Private Bank

citi

Global Strategy Quadrant

June 17, 2020

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"Zooming Markets" Require Patience

High frequency data continue to point to a "V" in large parts of the economy. This is driven solely by the forced shutdowns and reopenings. However, a more limited rebound in "social-close" activities and further drops in lagging sectors point to a "partial recovery" that will only gain strength in time. This prognosis leaves US policy rates at zero (and negative in other developed markets) during the early years of the new recovery.

Financial markets have moved at unprecedented speed to first price in a disaster and then a disaster averted. Heavy doses of uncertainty and speculation are required to look forward after the Covid shock. This still implies a volatile financial market setting. Yet setbacks in risk assets won't change the outlook for early-cycle recovery.

Global equities experienced a 33% drop and a 39% rebound in little over three months. Volatility continues, but the portfolio needs of investors transcend this bizarre period. As discussed in our Mid Year Outlook, our strategy is to retain or expand exposures to exposures to the best-valued income-generating investments and long-term growth opportunities while gradually adding exposure to depressed assets that will be deemed undervalued a year or more from now.

It appears the Covid crisis has boosted half the world's asset prices while depressing the other half. This includes both fixed income and equities. **We see performance converging significantly as Covid eventually passes into history.** There will of course be significant setbacks along the way**.**

While the sharp rally in "Covid cyclicals" in May portends what is likely to be a significant repricing over time, the sheer speed and uniformity of the rebound during the month invited short-term profit taking and skepticism. Still, high levels of short interest in the cyclicals suggests future gains. In contrast, short positions are largely absent in US large cap IT shares, which outperformed this year.

This month, we eliminated our underweight in Eurozone equities and added a special allocation to global Real Estate Investment Trusts (both equity and mortgage REITs). To fund the positions, we reduced our overweight in short- and intermediate duration US Treasuries and similar US investment grade corporate debt. We also reduced the cash allocation to underweight.

The yield on the cash and fixed income securities we reduced was a mere 0.7%. The yield on the fixed income and equity securities we added is indicated near 7.0%. The real estate debt and equity asset classes we added are off 40% and 20% respectively from levels in early 2020. **Single-A rated non-agency commercial mortgage backed securities now yield nearly 7%. Why is the Fed buying corporate bonds of every rating but not CMBS?**

Investing beyond "now" requires a mix of high and lower-risk assets aligned to individual investor risk tolerance. We will continue to target a tactical return period of 12-18 months and strategic return window of 10 years for investments even while short-term trading dominates markets.

In alternatives, pockets of distress and rock-bottom interest rates imply a fertile period ahead for private equity and real estate investments. Our 10-year average return forecast for US cash is 0.6% before inflation. While riskier and illiquid, in PE/RE and venture, it's about 11%.

GIC – June 17

On 17 June, Citi Private Bank's Global Investment Committee (GIC) eliminated our underweight in European equities, adding 3 percentage points to our weighting in Europe's developed and emerging markets. We also added a special thematic allocation of 2% to Real Estate Investment Trusts (REITs). This consists of both global equity REITs and US Residential and Commercial Mortgage REITs. To fund these positions – and to approximately neutralize the underweight in Eurozone and certain other regional equities – we reduced our overweights in short- and intermediate-term US Treasuries, investment grade corporate bonds and cash.

After these moves, Global Equities are 3% overweight, Global Fixed Income is 5.5% underweight, and US Cash is 1.0% underweight. Gold remains 1.5% overweight, as a risk hedge. REIT assets make up the remaining 2.0%.

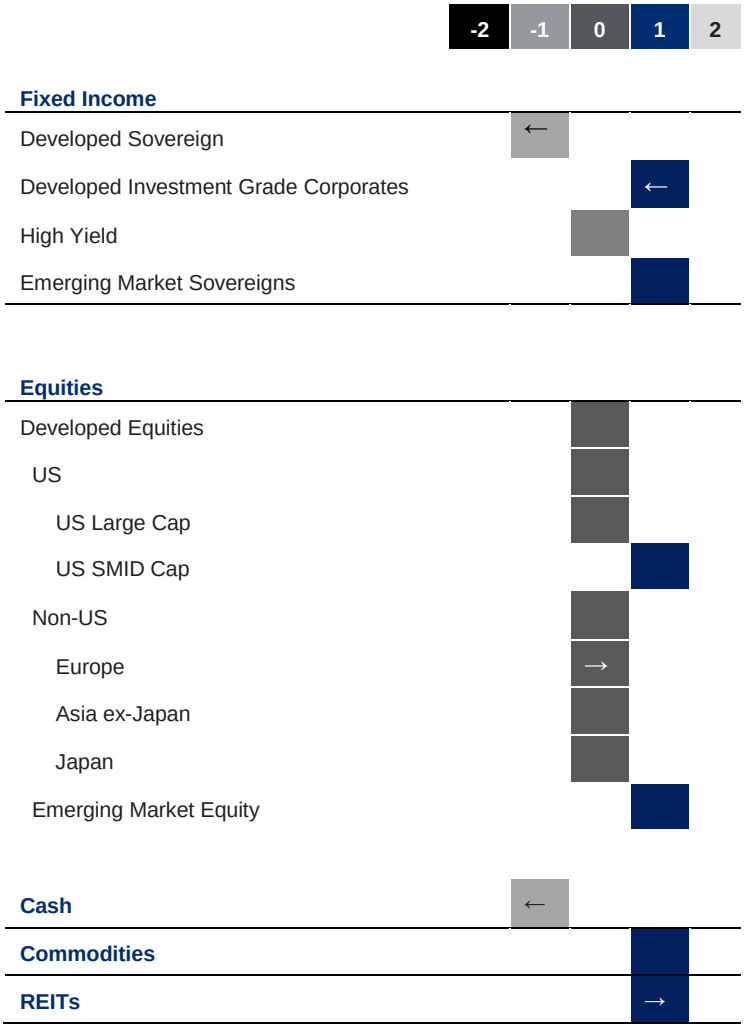
Following a severe economic and financial shock catalyzed by the COVID-19 pandemic, financial markets overall have made a strong recovery. Economic activity is rebounding from the effects of the engineered shutdowns, which generated history's fastest economic contraction over a period of nearly three months. While significant parts of the economy are rebounding rapidly, we believe a slower recovery in "socially close" activities, and further drops in lagging sectors will weigh down the pace of growth for some time. As such, extreme monetary and fiscal easing policies will likely endure for several years.

Following immediate and very powerful fiscal easing steps in the US, the European Union appears increasingly likely to unify around a stronger fiscal expansion in the coming year. The European Central Bank (ECB) will thus now have a source of credit demand growth to stimulate economic activity. After Eurozone equities fell 16% since February, we have broadly eliminated our underweight position. In addition, a brighter cyclical outlook for oil, and a likely prolonged period of easing by the ECB and Fed encouraged us to cut our underweights in the emerging markets (EMs) of Europe, the Middle East and Africa. We remain overweight in EM Asia and Latin America. Our US equity overweight is in small and mid-cap (SMID) equities, which remain significantly lower on the year, lagging large caps. Return prospects for SMID have generally been strongest early in new recoveries. We remain neutral US large caps.

Since March, we have described real estate assets as "COVID-cyclical" despite their traditionally stable and defensive attributes. While global equity REITs have recovered significantly since late March, they remain down 20% for the year. Commercial and residential mortgage REITs have fallen nearly 40%, lagging the credit market improvements elsewhere in fixed income.

As with other sectors, specific types of REITs have gained sharply, while others have fallen. The winners include "digital disruptors": cell tower, digital infrastructure, and e-commerce-related logistics REITs. Retailer REITs have fallen nearly 50%, with others moderately impacted between these extremes. Retail REITs were already under secular pressure, and the scope of the COVID shock has worsened their already weak fundamentals. Reduced business travel will also sharply depress hotel industry occupancy.

Asset Classes – Global USD with Alternatives Level 3



Allocations as of June 17, 2020
-2 = very underweight; -1 = underweight; 0 = neutral
1 = overweight; 2 = very overweight
Arrows indicate changes from previous GIC meeting

But many real estate assets are pricing in fairly extreme pessimism amid an environment of sharply lower interest rates, central bank credit easing steps, and an inevitable rebound in social engagement. The economic reopening and resumption of US driving activity to 95% of pre-COVID levels may indicate a stronger recovery in property fundamentals than seen in some travel and leisure industry segments.

Leveraged residential mortgage REITs and Commercial Mortgage REITs represent another asset class, with various fundamental credit profiles and asset price drivers. While the Fed is not buying these assets directly, the powerful rise in US corporate bonds of all credit profiles and Agency Mortgage Backed Securities suggests that easing will benefit this asset class as well. US Treasury yields should rise moderately at the long end of the curve, but tighter credit spreads and potentially recovering asset prices should boost returns.

The short- and intermediate- duration Treasuries, corporate bond and cash assets where we reduced our holdings have an average yield of just 0.7%. The equity and mortgage REIT assets we added yield about 7.0% overall.

After our reduction in low duration, low risk bonds, which we held as an alternative to cash, we still have an overweight of more than 1% to these securities. As economic and market conditions evolve, we may deploy these assets to further increase our weighting in other higher-return assets. As discussed in our Mid-Year Outlook, our 10-year Strategic Return Estimate for US Cash has fallen from 1.8% to 0.6%, based on the Fed's short-term interest rate cuts and its expectation of maintaining a near-zero interest rate policy at least through 2022.

We continue to hold a "full" or neutral allocation to long-term US Treasuries, given their negative correlation to risk assets during corrections. By contrast, we maintain deep underweights to the negative or negligibly yielding bonds of Europe and Japan. We reduced the absolute size of our gold position in April after large price gains. But given dramatic declines in global bond yields, we continue to see gold as a viable hedge during shocks and most negative periods for risk assets.

Steven Wieting
Chief Investment Strategist
& Chief Economist

"Zooming Markets" Require Patience…

When we are dreaming, we may feel significant experiences in what is actually a mere flash in time. This is what real life has been like in the first half of 2020.

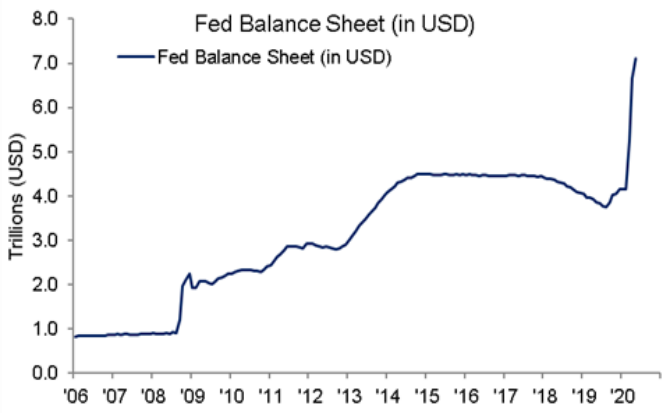
"Normal life" – with continued economic growth - was set to proceed as the year began. Suddenly, the world shutdown down country by country, and city by city. The path of the virus left approximately 1,000 jobless for each Covid fatality. However unprepared the world was for a pandemic, the "check writers" at government Treasuries and central banks then unleashed an avalanche of money wherever they had the capacity to. They acted in a fraction of the time it took in the past, leapfrogging over the many long debates which often paralyzed them.

What will life look like in just a year's time? In so many ways, investors must speculate.

This combined monetary/fiscal stimulus has been strongest first in the US, but is catching on in more regions of the world. It drove us to eliminate our underweight in Eurozone equities this month, for example (please see our essay below). In the US, Fed Chairman Powell talks about intervening merely to "improve market functioning," but the US central bank's supply of "fiat-financed" lending has jumped by nearly $3 trillion since the end of February for a far more fundamental impact (see figure 1).

What will macroeconomic policy look like in a year's time? It is more certain to be supportive of growth regardless of the extent of recovery.

Figure 1: Federal Reserve System Credit Outstanding



Sources: Haver Analytics as of June 18, 2020

Then economies reopened, and with it, economic activity measures have gone from the fastest pace of measured decline in history to their fastest rate of increase (see figure 2 and our Strategy Bulletin *What Would a V-Shaped Rebound Look Like*).

The virus continues to spread, merely slowed down by our precautions. But suddenly, the pattern of broad stock price swings -33%, then +39% in little over three months can begin to make sense (see figure 3).

Figure 2: US Retail Sales, Monthly % Change

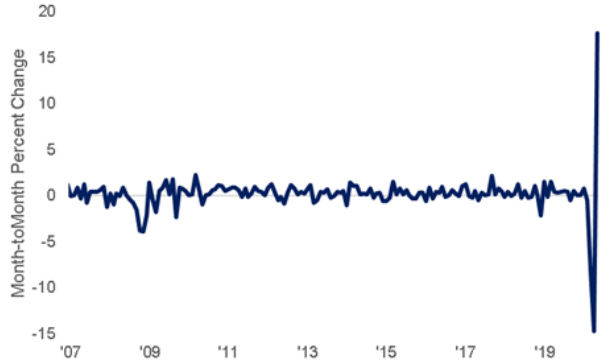


Figure 3: S&P 500 vs EPS

Source: Haver Analytics as of June 18, 2020
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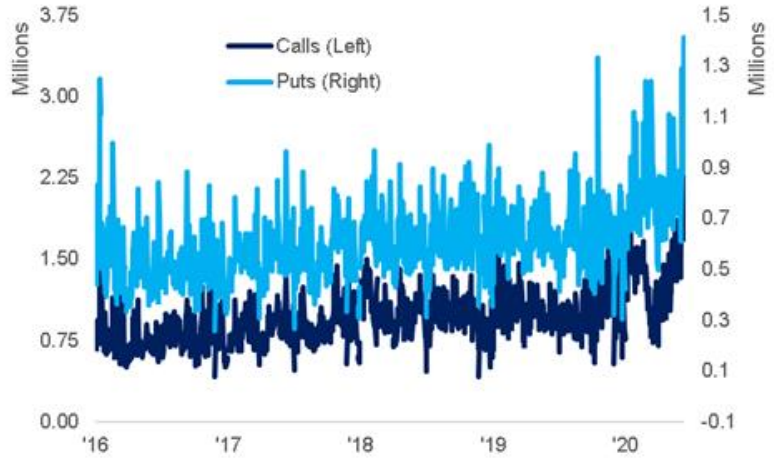
Yet we are not quite fully awake from our dreaming state. The speed at which investors (including very new investors) have had to adapt views to "zooming" markets and a furious pace of change has left a volatile backdrop for all asset prices (see figure 4). In such a backdrop, the near 5% daily decline in global share prices on June 11 is hardly abnormal.

The strange "approximation" of reality we see in financial markets, trying to sketch out an uncertain future has left significant asset market dislocations, excesses and opportunities.

Figure 4: US Equity Put/Call Volumes: Record Highs in Early June



Sources: Haver Analytics through June 18, 2020

….Massive Dislocations Remain To Be Exploited

Roughly half of the world's asset prices have surged and the other half fallen.

It is only a slight over-simplification to say that the Covid crisis has boosted half the world's asset prices and sank the other half (please see figures 5-6 and our *Mid Year Outlook: From Fear to Prosperity, Investing for a New Economic Cycle* for full discussion). This reflects both the Covid-led economic collapse, the increasing signs it will be short-lived, and the massive impact of expansionary monetary and fiscal policy that is evolving across the globe.

The status quo won't remain.

Beneath the surface of what is likely to be a moderation in the swings of headline indices, the recovery from the crisis will not leave asset prices to sit still.

Portfolio managers and investors need to think beyond Covid's initial impact. Many portfolios have year-to-date gains or very small total losses. This is great news for those investors. However, the portfolio that has outperformed in the past year is highly unlikely to be the portfolio that outperforms in the coming year.

Figure 5: Global "Covid Defensives" vs "Covid Cyclicals"

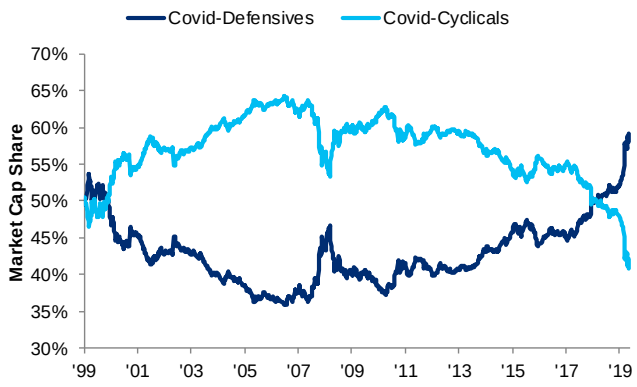


Figure 6: US Treasury vs Select Large Emerging as % of World Governments: Local Bond Price Indices

Source: Bloomberg and Factset as of June 15, 2020.
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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When Market Leaders Stop Leading, For Awhile

One of our Unstoppable trends is that "clicks will beat bricks." (Outlook 2019 and Outlook 2020). Digital everything will become the primary way for most commerce and retail will become an experiential or convenient modality. We are now routinely asked if the top tech names can still lead in markets given their lofty valuations. That's because they are often a large and concentration in so many client portfolios – even more so in the COVID era. So here is our answer. They are not likely to outperform in the next 12 months.

As figure 7 shows, the so-called "FANGs" continue to grow their businesses far faster than the broader economy. But unlike other periods when we've needed to sooth investors, they have led markets higher rather than corrected lower - figure 8. We do not see their fundamental performance challenged. Secular growth leaders should still be held in portfolios, but concentration and the scale of positions needs to be watched. As figure 9 shows, short interest in "Covid defensives" led by IT shares has collapsed. In contrast, it's surged for the Covid defensives – firms in industries disrupted by the Covid shutdowns.

Figure 7. FANG and S&P 500 Revenue Indices through

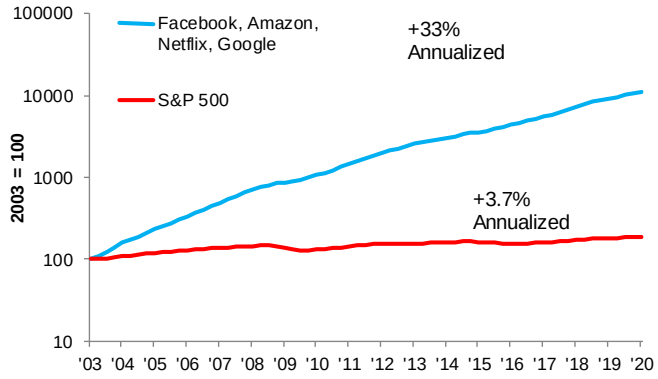
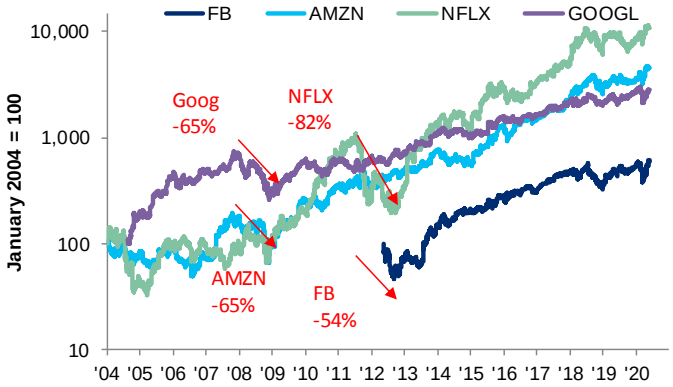


Figure 8. FANG share performance



Source: Factset as of June 15, 2020

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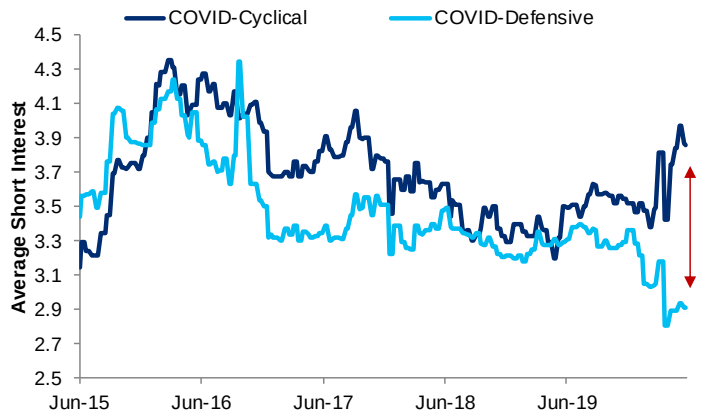
Figure 9: Short-Interest Ratio: Covid Cyclicals vs Defensives (equal weight)



Sources: Bloomberg as of June 15, 2020.
COVID-Cyclicals: Financials, Industrials, Energy, Materials, Real Estate, Consumer Discretionary ex-Amazon
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Who is shorting US large cap tech stocks?...Not many

Who is shorting beaten down cyclicals?...Far more

At a time when the cycle has shifted, longer-lasting trends can be challenged. As Joseph Fiorica discusses in the next section, simply overweighting the winning sectors – a trend-following strategy - has generated portfolio outperformance in the past four decades. This captures the persistence of secular winners. Identifying these is a key part of Citi Private Bank strategies for long-term portfolios (see figure 10). However, these trends can get overextended. Most clearly, this was the case in the tech bubble period of the late 1990s. Subsequently, recessionary shocks can buck that trend. Early in new cycles, the worst performing sectors most frequently see a "reversion to the mean" (see figure 11).

In the present case, we see no fundamental negative developments for "digitization." But the cyclical sectors such as Financials, Industrials and the "Covid cyclical" sector Real Estate, are likely to move from collapse to recovery. Figures 12-13 should make it clear as day that the fundamental turning point is at hand, driven by reopening economies.

Figure 10. Global Momentum Relative Performance

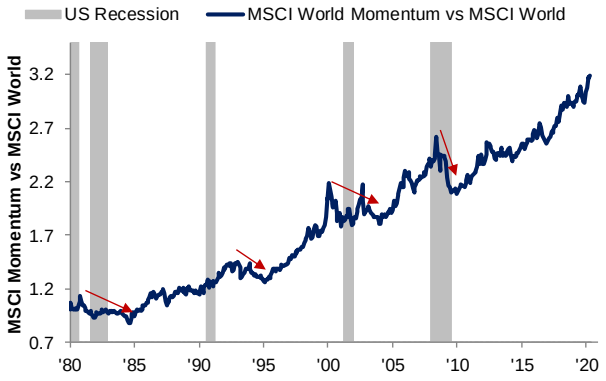

Figure 11. Mean Reversion Strategies Have Worked Around Cycle Transitions

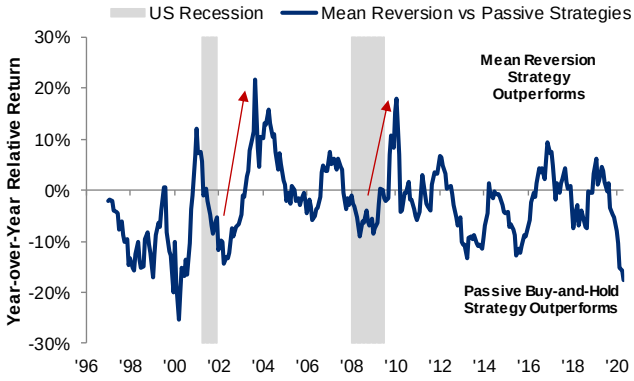

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Figure 12. US Driving and US GDP NOW

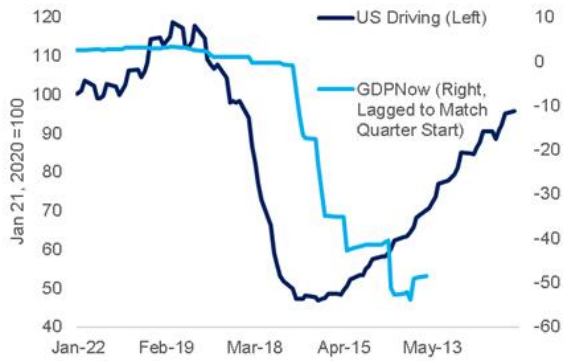
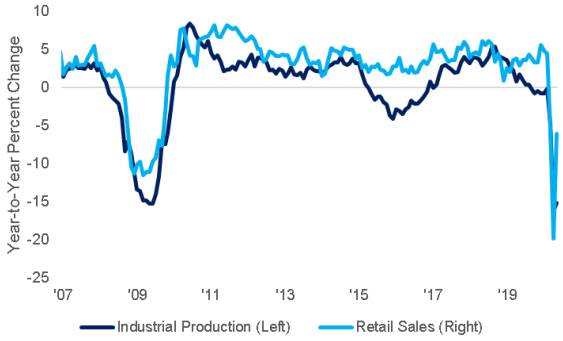


Figure 13. Year-to-Year Retail Sales and Industrial Production



Source: Haver Analytics as of June 15, 2020

Knocking the Yield and Value from Cash and Fixed Income

The majority of US unemployment will likely remain in a few "social close" industries.

But in setting policy, we believe the US central bank will see this no differently from widespread unemployment.

As the Fed is financing its largest asset purchases with newly created reserves, if means no capital must be re-directed for this financing of economic activity. It's incremental, new lending.

As noted, the credit easing steps by the Federal Reserve and other central banks must be considered fundamental to the outlook, so the persistence and scope of the stimulus matters greatly. More than 60% of the 20.7 million US job losses in April were in three industry segments. The single month's job losses included nearly 50% of the nation's hospitality and leisure positions. This is work that requires being "social close" and we would expect a rebound in these positions to take considerable time. For restaurants and hotels, there will be no true "pre-Covid" normalization until a vaccine is widely distributed. We believe the US central bank will see this no differently from widespread unemployment in setting macro policy. Despite forecasting gains in US real GDP of 5.0% and 3.5% in 2021 and 2022, the vast majority of Federal Open Market Committee members expected no increases from the zero lower bound in the Federal funds rate through those years.

The Fed this month also said it would continue the current pace of US Treasury and Agency Mortgage Backed Securities purchases at a combined $120 billion per month pace. Doing so with newly created reserves ("printed money") means no capital must be re-directed for this financing of economic activity. It's incremental, new lending. This should be considered particularly friendly for emerging markets, where the supply of USD may otherwise be scarce. The Fed also began purchases of individual corporate bonds after purchasing corporate bond exchange traded funds for the first time, driving down credit spreads across the risk spectrum and across all industries (see figures 14-15).

Figure 14. US Investment Grade Corp Spread to UST

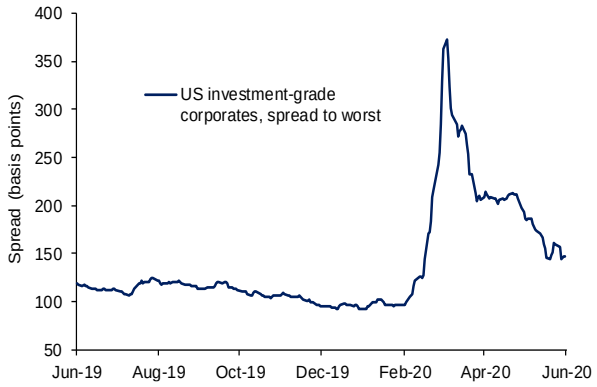
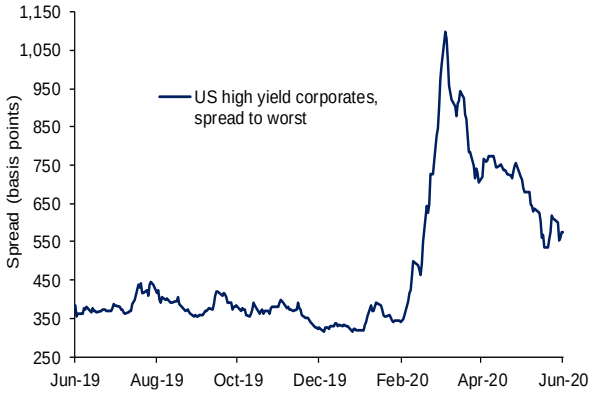


Figure 15. US High Yield Corp Spread to UST



Source: Bloomberg as of June 19rd, 2020

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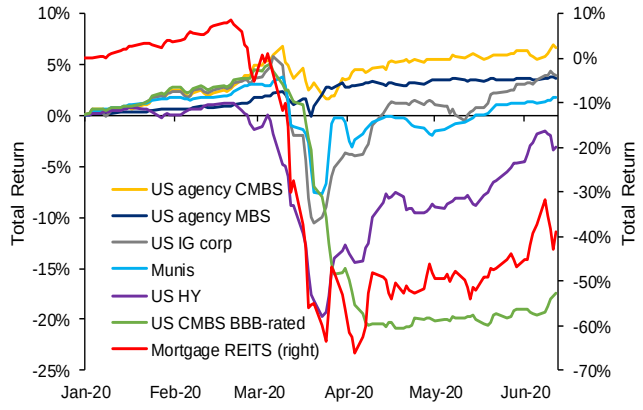
As figure 16 shows, sector by sector in fixed income, credit valuations have risen, beginning with Agency Mortgage Backed Securities, Investment Grade Corporates and US Municipal Bonds. Valuations then improved in US High Yield. Overall, however, this has merely begun to influence borrowing costs in non-agency commercial mortgage backed securities (see figure 17). As figure 16 also shows, commercial and residential mortgage REITS have only begun to improve in value despite plunging carry costs for borrowing and improving signs for activity in property markets as economies reopen.

Figure 16. YTD performance across FI markets



Sources: Bloomberg as of June 15, 2020.

Will the Fed consider intervention in the $0.5 trillion investment grade CMBS market after buying sub investment grade corporates?

Mortgage REITS, with their variety of income drivers, and conventional global equity REITS – covering property types of every sort - have fallen 40% and 20% respectively as of June 19, 2020. Bought in equal measure, their prospective yield appears to be about 7%. This is 10X the yield of short- and intermediate US Treasury securities that we have held as oveweights as an alternative to cash, which now bears a yield closer to zero.

As figure 18 shows, REITS collapsed following a weakening in credit markets in both 2008 and 2020. REITS recovered sharply when credit rebounded in 2009, this was despite a serve, fundamental real estate bubble in the preceding period.

As we said in March, the unique aspects of the Covid shock would make real estate a hard hit asset class, unable to "play defense." Now that the world is reopening and real estate assets have fallen so much in value relative to other income generating assets, we've chosen to include them in our investments for recovery.

Figure 17. US Non-Agency Commercial Mortgage Backed Securities Yield vs US Corporate (Both A-Rated, Similar Duration)

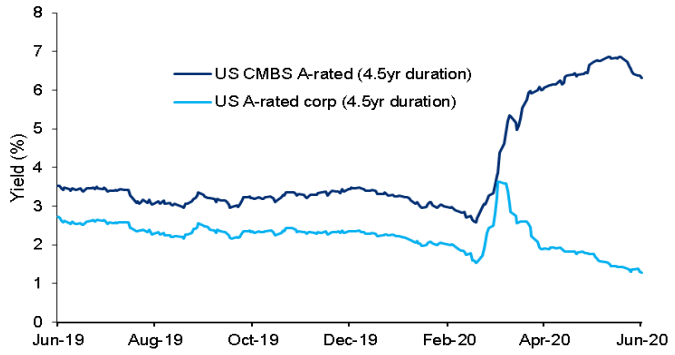
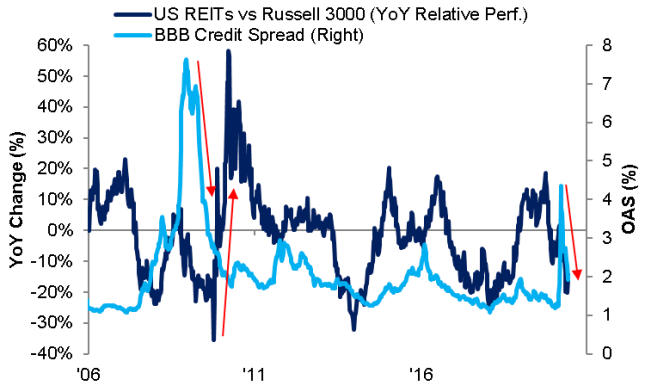


Figure 18. US REIT/Equities Relative Performance vs BBB-Corp Credit Spread



Source: Bloomberg Barclays Indices, Factset as of June 15, 2020

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From Momentum to Mean Reversion

Joseph Fiorica
Head – Global Equity

While equity market moves may seem random from day-to-day, underlying economic conditions tend to drive persistent outperformance of certain winners over multi-year periods. The tech bubble in the late 90s made way for banks and Emerging Markets to dominate the mid 00's, with the last decade all about the FAANGS. Systematically employing a "momentum" strategy would have led to significant outperformance vs passive benchmarks over the last 4 decades, with underperformance only present around economic inflection points (figure 19). Identifying turning points among these mega-trends is not trivial, though momentum trades tend to break down around recessions, when after a period of severe underperformance, the most unloved stocks typically stage a rebound.

We can test this through a simple mean-reversion strategy, which each month buys the 3 worst performing sectors over the previous 12 months in hopes that poor relative performance reverses. Such a strategy has had mixed success over the years, though has tended to sharply outperform around cycle transitions (figure 20). Following nearly 20% underperformance of such a mean reversion strategy vs a simple buy-and-hold approach in the last year, and given significant dispersion between winners in this COVID-induced correction, betting on the losers of the last 12 months may add some alpha as we look ahead (Figures 21-22).

Figure 19: Global momentum has structurally outperformed

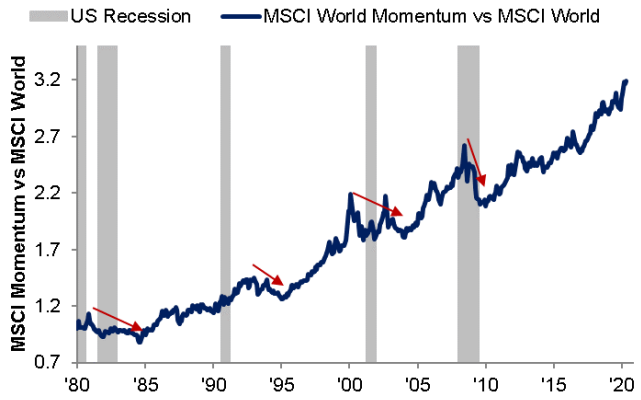
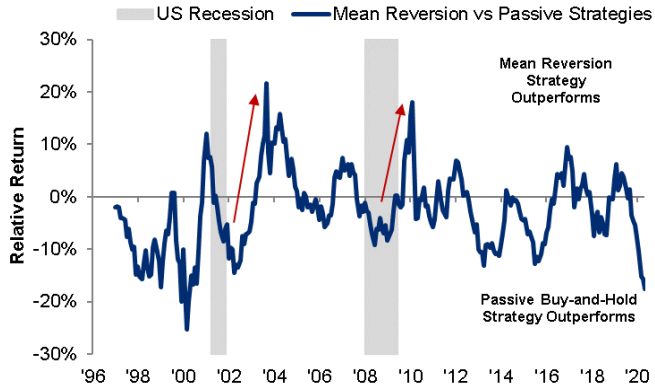


Figure 20: But counter-trend strategies tend to work in new cycles



Source: Factset as of June 2, 2020. **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. For illustrative purposes only. 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.**

Note: Mean Reversion strategy involves buying the 3 worst performing sectors (equal-weighted) from the previous 12 months, rebalanced monthly

With countries starting to reopen and the worst of COVID-related disruptions likely behind us, we believe the opportunity for a catch-up trade is upon us. While short-term volatility is certainly plausible as cases spring up in isolated areas, economies and markets will likely gradually recover over the course of the next several months, enabling the hardest-hit countries and industries to improve from a lower base. Globally exposed regions like Europe and Latin America should benefit from a pickup in global activity, via increased demand for manufacturing and commodities. Meanwhile, sectors like Real Estate, Financials, and Industrials have been sold in exchange for names viewed as "immune" to lockdowns. Such areas like IT and ecommerce that rallied on a "stay at home" boom could underperform as a temporary boost to profits will be difficult to maintain as life goes back to "normal".

Figure 21: Regional Equity Market 12 Month Performance

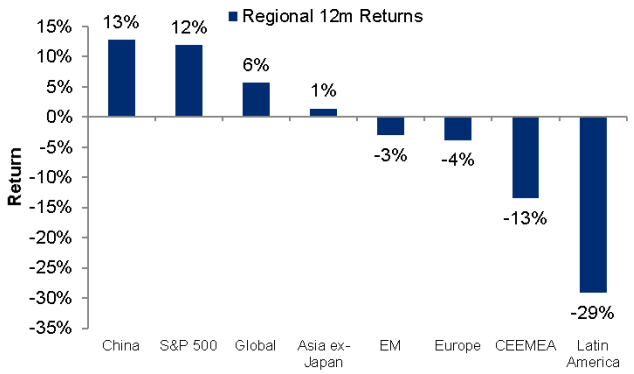


Figure 22: Global Sector 12 Month Performance

Source: Factset as of June 17, 2020. **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. For illustrative purposes only. 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.**

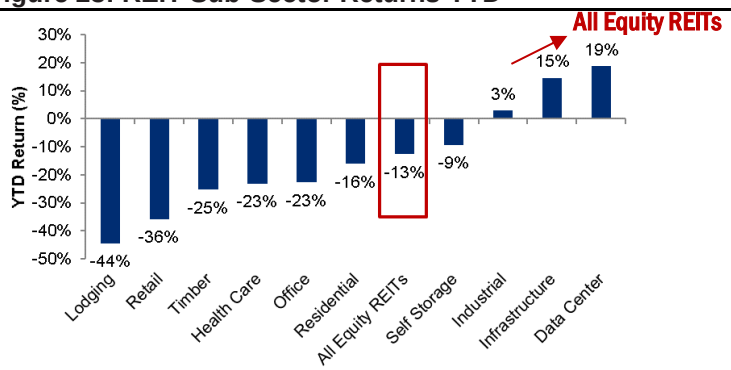
Real Estate: The Economy's Landlord

Equity REIT segments, mirroring the broader equity market itself, have experienced significant dispersion in returns amid virus-related economic disruptions this year. Infrastructure (cell towers), data center, industrial, and self storage REITs have outperformed broad REIT benchmarks, trading like "COVID-Defensives", while lodging, retail, health care, and office REITs have suffered as a drop in mobility has led many hotels, brick-and-mortar retailers, and office tenants to struggle making rent.

During this particular economic downturn, REITs have not performed as traditional bond proxies, largely due to significant fears around the sustainability of REIT dividends and the uncertainty involved in penciling underlying Net Asset Values. Given this backdrop, the space now boasts over 6% implied cap rates and a 4.2% dividend yield, even when one incorporates announced and expected dividend cuts across the space. However, we view the total return prospect in many Equity REITs as both a recovery trade as NAVs recover as well as yield-enhancement play.

Taking the sector as a whole, we see future returns being determined by a combination of continued structural trends in the economy, as well as a rebound in areas that are not necessarily unstoppable but have been unduly punished by COVID-wary investors.

Figure 23: REIT Sub-Sector Returns YTD



Sources: Bloomberg as of June 18, 2020. 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. For illustrative purposes only. Past performance is no guarantee of future results. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Unstoppable Trends within the REIT World

Certain segments of the REIT universe align well with CPB's Unstoppable Trends of longevitiy and digitization. Starting with longevity and health care, a significant component of Health Care REITs include nursing homes, skilled nursing centers and hospitals. These properties, unlike more buoyant pharmaceutical, biotech, and insurance companies, have struggled to sustain rental and net operating income while managing some of the most serious COVID-related effects. Over 40% of US deaths related to COVID-19 have occurred in nursing homes, while hospitals have been forced to delay higher-margin elective procedures amid a surge in demand for beds to serve virus-stricken patients.

While the short-term situation is truly tragic, long-term demographic trends likely necessitate the importance of medical centers once the world moves beyond COVID-19. According to US Census estimates, roughly 20 million more people will be over 65 years of age in the next 10-15 years, given a combination of an aging baby boomer generation as well as increasing longevity (figure 24). These inevitable trends will only increase demand for specialized care centers like nursing homes, especially following the mass distribution of an effective COVID vaccine.

Turning to the digitization, while the growth of ecommerce has wreaked havoc on traditional retail over the last decade, it may be easy to ignore the complex supply chain that transports your package from the retailer to your front door. Industrial REITs play an important role in that process, with many of these firms focusing on development and management of distribution centers and warehouses. Such properties have seen robust growth in the last decade as demand for logistics centers and regional distribution networks has skyrocketed (figure 25). The dramatic shift to online purchases has helped keep industrial REITs afloat YTD, while reshoring and continued growth in ecommerce are likely to be strong tailwinds for these types of investments going forward.

Figure 24: US demographic trends point to continued need for senior living facilities

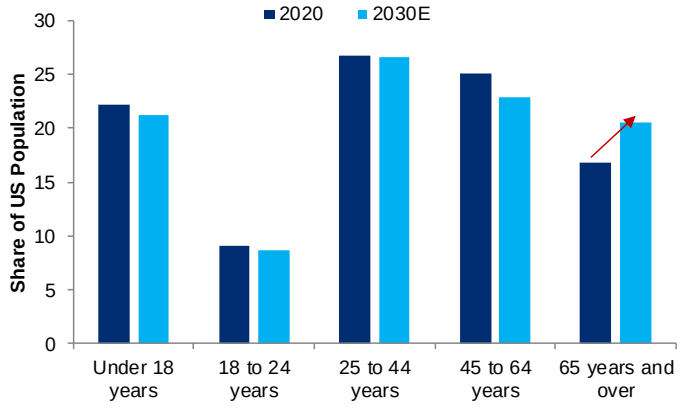
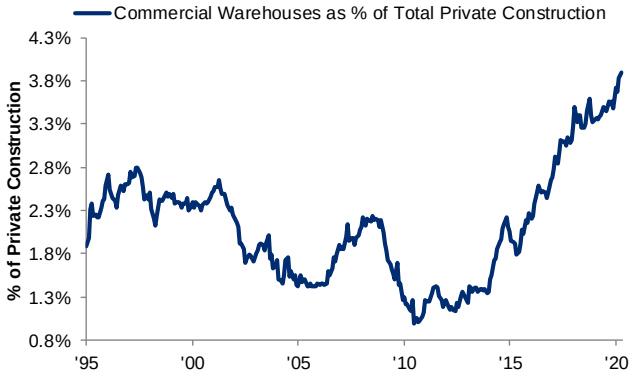


Figure 25: Ecommerce driving a boom in Distribution Centers and Warehousing



Source: Factset as of June 18, 2020.

Rent Has Never Been So Worth It

A significant rise in unemployment typically leads to a drop in disposable income and therefore an inability to make mortgage or rent payments. Despite this year's historic fall in employment, fiscal support for individuals has been similarly unprecedented, with personal income including federal transfers rising significantly in April. This dynamic should be supportive for single and multi-family rental cash flows.

Local government ordinances restricting rent increases and modest de-urbanization could slow the pace of property value growth in the short-run, likely contributing to the Residential REIT sub-sector's 16% decline YTD. However, relatively strong household

finances should reduce severe delinquencies, keeping property values relatively stable and enabling these REITs to sustain 3-4% dividend yields.

Green Shoots Among the Hardest-Hit REITs

Turning to the most beaten up areas of the REIT market, the rapid shift to spending significantly more time at home has had a destructive impact on cash flows across many different property types, from brick-and-mortar stores to office buildings. While the worst of the shutdowns were effective in severely curtailing mobility, re-openings are slowly enabling recovery among Retail, Office, and Lodging REITs, which remain down 20-50% YTD (figures 26 and 27). Over the short-to-medium term, share price recovery is likely to track the pace and breadth of re-openings globally.

Looking beyond this immediate crisis, those landlords that survive and even thrive following the COVID reckoning are likely to be the ones who are creative in reinventing their now-vacant spaces. Even before COVID-19, a reorientation of malls towards building "experiences" that tie together activities, dining, and shopping has been one strategy for attracting people to stores following a structural decline in brick-and-mortar retail sales. While gatherings have been discouraged to prevent virus spread, a post-virus world could see a surge in such activities after "locking" people up for so long. This would be a much-needed reprieve for malls, entertainment venues, and hotels in 2021 and 2022.

Figure 26: Retail & Lodging Recovering With Re-openings

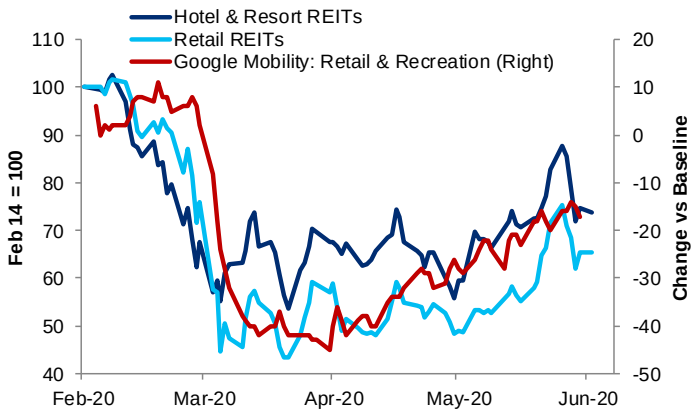
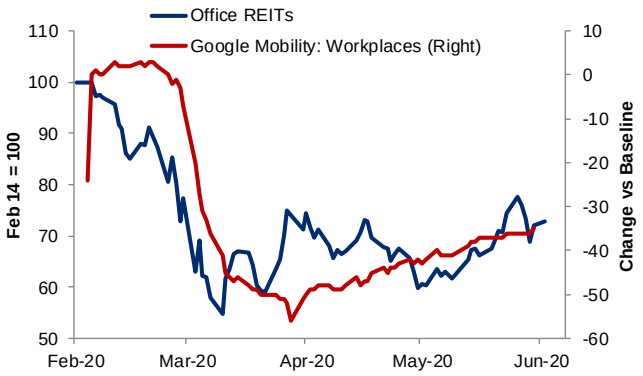


Figure 27: Slower Return to the Office



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Don’t Fight the Fed in Credit Markets

Kris Xippolitos
Head – Fixed Income

Joseph Kaplan
Fixed Income

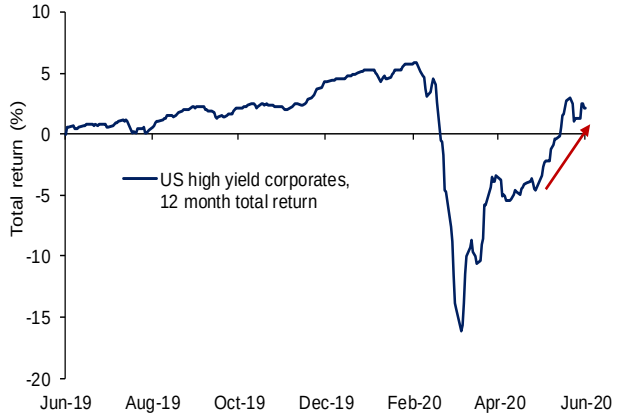
The US policy response to the Covid-19 pandemic has been considerable and unexpectedly large. Alongside $3 trillion of federal fiscal stimulus thus far, the Federal Reserve has created a number of programs to support a recovery in both the economy and financial markets. The influence of these policies have been substantial and successful.

The Fed established two programs back in March, the Primary and Secondary Market Corporate Credit Facility (PMCCF and SMCCF), for a combined $750 billion. The intention of these facilities was to support corporate credit markets, if needed, by becoming a buyer of last resort. While no issuer has utilized the PMCCF, there has been significant activity through the Fed’s SMCCF over the last month.

As of May 12, the Fed has been actively buying corporate bond ETFs (exchange-traded funds). According to weekly Fed data, the US central bank has now accumulated over $7 billion of investment-grade (IG) and high yield (HY) shares, through June 18. As highlighted in our strategy bulletin, “FOMO or FO-real”, the impact to fixed income valuations has been profound. Since purchases started, US IG and HY spreads have tightened over 50bp and 200bp, respectively, gaining 5.0% and 7.0% (see figures 28-29).

Figure 28: US Investment Grade Corporate total return

Figure 29: US High Yield Corporate total return



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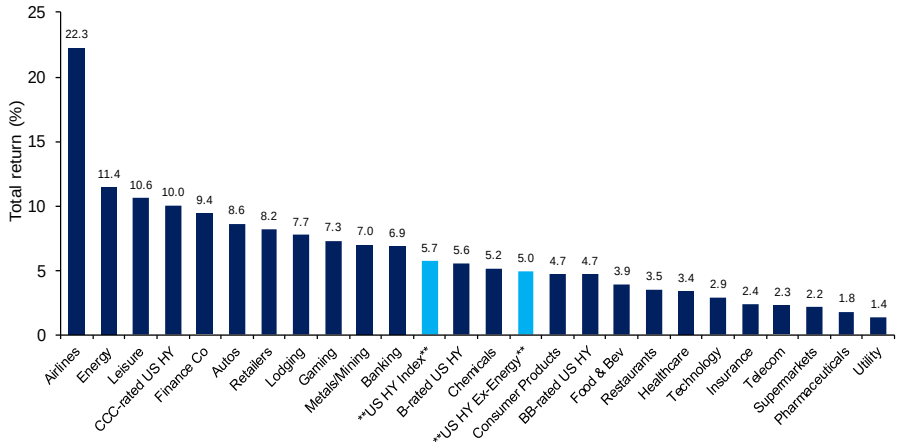
On June 15, the Fed then announced their intentions to begin buying individual corporate bonds through SMCCF. This took markets by surprise, as the details of the planned purchases was a major deviation from the original SMCCF proposed in March. As we reported in our bulletin, The Fed ups its credit game”, eligible bond purchases will be coordinated to replicate a portfolio that tracks a broad, diversified market index. More important, issuer self-certification will not be necessary.

For the Fed, this type of intervention in the corporate ETF and bond market will achieve several things. First, it is ensuring adequate liquidity in a market that faced a massive liquidity squeeze during the March sell-off. This includes exchange-traded ETFs, as well as the secondary trading of corporate bonds. Second, it helps promote cheaper financing costs for companies or industries suffering from the COVID-19 pandemic. Third, and most important, it allows the Fed to access all aspects of the credit market, without any associated stigma or any perception of favoring particular issuers.

In HY markets, this also means the Fed is buying across all sectors and ratings. Through ETFs, the Fed is investing in the most risky assets, including CCC-rated companies and consumer-cyclical sectors like gaming, hospitability, energy and basic

industries. Therefore, it is not surprising that CCC junk bonds and cyclical oriented sectors have been among the best performers over the last month (see figures 30).

Figure 30: US HY total returns by sector, last four weeks



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Fixed Income Opportunity #1 – Go where the value remains

Assuming financial markets remain calm and Fed buying persists, credit spreads are expected to grind tighter. Since the Fed purchases are, in effect, indiscriminate, the biggest beneficiaries would likely be the bonds with the cheapest valuations. In both IG and HY, this would include bonds within the airlines, lodging and energy sectors (see figure 31).

The Fed cannot, of course, prevent corporate defaults. Indeed, our base-case includes default rates rising over the next 12 months. Lower interest rates and Fed support have undoubtedly helped issuer's access markets over the past five months, but it may not help some of the weakest issuers make future coupon payments. Being selective and active is of the utmost importance.

Figure 31: Corporate Bond Spreads by Sector

Investment-grade		High yield	
Sector	Spread (bp)	Sector	Spread (bp)
Energy	463	Airlines	1022
Airlines	228	Energy	939
Metals/Mining	212	Finance Co	770
Lodging	172	Leisure	765
Supermarkets	170	Retailers	712
Telecom	166	Metals/Mining	627
Gaming	163	Gaming	553
Insurance	163	Pharmaceuticals	545
Finance Co	151	Lodging	536
Banking	146	Chemicals	531

Source: Factset as of June 18, 2020.

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Fixed Income Opportunity #2 – Flying with "Fallen Angels"

Usually at the higher end of the sub-investment grade spectrum, HY issuers that used to be IG are called "Fallen Angels". Anticipating their fall into HY, bond prices tend to weaken as markets discount potential ratings downgrades. IG managers become sellers so as not to hurt their portfolio returns, while HY managers scoop up these bonds after the downgrade occurs. This is why Fallen Angels tend to fall in price in the months before the downgrade, only for them to improve in price in the months after being downgraded to junk.

We believe this dynamic creates a very attractive long-term total return opportunity (figures 32-33). Some ETFs focus solely on this subset of HY (both US and globally), while fund managers tend to re-allocate within their broader HY portfolios to take advantage. Individual security selection is another option, though would require a more active approach. With roughly $200 billion of BBB-rated bonds on negative creditwatch, opportunities in the space may rise.

Figure 32: "Fallen Angel" High Yield Performance

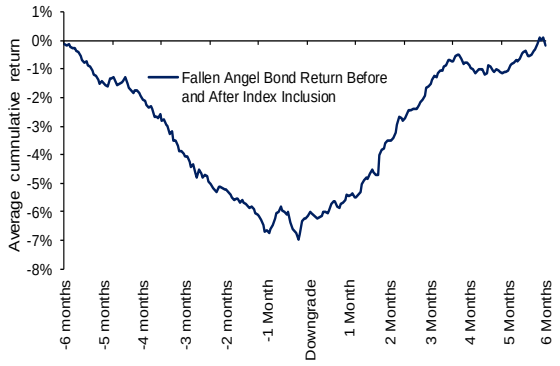
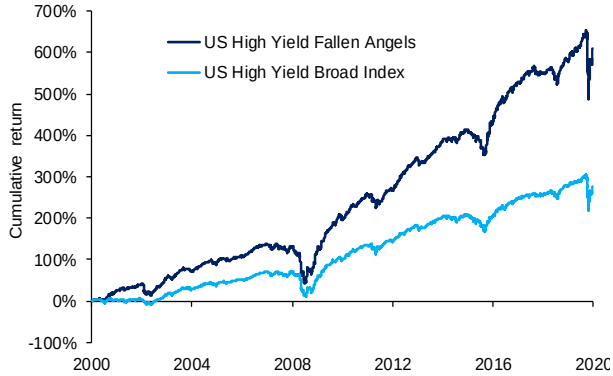


Figure 33: "Fallen Angels" vs Broad High Yield Around Index Inclusion



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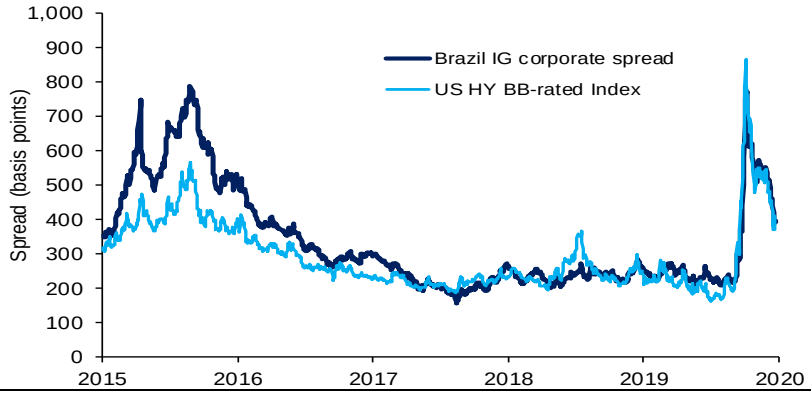
Fixed Income Opportunity #3 – Indirect beneficiaries

Markets outside of the Fed's purview may also provide opportunity for investors. As the Fed drives spreads in US corporates tighter, any subsequent reach for yield could work its way into the USD emerging market (EM) corporate market. Indeed, many parts of EM remain cheap. For example, some IG-rated Brazilian corporates trade like high yield debt (figure 34). Asia IG and HY also offers other compelling opportunities, particularly in the real estate sector. In our view, these types of securities could be the first to receive inflows as investors search for more attractive valuations outside the US.

Figure 34: Brazil IG Corporate Spread vs US IG Corporates



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Fixed Income Opportunity #4 – Consider equities with a bond-like flair

Mortgage real-estate investment trusts (MBS REITS) are companies that base their real estate investments in the mortgage backed security market. Some of these companies specialize in agency MBS debt like Fannie Mae and Freddie Mac, while others invest in non-agency residential MBS or commercial mortgage-backed securities (CMBS) of various ratings and structures. Due to the high percentage of leverage used to fund their mortgage investments, dividend yields and the associated volatility tend to be high.

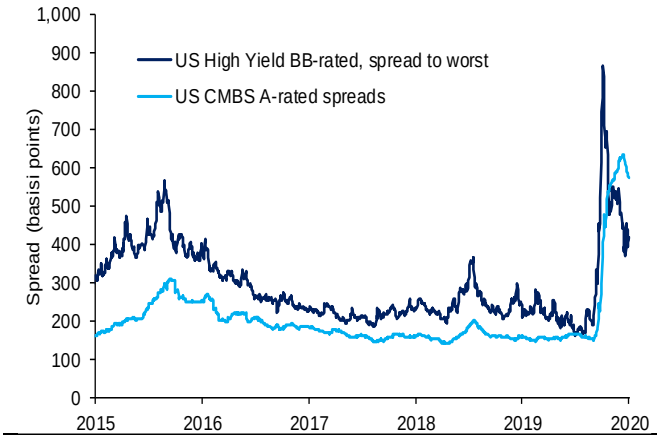
Therefore, it comes as no surprise that this market was severely impacted by the March sell-off, with the broader MBS REIT index collapsing nearly 70%. Not only were over-leveraged investors penalized with market liquidity being squeezed, COVID public shutdowns also severely impacted the valuations of many parts of the commercial real estate market.

Like most assets, MBS REITS have bounced off their March lows. However, they have significantly lagged other equity sectors. Despite the S&P 500 nearly fully recuperated, the MBS REIT sub-sector remains heavily depressed. Depending on the company, trailing dividend yields can reach as high as 40%, as investors doubt the sustainability of these cash flows in the future.

At the same time, it is important to understand the differentiation between agency MBS REITs and CMBS or non-agency RMBS REITs. At times, their performance behaves vastly different. In the agency MBS REIT market, underlying credit quality is not an issue. Indeed, the Fed is outright buying $40 billion of agency MBS every month through their quantitative easing program. With the Fed Funds rate at the zero bound, and likely to stay there for the next few years, leveraged financing will stay cheap. A steeper US yield curve may also increase the value proposition for carry trades, supporting dividends.

The non-agency RMBS and CMBS REIT sub-sectors have a very different backdrop. While these companies also enjoy cheaper financing, the underlying assets can be more risky. Mortgages tied to retail or hotel properties are likely to face additional pressure over the coming quarters. However, many of these assets are already priced for expected weakness. For example, single-A rated CMBS trades with spreads wider than BB-rated high yield bonds (See figure 35). Similar to the type of recovery we saw post-Global Financial Crisis, it is quite possible that the better longer-term total return opportunities will actually reside in the CMBS REIT market as economies recover.

Figure 35: A-rated CMBS spreads are wider than high yield bonds



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We believe the current environment offers an opportunity for fixed income investors. In our view, one of the biggest risks facing bond markets today is that yields and spreads may move lower for fixed-income only portfolios, Citi Private Bank's Level 1 Global Asset Allocation expresses these views with overweight's to both IG and HY bond markets.

However, investors should do so with an active approach in mind. In some instances, cheaper corporate assets may be more of a short-term trade, rather than a long-term "buy and hold" investment. Being nimble and having a strong sell discipline should be an imperative part of the overall investment strategy. Or, utilizing expert managers to navigate on your behalf is another worthwhile option.

EU Policymakers Increase Commitment to Revive Growth

Jeffrey Sacks
Head – EMEA

Shan Gnanendran
EMEA Strategy

At the start of this year, Europe was finally beginning to see some positive growth impact from the extensive ECB actions over the previous eight years. However, the upturn was fragile without strong momentum. So the timing of Covid-19 was particularly unfortunate for Europe. The early epicenter of the virus on Europe's most economically fragile country Italy, highlighted the challenges to come. The breakdown of European economic output, with a heavy weighting in areas immediately and severely hit by crisis - notably travel and tourism - has resulted in the worst quarterly growth on record in the current second quarter, and a downgrade in our growth forecast for this year to -8% (figure 36).

This note focuses on why the expected 2021 GDP growth rebound was initially only +1.5% (compared with the expected global GDP growth rebound of +2.8%), and why we have recently had strong reasons to raise this European 2021 GDP growth forecast to +3.0%. This European growth upgrade was driven by recent policy responses, and gives us high confidence that European equities can start to participate more fully in the global equity upturn in the new economic cycle led by 'Covid-Cyclicals'. There are now less reasons for European markets to continue to underperform in relative terms. In absolute terms, the return outlook should be

positive as the global market outlook improvement has justified the move to overweight global equities.

The initial European government policies were aimed at maintaining corporate productive capacity and individual's ability to spend when the pandemic eventually eased. While being the largest on record in absolute terms and the biggest on record as percentages of GDP, the amounts were inadequate as they were less than the full fiscal absorption needed. They also differed by country in terms of their breakdowns, implementation, and particularly with the sizes needed. Early in the pandemic it was clear that significant solidarity was needed with respect to financial support for the periphery countries (figure 37).

Figure 36: Inbound & Outbound tourism expenditures (% GDP)

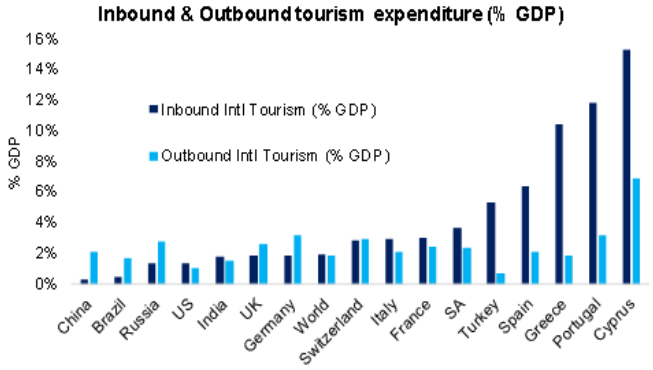
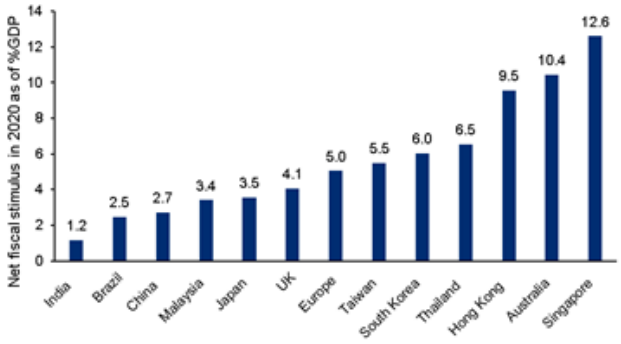


Figure 37: Fiscal stimulus as % GDP



Source: Bloomberg, World Bank as of June 17th 2020

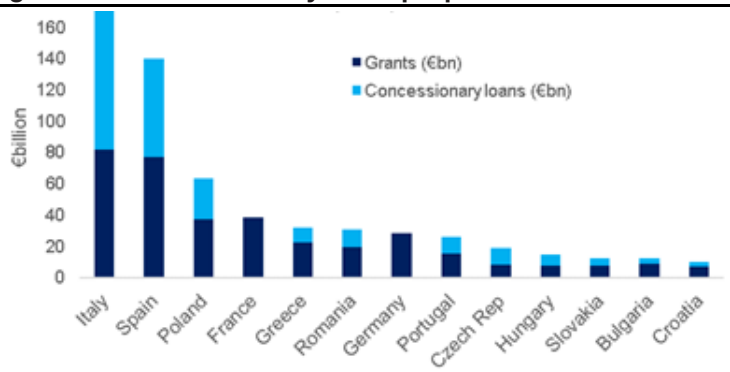
The initial ECB response, with the announcement of their Euro 750 billion Pandemic Emergency Purchase Programme (PEPP), was primarily aimed at helping to keep bond yields low to help finance the fiscal expansions. They also breached their capital keys to enable greater support for the periphery bond markets. But the German Constitutional Court (GCC) decision a few weeks ago raised uncertainty about the legality of PEPP and also previous ECB quantitative easing programs.

While these policy responses were an important reason for European markets to suffer badly in the early stages of the pandemic, the underperformance during the recent global market recovery has been due to an additional reason – the global recovery has been led by 'Covid-defensives' sectors such as technology. European markets only have modest weightings in 'Covid-defensives', particularly in comparison with the US.

There are four reasons for our growth upgrade which is at the heart of our increased European equity addition and move to a neutral weighting:

Firstly and most critically, we believe that the recently-proposed EU 27 pan-European response will eventually be agreed as part of the next seven-year EU budget (figure 38). Its importance cannot be underestimated. The proposed size of Euro 750 billion starts in 2021 and would add fiscal stimulus of about 1.4% of GDP for the next few years starting in 2021. The proposal includes Euro 440 billion in the form of grants with minimal conditions, focused on the periphery countries. The concept of fiscal transfers was originally proposed by Germany and France, and as a consequence, both would be bigger net contributors to the EU budget than they have been. The proposal includes revenue-generating proposals in growth areas like digital technology and green energy. EU solidarity of the proposal also gives hope that it could be the start of further structural reform progress in the longer-term.

Figure 38: EU 27 Recovery Fund proposal



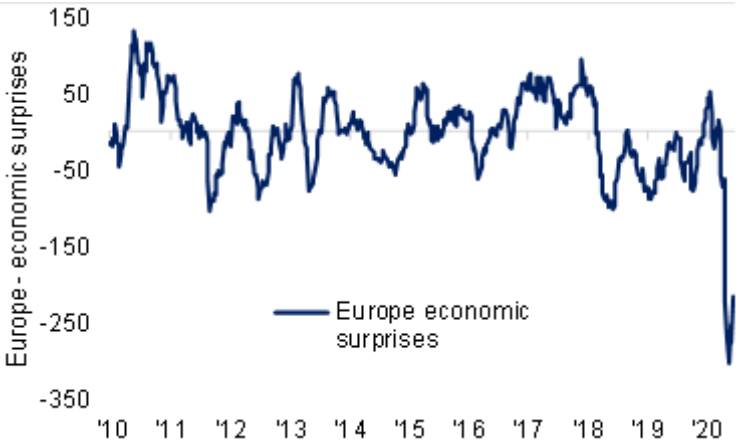
Source: EU as of June 17th 2020

Secondly, both Germany and France have made further substantial domestic fiscal expansions, each of around Euro 130 billion (to add to their Euro 156 billion and Euro 90 billion respective previous commitments). In Germany's case, this is being funded with Euro 150 billion of new borrowing which moves them away from their historic aversion to debt and 'schwarze null' rule. In France, President Macron is taking this fiscal expansion step further in a socialist direction even as he's slipping in recent polling, indicating his recognition of the game-changing impact of Covid-19.

Thirdly, the ECB added Euro 600 billion to their PEPP, taking its size to Euro 1.35 trillion, and reiterated their intention to do more if necessary. In addition to the clear benefit this will have on helping to suppress periphery bond yields, with this move the ECB also allayed concerns relating to the GCC, and reconfirmed the primacy of the European Court of Justice (ECJ) over the GCC. ECB head Ms. Lagarde stressed the importance of the latest ECB move being 'proportional' to aims and expected outcomes, the critical requirement from the GCC.

These policy moves in combination are likely to have a substantial positive impact on the economic data which is only now starting to pick up off the April lows, with above-consensus data rises from very depressed levels (figure 39). The positive growth surprises will change investor perception of Europe. However, given the deep skepticism towards European policymaking going back several years, this investor perception change will only take place gradually. So markets will only discount this slowly, giving the opportunity to add despite the Eurostoxx rally of 36%% from its March lows.

Figure 39: Citi Economics Surprise - Europe



Source: Bloomberg as of June 17th 2020

The pickups in Europe will be led by cyclical sectors of the larger manufacturing-dominated countries like Germany (figure 40). Their export sectors will benefit from firmer global growth. Across Europe we anticipate that the 'Covid-cyclical' areas which will rebound most will be broader than industrials, and also include consumer cyclicals, energy and financials (figure 41). Some of those areas, notably financials, are cheap in valuation terms and should benefit from a broader investor interest in value sectors and stocks.

Figure 40. Manufacturing PMI level

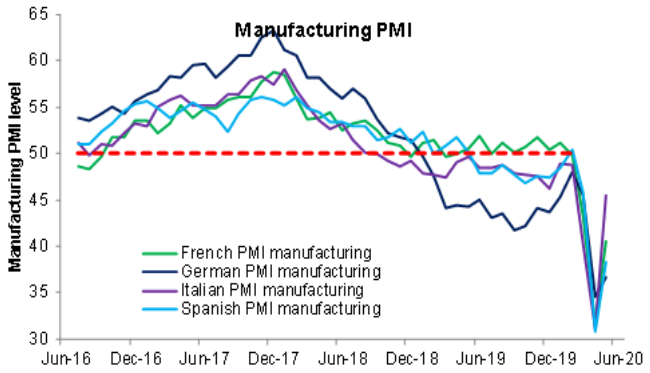
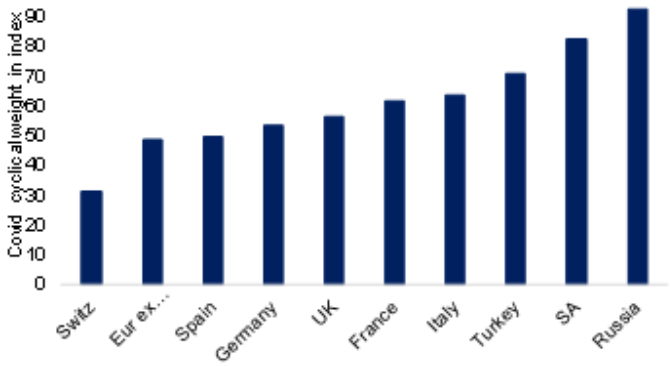


Figure 41. Covid-cyclical country weightings



Source: Bloomberg as of June 17th 2020

European small and medium-sized companies (SMID) are expected to outperform. Historically SMID had outperformed in the early stages of a cyclical upturn and also shown strong performance after sizeable market consolidations (figure 42).

Figure 42: SMID performance in the 12m period after previous market bottoms

	Forward 12M Performance	
Prior Bottoms	Large	SMID
12/03/2003	45%	61%
09/03/2009	62%	79%
23/11/2011	22%	30%
12/02/2016	19%	24%
27/12/2018	26%	35%
Average	**35%**	**46%**
Performance since recent bottom		
23/03/2020	*25%*	*34%*

Source: Bloomberg as of June 17th 2020. 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. For illustrative purposes only. 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.

We are also more positive on the large emerging countries of Europe – Turkey, Russia, South Africa. They are not yet seeing confirmed peaks in virus infections, however against that on the positive side: their valuations are reasonable, they benefit from firmer commodity prices, they benefit from higher global risk perception and a weaker USD.

Megan Malone
Head of Real Estate Investments for the Americas

Joseph Kaplan
Fixed Income

The Pandemic's Impact on Alternative Investing

Summary

- The Situation: Alternative Investment managers and their funds have been deeply impacted by the COVID recession. The pandemic has accelerated business trends, changed consumer preferences and dramatically increased capital needs with the winners and losers becoming more apparent. Managers must adapt their portfolios and strategies quickly and effectively, or face severe consequences to their businesses.
- The Opportunity: We see this difficult period as one that may be among the most profitable for managers who can navigate the environment effectively and for investors who can make commitments during this uncertain period. We look retrospectively at other periods of great stress to draw these conclusions. Further, Citi Private Bank's strategic return estimates for alternatives have increased, suggesting that a full weighting to Private Equity, Real Estate and Venture Capital is timely for qualified clients.
- Being Mindful: Manager performance disparity is likely to be amplified by these market conditions and manager selection will be a critical determinant of future investment outcomes.

Our 2020 Mid-Year Outlook released on June 4th (link here), contains our assessment of the new economic cycle as well as our recommended investment strategy.

The Pandemic's Impact on Alternative Investing

A major economic disruption like the one we are experiencing – a COVID recession – presents unique challenges and opportunities for alternative investing. Businesses were unprepared for the global economic and social impacts of the shutdown and now many cannot withstand such a long period of negative cash flow. The speed and nature of the impacts, deeply negative in some industries and accelerators of trends in others, was also unexpected. Even with real estate, a previously defensive asset in portfolios, the negative impact on renters, retail and use of spaces (remember when density was efficiency?) continues to reverberate.

Now, amidst this series of unlikely, unusual and interconnected events, a bit of "good news". As we begin a new economic cycle, we have revisited our Strategic Return Estimates for all asset classes for the coming 10 years. One of the big beneficiaries is Alternative Investments and, in particular, Private Equity, Real Estate and Venture Capital. We believe that funds launched and investing at this time have the opportunity to deliver outsized returns and that qualified investors should have a full weighting to these asset classes.

Private Equity: Opportunities and Risks

The impact of COVID and the global economic shutdown has impacted some companies in Private Equity portfolios far more than others. Businesses in leisure, travel, education, health care and retail are among the most severely damaged. Such enterprises will need balance sheet restructurings and an influx of capital. Across all business lines, the valuations of small and medium-sized companies across the economic landscape just got cheaper, while the cost of equity capital for those companies has risen appreciably. Conversely, for companies flush with cash, the bankruptcies, restructurings, recapitalizations and structured financings of businesses can present a whole new set of investment opportunities and challenges. Key to a manager's success will be the ability to value potential acquisitions during a time when business revenues are declining.

Private capital funds have ~$2.7TN in dry powder of which ~$770BN is attributed to buyouts -- nearly double the total in 2008.[1] Once managers stop playing defense by protecting their portfolios, the ability to deploy capital quickly and in large amounts portends higher transaction volumes. Net, net PE firms will put a great deal of new capital to work between 2020-2022, much of it at better valuations and terms than at any time in the past 5 years. In contrast, new fund commitments are likely to slow and there could be a consolidation of market share among managers as limited partners tend to gravitate toward larger funds in times of uncertainty.

Real Estate: We Stayed Home

In Real Estate, which was historically regarded as a defensive investment, there are major changes afoot due to the acceleration of business trends by the virus and the consumer response. E-commerce has seen an extraordinary boost due to the temporary shutdown of the economy. With retailers unable to operate, the substitution of online providers received an unforeseen and considerable boost. This has impacted real estate directly, as undercapitalized firms were unable to pay rents. Further, a slow recovery of all things traditional retail will curtail rents and rent payments. In fact, it is estimated that 60,000 stores across the US alone will close in 2020/21 and that among the major large box retailers only 50% will survive.[2] Thus, retail real estate (as a sub asset class) will be deeply challenged.

Within the real estate sector, hospitality is unquestionably the most impacted segment. Closed hotels are creating widespread issues for owners, operators, investors and lenders. US occupancy was already at its lowest level since the GFC at the end of Q12020, but the pandemic took occupancy levels to just above 20% in April, the worst level since record keeping began. In major cities, such as New York, London and Hong Kong, fixed costs are high and luxury hotels need to hit 60% or greater occupancy levels to breakeven. As a result, some hotels may not reopen, others will have new ownership and still others may be repurposed.

Although there may be pent-up demand for leisure travel, the hospitality sector recovery relies on the business traveler and corporate-driven group demand. These segments comprise ~65% of occupancy and are larger contributors to profits (given higher-rates and catering revenues).[3] The COVID-19 experience could permanently change buying habits for some businesses. Bans on business travel may have a meaningful impact due to the increased usage and efficiency of video conferences.

The overall depth and breadth of the economic impact on the real estate sector is uncertain, but the impacts of the pandemic on current and future operations is becoming clearer. Consumer behavioral changes are driving increases in vacancy and certain sectors will no longer be in demand. Real estate investors must work with managers to assess the future value of assets and adapt their portfolios for changing consumer preferences.

Venture Capital: Shakespeare, Slack, And Then?

In the early 17th century the bubonic plague swept across Europe, and forced London theaters to close – with newfound time on his hands, William Shakespeare got to writing, producing King Lear, Macbeth, and Antony and Cleopatra in 1606. In the depths of the GFC during 2009, seed rounds were completed for Airbnb, Slack, and Pinterest. An array of new and innovative opportunities may emerge as a direct result of the pandemic, especially in the healthcare, B2B software solutions, and biotechnology space. Nonetheless, entrepreneurship is still thriving. The companies that will be the most successful are those that will be able to readily adapt to changing

[1] Preqin as of June 13, 2020.
[2] Green Street Advisors as of April 29, 2020.
[3] Citi Research as of June 9, 2020.

consumer needs. Some of the better growth companies will accept lower valuations as they bolster their balance sheets to enable their businesses' further expansion in a recessionary landscape. Valuations will favor investors as even good companies will have to pay more for capital.

We also believe that the pandemic presents a rare macroeconomic event that will accelerate innovation and also the more rapid adoption of new technologies. The virtual meeting, rapid food delivery; the provisions of services at home, telemedicine and the use of devices to "keep us safe" in a variety of ways are immediate examples of how the pandemic saw the substitution effects and benefits of tech come to life instantly. What this speaks to is how consumer and business buying behaviors can change at a pace much faster than we might have thought possible. And we believe that the willingness of buyers to try new technologies will undoubtedly rise even as the pandemic ebbs.

The Three Phases of Managerial Action During a Downturn

Alternative Investment firms have taken three phases of action in previous downturns such as the dot-com crash and the global financial crisis:

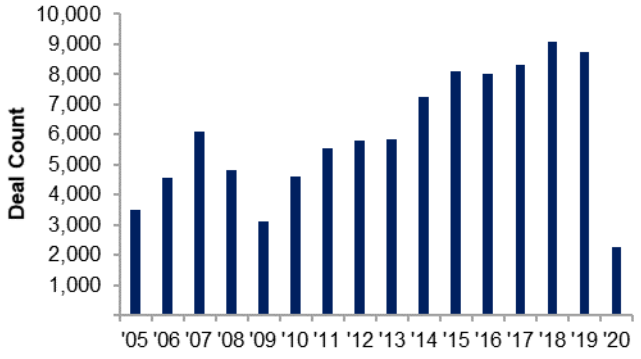
Initial Pause: At the nadir of a cycle, there is a near-term slowdown in fundraising and transactions – Managers address liquidity concerns, protect existing investments, and study evolving trends.

Opportunity Identification: Once the bottom of a cycle is established, managers will begin to provide rescue and recovery capital to stressed companies/assets that are high quality fundamentally. In addition, managers will often execute deals previously considered at new, lower valuations. Management teams that were unwilling to sell often reconsider at these times.

Execution Phase: The performing managers will invest at the trough of a downturn and early stages of recovery, the stress on Alternative Investment managers and management teams to execute strategies to expand and increase profitability will be at its highest. Those that succeed will generate the highest cyclical returns.

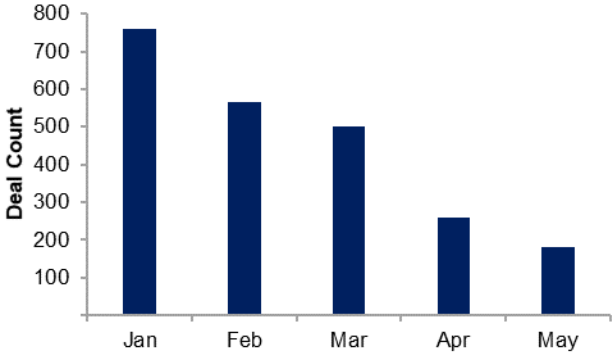
We are now in Phases One and Two for the most part. We can see a material drop in deal counts as managers pause new activity (Figure 43, 44). Managers are working through portfolio issues and are contemplating new areas of focus.

Figure 43. Global Buyout Deal Count



Source: Pitchbook as of May 27, 2020.

Figure 44. YTD 2020 Global Buyout Deal Count

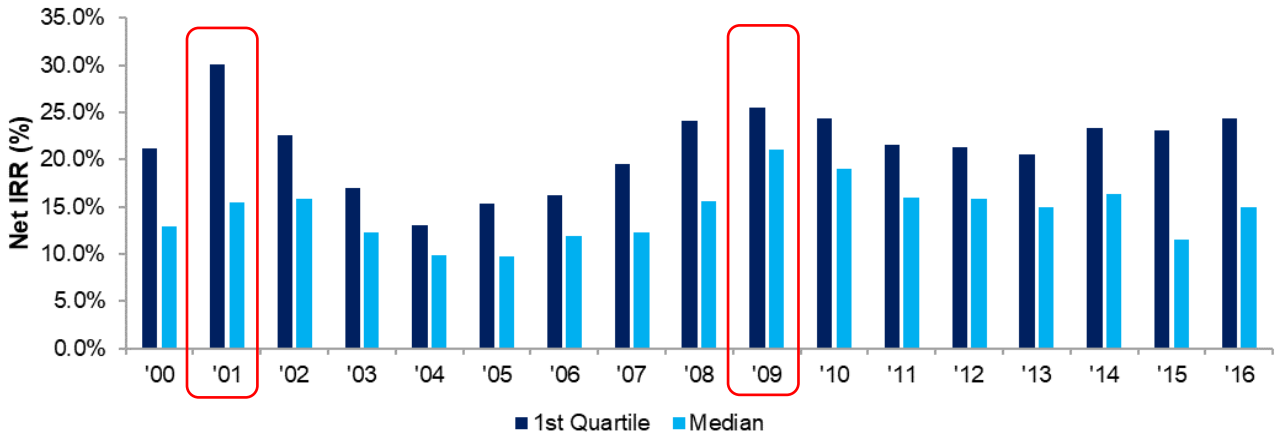


Source: Pitchbook as of May 27, 2020.

The Best Results for Alternative Investments Often Follow Economic Crises

As economic and financial stress mounts, opportunities for high quality private equity and private real estate typically multiply. As advisors, we know how investors feel. It is hard to commit to invest for five, seven or even ten years in the midst of intense economic difficulties. Looking at history (Figure 45), however, private equity and real estate managers have achieved some of their strongest performances after crisis periods. Investors have and will benefit from skillful managers who can create value and take advantage of market dislocations.

Figure 45. US Private Equity Returns by Vintage Year



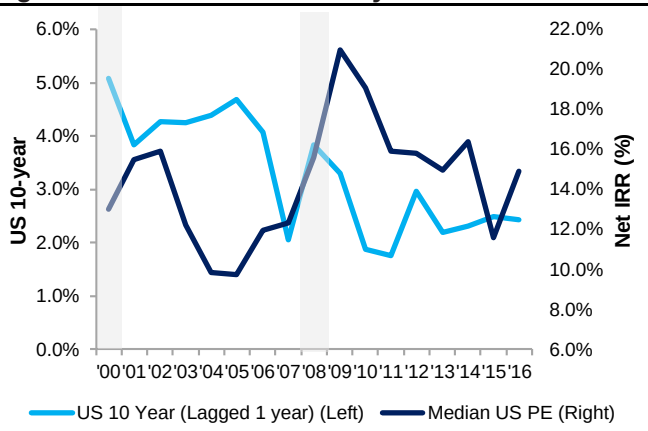
Source: Cambridge Associates as of Q3 2019. Past Performance is not indicative of future returns.

For example, 2001 (dot-com crash) and 2009 (trough of the Global Financial Crisis) US Private Equity vintage funds produced average net returns of 18.2% (2001) and 20.3% (2009). First quartile net performance was 30.1% and 25.5% for 2001 and 2009 vintages, respectively.

We expect favorable valuations in 2020-21 due to purchase multiple contraction in private equity (PE) and capitalization rate expansion in real estate (RE). When these lower valuation metrics are applied to lower short-term earnings expectations, entry prices for new money can become quite compelling.

Periods of declining interest rates and readily available debt have been tailwinds to higher average private equity and real estate returns, as firms are able to borrow at cheaper rates, decrease their interest and carry expenses, and ultimately retain more upside for investors (Figure 46). Following the recovery from the GFC, and as the Fed conducted Quantitative Easing in the early 2010s, US rates were driven lower, and the spread of investment returns rose over fixed income investments. As Jerome Powell recently stated “We’re not thinking about raising rates. We’re not even thinking about thinking about raising rates,” the stage is set for alternative investment managers to borrow cheaply. However, some banks are currently focused on existing loan portfolios and absent from certain lending markets such as commercial real estate. In addition, existing debt funds utilizing repurchase (“repo”) financing may continue to face margin calls over next 6-12 months as underlying asset cash flows decline.

Figure 46. US 10-Year Treasury Yield vs Median US Private Equity Net IRR



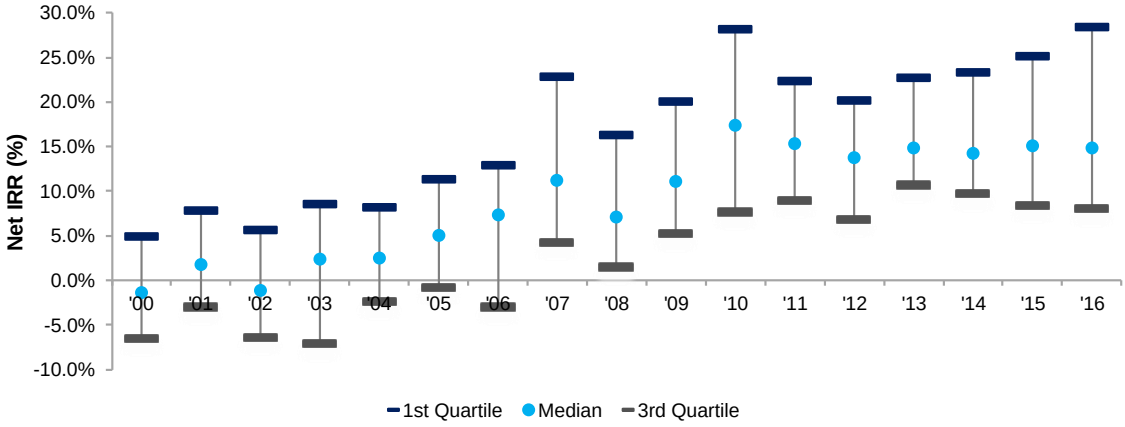
Source: Median US Private Equity Net IRR provided by Cambridge Associates as of Q3 2019.

US 10-Year Treasury Yield provided by FactSet, Bloomberg Barclays Indices as of June 11, 2020.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. For illustrative purposes only. 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.

Venture Capital Returns Post-Crises

Venture capital managers have also achieved some of their strongest performances after the 2008 crisis (Figure 47). Notably first quartile IRRs for vintage years 2009 through 2016 have all exceeded 20.0%, with 2010 a standout vintage year with first quartile performance of 28.2% and median performance of 17.5%.

Figure 47. US Venture Capital Returns by Vintage Year



Source: Cambridge Associates as of Q3 2019. Past Performance is not indicative of future returns.

The effects of COVID-19, including mass layoffs at start-ups, have forced venture firms and companies alike to pivot their focus from growth at all costs to advancing the road to profitability and survival. Venture capital may be challenged by a decrease in the flow of capital caused by reduced limited partner commitments, due to their increased exposure to private markets and decreased exposure to public equities. However, non-traditional investors, such as family offices, have naturally shifted to add exposure to VC investments.

Vintages that invest at the trough of a downturn and into the early stages of recovery tend to outperform others. Compared to their more established counterparts, early stage businesses are more vulnerable to negative market events. Early-stage business, by their nature, are more vulnerable to negative external forces than their more established counterparts. However, during the global financial crisis (2008-2009

YoY data), angel and seed activity increased 34%[4] as interest increased and seemed more resilient.

We are seeing a rise of thematic managers raising capital. For those firms with dry powder, the COVID-19 crisis highlights the need for investment in cybersecurity as companies build out their remote work infrastructure. Additionally, the pandemic could be a catalyst for investment in robotics and supply chain, sensor technology (tracking people movement, temperatures, etc.), certain biotech deals and technology to disrupt the traditional classroom.

Investing Through a Pandemic

The nature, extent and rarity of these market events, suggest that qualified investors increase their exposure to Alternative Investments in private equity, real estate and venture capital. Alongside public markets, a diversified set of alternative investments can serve as a stabilizer in times of turmoil and an alpha generator when we look back on this period.

We would particularly advise that investors consider managers and funds that emphasize investing in “Unstoppable Trends”. The COVID-19 economic shutdown has highlighted certain special opportunities in healthcare and digital infrastructure. These areas have shown resilience, but also require additional capital investment over the coming years. In these areas, private equity funds can provide solutions that the public markets are unable to provide. Co-investing will also be prevalent during this period. Many well positioned companies will want to make strategic acquisitions and the cost of capital will benefit limited partners in a recessionary environment.

Being Mindful When Investing

Not all managers meet this crisis on equal footing. Performance disparity is likely to be amplified based on how managers are resourced and positioned. The importance of manager selection is as important as ever. Here are some issues to consider:

- Many smaller and less well-capitalized PE firms will have problem companies in their portfolios which will take a lot of time and focus and will potentially distract from an overall portfolio
- Managers without cycle-tested teams may underestimate how quickly their liquidity profile can change
- Managers without specialized knowledge (geographic, sector or structuring) may not be able to adapt to the current market environment
- Managers that lack transparency regarding current valuations/track record should be seen as a red flag

The due diligence required of investors during this period is obviously greater. By selecting the right firms, funds, investment focus and opportunities, we see this difficult period as one that may be potentially among the most profitable for investors who can navigate the environment effectively. A diversified Alternative Investment portfolio built in 2020-2022 will likely be a welcome reminder of how change in business environments may spur innovation and profits in portfolios.

[4] Pitchbook as June 13, 2020.

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 June 17, 2020 GIC meeting.

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

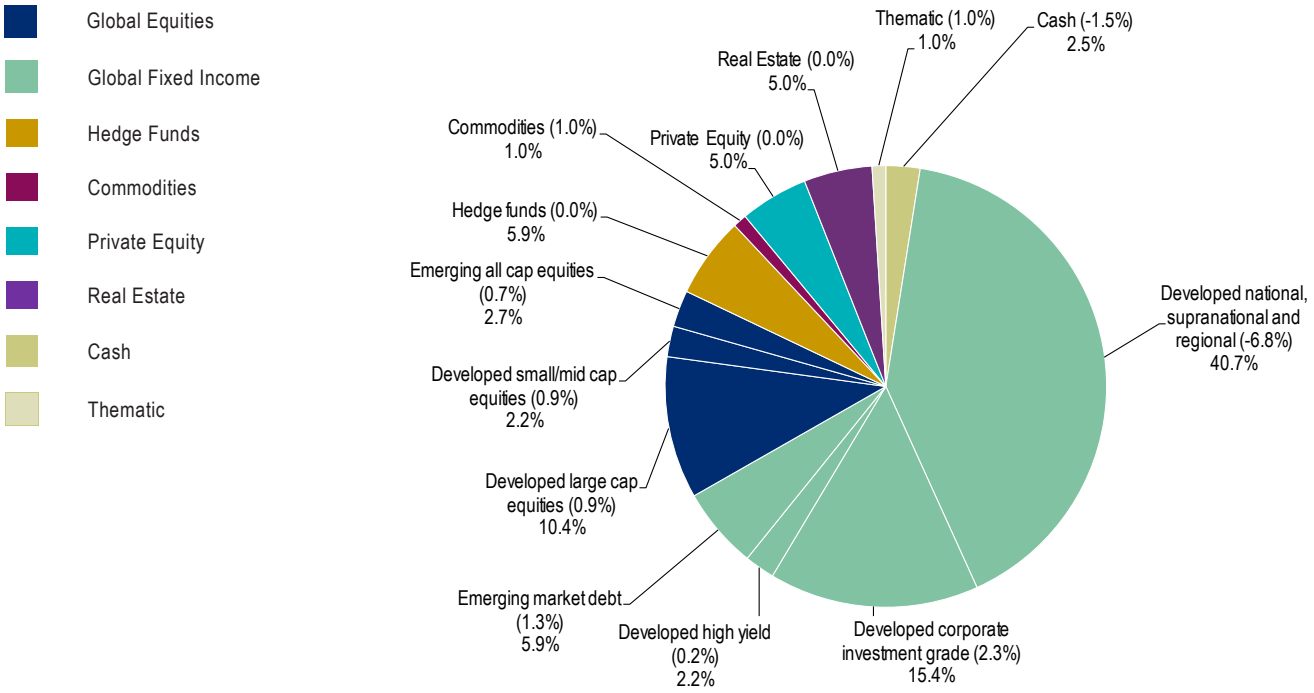
Risk Level 2 is designed for investors who emphasize capital preservation over return on investment, but who are willing to subject some portion of their principal to increased risk in order to generate a potentially greater rate of return on investment.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	**4.0**	**2.5**	**-1.5**
Fixed Income	**67.3**	**64.3**	**-3.0**
Developed Investment Grade	**60.6**	**56.1**	**-4.5**
Developed National, Supranational and Regional	**47.6**	**40.7**	**-6.8**
US	25.8	29.9	4.1
Inflation-Linked	**2.0**	**2.8**	**0.7**
Short	**3.9**	**5.0**	**1.1**
Intermediate	**6.0**	**7.0**	**1.1**
Long	**2.6**	**2.6**	**0.0**
Securitized	**11.3**	**12.5**	**1.2**
Europe	**14.9**	**7.6**	**-7.3**
Australia	**0.3**	**0.3**	**0.0**
Japan	**6.5**	**2.9**	**-3.6**
Developed Corporate Investment Grade	**13.0**	**15.4**	**2.3**
US	8.7	11.1	2.3
Short	**1.3**	**1.5**	**0.2**
Intermediate	**4.7**	**6.8**	**2.1**
Long	**2.8**	**2.8**	**0.0**
Europe	**4.3**	**4.3**	**0.0**
Developed High Yield	**2.0**	**2.2**	**0.2**
US	**1.6**	**1.8**	**0.2**
Europe	**0.4**	**0.4**	**0.0**
Emerging Market Debt	**4.7**	**5.9**	**1.3**
Asia	**0.8**	**1.6**	**0.8**
Local currency	**0.4**	**0.7**	**0.3**
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	**0.7**	**0.7**	**0.0**
Foreign currency	**0.7**	**1.1**	**0.4**

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	**12.8**	**15.3**	**2.5**
Developed Equities	**10.8**	**12.6**	**1.8**
Developed Large Cap Equities	**9.5**	**10.4**	**0.9**
US	6.3	7.0	0.7
Canada	0.3	0.3	0.0
UK	0.4	0.5	0.0
Switzerland	0.3	0.4	0.0
Europe ex UK ex Switzerland	0.9	0.9	-0.1
Asia ex Japan	0.4	0.5	0.1
Japan	0.8	0.9	0.1
Developed Small/ Mid Cap Equities	**1.4**	**2.2**	**0.9**
US	0.7	1.4	0.7
Non-US	0.7	0.8	0.2
Emerging All Cap Equities	**2.0**	**2.7**	**0.7**
Asia	**1.7**	**2.2**	**0.5**
China	**1.1**	**1.3**	**0.2**
Asia (ex China)	**0.6**	**0.9**	**0.2**
EMEA	0.1	0.1	-0.1
LatAm	0.1	0.4	0.3
Brazil	**0.1**	**0.2**	**0.2**
LatAm ex Brazil	**0.0**	**0.2**	**0.2**
Hedge Funds	**5.9**	**5.9**	**0.0**
Commodities	**0.0**	**1.0**	**1.0**
Private Equity	**5.0**	**5.0**	**0.0**
Real Estate	**5.0**	**5.0**	**0.0**
Thematic	**0.0**	**1.0**	**1.0**
Global Equity REITs	**0.0**	**0.5**	**0.5**
US Mortgage REITs	**0.0**	**0.5**	**0.5**
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 +2.5%, global fixed income has an underweight of -3.0%, cash has an underweight of -1.5% with gold overweight at +1.0% and thematic overweight at +1.0%.

Within equities, developed large cap equities and developed small/mid cap equities have an overweight of +0.9% each. Emerging market equities have an overweight of +0.7%

Within fixed income, developed government debt has an underweight position of -6.8%; developed corporate investment grade has an overweight position of +2.3%; developed high yield has an overweight position of +0.2% and emerging market debt has an overweight position of +1.3%

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

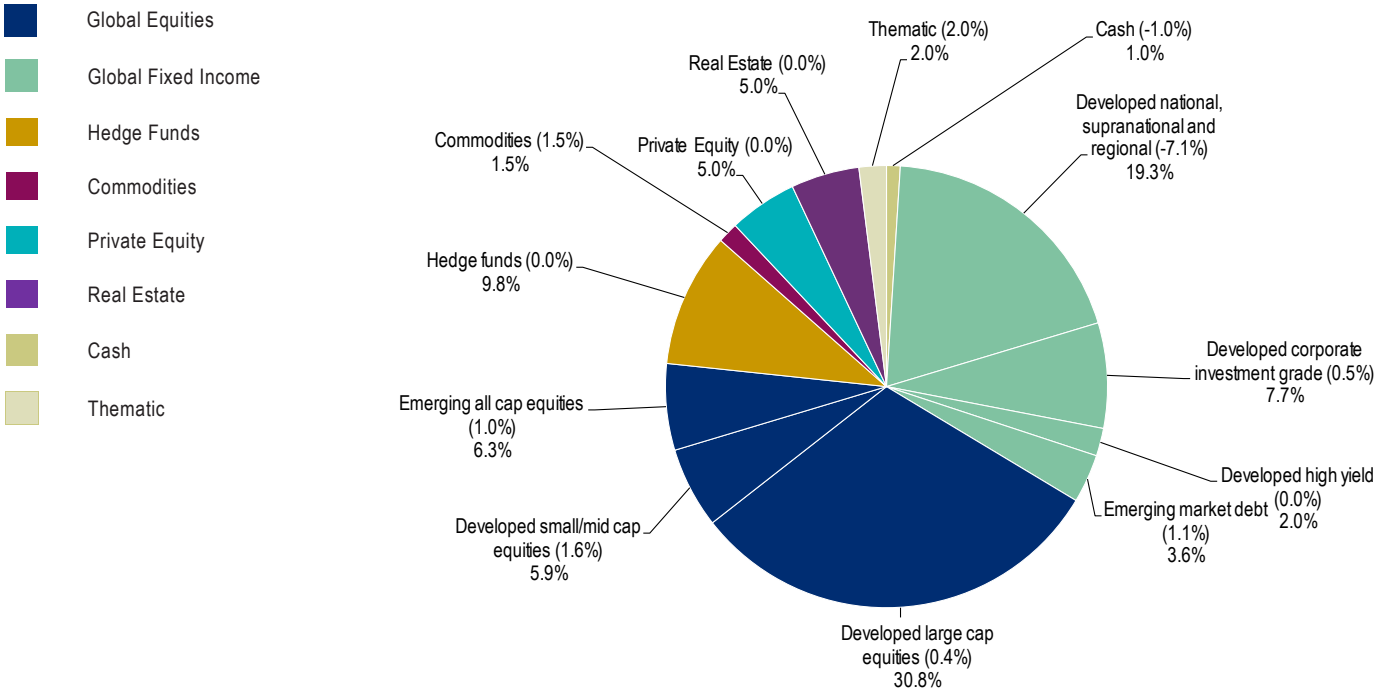
Risk Level 3 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk Level 3 may be appropriate for investors willing to subject their portfolio to 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**	**32.6**	**-5.5**
Developed Investment Grade	**33.6**	**27.0**	**-6.6**
Developed National, Supranational and Regional	**26.4**	**19.3**	**-7.1**
US	14.3	17.4	3.0
Inflation-Linked	**1.1**	**2.2**	**1.1**
Short	**2.2**	**2.7**	**0.5**
Intermediate	**3.3**	**4.4**	**1.1**
Long	**1.5**	**1.5**	**0.0**
Securitized	**6.3**	**6.6**	**0.4**
Europe	**8.3**	**1.5**	**-6.8**
Australia	**0.2**	**0.2**	**0.0**
Japan	**3.6**	**0.3**	**-3.3**
Developed Corporate Investment Grade	**7.2**	**7.7**	**0.5**
US	4.9	5.5	0.7
Short	**0.7**	**0.7**	**0.0**
Intermediate	**2.6**	**3.3**	**0.6**
Long	**1.5**	**1.5**	**0.0**
Europe	**2.4**	**2.2**	**-0.2**
Developed High Yield	**2.0**	**2.0**	**0.0**
US	**1.6**	**1.6**	**0.0**
Europe	**0.4**	**0.5**	**0.0**
Emerging Market Debt	**2.5**	**3.6**	**1.1**
Asia	**0.4**	**1.1**	**0.6**
Local currency	**0.2**	**0.4**	**0.2**
Foreign currency	**0.2**	**0.6**	**0.4**
EMEA	**1.4**	**1.4**	**0.0**
Local currency	**0.7**	**0.7**	**0.0**
Foreign currency	**0.7**	**0.7**	**0.0**
LatAm	**0.7**	**1.1**	**0.4**
Local currency	**0.3**	**0.5**	**0.1**
Foreign currency	**0.3**	**0.7**	**0.3**

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	**40.1**	**43.1**	**3.0**
Developed Equities	**34.7**	**36.7**	**2.0**
Developed Large Cap Equities	**30.4**	**30.8**	**0.4**
US	20.3	20.8	0.5
Canada	1.0	1.0	0.0
UK	1.4	1.5	0.0
Switzerland	1.0	1.0	0.0
Europe ex UK ex Switzerland	3.0	2.5	-0.5
Asia ex Japan	1.1	1.4	0.2
Japan	2.6	2.7	0.1
Developed Small/ Mid Cap Equities	**4.3**	**5.9**	**1.6**
US	2.2	3.6	1.4
Non-US	2.1	2.3	0.2
Emerging All Cap Equities	**5.3**	**6.3**	**1.0**
Asia	**4.6**	**5.1**	**0.6**
China	**2.8**	**3.2**	**0.3**
Asia (ex China)	**1.7**	**2.0**	**0.3**
EMEA	0.4	0.1	-0.3
LatAm	0.4	1.0	0.7
Brazil	**0.2**	**0.6**	**0.3**
LatAm ex Brazil	**0.1**	**0.5**	**0.3**
Hedge Funds	**9.8**	**9.8**	**0.0**
Commodities	**0.0**	**1.5**	**1.5**
Private Equity	**5.0**	**5.0**	**0.0**
Real Estate	**5.0**	**5.0**	**0.0**
Thematic	**0.0**	**2.0**	**2.0**
Global Equity REITs	**0.0**	**1.0**	**1.0**
US Mortgage REITs	**0.0**	**1.0**	**1.0**
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 +3.0%, global fixed income has an underweight of -5.5%, cash has an underweight of -1.0% with gold overweight at +1.5% and thematic overweight at +2.0%.

Within equities, developed large cap equities have an overweight position of +0.4% and developed small/mid cap equities have an overweight of +1.6%. Emerging market equities have an overweight of +1.0%

Within fixed income, developed government debt has an underweight position of -7.1%; developed corporate investment grade has an overweight position of +0.5%; developed high yield has a neutral position and emerging market debt has an overweight position of +1.1%

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

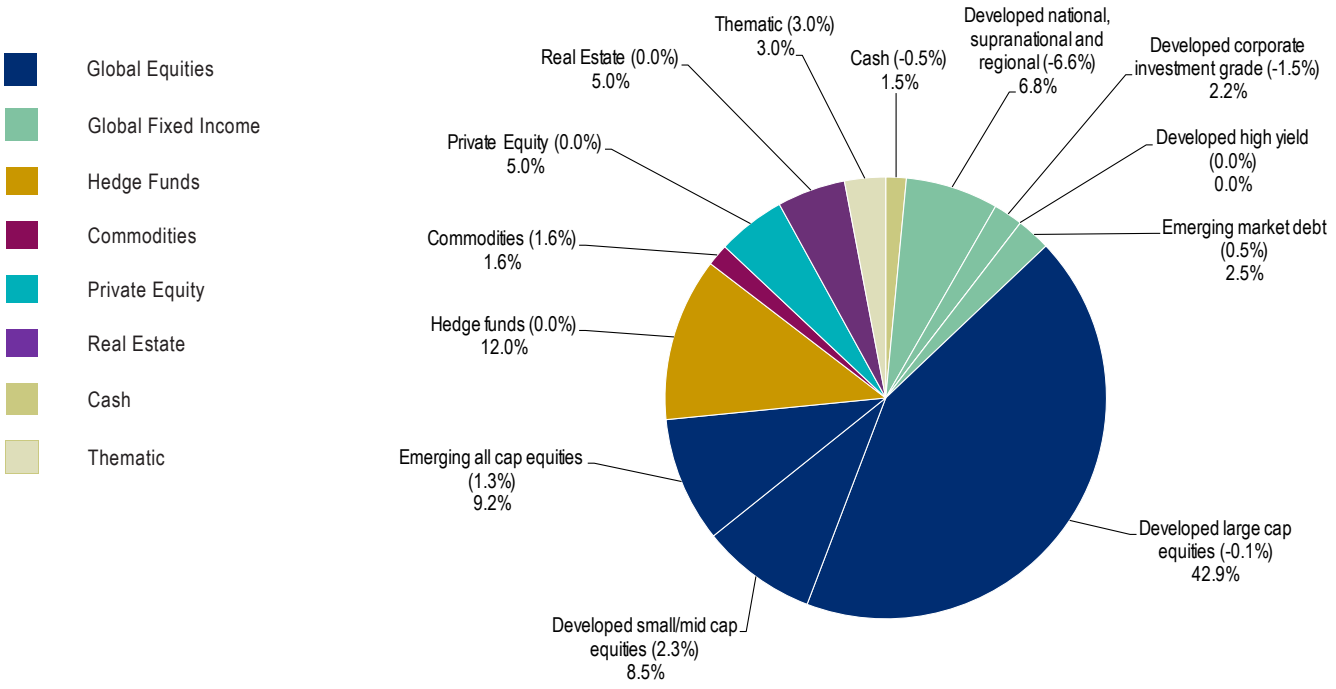
Risk Level 4 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. They are willing to subject a large portion of their portfolio to greater risk and market 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	11.4	-7.6
Developed Investment Grade	17.0	8.9	-8.1
Developed National, Supranational and Regional	13.4	6.8	-6.6
US	7.3	6.0	-1.2
Inflation-Linked	0.6	0.6	0.0
Short	1.1	1.1	0.0
Intermediate	1.7	1.7	0.0
Long	0.7	0.8	0.0
Securitized	3.2	1.9	-1.3
Europe	4.2	0.6	-3.6
Australia	0.1	0.1	0.0
Japan	1.8	0.1	-1.8
Developed Corporate Investment Grade	3.7	2.2	-1.5
US	2.5	2.0	-0.5
Short	0.4	0.4	0.0
Intermediate	1.3	0.8	-0.5
Long	0.8	0.8	0.0
Europe	1.2	0.2	-1.0
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	2.0	2.5	0.5
Asia	0.3	0.7	0.3
Local currency	0.2	0.2	0.0
Foreign currency	0.2	0.5	0.3
EMEA	1.1	1.1	0.0
Local currency	0.5	0.6	0.0
Foreign currency	0.5	0.6	0.0
LatAm	0.6	0.7	0.1
Local currency	0.3	0.3	0.0
Foreign currency	0.3	0.4	0.1

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	57.0	60.5	3.5
Developed Equities	49.1	51.3	2.2
Developed Large Cap Equities	43.0	42.9	-0.1
US	28.6	29.1	0.5
Canada	1.4	1.5	0.0
UK	2.0	2.1	0.0
Switzerland	1.4	1.5	0.0
Europe ex UK ex Switzerland	4.2	3.1	-1.1
Asia ex Japan	1.6	2.0	0.4
Japan	3.7	3.7	0.1
Developed Small/ Mid Cap Equities	6.1	8.5	2.3
US	3.2	4.9	1.7
Non-US	3.0	3.6	0.6
Emerging All Cap Equities	7.9	9.2	1.3
Asia	6.8	7.4	0.7
China	4.2	4.6	0.4
Asia (ex China)	2.5	2.9	0.3
EMEA	0.6	0.2	-0.4
LatAm	0.5	1.6	1.0
Brazil	0.3	0.9	0.5
LatAm ex Brazil	0.2	0.7	0.5
Hedge Funds	12.0	12.0	0.0
Commodities	0.0	1.6	1.6
Private Equity	5.0	5.0	0.0
Real Estate	5.0	5.0	0.0
Thematic	0.0	3.0	3.0
Global Equity REITs	0.0	1.5	1.5
US Mortgage REITs	0.0	1.5	1.5
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 +3.5%, global fixed income has an underweight of -7.6%, cash has an underweight of -0.5% with gold overweight at +1.6% and thematic overweight at +3.0%.

Within equities, developed large cap equities have an underweight position of -0.1% and developed small/mid cap equities have an overweight of +2.3%. Emerging market equities have an overweight of +1.3%

Within fixed income, developed government debt has an underweight position of -6.6%; developed corporate investment grade has an underweight position of -1.5%; developed high yield has a neutral position and emerging market debt has an overweight position of +0.5%

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

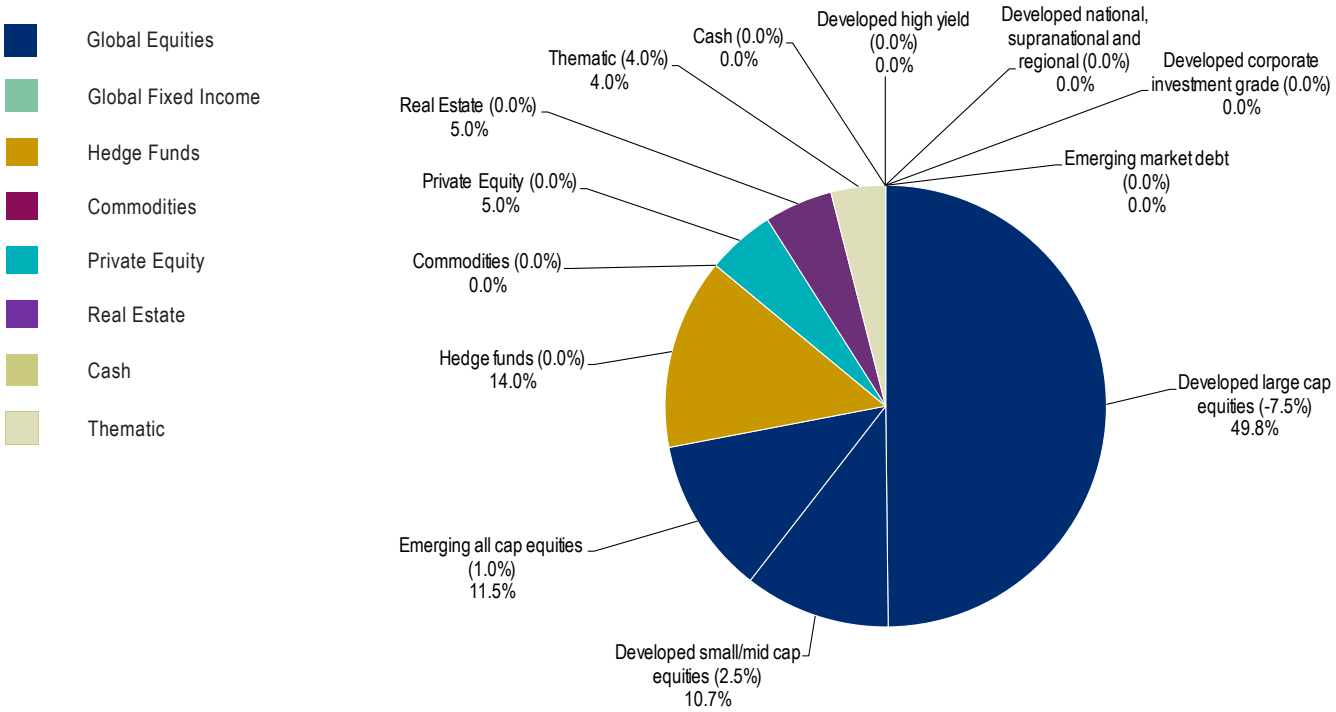
Risk Level 5 is designed for investors who emphasize return on investment. They are willing to subject their entire portfolio to greater risk and market value fluctuations in anticipation of a potentially greater return on investments. Investors may have a preference for investments or trading strategies 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
Developed National, Supranational and Regional	0.0	0.0	0.0
US	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
Europe	0.0	0.0	0.0
Australia	0.0	0.0	0.0
Japan	0.0	0.0	0.0
Developed Corporate Investment Grade	0.0	0.0	0.0
US	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
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

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	76.0	72.0	-4.0
Developed Equities	65.5	60.5	-5.0
Developed Large Cap Equities	57.3	49.8	-7.5
US	38.2	36.6	-1.6
Canada	1.9	1.5	-0.4
UK	2.7	2.3	-0.4
Switzerland	1.9	1.5	-0.4
Europe ex UK ex Switzerland	5.6	3.3	-2.3
Asia ex Japan	2.1	1.7	-0.4
Japan	4.9	2.9	-1.9
Developed Small/ Mid Cap Equities	8.2	10.7	2.5
US	4.2	6.1	1.8
Non-US	3.9	4.6	0.7
Emerging All Cap Equities	10.5	11.5	1.0
Asia	9.0	9.6	0.6
China	5.6	6.0	0.3
Asia (ex China)	3.4	3.7	0.3
EMEA	0.8	0.0	-0.8
LatAm	0.7	1.8	1.1
Brazil	0.5	1.1	0.6
LatAm ex Brazil	0.3	0.8	0.5
Hedge Funds	14.0	14.0	0.0
Commodities	0.0	0.0	0.0
Private Equity	5.0	5.0	0.0
Real Estate	5.0	5.0	0.0
Thematic	0.0	4.0	4.0
Global Equity REITs	0.0	3.0	3.0
US Mortgage REITs	0.0	1.0	1.0
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 have an underweight position of -4.0%, global fixed income has an overall neutral position, cash and gold are both neutral and thematic is overweight at +4.0%.

Within equities, developed large cap equities have an underweight position of -7.5% and developed small/mid cap equities have an overweight of +2.5%. Emerging market equities have an overweight of +1.0%.

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

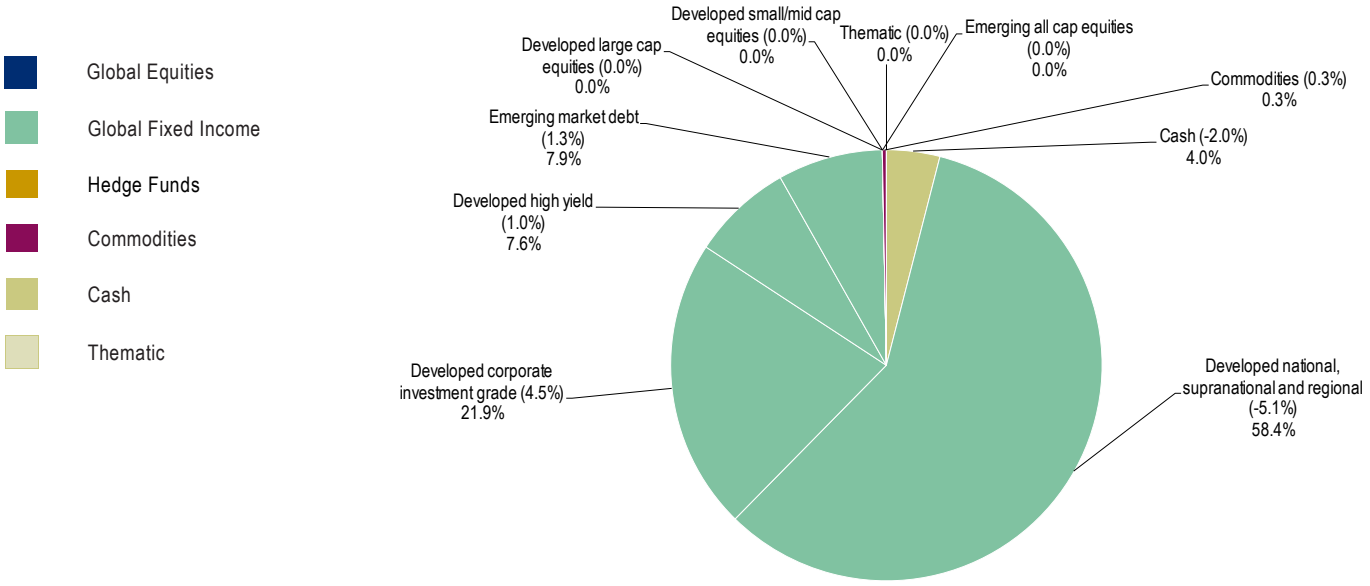
Risk Level 1 is designed for investors who have a preference for capital preservation and relative safety over the potential for a return on investment. These investors prefer to hold cash, time deposits and/or lower risk fixed income instruments.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	6.0	4.0	-2.0
Fixed Income	94.0	95.7	1.7
Developed Investment Grade	80.8	80.2	-0.6
Developed National, Supranational and Regional	63.5	58.4	-5.1
US	34.4	40.3	5.9
Inflation-Linked	2.7	3.2	0.5
Short	5.2	7.1	1.9
Intermediate	8.0	10.0	2.0
Long	3.5	3.5	0.0
Securitized	15.1	16.6	1.5
Europe	19.9	12.4	-7.5
Australia	0.4	0.4	0.0
Japan	8.7	5.2	-3.5
Developed Corporate Investment Grade	17.4	21.9	4.5
US	11.7	15.7	4.0
Short	1.7	2.7	1.0
Intermediate	6.3	9.3	3.0
Long	3.7	3.7	0.0
Europe	5.7	6.2	0.5
Developed High Yield	6.6	7.6	1.0
US	5.1	6.1	1.0
Europe	1.5	1.5	0.0
Emerging Market Debt	6.6	7.9	1.3
Asia	1.1	1.9	0.8
Local currency	0.6	0.9	0.3
Foreign currency	0.6	1.1	0.5
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	2.3	0.5
Local currency	0.9	0.9	0.0
Foreign currency	0.9	1.4	0.5

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
Commodities	0.0	0.3	0.3
Thematic	0.0	0.0	0.0
Global Equity REITs	0.0	0.0	0.0
US Mortgage REITs	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 overal neutral position, global fixed income has an overweight of +1.7%, cash has an underweight of -2.0% with gold overweight at +0.3% and thematic at neutral position.

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

Within fixed income, developed government debt has an underweight position of -5.1%; developed corporate investment grade has an overweight position of +4.5%; developed high yield has an overweight position of +1.0% and emerging market debt has an overweight position of +1.3%

Global USD without Hedge Funds: Risk Level 2

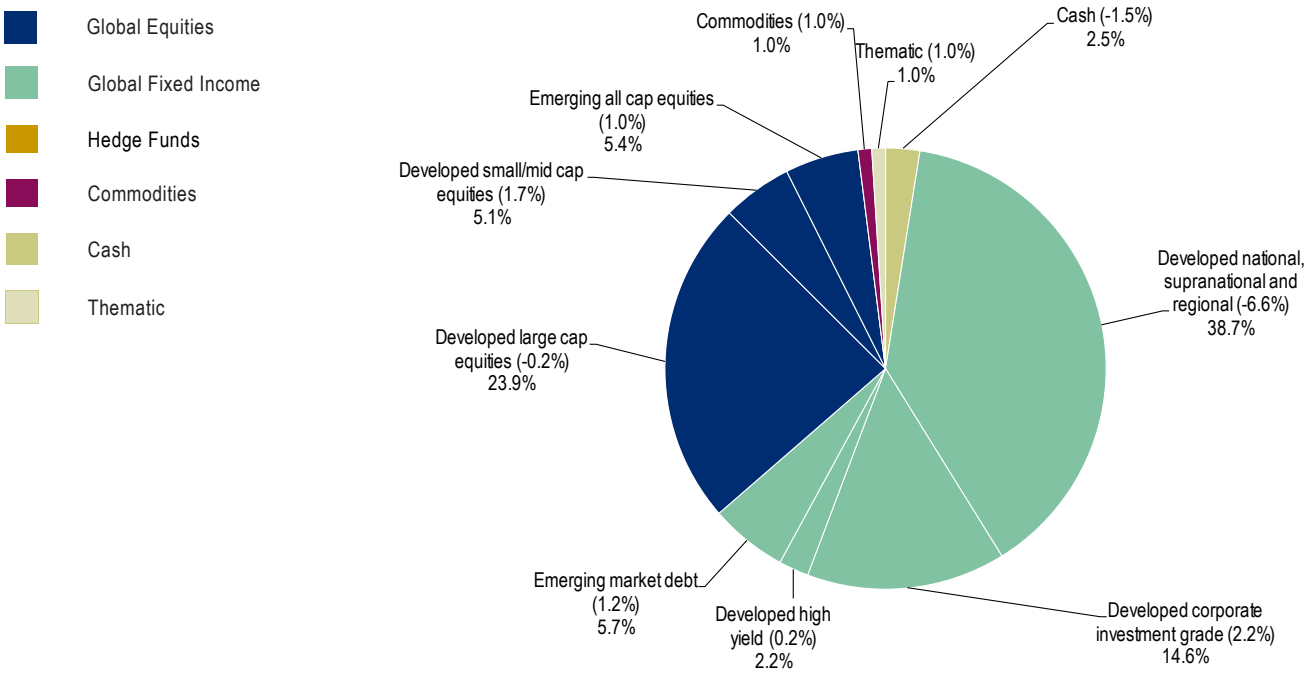
Risk Level 2 is designed for investors who emphasize capital preservation over return on investment, but who are willing to subject some portion of their principal to increased risk in order to generate a potentially greater rate of return on investment.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	4.0	2.5	-1.5
Fixed Income	64.1	61.1	-3.0
Developed Investment Grade	57.6	53.2	-4.4
Developed National, Supranational and Regional	45.3	38.7	-6.6
US	24.6	28.4	3.8
Inflation-Linked	1.9	2.6	0.7
Short	3.7	4.7	1.0
Intermediate	5.7	6.7	1.0
Long	2.5	2.5	0.0
Securitized	10.7	11.8	1.1
Europe	14.2	7.2	-7.0
Australia	0.3	0.3	0.0
Japan	6.2	2.8	-3.4
Developed Corporate Investment Grade	12.4	14.6	2.2
US	8.3	10.5	2.2
Short	1.2	1.4	0.2
Intermediate	4.5	6.5	2.0
Long	2.6	2.6	0.0
Europe	4.1	4.1	0.0
Developed High Yield	2.0	2.2	0.2
US	1.6	1.8	0.2
Europe	0.4	0.4	0.0
Emerging Market Debt	4.5	5.7	1.2
Asia	0.8	1.6	0.8
Local currency	0.4	0.7	0.3
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

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	31.9	34.4	2.5
Developed Equities	27.5	29.0	1.5
Developed Large Cap Equities	24.1	23.9	-0.2
US	16.0	16.0	0.0
Canada	0.8	0.8	0.0
UK	1.1	1.1	0.0
Switzerland	0.8	0.8	0.0
Europe ex UK ex Switzerland	2.4	2.0	-0.4
Asia ex Japan	0.9	1.1	0.2
Japan	2.0	2.0	0.0
Developed Small/ Mid Cap Equities	3.4	5.1	1.7
US	1.8	3.3	1.5
Non-US	1.7	1.9	0.2
Emerging All Cap Equities	4.4	5.4	1.0
Asia	3.8	4.4	0.6
China	2.3	2.6	0.3
Asia (ex China)	1.4	1.7	0.3
EMEA	0.3	0.1	-0.2
LatAm	0.3	0.9	0.6
Brazil	0.2	0.5	0.3
LatAm ex Brazil	0.1	0.4	0.3
Commodities	0.0	1.0	1.0
Thematic	0.0	1.0	1.0
Global Equity REITs	0.0	0.5	0.5
US Mortgage REITs	0.0	0.5	0.5
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 +2.5%, global fixed income has an underweight of -3.0%, cash has an underweight of -1.5% with gold overweight at +1.0% and thematic overweight at +1.0%.

Within equities, developed large cap equities have an underweight position of -0.2% and developed small/mid cap equities have an overweight of +1.7%. Emerging market equities have an overweight of +1.0%

Within fixed income, developed government debt has an underweight position of -6.6%; developed corporate investment grade has an overweight position of +2.2%; developed high yield has an overweight position of +0.2% and emerging market debt has an overweight position of +1.2%

Global USD without Hedge Funds: Risk Level 3

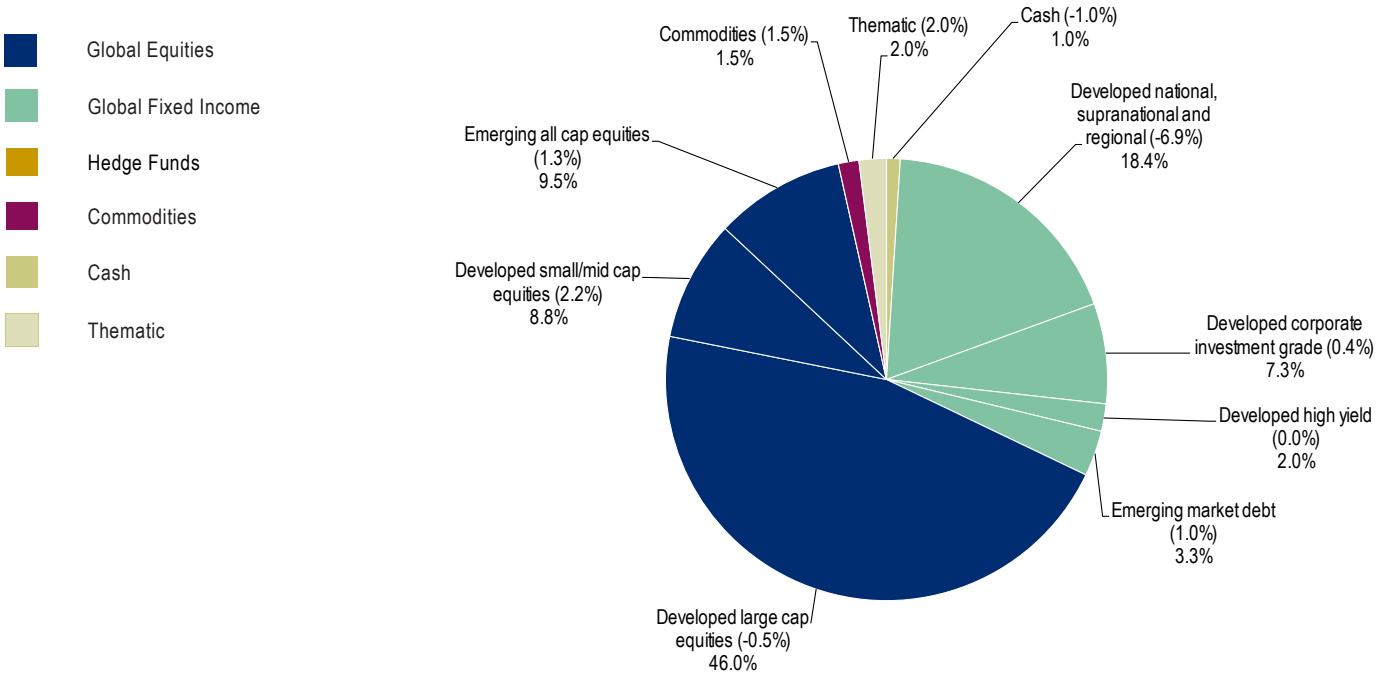
Risk Level 3 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk Level 3 may be appropriate for investors willing to subject their portfolio to 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	31.1	-5.5
Developed Investment Grade	32.3	25.8	-6.5
Developed National, Supranational and Regional	25.3	18.4	-6.9
US	13.7	16.5	2.8
Inflation-Linked	1.1	2.1	1.0
Short	2.1	2.6	0.5
Intermediate	3.2	4.2	1.0
Long	1.4	1.4	0.0
Securitized	6.0	6.3	0.3
Europe	8.0	1.5	-6.5
Australia	0.2	0.2	0.0
Japan	3.5	0.3	-3.2
Developed Corporate Investment Grade	6.9	7.3	0.4
US	4.7	5.3	0.6
Short	0.7	0.7	0.0
Intermediate	2.5	3.1	0.6
Long	1.5	1.5	0.0
Europe	2.3	2.1	-0.2
Developed High Yield	2.0	2.0	0.0
US	1.6	1.6	0.0
Europe	0.4	0.4	0.0
Emerging Market Debt	2.3	3.3	1.0
Asia	0.4	1.0	0.6
Local currency	0.2	0.4	0.2
Foreign currency	0.2	0.6	0.4
EMEA	1.3	1.3	0.0
Local currency	0.6	0.6	0.0
Foreign currency	0.6	0.6	0.0
LatAm	0.7	1.1	0.4
Local currency	0.3	0.4	0.1
Foreign currency	0.3	0.6	0.3

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	61.4	64.4	3.0
Developed Equities	53.2	54.9	1.7
Developed Large Cap Equities	46.5	46.0	-0.5
US	31.0	31.0	0.0
Canada	1.5	1.5	0.0
UK	2.2	2.2	0.0
Switzerland	1.6	1.6	0.0
Europe ex UK ex Switzerland	4.5	3.7	-0.8
Asia ex Japan	1.7	2.0	0.3
Japan	4.0	4.0	0.0
Developed Small/ Mid Cap Equities	6.6	8.8	2.2
US	3.4	5.4	2.0
Non-US	3.2	3.4	0.2
Emerging All Cap Equities	8.2	9.5	1.3
Asia	7.0	7.7	0.7
China	4.4	4.7	0.3
Asia (ex China)	2.6	3.0	0.3
EMEA	0.6	0.2	-0.4
LatAm	0.6	1.6	1.0
Brazil	0.4	0.9	0.5
LatAm ex Brazil	0.2	0.7	0.5
Commodities	0.0	1.5	1.5
Thematic	0.0	2.0	2.0
Global Equity REITs	0.0	1.0	1.0
US Mortgage REITs	0.0	1.0	1.0
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 +3.0%, global fixed income has an underweight of -5.5%, cash has an underweight of -1.0% with gold overweight at +1.5% and thematic overweight at +2.0%.

Within equities, developed large cap equities have an underweight position of -0.5% and developed small/mid cap equities have an overweight of +2.2%. Emerging market equities have an overweight of +1.3%

Within fixed income, developed government debt has an underweight position of -6.9%; developed corporate investment grade has an overweight position of +0.4%; developed high yield has a neutral position and emerging market debt has an overweight position of +1.0%

Global USD without Hedge Funds: Risk Level 4

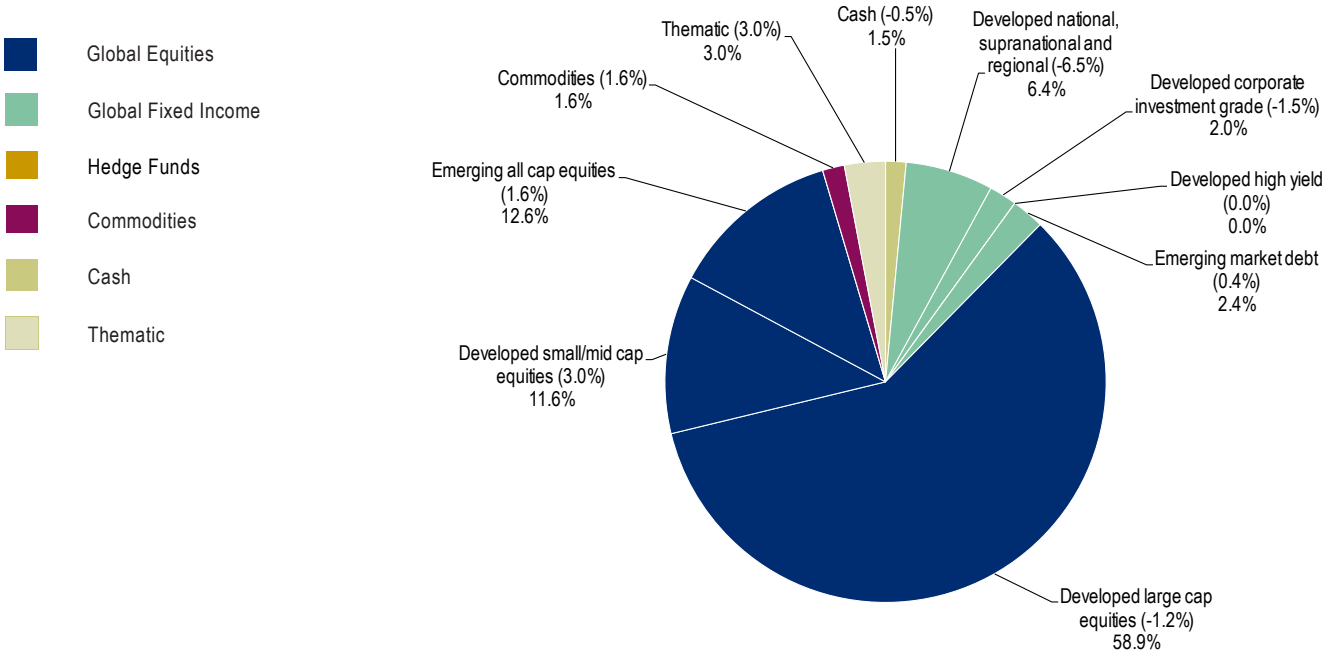
Risk Level 4 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. They are willing to subject a large portion of their portfolio to greater risk and market 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**	**10.9**	**-7.6**
Developed Investment Grade	**16.5**	**8.5**	**-8.0**
Developed National, Supranational and Regional	**12.9**	**6.4**	**-6.5**
US	7.0	5.7	-1.3
Inflation-Linked	**0.6**	**0.6**	**0.0**
Short	**1.1**	**1.1**	**0.0**
Intermediate	**1.6**	**1.6**	**0.0**
Long	**0.7**	**0.7**	**0.0**
Securitized	**3.1**	**1.8**	**-1.3**
Europe	**4.1**	**0.6**	**-3.5**
Australia	**0.1**	**0.1**	**0.0**
Japan	**1.8**	**0.1**	**-1.7**
Developed Corporate Investment Grade	**3.5**	**2.0**	**-1.5**
US	2.4	1.9	-0.5
Short	**0.3**	**0.3**	**0.0**
Intermediate	**1.3**	**0.8**	**-0.5**
Long	**0.8**	**0.8**	**0.0**
Europe	**1.2**	**0.2**	**-1.0**
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	**2.0**	**2.4**	**0.4**
Asia	**0.3**	**0.6**	**0.3**
Local currency	**0.2**	**0.2**	**0.0**
Foreign currency	**0.2**	**0.5**	**0.3**
EMEA	**1.1**	**1.1**	**0.0**
Local currency	**0.5**	**0.5**	**0.0**
Foreign currency	**0.5**	**0.5**	**0.0**
LatAm	**0.6**	**0.7**	**0.1**
Local currency	**0.3**	**0.3**	**0.0**
Foreign currency	**0.3**	**0.4**	**0.1**

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	**79.5**	**83.0**	**3.5**
Developed Equities	**68.6**	**70.5**	**1.9**
Developed Large Cap Equities	**60.0**	**58.9**	**-1.2**
US	40.0	40.0	0.0
Canada	2.0	2.0	0.0
UK	2.8	2.8	0.0
Switzerland	2.0	2.0	0.0
Europe ex UK ex Switzerland	5.9	4.2	-1.7
Asia ex Japan	2.2	2.7	0.5
Japan	5.1	5.1	0.0
Developed Small/ Mid Cap Equities	**8.6**	**11.6**	**3.0**
US	4.4	6.7	2.2
Non-US	4.1	4.9	0.8
Emerging All Cap Equities	**11.0**	**12.6**	**1.6**
Asia	**9.4**	**10.2**	**0.8**
China	**5.9**	**6.3**	**0.4**
Asia (ex China)	**3.5**	**3.9**	**0.4**
EMEA	0.8	0.2	-0.6
LatAm	0.7	2.1	1.4
Brazil	**0.5**	**1.2**	**0.7**
LatAm ex Brazil	**0.3**	**1.0**	**0.7**
Commodities	**0.0**	**1.6**	**1.6**
Thematic	**0.0**	**3.0**	**3.0**
Global Equity REITs	**0.0**	**1.5**	**1.5**
US Mortgage REITs	**0.0**	**1.5**	**1.5**
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 +3.5%, global fixed income has an underweight of -7.6%, cash has an underweight of -0.5% with gold overweight at +1.6% and thematic overweight at +3.0%.

Within equities, developed large cap equities have an underweight position of -1.2% and developed small/mid cap equities have an overweight of +3.0%. Emerging market equities have an overweight of +1.6%

Within fixed income, developed government debt has an underweight position of -6.5%; developed corporate investment grade has an underweight position of -1.5%; developed high yield has a neutral position and emerging market debt has an overweight position of +0.4%

Global USD without Hedge Funds: Risk Level 5

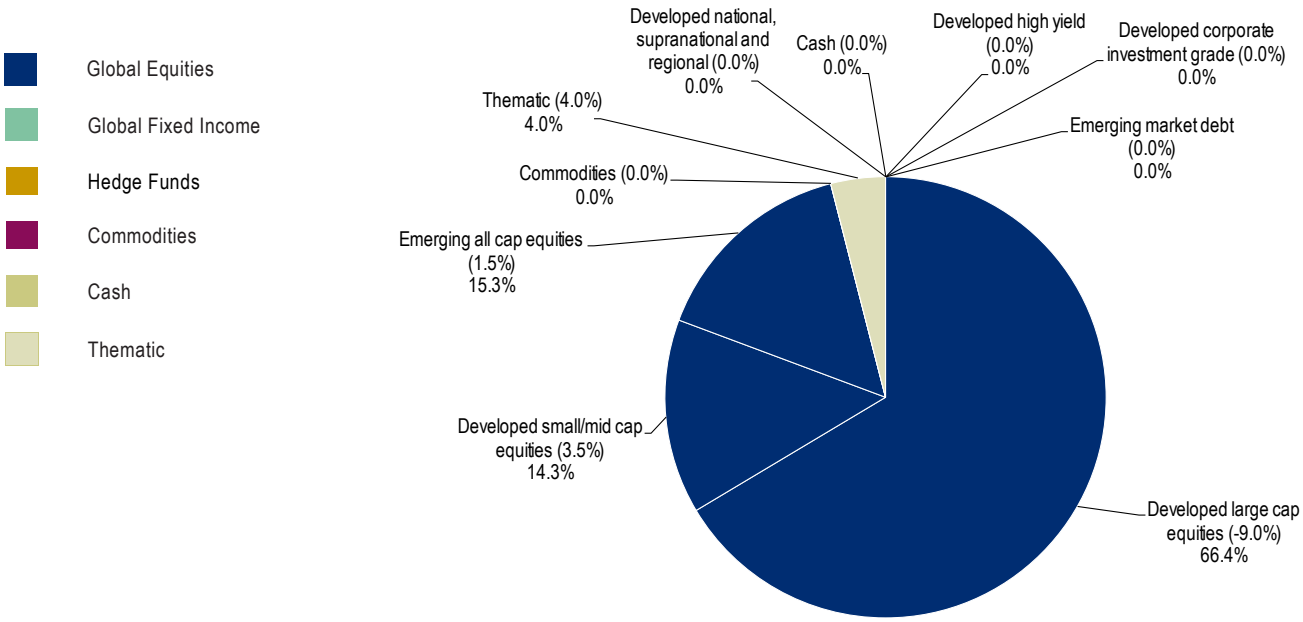
Risk Level 5 is designed for investors who emphasize return on investment. They are willing to subject their entire portfolio to greater risk and market value fluctuations in anticipation of a potentially greater return on investments. Investors may have a preference for investments or trading strategies 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**
Developed National, Supranational and Regional	**0.0**	**0.0**	**0.0**
US	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**
Europe	**0.0**	**0.0**	**0.0**
Australia	**0.0**	**0.0**	**0.0**
Japan	**0.0**	**0.0**	**0.0**
Developed Corporate Investment Grade	**0.0**	**0.0**	**0.0**
US	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**
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**

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	**100.0**	**96.0**	**-4.0**
Developed Equities	**86.2**	**80.7**	**-5.5**
Developed Large Cap Equities	**75.4**	**66.4**	**-9.0**
US	50.3	48.8	-1.5
Canada	2.5	2.0	-0.5
UK	3.5	3.0	-0.5
Switzerland	2.5	2.0	-0.5
Europe ex UK ex Switzerland	7.4	4.4	-3.0
Asia ex Japan	2.8	2.3	-0.5
Japan	6.4	3.9	-2.5
Developed Small/ Mid Cap Equities	**10.8**	**14.3**	**3.5**
US	5.6	8.1	2.5
Non-US	5.2	6.2	1.0
Emerging All Cap Equities	**13.8**	**15.3**	**1.5**
Asia	**11.8**	**12.8**	**1.0**
China	**7.4**	**7.9**	**0.6**
Asia (ex China)	**4.4**	**4.9**	**0.4**
EMEA	1.0	0.0	-1.0
LatAm	0.9	2.4	1.5
Brazil	**0.6**	**1.4**	**0.8**
LatAm ex Brazil	**0.3**	**1.0**	**0.7**
Commodities	**0.0**	**0.0**	**0.0**
Thematic	**0.0**	**4.0**	**4.0**
Global Equity REITs	**0.0**	**3.0**	**3.0**
US Mortgage REITs	**0.0**	**1.0**	**1.0**
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 have an underweight position of -4.0%, global fixed income has an overall neutral position, cash and gold are both neutral and thematic is overweight at +4.0%.

Within equities, developed large cap equities have an underweight position of -9.0% and developed small/mid cap equities have an overweight of +3.5%. Emerging market equities have an overweight of +1.5%.

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 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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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		
Credit risk	**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.

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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.

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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.

The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Readers interested in the strategies or concepts should consult their tax, legal, or other advisors, as appropriate.

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