



Citi Global Wealth Investments

July 14, 2022

Global Strategy | Quadrant

Steven Wieting
Chief Investment
Strategist & Chief
Economist
+1-212-559-0499
steven.wieting@citi.com

Joseph Fiorica
Head – Global Equity

Bruce Harris
Head – Global Fixed
Income

Jai Tiwari
Head – Global FX
strategy

Jorge Amato
Head – Latin America

Ken Peng
Head – Asia Strategy
Li-Gang Liu
Head – APAC economics
Cecilia Chen
Calvin Ha

Guillaume Menuet
Judiyah Amirthanathar
EMEA

Charles Reinhard
Head – North America
Shawn Snyder
Head – US Consumer
Wealth
Lorraine Schmitt

Malcolm Spittler
Maya Issa
Global

Joseph Kaplan
Fixed Income

Melvin Lou
FX strategy

Quality Income Until the Hawks Fly Home

How should investors look at rising US employment and falling asset prices? A recession that's "not yet" is "not good." We continue to believe the Fed is running a pro-cyclical monetary policy, first stoking an inflationary boom, then tightening sharply into a slowing economy. The depth and duration of the coming weaker period for the world economy is highly uncertain. This leaves us to focus on the most certain sources of return: interest payments and dividends from investment grade governments and corporates.

Despite near-term inflation of far greater-than-expected scope, we see growing risks of economic contraction in 2023 and inflation subsiding. In reaction, we have reduced our exposure to "inflation hedges" in equities and added further to our overweight in high grade fixed income.

We raised our overweight to intermediate-duration US investment grade corporate bonds to +3.5%, investing in less volatile, lower risk fixed income at a yield close to 5%. Along with other small shifts, this raised our total US fixed income overweight to +10.2%, including a 4.5% overweight to US Treasuries.

While we see commodity supply disruptions from Russia continuing, we eliminated our overweight in oilfield services given its high beta (relative volatility) and overlap with more profitable and higher yielding natural resources firms. This reduced our global equities weighting from +2% to neutral. Excluding commodities-related investments, our global equity weighting remains at -2%.

After a period of outperformance within fixed income, we eliminated our overweight to high yield variable rate loans, reinvesting the proceeds in investment grade preferred stock. Since we eliminated high yield bond holdings in favor of loans in early in 2021, loans have returned -0.8% and high yield bonds -8.5%. Loans have benefited from their floating rate structure, with the Fed's expected tightening cycle padding returns. However, **we see risks shifting from higher rates to weaker credit, with highly leveraged firms at risk.** Investment grade preferred securities have fallen 12% year-to-date, pushing yields toward 6.5%, far above bank common equity yields. With other small changes in portfolios, we were able to effectively raise our capital position within financials while adding substantially to yield.

China's economy has fallen to its weakest level since COVID first hit in 1Q 2020, with sharply higher unemployment and a 50% collapse in property sales. A refocus on achieving growth targets with policy easing should lead to stronger equity returns in 2023. Along with other cuts in thematic equities (Fintech), we've added another full percentage point to China equities for a 2% overweight. China's presently weak but improving economy, low inflation rate, restrained profits, and depressed valuation suggest an unusually asynchronous position to the US.

While economic risks are rising, our overall investment strategy remains unchanged. We believe portfolios should focus on higher quality income in both fixed income and equities. Our largest off-index position in equities is an allocation to consistent dividend growth equities (+3% overweight in the US, +1% non-US). In the US, these shares have fallen, but outperformed by nearly 900 basis points in 2022-to-date. Our largest industry group weighting is global pharmaceuticals, which have returned -1.5% this year vs -20% for global equities.

Periods of supply shocks and demand instability are unlikely to be "cured" with a monetary policy induced recession. We fear that a lack of patience from central banks can weaken the supply recovery and harm employment more than inflation is improved. **A drop in inflation, however, could prove stabilizing, particularly while employment growth persists.** After double-digit losses in both global equities and bonds in the first half 2022, persistent growth would easily be viewed as a positive surprise.

The Global Investment Committee made several changes to our asset allocation at our 13 July 2022 meeting, increasing holdings of US investment grade fixed income, reducing our overweight in commodity-related equities and increasing our Chinese equity overweight.

We added a thematic overweight in investment grade hybrid – or preferred – securities while cutting our position in fintech. We eliminated our high yield loans position after their sharp outperformance over high yield bonds. This effectively increased our position in the capital structure of investments within the financial sector while adding an increase in dividend yield.

These changes resulted in a reduction in our Global Equity allocation to neutral from 2% overweight. (Excluding commodities, our equity allocation remains unchanged at 2% underweight.)

Our Global Fixed Income underweight was reduced from -3% to -1%, driven by the increase in our US fixed income overweight from 7.7% to 10.2%. Gold remains 2% overweight, with cash at 1% underweight.

Since we eliminated our US high yield bond position in favor of loans early last year, loans have outperformed, returning -0.8%, while high yield bonds returned -8.5%. With large future increases in Fed policy rates priced into fixed income markets, medium duration IG corporate bond yields have risen to about 4.8% from 1.8% a year ago. Sub-investment grade US yields have risen from 3.7% to 8.4%. With this move, we added a further 2% to our overweight in intermediate-term US corporate bonds and 0.5% to US high yield, the latter by shifting away from a small European position.

Our move leaves us underweight US high yield as a sub-asset class. We believe a potentially excessive level of future Fed tightening may cause a transition from interest-led risks in global markets to credit-led risks.

We continue to envisage strong long-term returns from financial technology (fintech). However, along with our reduction in bank loans, cutting this position allowed us to establish a new thematic fixed income position in hybrid capital securities at +2.0% and an enhanced position in depressed China equities.

Preferred stock yields among investment grade financial issuers have risen to about 6.5%, well above bank common equity, yet higher up the capital structure. While some hybrid issues are rated below investment grade, the underlying issuers may be strong investment grade borrowers. Although the chance of recession is both increasing and reflected in market fears, we see the US banking system sufficiently well capitalized to absorb losses. This is less true of some experimental fintech competitors and smaller traditional banks. (We remain underweight small- and mid-cap shares).

Apart from commodities, we continue to favor higher quality, less cyclical assets providing the most reliable source of returns: fixed income yields of investment grade government borrowers and dividend payments from firms with strong balance sheets. We continue to overweight the most consistent dividend growth shares. In the US, these equities have fallen 12% this year compared to a 20% decline for the S&P 500 Index. Our largest industry overweight is pharmaceuticals, which has dropped 1% versus the 20% fall in the MSCI All-Country World Index.

In US equity markets, we continue to believe that shares discount a large rise in interest rates, but not a sharp decline in corporate profits – see our CIO bulletin of July 9, 2022). While we only expect a 3% decline in US corporate profits in our base-case economic outlook for 2023, it is not clear how long the period of poor economic performance will continue or how severely the Federal Reserve will act to depress demand. The high level of US profits and employment makes us wary of expecting strong US equity returns, as profit margins are at risk.

We remain underweight European equities, particularly small caps given severe economic vulnerability to Russian gas supplies. The European Central Bank is also at an earlier stage of tightening monetary policy. (Given regional challenges, it should not be expected to tighten in lock step with the Fed).

One exception to our concern about cyclical risk is China. Unlike the US, China's economy is depressed, with very weak property and labor markets spurring an easing cycle. Like in 2020, recent COVID restrictions pushed the local economy down sharply, but very likely in a temporary way, forcing policymakers to prioritize economic recovery. Prior to a recent, tentative rebound, Chinese share prices fell 54% from their early 2021 peak, leaving valuations depressed.

We believe the contrasting policies and cyclical conditions of the US and China means Chinese equities can recover sooner. Export strength has not helped China's shares in 2021-2022 to date, and external economic weakness is unlikely to derail their recovery. With today's move, we've raised China shares to a 2% overweight from 1%.

As we expect interest rate pressures to peak in the US in 2022, we believe better capitalized and profitable firms in secular growth industries are becoming increasingly attractive compared to cyclical industries (shares represented more strongly in "value" style indices). As of now, it is unclear how the Fed and bond market will react to incoming inflation data, which we expect only to decelerate slowly. As economic risk is priced more acutely, we will watch signs that both interest rates and credit markets stabilize, with a view to taking greater equity risk at some future point.

ASSET CLASSES | Global USD with Alternatives Level 3



Asset Class	-2	-1	0	1	2
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					
					█

*Thematic equities include, Cyber security, , Pharmaceuticals and Global Natural Resources.

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

Arrows indicate changes from previous GIC meeting

Steven Wieting
Chief Investment Strategist
& Chief Economist

Malcolm Spittler
Senior US Economist

Joseph Kaplan
Fixed Income Strategy

We believe global markets are transitioning from rate-driven risks to credit-driven risks.

Markets foresee a repeat of the Fed's 2021 policy mistake in mirror image. They are beginning to price Fed rate cuts in 2023 after 2022's large hikes.

If needed, we should not see "early cycle easing" as a positive for riskier assets.

Quality Income Until the Hawks Fly Home

When disaster struck two years ago, policymakers scrambled to mitigate pandemic damage to the economy. Survival for many came down to more than a healthcare response. For a brief moment, US unemployment was nearly 15%, the highest since the Great Depression.

In retrospect, the severe economic contraction was the shortest in history, the result of an external shock, and deliberate restrictions to economic activity. Some aspects of the contraction were easily reversed. Yet during the months when the economy shriveled, demand for government action was unrelenting. Payroll support for shuttered businesses? Not enough. Checks for consumers? Cheaper credit? Print away.

When recovery was well underway a year later, the largesse didn't stop. What might this tell us about inflation and the "rescue in reverse?" Monetary tightening can simply go too far and fail to look ahead.

The pain of inflation is a severe, present drag on the economy with the consumer largely "cut off" from the previous flow of government aid. Yet both growth and inflation have inertia. The fear of a self-reinforcing cycle of accelerating inflation is top of mind for monetary policymakers, just as they feared a cycle of ever-lower expectations and a collapse into depression during the "compact collapse" of 2020.

What does the present course of policy suggest is ahead for the economy and inflation? The very fuel for inflation - money and credit - is now beginning to contract outright (see figures 1-2). Like inflation readings, the past 12 month gain in money creation has not been erased. But what will \$95 billion per month of contracting Federal Reserve credit do in the next 12 months?

Figure 1: US Money Supply (zero maturity) Y/Y%

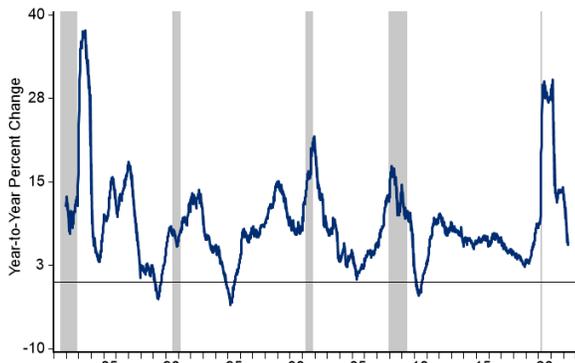
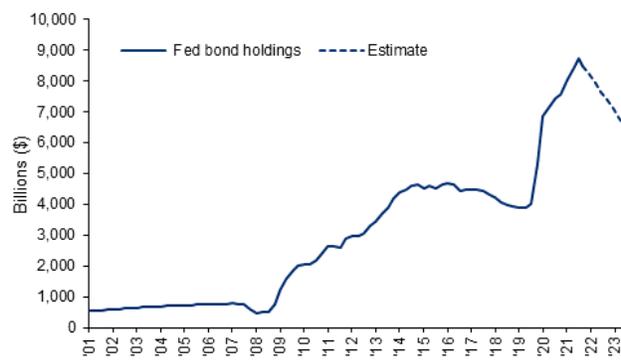


Figure 2: Federal reserve credit, path of Quantitative Tightening Through 2023



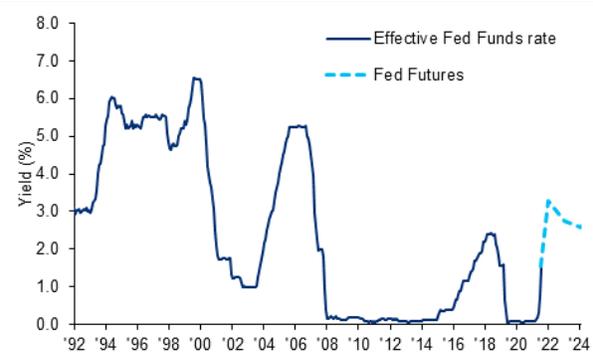
Source: Haver as of July 13, 2022. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Notes: Shaded regions are recessions. Money stock measure from Haver Analytics which accounts for M2 + ICI institutional money market funds less short denomination time deposits, linked to the discontinued original MZM series.

To the extent that macro stimulus drove inflation, it is now reversing into restraint. At what point can we imagine consumer prices falling instead of rising? Should policy tightening - which leads the economy by a year or more - rush ahead to the point that easing is required again to reverse the next self-induced economic crisis? Markets are, in fact, beginning to price this (see figures 3-4). Impatience drove excess easing in 2021. Impatience with the delayed effects of "medicinal tightening" can lead to overdose.

Figure 3: Lagged change in 10-year US Treasuries vs ISM manufacturing new orders



Figure 4: Fed funds rate expected



Source: Haver as of July 13, 2022. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

Policy seems to reflect micro-management and impatience.

The future level of goods and services supplies are even more complex and uncertain to predict than demand. Unfortunately, the mere idea that policymakers will use a monetary policy-induced recession to fight inflation is likely to induce output caution among producers (see figure 5). Rather than race to profit from demand with rising supplies, output caution may require a lower equilibrium for both. With a tenuous connection between employment and consumer prices, policymakers might mistakenly sacrifice a tremendous loss of jobs for trivial differences in the inflation rate (see figure 6).

Figure 5: US Small Business vs Consumer Sentiment

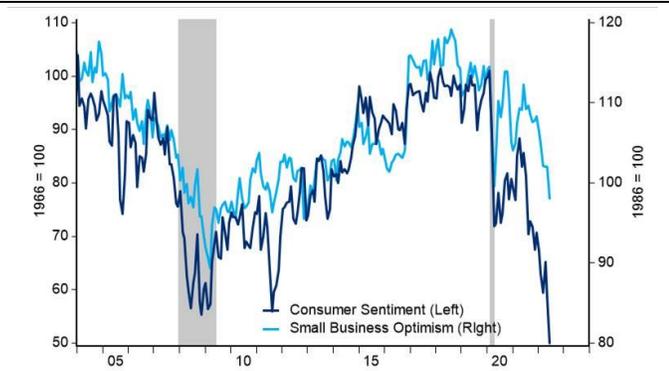
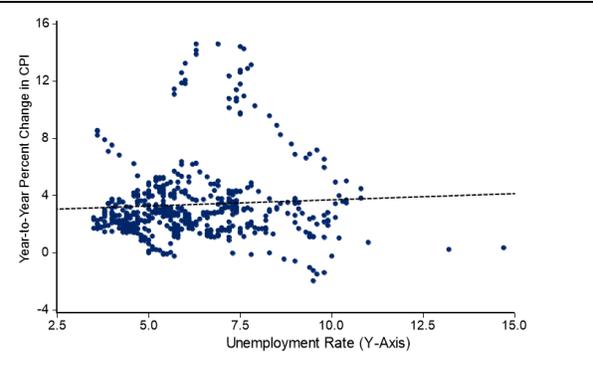


Figure 6: Unemployment Rate vs CPI Inflation



Source: Haver as of July 13, 2022. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Note: Shaded regions are recessions.

Of course, employment is rising now, rather than falling. This is because production - which requires labor - fell short of demand during the shutdown of 2020 while stimulus raised demand through 2021 (see figure 7). Yet the future course of demand suggests a more difficult labor market ahead (see figure 8).

Figure 7: Real consumer goods spending vs industrial production

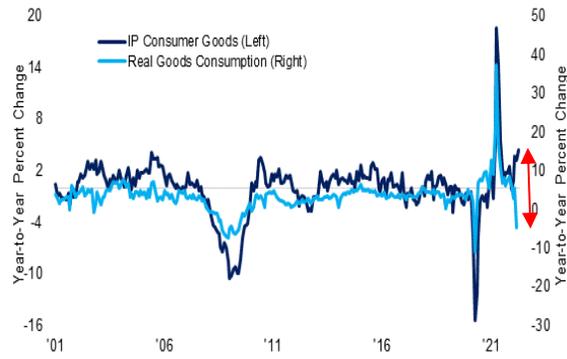
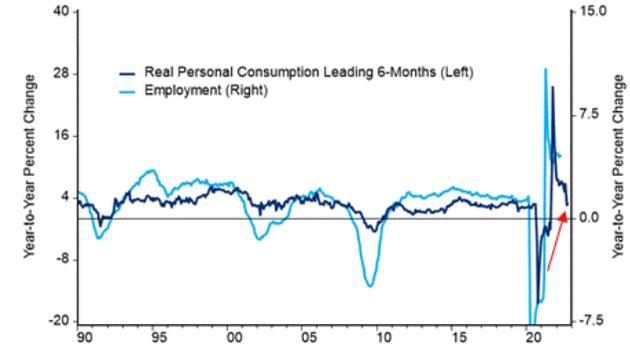


Figure 8: Real personal consumption leads employment gains



Source: Haver as of July 8, 2022. Note: Red arrows in figure 7 highlight the divergence between real goods consumption and production which should help alleviate inflation pressures. Arrow in figure 8 highlights the slowing growth rate in real personal consumption which could indicate slower employment growth ahead. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

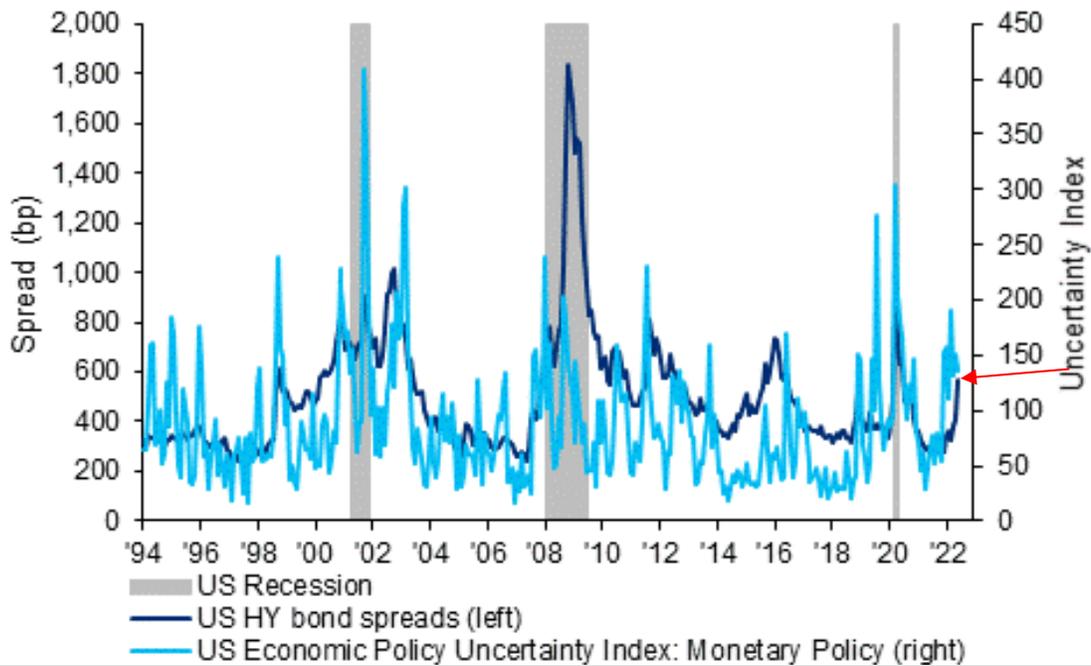
Policy Stands on the Cusp of a Recession

For many, the investment point of view is different than for policymakers charged with protecting the public wellbeing. The lack of net US employment declines thus far is keeping the pressure to fight inflation alive at central banks. With policy tightening rapidly, many investors are sidelined, looking for a recessionary collapse as a signal to buy, just as they could in the spring of 2020.

When fundamentals are deeply depressed and poised to recover, future returns are usually strong, and risks are in the rear-view mirror. This is why many call for ever-larger and more rapid Fed tightening steps. Distress serves up investment opportunity. Yet it is the job of policymakers to avoid an unneeded collapse in the first place. Today, credit markets are at the cusp of worsening the outlook from a slowdown to a shutdown. Without attention to downside risks, the day may be close at hand for policymakers when it will be too late to choose between these options (see figure 9).

While many investors would prefer a “quick recession,” policymakers may find it difficult to avoid overshoot.

Figure 9: High yield spreads vs monetary policy uncertainty index



Source: Bloomberg, as of July 12, 2022. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Indices are unmanaged and forecasts are expression of opinion. 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. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary.

Has Recession Already Occurred? “Not Yet” is “Not Good”

At his June press conference, Fed Chairman Powell noted the strength of consumer spending as the true indicator of the economy’s performance rather than the 1.6% contraction in real GDP during the first quarter. At the time, real consumer spending was reported up 3.1% in the quarter. Export losses, government spending declines and inventories led the output losses.

Since then, however, the pace of real consumer spending for the first quarter was revised down to a 1.8% pace. The second quarter is tracking a 1% gain. The probability that both first and second quarter US GDP contracts in real terms is quite high, at least prior to the many data revisions to come in future years.

Does this in fact mean the worst is over for markets as forward looking investors can now discount recovery? Unfortunately, the headline output declines are not indicative of a true recession, which can still come. Recession is defined by broad declines in production, employment and business sales. Production and employment are still rising and likely to make further gains over the remainder of 2022 (see figures 10-11).

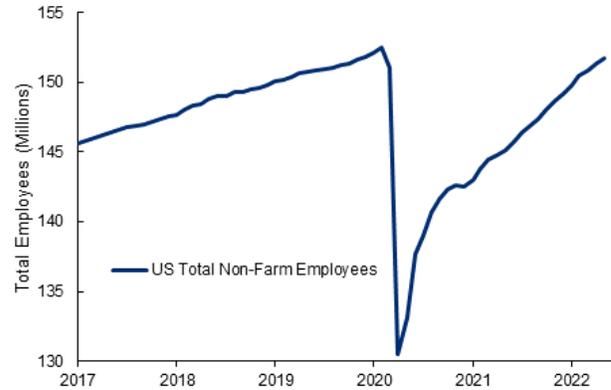
The Fed cites strong consumer demand that was largely revised away.

Still, investors should be careful not to jump to the conclusion that an economic contraction is already far along.

Figure 10: US Industrial Production



Figure 11: US Employment Level



Source: Haver as of July 11, 2022. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

Markets are indeed forward looking. The reason equities bottom during recessions is depressed corporate profits rebound in recovery. However, in the US case, profits are high and have yet to fall, despite the 1H GDP contraction (see figures 12-13). This is why it is premature to consider adding cyclical investments when cyclical contraction hasn't yet unfolded.

Every historic case since the WW II shows equities leading economic recovery, just as they led contraction.

What happens if there is a recession? Since WWII, there have been 12 US recessions. For the data below using the S&P 500 as proxy for US equities, we exclude 2020's recession given its unusual nature (it was short, due to an exogenous shock and mitigated by an unusually large stimulus program; including it in the data set would skew results and conclusions). Data below is shown for the period 1945 to the present.

Before assuming the decline is all over, note that in 10 of 11 post-World War II recessions (apart from the COVID shock), US equities fell through half or more of the recession period.

- 1) The 11 recessions (ex-2020) have lasted 11 months on average.
- 2) US equities peaked on average 5 months before recession began, and troughed 5 months before the recession ended. In other words, equities were still declining 6 months into actual recessions.
- 3) The longest lead time for equities to peak before a recession was 12 months, the shortest was 0.
- 4) Most important: In 10 of 11 cases, US equities fell through half or more of the recession period.

The Fed should be frightened by what it has put in motion before very long. If it is trying to soften labor markets (with US employment still below late 2019), increasingly it seems a very sharp tightening of monetary policy isn't consistent with achieving its dual mandate in 2023. While we are not claiming predictive value, share price declines to date are consistent with 1-2 million US job losses in 2023.

Figure 12: S&P 500 earnings per share vs trend

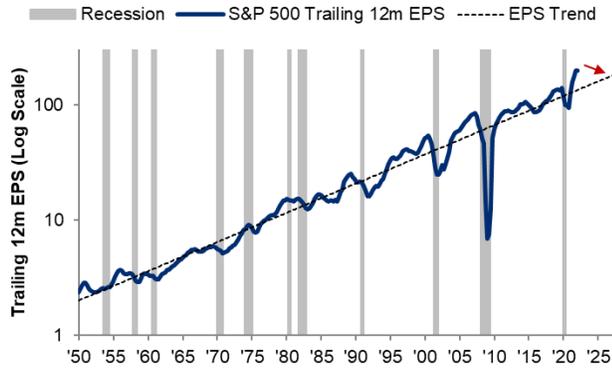
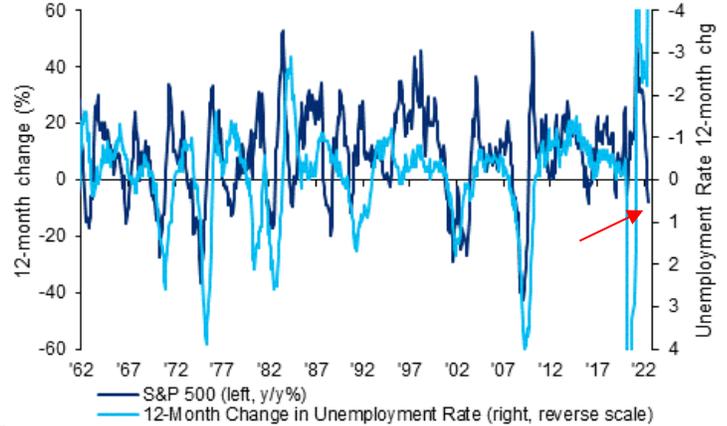


Figure 13: S&P 500 vs unemployment rate (year-to-year percent change)



Source: Haver as of July 11, 2022. Note: red arrow in figure 12, highlights that the current 12-month trailing EPS is exceeding its long run trend suggesting it may slow. Red arrow in figure 13, highlights the sharp fall in the S&P 500 that often is a precursor to increases in the unemployment rate. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

Between Correction and Collapse

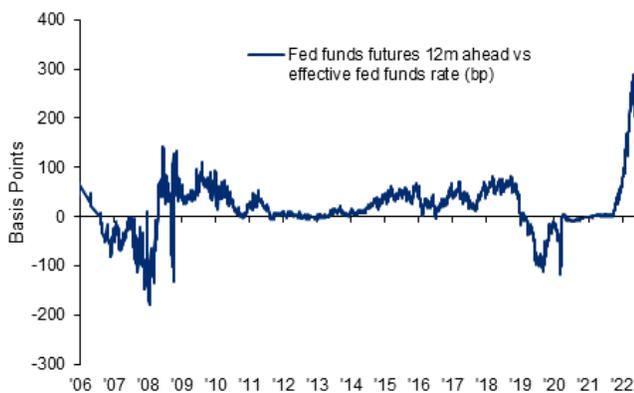
At our Global Investment Committee, we contemplated markets that heavily discounted tighter monetary policy and higher inflation, but not a deep economic collapse. Markets also don't contemplate relief from these conditions.

Relief may come with economic loss, but alternatively with reduced monetary pressure. For now, this is the last thing Fed policymakers have in mind.

While markets are an accurate predictor of the Fed in the near-term, they often discount more Fed tightening than is ultimately delivered or sustained over longer periods (see figure 14).

While we are not claiming predictive value, share price declines to date are historically consistent with 1-2 million US job losses in 2023.

Figure 14: Spread between 12-month ahead Fed-Funds futures and current Fed Funds effective rate



Source: Bloomberg, as of April 2022. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Indices are unmanaged and forecasts are expression of opinion. 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. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary.

The 12-month increases in medium-duration US Treasury yields have been among the largest in US history (see figure 15). The yield on US investment grade corporate securities has risen to the highest level since 2010 (see figure 16). In the long swath of history, this is not a "high" interest rate level. However, we believe this is an attractive investment in the current cyclical backdrop, with US municipal bonds even more attractive for certain US taxed investors.

Figure 15: 12-month change in 5-year US Treasury yield

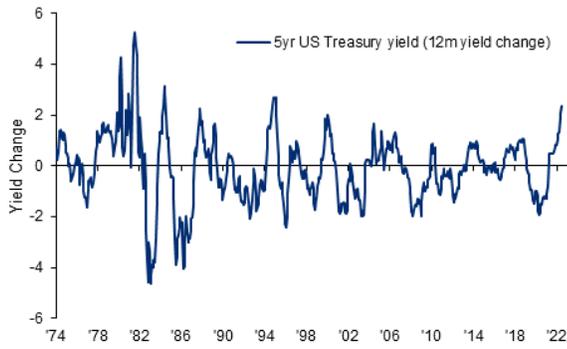


Figure 16: Investment grade US corporate bond yields and effective Fed Funds rate



Source: Haver as of July 11, 2022. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

With credit risk rising for economically sensitive low-grade borrowers and the variable rate loan market already pricing in a 2 percentage point further rise in the Fed funds rate over the next year, we eliminated our loan position. We did this in favor of IG corporate bonds and another fixed income opportunity that has seen a greater correction. Since we eliminated US high yield bonds entirely in February 2021 in favor of loans, bonds have returned -0.8% while loans have lost 8.5%.

While the high yield bond market has now partially priced in an economic contraction, hybrid preferred securities appear to be a higher quality, stronger yield opportunity that has suffered in parallel. The appealing area of the asset class is dominated by investment grade financial firms. To add a 2.0% position, we also trimmed a small thematic overweight to Financial Technology shares. (We also eliminated a small allocation to European high yield debt, to begin a very small -- underweight -- position in US high yield.)

Fintech firms have fallen hard, losing 29% since we added a position in late January. Like oil services firms, we could imagine a strong five-year return for the industry. In the immediate backdrop, however, we would favor the preferred stock of highly capitalized large banks paying dividends of 6.5% after a 12% downward price correction (see figures 17-18).

Without shutting off recovery opportunities, we find room for more high yielding, high grade bonds in portfolios as we await more growth friendly macro policies.

Figure 110: Bank preferred return IG Capital Securities total return

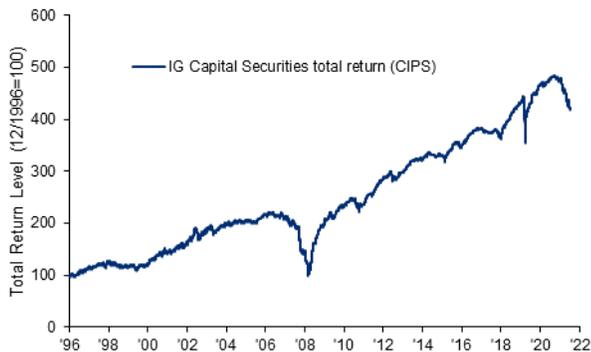


Figure 111: Bank preferred return IG Capital Securities yield



Source: Haver as of July 11, 2022. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

Russia/Ukraine commodity losses may still extract a toll and warrant increased investment. Yet cyclical concerns for commodities require risk management.

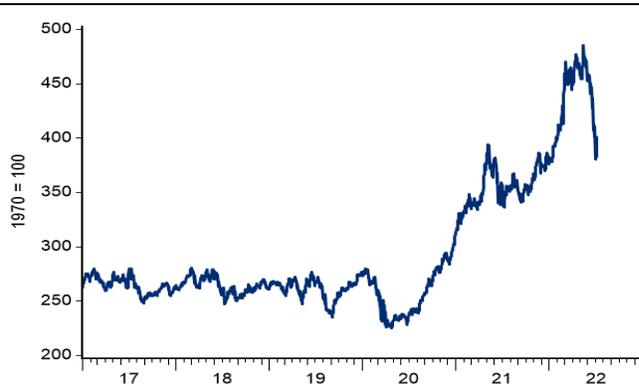
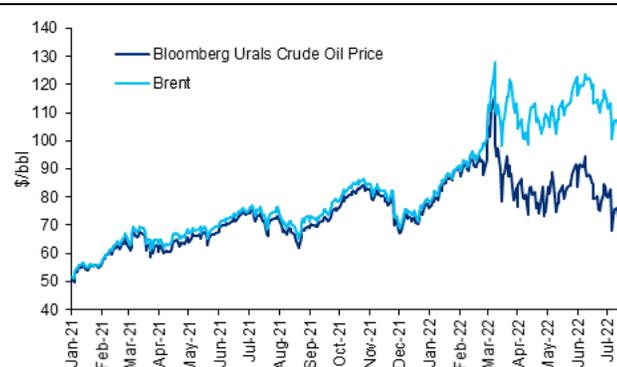
The oil services sector has seen its shares underperform the commodity price. With yield and output growth, shares likely have a much stronger long-term return than the oil and gas price. However, shares in the sector have a beta to the world equity market of 1.6X. As we continue to overweight the energy sector within our natural resources thematic allocation, we see the overlap of these commodity risks as too large at this point.

Crude oil itself has risen from an epic collapse in 2020 to the second highest level in history in recent months. Russia's invasion of Ukraine and consequent western sanctions represent one of history's largest potential oil shocks. However, the redirection of global commodities flows to the east has predictably assuaged this (see figure 19).

This does not eliminate a broad commodity shock entirely, particularly for many important consumable commodities which our investment covers. With that said, central banks setting policy on a course for economic contraction will batter cyclical commodities (see figures 20-21).

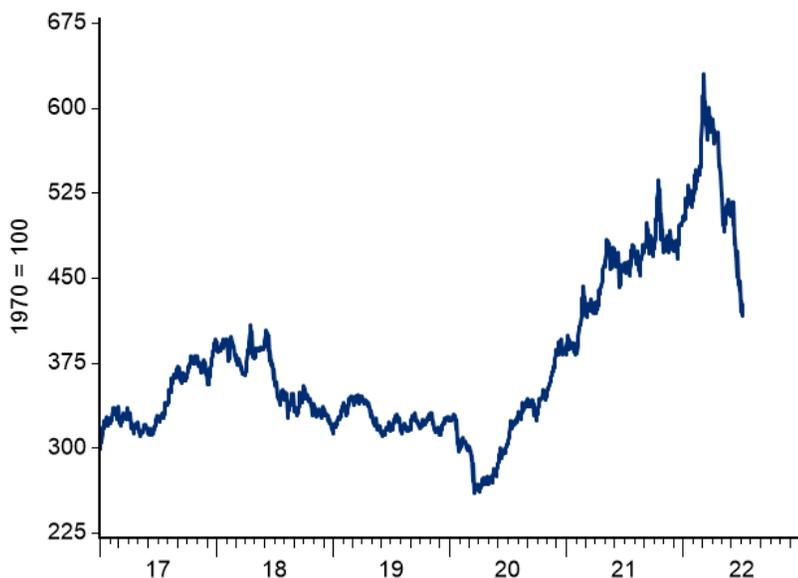
Figure 19: Key China Oil Import Price measure vs Global

Figure 20: S&P Goldman Sachs Agricultural and Livestock index



Source: Haver as of July 11, 2022. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

Figure 21: S&P Goldman Sachs Industrial Metals index



Source: Haver as of July 11, 2022. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

Meanwhile, as we discussed in each of the two most recent Quadrant reports, our confidence in the outlook for China's equity markets is rising for exactly the opposite reasons we would site for caution in cyclical shares of the US and other Developed Markets.

Unlike the US, with a high present level of profits and employment, China's economy is weak with much room for recovery. Its property sector has seen a roughly 50% sales decline with youth unemployment reported anecdotally near 20% (see figure 22).

Figure 22: China property sales and prices

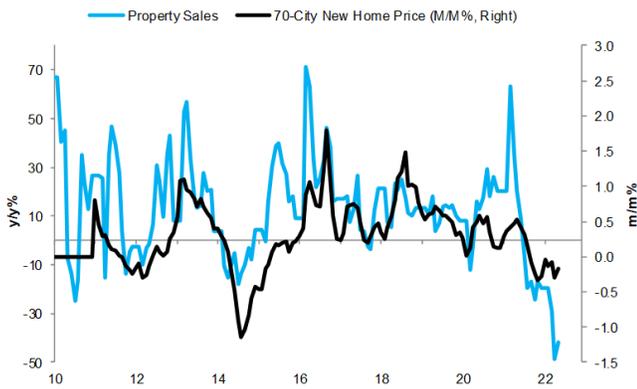
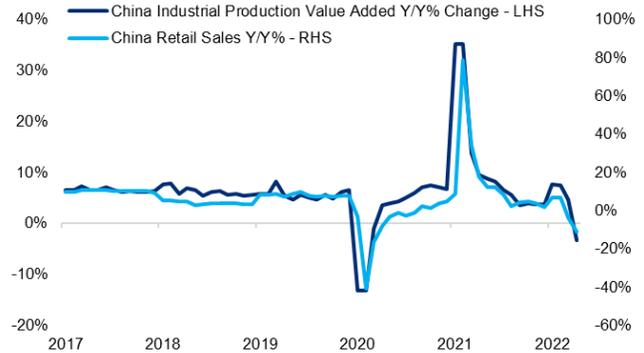


Figure 23: China retail sales and industrial production



Source: Bloomberg and Haver as of July 11, 2022. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

Recent Covid restrictions in China pushed retail sales and industrial production to the largest declines since 1Q 2020 (see figure 23), while the Chinese government is desperately seeking to restore growth closer to its targets. This suggests China's economic growth will be strengthening in 2023 while the US's slows.

Investor memories would indeed need to be short to not recall what happened after an artificially constrained economy rebounded in 2020 to see what can be in China. This is not an argument about long run growth potential, command vs market economies, or geopolitical struggles. China's equity market has dropped more than 50% at a recent low, its valuation is 13X, well below its own history during an economic contraction while macroeconomic policy is seeking recovery.

We believe the currently asynchronous economies of China and the US will set a different course in equity markets over the short- to intermediate term. China's remarkable policy tightening of 2021 crashed its economy. It now seems at the initial stage of reversal and repair. Unfortunately, China's policy looks to be a leading indicator of the US's for the time being. Policymakers, please take note.

Unfortunately, China's exaggerated tightening cycle of 2021 appears to be predictive of the US's in 2022. It's easing this year should ideally set the pace in 2023.

Portfolio allocations

This section shows the strategic and tactical asset allocations. The Quant Research & Global Asset Allocation (QRGAA) team creates strategic asset allocations (SAAs) 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 1 through Level 5 portfolios. QRGAA then creates tactical allocations for all other profiles or subprofiles such as Global USD with Hedge Funds and Illiquids PE & RE Level 2 through Level 5 portfolios. These sample portfolios included below reflect 2022 SAAs and the tactical over/under weights expressed at the July 13, 2022 GIC meeting.

Global USD with Hedge Funds and 15% Illiquids (PE & RE): Risk Level 2

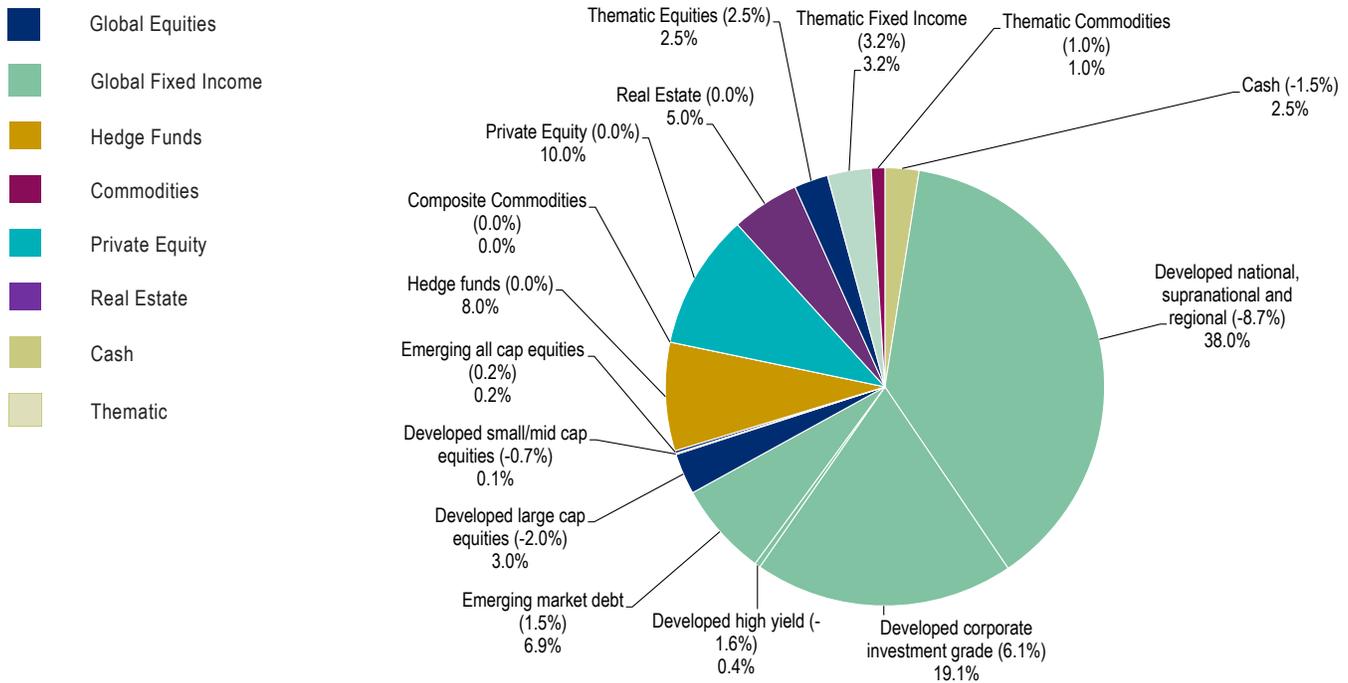
Risk Level 2 is designed for investors who emphasize capital preservation over return on investment, but who are willing to subject some portion of their principal to increased risk in order to generate a potentially greater rate of return on investment.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	4.0	2.5	-1.5
Fixed Income	67.1	67.7	0.5
Developed Investment Grade	59.8	57.1	-2.6
US	34.2	42.4	8.2
Government	14.8	15.7	0.9
Inflation-Linked	2.1	2.3	0.2
Short	3.9	2.4	-1.6
Intermediate	6.1	6.3	0.2
Long	2.6	4.7	2.1
Securitized	10.9	12.0	1.2
Credit	8.6	14.7	6.1
Short	1.2	1.4	0.2
Intermediate	4.5	10.4	5.9
Long	2.9	2.9	0.0
Europe	19.5	12.3	-7.3
Government	15.2	7.9	-7.3
Credit	4.4	4.4	0.0
Australia	0.4	0.4	0.0
Government	0.4	0.4	0.0
Japan	5.6	2.1	-3.5
Government	5.6	2.1	-3.5
Developed High Yield	2.0	0.4	-1.6
US	1.5	0.4	-1.1
Europe	0.5	0.0	-0.5
Emerging Market Debt	5.4	6.9	1.5
Asia	0.9	2.0	1.1
Local currency	0.5	1.0	0.6
Foreign currency	0.5	1.0	0.5
EMEA	2.8	2.8	-0.0
Local currency	1.4	1.4	-0.0
Foreign currency	1.4	1.4	-0.0
LatAm	1.7	2.1	0.4
Local currency	0.8	0.8	-0.0
Foreign currency	0.8	1.3	0.4
Thematic Fixed Income	0.0	3.2	3.2
US Bank Loans	0.0	1.2	1.2
Preferreds	0.0	2.0	2.0
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	5.9	5.8	-0.0
Developed Equities	5.9	3.1	-2.7
Developed Large Cap Equities	5.1	3.0	-2.0
US	3.5	2.2	-1.3
Canada	0.2	0.1	-0.1
UK	0.2	0.1	-0.1
Switzerland	0.1	0.1	-0.1
Europe ex UK ex Switzerland	0.5	0.2	-0.3
Asia ex Japan	0.2	0.1	-0.1
Japan	0.3	0.1	-0.2
Developed Small/Mid Cap Equities	0.8	0.1	-0.7
US	0.4	0.1	-0.4
Non-US	0.4	0.0	-0.3
Emerging All Cap Equities	0.0	0.2	0.2
Asia	0.0	0.2	0.2
China	0.0	0.1	0.1
Asia (ex China)	0.0	0.1	0.1
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	2.5	2.5
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
Global Pharma	0.0	1.5	1.5
Cyber Security	0.0	0.0	0.0
Fintech	0.0	0.0	0.0
Natural Resources	0.0	1.0	1.0
Oil Services	0.0	0.0	0.0
Commodities	0.0	1.0	1.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	1.0	1.0
Gold	0.0	1.0	1.0
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	8.0	8.0	0.0
Private Equity	10.0	10.0	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 15% 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 a neutral position, global fixed income has an overweight of +0.5%, cash has an underweight of -1.5% with gold overweight at +1.0%.

Within equities, developed large cap equities are at an underweight position of -2.0% and small/mid cap equities are at an underweight position of -0.7%. Emerging market equities have a slight overweight of +0.2%. Thematic equities have an overweight of +2.5%.

Within fixed income, developed investment grade has an underweight position of -2.6%; developed high yield has an underweight position of -1.6% and emerging market debt has an overweight position of +1.5%. Thematic fixed income has an overweight of +3.2%.

Hedge Fund allocation in the tactical portfolio is 8%. Private Equity and Real Estate allocations are 10% and 5%, respectively. All these three asset classes positionings are neutral.

Global USD with Hedge Funds and 15% Illiquids (PE & RE): Risk Level 3

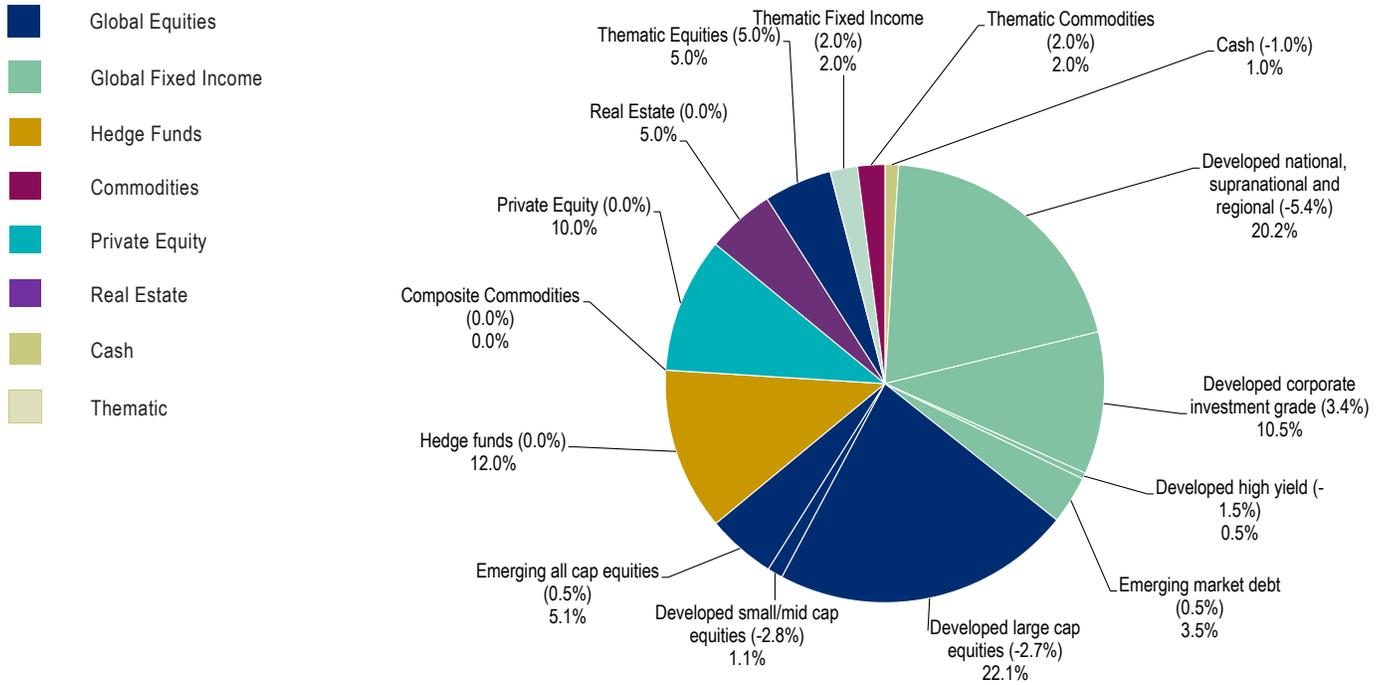
Risk Level 3 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk Level 3 may be appropriate for investors willing to subject their portfolio to 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	37.7	36.7	-1.0
Developed Investment Grade	32.7	30.7	-2.0
US	18.7	26.7	7.9
Government	8.1	12.7	4.6
Inflation-Linked	1.1	2.2	1.0
Short	2.2	0.2	-1.9
Intermediate	3.3	6.8	3.5
Long	1.4	3.5	2.1
Securitized	5.9	5.6	-0.3
Credit	4.7	8.3	3.6
Short	0.6	0.6	0.0
Intermediate	2.5	6.1	3.6
Long	1.6	1.6	0.0
Europe	10.7	3.8	-6.8
Government	8.3	1.7	-6.6
Credit	2.4	2.2	-0.2
Australia	0.2	0.2	0.0
Government	0.2	0.2	0.0
Japan	3.1	0.0	-3.1
Government	3.1	0.0	-3.1
Developed High Yield	2.0	0.5	-1.5
US	1.5	0.5	-1.0
Europe	0.5	0.0	-0.5
Emerging Market Debt	3.0	3.5	0.5
Asia	0.5	1.0	0.5
Local currency	0.3	0.6	0.3
Foreign currency	0.3	0.5	0.2
EMEA	1.6	1.6	0.0
Local currency	0.8	0.8	0.0
Foreign currency	0.8	0.8	0.0
LatAm	0.9	0.9	0.0
Local currency	0.5	0.5	0.0
Foreign currency	0.5	0.5	0.0
Thematic Fixed Income	0.0	2.0	2.0
US Bank Loans	0.0	0.0	0.0
Preferreds	0.0	2.0	2.0
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	33.3	33.3	0.0
Developed Equities	28.7	23.2	-5.5
Developed Large Cap Equities	24.7	22.1	-2.7
US	17.2	16.2	-1.0
Canada	0.9	0.8	-0.1
UK	1.0	1.0	-0.1
Switzerland	0.7	0.6	-0.1
Europe ex UK ex Switzerland	2.4	1.7	-0.7
Asia ex Japan	0.9	0.8	-0.1
Japan	1.7	1.1	-0.6
Developed Small/Mid Cap Equities	3.9	1.1	-2.8
US	2.2	0.8	-1.4
Non-US	1.7	0.4	-1.4
Emerging All Cap Equities	4.6	5.1	0.5
Asia	3.8	4.6	0.7
China	1.5	2.4	0.9
Asia (ex China)	2.3	2.1	-0.2
EMEA	0.4	0.2	-0.2
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	5.0	5.0
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
Global Pharma	0.0	2.0	2.0
Cyber Security	0.0	1.0	1.0
Fintech	0.0	0.0	0.0
Natural Resources	0.0	2.0	2.0
Oil Services	0.0	0.0	0.0
Commodities	0.0	2.0	2.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	2.0	2.0
Gold	0.0	2.0	2.0
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	10.0	10.0	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 15% 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 a neutral position, global fixed income has an underweight of -1.0%, cash has an underweight of -1.0% with gold overweight at +2.0%.

Within equities, developed large cap equities have an underweight position of -2.7% and developed small/mid cap equities have an underweight position of -2.8%. Emerging market equities have an overweight position of +0.5%. Thematic equities have an overweight position of +5.0%.

Within fixed income, developed investment grade debt has an underweight position of -2.0%; 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 position of +2.0%.

Hedge Fund allocation in the tactical portfolio is 12%. Private Equity and Real Estate allocations are 10% and 5%, respectively. All these three asset classes positionings are neutral.

Global USD with Hedge Funds and 15% Illiquids (PE & RE): Risk Level 4

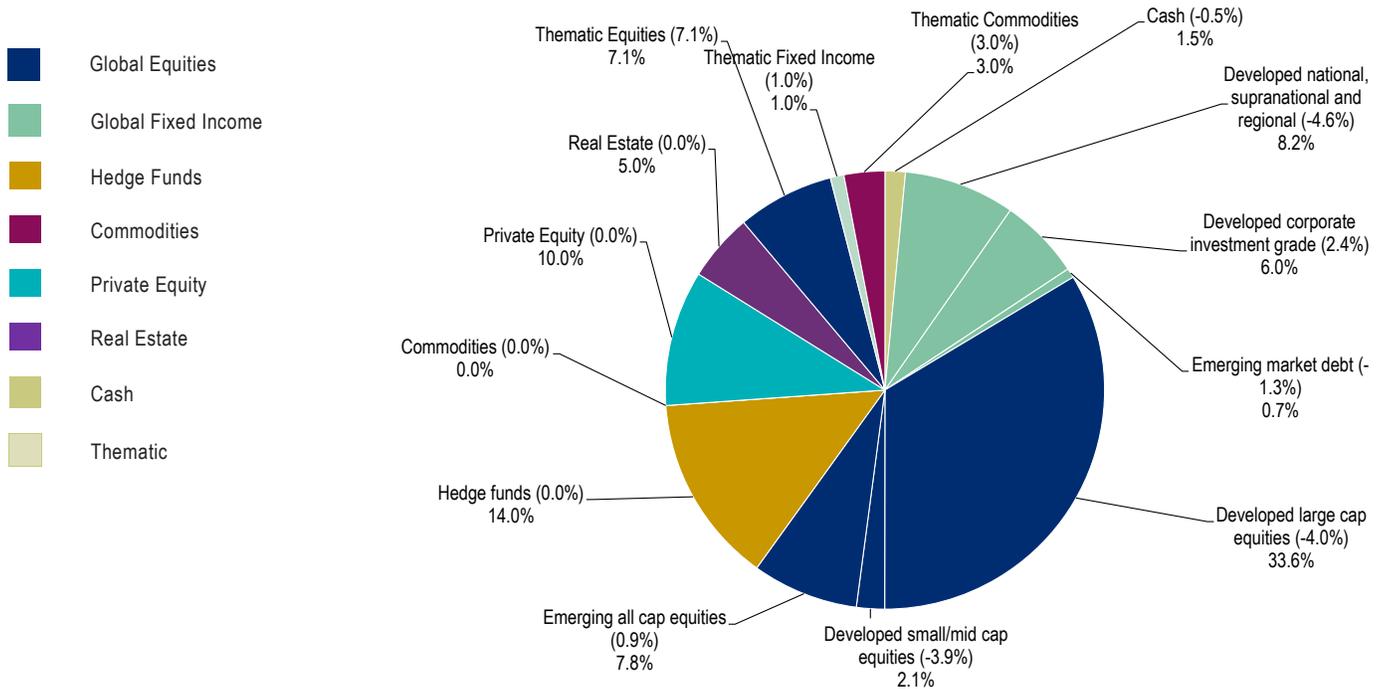
Risk Level 4 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. They are willing to subject a large portion of their portfolio to greater risk and market 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	18.4	15.9	-2.5
Developed Investment Grade	16.4	14.2	-2.2
US	9.4	13.8	4.4
Government	4.0	7.6	3.6
Inflation-Linked	0.6	0.5	-0.0
Short	1.1	0.1	-1.0
Intermediate	1.7	4.3	2.6
Long	0.7	2.7	2.0
Securitized	3.0	0.4	-2.6
Credit	2.4	5.8	3.4
Short	0.3	0.0	-0.3
Intermediate	1.2	5.5	4.2
Long	0.8	0.3	-0.5
Europe	5.4	0.4	-5.0
Government	4.2	0.2	-4.0
Credit	1.2	0.2	-1.0
Australia	0.1	0.0	-0.1
Government	0.1	0.0	-0.1
Japan	1.5	0.0	-1.5
Government	1.5	0.0	-1.5
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	0.2	0.1
Foreign currency	0.2	0.2	0.0
EMEA	1.0	0.0	-1.0
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	-0.1
Thematic Fixed Income	0.0	1.0	1.0
US Bank Loans	0.0	0.0	0.0
Preferreds	0.0	1.0	1.0
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	50.7	50.7	0.0
Developed Equities	43.7	35.7	-8.0
Developed Large Cap Equities	37.7	33.6	-4.0
US	26.2	25.4	-0.8
Canada	1.3	1.2	-0.1
UK	1.6	1.3	-0.3
Switzerland	1.0	0.6	-0.4
Europe ex UK ex Switzerland	3.6	2.2	-1.4
Asia ex Japan	1.3	1.2	-0.1
Japan	2.6	1.5	-1.0
Developed Small/Mid Cap Equities	6.0	2.1	-3.9
US	3.4	1.5	-1.8
Non-US	2.7	0.6	-2.1
Emerging All Cap Equities	7.0	7.8	0.9
Asia	5.8	7.1	1.2
China	2.3	3.8	1.5
Asia (ex China)	3.5	3.3	-0.2
EMEA	0.6	0.3	-0.4
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	7.1	7.1
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
Global Pharma	0.0	2.8	2.8
Cyber Security	0.0	1.4	1.4
Fintech	0.0	0.0	0.0
Natural Resources	0.0	3.0	3.0
Oil Services	0.0	0.0	0.0
Commodities	0.0	3.0	3.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	3.0	3.0
Gold	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
Hedge Funds	14.0	14.0	0.0
Private Equity	10.0	10.0	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 15% 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 a neutral position, global fixed income has an underweight of -2.5%, cash has an underweight of -0.5% with gold overweight at +3.0%.

Within equities, developed large cap equities have an underweight position of -4.0% and developed small/mid cap equities have an underweight position of -3.9%. Emerging market equities have an overweight of +0.9%. Thematic equities have an overweight of +7.1%.

Within fixed income, developed investment grade has an underweight position of -2.2%; 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 +1.0%.

Hedge Fund allocation in the tactical portfolio is 14%. Private Equity and Real Estate allocations are 10% and 5%, respectively. All these three asset classes positionings are neutral.

Global USD with Hedge Funds and 15% Illiquids (PE & RE): Risk Level 5

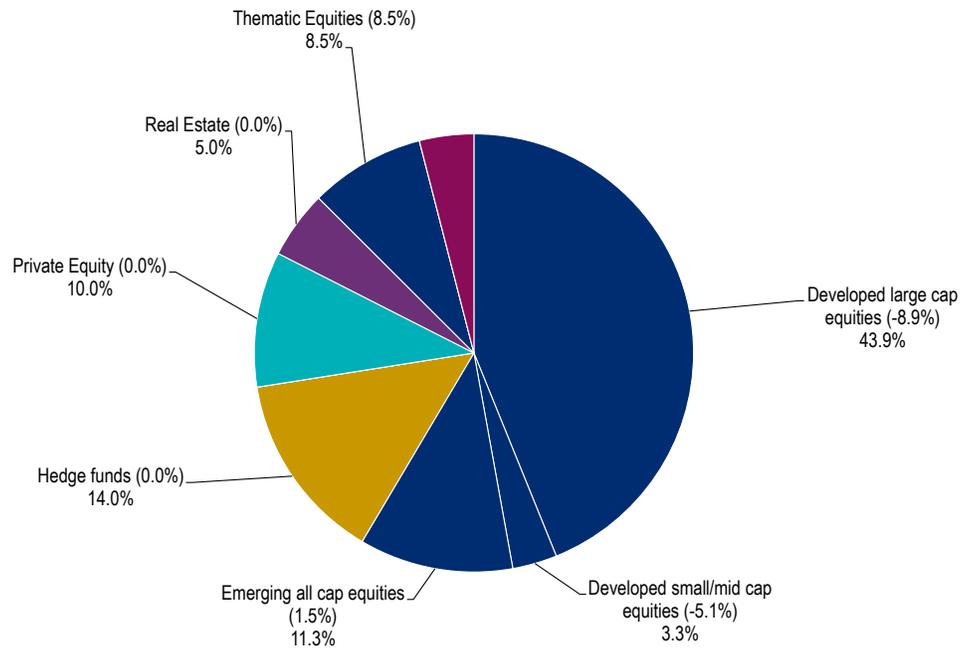
Risk Level 5 is designed for investors who emphasize return on investment. They are willing to subject their entire portfolio to greater risk and market value fluctuations in anticipation of a potentially greater return on investments. Investors may have a preference for investments or trading strategies 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
Preferreds	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	71.0	67.0	-4.0
Developed Equities	61.2	47.2	-14.0
Developed Large Cap Equities	52.8	43.9	-8.9
US	36.7	36.6	-0.2
Canada	1.8	0.8	-1.1
UK	2.2	0.8	-1.4
Switzerland	1.5	0.3	-1.2
Europe ex UK ex Switzerland	5.1	2.3	-2.8
Asia ex Japan	1.9	1.5	-0.4
Japan	3.6	1.7	-1.9
Developed Small/Mid Cap Equities	8.4	3.3	-5.1
US	4.7	2.4	-2.3
Non-US	3.7	0.9	-2.9
Emerging All Cap Equities	9.8	11.3	1.5
Asia	8.2	10.2	2.0
China	3.3	5.4	2.1
Asia (ex China)	4.9	4.8	-0.2
EMEA	0.9	0.5	-0.4
LatAm	0.7	0.7	-0.0
Brazil	0.4	0.4	-0.0
LatAm ex Brazil	0.3	0.3	-0.0
Thematic Equities	0.0	8.5	8.5
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
Global Pharma	0.0	3.0	3.0
Cyber Security	0.0	1.5	1.5
Fintech	0.0	0.0	0.0
Natural Resources	0.0	4.0	4.0
Oil Services	0.0	0.0	0.0
Commodities	0.0	4.0	4.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	4.0	4.0
Gold	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
Hedge Funds	14.0	14.0	0.0
Private Equity	10.0	10.0	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 15% 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 have an underweight position of -4.0% while gold has an overweight position of +4.0%. Global fixed income and cash both have neutral position.

Within equities, developed large cap equities have an underweight position of -8.9% and developed small/mid cap equities have an underweight position of -5.1%. Emerging market equities have an overweight of +1.5%. Thematic equities have an overweight of +8.5%.

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

Hedge Fund allocation in the tactical portfolio is 14%. Private Equity and Real Estate allocations are 10% and 5%, respectively. All these three asset classes positionings are neutral.

Global USD without Hedge Funds: Risk Level 1

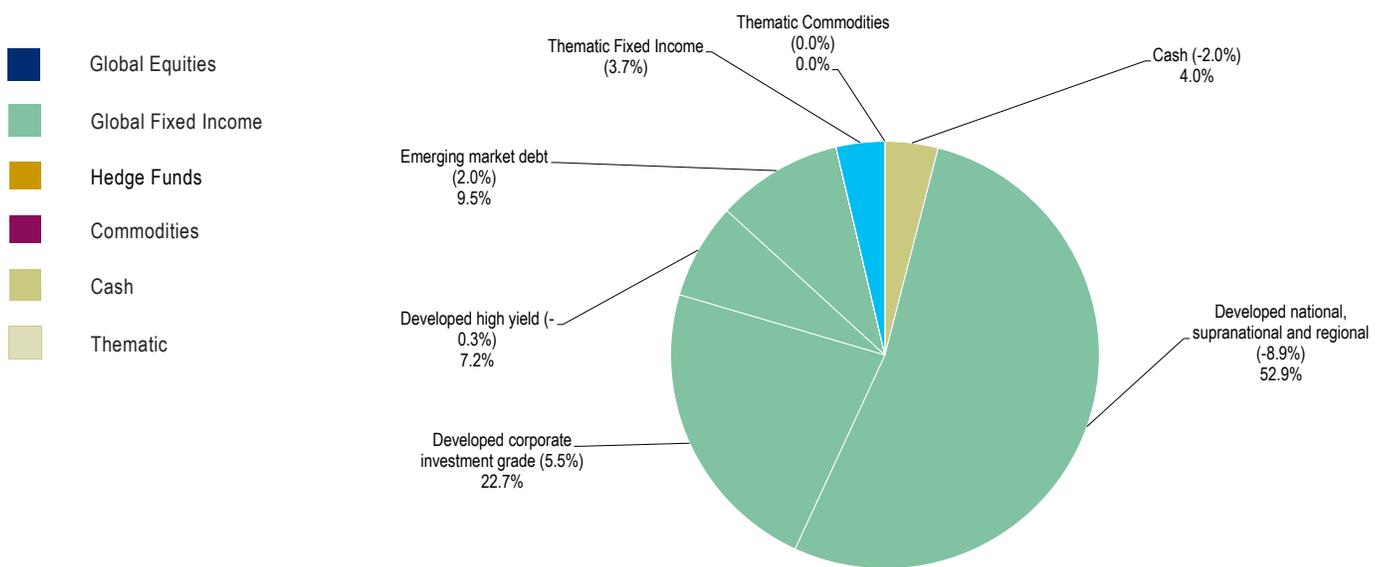
Risk Level 1 is designed for investors who have a preference for capital preservation and relative safety over the potential for a return on investment. These investors prefer to hold cash, time deposits and/or lower risk fixed income instruments.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	6.0	4.0	-2.0
Fixed Income	94.0	96.0	2.0
Developed Investment Grade	79.0	75.6	-3.4
US	45.3	52.4	7.1
Government	19.5	20.1	0.6
Inflation-Linked	2.8	2.6	-0.2
Short	5.2	5.0	-0.2
Intermediate	8.1	7.1	-1.0
Long	3.5	5.5	2.0
Securitized	14.4	15.9	1.5
Credit	11.4	16.4	5.0
Short	1.6	2.6	1.0
Intermediate	6.0	10.0	4.0
Long	3.9	3.9	0.0
Europe	25.8	18.8	-7.0
Government	20.1	12.6	-7.5
Credit	5.8	6.3	0.5
Australia	0.5	0.5	0.0
Government	0.5	0.5	0.0
Japan	7.4	3.9	-3.5
Government	7.4	3.9	-3.5
Developed High Yield	7.5	7.2	-0.3
US	5.6	4.2	-1.4
Europe	1.9	3.0	1.1
Emerging Market Debt	7.5	9.5	2.0
Asia	1.3	2.6	1.3
Local currency	0.6	1.1	0.5
Foreign currency	0.6	1.4	0.8
EMEA	3.9	3.9	0.0
Local currency	2.0	2.0	0.0
Foreign currency	2.0	2.0	0.0
LatAm	2.3	3.0	0.7
Local currency	1.2	1.2	0.0
Foreign currency	1.2	1.9	0.7
Thematic Fixed Income	0.0	3.7	3.7
US Bank Loans	0.0	1.7	1.7
Preferreds	0.0	2.0	2.0
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
Global Pharma	0.0	0.0	0.0
Cyber Security	0.0	0.0	0.0
Fintech	0.0	0.0	0.0
Natural Resources	0.0	0.0	0.0
Oil Services	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 -3.4%; 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 +3.7%.

Global USD without Hedge Funds: Risk Level 2

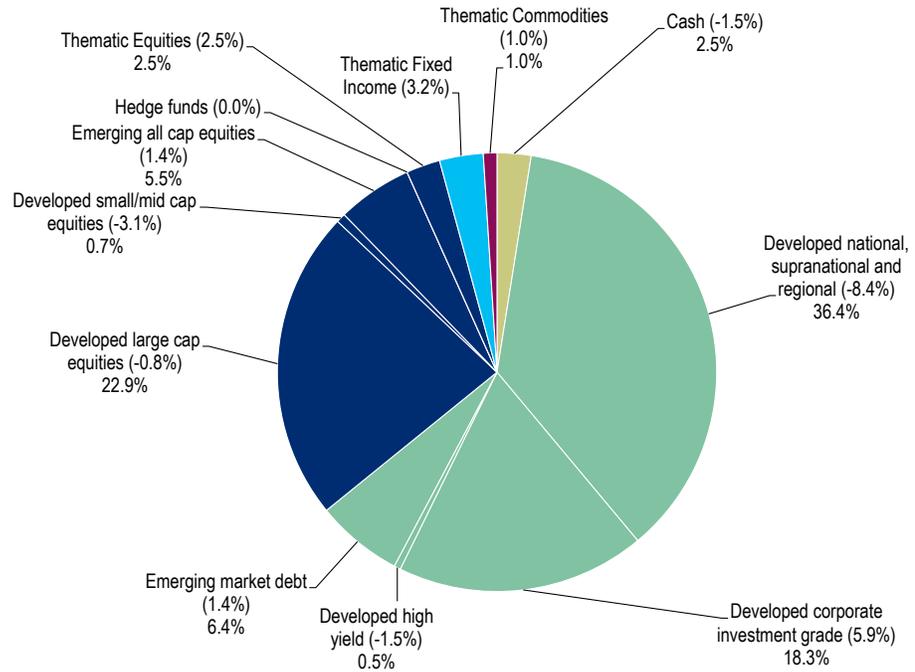
Risk Level 2 is designed for investors who emphasize capital preservation over return on investment, but who are willing to subject some portion of their principal to increased risk in order to generate a potentially greater rate of return on investment.

Classification	Strategic (%)	Tactical*	Active (%)
Cash	4.0	2.5	-1.5
Fixed Income	64.3	64.9	0.5
Developed Investment Grade	57.4	54.8	-2.6
US	32.9	40.7	7.8
Government	14.2	15.0	0.9
Inflation-Linked	2.0	2.2	0.2
Short	3.8	2.3	-1.5
Intermediate	5.9	6.0	0.2
Long	2.5	4.5	2.0
Securitized	10.4	11.5	1.1
Credit	8.3	14.1	5.9
Short	1.1	1.3	0.2
Intermediate	4.3	10.0	5.7
Long	2.8	2.8	0.0
Europe	18.8	11.8	-7.0
Government	14.6	7.6	-7.0
Credit	4.2	4.2	0.0
Australia	0.3	0.3	0.0
Government	0.3	0.3	0.0
Japan	5.4	2.0	-3.4
Government	5.4	2.0	-3.4
Developed High Yield	2.0	0.5	-1.5
US	1.5	0.5	-1.0
Europe	0.5	0.0	-0.5
Emerging Market Debt	5.0	6.4	1.4
Asia	0.8	1.9	1.0
Local currency	0.4	1.0	0.5
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	1.5	1.9	0.4
Local currency	0.8	0.8	-0.0
Foreign currency	0.8	1.2	0.4
Thematic Fixed Income	0.0	3.2	3.2
US Bank Loans	0.0	1.2	1.2
Preferreds	0.0	2.0	2.0
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	31.7	31.6	-0.0
Developed Equities	27.5	23.6	-3.9
Developed Large Cap Equities	23.7	22.9	-0.8
US	16.5	17.0	0.5
Canada	0.8	0.8	0.0
UK	1.0	1.0	0.0
Switzerland	0.7	0.6	-0.0
Europe ex UK ex Switzerland	2.3	1.6	-0.6
Asia ex Japan	0.8	0.8	0.0
Japan	1.6	1.1	-0.5
Developed Small/Mid Cap Equities	3.8	0.7	-3.1
US	2.1	0.6	-1.5
Non-US	1.7	0.1	-1.5
Emerging All Cap Equities	4.2	5.5	1.4
Asia	3.5	5.1	1.6
China	1.4	3.0	1.6
Asia (ex China)	2.1	2.1	0.0
EMEA	0.4	0.1	-0.2
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	0.0	0.0
Global Healthcare	0.0	0.0	0.0
Global Pharma	0.0	1.5	1.5
Cyber Security	0.0	0.0	0.0
Fintech	0.0	0.0	0.0
Natural Resources	0.0	1.0	1.0
Oil Services	0.0	0.0	0.0
Commodities	0.0	1.0	1.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	1.0	1.0
Gold	0.0	1.0	1.0
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 a neutral position, global fixed income has an overweight of +0.5%, cash has an underweight of -1.5% with gold overweight at +1.0%.

Within equities, developed large cap equities have an underweight position of -0.8% while developed small/mid cap equities have an underweight of -3.1%. Emerging market equities have an overweight of +1.4%. Thematic equities have an overweight of +2.5%.

Within fixed income, developed investment grade has an underweight position of -2.6%; developed high yield has an underweight position of -1.5% and emerging market debt has an overweight position of +1.4%. Thematic fixed income has an overweight position of +3.2%.

Global USD without Hedge Funds: Risk Level 3

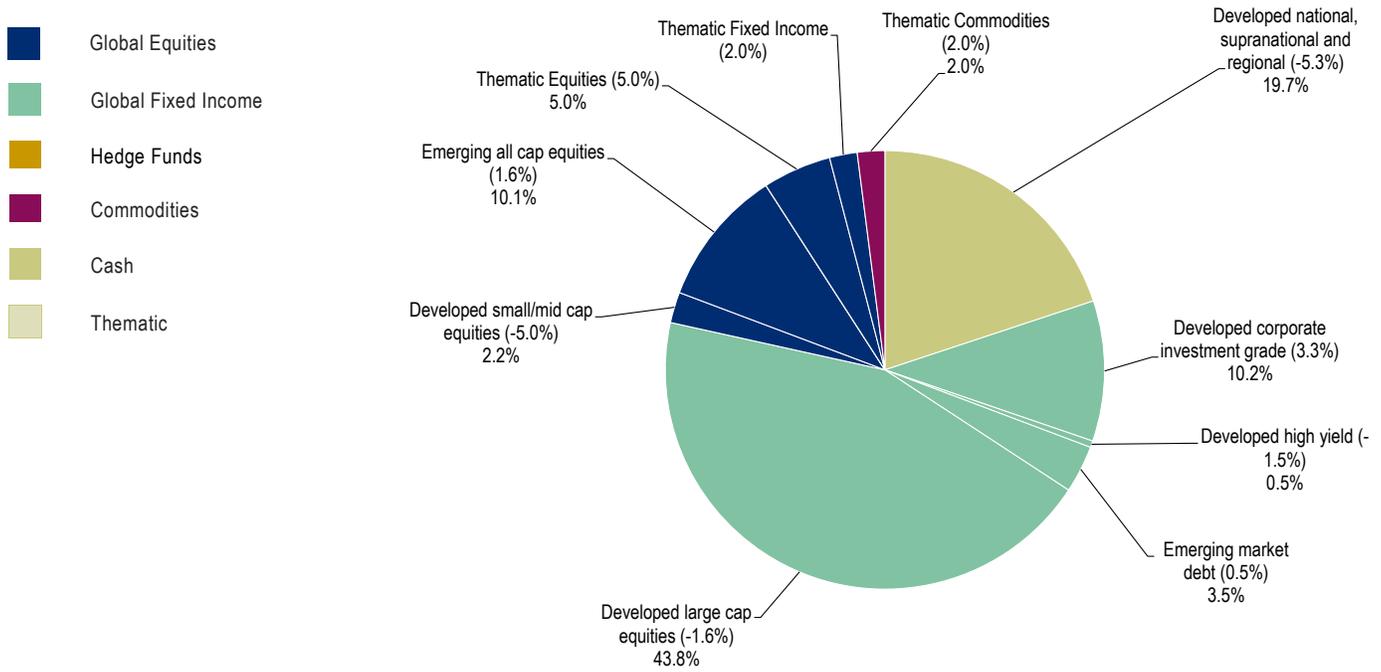
Risk Level 3 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk Level 3 may be appropriate for investors willing to subject their portfolio to 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	36.9	35.9	-1.0
Developed Investment Grade	32.0	30.0	-2.0
US	18.3	26.0	7.7
Government	7.9	12.4	4.5
Inflation-Linked	1.1	2.1	1.0
Short	2.1	0.2	-1.9
Intermediate	3.3	6.7	3.4
Long	1.4	3.4	2.0
Securitized	5.8	5.5	-0.3
Credit	4.6	8.1	3.5
Short	0.6	0.6	0.0
Intermediate	2.4	5.9	3.5
Long	1.6	1.6	0.0
Europe	10.5	3.8	-6.7
Government	8.1	1.6	-6.5
Credit	2.3	2.1	-0.2
Australia	0.2	0.2	0.0
Government	0.2	0.2	0.0
Japan	3.0	0.0	-3.0
Government	3.0	0.0	-3.0
Developed High Yield	2.0	0.5	-1.5
US	1.5	0.5	-1.0
Europe	0.5	0.0	-0.5
Emerging Market Debt	3.0	3.5	0.5
Asia	0.5	1.0	0.5
Local currency	0.3	0.6	0.3
Foreign currency	0.3	0.5	0.2
EMEA	1.5	1.5	-0.0
Local currency	0.8	0.8	-0.0
Foreign currency	0.8	0.8	-0.0
LatAm	0.9	0.9	-0.0
Local currency	0.5	0.5	-0.0
Foreign currency	0.5	0.5	-0.0
Thematic Fixed Income	0.0	2.0	2.0
US Bank Loans	0.0	0.0	0.0
Preferreds	0.0	2.0	2.0
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	61.1	61.1	0.0
Developed Equities	52.7	46.0	-6.6
Developed Large Cap Equities	45.4	43.8	-1.6
US	31.6	32.1	0.5
Canada	1.6	1.6	-0.0
UK	1.9	1.9	0.0
Switzerland	1.3	1.2	-0.1
Europe ex UK ex Switzerland	4.4	3.4	-1.0
Asia ex Japan	1.6	1.6	0.0
Japan	3.1	2.1	-1.0
Developed Small/Mid Cap Equities	7.2	2.2	-5.0
US	4.0	1.5	-2.5
Non-US	3.2	0.7	-2.5
Emerging All Cap Equities	8.4	10.1	1.6
Asia	7.1	9.1	2.0
China	2.8	4.8	2.0
Asia (ex China)	4.2	4.2	-0.0
EMEA	0.8	0.4	-0.4
LatAm	0.6	0.6	0.0
Brazil	0.4	0.4	0.0
LatAm ex Brazil	0.2	0.2	0.0
Thematic Equities	0.0	5.0	5.0
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
Global Pharma	0.0	2.0	2.0
Cyber Security	0.0	1.0	1.0
Fintech	0.0	0.0	0.0
Natural Resources	0.0	2.0	2.0
Oil Services	0.0	0.0	0.0
Commodities	0.0	2.0	2.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	2.0	2.0
Gold	0.0	2.0	2.0
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 a neutral position, global fixed income has an underweight of -1.0%, cash has an underweight of -1.0% with gold overweight at +2.0%.

Within equities, developed large cap equities have an underweight position of -1.6% while developed small/mid cap equities have an underweight position of -5.0%. Emerging market equities have an overweight of +1.6%. Thematic equities have an overweight of +5.0%.

Within fixed income, developed investment grade debt has an underweight position of -2.0%; 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 +2.0%.

Global USD without Hedge Funds: Risk Level 4

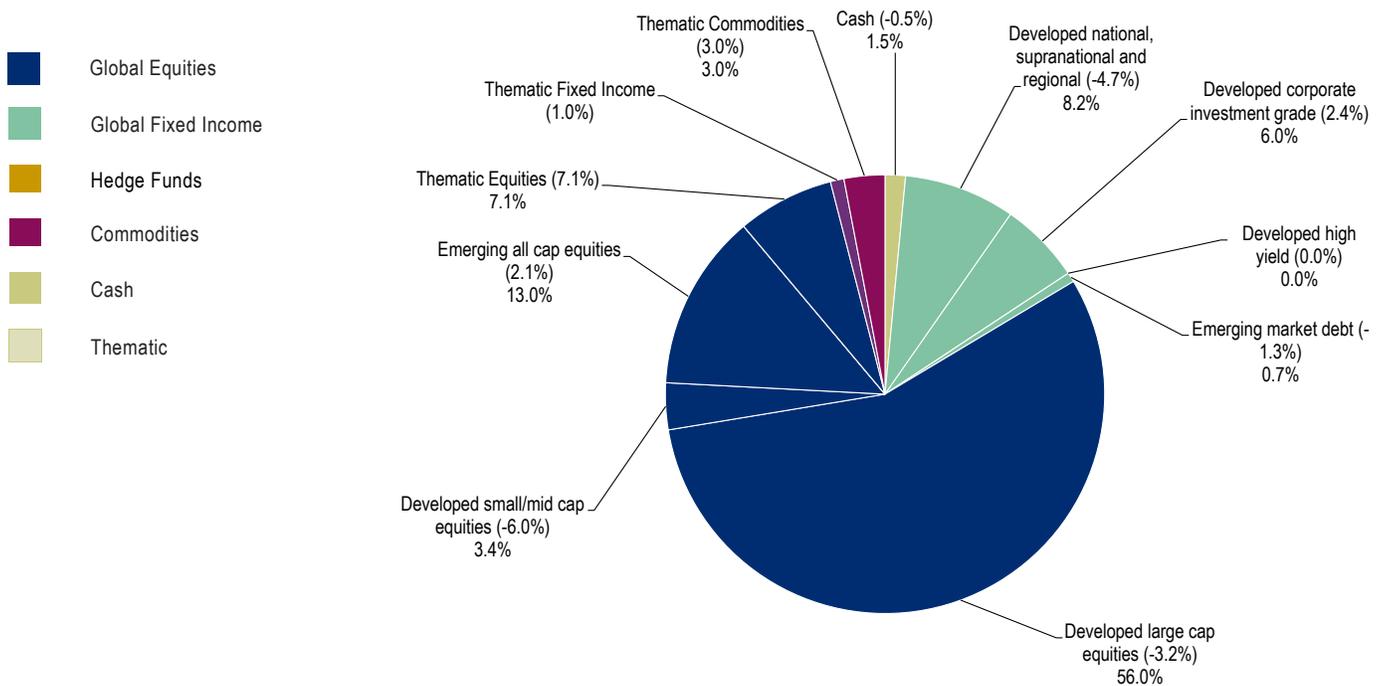
Risk Level 4 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. They are willing to subject a large portion of their portfolio to greater risk and market 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	18.4	15.9	-2.5
Developed Investment Grade	16.4	14.2	-2.2
US	9.4	13.8	4.4
Government	4.1	7.6	3.6
Inflation-Linked	0.6	0.5	-0.0
Short	1.1	0.1	-1.0
Intermediate	1.7	4.3	2.6
Long	0.7	2.7	2.0
Securitized	3.0	0.4	-2.6
Credit	2.4	5.8	3.4
Short	0.3	0.0	-0.3
Intermediate	1.2	5.5	4.2
Long	0.8	0.3	-0.5
Europe	5.4	0.4	-5.0
Government	4.2	0.2	-4.0
Credit	1.2	0.2	-1.0
Australia	0.1	0.0	-0.1
Government	0.1	0.0	-0.1
Japan	1.5	0.0	-1.5
Government	1.5	0.0	-1.5
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	0.2	0.1
Foreign currency	0.2	0.2	-0.0
EMEA	1.0	0.0	-1.0
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	-0.1
Thematic Fixed Income	0.0	1.0	1.0
US Bank Loans	0.0	0.0	0.0
Preferreds	0.0	1.0	1.0
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	79.6	79.6	0.0
Developed Equities	68.6	59.4	-9.2
Developed Large Cap Equities	59.2	56.0	-3.2
US	41.2	42.3	1.1
Canada	2.1	2.1	-0.0
UK	2.5	2.2	-0.3
Switzerland	1.6	1.0	-0.6
Europe ex UK ex Switzerland	5.7	3.7	-2.0
Asia ex Japan	2.1	2.1	0.0
Japan	4.0	2.6	-1.4
Developed Small/Mid Cap Equities	9.4	3.4	-6.0
US	5.3	2.5	-2.8
Non-US	4.2	0.9	-3.3
Emerging All Cap Equities	11.0	13.0	2.1
Asia	9.2	11.8	2.6
China	3.7	6.3	2.7
Asia (ex China)	5.5	5.4	-0.1
EMEA	1.0	0.5	-0.5
LatAm	0.8	0.8	0.0
Brazil	0.5	0.5	0.0
LatAm ex Brazil	0.3	0.3	0.0
Thematic Equities	0.0	7.1	7.1
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
Global Pharma	0.0	2.8	2.8
Cyber Security	0.0	1.4	1.4
Fintech	0.0	0.0	0.0
Natural Resources	0.0	3.0	3.0
Oil Services	0.0	0.0	0.0
Commodities	0.0	3.0	3.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	3.0	3.0
Gold	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
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 a neutral position, global fixed income has an underweight of -2.5%, cash has an underweight of -0.5% with gold overweight at +3.0%.

Within equities, developed large cap equities have an underweight position of -3.2% while developed small/mid cap equities have an underweight position of -6.0%. Emerging market equities have an overweight of +2.1%. Thematic equities have an overweight position of +7.1%.

Within fixed income, developed investment grade debt has an underweight position of -2.2%; 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 +1.0%.

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.

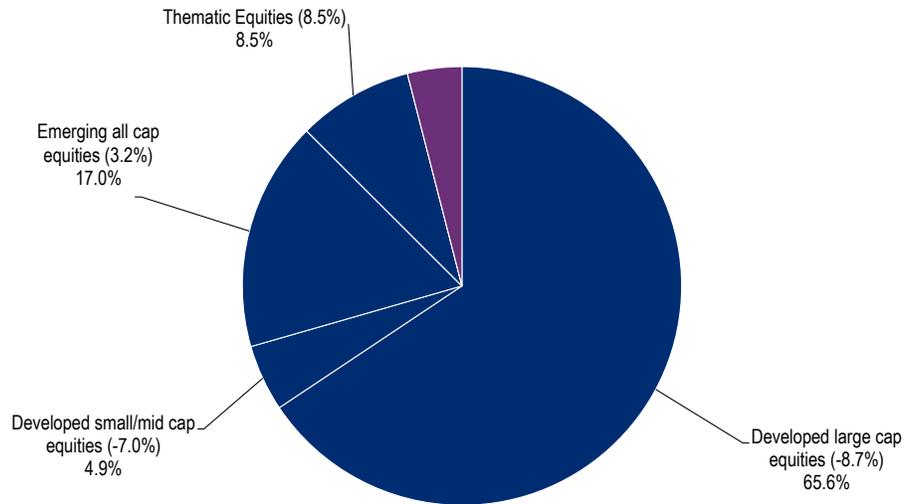
Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	0.0	0.0	0.0
Fixed income	0.0	0.0	0.0
Developed Investment Grade	0.0	0.0	0.0
US	0.0	0.0	0.0
Government	0.0	0.0	0.0
Inflation-Linked	0.0	0.0	0.0
Short	0.0	0.0	0.0
Intermediate	0.0	0.0	0.0
Long	0.0	0.0	0.0
Securitized	0.0	0.0	0.0
Credit	0.0	0.0	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
Preferreds	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	96.0	-4.0
Developed Equities	86.2	70.5	-15.7
Developed Large Cap Equities	74.3	65.6	-8.7
US	51.7	54.7	3.0
Canada	2.6	1.1	-1.5
UK	3.1	1.2	-1.9
Switzerland	2.1	0.5	-1.6
Europe ex UK ex Switzerland	7.2	3.4	-3.8
Asia ex Japan	2.6	2.2	-0.4
Japan	5.0	2.5	-2.5
Developed Small/Mid Cap Equities	11.9	4.9	-7.0
US	6.6	3.6	-3.0
Non-US	5.2	1.3	-4.0
Emerging All Cap Equities	13.8	17.0	3.2
Asia	11.6	15.2	3.6
China	4.6	8.1	3.5
Asia (ex China)	6.9	7.1	0.2
EMEA	1.3	0.8	-0.5
LatAm	1.0	1.0	0.0
Brazil	0.6	0.6	0.0
LatAm ex Brazil	0.4	0.4	0.0
Thematic Equities	0.0	8.5	8.5
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
Global Pharma	0.0	3.0	3.0
Cyber Security	0.0	1.5	1.5
Fintech	0.0	0.0	0.0
Natural Resources	0.0	4.0	4.0
Oil Services	0.0	0.0	0.0
Commodities	0.0	4.0	4.0
Composite Commodities	0.0	0.0	0.0
Thematic Commodities	0.0	4.0	4.0
Gold	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
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

- Global Equities
- Global Fixed Income
- Hedge Funds
- Commodities
- Cash
- Thematic



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 underweight position of -4.0% while gold is overweight at +4.0%. Global fixed income and cash are both at neutral position.

Within equities, developed large cap equities have an underweight position of -8.7% and developed small/mid cap equities have an underweight position of -7.0%. Emerging market equities have an overweight of +3.2%. Thematic equities have an overweight position of +8.5%.

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 publicly 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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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
Credit risk			
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.

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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

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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.

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