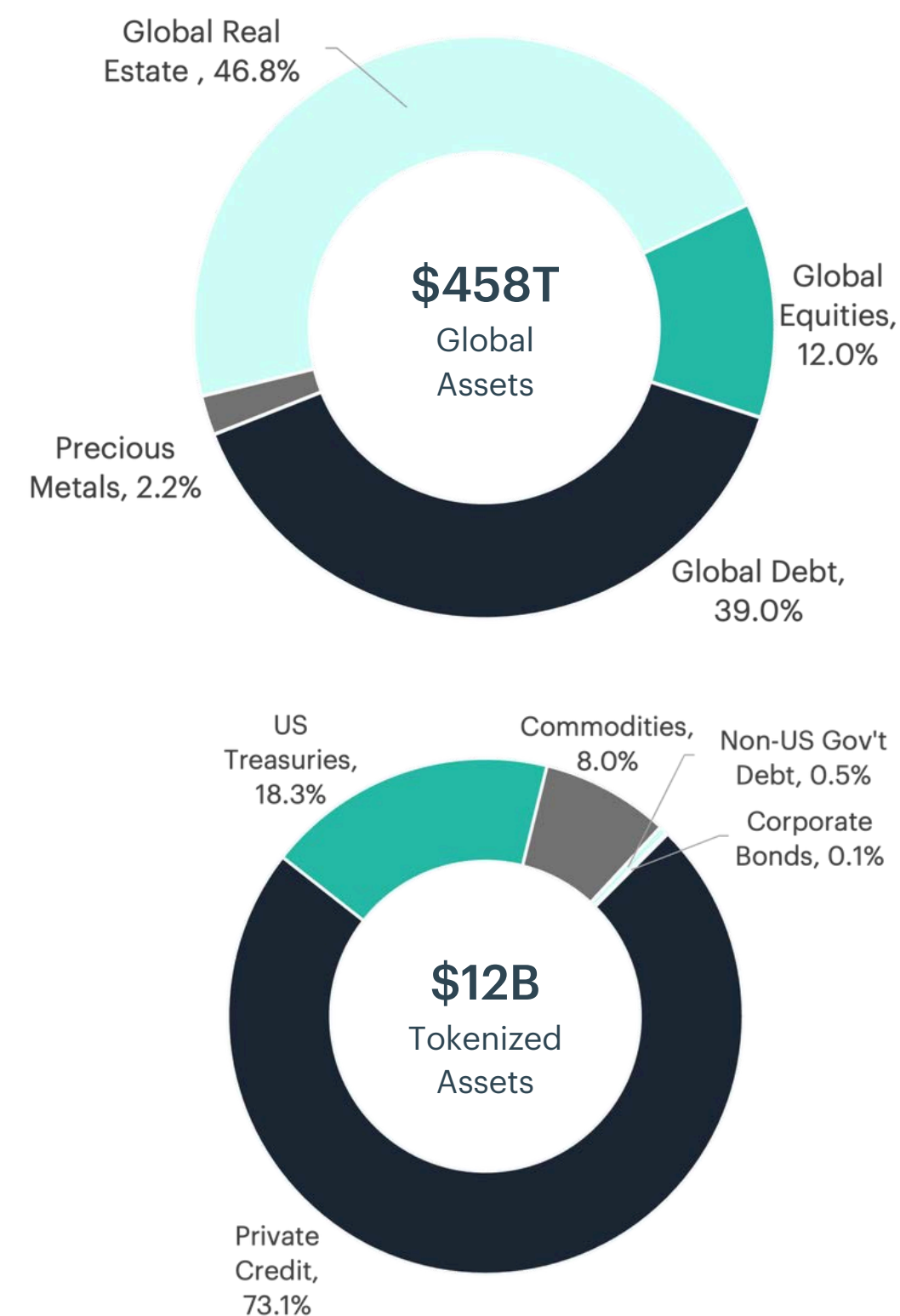
Institutions Eye Other Asset Classes

Tokenized money market funds exemplify the benefits of digitizing financial assets on blockchains like Ethereum. This shift reduces costs by eliminating intermediaries and increases market accessibility through asset fractionalization. As tokenization expands, improved liquidity, transparency, and efficiency are expected across a broader range of financial instruments and investors. The potential for increased global participation in capital markets is significant. **Our outlook suggests tokenization growth will accelerate over the next 12 months, with tokenized assets projected to breach \$20 billion, driven by wider adoption and new use cases in the financial sector.**

Portfolio Perspective

Tokenized assets can integrate with DeFi, enabling stocks, bonds, and real estate to be used as collateral or traded on decentralized exchanges. As asset tokenization expands, the CF DeFi Composite Index stands to benefit, with finance-related protocols seeing higher revenues. Additionally, growing institutional adoption of Ethereum may provide an additional tailwind for Ether.

Tokenized Assets Have Only Scratched the Surface



Source: CF Benchmarks, World Federation of Exchanges, Reuters, Costar Group, rwa.xyz, as of September 12, 2024

Crypto is Entering the Cloud

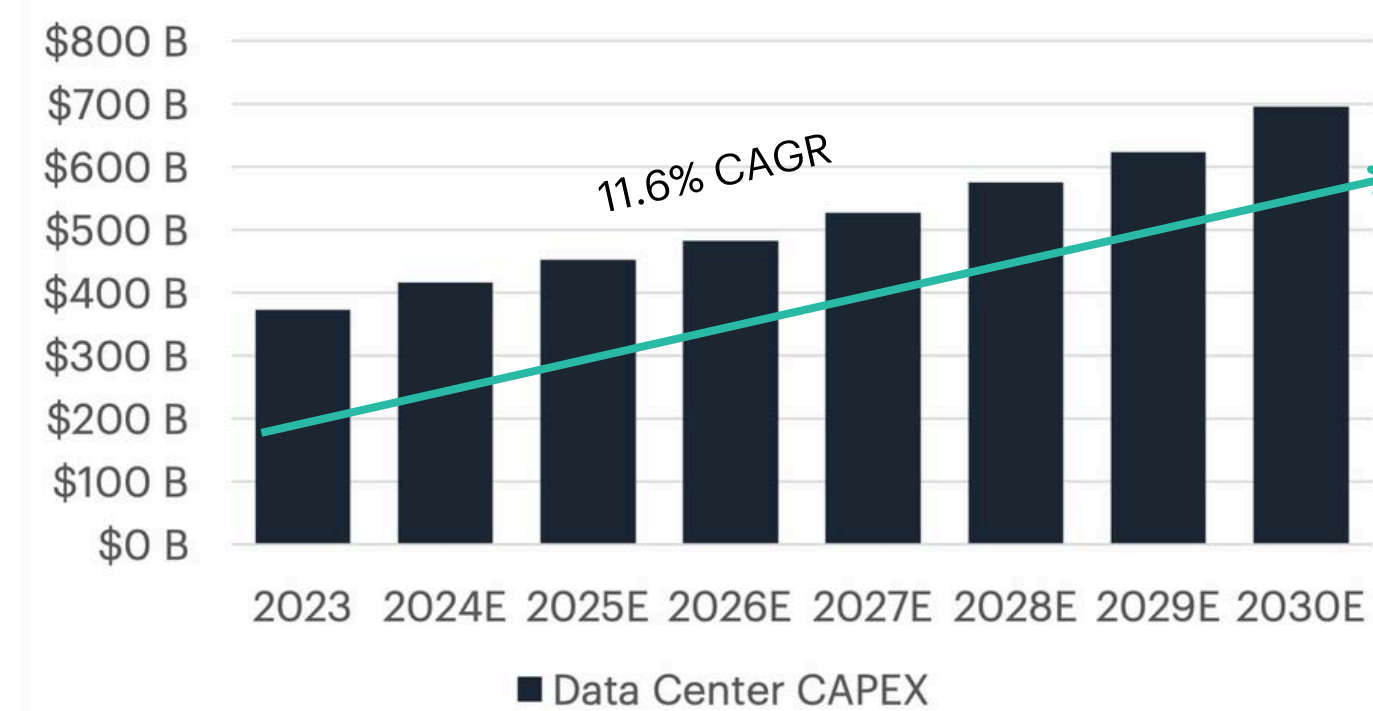
Distributed Ledgers Meet Physical Infrastructure

Decentralized Physical Infrastructure Networks (DePINs) are emerging as a complement to traditional cloud computing, especially as centralized cloud providers struggle to keep up with the demand for GPU compute that has resulted from the growth in AI and machine learning. This increase in demand for these servers has led to capacity shortages and increased costs. Building additional data center capacity at scale is time-consuming and capital intensive, with estimated annual data center capital expenditures projected to hit \$700 billion by 2030. Decentralized GPU compute networks are designed under the premise that anyone who can run a home computer or server can sell unused compute power to fill this growing demand. This approach, which allows anyone to become a cloud provider, often has the benefit of offering lower costs. There are a wide array of participants with lower cost structures than the large cloud providers competing with them on price. Smart contracts may also be used in handling payments and allocating compute resources, allowing providers to retain a larger portion of revenue while fostering an open and competitive market. As a result, DePINs can democratize access to high-performance computing by lowering barriers to entry. Startups, researchers, and smaller enterprises gain access to affordable, high-quality computing power that may have previously been inaccessible due to cost constraints. This increased availability accelerates innovation in fields like artificial intelligence and data analytics.

A Generational Growth Opportunity

The global cloud computing market is expected to grow at an annual rate of 15%, potentially surpassing \$2 trillion by 2030. In this expanding landscape, decentralized networks like Render, Akash, and ioNet are emerging as cost-effective alternatives to existing high-performance compute platforms. As these decentralized compute networks mature, they are well-positioned to capture market share from established players, potentially reshaping the future of cloud computing with more robust and cost-effective solutions. **Looking ahead, if DePINs capture even 1% of cloud spending, our analysis suggests they could see a dramatic rise in aggregate revenue to over \$20 billion, representing exponential growth from the \$15 million in on-chain revenue recorded in 2023.**

Compute Demand Boosts Data Center CAPEX



Source:
CF Benchmarks, Statista, as of September 12, 2024

Portfolio Perspective

With the rise of generative AI, demand for compute power is likely to experience strong growth over the next 12 months. The Computing Segment of the CF DACS is well positioned to benefit from this demand, as startups look to minimize costs in times of economic uncertainty.

4. Asset Class Overview & Forecasts

Consensus Forecasts

Equity Markets: Analysts are projecting positive returns across global equities, with Asian markets showing the highest expected gains. Forecasted EPS growth is anticipated to counter P/E contraction, suggesting improvements in profitability. These expectations may reflect shifting investor confidence towards emerging markets in a global rate-cutting cycle.

Interest Rates: With the exception of Japan, forecasts indicate that most major central banks are expected to cut rates. This results in a downward bias on interest rates across most developed markets.

Commodities: Analyst expectations show a mixed commodities outlook. Crude oil price forecasts suggest potential demand moderation, while bullish projections for gold and copper indicate inflationary concerns and anticipated industrial demand growth.

FX: Currency forecasts suggest subtle shifts in global economic dynamics. Analysts expect Euro appreciation against the USD and Yen depreciation, with a slightly bearish bias being priced in the DXY Index.

GDP Growth: Growth forecasts highlight divergent economic trajectories. Analysts expect China to maintain relatively higher growth, while projecting a rebound for Japan. Eurozone economic output is anticipated to accelerate, just as U.S. growth is expected to moderate below trend over the next twelve months.

Analysts' & Economists' 2025 Year-end Projections

Equity Markets

	Current Level	Consensus Target	Change (%)	EPS	EPS (NTM)	Change (%)	Current P/E	P/E (NTM)	Change (%)
S&P 500 Index	5,618	6,249	11.2%	234	264	13.2%	25.6	23.6	-7.9%
MSCI Europe	172	196	13.9%	12	13	6.3%	15.7	14.6	-7.1%
Nikkei 225	37,284	44,116	18.3%	1,659	1,955	17.9%	21.8	20.3	-7.2%
HANG SENG INDEX	17,852	22,631	26.8%	1,968	2,184	10.9%	9.4	8.5	-10.2%
MSCI EM (ex-China)	1,452	1,714	18.0%	83	110	33.2%	17.5	15.0	-14.4%

Interest Rates (%)

	Policy Rate	Policy Rate (Q'25E)	Change	2-Year	2-Year (F)	Change	10-Year	10-Year (F)	Change
USA	4.88	3.60	-1.28	3.64	3.26	-0.38	3.72	3.71	-0.01
Japan	0.25	0.70	0.45	0.39	0.83	0.44	0.85	1.36	0.51
Eurozone	3.50	2.55	-0.95	2.26	2.36	0.10	2.19	2.24	0.05
United Kingdom	5.00	3.65	-1.35	3.91	3.11	-0.80	3.85	3.65	-0.20
Canada	4.25	2.85	-1.40	2.92	2.82	-0.10	2.93	3.15	0.22
Australia	4.35	3.50	-0.85	3.65	3.44	-0.21	3.94	3.92	-0.02

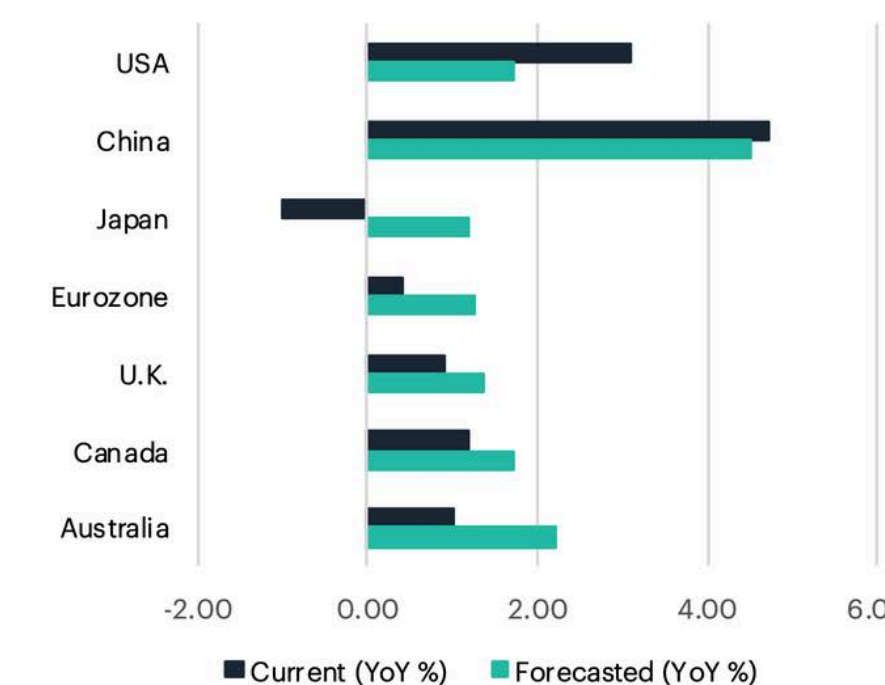
Commodities

	Current Level	NTM Target	Change (%)
Crude Oil (NYMEX) \$	71.77	\$ 66.80	-6.9%
Gold (\$/t oz.) \$	2,559	\$ 2,657	3.8%
Copper (\$/mt) \$	9,370	\$ 9,535	1.8%

FX

	Current Level	NTM Target	Change (%)
EUR/USD	1.11	1.13	1.8%
USD/JPY	142.00	137.00	-3.5%
GBP/USD	1.32	1.33	0.8%
USD/CHF	0.85	0.88	3.5%
USD/CAD	1.36	1.33	-2.2%
AUD/USD	0.68	0.71	4.4%
DXY Index	100.90	99.20	-1.7%

Real GDP Growth (%)



Source: CF Benchmarks, Bloomberg, as of September 18, 2024

5. Appendix

CF Digital Asset Classification Structure

Additional Resources

For more information about our CF Benchmark indices and our methodologies, please visit the respective web links below:

- [CF Diversified Large Cap Index](#)
- [CF DeFi Composite Index](#)
- [CF Web 3.0 Smart Contract Platforms Index](#)
- [CF Digital Culture Composite Index](#)
- [CF Blockchain Infrastructure Index](#)
- [CF Cryptocurrency Ultra Cap 5 Index](#)
- [CF Broad Cap Index Market Cap Weight](#)
- [CF Broad Cap Index Diversified Weight](#)

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Appendix

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