

Global Strategy: Quadrant

Global Strategy: Quadrant | September 26, 2016

Is it Risk or Reality?

- Politics in the US and Europe present unusual risks for world markets. Given an enduring, if moderate global economic expansion, we have erred a bit on the cautious side this year with a neutral weighting in global equities and small overweights in cash and gold. The Citi Private Bank Global Investment Committee maintained these weightings in September, keeping highly differentiated portfolio views in particular fixed income markets and some emerging market assets.
- Given the recent lessons from Brexit, we don't see advantage in changing core
 portfolio weightings ahead of uncertain binary events, such as the US election. The
 impact on portfolios from a "reactive" approach is demonstrably very negative.
- In contrast, hedging costs can be gauged in advance. With equity implied volatility currently near historic lows and half the cost seen just within the current year, we see hedging as particularly timely and economical at the moment. Moreover, unusually high correlations across global markets make hedging simpler. Market risks "overlap."
- The recent weakness in Developed Market (DM) government bonds highlights a risk we noted just a month ago. High correlation meant equities, credit and commodities fell in tandem as German and Japanese bond yields rose. Bond markets with vastly different yields and fundamentals (e.g. Germany and Brazil) weakened together.
- As expected, however, Japanese and US monetary policymakers both took actions that suggested they largely plan to stay the course. We expect the same from the European Central Bank, where easing may expand. Japan's choice of a long-term bond yield target adds to predictability even if it doesn't provide new stimulus.
- With politics in DM economies increasingly unpredictable, following years of declines in commodities and a surging US dollar, we now slightly favor Emerging Market (EM) assets, particularly fixed income. At the margin, EM policy and political stability has risen, relatively speaking.



GIC September 22 - Summary

The Citi Private Bank Global Investment Committee left its asset allocation unchanged. Global equities remain neutral with fixed income underweight by 1.0%. Cash and gold are small tactical overweights. Beneath the overall fixed income allocation, we have highly distinct overweights and underweights given wide divergences in bond yields across regions and market segments. Over the past year, we have gradually shifted EM weightings above DM weightings after a long period overweight DM.

Developed market sovereign bond yields spiked up and subsequently retrenched again during the past month. With correlations across most asset markets and regions unusually high, the spike in yields drove declines in assets we favor as well as those we underweight. However, the driver of the spike in yields – concern that DM central banks would move away from easy monetary policies – appears unfounded in our view. We would expect significant relative value differentials in emerging markets bonds and some US credit assets to reassert themselves. Similarly, the relative value of equities versus DM sovereign bonds is likely to drive a recovery in performance.

Nonetheless, unusual risks abound. The US Presidential election could result in significant policy uncertainty both in anticipation of the vote and of actual policies thereafter. The transition to a new US President has historically had a costly and under-rated impact on the US and world economy. At the same time, technical aspects of both the Presidential election – such as the impact of the Electoral College – and Congressional elections suggests a higher probability of a political status quo than polls of the popular vote suggest. If election anxiety builds, it could easily give way to a relief rally if the status quo were maintained. Without substantial evidence of a disruptive regime change, and one that is not discounted in markets, we would argue that hedging tail risks will be far more beneficial to investors than liquidating core portfolios.

Asset Classes

-2 -1 0 1 2
Core equities
Developed large cap
Developed small/mid cap
Emerging markets
Core fixed income
Developed sovereign
Developed corporate investment grade
Developed corporate high yield
Emerging market sovereign
Securitized
Focus investment views
US equities
Europe equities
Japan equities
Canada equities
UK equities
China equities
Peripheral Europe sovereign fixed income
Core Europe sovereign fixed income
Japan sovereign fixed income
US & Euro corporate high yield
US Treasuries
Latin America fixed income
Gold
Allocations as of September 22, 2016. -2 = very underweight; -1 = underweight; 0 = neutral 1 = overweight; 2 = very overweight
Arrows indicate changes from previous GIC meeting.

The US is not the only source of political uncertainty. An Italian constitutional referendum looms, as do key leadership votes throughout the continent. The implementation of the United Kingdom's decision to quit the European Union creates additional uncertainty. All of the above suggest diminished policy clarity in developed markets. At the margin, EM policy and political stability has risen, at least relatively speaking.

The stabilization in the US dollar after a historic period of strengthening has also removed a headwind from many EM assets and economies. However, after the rally this year, EM performance may be subject to setbacks as just witnessed during the DM bond selloff. The recovery in petroleum and other commodities is also likely to be less swift after a substantial rebound. All told, we see somewhat slower progress in risk assets ahead, even if shocks are avoided.



Regimes they are a Changin'???

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

Global Investment Strategy: Malcolm Spittler Maya Issa

EMEA Investment Strategy: Jeffrey Sacks Shan Gnanendran

Asia Investment Strategy: Ken Peng Shirley Wong

North America Investment Strategy: Chris Dhanraj

Latin America Investment Strategy: Jorge Amato

Fixed Income Strategy: Kris Xippolitos Joseph Kaplan

The US Presidential election outcome has become less certain ahead of an historic debate. For convenience, we'll call them "populists" – powerful voices struggling for a break with the past, seemingly at any price. They've gone mainstream globally, driven by the "vox populi," as Citi's Chief Political Analyst Tina Fordham puts it. Yet the underlying policy ideas of these "non-centrists" often run completely counter to each other.

In the US, just consider the original fiscal policy proposals of presidential candidate Donald Trump and former candidate Bernie Sanders. These are diametrically opposed to each other, yet still so contrasting with mainstream standard bearer Hillary Clinton's (see Figure 1).

In the US primary election campaigns, one party chose a "populist" to stand in the general election while the other only came close. As such, can we still expect the anger of the left and right to nullify itself, leaving a stalemate of the status quo for the time being? (Please see our special report, <u>*Clinton versus Trump or POTUS vs Congress*</u>).

The US election campaign has tightened with poll differences for the national popular vote now within the margin of error. The first US presidential debate will take place tonight, bringing new meaning to the term "reality TV."

As noted in our reports, markets and forecasters seem to under-rate the importance of the transition in US administration as a catalyst for change. Some recessions are inherited. Some recessions are the underlying driver of the change in government. Yet it is of great significance that recessions have been roughly three times more frequent in years that overlapped a new US President's first year in office than at other times during the past century.

In the forty US states that have sided with the same party's candidate in each of the last four elections, there are 34% more electoral votes for a Democrat candidate versus a Republican. This remains a daunting challenge for any Republican (see Figure 2).

Meanwhile, Republicans in the House of Representatives enjoy a majority so large, that even a repeat of the 2008 surge in seats for Democrats would not give them control. What does this mean? Divided US government, with no major policy breakthroughs or break-ups looks most likely.

Our intention here is not to re-write the conclusions of our US election report – see <u>Clinton vs Trump or POTUS vs Congress?</u> Today, we want to consider what portfolio decisions we could make to account for the *still significant risk* that our base case is wrong.



.....

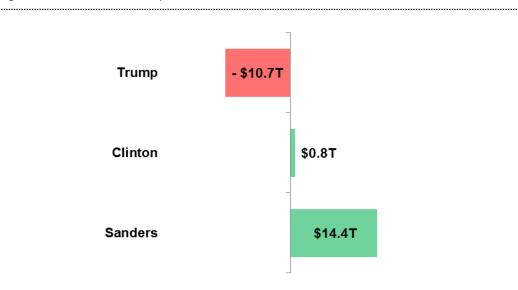


Figure 1. 10-Year Revenue Impact of Tax Plans

Source: Tax-Foundation and Tax Policy Center as of August 31, 2016. Note: Figures average the Tax-Foundation and Tax Policy Center's estimates.

Current Swing State Polling					
Percentage of Ind	lividuals	Clinton	Trump		
Favouring Clinton	vs Trump	%	%		
Colorado	9	42.5	40.0		
Florida	29	43.4	43.5		
Indiana	11	36.0	45.0		
lowa	6	38.7	43.0		
Nevada	6	42.0	44.0		
New Hampshire	4	43.7	38.7		
New Mexico	5	40.5	32.0		
North Carolina	15	43.3	44.5		
Ohio	18	39.8	42.3		
Virginia	43.6	39.0			
Swing State	31	85			
Total National Es	273	265			

Figure 2. Swing State Polls and Current Electoral Votes

Source: Realclearpolitics.com and Citi Private Bank as of September 23, 2016.



No Breakthroughs, No Experiments

Investment managers bear a heavy risk of underperforming on uncertain election results.

This raises questions

with core portfolios.

about achieving returns

First, as we noted at the outset, the probability of the status quo continuing for US politics seems high, but uncertain. A consensus of forecasters currently puts the probability of a Clinton victory at 68%¹. Meanwhile, our own view of the US House of Representatives – where all legislation must begin – would assign perhaps no more than a 10% chance of Democratic control. This is largely a mere acknowledgment of the polls. In the case of Brexit, the *opinion polls were always close*, yet pundits argued that the public would choose differently (see Figure 3).

Combining these two outcomes, our central case forecast is divided US government and no policy adventures. In contrast, an outcome of unified government under *either* party would likely raise policy uncertainty, induce market volatility and punish risk assets.

That said, the closer polling for the two US candidates makes it likely there will be a substantial financial market reaction post-election. In short, being far off the benchmark would leave investment managers with a very high chance of underperforming unless they *position themselves against the most probable outcome* and win. We'd leave this to famous movie spies and science fiction characters.

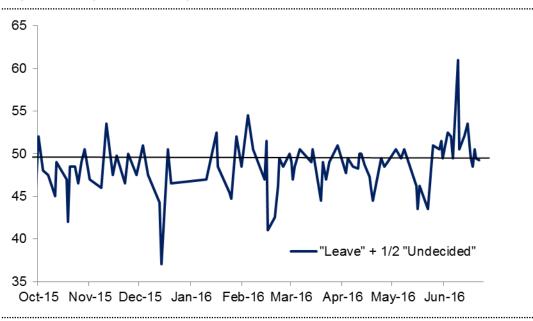


Figure 3. Average of Brexit Polling Ahead of UK Referendum Vote: % "Leave EU"

Source: Bloomberg and Citi Private Bank as of June 22, 2016.

If polling clearly suggested a landslide sweep of government control by either US political party, and if this was somehow also *not* discounted in financial asset prices, we could take a view of markets different from the one implied by our asset allocation, held unchanged in September as detailed above. In our view, it would be a mistake to make

¹ These are the average of the New York Times, FiveThirtyEight, Daily Kos, PredictWise and Princeton Election Consortium model estimates, September 2016.



significant changes to core portfolios on election speculation which at present doesn't clearly indicate a decisive outcome. In this case, the unpredictable financial market reaction after Brexit may in fact offer a lesson.

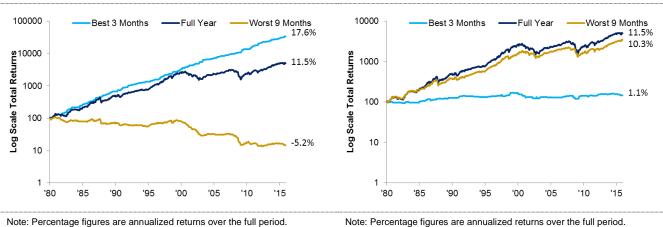
Manage Risk, Don't Disengage

Last month, we highlighted some of the most extreme valuation bubbles in financial market history, all experienced in the last twenty years. Our own strategic asset allocation methodology – Adaptive Valuation Strategies (AVS) – takes into account such deviations in asset valuations in order to limit risks (please see this discussion of the <u>Global Asset Allocation</u>). Our own tactical overweight to global equities has been reduced from +6.8% to zero over the past two years. Yet there are substantial risks added from not maintaining core portfolio holdings through challenging periods, most acutely missing out on the recovery periods that drive the bulk of returns.

As Figure 4 illustrates, missing out on the historically three strongest performance months a year for US equities would do far more damage to returns than holding through downturns and waiting for recovery. If one only invested after these strong performance periods – waiting a month to begin investing – positive long-term equity returns nearly disappear (see Figure 5). While there are anomalies, one has to be exposed to risk to get reward.

Figure 4: S&P 500 Total Returns For Best 3-Months and Worst 9-Months

Figure 5: S&P 500 Total Returns For Best 3-Months and Worst 9-Months Lagged One Month



Source: Haver Analytics as of September 23, 2016. 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. Source: Haver Analytics as of September 23, 2016. 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.

In the current setting, there remains a strong alternative to making dramatic changes in core portfolios which generate poor returns, greater volatility and often a higher tax liability. If one wants to limit the size of a portfolio drawdown, the capacity to do so can be purchased.

In severely weak markets, at times of crisis, it is totally uneconomic to hedge downside risk. The cost to hedge can rise to roughly the level of the feared loss, akin to \$1m of insurance cover costing \$1m.

Could one have predicted both Brexit and the market's reaction? Or the reaction to the Fed's latest announcement?



Now, however, with expected volatility priced in markets at historically low levels, particularly for US equities, it costs 0.6% to offset losses larger than 10% in the S&P 500 through December, the period that extends beyond US election results and even some other known risks (see Figure 6). (Remember that an important constitutional referendum in Italy is likely to be held at the end of November).

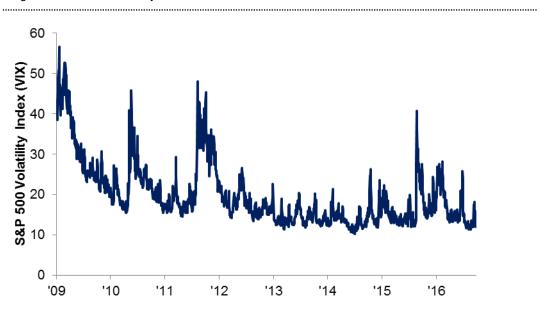


Figure 6. S&P 500 Volatility Remains at Historic Lows

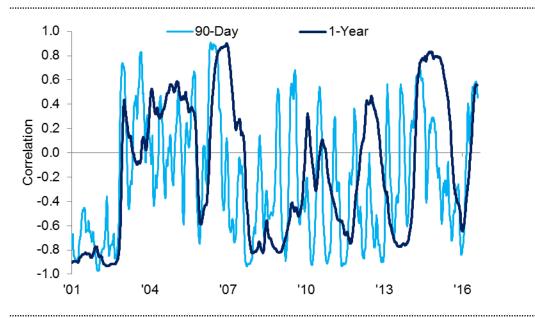
Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment.

As we noted last month, the high correlation of asset prices has weakened the power of diversification. Among our higher conviction views, if Donald Trump were in fact to unite US government under Republican control, interest-rate volatility would jump sharply. In the present setting, with bonds and equities moving together, that would have powerful impact across asset markets (see Figure 7).

Hedging costs are both knowable and historically low.

Source: Haver Analytics as of September 23, 2016.







Source: Haver Analytics as of September 22, 2016.

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.

Equity implied volatility has been more than twice the present level as recently as February. It has subsided after false fears of "central bank abandonment" (see section below). As usual, volatility typically rises and fades fast. Assuming no repeat of the contested US election of 2000, the same is likely to prove true by December. Given the unusual circumstances of the US presidential election, which occurs only every four years, we would argue that volatility has a higher-than-usual chance of rising. Given high correlation, it would do so while a wide range of diversified assets weaken.

As discussed in our last <u>Quadrant</u>, an unusually high correlation between asset classes has made diversification less effective. Markets and their risks are moving in tandem. While this makes asset allocation more difficult, it makes hedging simpler, as risks overlap many markets and instruments.

And if all ends calmly, we would argue that losing a historically small insurance premium is far better than either suffering through a disaster or botching core portfolio management.

Amid highly correlated markets, risks are shared and hedges "overlap."



Policy Reconsidered. Really?

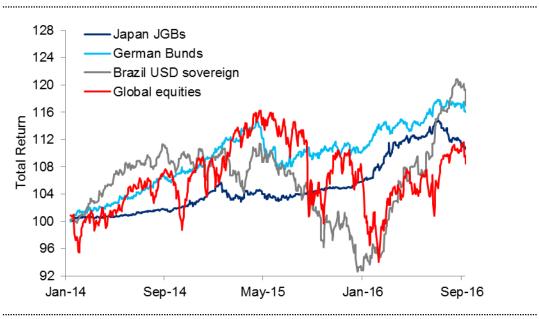
Common sense would dictate that negative-yield bonds and zero-yield cash shouldn't very easily co-exist. Some European corporations marketed new-issue negative-yield bonds a few weeks ago. Should consumer goods and healthcare companies provide better cash storage services than a safety deposit box, warranting paying them a fee?

There was only scant warning of the bond market sell-off of recent weeks. However, as discussed in our August Quadrant, "rate risk" had been building throughout global markets of late (see Figure 8). The vulnerability of risk assets could be seen when global equities and bonds rallied together on the below-consensus US employment report for August and subsequent weaker industry data.

We are deeply underweight negative yield bonds in our asset allocation (please see our "average Risk Level 3" portfolio below). Unfortunately, the high and rising correlation of nearly all markets across the world leaves the relatively better valued assets at risk of falling in price along with those overvalued assets. Consider that German and Brazilian local long-term debt both lost about 1% of their value during the most intense daily sell-off, Brazil with a 12% nominal yield, Germany with one of -0.10%.

However, barring central banks taking a wholly new approach, we think the concern driving the sell-off is largely misplaced.

Figure 8. Total Return on Select Government Bonds and Global Equity Prices



Source: The YieldBook and FactSet as of September 22, 2016.

The mini "global taper tantrum" saw both high yield and low yield bonds selloff in similar magnitudes.

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.



Canaries in Japan

The rude awakening from the lowest-yielding core developed bond markets began in late July. At the time, the Bank of Japan (BoJ) failed to take interest rates more deeply into negative territory and BoJ Governor Kuroda appeared to dismiss recommendations for the most radical policy steps known to central banks. In practice, such might mean immediately financing government spending and simultaneously canceling the liability. This is one possible incarnation of so-called "helicopter money" famously described by US economist Milton Friedman in 1969.

Japan has yet to address fully the negative impact of sub-zero interest rates on its financial sector and the BoJ's policy actions have become increasingly unpopular with the public. A range of new policy steps in Japan might be described as tinkering with a failing policy.

However, as one transition step, the BoJ announced a zero-yield target for Japanese government 10-year bonds. *In essence, long-term Japanese rates are no longer uncertain.*

ECB Likely to Ease not Taper

With so much action to intervene in markets over the past decade, policymakers' words have power, even by their omission. Expectations for further easing action from the European Central Bank (ECB) this month were minimal. However, the rolling extension of asset purchases – now with less than seven months officially left in the program – is taken as a given with Eurozone inflation nearly as far behind target as Japan's.

At its latest press conference, the ECB noted that such asset purchases would continue until its inflation goals are met. However, President Mario Draghi noted that the ECB Governing Council asked its staff to study ways to adjust its asset purchase program given limitations built into the program. These include limits to the proportions of key assets the central bank can own and the yield levels at which they can be purchased. The impact on market liquidity and distortions to capital costs driven by widespread bond buying has been raising concerns. Yet the ECB is highly unlikely to change its tactics in our view.

Central banks plan to stay highly "activist." In the case of the Federal Reserve, which has ostensibly come far closer to actually reaching its economic and inflation targets, a "hard stop" of asset purchases seemed a dreadful enough shock that it spent nearly a year "tapering off" the size of such purchases. The Fed deemed markets so ill-prepared for even the start of tapering that it waited six months after Fed Chairman Bernanke's first verbal warning in 2013.

Even under stronger economic conditions and higher inflation rates for the Eurozone than we now expect, we would assume a similar soft "phase out" of asset purchases as the Fed had undertaken. The reality of continued Euro growth challenges – such as those presented by an aging American economic recovery – suggests entirely new easing steps are an equally-likely prospect. European politics, in particular, suggests unique risks to ongoing recovery and stability.



What is a Central Banker to Do?

The limitations of monetary policy in addressing chronic disappointments in both supply and demand in developed market economies is an emerging concern. However, at the Federal Reserve's International Monetary Policy Symposium at Jackson Hole last month, the debate from central bankers and academics was largely over tactics, not choosing whether to retreat from the battle. While higher interest rates could be a welcome sign for the world economy, they must be driven by stronger underlying growth to be sustainable. Hearing calls for higher interest rates and a retreat from market interventions, these central bankers would likely argue that if medicine doesn't work, don't try poison instead.

Central bankers have a long list of hopes. They want easing financial conditions, rising inflation expectations and firming economies to permit them to raise interest rates back into the pre-crisis range. Short of reaching those goals, interest rates for developed market (DM) sovereigns and increasingly other borrowers, will be well short of the old norms.

Message for Investors

With most global markets driven to some extent by the remarkable easing of DM central banks, "rate risk" has been building. However, wide valuation differences and fundamentals in certain emerging market (EM) and DM assets argue for different investment positions. We believe the two-year collapse in global petroleum-related investment and "overshoot" weakness in related emerging markets currencies has left these assets relatively well positioned for longer-term returns.

EM: Relatively Better, but No Silver Bullet

Our concern over the rising correlation between regions and asset classes does not leave out EM (see Figure 9 and 10). In fact, segments of the market most sensitive to the oil price – the EM assets we overweight – may simply be subject to downward pressure amid the typical, late year, seasonal oil price declines. These are driven by winter in the Northern Hemisphere (see Figure 11).

Years of strong headwinds for EM gradually diminishing.



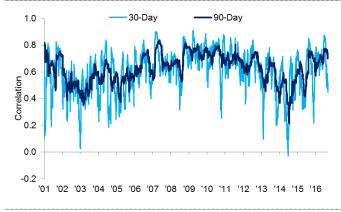
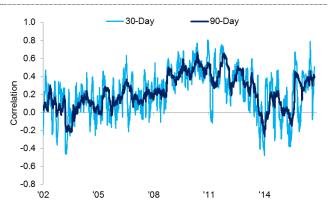


Figure 9: MSCI EM and DM Equity Correlation, Daily % Change

Figure 10: MSCI EM Equities and WTI Crude Price Correlation, Daily % Change



Source: FactSet as of September 23, 2016. 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.

Source: FactSet and Haver Analytics as of September 23, 2016. 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.

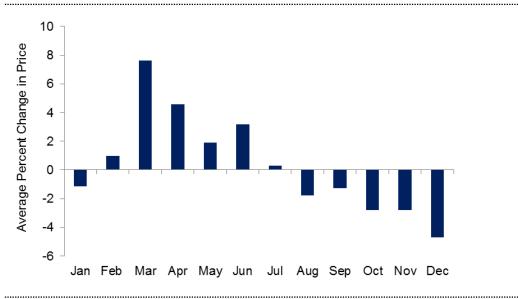


Figure 11. Average Monthly % Change in Crude Oil Price (last 10 years)

Source: Haver Analytics as of September 22, 2016.

At the same time, investors should acknowledge relief from the headwinds of the massive US dollar rally of the past four years (see Figure 12). Along with a large downward correction in commodity prices, it positioned EM assets dramatically different in value compared to developed markets (see Figure 13).

"Easy money" has been made in some EM markets this year and market progress should not come so easy going forward. However, the valuation gap between EM and DM remains wide. Considering the many risks posed by politics in many developed



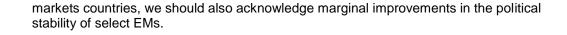
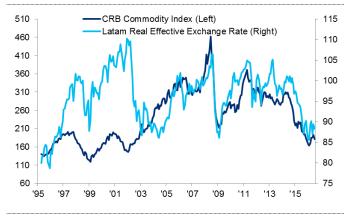


Figure 12: Commodity Prices and Latin American Real Effective Exchange Rate (GDP-Weighted)



Source: Haver Analytics, Bloomberg and Citi Private Bank as of September 23, 2016.

Figure 13: Brazilian and German 10-Year Government Bond Yields (%)



Source: Haver Analytics as of September 23, 2016. 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.



Global Asset Allocation Parul Gupta, CFA Parul.gupta@citi.com

Portfolio allocations

This section shows the strategic and tactical allocations for risk levels 1 to 5 set by Citi Private Bank's Global Investment Committee on September 22, 2016. Recommend allocations reflect annual rebalancing and model revisions.

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.

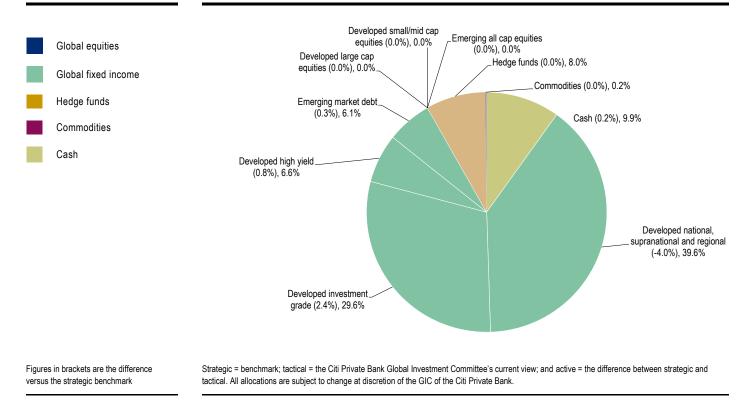
Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	9.7	9.9	0.2
Fixed income	82.3	81.9	-0.4
Developed Investment Grade	70.8	69.2	-1.6
Developed national, supranational and regional	43.6	39.6	-4.0
Americas	15.0	15.9	1.0
EMEA	18.0	16.0	-2.0
UK	3.7	3.6	-0.0
Core Europe	8.0	7.1	-0.9
Peripheral Europe	5.8	4.8	-0.9
Others	0.6	0.4	-0.1
Asia	9.8	6.9	-2.9
Asia (ex Japan)	0.3	0.4	0.1
Japan	9.5	6.5	-3.1
Supranational	0.8	0.8	0.0
Developed corporate investment grade	27.2	29.6	2.4
Americas	19.4	21.7	2.3
US	18.7	20.9	2.3
Canada	0.7	0.8	0.0
EMEA	7.7	7.8	0.2
Europe (ex UK)	5.9	6.0	0.1
UK	1.8	1.8	0.0
Asia	0.1	0.1	0.0
Asia (ex Japan)	0.1	0.1	0.0
Japan	0.0	0.0	0.0

Classification	Strategic (%)	Tactical* (%)	Active (%)
Developed high yield	5.8	6.6	0.8
Americas	4.4	4.9	0.4
EMEA	1.3	1.7	0.4
Emerging market debt	5.8	6.1	0.3
Americas	0.7	0.9	0.3
EMEA	0.7	0.6	-0.0
Asia	4.4	4.5	0.1
Equities	0.0	0.0	0.0
Developed Equities	0.0	0.0	0.0
Emerging Equities	0.0	0.0	0.0
Hybrid investments	8.0	8.0	0.0
Hedge funds	8.0	8.0	0.0
Real Assets	0.0	0.2	0.2
Commodities	0.0	0.2	0.2
Total	100.0	100.0	0.0

Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical. MBS = mortgage-backed securities; ABS = asset-backed securities. All allocations are subject to change at discretion of the GIC of the Citi Private Bank. *The tactical allocation corresponds to a maturity of 7 to 10 years. Minor differences may result due to rounding.







Core positions

- Global equities remain at neutral position and global fixed income stays at an underweight position of -0.4%. Cash is now at a decreased overweight position with gold raised to a small overweight position of 0.2%.
- Within fixed income, developed sovereign continues to be the largest underweight at -4.0%. Developed corporate investment grade fixed income remains the largest overweight at +2.4% followed by high-yield at 0.8% overweight position.
- Emerging market fixed income remains at a small overweight position of 0.3% with both Latin America and Asia debt in overweight positions.
- Within equities, both developed and emerging equities remain at neutral allocation.



Risk Level 2

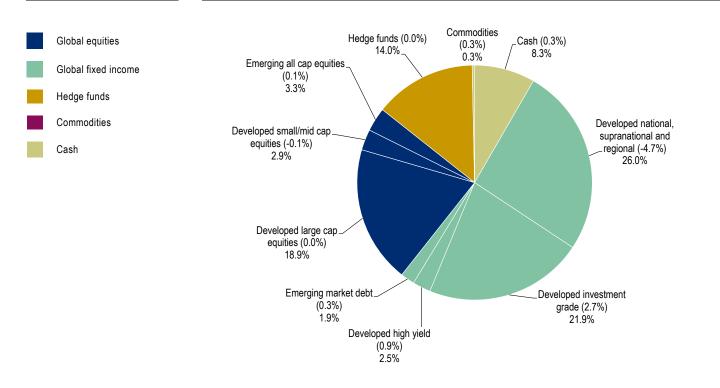
Risk Level 2 is designed for investors who emphasize capital preservation over return on investment, but who are willing to subject some portion of their principal to increased risk in order to generate a potentially greater rate of return on investment.

Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	8.0	8.3	0.3
Fixed income	53.0	52.3	-0.7
Developed Investment Grade	49.8	47.9	-1.9
Developed national, supranational and regional	30.6	26.0	-4.7
Americas	10.5	11.5	1.0
EMEA	12.7	10.3	-2.4
UK	2.6	2.5	-0.1
Core Europe	5.6	4.6	-1.1
Peripheral Europe	4.0	3.0	-1.1
Others	0.4	0.3	-0.2
Asia	6.9	3.6	-3.3
Asia (ex Japan)	0.2	0.3	0.1
Japan	6.7	3.3	-3.4
Supranational	0.6	0.6	0.0
Developed corporate investment grade	19.1	21.9	2.7
Americas	13.6	16.3	2.6
US	13.1	15.7	2.6
Canada	0.5	0.5	0.0
EMEA	5.4	5.5	0.1
Europe (ex UK)	4.1	4.2	0.1
UK	1.3	1.3	0.0
Asia	0.1	0.1	0.0
Developed high yield	1.6	2.5	0.9
Americas	1.2	1.8	0.5
EMEA	0.4	0.7	0.4
Emerging market debt	1.6	1.9	0.3
Americas	0.2	0.4	0.2
EMEA	0.2	0.2	0.0
Asia	1.2	1.4	0.2
Hybrid investments	14.0	14.0	0.0
Hedge funds	14.0	14.0	0.0
Real assets	0.0	0.3	0.3
Commodities	0.0	0.3	0.3

Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	25.0	25.0	0.0
Developed Equities	21.8	21.7	-0.1
Developed large cap equities	18.9	18.9	0.0
Americas	11.9	12.0	0.0
US all	11.3	11.3	0.0
Canada	0.7	0.7	0.0
EMEA	4.4	4.4	0.0
UK	1.4	1.4	0.0
Germany	0.6	0.6	0.0
France	0.6	0.6	0.0
Switzerland	0.7	0.7	0.0
Benelux	0.3	0.3	0.0
Scandi	0.4	0.4	0.0
Spain	0.2	0.2	0.0
Italy	0.1	0.1	0.0
Others	0.1	0.1	0.0
Asia	2.5	2.5	0.0
Australasia	0.5	0.5	0.0
Far East ex Japan	0.3	0.3	0.0
Japan	1.7	1.7	0.0
Developed small/ mid cap equities	2.9	2.9	-0.1
Americas	1.7	1.7	0.0
EMEA	0.8	0.8	-0.1
Europe (ex UK)	0.6	0.6	0.0
UK	0.2	0.2	-0.1
Asia	0.4	0.4	0.0
Asia (ex Japan)	0.1	0.1	0.0
Japan	0.3	0.3	0.0
Emerging all cap equities	3.2	3.3	0.1
Americas	0.4	0.5	0.1
Brazil	0.2	0.2	0.0
Mexico	0.2	0.2	0.0
Other	0.1	0.1	0.1
EMEA	0.5	0.5	0.0
Turkey	0.1	0.1	0.0
Russia and Eastern Europe	0.2	0.2	0.0
South Africa	0.2	0.2	0.0
Other	0.0	0.0	0.0
Asia	2.3	2.3	0.0
China	0.7	0.7	0.0
India	0.4	0.4	0.0
South Korea	0.5	0.5	0.0
Taiwan	0.4	0.4	0.0
Other Emerging Asia	0.3	0.3	0.0
Total	100.0	100.0	0.0
IUIAI	100.0	100.0	0.0

Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical. MBS = mortgage-backed securities; ABS = asset-backed securities. All allocations are subject to change at discretion of the GIC of the Citi Private Bank. *The tactical allocation corresponds to a maturity of 7 to 10 years. Minor differences may result due to rounding.





Risk Level 2: tactical allocations

Figures in brackets are the difference versus the strategic benchmark

Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core positions

- Global equities remain at neutral position with global fixed income underweight maintained at -0.7%. Cash overweight is slightly decreased to +0.3%.
- Gold is now at a small overweight position of 0.3%.
- Within fixed income, developed sovereign remains the largest underweight at -4.7% and developed corporate investment grade the largest overweight at +2.7% followed by high-yield at +0.9%.
- Emerging market fixed income remains at an overweight position of 0.3% with both Latin America and Asia at overweight positions and EMEA at neutral allocation.
- Within equities, developed equities remain at small underweight position driven by underweight in UK small and mid-cap equities.

Emerging market equities remain at small overweight position.



Risk Level 3

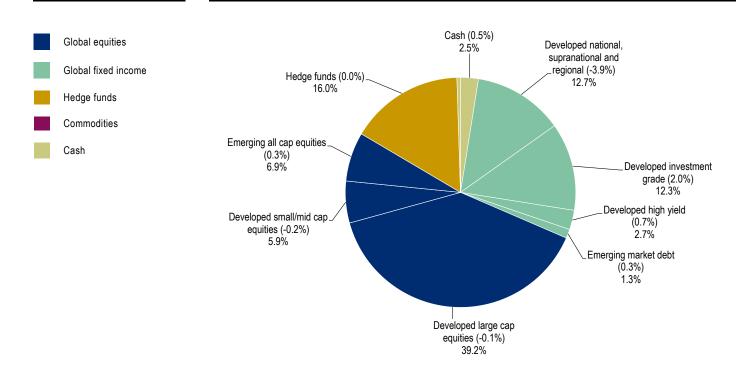
Risk Level 3 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk level 3 may be appropriate for investors willing to subject their portfolio to 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	2.5	0.5
Fixed income	30.0	29.0	-1.0
Developed Investment Grade	27.0	25.0	-2.0
Developed national, supranational and regional	16.6	12.7	-3.9
Americas	5.7	6.2	0.5
EMEA	6.9	4.9	-1.9
UK	1.4	1.3	-0.1
Core Europe	3.0	2.2	-0.9
Peripheral Europe	2.2	1.4	-0.8
Others	0.2	0.1	-0.1
Asia	3.7	1.2	-2.5
Asia (ex Japan)	0.1	0.2	0.1
Japan	3.6	1.0	-2.6
Supranational	0.3	0.3	0.0
Developed corporate investment grade	10.4	12.3	2.0
Americas	7.4	9.4	2.0
US	7.1	9.1	2.0
Canada	0.3	0.3	0.0
EMEA	2.9	2.9	0.0
Europe (ex UK)	2.2	2.2	0.0
UK	0.7	0.7	0.0
Asia	0.0	0.0	0.0
Developed high yield	2.0	2.7	0.7
Americas	1.6	1.9	0.3
EMEA	0.5	0.9	0.4
Emerging market debt	1.0	1.3	0.3
Americas	0.1	0.3	0.2
EMEA	0.1	0.1	0.0
Asia	0.8	0.9	0.1
Hybrid investments	16.0	16.0	0.0
Hedge funds	16.0	16.0	0.0
Real assets	0.0	0.5	0.5
Commodities	0.0	0.5	0.5

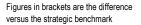
Classification	Strategic (%)	Tactical* (%)	Active (%)
Equities	52.0	52.0	0.0
Developed Equities	45.3	45.1	-0.3
Developed large cap equities	39.3	39.2	-0.1
Americas	24.8	24.8	0.0
US all	23.5	23.5	0.0
Canada	1.4	1.4	0.0
EMEA	9.1	9.1	0.0
UK	3.0	3.0	0.0
Germany	1.2	1.2	0.0
France	1.3	1.3	0.0
Switzerland	1.4	1.4	0.0
Benelux	0.6	0.6	0.0
Scandi	0.8	0.8	0.0
Spain	0.4	0.4	0.0
Italy	0.3	0.3	0.0
Others	0.1	0.1	0.0
Asia	5.3	5.2	-0.1
Australasia	1.0	1.0	0.0
Far East ex Japan	0.7	0.7	0.0
Japan	3.6	3.6	0.0
Developed small/ mid cap equities	6.1	5.9	-0.2
Americas	3.5	3.5	0.0
EMEA	1.7	1.5	-0.2
Europe (ex UK)	1.3	1.3	0.0
UK	0.4	0.2	-0.2
Asia	0.9	0.9	0.0
Asia (ex Japan)	0.2	0.2	0.0
Japan	0.7	0.7	0.0
Emerging all cap equities	6.7	6.9	0.3
Americas	0.8	1.1	0.3
Brazil	0.4	0.4	0.0
Mexico	0.3	0.3	0.0
Other	0.1	0.4	0.3
EMEA	1.0	1.0	0.0
Turkey	0.1	0.1	0.0
Russia and	0.4	0.4	0.0
South Africa	0.4	0.4	0.0
Other	0.1	0.1	0.0
Asia	4.8	4.8	0.0
China	1.5	1.5	0.0
India	0.7	0.7	0.0
South Korea	1.0	1.0	0.0
Taiwan	0.8	0.8	0.0
Other Emerging Asia	0.7	0.7	0.0
Total	100.0	100.0	0.0

Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical. MBS = mortgage-backed securities; ABS = asset-backed securities. All allocations are subject to change at discretion of the GIC of the Citi Private Bank. *The tactical allocation corresponds to a maturity of 7 to 10 years. Minor differences may result due to rounding.





Risk Level 3: tactical allocations



Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core positions

- Global equities remain at neutral position with global fixed income underweight maintained at -1.0%. Cash is now at a decreased overweight position with gold raised to a small overweight of 0.5%.
- Within fixed income, developed sovereign remains the largest underweight at -3.9%, with US government debt at an overweight position. Developed corporate investment grade remains the largest overweight at +2.0% followed by high-yield at +0.7%.
- Emerging market fixed income remains at a small overweight position of +0.3% with both Latin America and Asia at overweight positions and EMEA at neutral allocation.
- Within equities, developed market equities remain at small underweight position driven by underweight position in UK small and mid-cap equities.
- Emerging equities remain at small overweight due to overweight position in Latin American equities.



Active (%) 0.0 -0.4 -0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 -0.1 -0.1 0.0 0.0 -0.3 0.0 -0.3 0.0 -0.3 0.0 0.0 0.0 0.4 0.4 0.0 0.0 0.4 0.0 0.0 0.0

0.6

0.1

6.2

1.9

1.0

1.4

1.1

0.9

0.6

0.1

6.2

1.9

1.0

1.4

1.1

0.9

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 (%)	Classification	Strategic (%)	Tactical* (%)
Occile	0.0	0.5	0.5	Equities	67.7	67.7
Cash	14.3	13.2	-1.1	Developed Equities	59.0	58.7
Fixed income Developed Investment Grade	12.3	10.8	-1.5	Developed large cap equities	51.1	51.1
				Americas	32.3	32.3
Developed national, supranational	7.6	5.4	-2.2	US all	30.6	30.6
and regional				Canada	1.8	1.8
Americas	2.6	2.7	0.1	EMEA	11.9	11.9
EMEA	3.1	2.1	-1.0	UK	3.9	3.9
UK	0.6	0.6	-0.1	Germany	1.5	1.5
Core Europe	1.4	0.9	-0.5	France	1.7	1.7
Peripheral	1.0	0.6	-0.4	Switzerland	1.8	1.8
Others	0.1	0.0	-0.1	Benelux	0.8	0.8
Asia	1.7	0.5	-1.2	Scandi	1.0	1.0
Asia (ex Japan)	0.1	0.1	0.0	Spain	0.6	0.6
Japan	1.7	0.4	-1.3	Italy	0.4	0.4
Supranational	0.1	0.1	0.0	Others	0.2	0.2
Developed corporate	4.7	5.4	0.7	Asia	6.9	6.8
investment grade				Australasia	1.3	1.3
Americas	3.4	4.2	0.8	Far East ex Japan	0.9	0.8
US	3.2	4.0	0.8	Japan	4.7	4.7
Canada	0.1	0.1	0.0	Developed small/mid	7.9	7.6
EMEA	1.3	1.3	-0.1	cap equities		
Europe (ex UK)	1.0	1.0	0.0	Americas	4.5	4.5
UK	0.3	0.3	0.0	EMEA	2.3	2.0
Asia	0.0	0.0	0.0	Europe (ex UK)	1.7	1.7
Developed high yield	1.0	1.3	0.3	UK	0.6	0.3
Americas	0.8	0.9	0.1	Asia	1.1	1.1
EMEA	0.2	0.4	0.2	Asia (ex Japan)	0.3	0.3
Emerging market debt	1.0	1.1	0.1	Japan	0.9	0.9
Americas	0.1	0.2	0.1	Emerging all cap equities	8.7	9.0
EMEA	0.1	0.1	0.0	Americas	1.1	1.4
Asia	0.8	0.7	0.0	Brazil	0.5	0.5
Hybrid investments	18.0	18.0	0.0	Mexico	0.4	0.4
Hedge funds	18.0	18.0	0.0	Other	0.2	0.5
Real assets	0.0	0.5	0.5	EMEA	1.4	1.4
Commodities	0.0	0.5	0.5	Turkey	0.1	0.1
				Russia and Eastern Europe	0.6	0.6

	Total	100.0	100.0	0.0
Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's curr				
mortgage-backed securities; ABS = asset-backed securities. All allocations are subject to c	hange at discretion of the GIC of th	ne Citi Private Bai	nk. *The tactical a	location
corresponds to a maturity of 7 to 10 years. Minor differences may result due to rounding.				

South Africa Other

South Korea

Other Emerging Asia

Asia

China

India

Taiwan

0.0

0.0

0.0

0.0

0.0

0.0

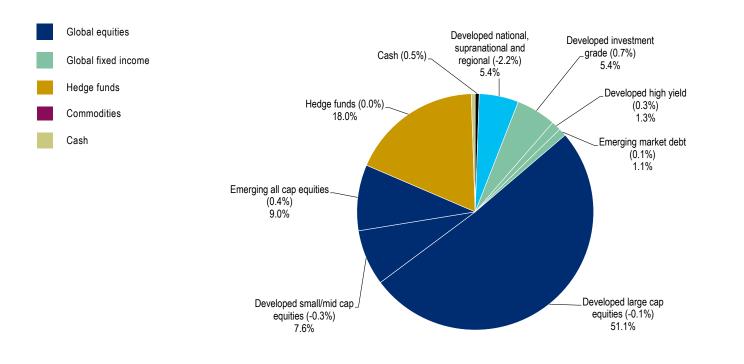
0.0

0.0

0.0







Figures in brackets are the difference versus the strategic benchmark

Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core positions

- Global equities remain at neutral position with global fixed income underweight maintained at -1.1%. Cash is decreased to a +0.5% position with gold raised to a small overweight position.
- Within fixed income, developed sovereign remains the largest underweight at -2.2% and developed corporate investment grade largest overweight at +0.7%.
- Both emerging debt and high yield fixed income remain at small overweight positions.
- Within equities, developed equities stay underweight by 0.4% driven by underweight position in UK small and mid-cap equities.
- Emerging equities remain at small overweight due to overweight position in Latin American equities.



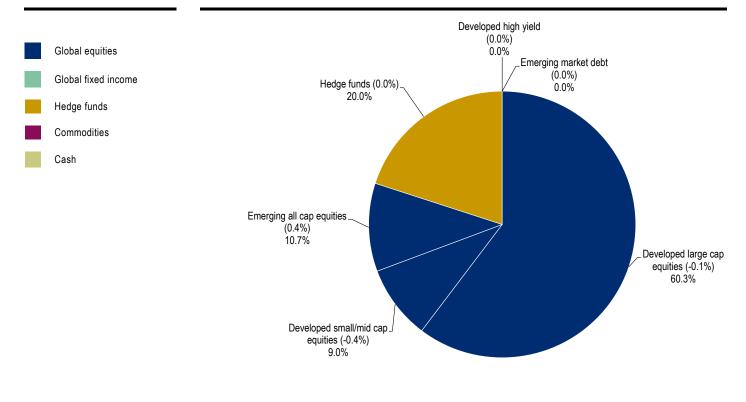
Risk Level 5

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 (%)	Classification	Strategic (%)	Tactical* (%)	Active (%)
Cash	0.0	0.0	0.0	Asia	8.1	8.1	-0.1
Fixed income	0.0	0.0	0.0	Australasia	1.6	1.5	-0.1
Developed	0.0	0.0	0.0	Far East ex Japan	1.0	1.0	0.0
Investment Grade	0.0	0.0	0.0	Japan	5.6	5.6	0.0
Developed				Developed small/mid	9.4	9.0	-0.4
national, supranational	0.0	0.0	0.0	cap equities			
and regional				Americas	5.3	5.3	0.0
Developed Corporate				EMEA	2.7	2.3	-0.4
Investment Grade	0.0	0.0	0.0	Europe (ex UK)	2.0	2.0	0.0
Americas	0.0	0.0	0.0	UK	0.7	0.3	-0.4
EMEA	0.0	0.0	0.0	Asia	1.4	1.4	0.0
Europe (ex UK)	0.0	0.0	0.0	Asia (ex Japan)	0.3	0.3	0.0
UK	0.0	0.0	0.0	Japan	1.0	1.0	0.0
Asia	0.0	0.0	0.0	Emerging all	10.2	10.7	0.4
Asia (ex Japan)	0.0	0.0	0.0	cap equities			
Japan	0.0	0.0	0.0	Americas	1.3	1.7	0.5
Developed high yield	0.0	0.0	0.0	Brazil	0.6	0.6	0.0
Americas	0.0	0.0	0.0	Mexico	0.5	0.5	0.0
EMEA	0.0	0.0	0.0	Other	0.2	0.7	0.5
Asia	0.0	0.0	0.0	EMEA	1.6	1.6	0.0
Emerging market debt	0.0	0.0	0.0	Turkey	0.2	0.2	0.0
Americas	0.0	0.0	0.0	Russia and Eastern	0.7	0.7	0.0
EMEA	0.0	0.0	0.0	Europe		0.7	
Asia	0.0	0.0	0.0	South Africa	0.7	0.7	0.0
Equities	80.0	80.0	0.0	Other	0.1	0.1	0.0
Global Developed	69.8	69.3	-0.4	Asia	7.4	7.4	0.0
Equities				China	2.3	2.3	0.0
Developed large cap	60.4	60.3	-0.1	India			
equities				South Korea	1.6	1.6	0.0
Americas	38.2	38.2	0.0	Taiwan	1.3	1.3	0.0
US all	36.1	36.1	0.0	Other Emerging Asia	1.0	1.0	0.0
Canada	2.1	2.1	0.0	Hybrid investments	20.0	20.0	0.0
EMEA	14.1	14.1	0.0	Hedge funds	20.0	20.0	0.0
UK	4.6	4.6	0.0	Real assets	0.0	0.0	0.0
Germany	1.8	1.8	0.0		0.0	0.0	0.0
France	2.0	2.0	0.0	Commodities	0.0	0.0	0.0
Switzerland	2.2	2.2	0.0	Gold			
Benelux	0.9	0.9	0.0	Total	100.0	100.0	0.0
Scandi	1.2	1.2	0.0				
Spain	0.7	0.7	0.0				
Italy	0.5	0.5	0.0				
Others	0.2	0.2	0.0				

Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical. MBS = mortgage-backed securities; ABS = asset-backed securities. All allocations are subject to change at discretion of the GIC of the Citi Private Bank. Minor differences may result due to rounding.





Risk Level 5: tactical allocations

Figures in brackets are the difference versus the strategic benchmark

Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical. All allocations are subject to change at discretion of the GIC of the Citi Private Bank.

Core positions

- Developed equities remain at small underweight position and emerging equities at small overweight position of +0.4%.
- Within developed equities, both US and Japan remain at neutral position with UK small and mid-cap equities at small underweight position.
- Within emerging equities, Latin American equities remain at small overweight position with both Asia and EMEA at neutral allocation.



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	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-
Cash	only, broadly diversified investment in commodities through a transparent and disciplined calculation methodology. 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.
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	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.



Disclosures

In any instance where distribution of this communication ("Communication") is subject to the rules of the US Commodity Futures Trading Commission ("CFTC"), this communication constitutes an invitation to consider entering into a derivatives transaction under US CFTC Regulations §§ 1.71 and 23.605, where applicable, but is not a binding offer to buy/sell any financial instrument.

This Communication is prepared by Citi Private Bank ("CPB"), a business of Citigroup, Inc. ("Citigroup"), which provides its clients access to a broad array of products and services available through Citigroup, its bank and non-bank affiliates worldwide (collectively, "Citi"). Not all products and services are provided by all affiliates, or are available at all locations.

CPB personnel are not research analysts, and the information in this Communication is not intended to constitute "research", as that term is defined by applicable regulations. Unless otherwise indicated, any reference to a research report or research recommendation is not intended to represent the whole report and is not in itself considered a recommendation or research report.

This Communication is provided for information and discussion purposes only, at the recipient's request. The recipient should notify CPB immediately should it at any time wish to cease being provided with such information. Unless otherwise indicated, (i) it does not constitute an offer or recommendation to purchase or sell any security, financial instrument or other product or service, or to attract any funding or deposits, and (ii) it does not constitute a solicitation if it is not subject to the rules of the CFTC (but see discussion above regarding communication subject to CFTC rules) and (iii) it is not intended as an official confirmation.

Unless otherwise expressly indicated, this Communication does not take into account the investment objectives, risk profile or financial situation of any particular person and as such, investments mentioned in this document may not be suitable for all investors. Citi is not acting as an investment or other advisor, fiduciary or agent. The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Recipients of this Communication should obtain advice based on their own individual circumstances from their own tax, financial, legal and other advisors about the risks and merits of any transaction before making an investment decision, and only make such decisions on the basis of their own objectives, experience, risk profile and resources.

The information contained in this Communication is based on generally available information and, although obtained from sources believed by Citi to be reliable, its accuracy and completeness cannot be assured, and such information may be incomplete or condensed. Any assumptions or information contained in this Communication constitute a judgment only as of the date of this document or on any specified dates and is subject to change without notice. Insofar as this Communication may to contain historical and forward looking information, past performance is neither a guarantee nor an indication of future results, and future results may not meet expectations due to a variety of economic, market and other factors. Further, any projections of potential risk or return are illustrative and should not be taken as limitations of the maximum possible loss or gain. Any prices, values or estimates provided in this Communication (other than those that are identified as being historical) are indicative only, may change without notice and do not represent firm quotes as to either price or size, nor reflect the value Citi may assign a security in its inventory. Forward looking information does not indicate a level at which Citi is prepared to do a trade and may not account for all relevant assumptions and future conditions. Actual conditions may vary substantially from estimates which could have a negative impact on the value of an instrument.

Views, opinions and estimates expressed herein may differ from the opinions expressed by other Citi businesses or affiliates, and are not intended to be a forecast of future events, a guarantee of future results, or investment advice, and are subject to change without notice based on market and other conditions. Citi is under no duty to update this document and accepts no liability for any loss (whether direct, indirect or consequential) that may arise from any use of the information contained in or derived from this Communication.

Investments in financial instruments or other products carry significant risk, including the possible loss of the principal amount invested. Financial instruments or other products denominated in a foreign currency are subject to exchange rate fluctuations, which may have an adverse effect on the price or value of an investment in such products. This Communication does not purport to identify all risks or material considerations which may be associated with entering into any transaction.

Structured products can be highly illiquid and are not suitable for all investors. Additional information can be found in the disclosure documents of the issuer for each respective structured product described herein. Investing in structured products is intended only for experienced and sophisticated investors who are willing and able to bear the high economic risks of such an investment. Investors should carefully review and consider potential risks before investing.

OTC derivative transactions involve risk and are not suitable for all investors. Investment products are not insured, carry no bank or government guarantee and may lose value. Before entering into these transactions, you should: (i) ensure that you have obtained and considered relevant information from independent reliable sources concerning the financial, economic and political conditions of the relevant markets; (ii) determine that you have the necessary knowledge, sophistication and experience in financial, business and investment matters to be able to evaluate the risks involved, and that you are financially able to bear such risks; and (iii) determine, having considered the foregoing points, that capital markets transactions are suitable and appropriate for your financial, tax, business and investment objectives.

This material may mention options regulated by the US Securities and Exchange Commission. Before buying or selling options you should obtain and review the current version of the Options Clearing Corporation booklet, Characteristics and Risks of Standardized Options. A copy of the booklet can be obtained upon request from Citigroup Global Markets Inc., 390 Greenwich Street, 3rd Floor, New York, NY 10013 or by clicking the following links,

http://www.theocc.com/components/docs/riskstoc.pdf or

http://www.theocc.com/components/docs/about/publications/november_2012_supplement.pdf.

If you buy options, the maximum loss is the premium. If you sell put options, the risk is the entire notional below the strike. If you sell call options, the risk is unlimited. The actual profit or loss from any trade will depend on the price at which the trades are executed. The prices used herein are historical and may not be available when you order is entered. Commissions and other transaction costs are not considered in these examples. Option trades in general and these trades in particular may not be appropriate for every investor. Unless noted otherwise, the source of all graphs and tables in this report is Citi. Because of the importance of tax considerations to all option transactions, the investor considering options should consult with his/her tax advisor as to how their tax situation is affected by the outcome of contemplated options transactions.

None of the financial instruments or other products mentioned in this Communication (unless expressly stated otherwise) is (i) insured by the Federal Deposit Insurance Corporation or any other governmental authority, or (ii) deposits or other obligations of, or guaranteed by, Citi or any other insured depository institution.



Citi often acts as an issuer of financial instruments and other products, acts as a market maker and trades as principal in many different financial instruments and other products, and can be expected to perform or seek to perform investment banking and other services for the issuer of such financial instruments or other products. The author of this Communication may have discussed the information contained therein with others within or outside Citi, and the author and/or such other Citi personnel may have already acted on the basis of this information (including by trading for Citi's proprietary accounts or communicating the information contained herein to other customers of Citi). Citi, Citi's personnel (including those with whom the author may have consulted in the preparation of this communication), and other customers of Citi may be long or short the financial instruments or other products referred to in this Communication, may have acquired such projections at prices and market conditions that are no longer available, and may have interests different from or adverse to your interests.

IRS Circular 230 Disclosure: Citi and its employees are not in the business of providing, and do not provide, tax or legal advice to any taxpayer outside Citi. Any statement in this Communication regarding tax matters is not intended or written to be used, and cannot be used or relied upon, by any taxpayer for the purpose of avoiding tax penalties. Any such taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Neither Citi nor any of its affiliates can accept responsibility for the tax treatment of any investment product, whether or not the investment is purchased by a trust or company administered by an affiliate of Citi. Citi assumes that, before making any commitment to invest, the investor and (where applicable, its beneficial owners) have taken whatever tax, legal or other advice the investor/beneficial owners consider necessary and have arranged to account for any tax lawfully due on the income or gains arising from any investment product provided by Citi.

This Communication is for the sole and exclusive use of the intended recipients, and may contain information proprietary to Citi which may not be reproduced or circulated in whole or in part without Citi's prior consent. The manner of circulation and distribution may be restricted by law or regulation in certain countries. Persons who come into possession of this document are required to inform themselves of, and to observe such restrictions. Citi accepts no liability whatsoever for the actions of third parties in this respect. Any unauthorized use, duplication, or disclosure of this document is prohibited by law and may result in prosecution.

Other businesses within Citigroup Inc. and affiliates of Citigroup Inc. may give advice, make recommendations, and take action in the interest of their clients, or for their own accounts, that may differ from the views expressed in this document. All expressions of opinion are current as of the date of this document and are subject to change without notice. Citigroup Inc. is not obligated to provide updates or changes to the information contained in this document.

The expressions of opinion are not intended to be a forecast of future events or a guarantee of future results. Past performance is not a guarantee of future results. Real results may vary.

Although information in this document has been obtained from sources believed to be reliable, Citigroup Inc. and its affiliates do not guarantee its accuracy or completeness and accept no liability for any direct or consequential losses arising from its use. Throughout this publication where charts indicate that a third party (parties) is the source, please note that the attributed may refer to the raw data received from such parties. No part of this document may be copied, photocopied or duplicated in any form or by any means, or distributed to any person that is not an employee, officer, director, or authorized agent of the recipient without Citigroup Inc.'s prior written consent.

Citigroup Inc. may act as principal for its own account or as agent for another person in connection with transactions placed by Citigroup Inc. for its clients involving securities that are the subject of this document or future editions of the Quadrant and Quadrant Asia.

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

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

Additionally, the underlying collateral supporting non-Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

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

Alternative investments referenced in this report are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in the fund, potential lack of diversification, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and advisor risk. Asset allocation does not assure a profit or protect against a loss in declining financial markets. The indexes are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results.

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

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity. Factors affecting commodities generally, index components composed of futures contracts on nickel or copper, which are industrial metals, may be subject to a number of additional factors specific to industrial metals that might cause price volatility. These include changes in the level of industrial activity using industrial metals (including the availability of substitutes such as manmade or synthetic substitutes); disruptions in the supply chain, from mining to storage to smelting or refining; adjustments to inventory; variations in production costs, including storage, labor and energy costs; costs associated with regulatory compliance, including environmental regulations; and changes in industrial, government and consumer demand, both in individual consuming nations and internationally. Index components concentrated in futures contracts on agricultural products, including floods, drought and freezing conditional factors specific to 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. Citi Private Bank is a business of Citigroup Inc. ("Citigroup"), which provides its clients access to a broad array of products and services available through bank and non-bank affiliates of Citigroup. Not all products and services are provided by all affiliates or are available at all locations. In the US, brokerage products and services are provided by Citigroup Global Markets Inc. ("CGMI"), member SIPC. Accounts carried by Pershing LLC, member FINRA, NYSE, SIPC. CGMI and Citibank, N.A are affiliated companies under the common control of Citigroup. Outside the US, brokerage products and services are provided by other Citigroup affiliates. Investment Management services (including portfolio management) are available through CGMI, Citibank, N.A. and other affiliated advisory businesses.

In Hong Kong, this document is issued by CPB operating through Citibank, N.A., Hong Kong branch, which is regulated by the Hong Kong Monetary Authority. Any questions in connection with the contents in this document should be directed to registered or licensed representatives of the aforementioned entity. In Singapore, this document is issued by CPB operating through Citibank, N.A., Singapore branch, which is regulated by the Monetary Authority of Singapore. Any questions in connection with the contents in this document should be directed to registered or licensed representatives of the aforementioned entity.

In the United Kingdom, Citibank N.A., London Branch (registered branch number BR001018), Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB, is authorised and regulated by the Office of the Comptroller of the Currency (USA) and authorised by the Prudential Regulation Authority. Subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. The contact number for Citibank N.A., London Branch is +44 (0)20 7508 8000.

Citibank Europe plc is regulated by the Central Bank of Ireland. It is authorised by the Central Bank of Ireland and by the Prudential Regulation Authority. It is subject to supervision by the Central Bank of Ireland, and subject to limited regulation by the Financial Conduct Authority and the Prudential Regulation Authority. Details about the extent of our authorisation and regulation by the Prudential Regulation Authority, and regulation by the Financial Conduct Authority are available from us on request. Citibank Europe plc, UK Branch is registered as a branch in the register of companies for England and Wales with registered branch number BR017844. Its registered address is Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB. VAT No.: GB 429 6256 29.

Citibank Europe plc is registered in Ireland with number 132781, with its registered office at 1 North Wall Quay, Dublin 1. Citibank Europe plc is regulated by the Central Bank of Ireland. Ultimately owned by Citigroup Inc., New York, USA.

In Jersey, this document is communicated by Citibank N.A., Jersey Branch which has its registered address at PO Box 104, 38 Esplanade, St Helier, Jersey JE4 8QB. Citibank N.A., Jersey Branch is regulated by the Jersey Financial Services Commission. Citibank N.A. Jersey Branch is a participant in the Jersey Bank Depositors Compensation Scheme. The Scheme offers protection for eligible deposits of up to £50,000. The maximum total amount of compensation is capped at £100,000,000 in any 5 year period. Full details of the Scheme and banking groups covered are available on the States of Jersey website www.gov.je/dcs, or on request.

In Canada, Citi Private Bank is a division of Citibank Canada, a Schedule II Canadian chartered bank. Certain investment products are made available through Citibank Canada Investment Funds Limited ("CCIFL"), a wholly owned subsidiary of Citibank Canada. Investment Products are subject to investment risk, including possible loss of principal amount invested. Investment Products are not insured by the CDIC, FDIC or depository insurance regime of any jurisdiction and are not guaranteed by Citigroup or any affiliate thereof.

CCIFL is not currently a member, and does not intend to become a member of the Mutual Fund Dealers Association of Canada ("MFDA"); consequently, clients of CCIFL will not have available to them investor protection benefits that would otherwise derive from membership of CCIFL in the MFDA, including coverage under any investor protection plan for clients of members of the MFDA.

This document is for information purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any securities to any person in any jurisdiction. The information set out herein may be subject to updating, completion, revision, verification and amendment and such information may change materially.

Citigroup, its affiliates and any of the officers, directors, employees, representatives or agents shall not be held liable for any direct, indirect, incidental, special, or consequential damages, including loss of profits, arising out of the use of information contained herein, including through errors whether caused by negligence or otherwise.

© Copyright 2016, Citigroup Inc. Citi, Citi and Arc Design and other marks used herein are service marks of Citigroup Inc. or its affiliates, used and registered throughout the world.



Asia PacificEurope & Middle EastLatin AmericaNorth AmericaHONG KONGCHANNEL ISLANDSBRAZILUNITED STATES

Hong Kong 852–2868–8688

INDIA

Bangalore 91–80–4144–6389 Mumbai 91–22–4001–5282 New Delhi 91–124–418–6695 SINGAPORE Singapore 65–6227–9188

St. Helier, Jersey 44–1534–608–010

ISRAEL Tel Aviv 972–3–684–2522

MONACO

Monte Carlo 377–9797–5010

SPAIN

Madrid 34–91–538–4400

SWITZERLAND

Geneva 41–58–750–5000 Zurich 41–58–750–5000

UNITED ARAB EMIRATES

Abu Dhabi 971–2–494–3200 Dubai 971–4–604–4644

UNITED KINGDOM

London 44–207–508–8000 Rio de Janeiro 55–21–4009–8905 Sao Paulo 55–11–4009–5848

LATAM OFFICES IN US

Houston, TX 713–966–5102 Miami, FL 305–347–1800 New York, NY 212–559–9155

MEXICO

Mexico City 52–55–22–26–8310 Monterrey 52–81–1226–9401

213-239-1927 Boca Raton, FL 561-368-6945 Boston, MA 617-330-8944 Chicago, IL 312-384-1450 Dallas, TX 214-880-7200 Denver, CO 303-296-5800 Greenville, DE 302-298-3720 Greenwich, CT 800-279-7158 Houston, TX 832-667-0500 Los Angeles, CA 213-239-1927 Miami, FL 866-869-8464 New York, NY 212-559-9470 Asia 212-559-9155 Latin America 212-559-9155

Beverly Hills, CA

Orange County, CA 650-329-7060 Palm Beach, FL 800-494-1499 Palo Alto, CA 415-627-6330 Philadelphia, PA 267-597-3000 Phoenix, AZ 602-667-8920 San Francisco, CA 415-627-6330 Seattle, WA 888-409-6232 Short Hills, NJ 973-921-2400 Washington, DC High Net Worth 202-776-1500 Law Firm 202-220-3636 Westport, CT 203-293-1922 CANADA Montreal 514-393-7526 Toronto 416-947-5300 Vancouver 604-739-6222