



Citi Global Wealth Investments

October 21, 2021

Global Strategy | Quadrant

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Growing Pains

We expect growth to endure. The period of COVID disruptions and stimulus will give way to a “new normal,” with global GDP gains ongoing but decelerating. Effective vaccines, treatments and new social norms enable expansion. We expect supply shortages to diminish as consumer goods spending falls.

Global growth will likely exceed 5.5% in 2021 and fall below 4.0% in 2022. This is despite a broadening services expansion and a strong near-term outlook for goods production and trade driven by inventory rebuilding. Monetary policy normalization points to a further growth slowdown in 2023, although no new recession is likely.

China’s deliberate “multi-policy” tightening should yield its slowest growth rate in modern history aside from the initial COVID shock. After inducing a severe property slump, policymakers seem unlikely to reverse new regulatory restraints on housing. However, some temporary elements of the Chinese slowdown – such as energy supply constraints – should see relief. Broader policy easing is likely to improve China’s growth outlook for the second half of 2022 and beyond.

China’s slowdown to sub-4% growth near-term should spill over to other world regions. We have reduced our global equity weighting from 8% to 6% overweight, with cuts to Asia, Europe and some scaling back in the US, even as we see the US as the relative beneficiary of global capital inflows.

With US bond markets now pricing in 4-5 rate hikes by the end of 2023, intermediate duration US fixed income valuations have improved. While it is too early to boost long duration exposure, we have raised our allocation to intermediate Treasuries, investment grade US corporate debt and municipal bonds for US-taxed investors by 2%, leaving the fixed income and cash allocation at 6% underweight.

Real yields are still negative and unattractive in isolation. However, the strong equity rally and global risks point to added diversification potential from certain fixed income assets. Our base case outlook points to high-single-digit global equity returns in the year ahead, but this is not the only possible scenario. Intermediate US Treasury total returns have a nearly -0.5 correlation to global equities and can dampen volatility even as we maintain positive income and growth exposures in equities.

Our largest FI overweights remain Treasury Inflation Protected Securities and variable-rate loans.

Our largest overall underweights remain European and Japanese government bonds. At some point, we will consider reducing the scope of our overweight in inflation-linked bonds, which are richly valued.

Last year’s energy bust has given way to boom, the common pattern for oil. Slower economic growth, the passing of “crisis pricing” in liquid natural gas and recovering oil production point to moderating prices in 2022. With energy costs now accounting for the largest share of the inflation spike, we see US CPI gains moderating to 3.0% in 2022 after a 4.5% rise in 2021, using yearly average data.

US growth equities have high valuations in isolation, with “normal” valuations elsewhere. The forward multiple on US growth shares is 29, the highest since the 1990s. This limits our 10-year return view for the growth index overall. However, there is little reason to believe EPS growth will weaken or interest rates will cause a collapse. In the year ahead, growth sectors are more likely to see new highs than the cycle ending.

The Global Investment Committee (GIC) today reduced its overweight to Global Equities from +8% to +6% and raised the Fixed Income and cash allocation from -8% to -6%. While we expect global equity returns in the high single-digits in our base case view over the year ahead, returns are moderating and certain global risks have increased.

With US bond markets now pricing in 4-5 Federal Reserve rate hikes by end 2023 (and further beyond), intermediate US Treasuries, Investment Grade corporate and some municipal debt valuations have improved. Overall global yields remain unappealing and are negative in real terms. However, in the context of portfolio construction, the negative correlation of high-quality US debt and global equities warrants an increased allocation as a risk hedge. Deeper into the economic expansion - and following a future monetary policy tightening cycle - we would consider boosting the duration of bond holdings.

The world economy is suffering from price spikes owing to unprecedented macroeconomic stimulus and unpredictable demand shifts. While real US services spending has fallen 2.3% since the pre-COVID period, consumer goods purchases have leapt 14.5% higher, equal to the gain of the prior four years. For certain categories of goods and services, both boom and bust have been much larger. With fiscal stimulus waning and demand for durable goods purchases such as electronics and housing merchandise well satisfied, related spending is now falling. Shortages of products have played a role in the spending decline, with a record plunge in inventories relative to sales. This points to a strong period still ahead for goods production and global trade. However, the underlying demand outlook should slow through 2023 with both monetary and fiscal policy moving away from stimulus.

China's policymakers have gone further than expected at every turn in tightening micro-regulatory and macro policies. This has generated a severe tightening in property development financing. With it, both home sales and construction are plunging. This weakens the outlook for related employment and Chinese household wealth. In the past, property corrections have not derailed broader growth, but in such cases, other growth drivers were present. At the moment, only Chinese exports are particularly strong.

With a likely slowing in external demand growth, China's currency may weaken at least moderately in coming months, causing other emerging markets currencies to drop. European capital goods exporters to China are also likely to see a sharp, if narrow sales drop. This may weaken related currencies compared to the US dollar.

China's sharp slowdown should send its year/year growth measures below 4% in the near-term. With a largely closed capital account, this should not result in a credit shock abroad (please see [this CIO bulletin](#)). China's macro-policymakers could easily stimulate sectors away from property if they choose to. However, visibility into their decision-making is limited. At minimum, we would expect contractionary policies to wane and a relaxation of the immediate growth constraint of energy rationing. If patterns of the past decade hold, China's macro policies will boost its economy in 2022, with measurable progress in 2H next year.

Away from Chinese equities specifically, global financial markets have very calmly reacted to Chinese growth developments and related supply chain risks. Therefore, we reduced some Asian and European equity overweights in our asset allocation. (While Latin America will feel impact, we eliminated our regional overweight in July). With greater China-induced volatility possible, we see the US economy as relatively insulated. (Note: to keep our thematic global healthcare position proportional to our overall global equity weighting, we reduced it by 1 percentage point to +3%.)

China's slowdown might reduce US and other Developed Market inflation fears and mitigate a rise in global interest rates. Greater China uncertainty would likely boost US assets as a safe haven, though such fears could reverse course if Chinese policymakers moved to take strong pro-growth actions.

With this in mind, the Federal Reserve remains on track to reduce the size of its bond purchases in the coming half year. In the past, reduced credit creation from the Fed has generally manifested in asset classes lower in quality than US Treasuries and high-grade bonds. This is because private savers will take advantage of higher yields when the central bank diminishes its bid for the same assets. With that said, assuming the world economy manages through post-COVID challenges to both supply and demand, we see long-term US rates rising moderately to about 2% for 10-year US Treasuries in the next year.

Today's actions further our moves to gradually rebalance allocations toward less cyclical, high quality assets. While we expect moderating financial-market returns compared to the past year, we don't believe the world economy or equity markets are near a peak or turning point. EPS growth should slow substantially after a likely 45% leap in 2021. In the coming two years, we would expect global EPS gains of 7%-8% per year, even with the impact of a potential (likely small) US corporate tax hike. With dividend payments and slightly higher bond yields, global equity index returns should average close to EPS gains.

In an environment of constrained equity index returns, we see dividend income growth strategies as likely to deliver more predictable and possibly stronger returns. In fixed income, our largest underweights remain European and Japanese government bonds while our largest overweights are variable rate loans and Treasury Inflation Protected Securities. At some point, we will consider reducing the scope of our overweight in inflation-linked bonds. As an alternative to traditional fixed income, we see high levels of option-implied volatility as an income source for suitable investors.

ASSET CLASSES | Global USD with Alternatives Level 3

-2	-1	0	1	2
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FIXED INCOME

Developed Sovereign	→				
Developed Investment Grade Corporates				→	
High Yield					
Emerging Market Sovereigns					

EQUITIES

Developed Equities					
Large Cap					
US					
Europe				←	
Asia ex-Japan				←	
Japan					
Small and Mid Cap					
US SMID Cap					
Non-US SMID Cap					
Emerging Market Equity					
Thematic Equity				←	

CASH

COMMODITIES

Please refer to the [Portfolio Allocations](#) for a comprehensive breakdown of the portfolios at each risk level.

-2 = very underweight | -1 = underweight | 0 = neutral |

1 = overweight | 2 = very overweight

Most Likely ≠ Completely Certain

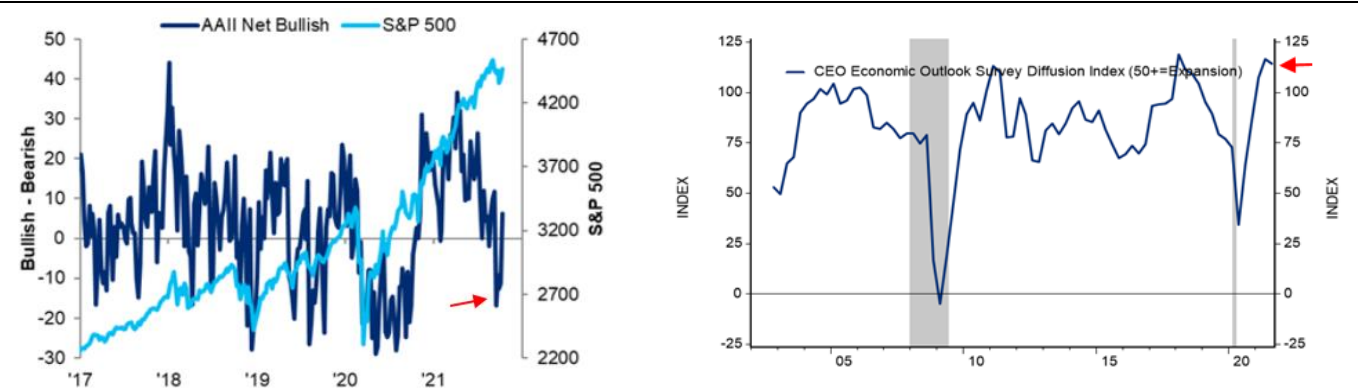
If there was so much to fear in 3Q EPS results, why were most US CEOs so sanguine about the outlook as of early October?

It's that time again. The preponderance of voices in financial markets are starting to see the half-full glass as half empty. Through every year of growth and economic progress, risks and imperfections have abounded. Amid many economic slowdowns, regional crises and needless human suffering, there has been only three years of *world-wide* economic contraction since World War II (please see last month's [Quadrant](#) for discussion). If there were no sources of friction, no shortages or surpluses, no flawed business models or defective products, economic progress would have been *much* faster. Sadly it is not so.

In recent months, the list of investor worries has grown by the day. Will we have too little fiscal stimulus after having too much? Will taxes rise while the US debt ceiling fails to? Will oil and gas prices rise too much, or will they drop too fast once the peak is reached?

This debate left investors poised bearishly just as the third quarter earnings reporting season began (see figure 1). Thus far, it is delivering another historically high positive share of firms beating their estimates (83% "higher than expected" thus far.) The past quarter isn't the future, but investors could have known that large-firm CEOs were not sweating profusely over their stock prices and compensation given the high level of confidence they reported to the US Business Roundtable in early October, right before the reporting of results began (see figure 2).

Figure 1: Investor Sentiment, Net Bulls/Bears vs S&P 500 **Figure 2: US CEO Confidence Index**



Source: Haver Analytics and FactSet as of October 19, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary. Gray shaded areas are periods of US recession.

Even easy monetary policy isn't as dominant in the short run as the COVID distortions in inflation. These effects are at the cusp of waning.

China's worsening economic slump may also augment a slowdown in global inflation.

The immediate outlook for the world economy is strong, even with the surprising negative turn in China we discuss in detail below. As the public learns to coexist with COVID, services activity is broadening and strengthening in recovery (see figure 3). Only international tourism lags severely behind. The need to replenish inventories has left most global exporters and manufacturing firms on a strong growth path *for now* (see figure 4).

However, both stimulus and unsatisfied demand are waning. Conditions vary by country, but the world's largest consumer has seen annualized personal income drop by \$3.4 trillion from the first quarter 2021 peak as emergency income supports provided to 85% of the US public were not repeated (see figure 5). Sales of autos, electronics and housing-related goods are falling back after a surge equal to a decade's worth of prior spending gains (see figure 6).

Figure 3: Services Growing Strongly Again
Services PMI: US, EU and UK



Figure 4: US Goods Imports vs US Business Inventories/Sales Ratio



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Figure 5: US Wage Payments vs Government Transfer Payments

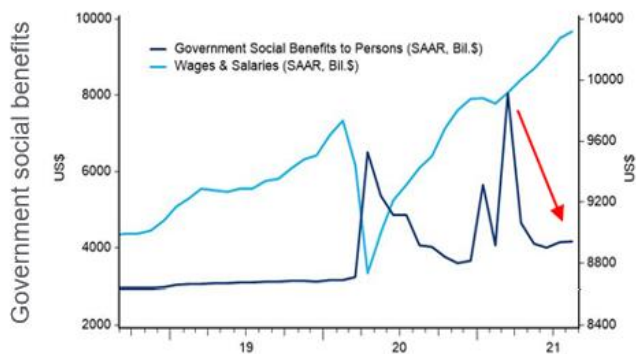
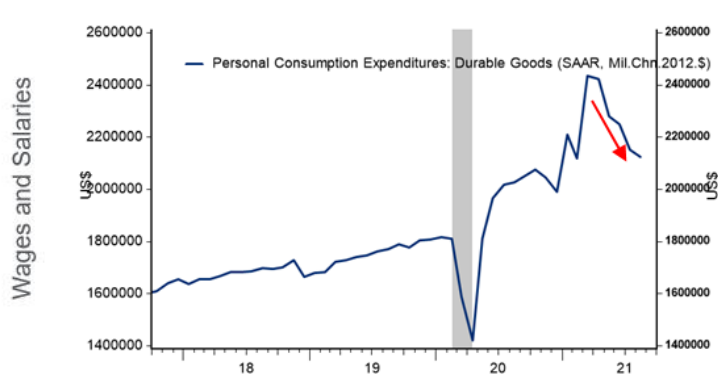


Figure 6: Monthly US Consumer Spending on Durable Goods



Source: Haver Analytics and FactSet as of October 21, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary. Gray shaded areas are periods of US recession.

If supply continues to grow while demand moderates, future inflation will be lower than it is at present. This is despite the long-term aims of monetary policymakers, who seek a higher underlying inflation trend. The cyclical setting points to a moderation in inflation for the coming year (see figures 7-8). Citi Research's forecast for Brent crude oil at \$65 by year-end 2022 is consistent with US inflation slowing to 3% on average in 2022 after a 4.5% surge in 2021 (see figure 9).

Figure 7: US Producer Price Index for Core Crude Materials Y/Y%

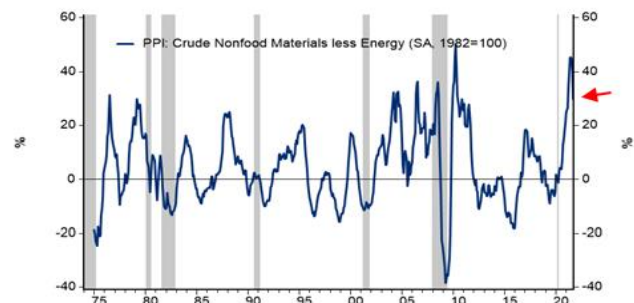


Figure 8: World Crude Oil Price Y/Y%



Source: Haver Analytics and FactSet as of October 19, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary. Gray shaded areas are periods of US recession.

Figure 9: Citi Research Commodity Price Forecasts end 2021, 2022

Commodity Prices		Current	End-2021 Forecast	% Chg vs Current	End-2022 Forecast	% Chg vs Current
WTI Oil	USD/bbl	82	80	-2.1%	62	-24.1%
Brent Oil	USD/bbl	84	85	0.9%	65	-22.9%
Henry Hub Natural Gas	USD/MMBtu	5.01	6.0	19.8%	5.2	3.8%
Copper	USD/MT	10555	8600	-18.5%	9000	-14.7%
Aluminum	USD/MT	3163	2800	-11.5%	3100	-2.0%
Iron	USD/MT	120	160	33.7%	110	-8.1%

Source: Citi Commodity Research as of October 19, 2021. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Preliminary Citi Global Wealth Forecast Update

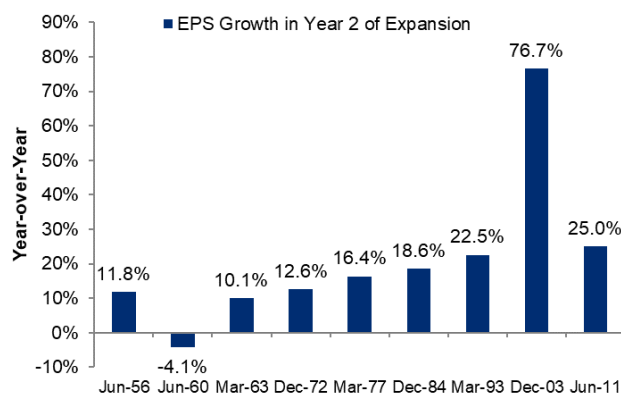
Our updated (preliminary) economic forecasts are shown just below in figure 10. They suggest neither continued boom nor bust for the reasons cited above.

The combination of the unusually large 45% estimated surge in US and global corporate profits in 2021 and a likely small rise in US effective tax rates makes it likely that EPS growth rates average 7%-8% in the next two years. This is somewhat slower than the average for the second full year of an economic recovery in the past six decade, but robust nonetheless (see figure 11).

Figure 10: Citi Global Wealth GDP Assumptions for 2021-2023

	2020	2021	2022	2023
China	2.4	8.0	4.5	5.0
US	-3.4	5.5	3.5	2.6
EU	-5.9	4.8	3.9	2.4
UK	-9.7	6.0	4.2	2.5
Global	-3.2	5.6	3.8	3.5

Figure 11: S&P 500 EPS growth in the Second Full Year of a Business Cycle Recovery since 1960



Source: Citi Global Wealth Office of the Chief Investment Strategist and National sources, Haver Analytics and FactSet as of October 19, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Long-term US Treasury yields have never sustained more than a 150 basis point rise from cycle lows since the early 1980s.

Another quandary exists. US bond yield curves have always steepened on the earliest signs of economic recovery, largely before the Fed's rate-setting committee could possibly act. Yet in every year post 1985, longer-term US Treasury yields have never risen more than 50 basis points further after an initial lurch higher at the start of the recovery (see figures 12-13). Even with sub-2% yield levels, the 100 basis point rise in the year through March 2021 qualifies as the "initial lurch."

Despite historically poor yields, through year-end 2022, we wouldn't predict more than another 50 basis point rise in 10-year US Treasury yields. We suspect US yield premia to other developed bond markets and global uncertainty over China's policies will keep inflows into US bond markets on a solid footing, along with USD assets in general.

Figure 12: US Yield Curve (10-Year UST less Fed funds rate)

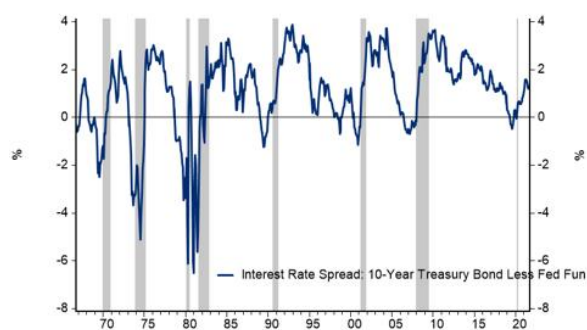


Figure 13: US 10-Year Yield Level: No Sustained Long-Term Rate Increases of More than 150 Basis Points Since Early 1980s



Source: Haver Analytics and FactSet as of October 21, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary. Gray shaded areas are periods of US recession.

What's most likely? Modest upward pressure in yields, diminished Fed bond purchases, slowing inflation and sustained economic growth.

What possible? So much more.

All Scenarios Must Be Considered to Protect and Grow Wealth

Modest upward pressure in yields, diminished Fed bond purchases, slowing inflation and sustained economic growth: What will this mean for investors? The most likely course is very mild valuation pressure in equities, with dividends and price appreciation limiting total returns to the mid/high single digits for global equities in the coming year. The yield environment points to another year of negative real returns for global bondholders, but less than the loss of 2021.

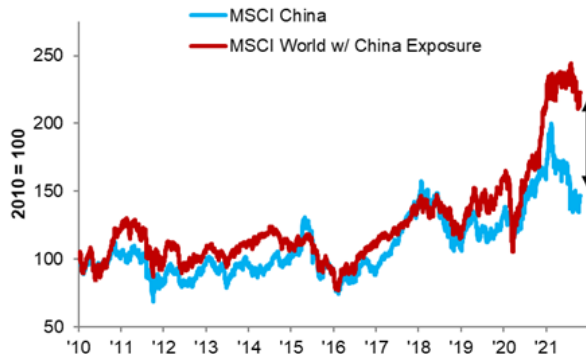
However, asset allocation portfolios need to balance central scenarios with both more optimistic and less optimistic ones to protect and grow wealth. As we discuss in the next section, China's surprising policy turn has pushed our view of near-term economic growth sharply lower. Only a return to more positive macroeconomic policies would restore growth to even a 5% pace, less half that of China's growth rate in the two decades ending in 2010.

This slowing will have direct negative implications on exporters to China across the world (see figure 14). With a largely closed capital account, and low levels of cross-border liabilities, it will not spark a financial crisis for reasons we've discussed previously (please see our [last Quadrant](#)). The growth hit, with such limited negative impact in global shares and credit markets thus far, did sway us to reduce our weightings in Asian and European markets with growth sensitivity to China. As figure 15 shows, markets have priced in far less distress for foreign firms operating in China than for the country's own shares.

Figure 14: China Manufacturing PMI vs 12-Month Change in German IFO Business Confidence Index



Figure 15: Developed Market Equities with High China Business Exposure vs China Equities



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Reducing our equity exposure to firms in developed markets with high exposure to China's beleaguered industries does not eliminate all forms of risk. Exports are one of China's limited bright spots in its growth outlook. However, as figure 6 suggests, there is only a window of time for this sector to be truly robust. If China seeks to meet even a lowered growth target of perhaps 5%, it will not wish to cede significant market share in global exports. This leads us to the potential for foreign exchange impact.

We see potential vulnerabilities that have very rarely turned the world economy in the past.

This suggests accepting some lower returns with a portion of one's wealth for the sake of precaution.

While China's currency is among the most stable within EM, even small moves lower have weakened other currencies by a greater amount across the world. Markets may react more calmly than they have in the past, but we cannot rule out an over-reaction akin to 2015. Then global equities temporarily dropped nearly 12% on a 3% depreciation of the CNY (see figure 16).

Events of the past five years, and especially the COVID period highlight that there are improbable, unforeseeable events that fall far from the predictions of base case forecasts. Contentious trade negotiations between the US and China have continued into a second administration. The global supply chain has been shown unable to adjust to large and unpredictable swings in demand merely from COVID (see figure 17).

We see potential vulnerabilities that have rarely resulted in a turning point for the world economy in the past. Very rarely and "never" are not synonymous. We must consider "tail risks" in the whole range of probability in managing wealth. This suggests accepting some lower returns with a portion of one's portfolio for the sake of precaution.

Figure 16: Global Equities Temporarily Dropped 3X the Decline in CNY vs USD in 2015

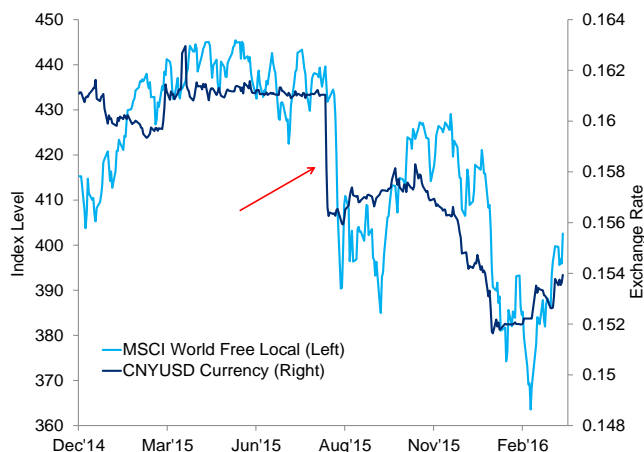
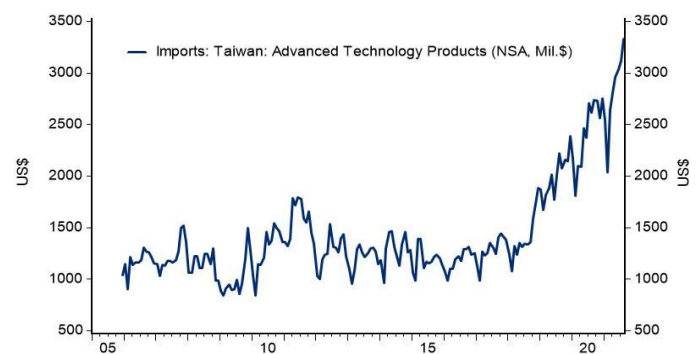


Figure 17: US Imports of Advanced Tech Products from Taiwan (semiconductors, etc.)



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Finally, a Low Risk Bond With a Potentially Worthy Risk/Return for Portfolios

Fortunately, financial markets have at last generated an improved valuation for one asset geared to caution. As figure 18 shows, the US rate markets have priced in nearly five Federal Reserve rate hikes of 25 basis points by end 2023. This is a plausible forecast under a positive economic scenario. It is also plausible (if less probable) if the Fed decides to actively confront inflation despite weak growth. It also implies that the bond market is quite confident already in assuming Fed's future course.

With the rise in short-term rate expectations for late 2022, 2023 and beyond, US Treasuries and Investment Grade corporate debt of 5-7 years in duration have seen a worthy rise in yield (see figure 19).

We say "worthy" yield rise not so much because rate levels are historically attractive. They remain below our expectation for inflation, even as it decelerates. We would not choose these

low risk assets to grow wealth. However, for multi-asset class portfolios, the safest bonds dampen volatility, with a near -0.5 correlation to global equities (see figure 20).

As the figure shows, one might more happily note the 28% price rise for global equities in the past 12 months as a source of risk for today's now wealthier investor.

Figure 18: US Implied Policy Rate end 2023 and 2025

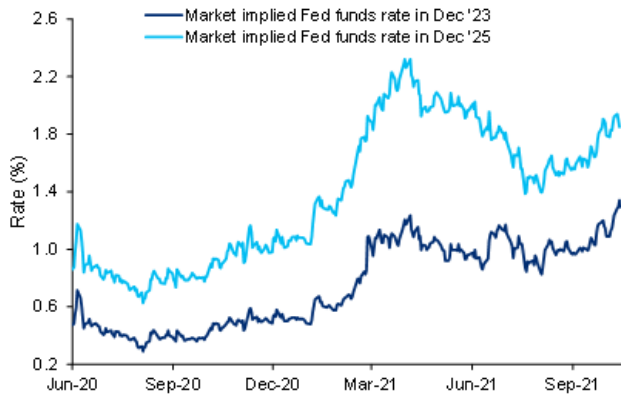
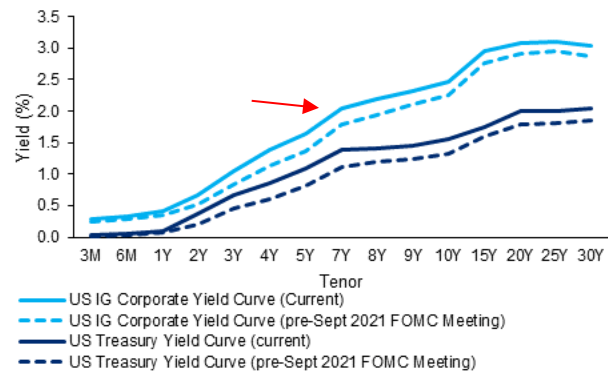
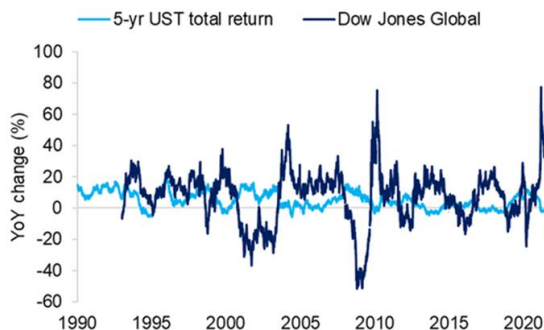


Figure 19: US Treasury and Investment Grade Corporate Bond Yield Curves



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Figure 20: Global Equities vs US 5-Year Treasury Total Return
Y/Y%: 1/4th the volatility, negative return correlation (-44%)



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China: Cyclically Worse, Technically Better

With our latest move to shift towards a more mid-cycle asset allocation, we reduced global equity overweights, but kept the equity overweight in China. This may sound odd since China is one of the key sources of potential cyclical weakness in the coming couple of quarters. The reason we're staying positive on China is that its growth might be rising in 2022, while others slow. And its policy might be easing in 2022, while others tighten.

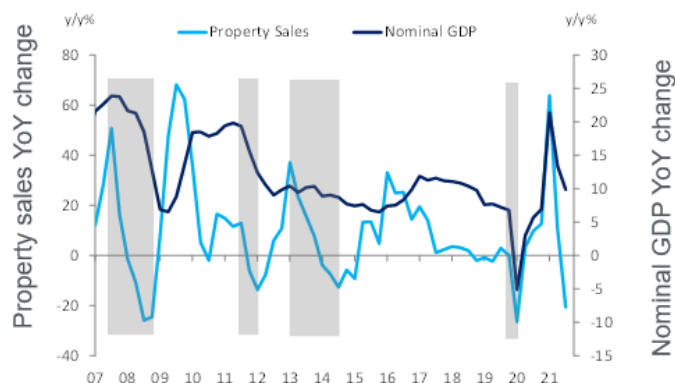
First, the downward cyclical pressures are intense in 4Q.

Ken Peng
Head – Asia Strategy

Cecilia Chen
Calvin Ha
Asia Strategy

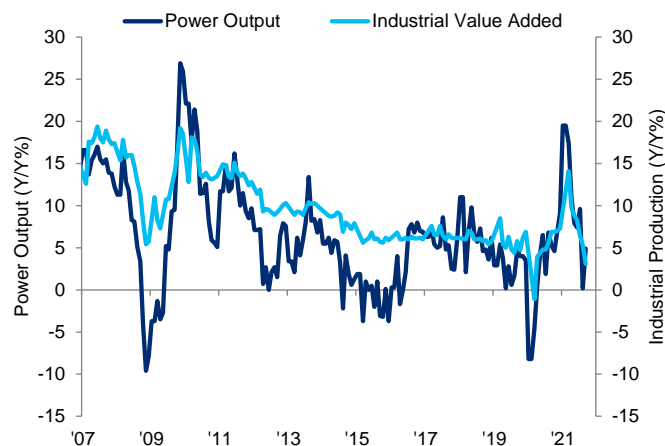
- Property sales have collapsed by 36%y/y in Sep and could lead to decline in investment in 4Q, as only unfinished projects are getting funding, while housing starts and land sales fall. The level of real estate investment would only stabilize at a lower level, whereas the sector was still growing at 9% in the first three quarters of 2021, implying further downside to GDP growth (see Figure 21).
- Power shortages seemed to ease a bit in October after Premier Li Keqiang spoke against abrupt rationing implemented in September. But coal supplies have further tightened due to floods in Shanxi province, while there are new policies to discourage speculation. The power shortage may still deepen in the winter heating season and drag industrial production in 4Q (see Figure). We expect supplies to recover next spring, as more coal mines are resuming production.
- Given the above challenges, we expect China's real GDP growth to fall below 4%/y/y and possibly to around 2%/y/y in 4Q. Policy so far has not reacted to the slowdown in a meaningful way, partly because the power shortage would limit the impact on immediate activity, and partly because the annual growth rate would still be 8%/y/y even if 4Q registers zero sequential growth. Some relaxation in mortgage policy is taking place, but the PBOC has said that the supply and demand for liquidity is roughly balanced, implying no major easing in 4Q.
- In this backdrop, global investors should be prepared for a setback to growth expectations this quarter and next. Along with lower growth, worries about inflation and excessive tightening are likely to subside as well. This is part of the reason we made allocation shifts this month. But beyond the winter, we do expect the supply chain issues to ease. The business cycle may be moving into a slower phase, but it is far from over.

Figure 21: Sharp Decline in Property Sales, with No Major Stimulus Elsewhere, Imply Further Downside to GDP



Source: Haver Analytics, as of Sep 2021. Gray shaded areas are periods of US recession.

Figure 22: Power Shortage Is Severe, But Power Output Have Yet to Fall below Past Cycles, Suggesting More Pressure in the Months Ahead



Source: Haver Analytics, as of Sep 2021

Going into 2022, however, things might look more positive for China.

- COVID policies may be poised to ease. China has recently instructed local governments to increase capacity for quarantine for foreign visitors. Currently, few foreigners are visiting due to suspension of most visas. The preparations are likely meant for the Winter Olympics in Feb 2022. But beyond that, there may be broader re-opening to international travel. Afterall, there is no need to require zero cases for what is effectively a potent flu once vaccines and medical solutions are readily available.
- There may also be some political incentives to promote growth. 2022 is the last year of the 19th Party Congress and President Xi's second term. The work report in October is unlikely to say that a key performance indicator was missed. To the extent that 2021 policies changes are meant to solidify control of the web and of the economy, a new term is likely to begin with more attention on economic development.

- We expect Chinese GDP growth to fall well below 4% in 4Q, but would rebound to 4.5% in 2022 and then to 5% in 2023. Meanwhile, global growth is likely to fall from 5.6% in 2021 to 3.8% and 3.5% in 2022-23 (see figure 10).

Moreover, tech underperformance from regulatory tightening likely have reached a nadir and policy stance may be turning.

- On October 18, President Xi professed his desire to “fully capitalize on China’s advantage in generating and applying rich data,” and called internet based digital technologies good for China’s economic rebalancing, industrial modernization and international competitiveness. Similar to the 14th Five Year Plan, he wanted to invest into digital infrastructure, cloud, AI, de-carbonization, cyber security, scale up industrial applications, software and core technologies.
- Of course, all of these would take place at a higher level of regulation. Platform companies are told to pay attention to their social responsibilities, and not to harm society.
- Aside from this meeting, the market also welcomed a few other developments, including, less than expected penalties for Meituan, resumption of online game approvals, and the reported reappearance of Jack Ma.

In sum, we believe that the worst of the tech regulations are over. This may offer an element of resilience in Chinese equities, while cyclical conditions are likely to remain challenging through the winter. Chinese equities already reflect weak expectations, especially in beaten down tech shares, while the highly cyclical materials sector have gained 50% since the end of 2019 (see Figure 22). Our collection of valuation metrics show that MSCI China has fallen to 1.5 standard deviations below mean, which had been a indication of strong performance in 12-24 months (Figure 23).

Figure 22: Policy Tightening Caused China Internet Shares to Vastly Underperform US Tech Shares or Even China Cyclical

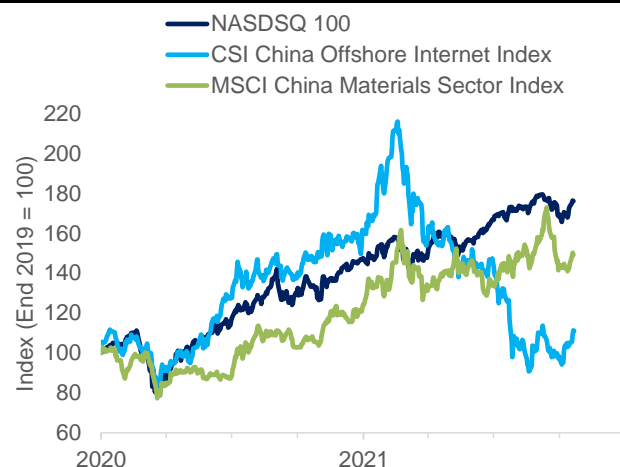


Figure 23: A Collection of Valuation Measures Indicate that Future Returns Rre Likely to Be Robust



Source: Bloomberg, as of 20 Oct 2021. Note: Valuation z-score is an average of rolling 12-month standard deviations from mean for price / cash flow, trailing PE, EV / EBITDA, price / book and inverted dividend yield. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary.

This Is Not Your Parent's Tech Boom

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Global Strategy

Summary

- Interest rates are fundamental to how all assets are valued and they are more relevant for higher valued, “longer duration” equities. We see the US equity market – and technology sector – trading in a more rational way today than it was the late 1990s when markets ignored interest rates with ever higher growth expectations.
- The valuation of US growth shares overall implies low future returns - not as low as the decade following the year-2000 tech collapse - but likely in the low-to-mid single digits over the coming full decade. Unlike the late 1990s, when fixed income yields were 7%, bonds offer little value or competition at sub 2% yields now.
- It is certainly possible that high valuations will become higher first, driven by the early-cycle EPS outlook. Truly higher earnings can absorb the valuation hit from higher interest rates. Remember that only when tech revenues and profits peaked in 2000 did share prices collapse. There is no evidence to suggest the 18-month economic recovery will either falter or become less reliant on tech.
- US value shares and most other global equities trade at far-lower relative valuations than during the tech bubble period, roughly 16X expected EPS, or close to their long-term average. While it is unclear how long the preference for US growth shares (at 29X expected EPS) will persist, the overall return picture for global equities is a substantially stronger one than at the 2000 market peak.
- The outlook for the next year could be rewarding for cyclical tech industries such as semiconductors. The longer-term outlook for cybersecurity seems highly robust. Emerging health science, energy technologies, logistics and e-commerce also deserve investment allocations, though not without broader diversification across the global economy.
- Fortunately for investors, portfolio diversification can be achieved at a reasonable valuation today, unlike 1999.

How Much Should Investors Pay for Tech?

There are times when stocks are expensive for a reason and other times there is no justification, save speculation. So, what of US growth stocks now? Given their historically high valuation overall, are US growth stocks wise investments over the short- and long-term?

By the simplest measure, US growth stock valuations are quite high, exceeded only in the tech bubble period of the late 1990s. Looking at trailing price/earnings ratios, growth shares are about twice as expensive as value equities and non-US equities broadly (see figure 25). US value and international shares, meanwhile, have valuations only slightly above long-term historic averages.

Simple data never tells the whole story. For one, today's basket of US growth shares is now considerably more diverse with far less concentration in Information Technology than in the 1990s. The buildout of internet infrastructure and related applications in the late 1990s was the concentrated economic driver of growth stocks at that time. Today, Tesla's business has little to do with Facebook's, for example. (And neither are constituents of the S&P Info Tech sector). The application of technology has become both ubiquitous across industries and a vast differentiator of performance for firms that use it to out-compete.

The late 1990s had many “experimental firms” that failed. We now have such firms too, but these are largely outside the large cap growth indices. Today's US growth indices have many profitable and promising firms. Yet like the late 1990s, today's markets appear to price in too much future growth for some of these firms. Markets will judge who produces the better software and automation solutions, just as they discerned who produced the superior and inferior personal computers in the 1990s.

In the late 1990s there were also vast accounting problems that overstated corporate earnings for major firms that went bust by the early 2000s. While we are not forensic accountants, we believe accounting regulations and investor attention to the quality of regulatory filings have led to lasting improvements in US reporting standards in the same way the Global Financial Crisis led to lasting improvements in systemic risk controls of the banking system.

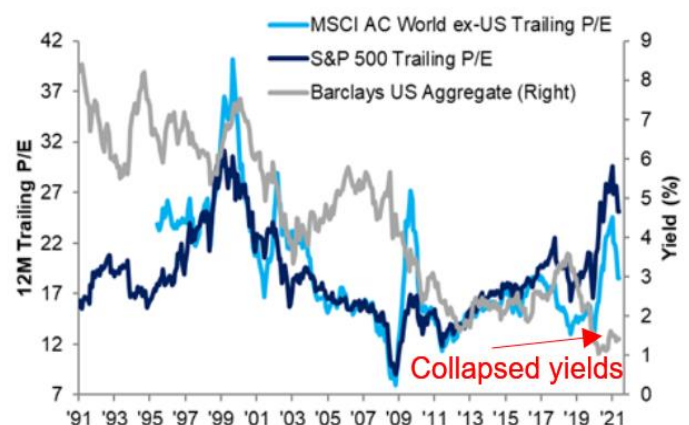
In our view, the catalyst for a tech reckoning is missing amid continued economic expansion. The massive borrowing and collapse of financing for the telecom sector in 1990s does not exist today. In 2000-2002, markets saw the future growth of telecom firms shrivel and their financial resources insufficient to meet obligations. These telecom firms were huge buyers of communications and other IT equipment at the time. Today, tech buyers large and small are flush with cash and the bond market offers them 3.5% long-term financing even to firms with the lowest investment grade ratings.

Most importantly, the absolute valuation comparisons of the 1990s and today ignores relative valuation. Looking at the bond market today relative to the 1990s tech bubble period, we see that a future dollar of interest is now valued 5x higher than at the tech markets prior peak (see figure 26).

Figure 25: Trailing price/earnings: US growth, US value and non-US equities



Figure 26: Trailing price/earnings: US, non-US equities vs US bond yield



Source: Bloomberg as of October 8, 2021. Note: Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Past performance is not indicative of future returns. For illustrative purposes only.

When we look at growth stocks today, we see the influence, power and scale of their growth in earnings. EPS have risen to new record highs and are expected to grow 27% more through 2022 (see figure 27.) With 27% of S&P 500 index in IT directly, many growth shares have become diversified cash generators. In 2020, with the pandemic as a tech accelerator, a powerful substitution effect brought forward the “value” of their technologies in a COVID-constrained environment. There was nary a blip in tech earnings at the worst of COVID. That resilience was not lost on equity investors.

With the near-term buoyance in earnings and the enthusiasm of tech investors across the COVID shock, the outperformance of growth versus value has been maintained, despite the sharp rebound in cyclical industry profits (see figure 28).

Figure 27: Information Technology Sector EPS through 2Q 2021

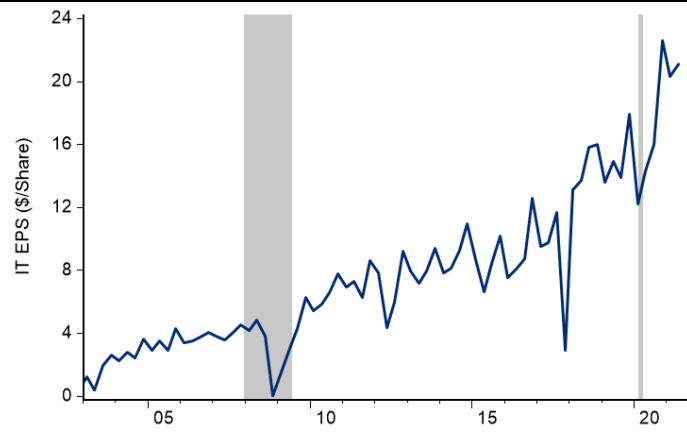
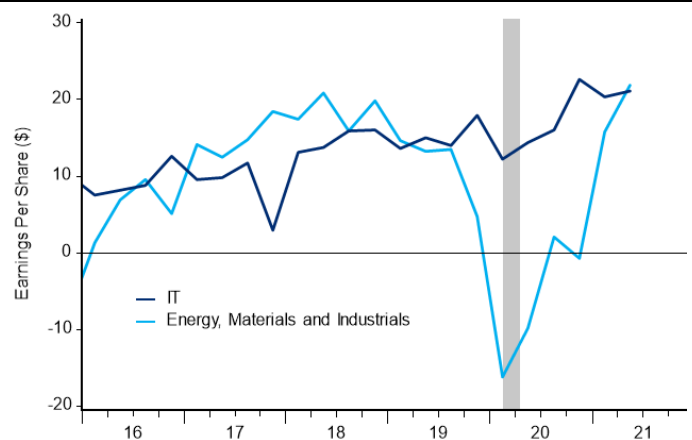


Figure 28: IT Sector EPS vs Key Cyclical (Industrials, Energy, Materials)



Source: Haver as of October 13, 2021. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Past performance is not indicative of future returns. For illustrative purposes only. Shaded areas represent recessions.

Interest Rates Do Matter, But the Hurdle Is Lower Now

In the late 1990s, US growth shares completely ignored rising interest rates. At that time investors “overlooked” the risk-free cash yield of 4.8% and the 7.2% investment grade long-term bond yield (see figure 29). Then, one could buy US Treasury Inflation Protected Securities with a 4% real yield.

Today in contrast, there appears to be an oversensitivity in markets to rising interest rates (please see our last two bulletins ([October 3rd](#), [October 10th](#))). Unlike gold, technology companies are not an income-free store of value. They generate cash, reinvest in research and development and displace other business models. Thus, they have a powerful offset in the form of rising profits to offset rising interest rates (see figure 30), especially in the environment we expect in 2022-23.

Figure 29: US Growth Stock Valuations and Real US Yields

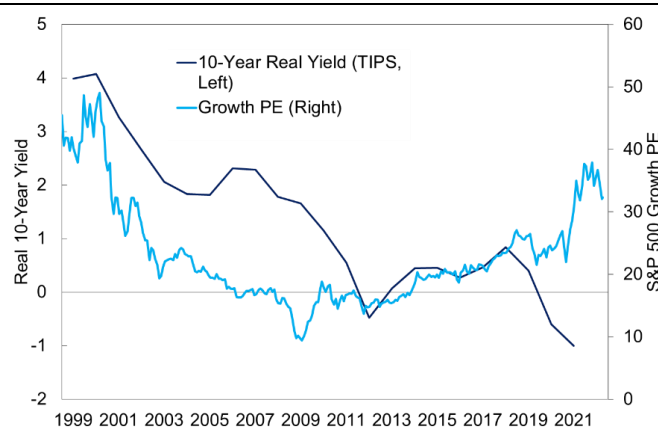


Figure 30: Growth vs Value and 10-Year Yields and Gold Price



Source: Factset as of October 13, 2021. Arrows shown to highlight divergence between US Pure Growth Factor and US 10-Year Yield. Gray shaded areas are periods of US recession. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary.

In the 1990s, fundamental demand for internet technology was nascent and growth rates were very high starting at low bases. Looking at the more recent year-over-year growth in annual investment in IT equipment in the US, we can see that growth has become steadier and less variable, albeit at a lower growth rate. Taking out the COVID shocks, spending has risen at only half the pace of the late 1990s over the past five years. This is not the stuff of booms and busts. As we saw in the housing boom of the 2000s or the shale oil boom of the 2010s, excessive investment is the primary path to collapse (see figures 31 & 32), situations we do not see mirrored in the tech boom today.

Figure 31: IT Equipment Investment

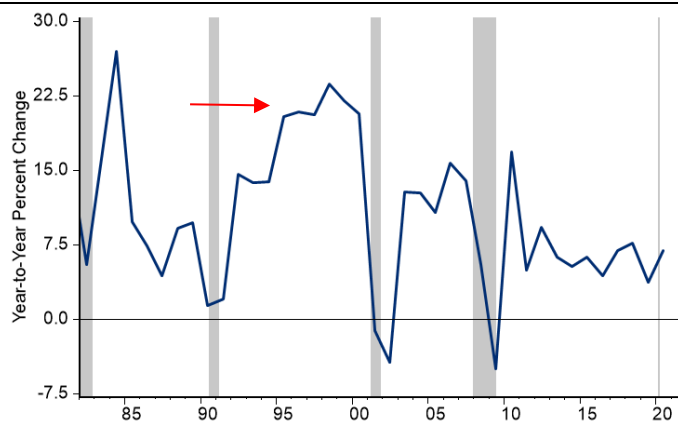
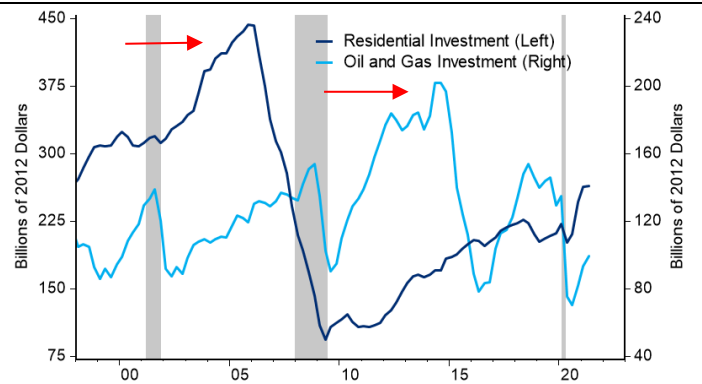


Figure 32: Housing and Oil & Gas Investment Booms



Source: Haver as of October 13, 2021. Note: Shaded regions are recessions.

The digital share of the US economy has been on a long-term uptrend with no signs of slowing apart from “reopening” effects in industries like retailing and travel (see figures 33-34). While digital activity will not rise indefinitely as it displaces the “old economy”, “technology” doesn’t appear near a fundamental peak. When we look back at 2000, in comparison, we saw a great deal of business IT and communications investment spending wasted and not sustained.

Figure 33: Intellectual Property Investment as % of US GDP

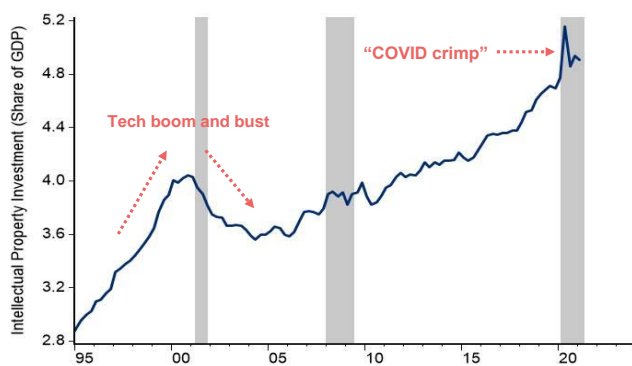
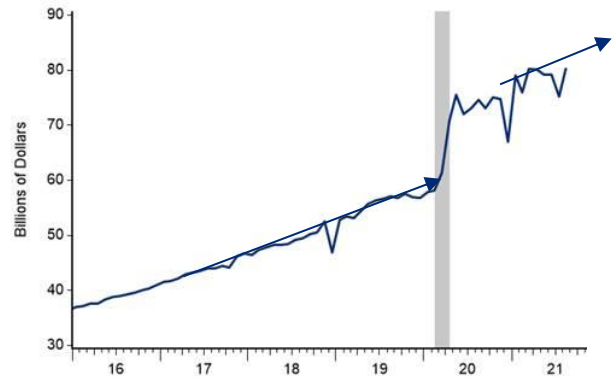


Figure 34: E-Commerce Share of US Retail Sales



Source: Haver as of October 13, 2021. Note: Shaded regions are recessions.

Places to Invest in Tech

In the post-COVID environment, with semiconductors in short supply, there seems to be no reason to expect a decline in production of semis and investment in semiconductor capital equipment. In the software sector, as workers are given the choice to work from home, massive new investments in cybersecurity will be the top priority of CTOs. Quite simply, this does not look like an economic peak for many key “growth index” components (see figure 35).

Figure 35: Citi Global Wealth Unstoppable Trends – Key Areas of Long-Term Growth and Transformation in Economy

- 1) Hyper-Connectivity: Investments using and enabling 5-G technology, from semi-conductors to digital content providers, financial technology to cybersecurity.
- 2) Greening the World: Technological alternatives to fossil fuels, from solar to wind, batteries to green hydrogen and water resources.
- 3) Longevity: Healthcare solutions for an aging world, from bio-technology to medical devices.
- 4) Asian Development: Supply chain diversification for a world generating competing technologies as the US and China dis-integrate economic ties.

Source: Citi Global Wealth Office of the Chief Investment Strategist

Remember to Diversify! “Normal” Valuation Are Available for Non-Tech Equities

From the Y2K peak to the calamitous trough of 2002, the NASDAQ’s total return was -81%. As we recall vividly, optimism for the “new economy” of the future was so great near the market peak that investors couldn’t imagine the leading tech firms ever failing to beat EPS estimates, much less posting operating losses as they did in 2001.

As the record (near 10-year) 1990s economic expansion gave way to recession in 2001, value shares also fell 23.5%. With record high valuations in both US and non-US markets, overall global equities fell 46.7% to their 2002 trough. This meant international diversification offered no benefit to US-focused investors.

The valuation picture today, however, is quite different as US growth stock returns have been so exceptional (see figure 36). As we discuss in the September [Quadrant](#), fully global recessions are quite rare despite two occurring in the past 15 years. With most markets having lower valuations than the US, we would expect greater value from the industry and regional diversification provided by global portfolios.

The “out of favor” performance of value and international investing holds other lessons for investors. As many new investors were drawn into strong tech stock returns in the late 1990s, devastating price declines in the early 2000s led them to sell and realize deep losses (see figure 37). Apple Inc., for example, had a peak-to-trough decline of 82%. Today, however, it is the largest and most profitable global firm. The loss for Microsoft was 65% through 2002. Today its market capitalization is \$2.3 trillion. Total returns for these two surviving tech giants have been 6745% from the 2000 high to today.

It is unlikely that an investor would have simply chosen these two firms as their sole “buy and hold” investments. However, most broad-based, “patient capital” portfolios did in fact hold these shares over the long term and benefited from doing so. We don’t believe another fundamental tech recession will be avoided forever. But this does not argue for shunning the sector in our present recovery.

Figure 36: US and Non-US Trailing PE

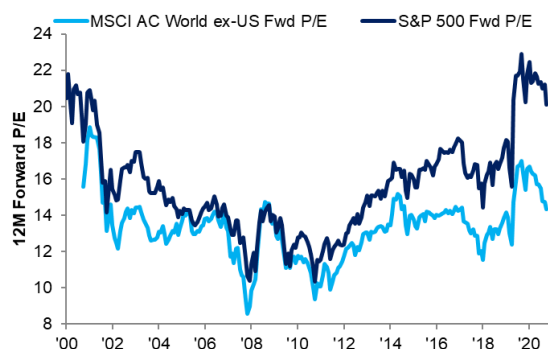


Figure 37: Nasdaq Index



Source: Haver as of October 14, 2021. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

Portfolio allocations

This section shows the strategic and tactical asset allocations. The Quant Research & Global Asset Allocation (QRGAA) team creates strategic asset allocations using the [CPB Adaptive Valuations Strategy](#) (AVS) methodology on an annual basis. Global Investment Committee (GIC) provides underweight and overweight decisions to AVS's Global USD without Hedge Funds Risk Level 3 portfolio. QRGAA then creates tactical allocations for risk levels 1,2,4 and 5. These are included below. Also included below are Global USD with Hedge Funds and 10% illiquids PE & RE (Private Equity and Real Estate) for risk levels 2,3,4 and 5. The below strategic/tactical allocations are reflective of the October 20, 2021 GIC meeting.

Global USD with Hedge Funds and 10% illiquids (PE & RE): Risk Level 2

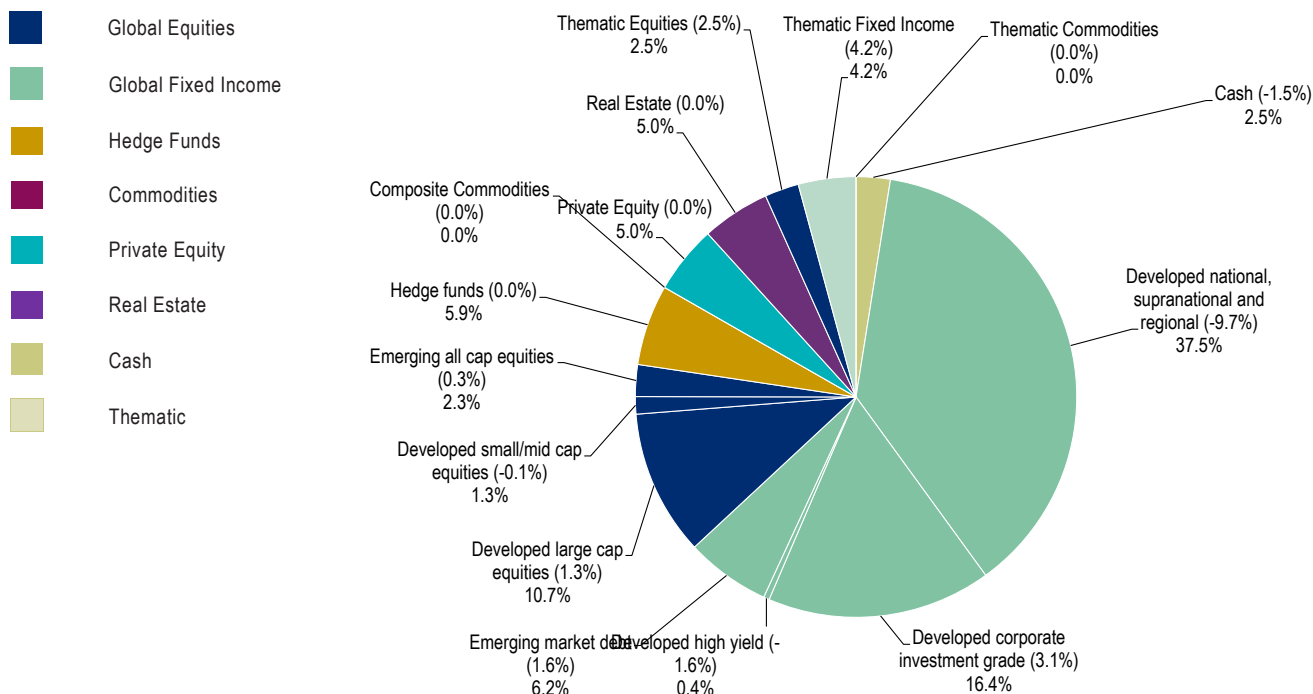
Risk Level 2 is designed for investors who emphasize capital preservation over return on investment, but who are willing to subject some portion of their principal to increased risk in order to generate a potentially greater rate of return on investment.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	4.0	2.5	-1.5
Fixed Income	67.2	64.8	-2.5
Developed Investment Grade	60.6	53.9	-6.6
US	33.7	37.9	4.2
Government	14.1	14.0	-0.1
Inflation-Linked	2.0	3.3	1.3
Short	3.8	2.2	-1.6
Intermediate	5.8	6.0	0.2
Long	2.5	2.5	0.0
Securitized	10.8	12.0	1.2
Credit	8.9	11.9	3.1
Short	1.2	1.4	0.2
Intermediate	4.7	7.6	2.8
Long	2.9	2.9	0.0
Europe	20.4	13.1	-7.3
Government	15.8	8.5	-7.3
Credit	4.5	4.5	0.0
Australia	0.4	0.4	0.0
Government	0.4	0.4	0.0
Japan	6.1	2.6	-3.6
Government	6.1	2.6	-3.6
Developed High Yield	2.0	0.4	-1.6
US	1.5	0.0	-1.5
Europe	0.5	0.4	-0.1
Emerging Market Debt	4.6	6.2	1.6
Asia	0.8	1.9	1.1
Local currency	0.4	1.0	0.6
Foreign currency	0.4	0.9	0.5
EMEA	2.6	2.6	0.0
Local currency	1.3	1.3	0.0
Foreign currency	1.3	1.3	0.0
LatAm	1.3	1.7	0.4
Local currency	0.6	0.7	0.0
Foreign currency	0.6	1.1	0.4
Thematic Fixed Income	0.0	4.2	4.2
US Bank Loans	0.0	4.2	4.2
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	12.8	16.8	3.9
Developed Equities	10.8	12.0	1.1
Developed Large Cap Equities	9.4	10.7	1.3
US	6.4	7.1	0.7
Canada	0.3	0.3	0.0
UK	0.4	0.7	0.3
Switzerland	0.3	0.3	0.0
Europe ex UK ex Switzerland	0.9	1.0	0.1
Asia ex Japan	0.3	0.4	0.0
Japan	0.8	0.8	0.1
Developed Small/ Mid Cap Equities	1.4	1.3	-0.1
US	0.8	0.5	-0.3
Non-US	0.7	0.8	0.1
Emerging All Cap Equities	2.0	2.3	0.3
Asia	1.8	2.2	0.4
China	1.1	1.4	0.2
Asia (ex China)	0.6	0.8	0.2
EMEA	0.1	0.0	-0.1
LatAm	0.1	0.1	0.0
Brazil	0.1	0.1	0.0
LatAm ex Brazil	0.0	0.0	0.0
Thematic Equities	0.0	2.5	2.5
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	0.0	0.5	0.5
Global Healthcare	0.0	2.0	2.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Commodities	0.0	0.0	0.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	0.0	0.0
Gold	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Hedge Funds	5.9	5.9	0.0
Private Equity	5.0	5.0	0.0
Real Estate	5.0	5.0	0.0
Total	100.0	100.0	-0.0

Active = the difference between tactical and strategic allocations. Minor differences may result due to rounding.

Global USD with Hedge Funds and 10% illiquids (PE & RE): Risk Level 2 - Tactical Allocations



Figures in brackets are active allocations. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core Positions

Global equities have an overweight position of +3.9%, global fixed income has an underweight of -2.5%, cash has an underweight of -1.5%.

Within equities, developed large cap equities are at an overweight position of +1.3% while developed small/mid cap equities are at underweight positions of -0.1%. Emerging market equities have an overweight of +0.3%. Thematic equities have an overweight of +2.5%.

Within fixed income, developed investment grade has an underweight position of -6.6%; developed high yield has an underweight position of -1.6% and emerging market debt has an overweight position of +1.6%. Thematic fixed income has an overweight of +4.2%.

Private Equity and Real Estate are both neutral, each with 5% allocation.

Global USD with Hedge Funds and 10% illiquids (PE & RE): Risk Level 3

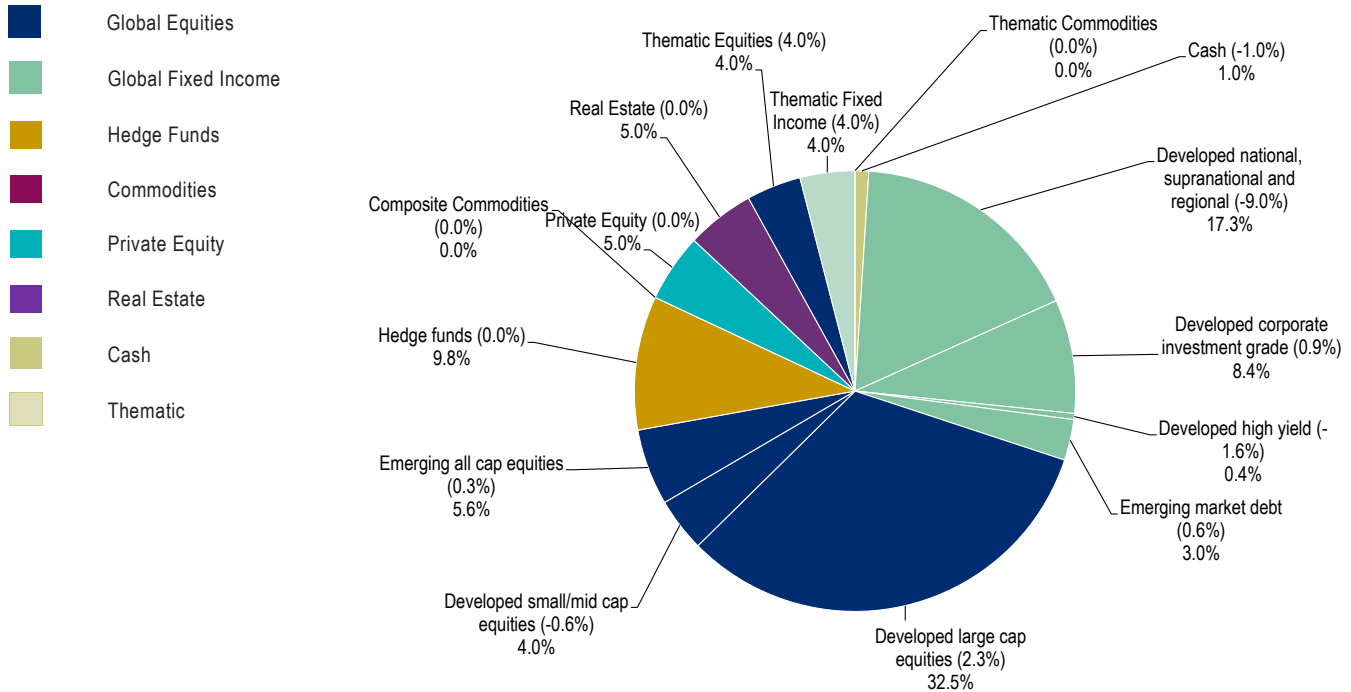
Risk Level 3 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk Level 3 may be appropriate for investors willing to subject their portfolio to additional risk for potential growth in addition to a level of income reflective of his/her stated risk tolerance.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	2.0	1.0	-1.0
Fixed Income	38.1	33.1	-5.0
Developed Investment Grade	33.6	25.6	-8.0
US	18.7	21.0	2.2
Government	7.8	9.1	1.3
Inflation-Linked	1.1	3.2	2.1
Short	2.1	0.1	-2.0
Intermediate	3.2	4.3	1.1
Long	1.4	1.4	0.0
Securitized	6.0	5.9	-0.1
Credit	4.9	6.0	1.1
Short	0.7	0.7	0.0
Intermediate	2.6	3.7	1.1
Long	1.6	1.6	0.0
Europe	11.3	4.4	-6.9
Government	8.8	2.0	-6.8
Credit	2.5	2.3	-0.2
Australia	0.2	0.2	0.0
Government	0.2	0.2	0.0
Japan	3.4	0.1	-3.3
Government	3.4	0.1	-3.3
Developed High Yield	2.0	0.4	-1.6
US	1.5	0.0	-1.5
Europe	0.5	0.4	-0.0
Emerging Market Debt	2.4	3.0	0.6
Asia	0.4	1.0	0.5
Local currency	0.2	0.5	0.3
Foreign currency	0.2	0.4	0.2
EMEA	1.3	1.4	0.0
Local currency	0.7	0.7	0.0
Foreign currency	0.7	0.7	0.0
LatAm	0.7	0.7	0.0
Local currency	0.3	0.3	0.0
Foreign currency	0.3	0.3	0.0
Thematic Fixed Income	0.0	4.0	4.0
US Bank Loans	0.0	4.0	4.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	40.1	46.1	6.0
Developed Equities	34.8	36.5	1.7
Developed Large Cap Equities	30.2	32.5	2.3
US	20.6	21.9	1.3
Canada	1.0	1.0	0.0
UK	1.2	2.0	0.8
Switzerland	0.9	1.0	0.0
Europe ex UK ex Switzerland	2.9	2.9	0.0
Asia ex Japan	1.1	1.1	0.0
Japan	2.5	2.6	0.0
Developed Small/Mid Cap Equities	4.5	4.0	-0.6
US	2.4	1.8	-0.6
Non-US	2.1	2.1	0.0
Emerging All Cap Equities	5.3	5.6	0.3
Asia	4.7	5.3	0.6
China	3.0	3.4	0.4
Asia (ex China)	1.6	1.9	0.2
EMEA	0.3	0.0	-0.3
LatAm	0.3	0.3	0.0
Brazil	0.2	0.2	0.0
LatAm ex Brazil	0.1	0.1	0.0
Thematic Equities	0.0	4.0	4.0
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	0.0	1.0	1.0
Global Healthcare	0.0	3.0	3.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Commodities	0.0	0.0	0.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	0.0	0.0
Gold	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Hedge Funds	9.8	9.8	0.0
Private Equity	5.0	5.0	0.0
Real Estate	5.0	5.0	0.0
Total	100.0	100.0	0.0

Active = the difference between tactical and strategic allocations. Minor differences may result due to rounding.

Global USD with Hedge Funds and 10% illiquids (PE & RE): Risk Level 3 - Tactical Allocations



Figures in brackets are active allocations. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core Positions

Global equities have an overweight position of +6.0%, global fixed income has an underweight of -5.0%, cash has an underweight of -1.0%.

Within equities, developed large cap equities have an overweight position of +2.3% while developed small/mid cap equities have an underweight position of -0.6%. Emerging market equities have an overweight of +0.3%. Thematic equities have an overweight position of +4.0%.

Within fixed income, developed investment grade debt has an underweight position of -8.0%; developed high yield has an underweight position of -1.6%; emerging market debt has an overweight position of +0.6%. Thematic fixed income has an overweight position of +4.0%.

Private Equity and Real Estate are both neutral, each with 5% allocation.

Global USD with Hedge Funds and 10% illiquids (PE & RE): Risk Level 4

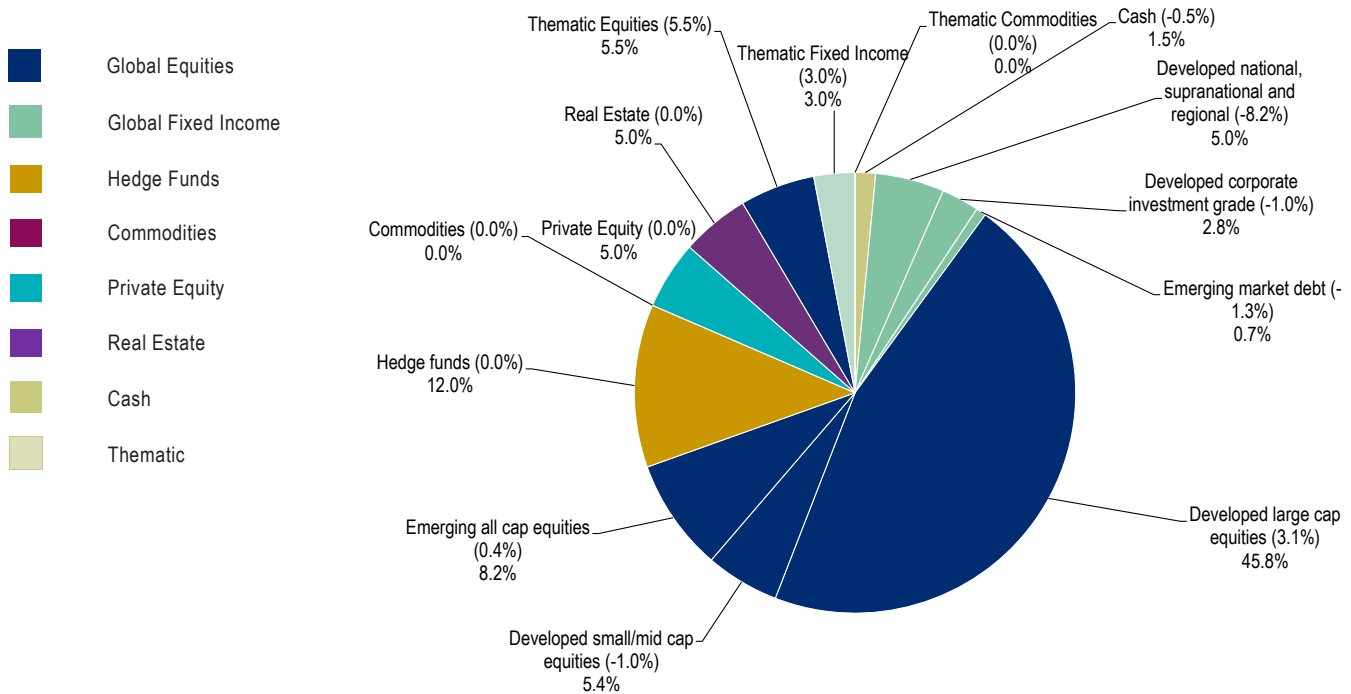
Risk Level 4 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. They are willing to subject a large portion of their portfolio to greater risk and market value fluctuations in anticipation of a potentially greater return on investment. Investors may have a preference for investments or trading strategies that may assume higher-than-normal market risks and/or potentially less liquidity with the goal (but not guarantee) of commensurate gains.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	2.0	1.5	-0.5
Fixed Income	19.0	11.5	-7.5
Developed Investment Grade	17.0	7.8	-9.2
US	9.5	7.2	-2.3
Government	4.0	4.2	0.3
Inflation-Linked	0.6	1.6	1.1
Short	1.1	0.0	-1.1
Intermediate	1.6	1.9	0.2
Long	0.7	0.7	0.0
Securitized	3.0	0.5	-2.6
Credit	2.5	2.5	0.0
Short	0.3	0.0	-0.3
Intermediate	1.3	2.2	0.9
Long	0.8	0.3	-0.5
Europe	5.7	0.6	-5.1
Government	4.5	0.3	-4.1
Credit	1.3	0.2	-1.0
Australia	0.1	0.0	-0.1
Government	0.1	0.0	-0.1
Japan	1.7	0.0	-1.7
Government	1.7	0.0	-1.7
Developed High Yield	0.0	0.0	0.0
US	0.0	0.0	0.0
Europe	0.0	0.0	0.0
Emerging Market Debt	2.0	0.7	-1.3
Asia	0.3	0.4	0.1
Local currency	0.2	0.3	0.1
Foreign currency	0.2	0.2	0.0
EMEA	1.1	0.0	-1.1
Local currency	0.5	0.0	-0.5
Foreign currency	0.5	0.0	-0.5
LatAm	0.6	0.3	-0.3
Local currency	0.3	0.0	-0.3
Foreign currency	0.3	0.3	0.0
Thematic Fixed Income	0.0	3.0	3.0
US Bank Loans	0.0	3.0	3.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	57.0	65.0	8.0
Developed Equities	49.1	51.2	2.1
Developed Large Cap Equities	42.7	45.8	3.1
US	29.0	31.0	1.9
Canada	1.4	1.4	0.0
UK	1.7	2.7	1.0
Switzerland	1.3	1.3	0.0
Europe ex UK ex Switzerland	4.1	4.2	0.0
Asia ex Japan	1.6	1.6	0.0
Japan	3.6	3.7	0.1
Developed Small/Mid Cap Equities	6.4	5.4	-1.0
US	3.4	2.6	-0.9
Non-US	3.0	2.8	-0.1
Emerging All Cap Equities	7.9	8.2	0.4
Asia	6.9	7.8	0.8
China	4.5	5.1	0.6
Asia (ex China)	2.4	2.6	0.2
EMEA	0.5	0.0	-0.5
LatAm	0.5	0.5	0.0
Brazil	0.3	0.3	0.0
LatAm ex Brazil	0.2	0.2	0.0
Thematic Equities	0.0	5.5	5.5
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	0.0	1.5	1.5
Global Healthcare	0.0	4.0	4.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Commodities	0.0	0.0	0.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	0.0	0.0
Gold	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Hedge Funds	12.0	12.0	0.0
Private Equity	5.0	5.0	0.0
Real Estate	5.0	5.0	0.0
Total	100.0	100.0	-0.0

Active = the difference between tactical and strategic allocations. Minor differences may result due to rounding.

Global USD with Hedge Funds and 10% illiquids (PE & RE): Risk Level 4 - Tactical Allocations



Figures in brackets are active allocations. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core Positions

Global equities have an overweight position of +8.0%, global fixed income has an underweight of -7.5%, cash has an underweight of -0.5%.

Within equities, developed large cap equities have an overweight position of +3.1% while developed small/mid cap equities have an underweight position of -1.0%. Emerging market equities have an overweight of +0.4%. Thematic equities have an overweight of +5.5%.

Within fixed income, developed investment grade has an underweight position of -9.2%; developed high yield has a neutral position and emerging market debt has an underweight position of -1.3%. Thematic fixed income has an overweight of +3.0%.

Private Equity and Real Estate are both neutral, each with 5% allocation.

Global USD with Hedge Funds and 10% illiquids (PE & RE): Risk Level 5

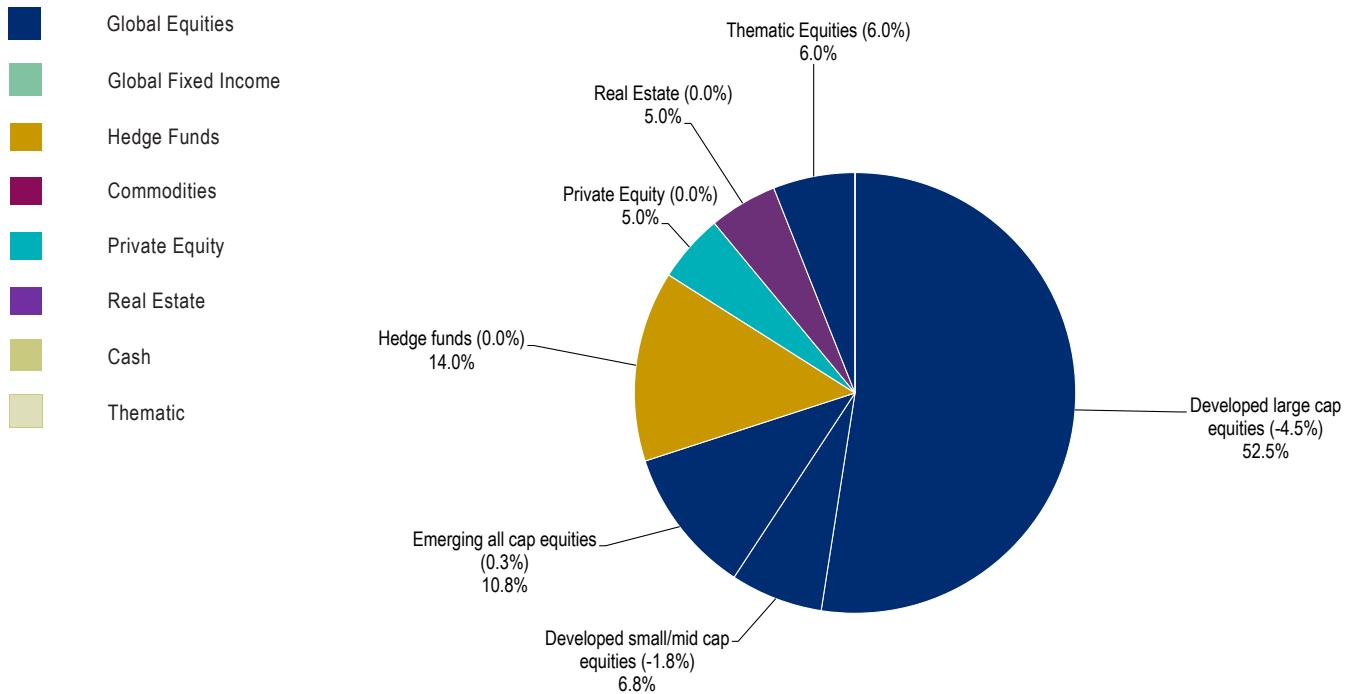
Risk Level 5 is designed for investors who emphasize return on investment. They are willing to subject their entire portfolio to greater risk and market value fluctuations in anticipation of a potentially greater return on investments. Investors may have a preference for investments or trading strategies that may assume higher than-normal market risks and/or potentially less liquidity with the goal (but not guarantee) of commensurate gains. Clients may engage in tactical or opportunistic trading, which may involve higher volatility and variability of returns.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	0.0	0.0	0.0
Fixed income	0.0	0.0	0.0
Developed Investment Grade	0.0	0.0	0.0
US	0.0	0.0	0.0
Government	0.0	0.0	0.0
Inflation-Linked	0.0	0.0	0.0
Short	0.0	0.0	0.0
Intermediate	0.0	0.0	0.0
Long	0.0	0.0	0.0
Securitized	0.0	0.0	0.0
Credit	0.0	0.0	0.0
Short	0.0	0.0	0.0
Intermediate	0.0	0.0	0.0
Long	0.0	0.0	0.0
Europe	0.0	0.0	0.0
Government	0.0	0.0	0.0
Credit	0.0	0.0	0.0
Australia	0.0	0.0	0.0
Government	0.0	0.0	0.0
Japan	0.0	0.0	0.0
Government	0.0	0.0	0.0
Developed High Yield	0.0	0.0	0.0
US	0.0	0.0	0.0
Europe	0.0	0.0	0.0
Emerging Market Debt	0.0	0.0	0.0
Asia	0.0	0.0	0.0
Local currency	0.0	0.0	0.0
Foreign currency	0.0	0.0	0.0
EMEA	0.0	0.0	0.0
Local currency	0.0	0.0	0.0
Foreign currency	0.0	0.0	0.0
LatAm	0.0	0.0	0.0
Local currency	0.0	0.0	0.0
Foreign currency	0.0	0.0	0.0
Thematic Fixed Income	0.0	0.0	0.0
US Bank Loans	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	76.0	76.0	0.0
Developed Equities	65.5	59.2	-6.3
Developed Large Cap Equities	57.0	52.5	-4.5
US	38.7	37.9	-0.8
Canada	1.9	0.7	-1.1
UK	2.3	2.8	0.6
Switzerland	1.8	0.8	-1.0
Europe ex UK ex Switzerland	5.5	4.8	-0.7
Asia ex Japan	2.1	1.5	-0.6
Japan	4.8	3.9	-0.8
Developed Small/Mid Cap Equities	8.6	6.8	-1.8
US	4.6	3.4	-1.2
Non-US	4.0	3.4	-0.6
Emerging All Cap Equities	10.5	10.8	0.3
Asia	9.2	10.0	0.7
China	6.0	6.4	0.4
Asia (ex China)	3.2	3.5	0.3
EMEA	0.6	0.4	-0.2
LatAm	0.7	0.4	-0.2
Brazil	0.4	0.3	-0.2
LatAm ex Brazil	0.2	0.2	-0.1
Thematic Equities	0.0	6.0	6.0
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	0.0	1.0	1.0
Global Healthcare	0.0	5.0	5.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Commodities	0.0	0.0	0.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	0.0	0.0
Gold	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Hedge Funds	14.0	14.0	0.0
Private Equity	5.0	5.0	0.0
Real Estate	5.0	5.0	0.0
Total	100.0	100.0	0.0

Active = the difference between tactical and strategic allocations. Minor differences may result due to rounding.

Global USD with Hedge Funds and 10% illiquids (PE & RE): Risk Level 5 - Tactical Allocations



Figures in brackets are active allocations. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core Positions

Global equities, global fixed income, cash and gold all have an overall neutral position.

Within equities, developed large cap equities have an underweight position of -4.5% and developed small/mid cap equities have an underweight position of -1.8%. Emerging market equities have an overweight of +0.3%. Thematic equities have an overweight of +6.0%.

Within fixed income, developed government debt, developed corporate investment grade, developed high yield and emerging market debt are all at neutral position.

Private Equity and Real Estate are both neutral, each with 5% allocation.

Global USD without Hedge Funds: Risk Level 1

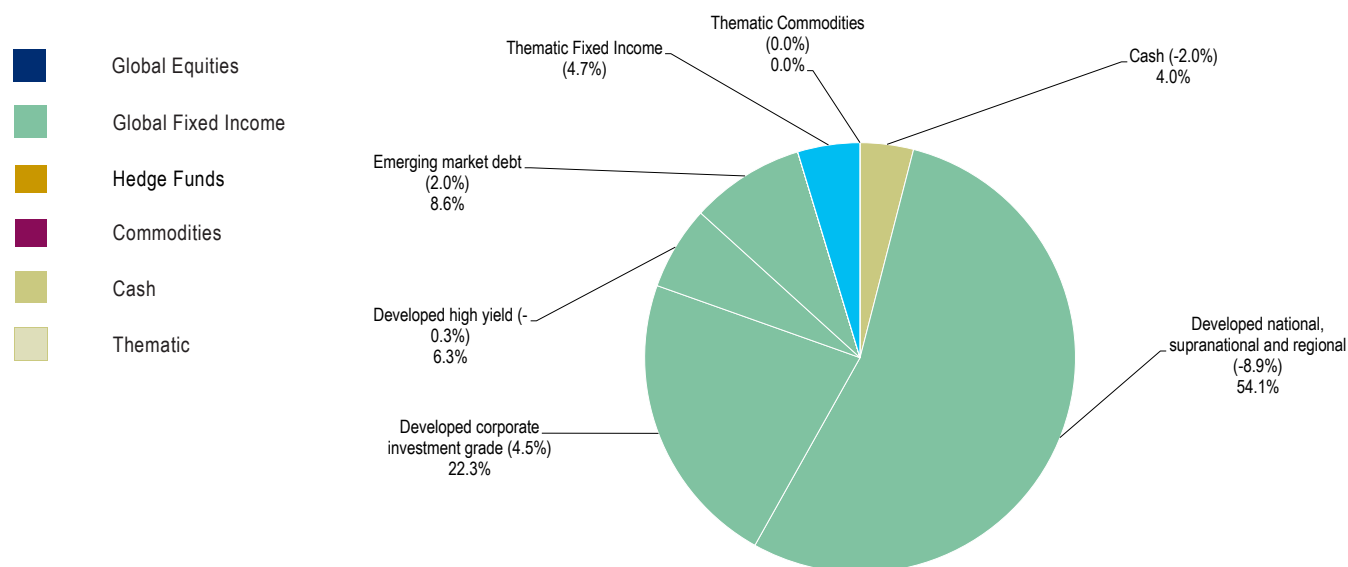
Risk Level 1 is designed for investors who have a preference for capital preservation and relative safety over the potential for a return on investment. These investors prefer to hold cash, time deposits and/or lower risk fixed income instruments.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	6.0	4.0	-2.0
Fixed Income	94.0	96.0	2.0
Developed Investment Grade	80.8	76.4	-4.4
US	45.0	51.1	6.1
Government	18.8	19.4	0.6
Inflation-Linked	2.7	3.5	0.8
Short	5.0	4.8	-0.2
Intermediate	7.8	7.8	0.0
Long	3.3	3.3	0.0
Securitized	14.4	15.9	1.5
Credit	11.8	15.8	4.0
Short	1.6	2.6	1.0
Intermediate	6.3	9.3	3.0
Long	3.9	3.9	0.0
Europe	27.2	20.2	-7.0
Government	21.1	13.6	-7.5
Credit	6.0	6.5	0.5
Australia	0.5	0.5	0.0
Government	0.5	0.5	0.0
Japan	8.2	4.7	-3.5
Government	8.2	4.7	-3.5
Developed High Yield	6.6	6.3	-0.3
US	5.0	3.1	-1.9
Europe	1.6	3.2	1.6
Emerging Market Debt	6.6	8.6	2.0
Asia	1.1	2.4	1.3
Local currency	0.6	1.1	0.5
Foreign currency	0.6	1.4	0.8
EMEA	3.6	3.6	0.0
Local currency	1.8	1.8	0.0
Foreign currency	1.8	1.8	0.0
LatAm	1.8	2.5	0.7
Local currency	0.9	0.9	0.0
Foreign currency	0.9	1.6	0.7
Thematic Fixed Income	0.0	4.7	4.7
US Bank Loans	0.0	4.7	4.7
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	0.0	0.0	0.0
Developed Equities	0.0	0.0	0.0
Developed Large Cap Equities	0.0	0.0	0.0
US	0.0	0.0	0.0
Canada	0.0	0.0	0.0
UK	0.0	0.0	0.0
Switzerland	0.0	0.0	0.0
Europe ex UK ex Switzerland	0.0	0.0	0.0
Asia ex Japan	0.0	0.0	0.0
Japan	0.0	0.0	0.0
Developed Small/Mid Cap Equities	0.0	0.0	0.0
US	0.0	0.0	0.0
Non-US	0.0	0.0	0.0
Emerging All Cap Equities	0.0	0.0	0.0
Asia	0.0	0.0	0.0
China	0.0	0.0	0.0
Asia (ex China)	0.0	0.0	0.0
EMEA	0.0	0.0	0.0
LatAm	0.0	0.0	0.0
Brazil	0.0	0.0	0.0
LatAm ex Brazil	0.0	0.0	0.0
Thematic Equities	0.0	0.0	0.0
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	0.0	0.0	0.0
Global Healthcare	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Commodities	0.0	0.0	0.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	0.0	0.0
Gold	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Total	100.0	100.0	0.0

Active = the difference between tactical and strategic allocations. Minor differences may result due to rounding.

Global USD without Hedge Funds: Risk Level 1 - Tactical Allocations



Figures in brackets are active allocations. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core Positions

Global equities have an overall neutral position, global fixed income has an overweight of +2.0%, cash has an underweight of -2.0%.

Within equities, developed large cap equities, developed small/mid cap equities and emerging market equities are all at neutral positions.

Within fixed income, developed investment grade debt has an underweight position of -4.4%; developed high yield has an underweight position of -0.3% and emerging market debt has an overweight position of +2.0%. Thematic fixed income has an overweight position of +4.7%.

Global USD without Hedge Funds: Risk Level 2

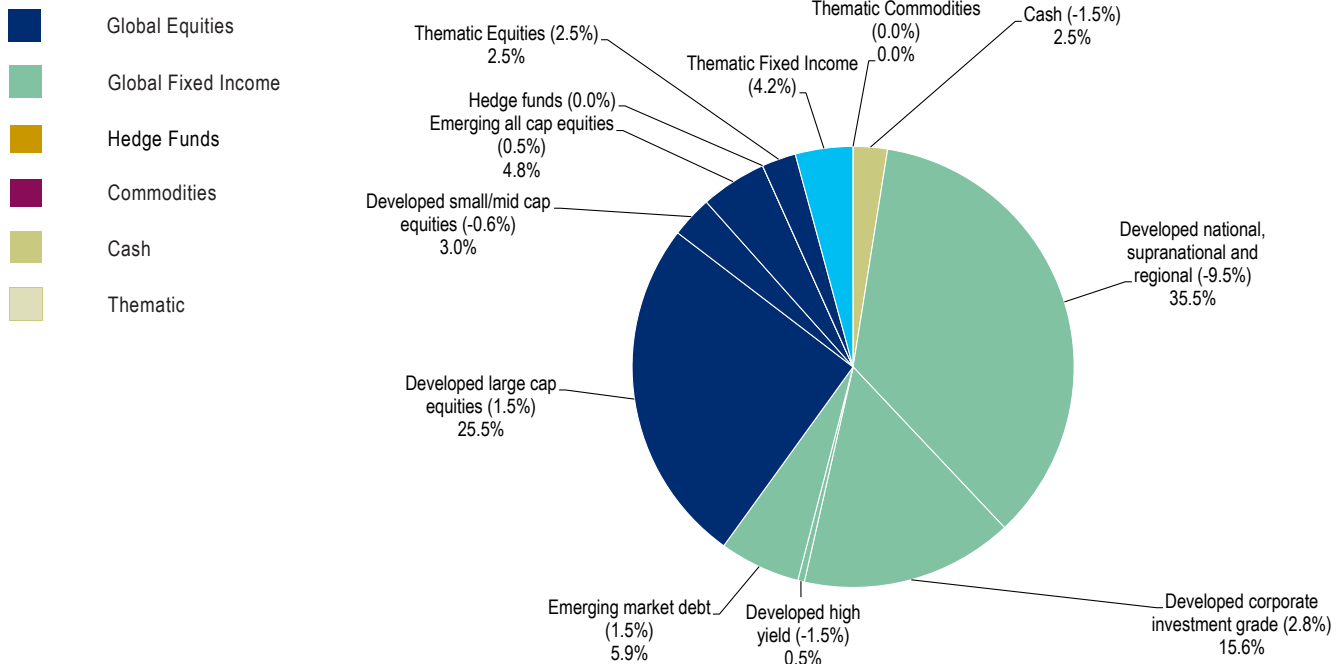
Risk Level 2 is designed for investors who emphasize capital preservation over return on investment, but who are willing to subject some portion of their principal to increased risk in order to generate a potentially greater rate of return on investment.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	4.0	2.5	-1.5
Fixed Income	64.1	61.7	-2.5
Developed Investment Grade	57.6	51.0	-6.6
US	32.1	35.9	3.8
Government	13.4	13.2	-0.2
Inflation-Linked	1.9	3.1	1.2
Short	3.6	2.1	-1.5
Intermediate	5.5	5.7	0.2
Long	2.4	2.4	0.0
Securitized	10.3	11.4	1.1
Credit	8.4	11.3	2.8
Short	1.2	1.4	0.2
Intermediate	4.5	7.2	2.7
Long	2.8	2.8	-0.0
Europe	19.4	12.4	-7.0
Government	15.1	8.1	-7.0
Credit	4.3	4.3	0.0
Australia	0.3	0.3	0.0
Government	0.3	0.3	0.0
Japan	5.8	2.4	-3.4
Government	5.8	2.4	-3.4
Developed High Yield	2.0	0.5	-1.5
US	1.5	0.0	-1.5
Europe	0.5	0.5	0.0
Emerging Market Debt	4.5	5.9	1.5
Asia	0.8	1.8	1.1
Local currency	0.4	0.9	0.6
Foreign currency	0.4	0.9	0.5
EMEA	2.5	2.5	0.0
Local currency	1.2	1.2	0.0
Foreign currency	1.2	1.2	0.0
LatAm	1.2	1.6	0.4
Local currency	0.6	0.6	0.0
Foreign currency	0.6	1.0	0.4
Thematic Fixed Income	0.0	4.2	4.2
US Bank Loans	0.0	4.2	4.2
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	31.9	35.8	3.9
Developed Equities	27.5	28.5	1.0
Developed Large Cap Equities	23.9	25.5	1.5
US	16.3	17.0	0.8
Canada	0.8	0.8	0.0
UK	0.9	1.7	0.8
Switzerland	0.7	0.7	0.0
Europe ex UK ex Switzerland	2.3	2.4	0.1
Asia ex Japan	0.9	0.9	0.0
Japan	2.0	2.0	0.0
Developed Small/Mid Cap Equities	3.6	3.0	-0.6
US	1.9	1.2	-0.8
Non-US	1.7	1.9	0.2
Emerging All Cap Equities	4.4	4.8	0.5
Asia	3.9	4.6	0.7
China	2.5	2.8	0.3
Asia (ex China)	1.4	1.8	0.4
EMEA	0.3	0.0	-0.3
LatAm	0.3	0.3	0.0
Brazil	0.2	0.2	0.0
LatAm ex Brazil	0.1	0.1	0.0
Thematic Equities	0.0	2.5	2.5
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	0.0	0.5	0.5
Global Healthcare	0.0	2.0	2.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Commodities	0.0	0.0	0.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	0.0	0.0
Gold	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Total	100.0	100.0	-0.0

Active = the difference between tactical and strategic allocations. Minor differences may result due to rounding.

Global USD without Hedge Funds: Risk Level 2 - Tactical Allocations



Figures in brackets are active allocations. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core Positions

Global equities have an overweight position of +3.9%, global fixed income has an underweight of -2.5%, cash has an underweight of -1.5%.

Within equities, developed large cap equities have an overweight position of +1.5% while developed small/mid cap equities have an underweight of -0.6%. Emerging market equities have an overweight of +0.5%. Thematic equities have an overweight of +2.5%.

Within fixed income, developed investment grade has an underweight position of -6.6%; developed high yield has an underweight position of -1.5% and emerging market debt has an overweight position of +1.5%. Thematic fixed income has an overweight position of +4.2%.

Global USD without Hedge Funds: Risk Level 3

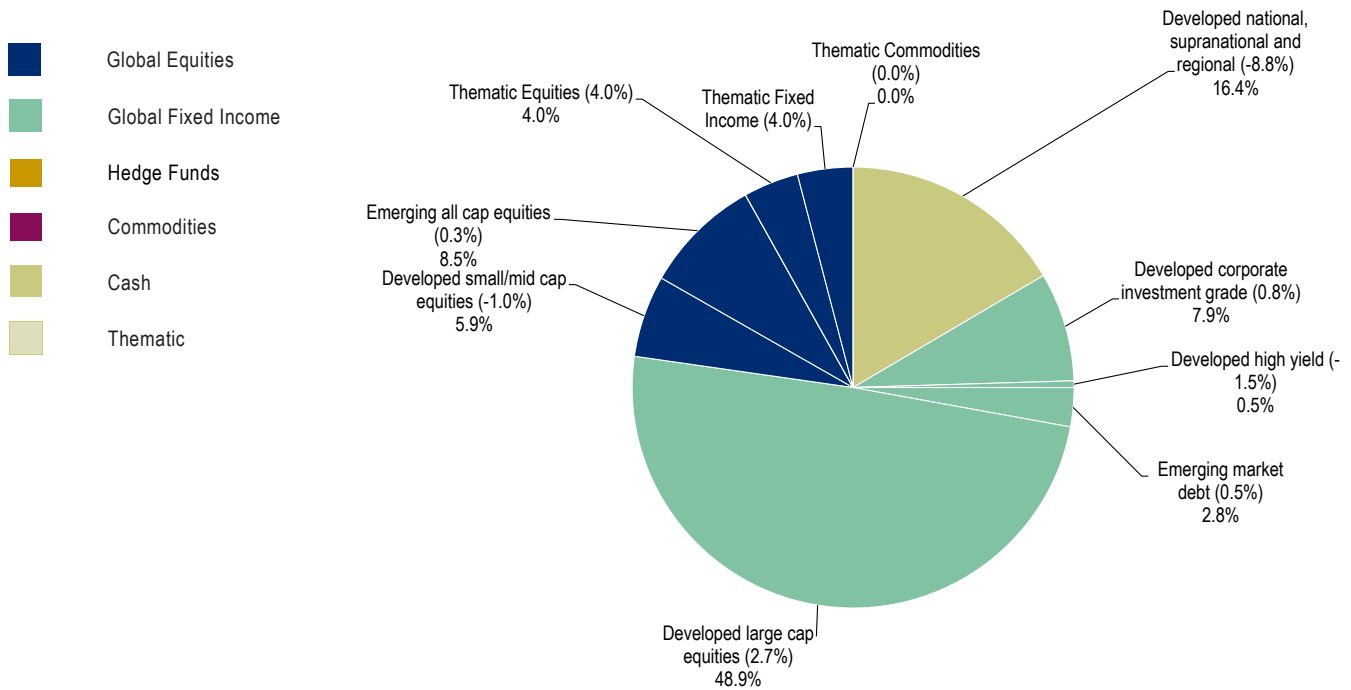
Risk Level 3 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk Level 3 may be appropriate for investors willing to subject their portfolio to additional risk for potential growth in addition to a level of income reflective of his/her stated risk tolerance.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	2.0	1.0	-1.0
Fixed Income	36.6	31.6	-5.0
Developed Investment Grade	32.3	24.3	-8.0
US	18.0	19.9	1.9
Government	7.5	8.6	1.1
Inflation-Linked	1.1	3.1	2.0
Short	2.0	0.1	-1.9
Intermediate	3.1	4.1	1.0
Long	1.3	1.3	0.0
Securitized	5.8	5.6	-0.2
Credit	4.7	5.7	1.0
Short	0.6	0.6	0.0
Intermediate	2.5	3.5	1.0
Long	1.5	1.5	0.0
Europe	10.8	4.1	-6.7
Government	8.4	1.9	-6.5
Credit	2.4	2.2	-0.2
Australia	0.2	0.2	0.0
Government	0.2	0.2	0.0
Japan	3.3	0.1	-3.2
Government	3.3	0.1	-3.2
Developed High Yield	2.0	0.5	-1.5
US	1.5	0.0	-1.5
Europe	0.5	0.5	0.0
Emerging Market Debt	2.3	2.8	0.5
Asia	0.4	0.9	0.5
Local currency	0.2	0.5	0.3
Foreign currency	0.2	0.4	0.2
EMEA	1.3	1.3	0.0
Local currency	0.6	0.6	0.0
Foreign currency	0.6	0.6	0.0
LatAm	0.6	0.6	0.0
Local currency	0.3	0.3	0.0
Foreign currency	0.3	0.3	0.0
Thematic Fixed Income	0.0	4.0	4.0
US Bank Loans	0.0	4.0	4.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	61.4	67.4	6.0
Developed Equities	53.2	54.9	1.7
Developed Large Cap Equities	46.2	48.9	2.7
US	31.4	32.9	1.5
Canada	1.5	1.5	0.0
UK	1.8	3.0	1.2
Switzerland	1.4	1.4	0.0
Europe ex UK ex Switzerland	4.5	4.4	-0.0
Asia ex Japan	1.7	1.7	0.0
Japan	3.9	3.9	0.0
Developed Small/Mid Cap Equities	6.9	5.9	-1.0
US	3.7	2.7	-1.0
Non-US	3.2	3.2	0.0
Emerging All Cap Equities	8.2	8.5	0.3
Asia	7.2	8.0	0.8
China	4.7	5.2	0.5
Asia (ex China)	2.5	2.8	0.3
EMEA	0.5	0.0	-0.5
LatAm	0.5	0.5	0.0
Brazil	0.3	0.3	0.0
LatAm ex Brazil	0.2	0.2	0.0
Thematic Equities	0.0	4.0	4.0
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	0.0	1.0	1.0
Global Healthcare	0.0	3.0	3.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Commodities	0.0	0.0	0.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	0.0	0.0
Gold	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Total	100.0	100.0	-0.0

Active = the difference between tactical and strategic allocations. Minor differences may result due to rounding.

Global USD without Hedge Funds: Risk Level 3 - Tactical Allocations



Figures in brackets are active allocations. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core Positions

Global equities have an overweight position of +6.0%, global fixed income has an underweight of -5.0%, cash has an underweight of -1.0%.

Within equities, developed large cap equities have an overweight position of +2.7% while developed small/mid cap equities have an underweight position of -1.0%. Emerging market equities have an overweight of +0.3%. Thematic equities have an overweight of +4.0%.

Within fixed income, developed investment grade debt has an underweight position of -8.0%; developed high yield has an underweight position of -1.5%; emerging market debt has an overweight position of +0.5%. Thematic fixed income has an overweight of +4.0%.

Global USD without Hedge Funds: Risk Level 4

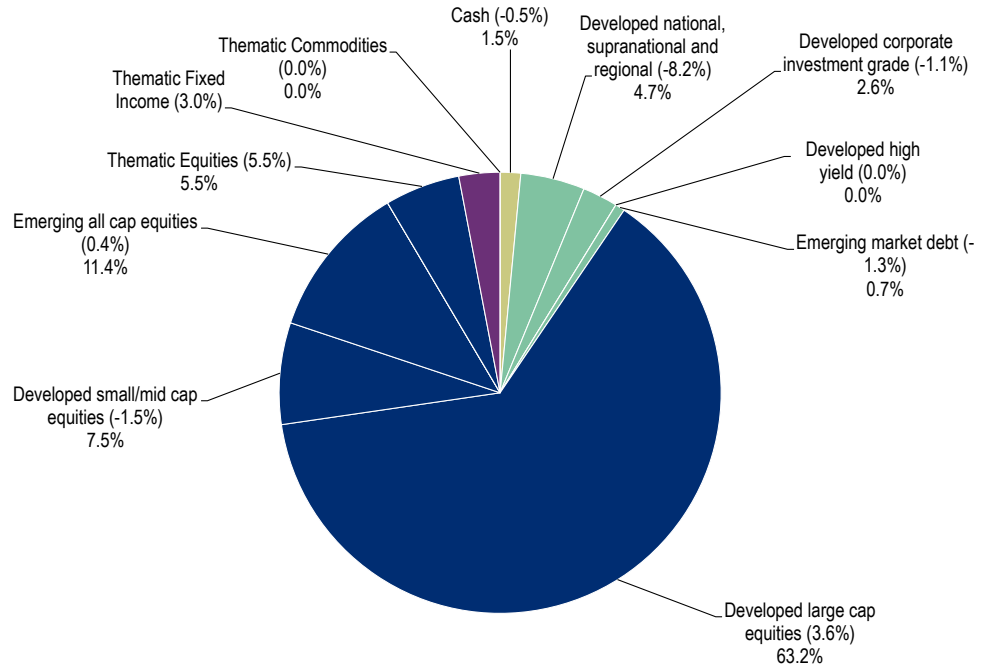
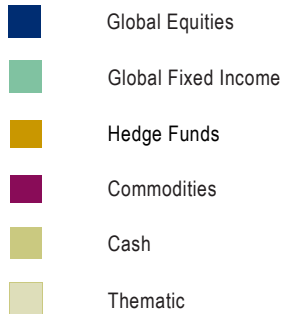
Risk Level 4 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. They are willing to subject a large portion of their portfolio to greater risk and market value fluctuations in anticipation of a potentially greater return on investment. Investors may have a preference for investments or trading strategies that may assume higher-than-normal market risks and/or potentially less liquidity with the goal (but not guarantee) of commensurate gains.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	2.0	1.5	-0.5
Fixed Income	18.5	11.0	-7.5
Developed Investment Grade	16.5	7.3	-9.2
US	9.2	6.7	-2.4
Government	3.8	3.9	0.1
Inflation-Linked	0.5	1.5	1.0
Short	1.0	0.0	-1.0
Intermediate	1.6	1.7	0.2
Long	0.7	0.7	0.0
Securitized	2.9	0.5	-2.5
Credit	2.4	2.4	-0.0
Short	0.3	0.0	-0.3
Intermediate	1.3	2.0	0.8
Long	0.8	0.3	-0.5
Europe	5.5	0.5	-5.0
Government	4.3	0.3	-4.0
Credit	1.2	0.2	-1.0
Australia	0.1	0.0	-0.1
Government	0.1	0.0	-0.1
Japan	1.7	0.0	-1.7
Government	1.7	0.0	-1.7
Developed High Yield	0.0	0.0	0.0
US	0.0	0.0	0.0
Europe	0.0	0.0	0.0
Emerging Market Debt	2.0	0.7	-1.3
Asia	0.3	0.4	0.1
Local currency	0.2	0.3	0.1
Foreign currency	0.2	0.2	-0.0
EMEA	1.1	0.0	-1.1
Local currency	0.5	0.0	-0.5
Foreign currency	0.5	0.0	-0.5
LatAm	0.6	0.3	-0.3
Local currency	0.3	0.0	-0.3
Foreign currency	0.3	0.3	-0.0
Thematic Fixed Income	0.0	3.0	3.0
US Bank Loans	0.0	3.0	3.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	79.5	87.5	8.0
Developed Equities	68.6	70.7	2.1
Developed Large Cap Equities	59.6	63.2	3.6
US	40.5	42.7	2.1
Canada	2.0	2.0	0.0
UK	2.4	3.8	1.4
Switzerland	1.9	1.9	0.0
Europe ex UK ex Switzerland	5.7	5.7	-0.0
Asia ex Japan	2.2	2.2	0.0
Japan	5.0	5.0	0.1
Developed Small/Mid Cap Equities	9.0	7.5	-1.5
US	4.8	3.6	-1.3
Non-US	4.1	3.9	-0.3
Emerging All Cap Equities	11.0	11.4	0.4
Asia	9.6	10.7	1.1
China	6.3	7.1	0.8
Asia (ex China)	3.4	3.6	0.3
EMEA	0.7	0.0	-0.7
LatAm	0.7	0.7	0.0
Brazil	0.4	0.4	0.0
LatAm ex Brazil	0.2	0.2	0.0
Thematic Equities	0.0	5.5	5.5
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	0.0	1.5	1.5
Global Healthcare	0.0	4.0	4.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Commodities	0.0	0.0	0.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	0.0	0.0
Gold	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Total	100.0	100.0	-0.0

Active = the difference between tactical and strategic allocations. Minor differences may result due to rounding.

Global USD without Hedge Funds: Risk Level 4 - Tactical Allocations



Figures in brackets are active allocations. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core Positions

Global equities have an overweight position of +8.0%, global fixed income has an underweight of -7.5%, cash has an underweight of -0.5%.

Within equities, developed large cap equities have an overweight position of +3.6% while developed small/mid cap equities have an underweight position of -1.5%. Emerging market equities have an overweight of +0.4%. Thematic equities have an overweight position of +5.5%.

Within fixed income, developed investment grade debt has an underweight position of -9.2%; developed high yield has a neutral position and emerging market debt has an underweight position of -1.3%. Thematic fixed income has an overweight position of +3.0%.

Global USD without Hedge Funds: Risk Level 5

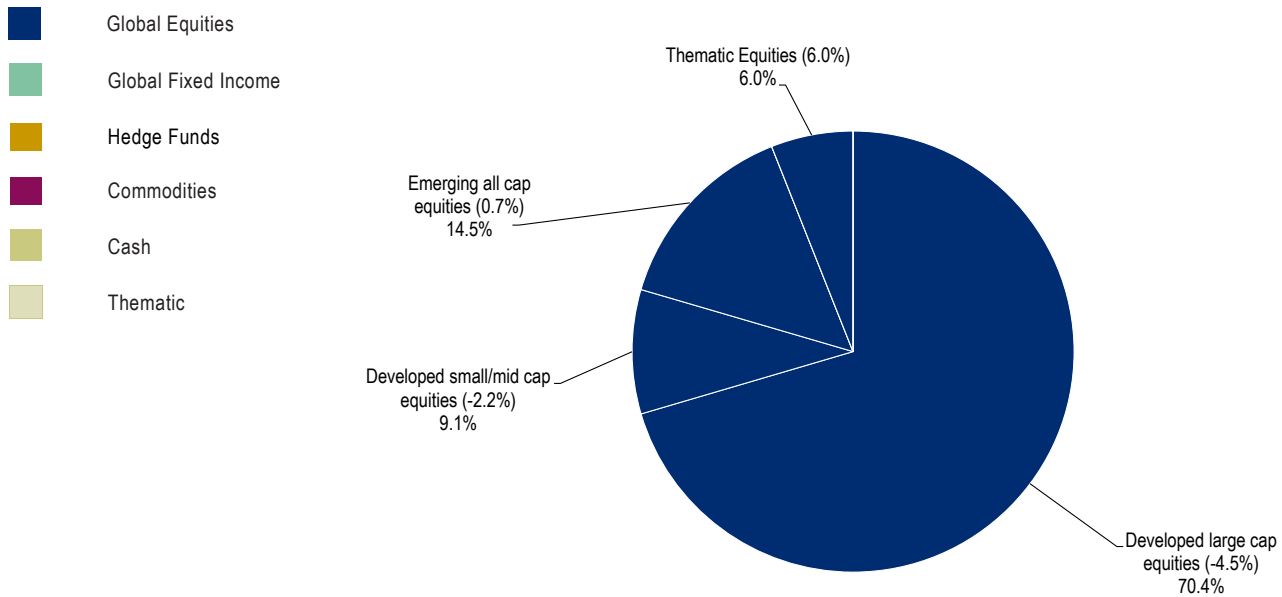
Risk Level 5 is designed for investors who emphasize return on investment. They are willing to subject their entire portfolio to greater risk and market value fluctuations in anticipation of a potentially greater return on investments. Investors may have a preference for investments or trading strategies that may assume higher than-normal market risks and/or potentially less liquidity with the goal (but not guarantee) of commensurate gains. Clients may engage in tactical or opportunistic trading, which may involve higher volatility and variability of returns.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	0.0	0.0	0.0
Fixed income	0.0	0.0	0.0
Developed Investment Grade	0.0	0.0	0.0
US	0.0	0.0	0.0
Government	0.0	0.0	0.0
Inflation-Linked	0.0	0.0	0.0
Short	0.0	0.0	0.0
Intermediate	0.0	0.0	0.0
Long	0.0	0.0	0.0
Securitized	0.0	0.0	0.0
Credit	0.0	0.0	0.0
Short	0.0	0.0	0.0
Intermediate	0.0	0.0	0.0
Long	0.0	0.0	0.0
Europe	0.0	0.0	0.0
Government	0.0	0.0	0.0
Credit	0.0	0.0	0.0
Australia	0.0	0.0	0.0
Government	0.0	0.0	0.0
Japan	0.0	0.0	0.0
Government	0.0	0.0	0.0
Developed High Yield	0.0	0.0	0.0
US	0.0	0.0	0.0
Europe	0.0	0.0	0.0
Emerging Market Debt	0.0	0.0	0.0
Asia	0.0	0.0	0.0
Local currency	0.0	0.0	0.0
Foreign currency	0.0	0.0	0.0
EMEA	0.0	0.0	0.0
Local currency	0.0	0.0	0.0
Foreign currency	0.0	0.0	0.0
LatAm	0.0	0.0	0.0
Local currency	0.0	0.0	0.0
Foreign currency	0.0	0.0	0.0
Thematic Fixed Income	0.0	0.0	0.0
US Bank Loans	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	100.0	100.0	0.0
Developed Equities	86.2	79.5	-6.6
Developed Large Cap Equities	74.9	70.4	-4.5
US	51.0	50.9	-0.0
Canada	2.5	1.0	-1.5
UK	3.0	3.8	0.8
Switzerland	2.3	1.0	-1.3
Europe ex UK ex Switzerland	7.2	6.4	-0.8
Asia ex Japan	2.7	2.0	-0.7
Japan	6.3	5.3	-1.0
Developed Small/Mid Cap Equities	11.3	9.1	-2.2
US	6.0	4.5	-1.5
Non-US	5.2	4.6	-0.7
Emerging All Cap Equities	13.8	14.5	0.7
Asia	12.1	13.4	1.3
China	7.9	8.6	0.8
Asia (ex China)	4.2	4.7	0.5
EMEA	0.8	0.5	-0.3
LatAm	0.9	0.6	-0.3
Brazil	0.5	0.3	-0.2
LatAm ex Brazil	0.3	0.2	-0.1
Thematic Equities	0.0	6.0	6.0
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	0.0	1.0	1.0
Global Healthcare	0.0	5.0	5.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Commodities	0.0	0.0	0.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	0.0	0.0
Gold	0.0	0.0	0.0
Thematic 2	0.0	0.0	0.0
Thematic 3	0.0	0.0	0.0
Thematic 4	0.0	0.0	0.0
Thematic 5	0.0	0.0	0.0
Total	100.0	100.0	0.0

Active = the difference between tactical and strategic allocations. Minor differences may result due to rounding.

Global USD without Hedge Funds: Risk Level 5 - Tactical Allocations



Figures in brackets are active allocations. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core Positions

Global equities, global fixed income, cash and gold are all at neutral position.

Within equities, developed large cap equities have an underweight position of -4.5% and developed small/mid cap equities have an underweight position of -2.2%. Emerging market equities have an overweight of +0.7%. Thematic equities have an overweight position of +6.0%.

Within fixed income, developed government debt, developed corporate investment grade, developed high yield and emerging market debt are all at neutral position.

Asset Allocation Definitions

ASSET CLASSES	Benchmarked against
Global equities	MSCI All Country World Index, which represents 48 developed and emerging equity markets. Index components are weighted by market capitalization.
Global bonds	Bloomberg Barclays Capital Multiverse (Hedged) Index, which contains the government -related portion of the Multiverse Index, and accounts for approximately 14% of the larger index.
Hedge funds	HFRX Global Hedge Fund Index, which is designed to be representative of the overall composition of the hedge fund universe. It comprises all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage and relative value arbitrage. The strategies are asset-weighted based on the distribution of assets in the hedge fund industry.
Commodities	Dow Jones-UBS Commodity Index, which is composed of futures contracts on physical commodities traded on US exchanges, with the exception of aluminum, nickel and zinc, which trade on the London Metal Exchange (LME). The major commodity sectors are represented including energy, petroleum, precious metals, industrial metals, grains, livestock, softs, agriculture and ex-energy. The Thomson Reuters / Core Commodity Index is designed to provide timely and accurate representation of a long-only, broadly diversified investment in commodities through a transparent and disciplined calculation methodology.
Cash	Three-month LIBOR, which is the interest rates that banks charge each other in the international inter-bank market for three-month loans (usually denominated in Eurodollars).
Equities	
Developed market large cap	MSCI World Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the equity market performance of the large cap stocks in 23 developed markets. Large cap is defined as stocks representing roughly 70% of each market's capitalization.
All Country Ex US	MSCI All Country ex US, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the equity market performance of the large cap stocks in all countries excluding the US.
US	Standard & Poor's 500 Index, which is a capitalization-weighted index that includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.
Europe ex UK	MSCI Europe ex UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in each of Europe's developed markets, except for the UK
UK	MSCI UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in the UK
Japan	MSCI Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in Japan.
Asia Pacific ex Japan	MSCI Asia Pacific ex Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the performance of large cap stocks in Australia, Hong Kong, New Zealand and Singapore.
Developed market small and mid-cap (SMID)	MSCI World Small Cap Index, which is a capitalization-weighted index that measures small cap stock performance in 23 developed equity markets.
Emerging market	MSCI Emerging Markets Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure equity market performance of 22 emerging markets.
Bonds	
Developed sovereign	Citi World Government Bond Index (WGBI), which consists of the major global investment grade government bond markets and is composed of sovereign debt, denominated in the domestic currency. To join the WGBI, the market must satisfy size, credit and barriers-to-entry requirements. In order to ensure that the WGBI remains an investment grade benchmark, a minimum credit quality of BBB-/Baa3 by either S&P or Moody's is imposed. The index is rebalanced monthly.
Emerging sovereign	Citi Emerging Market Sovereign Bond Index (ESBI), which includes Brady bonds and US dollar -denominated emerging market sovereign debt issued in the global, Yankee and Eurodollar markets, excluding loans. It is composed of debt in Africa, Asia, Europe and Latin America. We classify an emerging market as a sovereign with a maximum foreign debt rating of BBB+/Baa1 by S&P or Moody's. Defaulted issues are excluded.
Supranationals	Citi World Broad Investment Grade Index (WBIG)—Government Related, which is a subsector of the WBIG. The index includes fixed rate investment grade agency, supranational and regional government debt, denominated in the domestic currency. The index is rebalanced monthly.
Corporate investment grade	Citi World Broad Investment Grade Index (WBIG)—Corporate, which is a subsector of the WBIG. The index includes fixed rate global investment grade corporate debt within the finance, industrial and utility sectors, denominated in the domestic currency. The index is rebalanced monthly.
Corporate high yield	Bloomberg Barclays Global High Yield Corporate Index. Provides a broad-based measure of the global high yield fixed income markets. It is also a component of the Multiverse Index and the Global Aggregate Index.
Securitized	Citi World Broad Investment Grade Index (WBIG)—Securitized, which is a subsector of the WBIG. The index includes global investment grade collateralized debt denominated in the domestic currency, including mortgage -backed securities, covered bonds (Pfandbriefe) and asset-backed securities. The index is rebalanced monthly. Moody's Baa Corporate Bond Index is an investment bond index that tracks the performance of all bonds given a Baa rating by Moody's Investors Service.

BAML US Corporate index (Bank of America Merrill Lynch) tracks the performance of US dollar denominated investment grade rated corporate debt publically issued in the US domestic market.

Other miscellaneous definitions

Asset Backed Securities (ABS) A security whose income payments and hence value are derived from and collateralized (or "backed") by a specified pool of underlying assets such as consumer credit card debt or auto loans.

Commercial Mortgage Backed Securities (CMBS) Commercial mortgage-backed securities (CMBS) are a type of mortgage-backed security that is secured by mortgages on commercial properties, instead of residential real estate.

High Yield Corporate Bonds (HY) High yield corporate bonds are bonds with a credit rating less than BBB- (S&P) or Baa3 (Moody's), and are debt securities issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations.

Investment Grade Corporate Bonds (IG) Investment grade corporate bonds are bonds with a credit rating equal to or above BBB- (S&P) or Baa3 (Moody's), and are debt securities issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations.

COVID-Cyclicals Financials, Industrials, Energy, Materials, Real Estate, Consumer Discretionary ex-Amazon.

COVID-Defensives IT, Health Care, Communication Services, Consumer Staples, Utilities, Amazon.

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Bonds are affected by a number of risks, including fluctuations in interest rates, credit risk and prepayment risk. In general, as prevailing interest rates rise, fixed income securities prices will fall. Bonds face credit risk if a decline in an issuer's credit rating, or creditworthiness, causes a bond's price to decline. High yield bonds are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. Finally, bonds can be subject to prepayment risk. When interest rates fall, an issuer may choose to borrow money at a lower interest rate, while paying off its previously issued bonds. As a consequence, underlying bonds will lose the interest payments from the investment and will be forced to reinvest in a market where prevailing interest rates are lower than when the initial investment was made.

Bond rating equivalence

Alpha and/or numeric symbols used to give indications of relative credit quality. In the municipal market, these designations are published by the rating services. Internal ratings are also used by other market participants to indicate credit quality.

Bond credit quality ratings	Rating agencies		
	Moody's ¹	Standard and Poor's ²	Fitch Ratings ²
Investment Grade			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (Strong)	A	A	A
Medium grade	Baa	BBB	BBB
Not Investment Grade			
Lower medium grade (somewhat speculative)	Ba	BB	BB
Low grade (speculative)	B	B	B
Poor quality (may default)	Caa	CCC	CCC
Most speculative	Ca	CC	CC
No interest being paid or bankruptcy petition filed	C	D	C
In default	C	D	D

¹ The ratings from Aa to Ca by Moody's may be modified by the addition of a 1, 2, or 3 to show relative standing within the category.

² The ratings from AA to CC by Standard and Poor's and Fitch Ratings may be modified by the addition of a plus or a minus to show relative standing within the category.

(MLP's) - Energy Related MLPs May Exhibit High Volatility. While not historically very volatile, in certain market environments Energy Related MLPs may exhibit high volatility.

Changes in Regulatory or Tax Treatment of Energy Related MLPs. If the IRS changes the current tax treatment of the master limited partnerships included in the Basket of Energy Related MLPs thereby subjecting them to higher rates of taxation, or if other regulatory authorities enact regulations which negatively affect the ability of the master limited partnerships to generate income or distribute dividends to holders of common units, the return on the Notes, if any, could be dramatically reduced. Investment in a basket of Energy Related MLPs may expose the investor to concentration risk due to industry, geographical, political, and regulatory concentration.

Mortgage-backed securities ("MBS"), which include collateralized mortgage obligations ("CMOs"), also referred to as real estate mortgage investment conduits ("REMICs"), may not be suitable for all investors. There is the possibility of early return of principal due to mortgage prepayments, which can reduce expected yield and result in reinvestment risk. Conversely, return of principal may be slower than initial prepayment speed assumptions, extending the average life of the security up to its listed maturity date (also referred to as extension risk).

Additionally, the underlying collateral supporting non-Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of

a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements. Price volatility may also occur from other factors including, but not limited to, prepayments, future prepayment expectations, credit concerns, underlying collateral performance and technical changes in the market.

Alternative investments referenced in this report are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in the fund, potential lack of diversification, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and advisor risk.

Asset allocation does not assure a profit or protect against a loss in declining financial markets.

The indexes are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance.

Past performance is no guarantee of future results.

International investing entails greater risk, as well as greater potential rewards compared to US investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics.

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

Factors affecting commodities generally, index components composed of futures contracts on nickel or copper, which are industrial metals, may be subject to a number of additional factors specific to industrial metals that might cause price volatility. These include changes in the level of industrial activity using industrial metals (including the availability of substitutes such as manmade or synthetic substitutes); disruptions in the supply chain, from mining to storage to smelting or refining; adjustments to inventory; variations in production costs, including storage, labor and energy costs; costs associated with regulatory compliance, including environmental regulations; and changes in industrial, government and consumer demand, both in individual consuming nations and internationally. Index components concentrated in futures contracts on agricultural products, including grains, may be subject to a number of additional factors specific to agricultural products that might cause price volatility. These include weather conditions, including floods, drought and freezing conditions; changes in government policies; planting decisions; and changes in demand for agricultural products, both with end users and as inputs into various industries.

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