

A network diagram with various sized nodes and connecting lines, set against a dark blue background. The nodes are represented by circles of different diameters, and the lines are thin and light blue.

2024 OUTLOOK

Introduction

As we approach the end of 2023, a number of tough questions confront investors. On the economy, there are overarching concerns, such as will recent interest rate changes lead to weak global growth, have major central banks tamed inflation, and will those same central banks maintain policy rates at current levels? Of course, having views on those questions only yield more questions. At a portfolio level, should investors reduce equity exposure in favor of bonds, will the litany of geopolitical crises that sadly characterize our current world impact markets, and how will net zero transition efforts be advanced? And, at the asset class level, what public and private opportunities offer potentially compelling returns? In the following pages, we address these questions and many others, as we share our 2024 Outlook.



**CAMBRIDGE
ASSOCIATES**

Published December 6, 2023

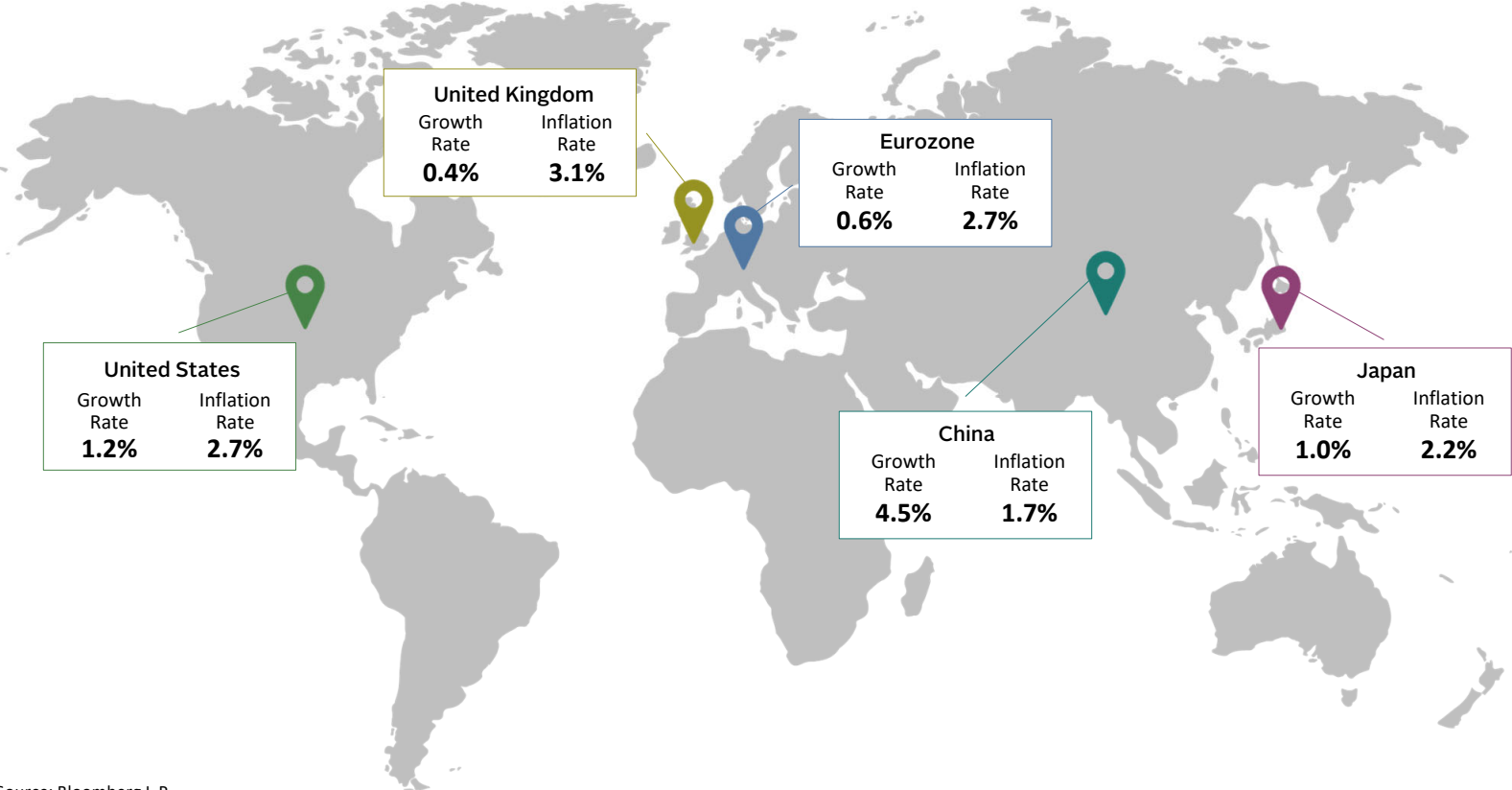
THE GLOBAL ECONOMIC BACKDROP IN 2024

Our investment views are rooted in our belief that the cyclical backdrop will remain weak in 2024. The consensus expectation is for the global economy to grow 2.7%, which is slightly less than growth is anticipated to be in 2023 and below its post-2000 average of 3.5%. While we believe the global growth rate will be positive, risks are skewed to either matching the consensus expectation or missing it lower. Weakness in global aggregate demand will help those inflation rates that experienced pandemic-related surges continue to decelerate. We expect this will allow most key central banks to modestly cut policy rates before the end of 2024.

Three major drivers inform these views. First, credit growth in key markets is likely to remain subdued, given high interest rates and the increase in bank underwriting standards. Second, consumer spending growth is likely to either slow (United States) or remain slow (euro area and United Kingdom), given the depletion of any excess savings that accrued during the pandemic and weakness in consumer confidence. Third, numerous challenges, such as the war in Ukraine, the Israel-Hamas war, and China’s real estate crisis, will continue to weigh on sentiment and have the unfortunate potential to escalate.

EXPECTED RATES OF REAL ECONOMIC GROWTH AND INFLATION IN KEY MARKETS

As of November 30, 2023 • Bloomberg Consensus Estimates for 2024



Source: Bloomberg L.P.

AN OVERVIEW OF OUR 2024 VIEWS

PUBLIC EQUITIES

We expect global equity performance will be below its long-term median level, but we believe investors should hold equity allocations in line with policy targets. Within equities, we see opportunities in developed value, developed small caps, and China. We doubt European and emerging markets ex China equities will outperform, and we believe the share of active strategies that outperform will increase.

PRIVATE EQUITY & VENTURE CAPITAL

We expect US venture capital down rounds will increase, even as artificial intelligence continues to serve as a major catalyst within the market. We believe flows to European turnaround and value strategies will increase and flows to China private investments will remain muted. We expect secondary transaction volume will increase to a record level.

HEDGE FUNDS

We expect equity long/short strategies will outperform their long-term average, due partly to the considerable rise in short rebates. This expectation is also linked to our view that global equity volatility will increase due to our economic expectation and ongoing geopolitical crises.

SUSTAINABILITY & IMPACT

We expect more companies will set science-based targets to reduce their emissions and develop credible transition plans to meet their targets. We believe funds raised by natural capital strategies will hit a new record and that California carbon allowances will outperform global equities.

INTEREST RATES

We expect that most major central banks will cut policy rates modestly due to our view that inflation rates will continue to decline. The modest cuts will shift policy rates from restrictive levels closer to neutral levels, which are neither restrictive nor accommodative. Given this view and our view that economic activity will weaken, we see opportunity in US long Treasury securities.

CREDIT

We expect direct lending and European opportunistic private credit funds will outperform their long-term averages because of high asset yields and the pull back in credit availability among traditional lenders. We like structured credits, particularly high-quality collateralized loan obligation debt, and we expect high-yield bonds will outperform leveraged loans. But we remain neutral on high yield because spreads are compressed.

REAL ASSETS

We expect REIT and public infrastructure performances will improve, given undemanding valuations and our view on interest rates. We believe private infrastructure funds will perform well, and we think nuclear energy will emerge as a small but important opportunity.

CURRENCIES

We expect the US dollar and gold will more or less hold their values, given our economic expectation and the many geopolitical risks. We believe the yen will appreciate, and we expect the thawing crypto winter will fully transition to a spring.



Kevin Rosenbaum
 Head of Global
 Capital Markets
 Research

Global Equity Performance Should Be Below Median in 2024

Global equities face headwinds as we enter 2024. The most prominent headwinds stem from the interest rate changes we have seen in recent years. They have impacted corporate financing costs, economic growth expectations, and the relative appeal of equities versus fixed income. Taken together, we expect global equity performance will be below its long-term median of 15% in 2024. Still, we do not believe investors should underweight equities and overweight fixed income relative to policy allocations, as we see better tactical opportunities within equities and fixed income.

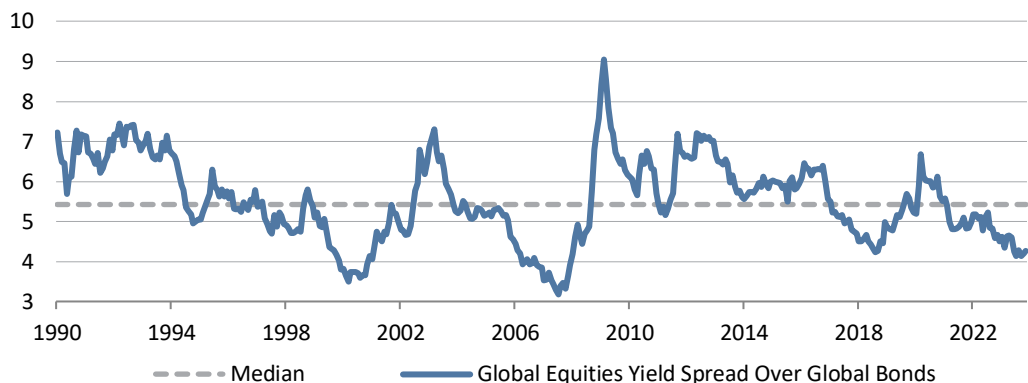
Financing cost changes are the direct channel in which interest rate changes impact corporates. But as it stands, global equity profit margins are expected to expand by roughly 50 basis points (bps) to 10.6% in 2024, despite higher financing costs and according to the consensus analyst opinion. While analyst expectations at the start of the year have little relationship with that year’s equity performance, how those expectations evolve during the year are informative. To us, the near-record profit margin estimate is vulnerable to downside revisions.

Economic growth expectation changes are an indirect channel in which interest rate changes impact corporates. Because we expect risks are skewed to either matching or missing the 2024 consensus global economic growth forecast of 2.7%, we suspect downward revisions to the 2024 consensus corporate sales growth expectation of 4.8% are more likely than upward revisions. Given global companies employ operational leverage, lower-than-expected sales growth would add additional pressure to profit margins.

Taken together, these factors act as headwinds to equities, which already have diminished appeal relative to fixed income. One such measure of relative appeal—the excess yield spread of real equity earnings over real bonds—recently compressed to the lowest level other than during the dot-com bubble and the Global Financial Crisis (GFC). But instead of underweighting equities relative to policy, we see opportunities within fixed income to add protection (i.e., long sovereigns) and within equities to allocate to segments where price levels have already adjusted to reflect difficult conditions ahead (i.e., small-cap and value equities).

EQUITIES APPEAL RELATIVE TO BONDS HAS DIMINISHED

January 31, 1990 – November 30, 2023



Sources: FTSE International Limited, MSCI Inc., OECD, and Thomson Reuters Datastream. MSCI data provided “as is” without any express or implied warranties.



TJ Scavone
Investment Director,
Capital Markets
Research

Most Major Central Banks Should Cut Rates in 2024

Global central banks have aggressively tightened monetary policy to beat back inflation. While monetary policy now appears to be in restrictive territory, it is still too early to declare victory. Inflation rates are falling, but remain elevated. However, we expect restrictive policy will continue to weigh on economic activity and, in turn, inflation in 2024. This will ease pressure on central banks, which we expect will lead to modest policy rate cuts by year end.

After two successive years of tightening monetary policy, most major central banks currently view policy as appropriately restrictive. Financial conditions have tightened, and inflation globally has fallen considerably from its recent peak. As a result, many central banks are considering pausing tightening and the market consensus projects most central banks will modestly cut rates in 2024. Still, several central banks have suggested rates will need to remain “higher-for-longer,” increasing uncertainty around interest rate forecasts.

In our view, consensus expectations of policy rates are reasonable. Inflation may be elevated, but it is in a downward trend. Global economies have thus far held up better than anticipated, but there are pockets of weakness, particularly in Europe. Even in the United States, which has been more resilient than other economies, some measures of activity are weakening. For instance, US jobs growth has slowed and the unemployment rate has ticked up from a low of 3.4% to 3.9%. Higher rates and reduced fiscal support will add to downward pressure on growth, which should lead to additional softening in the labor market, wages, and inflation.

With inflation moving closer to central banks’ price targets and labor markets showing clearer signs of softening, central banks will be inclined to modestly ease policy rates in 2024 to avoid overtightening. The Fed is projected to cut rates by roughly 100 bps in 2024. This would be only slightly more than previous “soft landings” in the United States. If growth concerns mount, both inflation and rates could fall more than is currently expected.

MOST CENTRAL BANKS ARE PROJECTED TO CUT POLICY RATES IN 2024

As of November 30, 2023 • Central Bank Policy Rates (%)

| | 2021 | 2022 | 2023 (F) | 2024 (F) |
|-------|------|------|----------|----------|
| World | 1.1 | 3.7 | 4.4 | 4.0 |
| DM | -0.1 | 3.2 | 4.5 | 4.1 |
| US | 0.1 | 4.4 | 5.4 | 4.2 |
| UK | 0.3 | 3.5 | 5.3 | 4.5 |
| EMU | -0.5 | 2.0 | 4.0 | 2.7 |
| Japan | -0.1 | -0.1 | -0.1 | 0.2 |
| EM | 2.8 | 4.4 | 4.3 | 3.8 |

Sources: Bloomberg L.P. and Goldman Sachs.

US Long Treasury Securities Should Outperform Cash in 2024



TJ Scavone
Investment Director,
Capital Markets
Research

US Treasuries are in a historic slump. While performance has been better in 2023 than the prior couple years, US Treasuries are barely on track to finish up for the year and underperforming cash for the third consecutive year. However, in our view, the worst is behind us. We expect US long Treasuries will outperform cash in 2024, given our economic outlook, our view that the bond sell-off is overdone, and the fact that current yields look attractive compared to economic fundamentals.

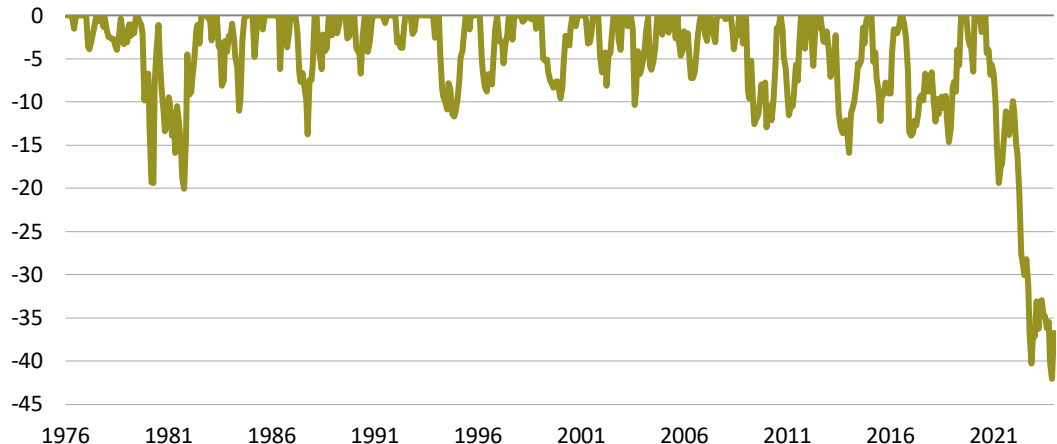
The bond sell-off clearly appears overdone. This was also the case in fourth quarter 2022, and ten-year US Treasury yields were recently as much as 75 bps above their 2022 peak. Unlike 12 months ago, many of the drivers of the sell-off are currently reversing. For instance, US inflation is declining. Core consumer price increases (4.0%) are still elevated, but the deviation from target is almost entirely due to shelter price rises, which are expected to decelerate in the coming months. The US economy has been resilient, but momentum appeared to peak in third quarter 2023, and weaker growth is forecast in the quarters ahead. If consensus is correct, nominal GDP growth for 2024 will fall below its trailing ten-year average, a trend that is usually consistent with lower Treasury yields.

A “soft landing” would reduce the risk of additional rate hikes. It also makes it more likely the Fed will keep its policy rate elevated for longer. However, this is mostly priced in. The Fed is projected to cut rates by roughly 100 bps in 2024, which is only slightly more than the number of cuts during previous soft landings. In sum, there is limited risk from further rate hikes, little to no risk from a soft-landing, but significant return upside for long Treasuries if growth concerns mount and the Fed cuts rates more than expected.

Another key difference is that yields look more attractive today. Ten-year US Treasury yields recently peaked above 5.00%. That is more than 1 standard deviation above their implied fair value based on economic fundamentals. Since 1973, the Bloomberg US Long Treasury Index has outperformed cash by 11 ppts on average over the next 12 months when this threshold is met, with a 90% probability of a positive excess return. We like those odds.

US LONG TREASURIES ARE IN A HISTORIC SLUMP

January 31, 1973 – November 30, 2023 • Rolling 3-Yr Max Drawdown (%)



Sources: Bloomberg Index Services Limited and Thomson Reuters Datastream.



Sean Duffin
Senior Investment
Director, Capital
Markets Research

Global Equity Market Volatility Should Increase in 2024

Equity volatility was relatively muted in 2023, even as markets contended with rising interest rates and the emergence and intensification of multiple geopolitical conflicts. These unresolved conflicts, coupled with the lagged impact of higher central bank policy rates and the polarized US political environment, will spell more volatility for equities in 2024.

Global policymakers continue to walk a fine line balancing economic stability with reining in inflation. Thus far, rate hikes have not caused significant economic pain, as economic data have generally held up better than feared. But key inflation rates remain above central bank targets. While we expect most major central banks will cut rates modestly in 2024, a policy or communication misstep is a key risk. Such a scenario would be sure to unsettle equity markets.

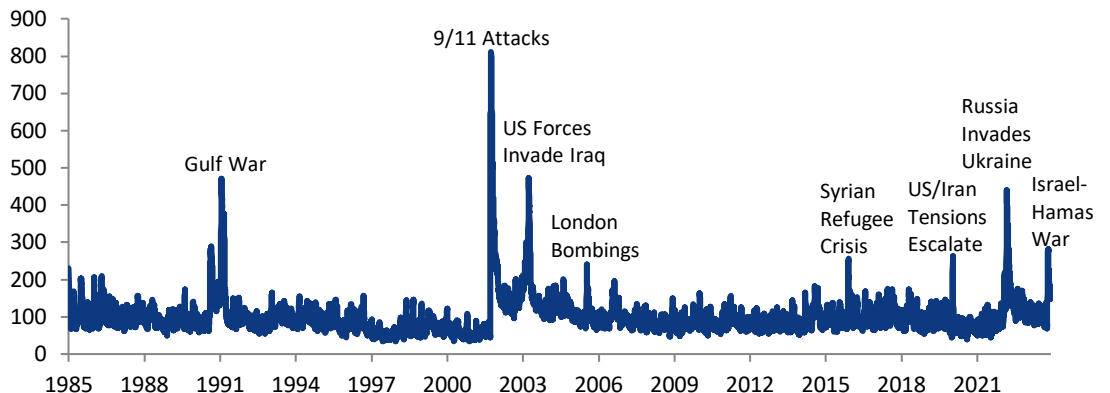
Beyond rates, military conflicts loom ominously over global markets. The ongoing war in Ukraine stands as the most significant military confrontation in Europe since World War II and has escalated for nearly two years. Moreover, violence erupted in the Middle East when Hamas initiated an attack on Israel in October, raising the specter of a prolonged conflict. Both conflicts have already taken a devastating human toll, and while we hope both conflicts resolve themselves peacefully, the unfortunate reality is that they could worsen.

Tensions between the United States and China remain strained. Trade and financial decoupling between the world’s two largest economies has intensified in recent years, bringing with it the potential for further disruption of supply chains and corporate profits. This trend is unlikely to reverse soon, given the bipartisan US stance on China. Escalating rhetoric or punitive measures could trigger more significant market jitters next year.

US presidential elections will introduce another wave of political uncertainty. The prior election highlighted the deep polarization of American politics and culminated in unprecedented federal charges of election interference against the former president. The pending legal aftermath of those events is likely to become clearer in 2024 and could prove disruptive to the election process. Investors dislike uncertainty, and this sort of disruption could increase equity market volatility in the run up to the November election.

GEOPOLITICAL RISK HAS JUMPED AGAIN IN LATE 2023

January 1, 1985 – November 27, 2023 • Geopolitical Risk Index (GDPR) • 7-Day Moving Avg



Source: Dario Caldara and Matteo Iacoviello, "Measuring Geopolitical Risk," American Economic Review.



Sean Duffin
Senior Investment
Director, Capital
Markets Research

Developed Value Equities Should Outperform Developed Equities in 2024

2023 was another disappointing year for value investors, as the MSCI World Value Index trailed the MSCI World Index for the 12th time in the past 15 years. Value indexes saw their margin of underperformance widen as a subset of tech-related growth stocks surged in tandem with the artificial intelligence (AI) boom this year. Despite this, we see several reasons to believe value stocks will outpace broader equities in 2024.

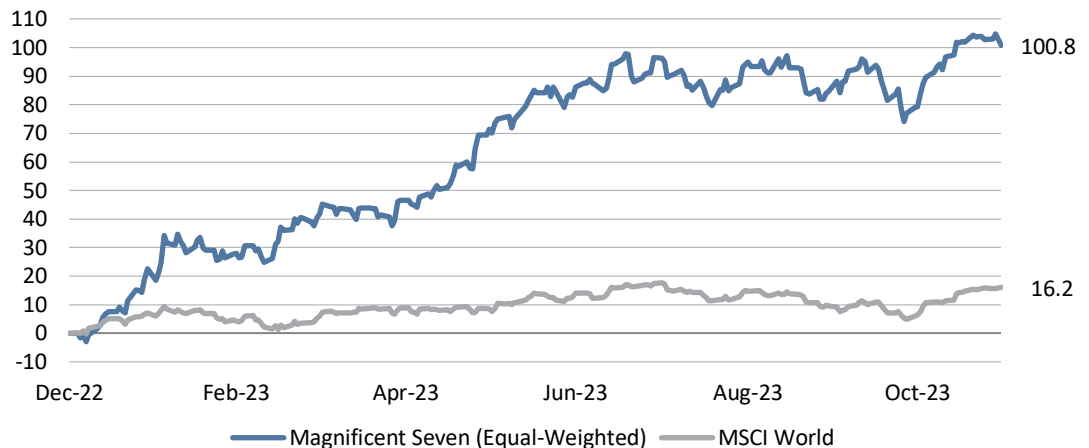
Value stocks trade at heavily discounted prices relative to broader equities and started to show improving short-term momentum in the latter half of 2023. Developed value traded at a normalized price-earnings (P/E) ratio of 9.3, a 38% discount to broad developed equities, which is substantially wider than its median 22% discount over the previous four decades. Short-term momentum began to turn at the midway point of 2023, with rolling six-month relative momentum jumping off recent lows.

Part of this reversal can be attributed to the market’s repricing of future interest rates. Value stocks have often held up better in higher rate environments, and although we expect most major central banks will cut rates modestly by the end of 2024, costs of capital will still be much higher than just a couple years ago. We expect this reality may be a headwind to growth stocks, so investors should anticipate the rate environment in 2024 will continue to remove froth from pricey growth stocks and help value outperform.

Moreover, the pace of the meteoric price rise in a subset of tech stocks linked to the AI boom—the so-called Magnificent Seven—downshifted in the second half of the year. Indeed, an equal-weighted basket of those seven stocks registered a 98% return from January through mid-July, but is only up 3% since then. While we anticipate that AI will continue to play a pivotal role in transforming productivity, we expect these productivity enhancements will support all sectors, particularly financials and energy, both of which carry substantial weight in value indexes. We expect the market to better factor in the broad benefits of AI next year, which should support value.

THE PACE OF THE MAGNIFICENT SEVEN'S RALLY HAS MODERATED

December 31, 2022 – November 30, 2023 • US Dollar • YTD Cumulative Wealth in Percent Terms



Sources: Standard & Poor’s and Thomson Reuters Datastream.



Sehr Dsani
Investment Director,
Capital Markets
Research

Developed Small-Cap Equities Should Outperform Developed Equities in 2024

Developed markets (DM) small-cap equities have outperformed their large- and mid-cap counterparts over the last 25 years by a wide margin, but they lagged by 12 percentage points (ppts) in 2023 through November. However, we think small-cap equities will outperform large- and mid-cap equities in 2024, given attractive valuations, interest rate expectations, favorable sector exposures, and improving fundamentals.

Weak recent returns have resulted in attractive valuations. For instance, the cyclically adjusted price-to-cash earnings multiple is currently at the 22nd percentile of observations spanning nearly 20 years. Additionally, the P/E ratio relative to DM large- and mid-cap equities is even more compelling, sitting at the 3rd percentile over the last 20 years.

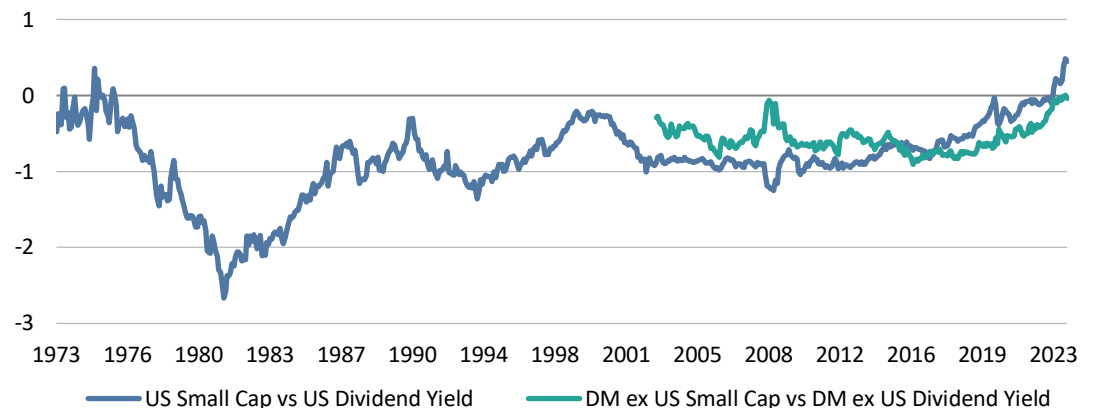
While these equities are higher risk investments with less robust balance sheets than their large- and mid-cap counterparts, we believe the valuation discount provides a significant cushion to small-cap performance going forward. Indeed, small-cap equities have tended to outperform during the early stage of a new business cycle precisely for this reason.

Small caps underperformed large- and mid-cap equivalents in part due to sector tilts within the index. The small-cap index is underweight communication services and IT, two of the best-performing large- and mid-cap sectors in 2023. The elevated valuation of these two large- and mid-cap sectors will make it more difficult for outperformance to continue in 2024. As investors position for rate cuts, sectors such as real estate, industrials, and materials—which are overweights in the small-cap index—should support outperformance. Furthermore, the industrials and materials sectors will benefit from continued increases in investment for infrastructure projects and reshoring supply chains.

Additionally, favorable fundamentals should support small-cap equity outperformance. As inflation continues to subside, analysts are estimating small caps will achieve better margin improvement and higher earnings per share (EPS) growth than large- and mid-cap equities. We think these improving fundamentals help increase the odds for outperformance versus large- and mid-cap equities.

SMALL-CAP DIVIDEND YIELD SPREADS ARE ATTRACTIVE AND WELL ABOVE HISTORIC MEDIANS

January 31, 1973 – November 30, 2023



Sources: MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.



Thomas O'Mahony
Senior Investment
Director, Capital
Markets Research

European Equities Should Underperform Global Equities in 2024

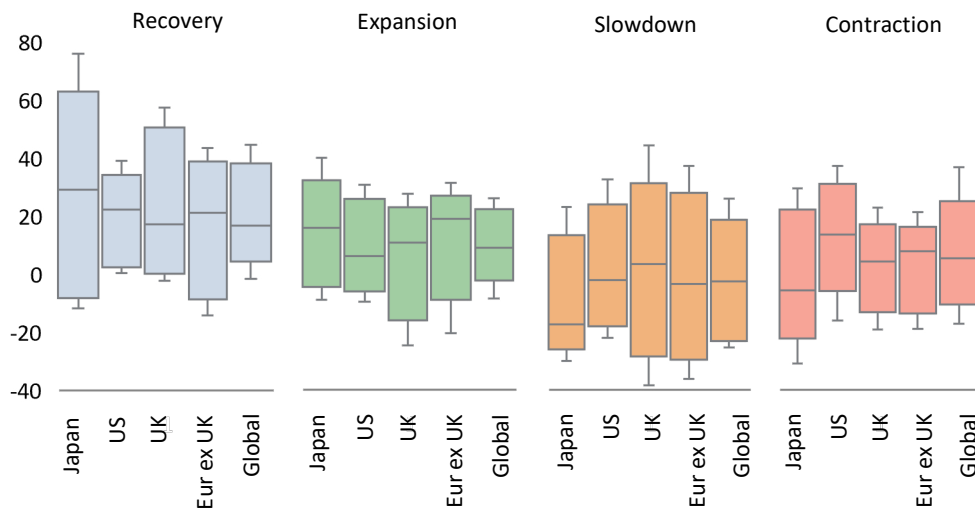
European equities have underperformed global equities by nearly 250 bps in 2023. Perhaps surprisingly, given the growth disparity between Europe and the United States, earnings growth in Europe has easily outstripped that of all global companies, growing by 7.4% versus a contraction of 2.5%. It has been a much weaker multiple expansion, by contrast, that lies behind this underperformance. We believe the greater cyclicity of European equities sees risks tilted to weak EPS growth and continued underperformance in 2024.

As 2023 draws to a close, the growth impulse in Europe is weaker than in peers, such as Japan and the United States. Cumulative GDP growth in the Eurozone and United Kingdom in the first three quarters of 2023 was 0.1% and 0.5%, respectively, lagging the 1.5% and 2.3% seen in Japan and the United States. Moreover, the delivered monetary tightening looks likely to weigh more heavily on Europe, given lower potential growth and the structure of mortgage markets. This is already evident in weak credit data. Finally, the external exposure of many European economies, particularly to China, may continue to weigh on export-led growth.

Therefore, we believe that European EPS growth is likely to lag in 2024. Admittedly, the bar is set reasonably low on a relative basis for European economic and earnings growth in 2024. Consensus expects earnings to grow by 6.1% in Europe versus 10.4% for all global companies. Similarly, European GDP growth is expected to be 0.5% in comparison to 1.2% for broader developed markets and 2.7% for the world. Nonetheless, expectations of EPS growth of 6.1% are ahead of the region's long-run average of 5.8%. A material valuation discount (European forward P/E is just 0.77x that of the MSCI ACWI) restrains us from actively underweighting the region. However, if we see a continued slowdown or recession next year, that valuation cushion may not provide much mitigation, given the United States tends to perform more defensively than its peers in such circumstances. Ultimately, we continue to see risks skewed to the downside for the region in 2024.

RELATIVE PERFORMANCE OF EUROPEAN EQUITIES HAS BEEN STRONGEST DURING RECOVERIES AND PARTICULARLY EXPANSIONS

January 31, 1970 – December 31, 2022 • US Dollar • Annualized Real Total Returns (%)



Source: MSCI Inc. MSCI data provided "as is" without any express or implied warranties.





Stuart Brown
Investment Director,
Capital Markets
Research

Developed Equities Should Outperform Emerging Markets ex China Equities in 2024

Emerging markets (EM) ex China equities are set to lag DM peers for a sixth straight year in 2023. Despite this extended underperformance, we don't expect a reversal of fortune in 2024. Still, we see better tactical opportunities elsewhere, and, as a result, we recommend that investors hold EM ex China equities in line with the policy target allocation.

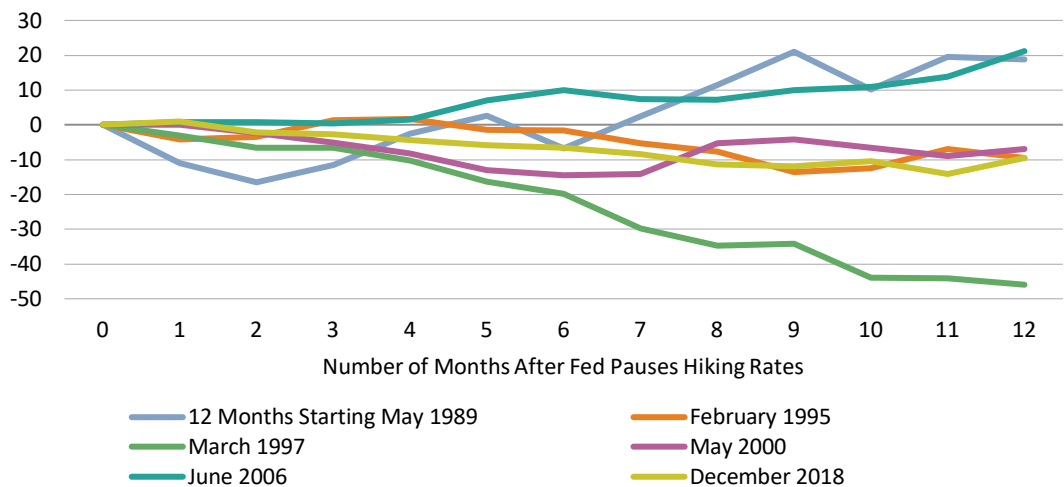
EM stocks tend to underperform during the late stage of the US business cycle. We expect that cyclical backdrop will persist in 2024, given the US yield curve remains inverted, the Federal Reserve likely just ended its rate-hiking cycle, and the US dollar is historically rich. In addition, global trade activity has slowed, as China's economic growth has weakened relative to years past. These factors complicate EM's ability to outperform.

Monetary policy is another factor weighing on the EM ex China outlook. EM ex China tends to struggle following the end of Fed rate-hiking cycles. Further, EM central bank policies tended to be more restrictive than DM counterparts, and the lagged impacts of these higher rates may weigh on EM domestic activity in 2024. Indeed, our measure of EM money supply growth—a leading indicator for the EM profit cycle—was recently the weakest since at least the mid-1990s, suggesting that earnings growth will be challenged.

Low valuations and the current growth outlook prevent us from being outright negative. Equity valuations relative to DM peers are in the bottom percentile of historical observations, suggesting that markets may be well-priced for a late-stage environment. In addition, EM GDP growth is expected to outpace DM by one of the widest margins in the past decade, despite higher EM rates. Taken together, we recommend investors hold EM ex China equity allocations in line with policy.

EM CAN STRUGGLE EVEN AFTER THE FED PAUSES HIKING RATES

December 31, 1987 – November 30, 2023 • US Dollar • Percentage Points • Cumulative EM Excess Return Over DM



Sources: Federal Reserve, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.



Celia Dallas
Chief Investment
Strategist

Chinese Equities Should Rebound in 2024

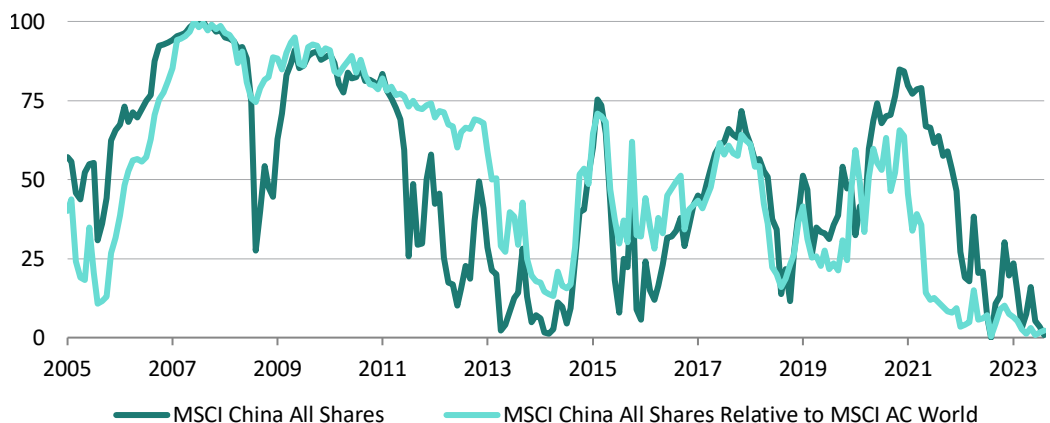
Slowing growth, shifting government priorities, property sector stresses, and geopolitical concerns have pushed Chinese equity valuations back near historical lows. After rallying sharply from October 2022 lows, Chinese equities have underperformed in 2023, returning -9.7% versus 16.6% for global equities, in US dollar terms. As a result, Chinese equity valuations are back to the depressed levels seen in late 2022 when China was in the teeth of its COVID-19 lockdowns.

A de-rating of Chinese equities is justified, given uncertainty over the economic outlook, but we think markets have gone too far. Chinese equity fundamentals need only be less bad than priced in for the market to rally. Catalysts for such a turnaround include continued fiscal and monetary policy easing and signs of improving domestic investor confidence. Indeed, Beijing has introduced new, albeit modest, stimulus measures, and Chinese economic data have shown signs of stabilization with recent economic data surprising to the upside. While the economy has disappointed this year, consensus expects China’s real GDP to grow by 5.2% in 2023 and 4.5% in 2024. Further, the consensus still expects higher corporate earnings growth in China than in most major developed economies through 2024.

Recent policy actions also suggest the government is placing increased focus on controlling financial stress in the property sector, where ongoing weakness has weighed on the recovery in domestic confidence and demand. Comments from officials at the People's Bank of China and financial regulators have indicated further support is forthcoming in the form of financial institutions increasing lending to developers. Should the Fed begin cutting rates next year, as we expect, this would allow the PBOC to increase monetary stimulus without placing excessive downward pressure on the renminbi. Simultaneously, officials have signaled a desire to increase government spending on building affordable housing and improving infrastructure for natural disaster preparedness. Whether the government decides to act more aggressively to support the property sector and the economy remains to be seen. Still, Chinese equities are already priced for a recession-like scenario. Thus, public equities present a near-term opportunity despite the challenges and slower growth outlook.

CHINESE EQUITIES TRADE NEAR HISTORICAL LOWS AND ARE POISED FOR A REBOUND

March 31, 2005 – November 30, 2023 • ROE-Adjusted P/E Percentile (%)



Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Please see Celia Dallas, Aaron Costello, and Vivian Gan, "VantagePoint: Asia Opportunities Amid Shifting Geopolitics," Cambridge Associate LLC, October 2023.





Eric Thielscher
Head of Global
Public Equities



Michael Broucek
Investment Director,
Public Equity

A Higher Share of Active Public Equity Managers Should Outperform in 2024

Active equity strategies, in aggregate, have experienced a sustained period of underperformance, but few investors appreciate the truly cyclical nature of active management. Over the last 50 years, professionally managed portfolios have found themselves in- and out-of-favor for protracted periods. Prior highs and lows of these serpentine results have occurred well before the introduction of various regulations or the onslaught of passive investing, two of the most common arguments attempting to explain why low efficacy rates are here to stay. Instead, narrow equity market leadership in 2023 and outsized IT sector representation in benchmarks—a sector with lofty valuations—should help drive a greater share of manager outperformance.

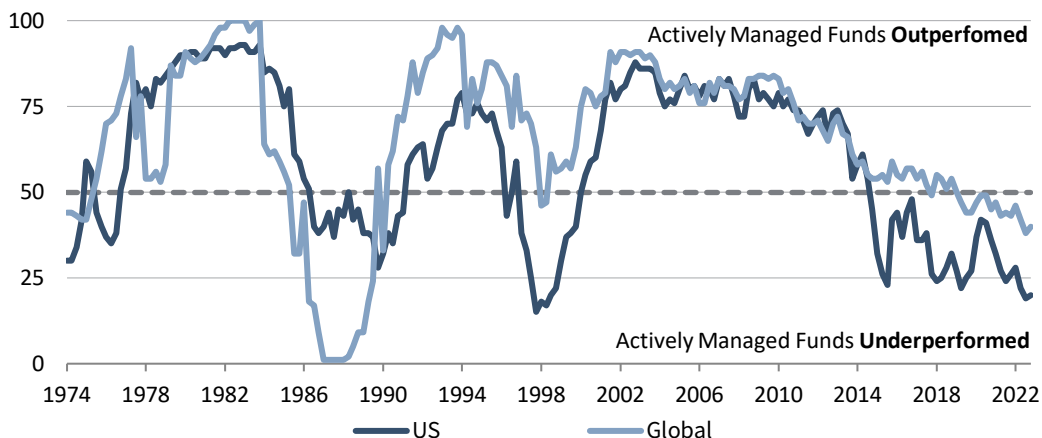
Since most benchmarks are weighted by market capitalization, they become more exposed to stocks with strong recent performance. In 2023, equity markets experienced narrow share price leadership and, as a result, indexes became more exposed to a small number of stocks. The rapid ascent of this small collection of stocks improves the prospective appeal for the rest of the equity market, which should boost the odds for active managers to generate excess returns.

Similarly, thanks to a multiyear period of sustained outperformance of IT stocks, indexes feature them more prominently than any other sector. Meanwhile, IT valuation multiples are particularly high relative to history. This combination, a sector with elevated valuations and one that features prominently in indexes, is a significant benchmark index risk. Of course, one of the longest-lasting cycles for active management occurred when the same conditions were at play during the technology, media, and telecommunications era. That boon for stock pickers, which lasted well more than a decade, was further supported by the GFC era, another period with outsized (financials) sector representation.

Ultimately, we believe the landscape is ripe for active managers to reassert themselves in 2024. Expanded breadth of investment opportunities and IT top-heavy benchmarks will be key factors in this recovery.

ACTIVE MANAGEMENT IS CYCLICAL

December 31, 1974 – September 30, 2023 • % of Funds Outperforming Over 5-Yr Rolling Periods



Source: eVestment.



Simon Hallett
Head of Climate
Strategy

2024 Should Be the Year of the “Transition Plan”

Last year we forecast that net zero–oriented investors would shift from portfolio decarbonization toward driving real world change. As they do so, the hunt is on for data that can help them prioritize their effort, for example tracking whether companies have aligned their business plans with net zero by setting science-based targets (SBTs).

More and more companies are setting SBTs, but they may not be the right companies; it is easier to set an ambitious target if your core activities are not emissions intensive to start with. What really matters for the climate is that the most emissions-intensive companies adopt SBTs. A key portfolio metric is not what portion of companies have SBTs but what portion of emissions come from those companies.

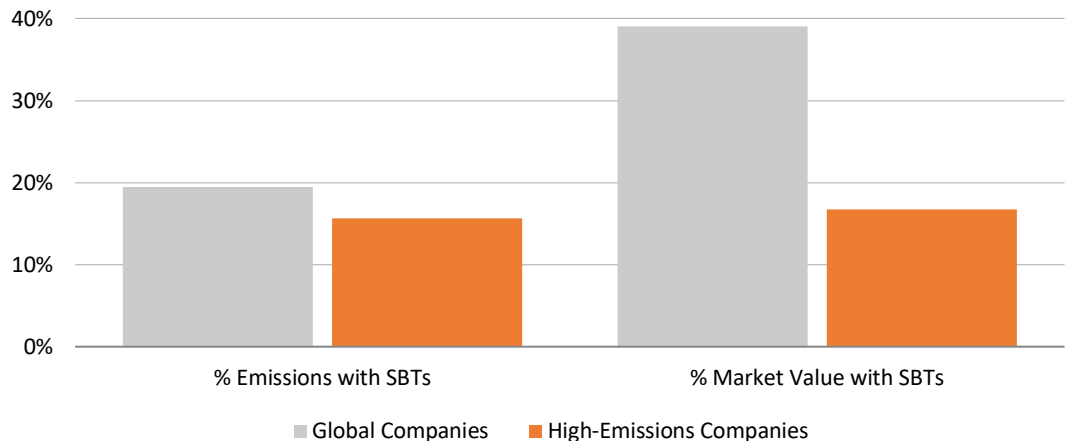
The aggregate data are striking: 39% of MSCI ACWI market value is represented by companies that have set SBTs, but these companies represent only 19% of index emissions. The vast majority (81%) of emissions come from companies with no plans to align with net zero. We, therefore, expect to see investors increasingly prioritize persuading their highest emission holdings to adopt SBTs.

Setting targets is one thing; delivery is another. As more companies set SBTs, investors will then want to hold them accountable for executing a credible strategy—a “transition plan”—to deliver their targets. Transition plans are not the same as SBTs but will explain how those targets will be met. The International Sustainability Standards Board, the United Kingdom’s Transition Plan Taskforce, and Glasgow Financial Alliance for Net Zero are advancing a standard for transition plans and cooperating closely with one another to ensure inter-operability. These will give investors the opportunity to judge companies by the credibility of their plans.

We expect 2024 will see more companies setting SBTs, including a growing portion of the higher emitters. This will be accompanied by those same companies starting to publish transition plans. Investors will start to evaluate those plans and incorporate them into investment decisions using good old-fashioned fundamental analysis.

HIGH EMITTERS LESS LIKELY TO SET EMISSIONS REDUCTION TARGETS

As of Third Quarter 2023



Source: MSCI Inc. MSCI data provided "as is" without any express or implied warranties.



Celia Dallas
Chief Investment
Strategist

California Carbon Allowances Should Outperform Global Equities in 2024

In 2024, we expect supply of California carbon allowances (CCAs) to decline and demand for such allowances to recover. In late July, the California Air Resources Board (CARB) made it clear that it expects to reduce CCA supply to meet the state’s 2030 emission reduction targets. Furthermore, demand for CCAs is expected to improve in 2024. Such conditions reinforce our recommendation to overweight CCAs relative to global equities, as carbon pricing is driven by supply and demand dynamics.

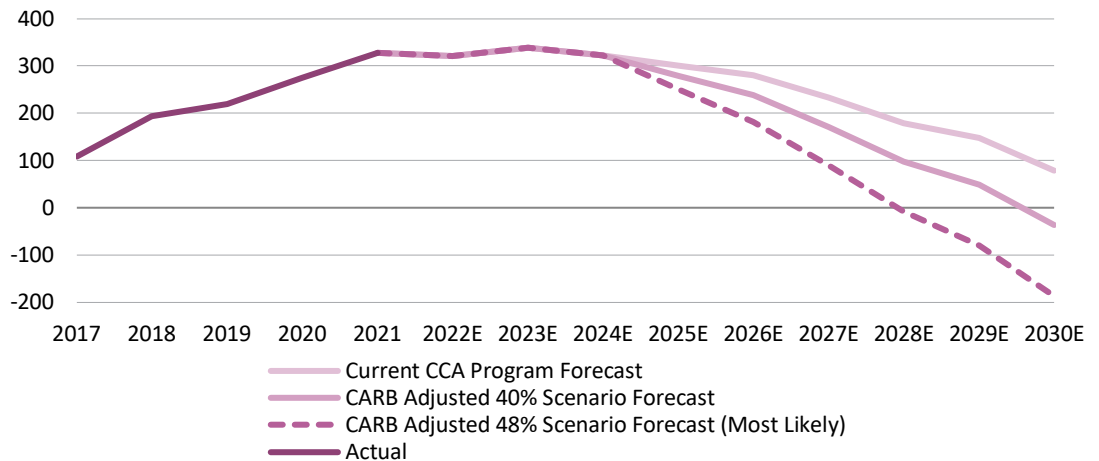
Cap-and-trade programs seek to reduce carbon emissions by putting a price on carbon and requiring covered entities to purchase allowances to offset emissions. The most attractive time to invest in these markets has been as supply starts to fall short of demand, pushing up prices. The California cap-and-trade program budgets a 4% annual CCA supply reduction. CARB’s review revealed that it would need to reduce CCA supply by 7.7% annually from 2025–30 to meet its current 2030 emissions reduction target of 40% relative to 1990. Should CARB raise the bar to a 48% reduction, as some analysts think is likely, supply would need to fall by 11.1% a year.

The magnitude of proposed cuts surprised investors, propelling CCA prices 11.4% between late July and its November 16 peak. CARB expects that tightening supply will push up prices and will likely increase price containment and price ceiling levels that exist to slow down the pace of price increases. The program is expected to be in deficit this year. The expected supply cuts will also draw down the cumulative excess supply relative to demand.

Demand for CCAs is tied to economic growth and progress in transitioning the economy away from carbon. Late 2022 and early 2023 data for the state are consistent with recessionary conditions of falling employment, incomes, and consumer spending. While it is unclear when conditions will recover, weak demand will simply slow down the pace of CCA supply tightening relative to demand, not eliminate it.

CARB CCA PROGRAM REVISIONS WILL REDUCE SUPPLY OF ALLOWANCES RELATIVE TO DEMAND

2017–30 • Cumulative Allowances Net Emmisons (MtCO₂e)



Please see "Tactical CA House Views," Cambridge Associates LLC, November 2023.

Sources: Aetos Capital and the California Air Resources Board.



Theresa Hajer
Head of US
Venture Capital

Down Round US Venture Capital Financings Should Increase, Amid Rising AI Investment Exuberance

Many aspects of the US venture capital (VC) market have corrected from their 2021 highs. But we expect the VC market will be a mixed bag in 2024. Among existing investments, we believe there will be an increase in “down rounds,” meaning valuations will decrease across financings. At the same time, we expect AI will continue to serve as a major market catalyst, supporting new investments and fund commitments.

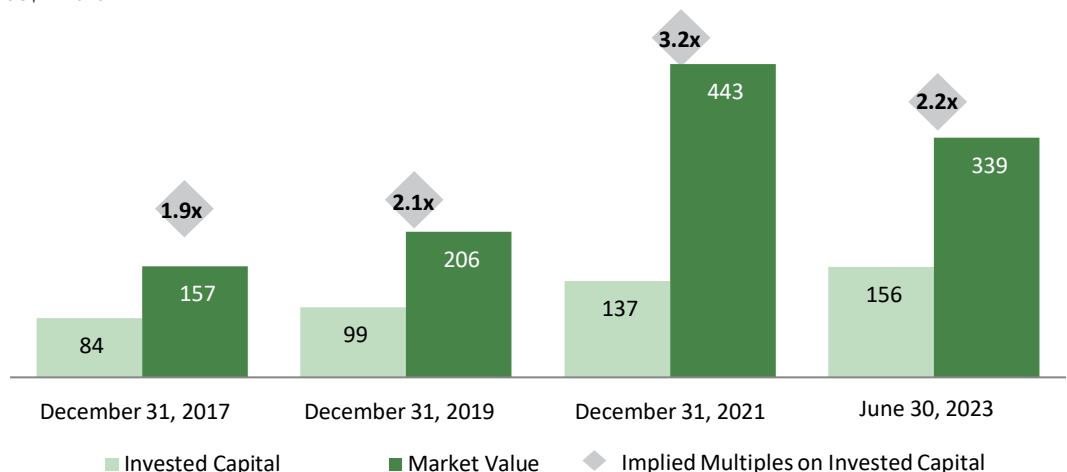
Low interest rates helped drive company formation and follow-on funding helped valuations rise to record highs through 2021. Since then, high interest rates and other macro factors have lessened market enthusiasm for technology start-ups. Later-stage valuations have fallen more sharply than those of early-stage companies, though both still exceed pre-2021 levels. According to Pitchbook, in 2023, the median change in valuation for follow-on financing rounds for early-stage companies was 1.7x, which is the lowest change in any year since 2016. Our US VC data tell a similar story, with implied multiples on invested capital falling since fourth quarter 2021. In 2022 and 2023, many start-ups curtailed spending and forewent growth to postpone raising capital. In 2024, with diminished or expired cash runways, we expect more companies seeking additional funding or liquidity to face down round valuations.

Despite this backdrop, the show will go on. The blistering fundraising in 2021 and 2022 means there is ample capital to fund transactions in 2024. Strong companies will have good prospects, but as investor appetite has waned, others may be consolidated, have their valuations reset, or simply shut down.

Right now, AI is consuming the venture community's attention, which we believe will catalyze the market but maybe not as quickly as some expect. The field of AI is not new, but the seminal breakthrough of generative AI is, sparking fervor for opportunities in it. Deep-pocketed incumbents largely control the foundational layer of generative AI. Existing companies, including venture-backed ones, will continue to integrate AI tools to boost productivity and accelerate their businesses, while others may face obsolescence. Longer term, AI will drive disruptive innovation.

US VC VALUATIONS HAVE FALLEN FROM PANDEMIC HIGHS

US\$ Billions



Source: Cambridge Associates LLC.



Petros Krappas
Senior Investment
Director, Private
Equity

Capital Flows to Private European Turnaround and Value Transactions Should Increase in 2024

Until 2023, private investments had enjoyed a decade of buoyant markets, which favored growth-oriented strategies and put turnaround and value managers out of fashion. Fiscal and monetary stimulus as well as pandemic-related supply chain disruptions forced central banks to raise interest rates to address inflation. Many companies have yet to feel the full impact of the increased cost of capital as they accessed cheap debt packages during the more benign period leading up to 2023. Nonetheless, much of this debt will need to be refinanced in 2024 and 2025.

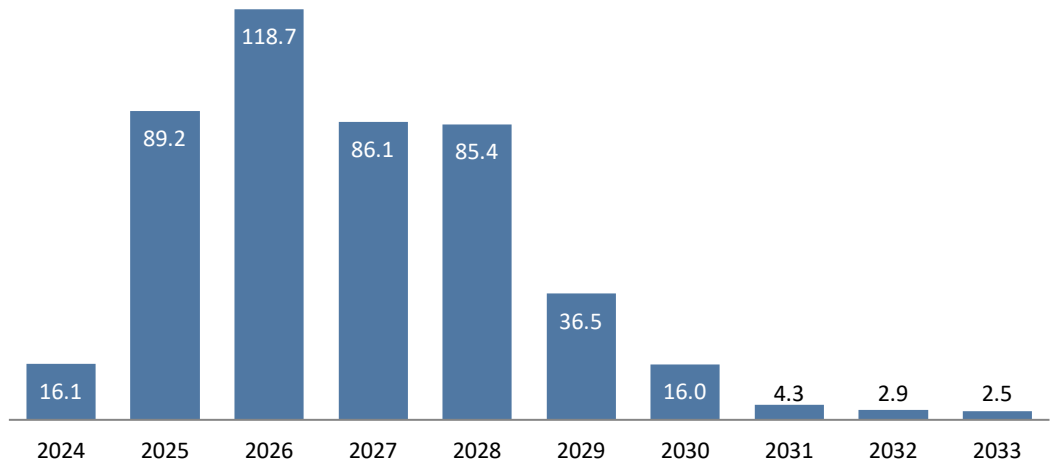
The inevitable increase in the cost of capital will put pressure on profitability, test businesses’ resilience, and likely increase insolvency rates. Conglomerates will continue to divest non-core subsidiaries, while public market dislocations could lead to more public-to-private transactions. We expect these market conditions will help flows to turnaround and value managers increase. Managers with large operating teams and restructuring expertise, differentiated networks of intermediaries, and connections with large corporates to secure carve out deal flow will have an advantage in this market, leading to attractive returns for managers deploying capital in 2024.

Investors with exposure to turnaround and/or value managers will benefit from the increased deployment we expect to see from these managers in 2024, partially offsetting the muted investment activity of the growth-oriented managers that are normalizing their deployment pace. This period of volatility should remind asset allocators that diversification is an essential ingredient of any private equity portfolio. This will boost the appetite for turnaround and value managers increasing the flow of new capital.

As always, manager selection is critical to success. Given the narrow universe of high-quality European turnaround and value managers, investors should remain disciplined and not invest with subpar managers simply to gain exposure. In our view, adding high-quality European turnaround and value exposure to portfolios in 2024 should serve investors well.

EUROPEAN COMPANIES FACE LOOMING DEBT REFINANCING WALL

2024–33 • US\$ Billions • Maturities for Bloomberg Pan-European High-Yield Index



Source: Bloomberg L.P.



Aaron Costello
Regional Head
for Asia



Vivian Gan
Associate Investment
Director, Capital
Markets Research

Foreign Capital Flows to China PE/VC Should Remain Muted in 2024

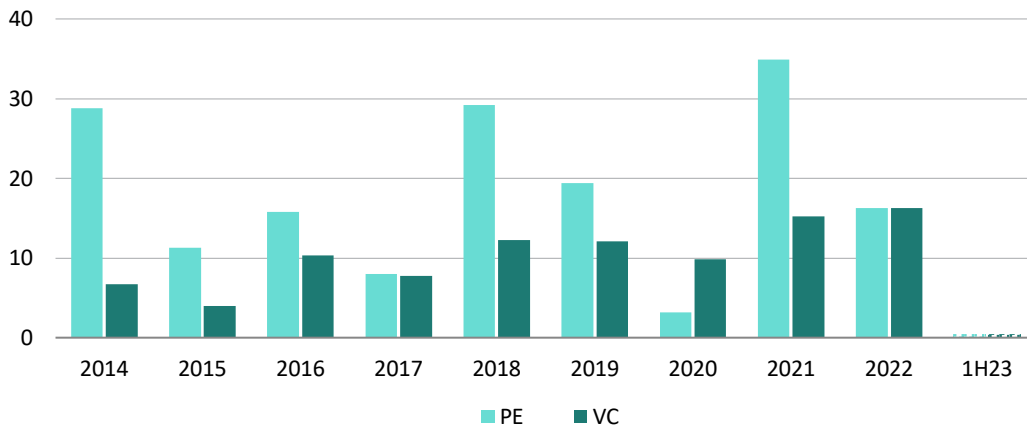
China USD-denominated private equity and venture capital (PE/VC) fundraising slowed dramatically in 2023, given US-China geopolitical tensions and pending US restrictions on advanced technology investments in China. On the latter, US President Biden’s August 2023 Executive Order (EO) limiting investments in advanced semiconductors, AI, and quantum computing in China has created uncertainty for US-linked GPs and LPs alike and impacted fund flows. Both GPs and LPs are awaiting clarity on how the measures will be implemented. The Treasury Department will take time to issue revised rules on the proposed program, which will be subject to further feedback and final approval. Therefore, clarity is unlikely until early 2024 at the earliest.

Even with the regulations finalized, GPs and LPs will need time to digest implications, and therefore fundraising in 2024 will likely remain muted. This is particularly the case for China VC, given the EO is focused on technology and potentially reduces the opportunity set for US-linked GPs and LPs. While China growth equity and buyouts may be more insulated, given their sectoral focus, US political rhetoric could deter some US and European investors from committing capital, especially in a US presidential election year. Lower capital commitments imply some non-US-linked GPs may also hold back fundraising, especially given broader headwinds to portfolio marks and exits.

Politics aside, attractive investment opportunities remain in China PE/VC, given China’s focus on technology self-sufficiency and other themes (e.g., consumption and healthcare). Non-US investors are likely to step in amid any pullback from US capital. However, overall foreign fund flows to the market will remain low in 2024 versus the annual average of \$29 billion raised from 2014 to 2022, given uncertainty over how China’s progress in other technology areas (e.g., advanced manufacturing and green energy) will be impacted by the United States restricting access to high-end semiconductors and related technology. Yet, fewer capital-chasing deals may result in better opportunities for investors (US and non-US) willing to tolerate the uncertainty and headline risk.

USD-DENOMINATED PE/VC FUNDRAISING IN CHINA SLOWED SHARPLY IN 2023

2014–23 • US\$ Billions



Source: PitchBook Data, Inc.

Please see Celia Dallas, Aaron Costello, and Vivian Gan, “US Limits Semiconductor, Quantum Computing, and AI Investments in China,” Cambridge Associates LLC, August 2023, and Celia Dallas, Aaron Costello, and Vivian Gan, “VantagePoint: Asia Opportunities Amid Shifting Geopolitics,” Cambridge Associate LLC, October 2023.



JP Gibbons
Senior Investment
Director, Sustainable
& Impact Investing

Fundraising by Natural Capital Strategies Should Hit a Record High in 2024

Natural capital strategies support land-based investments in sustainable agriculture and forestry, oceans and fresh waters, and other ecosystem services. These investments support a healthier planet and are needed to fight climate change. We expect fundraising for natural capital investment strategies will hit a record level in 2024 due to government and public demand, which continues to strengthen the opportunity set.

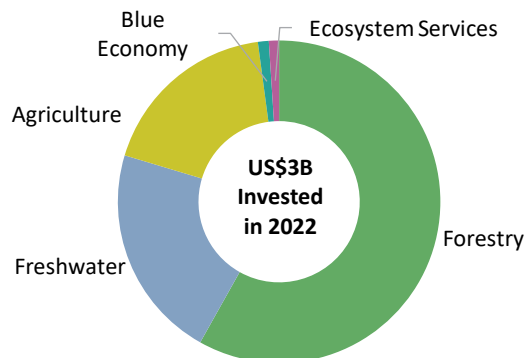
Government policy, particularly in developed markets, is creating attractive investment environments. A new framework adopted by 196 countries at the 2022 United Nations Biodiversity Conference put forth several ambitious environmental commitments, complementary to the climate change goals of the 2015 Paris Agreement. Targets include the restoration and protection of 30% of the earth’s land and sea, substantial reductions in harmful subsidies for agriculture and fishing, significant financial support to developing countries, and new reporting requirements regarding corporate influence on nature. Changes in policy should follow to stimulate momentum toward the commitments and create favorable investment opportunities.

Additional momentum has come from the general public’s demand for healthier food, cleaner waters, and thriving natural landscapes. Particularly in jurisdictions where regulation is opaque, the private sector has filled the gap through market-based tools that influence business decisions toward nature-positive projects. Feeling the urgency to act, responsible corporations have bolstered mechanisms through investment in voluntary carbon and biodiversity credits, water conservation, and organic premiums.

Recognizing the value of nature is not a new concept, but until recently it wasn’t clear how to monetize that value. These are still early days for natural capital investments, and challenges (i.e., measurement and valuation) need to be navigated. However, investment in the sector—estimated at \$3 billion per year in 2022 according to the United Nations Environment Programme—is realizing significant growth, boosted by tailwinds like regulation and market demand. Managers are converting more traditional strategies to nature positive and identifying new investment themes. Investors are leaning into the favorable investment environment while mitigating exposure to nature-related risks. The amount of investment dollars raised for natural capital will grow significantly from years past as the world recognizes the need and value in protecting our natural resources.

NATURAL CAPITAL IS UNDERPINNED BY CORE INVESTMENT THEMES

2002–21 • % of Capital Committed to Each Theme



Sources: Finance Earth (<https://finance.earth/wp-content/uploads/2021/05/Finance-Earth-GPC-Market-Review-of-NbS-Report-May-2021.pdf>) and United Nations Environment Programme.



Nicolas Schellenberg
 Managing Director,
 Private Equity

Private Equity Secondary Transaction Volume Should Increase to a Record Level in 2024

Private investment secondaries have experienced remarkable growth, peaking at a record of more than \$130 billion in 2021. Although 2022 and 2023 did not reach the same heights, we anticipate a resurgence in 2024. This optimism is driven by several factors, including the substantial amount of dry powder, an expected narrowing of the bid-ask spread in secondaries, the continuing need for liquidity among LPs, and ongoing market innovation.

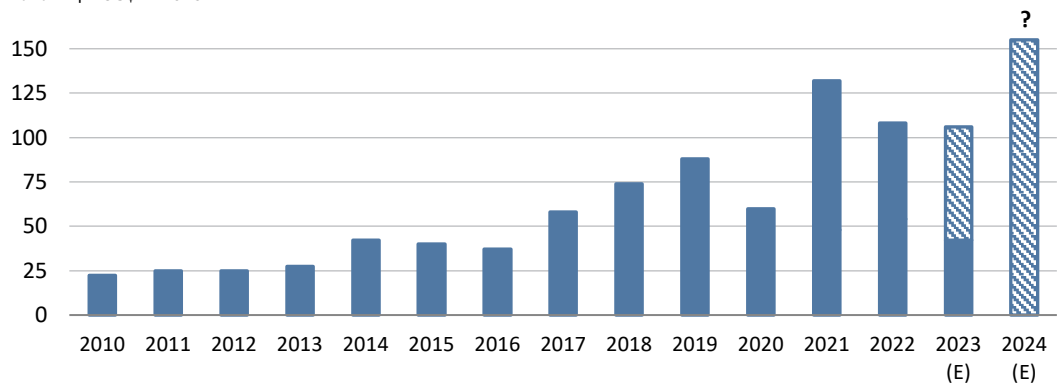
In 2022 and 2023, the secondary market witnessed large fundraisings, including record-breaking fund closings, which significantly boosted the amount of “dry powder” capital available for new investments. As we enter 2024, dry powder in the global secondaries market is projected to be around \$220 billion (1.7x–2.2x recent transaction volume).

Pricing will experience modest increases, with average discounts around 10%. However, these pricing improvements—particularly in high-quality assets—are expected to pique the interest of sellers seeking liquidity. At the same time, valuation adjustments by GPs will reduce the bid-ask spread, facilitating more transactions. And, sellers are becoming increasingly comfortable with discounts, weighing them against the opportunity costs of not reinvesting in crucial manager relationships. Returning to a higher employment of debt by buyers may further bridge the bid-ask spread, facilitating additional transactions and bolstering available capital for secondaries.

The GP-led market, though not new, is often viewed as innovative due to its recent growth. Its growth has been propelled by GPs seeking liquidity solutions for their LPs in a challenging exit landscape. Secondary buyers are also becoming more creative to unlock transactions, and we have observed a rise in the implementation of inventive strategies and structured approaches, including preferred equity solutions and deferred payments. We expect a promising future for private investment secondaries, marked by growth to a new record transaction volume in 2024.

PE SECONDARY DEAL VOLUME CONTINUES GROWTH TRAJECTORY

2010–24 • US\$ Billions



Sources: Cambridge Associates LLC and Jeffries LLC.



Wade O'Brien
 Managing Director,
 Capital Markets
 Research

US High-Yield Bonds Should Outperform Loans in 2024

Leveraged loans are on track for their third consecutive year of outperformance compared to US high-yield (HY) bonds for the first time in more than 20 years. This is unlikely to continue in 2024 as leveraged loans face greater headwinds from slowing economic growth and rising debt servicing costs.

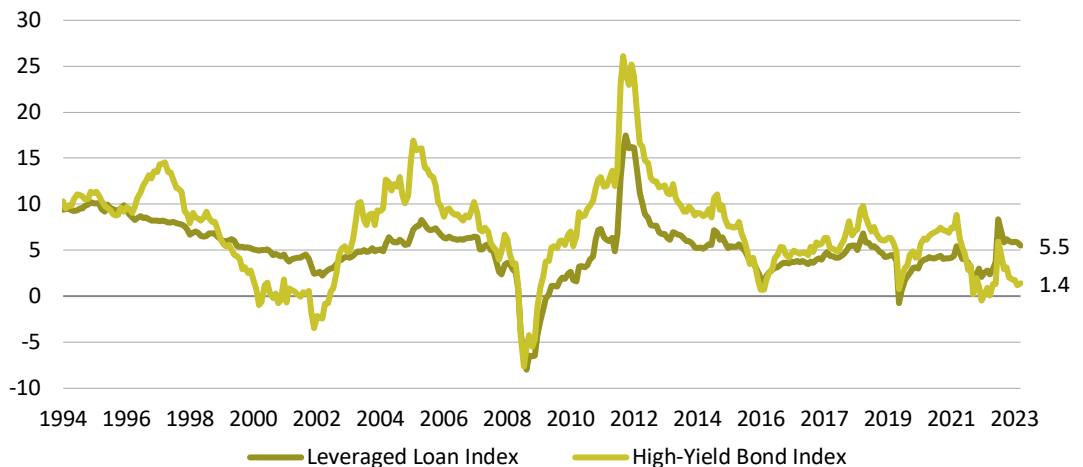
Rising short-term yields have boosted loan coupons and returns but hurt issuer fundamentals. Loan interest coverage ratios have dropped from 4.4x at the end of 2022 to 3.0x at the end of third quarter 2023 and are even lower once expenses, such as maintenance capex, are considered. Ratios look even shakier for the weakest borrowers that have driven recent performance. B- rated borrowers have a coverage ratio of less than 2x. US loan default rates (3.1% over the past 12 months) already outpace those of bonds and higher rating downgrade ratios suggest this will continue. Further, weak loan documentation and an increasing share of loan-only issuers mean these defaults will continue to prove more painful for investors.

In contrast, HY index coverage ratios have also declined but remain much higher (around 5.0x as of mid-year). Much smaller HY index weights for lower rated (B- and CCC) issuers are one explanation. Looking forward, the gap between HY and loan issuer fundamentals should widen as the impact of higher short-term rates continues to be reflected in loan issuer borrowing costs.

While we think HY bonds will outperform loans in 2024, we remain neutral overall, given current spreads are below their historical average and levels typically seen during recessions. HY defaults are likely to rise, especially if growth disappoints in 2024. Loan defaults also could prove manageable if weak covenants provide companies more cushion and/or private equity owners step in to provide support. Given these dynamics, our preferences in liquid credit remain for securitized assets like investment-grade collateralized loan obligation debt, where yields are in mid-to-high single digits and elevated spreads provide cushion if issuer fundamentals deteriorate in 2024.

LOAN PERFORMANCE LOOKS OVEREXTENDED AND UNLIKELY TO CONTINUE, GIVEN WORSENING CREDIT QUALITY

December 31, 1994 – November 30, 2023 • Rolling Three-Yr AACRs • Percent (%)



Sources: Bloomberg Index Services Limited and Credit Suisse.



Frank Fama
Co-Head of Global
Credit Investment
Group

Direct Lending Strategies Should Deliver Above-Average Returns in 2024

After a decade-plus era of cheap money, the higher-rate environment will continue to directly benefit the floating-rate direct lending asset class. Direct lending strategies tend to provide steady cash flows, generate consistent returns, and distribute capital at a faster rate than other private investment strategies, particularly in today’s environment. We expect that direct lending strategies will deliver returns above the long-term average of 6% to 7% for unlevered funds and 8% to 10% including fund level leverage, given attractive current yields and solid underwriting standards.

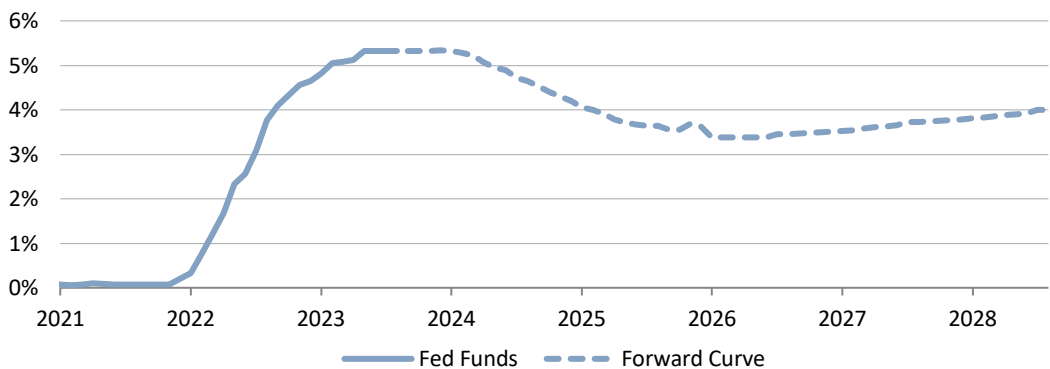
Direct lending funds provide first-lien senior-secured loans to middle-market companies. These loans are typically floating rate and had a yield of around 7% when rates were low. Currently, with three-month secured overnight financing rate roughly 550 bps and credit spreads around 600 bps, investors are enjoying low double-digit asset yields. Direct lending funds will distribute that income quarterly.

Loans structured in the current environment are more favorable to lenders than in the recent past. In a higher-rate environment, debt capacity of borrowers is lower, meaning leverage levels have come down and sponsors are contributing more equity to transactions. Financial covenants are being set tighter, helping to protect downside if the borrower underperforms. Additionally, loan funds will have a shorter duration than other private investment asset classes. Loans will typically have a maturity of five years and an average life of three to four years, so distributions to LPs will begin shortly after the end of the investment period.

Direct lending strategies have grown significantly over the last ten years amid a period of low interest rates and a strong economy, leading to low defaults. This has resulted in a period of little dispersion in returns. While today’s attractive all-in yields are an opportunity for lenders, they also increase borrowers’ interest expenses and potential risk. We expect that managers with experience across credit cycles and the discipline to maintain underwriting standards will differentiate themselves from the pack.

FED FUNDS FORWARD CURVE INDICATES HIGHER-FOR-LONGER RATES

April 30, 2021 – November 30, 2028



Sources: Bloomberg L.P. and Federal Reserve.



Vijay Padmanabhan
 Managing Director,
 Credit Investments

European Opportunistic Private Credit Funds Raised in 2024 Should Deliver Above-Average Returns

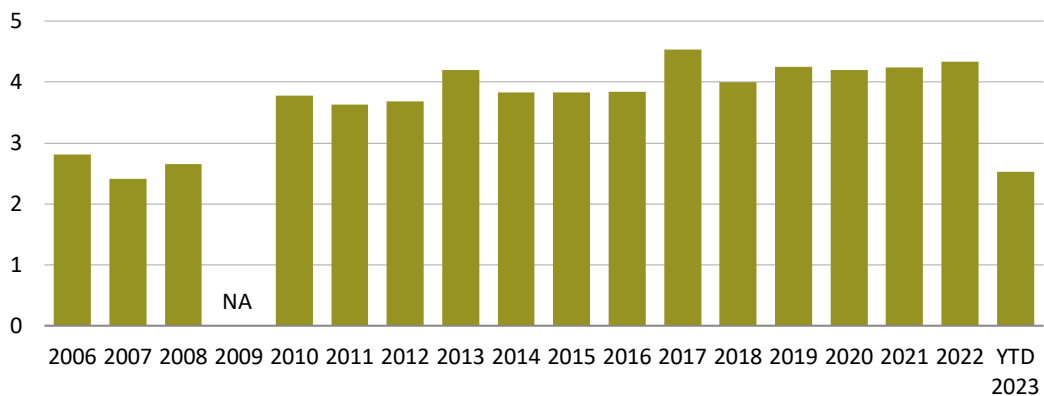
European credit opportunities funds have returned an underwhelming 7.0% since mid-2011 against a targeted return in the mid-teens. A decade of near-zero interest rates gave corporates easy access to low-cost capital and allowed them to build strong balance sheets. Except for short periods of market dislocations or isolated cases of stress, it was mostly a challenging time for funds that specialize in providing highly structured customized solutions to balance sheet problems. But we believe this is set to change in 2024, as we expect corporates to actively look for ways to reduce interest costs and improve liquidity.

With interest costs almost doubling and operating costs remaining high, we have started to see a decline in key coverage ratios. One key metric, EBITDA-to-interest expense ratio for European buyouts, has fallen from 4.3x in 2022 to 2.5x in 2023. This goes to show the declining level of cash generation by corporates due to the rise in costs. We are likely to see more dispersion in credit with companies in certain sectors and geographies facing more pressure than others.

Since 2022, the pace of public market debt issuance has slowed, and European banks have pulled back to focus on their regulatory capital requirements. We have seen the commercial real estate market come under immediate pressure post-COVID. Pockets of distress are emerging in sectors, such as financial services and healthcare, as pandemic-induced financial support has waned. Credit strategies that can provide capital solutions to larger corporates that otherwise would have accessed public market and/or that can pivot into distressed opportunistically will see a robust deployment environment in 2024. While individual manager performance will, of course, vary, we expect next year’s vintage of European opportunistic private credit managers will deliver above-average returns.

EUROPEAN BUYOUT INTEREST COVERAGE RATIO HAS FALLEN TO LOW LEVELS

2006–23 • EBITDA/Interest Expense Multiple



Source: Pitchbook Data, Inc.



Joe Marena
 Head of Hedge Fund
 Research and Digital
 Assets Investing

Equity Long/Short Performance Should Be Above Average in 2024

We expect equity long/short (ELS) hedge funds should perform above the industry’s long-term average in 2024, due to the considerable rise in short rebates and economic conditions within major geographic regions. We believe this will support US ELS generalist strategies and sector specialists, as well as regionally focused ELS funds in Europe and Asia.

Higher short-term interest rates have increased the short rebate to levels unseen since the GFC. In fact, a fund’s short book now generates yields greater than benchmark equity dividend yields for the first time since 2008. A higher short rebate improves potential future performance, as it lowers the cost of carrying short positions and increases the opportunity set for single-name shorts.

The weak economic backdrop we expect in 2024 should lead to a greater focus among investors on earnings and free cash flow. This positions ELS funds well, as companies that have been cheap on a fundamental basis may perform better and companies that are expensive may be strong candidates for shorting.

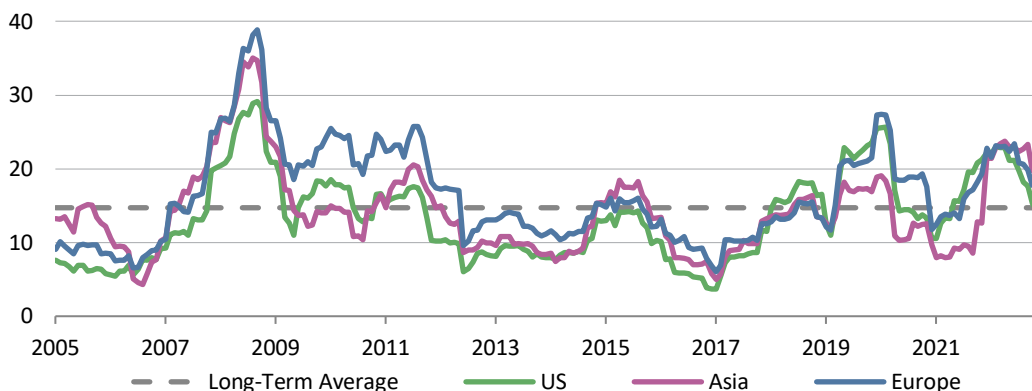
In Europe, dispersion is above median among listed companies, which suggests that active stock pickers have an above-average field of candidates for longs and shorts. Economically transformative dynamics—reshoring of supply chains and a wall of low interest rate loan maturities, the latter of which will peak in Europe in 2026—will lead to clear winners and losers among European companies.

In Asia, where long-biased strategies did particularly well over the last decade, we expect less directionally biased ELS funds should outperform in 2024. Market leadership and underperformance are likely to shift more rapidly among companies and countries in Asia in 2024 than over the past decade, which will give more nimble portfolios greater alpha opportunities.

In the United States, the same dynamics facing Asian managers and the broader European economy will set up US ELS and sector specialist funds for a wide dispersion of outcomes. Historically popular long-biased sector strategies are likely to face pressure from peers with lower net exposures and greater skill at selecting alpha generating shorts. In 2024, long out-of-favor US value ELS funds should perform particularly well.

ABOVE-AVERAGE VOLATILITY MAY LEAD TO MORE LONG/SHORT OPPORTUNITIES

December 31, 2005 – November 30, 2023 • Standard Deviation (%)



Sources: FactSet Research Systems and MSCI Inc. MSCI data provided “as is” without any express or implied warranties.

US REIT Performance Should Rebound in 2024



Sehr Dsani
Investment Director,
Capital Markets
Research



Marc Cardillo
Head of Global
Real Assets

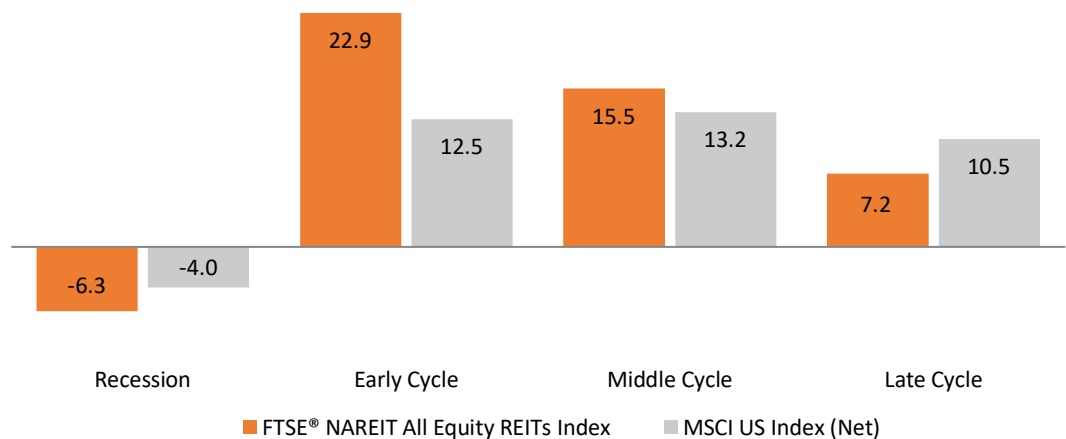
US REITs have performed poorly since the end of 2021, underperforming US equities by 20 ppts. Increases in bond yields were a significant headwind, diminishing the relative attractiveness of REIT dividend yields and raising concerns over the value of underlying assets. Following the weak performance, valuations have fallen to an attractive level. This reality—combined with the fact that REITs are well positioned to take advantage of acquisition opportunities from overlevered private property owners—positions the sector for a rebound in 2024.

Recent poor performance has improved the attractiveness of valuation metrics. First, the sector’s price-to-funds from operations (P/FFO) multiple relative to a similar measure for the broader US market is at the 35th percentile of observations since 1990. Second, REITs are trading at a 17% discount to net asset value, which is lower than the 20-year average of a 0.9% discount. Taken together, these metrics suggest the market has already adjusted price levels to reflect difficult conditions in 2024. Historically, REITs have outperformed as a new business cycle emerges. We expect investors will increasingly get clarity on the next business cycle as 2024 evolves.

Despite concerns that the real estate sector must refinance a material volume of debt, REIT balance sheets are generally sound. This is in part because REITs delevered since the GFC. The sector’s debt/equity leverage ratio is 35% versus the sector’s 50% level during the GFC and 60%+ for many private counterparts today. Around 90% of REIT debt is fixed rate, maturities are reasonably staggered, and the low leverage rate relative to the private sector is due in part to REITs’ low office exposure (4.6%). In addition, many REITs have the advantage of being able to access the unsecured debt market. These dynamics position REITs favorably relative to their private peers and should allow them to address upcoming refinancings and have the necessary capital to make strategic acquisitions in this environment.

REITS PERFORM BEST DURING EARLY CYCLE

April 30, 1975 – April 30, 2020 • Average Annual Compound Returns (%)



Sources: FTSE International Limited, MSCI Inc., National Association of Real Estate Investment Trusts, and National Bureau of Economic Research (NBER). MSCI data provided “as is” without any express or implied warranties.



Wade O'Brien
 Managing Director,
 Capital Markets
 Research

Infrastructure Performance Should Rebound in 2024

Public infrastructure equities underperformed broader benchmarks in 2023, weighed down by rising interest rates, policy uncertainty, and recent profit warnings in some sectors. Improved valuations, a supportive policy backdrop, and an ability to grow earnings during inflationary environments mean the sector should boost investor portfolios in 2024.

Infrastructure assets include those in areas such as transportation, communications, and power generation. An increase in benchmark bond yields, as well as profit warnings from some large renewable energy players, caused listed infrastructure assets to underperform, with US and global ex US infrastructure stocks returning -4.5% and 2.4%, respectively, year-to-date through November 30.

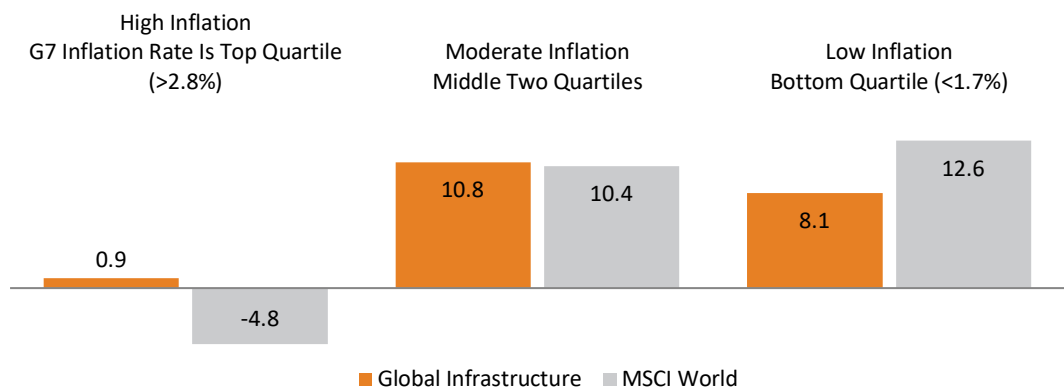
Improved valuations should mean better relative and absolute performance in 2024. P/E ratios for global ex US and US infrastructure indexes have fallen by around 40% and 25%, respectively, since their mid-2021 peaks. Despite weaker earnings guidance from some companies, profitability in both regions remains in line with long-term averages and is protected by long-term contracts that include the ability to pass on higher costs to users. These dynamics help explain why utility sector earnings forecasts have predicted higher growth than most others in 2023, as well as why listed infrastructure assets historically have outperformed during periods of elevated inflation.

Infrastructure assets also have tailwinds from recent policy developments. Legislation like the US Inflation Reduction Act and the European Commission’s REPowerEU plan will boost demand for clean energy infrastructure and underlying profit margins. Ambiguity around yet-to-be finalized language in the US legislation has been one factor recently weighing on stock performance, but this should be cleared up in the months ahead.

While public infrastructure equity performance is likely to improve in 2024, investors willing to lock up liquidity for several years may also benefit by allocating to private funds. While approaches and operational risks can vary (i.e., greenfield versus brown-field assets), the best of these funds can offer exposure to skilled operators capitalizing on secular themes such as the energy transition and burgeoning data center demand. Despite near-term economic uncertainty, these trends continue to accelerate, which we expect will generate rewards for investors.

INFRASTRUCTURE HAS TENDED TO OUTPERFORM IN HIGH AND MODERATE INFLATIONARY ENVIRONMENTS

January 31, 1990 – November 30, 2023 • Percent (%)



Sources: MSCI Inc., Standard & Poor's, and UBS. MSCI data provided "as is" without any express or implied warranties.



Michael Brand
 Managing Director,
 Real Assets

Nuclear Should Emerge as a Budding Investment Opportunity in 2024

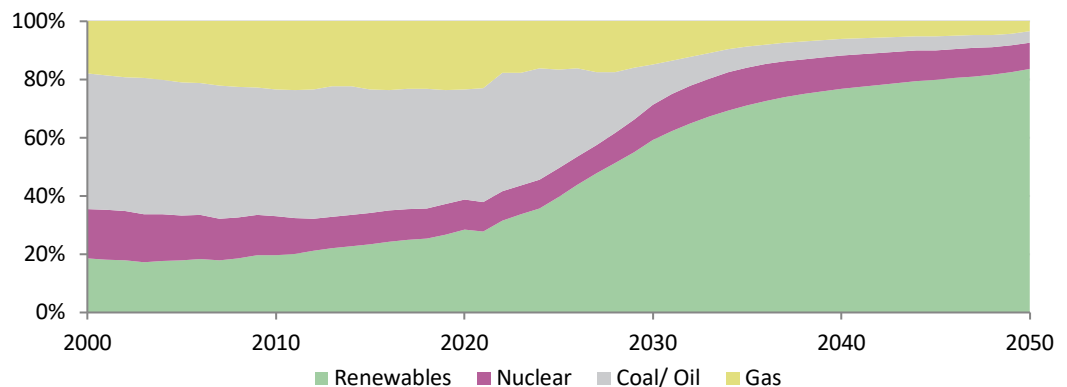
Technological advancement, moderating public perception, improved safety, and new challenges in the drive for net zero have created a foundation for nuclear energy’s next chapter. Renewable energy’s adoption as a key replacement for dirty coal and other fossil fuel-oriented power has created large challenges in maintaining reliable baseload power capacity, which underpins the keystone of energy transition—electrification. Even as the memory of past disasters lingers and the issue of waste storage endures, new technologies and the urgency to bridge the new challenge of intermittency has helped nuclear re-emerge as an option for clean, reliable, and scalable baseload electricity. Policymakers have also provided a boost, with countries such as France pledging in 2022 to further build out its nuclear fleet, and even the United States implementing substantial subsidies to keep its existing fleet operational as part of the recent Inflation Reduction Act—a sharp about-face from a policy standpoint. We believe nuclear will emerge as an energy transition investment opportunity in 2024, given the need for clean, reliable baseload electricity, recent government policy changes, and technological advancements.

The opportunity is not exclusive to just reactors, where it is unclear whether the future is modular or traditional, large-scale. Complementing the reactor fleet is a fragmented ecosystem of services and technology companies, which both construct new reactors and keep existing ones running. The landscape features an abundance of small, entrepreneur-run businesses that fly under the market radar and transact at significant discounts to the broader opportunity set. These companies seek to add value by helping businesses professionalize, consolidate, and harness new technologies. There are also opportunities associated with AI, software platforms, and plant-management technology, all of which should continue to make the sector safer and more efficient.

Hurdles certainly exist in the form of public perception, political jockeying, and even securing a steady stream of fuel, as the mining sector remains constrained. However, energy transition’s demands have created an ideal environment for the sector’s next chapter. With power-hungry 21st century initiatives, such as digitization and electrification, the sector should continue to enjoy increased investor attention as the opportunity emerges.

NUCLEAR IS BRIDGING THE ENERGY TRANSITION

December 31, 2000 – December 31, 2050 (projected) • Share of Electricity Generation (%)



Source: BloombergNEF.

The US Dollar and Gold Should Hold Their Value in 2024



Sean Duffin
Senior Investment
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Senior Investment
Director, Capital
Markets Research

The US dollar and gold are both stores of value and tend to do well in periods of turmoil. Despite this reality, as well as our views that economic activity will be weak in 2024 and that equity market volatility will increase, we expect that prices of these assets will remain range bound.

The dollar's best days are likely already behind it for this currency cycle, following the run-up that climaxed in September 2022. Looking forward, the path of least resistance for the greenback over the next five-year period is for it to depreciate from its current elevated real valuation. The currency is currently benefiting from wide interest rate differentials versus its peers, expectations of continued US economic outperformance, and risk aversion. The unwinding of any of these factors against a more normalized macroeconomic backdrop could precipitate dollar weakening.

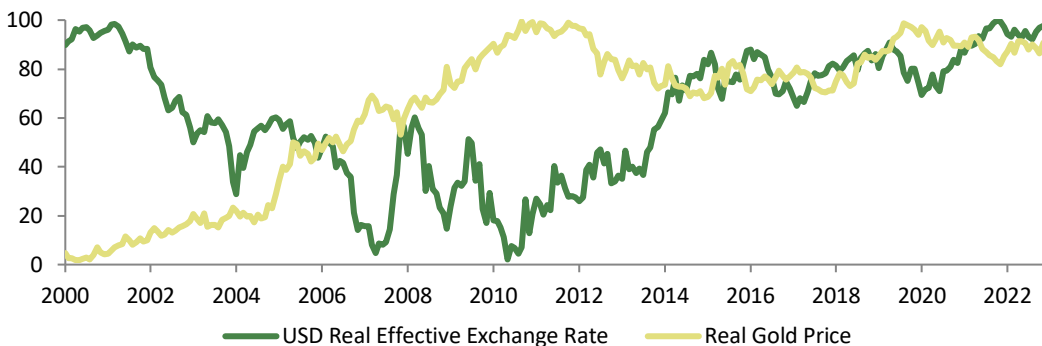
Nonetheless, it may be premature to expect these supportive factors to dissipate in 2024. Consensus US growth outperformance versus the Eurozone and United Kingdom for 2024 is relatively modest and could improve, given the headwinds Europe faces. Relatedly, the Fed likely has the strongest claim to genuinely needing to keep rates higher for longer. And even if conditions in the United States continue to deteriorate, the flight-to-safety effect the US dollar enjoys may initially mitigate the impact of reduced growth and rate differentials. Therefore, 2024 looks more likely to deliver bounded dollar performance than a surge higher or lower.

Like the dollar, we expect gold's performance will not stand out. Recently, geopolitical tensions and central bank buying have supported its price, but we believe its recent rally likely means that it is already pricing in an uptick in geopolitical risk and market volatility next year. With real yields now trading at their highest levels since the GFC and our view that the Fed will only modestly cut its policy rate in 2024, the opportunity cost of holding a non-interest-bearing asset like gold will remain high, making tactical gold positioning funded from assets like cash more difficult to tolerate.

There are several catalysts that could spark another strong year of performance for both gold and the dollar, such as unexpected escalation in geopolitical conflicts or an equity market meltdown, but we consider those catalysts as tail risks.

BOTH THE US DOLLAR AND GOLD ARE TRADING AT ELEVATED PRICES

December 31, 2000 – November 30, 2023 • Percentiles Based on History Back to 1971



Sources: Eurostat, Intercontinental Exchange, Inc., MSCI Inc., OECD, Refinitiv, Thomson Reuters Datastream, and US Federal Reserve. MSCI data provided "as is" without any express or implied warranties.



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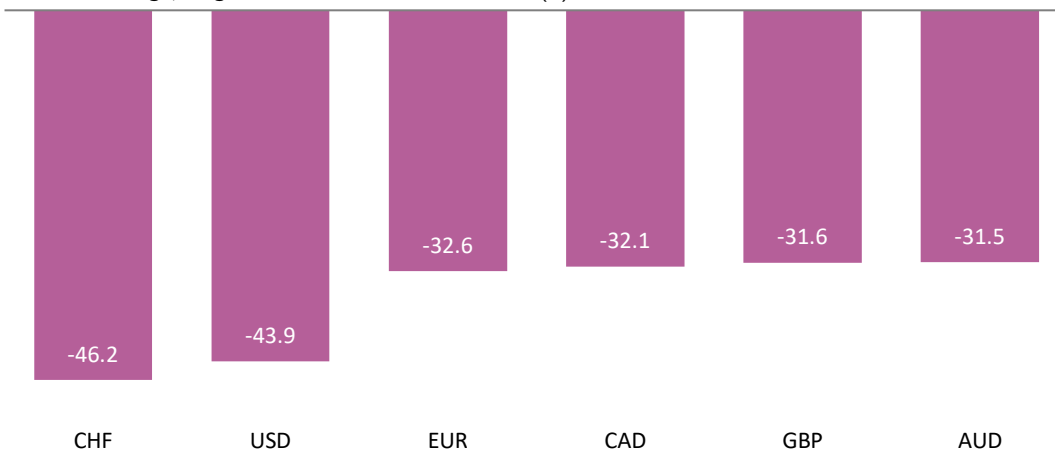
The Yen Should Appreciate in 2024

The Japanese yen has weakened persistently since the beginning of 2021. Indeed, the most recent sell-off has taken the valuation of the yen to historically cheap levels. Our calculations show the currency's real valuation versus the dollar is lower than 99% of observations back to June 1971. Monetary policy divergence lies at the heart of the yen's decline. The post-COVID surge in inflation occurred sooner and more forcefully among Japan's peers, with material monetary tightening being delivered. Japan, by contrast, maintains a negative policy rate.

The rise in inflation in Japan is undeniable, however, with Bank of Japan (BOJ) core inflation (excluding fresh food and energy) currently at 4.0%, the highest since the early 1980s. The only response so far from the BOJ has been to widen the bands of its Yield Curve Control* (YCC) policy. The relative lack of wage pressure has so far stayed the BOJ's hand, as it retains concerns about the persistence of current inflation rates. Nonetheless, wage pressures are at the high end of the range of the last three decades and the labor market looks tight by most metrics. With core inflation having been above target for nine months and economic activity coming in firmer than in most of its peers, pressure is likely to build in 2024 for further monetary tightening.

While any further BOJ tightening is likely to be modest in comparison to other regions, it should be sufficient to drive some yen appreciation. It would reduce the currency's negative carry, making it less onerous for those wishing to express a positive JPY view, and less beneficial to those using the yen as a funding currency. There are, of course, scenarios in which the BOJ does not deliver any further tightening. One of the most likely would be in the event of a more severe global economic slowdown. However, in this scenario, other central banks would be aggressively cutting interest rates, causing interest rate differentials to move favorably for the yen. While other scenarios could play out, the balance of risks appears skewed toward an appreciating JPY in 2024.

THE YEN IS CHEAP AGAINST ALL PEERS AND PARTICULARLY SO VERSUS THE US DOLLAR
As of November 30, 2023 • JPY Deviation From Median REER (%)



* Under yield curve control, a central bank commits to buy whatever quantity of bonds is necessary to keep yields at their target level. In practice, the BOJ operated YCC with an allowance band on either side of its central yield target.

Sources: Eurostat, OECD, Refinitiv, and Thomson Reuters Datastream.

The Crypto Winter Should Transition to Spring in 2024



Joe Marena
Head of Digital
Assets Investing
and Hedge Fund
Research

Digital assets were in a so-called crypto winter from mid-2022 to late 2023. Crypto winters are bear markets when crypto prices and private valuations are depressed for extended periods. While episodic, this is the fourth such winter since the inception of the crypto markets. We expect a crypto spring will arrive in 2024, given recent price dynamics among some cryptocurrencies, recent regulatory developments in many key markets, and continued growth in both adoption and in the technology’s utility.

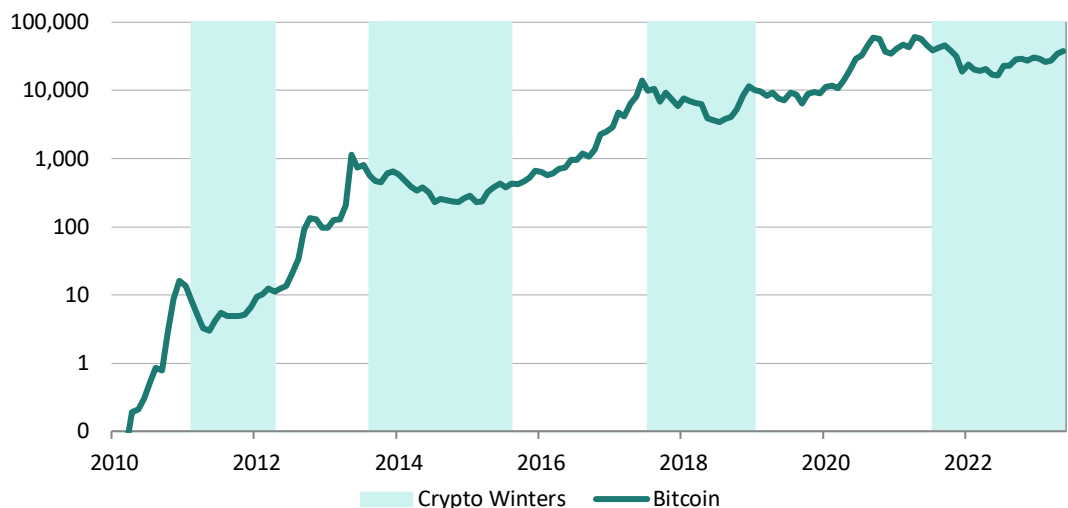
Prior crypto winters have been periods of innovation. Major technical advances and new use cases have followed prior winters. During this winter, progress has been made in core technologies that will make blockchain faster, cheaper, and more capital efficient. As a result, the prices of a few larger cryptocurrencies have performed well in 2023.

A hurdle for cryptocurrencies has long been its regulatory footing, but many jurisdictions have developed clear regulatory frameworks. These markets include the United Kingdom, European Union, United Arab Emirates, Singapore, Hong Kong, South Korea, Thailand, and Japan. While US regulatory clarity and banking access remains cloudy, the stars are potentially aligning for the first US spot Bitcoin exchange-traded fund to be approved by regulators in 2024.

Cryptocurrency usage has also continued to broaden, which we expect will support a spring transition in 2024. One important area involves US dollar-backed “stablecoins” that allow anyone, anywhere to hold US dollars outside of their national banking system using only their cell phone, regardless of what a government might restrict. In late 2023, stablecoins had an aggregate market value of approximately US\$130 billion, up from US\$3 billion in 2018. Established companies have noticed the promise of stablecoins, with PayPal launching its own stablecoin in 2023.* For investors focused on new markets driven by new technology, 2024 may be a good entry point as the next crypto spring commences.

THERE HAVE BEEN 4 CRYPTO WINTERS SINCE BITCOIN'S INVENTION

July 31, 2010 – November 30, 2023 • US Dollar • Logarithmic Scale



* In November 2023, PayPal received a subpoena from the US Securities and Exchange Commission requesting documents on its stablecoin.

Sources: Bloomberg L.P., Cambridge Associates LLC, and Statmuse.com.

THE LINKAGES BETWEEN 2024 VIEWS

Our investment views are rooted in our belief that the economic backdrop will remain weak in 2024. With arrows, we highlight this dynamic and any interplay of views within and across asset classes. While determining the number and direction of linkages is inherently a subjective exercise, we believe that a systems lens approach can be helpful in navigating markets and allocating capital.

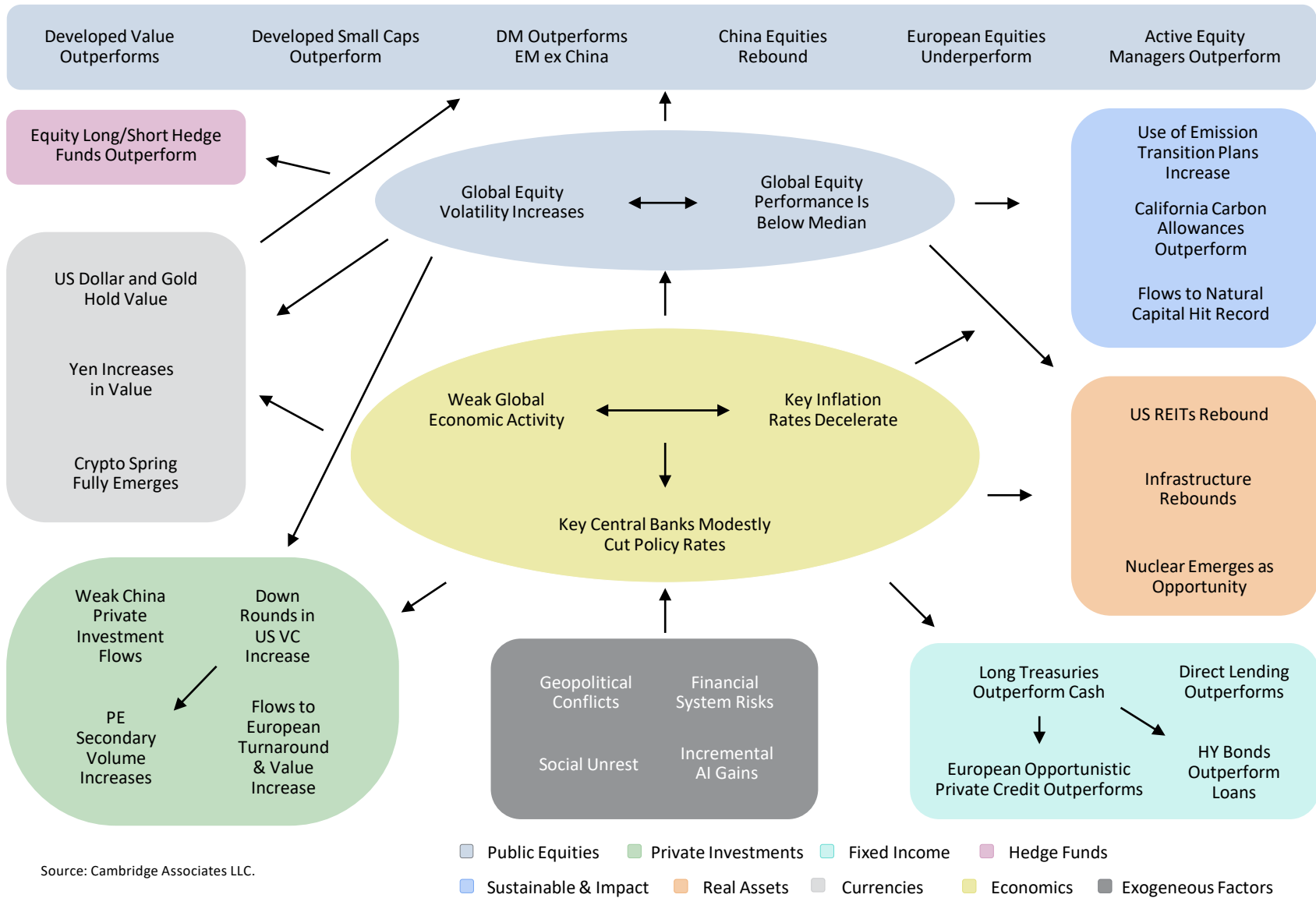


FIGURE NOTES

Equities Appeal Relative to Bonds Has Diminished

The spread reflects the difference between the cyclically adjusted real earnings yield less the government bond real yield. The global spread calculations are based on data from the MSCI World Index, FTSE World Government Bond Index 7-10 Year, and OECD Total CPI Index.

Most Central Banks Are Projected to Cut Policy Rates in 2024

Data shown in table are year-end central bank policy rates. The policy rates for the US, UK, EMU, and Japan are based on Bloomberg consensus forecasts. The policy rates for the World, DM, and EM are based on Goldman Sachs Research forecasts and are market FX-weighted aggregates.

Geopolitical Risk Has Jumped Again In Late 2023

Data downloaded from <https://www.matteociacoviello.com/gpr.htm> on December 1, 2023.

The Pace of the Magnificent Seven's Rally Has Moderated

Magnificent Seven is an equal-weighted basket consisting of the following seven common stocks: Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia, and Tesla. Alphabet returns are based on A-shares.

Small-Cap Dividend Yield Spreads Are Attractive and Well Above Historic Medians

US SC and US are represented by the S&P SmallCap® 600 and MSCI US indexes, respectively. DM ex US SC and DM ex US are represented by the MSCI World ex US Small Cap and MSCI World ex US indexes, respectively. Data for DM ex US Small Cap vs DM ex US begin March 31, 2003.

Relative Performance of European Equities Has Been Strongest During Recoveries and Particularly Expansions

Performances shown are annualized for each observed cycle. Top and bottom boxes represent 75th and 25th percentiles, respectively. The whiskers represent 90th and 10th percentiles. Middle line represents median. Asset performance has been deflated by G7 inflation.

EM Can Struggle Even After the Fed Pauses Hiking Rates

EM and DM are represented by the MSCI Emerging Markets and the MSCI World indexes, respectively. Returns are gross of dividend taxes.

Chinese Equities Trade Near Historical Lows and Are Poised for a Rebound

Data for MSCI China All Shares begin November 30, 2008. Data prior to November 30, 2008, are implied based on the market cap-weighted valuation of the MSCI China and MSCI China A Onshore indexes.

Active Management Is Cyclical

Data are quarterly. US and Global equities are represented by the S&P 500 and MSCI World indexes, respectively.

High Emitters Less Likely to Set Emissions Reduction Targets

Global Companies are companies within the MSCI All Country World Index. High-Emissions Companies are companies in the energy, materials, and utilities sectors within the MSCI All Country World Index.

US VC Valuations Have Fallen From Pandemic Highs

Based on the total current cost and market value of unrealized investments made by venture capital funds as of each date.

USD-Denominated PE/VC Fundraising in China Slowed Sharply in 2023

Data have not been reviewed by PitchBook analysts. PE represents buyouts and growth equity.

PE Secondary Deal Volume Continues Growth Trajectory

Data for 2023 are through June 30. Data from June 30, 2023 through 2024 are estimates.

Fed Funds Forward Curve Indicates Higher-for-Longer Rates

Data are as of November 30, 2023.

European Buyout Interest Coverage Ratio Has Fallen to Low Levels

Includes only transactions for which Pro Forma financials were made available. Data for 2023 are through September 30.

Above-Average Volatility May Lead to More Long/Short Opportunities

The standard deviation is based on rolling 12-month index returns. US, Asia, and Europe are represented by the MSCI US, MSCI All Country Asia, and MSCI Europe indexes, respectively. Long-term average represents historical average of all three regions.

REITs Perform Best During Early Cycle

Data are monthly. Recessions are NBER-defined US recession dates. Early, middle, and late cycles are expansion phases divided by time into three equal parts. Dates based on six full economic cycles with available data.

Infrastructure Has Tended to Outperform in High and Moderate Inflationary Environments

Data are monthly. Global Infrastructure stocks are represented by the UBS Global Infrastructure Index from January 31, 1990 to November 30, 2001, and the S&P Global Infrastructure Index from December 31, 2001, to present. The data are segmented into three distinct periods of high, medium, and low inflation. The period of high inflation is defined as the period when the YOY G7 CPI is equal to or exceeds the 75th percentile of historical observations. Medium inflation refers to the period when YOY G7 CPI exceeds the 25th percentile but does not exceed the 75th percentile of all observations. Low inflation refers to the period when YOY G7 CPI is equal to or falls below the 25th percentile of all observations.

Nuclear Is Bridging the Energy Transition

Projections come from BloombergNEF's New Energy Outlook 2022 report. Renewables sector is composed predominantly of solar and wind power, with 7% classified as "other renewables" by 2050. Analysis excludes hydrogen and "other", which together are projected to contribute 1% of electricity generation by 2050.

The Yen Is Cheap Against All Peers and Particularly So Versus the US Dollar

Australian inflation data are quarterly and as of September 30, 2023. Eurozone inflation data are preliminary as of November 30, 2023. All other inflation data are as of October 31, 2023.

There Have Been 4 Crypto Winters Since Bitcoin's Invention

Crypto winters are not universally agreed upon. Logarithmic scale chosen to better display the data from a percent change perspective.

INDEX DESCRIPTIONS

Bloomberg Pan-European Aggregate Corporate Index

The Bloomberg Pan-European Aggregate Bond Index is a broad-based flagship benchmark that measures fixed-rate, investment-grade securities in the following European currencies: Swiss Franc, Czech Koruna, Danish Krone, Euro, British Pound, Hungarian Forint, Norwegian Krone, Polish Zloty, Romanian Leu, Russian Ruble, and Swedish Krona. The principal asset classes are treasuries, government-related, corporate, and securitized, which include Pfandbriefe, other covered bonds and asset-backed securities. Inclusion is based on currency denomination of a bond and not country of risk of the issuer. The Pan-European Aggregate is a component of other flagship indexes, such as the multi-currency Global Aggregate Index.

Bloomberg US Corporate High-Yield Index

The Bloomberg US Corporate High Yield Index measures the US corporate market of non-investment-grade, fixed-rate corporate bonds. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below.

Bloomberg US Long Treasury Index

The Bloomberg US Long Treasury Index measures the performance of USD-denominated, fixed-rate, nominal debt issued by the US Treasury with a maturity greater than ten years. STRIPS are excluded from the index because their inclusion would result in double-counting. The US Treasury Index is a component of the US Aggregate, US Universal, Global Aggregate, and Global Treasury Indexes. The US Long Treasury Index has history back to January 1, 1973.

Citigroup Economic Surprise Index (CESI)

The Citigroup Economic Surprise Index (CESI) measures economic data relative to market expectations. Index readings above zero indicate economic releases have been coming in better than expected. In contrast, the data are worse than expected when the index is below zero. Surprise index readings climb up as economy recovers but declines fast as economy declines.

Credit Suisse Leveraged Loan Index

The Credit Suisse Leveraged Loan Index tracks the investable market of the USD-denominated leveraged loan market. It consists of issues rated "5B" or lower, meaning that the highest rated issues included in this index are Moody's/S&P ratings of Baa1/BB+ or Ba1/BBB+. All loans are funded term loans with a tenor of at least one year and are made by issuers domiciled in developed countries.

FTSE® NAREIT All Equity REITs Index

The FTSE® Nareit All Equity REITs Index is a free float-adjusted, market capitalization-weighted index of US equity REITs. Constituents of the index include all tax-qualified REITs with more than 50% of total assets in qualifying real estate assets other than mortgages secured by real property.

FTSE® World Government Bond Index

The FTSE® World Government Bond Index (WGBI) measures the performance of fixed-rate, local currency, investment-grade sovereign bonds. The WGBI is a widely used benchmark that currently includes sovereign debt from over 20 countries, denominated in a variety of currencies, and has more than 30 years of history available. The WGBI provides a broad benchmark for the global sovereign fixed income market.

Geopolitical Risk (GPR) Index

Dario Caldara and Matteo Iacoviello construct a measure of adverse geopolitical events and associated risks based on a tally of newspaper articles covering geopolitical tensions and examine its evolution and economic effects since 1900. The geopolitical risk (GPR) index spikes around the two world wars, at the beginning of the Korean War, during the Cuban Missile Crisis, and after 9/11. Higher geopolitical risk foreshadows lower investment, stock prices, and employment. Higher geopolitical risk is also associated with higher probability of economic disasters and with larger downside risks to the global economy.

Goldman Sachs Financial Conditions Index (FCI)

The Goldman Sachs Financial Conditions Index is a weighted average of short-term interest rates, long-term interest rates, the trade-weighted dollar, an index of credit spreads, and the ratio of equity prices to the ten-year average of earnings per share.

MSCI All Country Asia Index

The MSCI All Country Asia Index captures large- and mid-cap representation across developed markets countries and emerging markets countries in Asia. With 1,481 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country. Developed markets countries in the index include: Hong Kong, Japan, and Singapore. Emerging markets countries include: China, India, Indonesia, Korea, Malaysia, the Philippines, Taiwan, and Thailand.

MSCI All Country World Index (ACWI)

The MSCI ACWI captures large- and mid-cap representation across 23 developed markets (DM) and 24 emerging markets (EM) countries. With 2,947 constituents, the index covers approximately 85% of the global investable equity opportunity set. DM countries include: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States. EM countries include: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, the Philippines, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates.

MSCI China Index

The MSCI China Index captures large- and mid-cap representation across China A shares, H shares, B shares, Red chips, P chips, and foreign listings (e.g., ADRs). With 717 constituents, the index covers about 85% of this China equity universe. Currently, the index includes Large Cap A and Mid Cap A shares represented at 20% of their free float-adjusted market capitalization.

MSCI China A Onshore Index

The MSCI China A Onshore Index captures large- and mid-cap representation across China securities listed on the Shanghai and Shenzhen exchanges.

MSCI Emerging Markets Index

The MSCI Emerging Markets Index captures large- and mid-cap representation across 24 emerging markets countries. Emerging markets countries include: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, the Philippines, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates. With 1,437 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI Europe Index

The MSCI Europe Index captures large- and mid-cap representation across 15 developed markets countries in Europe. With 428 constituents, the index covers approximately 85% of the free float-adjusted market capitalization across the European DM equity universe. Developed markets countries in Europe include: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

MSCI US Index

The MSCI US Index is designed to measure the performance of the large- and mid-cap segments of the US market. With 626 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the United States.

MSCI US Large Cap Index

The MSCI US Large Cap Index is designed to measure the performance of the large-cap segments of the US market. With 291 constituents, the index covers approximately 70% of the free float-adjusted market capitalization in the United States.

MSCI US Small Cap Index

The MSCI US Small Cap Index is designed to measure the performance of the small-cap segment of the US equity market. With 1,924 constituents, the index represents approximately 14% of the free float-adjusted market capitalization in the United States.

MSCI World Index

The MSCI World Index represents a free float-adjusted, market capitalization-weighted index that is designed to measure the equity market performance of developed markets. It includes 23 developed markets country indexes: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

MSCI World ex US Index

The MSCI World ex US Index captures large and mid-cap representation across 22 of 23 developed markets countries (excluding the United States). It includes 22 developed markets country indexes: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. With 885 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI World ex US Small Cap Index

The MSCI World ex US Small Cap Index captures small-cap representation across 22 of 23 developed markets countries (excluding the United States). It includes 22 developed markets country indexes: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. With 2,431 constituents, the index covers approximately 14% of the free float-adjusted market capitalization in each country.

MSCI World Value Index

The MSCI World Value Index captures large- and mid-cap securities exhibiting overall value style characteristics across 23 developed markets countries (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States). The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.

OCED Consumer Price Index

The Consumer Price Index measures the overall change in consumer prices based on a representative basket of goods and services over time.

S&P Global Infrastructure Index

The S&P Global Infrastructure Index is designed to track 75 companies from around the world chosen to represent the listed infrastructure industry while maintaining liquidity and tradability. To create diversified exposure, the index includes three distinct infrastructure clusters: energy, transportation, and utilities.

S&P 500® Index

The S&P 500® Index is widely regarded as the best single gauge of large-cap US equities. The index includes 500 leading companies and covers approximately 80% of available market capitalization.

S&P SmallCap 600® Index

The S&P SmallCap 600® seeks to measure the small-cap segment of the US equity market. The index is designed to track companies that meet specific inclusion criteria to ensure that they are liquid and financially viable.

UBS Global Infrastructure Index

The UBS Global Infrastructure Index is a free float-adjusted, market capitalization-weighted index designed to track the performance of non-utility related global listed infrastructure (transportation and communication).

Serge Agres, Drew Boyer, Tiffany DiLiberto, Christina Fenton-Neblett, Guillermo Garcia Montenegro, Kristen Greiner, Song Han, Heather Jablow, David Kautter, Grayson Kirk, Graham Landrith, Coleman Long, Liqian Ma, Marcelo Morales, Mark Sintetos, Caryn Slotsky, and Ilona Vdovina also contributed to this publication.

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