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Foreword

Eduardo A. Martinez Campos, Global Head of Investments

Today’s late-cycle conditions place even greater importance on appropriate investment selection and risk management

It has been almost seven years since the world’s economy and markets reached their global financial crisis lows. Since then, financial assets have recovered strongly, but economic growth has largely disappointed. We now think that the global business cycle, which is still driven by the US, is in its later stages. However, we do not share the view that another global downturn will occur in the next year. The challenge facing investors in 2016 is therefore how to pursue late-cycle investment opportunities, while at the same time preparing portfolios for tougher times further ahead.

In 2015, we gradually adjusted our tactical asset allocation, reducing our overweight in equities and our underweight in fixed income. Although we see near-term potential upside in certain equity markets, particularly in the developed world, we expect to continue to reduce our tactical allocation to equities during 2016. Despite already-attractive valuations, we also think emerging markets (EMs) overall are vulnerable to further downside, but we identify certain EM countries and regions where the immediate outlook seems more positive.

Today’s late-cycle conditions place even greater importance on appropriate investment selection within and across asset classes and an overall emphasis on risk management. As we cautioned in Outlook 2015, volatility in financial markets has indeed increased over the past twelve months, particularly in crude oil, foreign exchange and EMs. We expect that high volatility in core financial assets will persist in the coming year and therefore highlight ways to help protect portfolios against it or benefit from it.

Amidst ongoing volatility and divergent central bank monetary policies, we expect financial assets to move in a less correlated fashion than they have over recent years. We therefore seek to select high-quality investments whose growth prospects depend more on long-term trends and which have been less volatile during periods of market stress.

As your trusted advisor, we are committed to helping you navigate today’s late-cycle investment environment, both managing the risks in your portfolios and seeking ways to take advantage of timely and suitable investment opportunities.
Late-cycle investing

Steven Wieting, Global Chief Investment Strategist

We believe the global expansion is not over yet, but some markets have already enjoyed a full recovery

Risk and liquidity management - along with building durable portfolios and high-conviction investment themes - is one of the three pillars of our approach to managing clients’ wealth. While always essential, this pillar is especially relevant as we enter 2016. We believe that the balance between reward and risk is tipping in an unfavorable direction, even if markets continue to offer solid near-term returns.

The recovery in financial markets since the crisis has been one of the strongest and least volatile rebounds of the last sixty years. In US equities, it ranks third strongest in magnitude and second in duration since 1957 - figure 1. It has been broader than past financial-asset recovery cycles, particularly as real interest rates fell through most of the period from an already low level.

In contrast, the deepest economic contraction of the post-war era has not given way to an equally strong recovery. While we do not believe the world economic expansion is complete, we are mindful of the asymmetry between the financial-market recovery and the pace and sustainability of global growth.

Inevitable ups and downs
Given the slowing of its economy and the international turmoil its currency-devaluation triggered in August, there’s a school of thought that believes the next global recession will be “made in China.” But it is hard to put China’s slowing growth into a traditional “cycle” framework. Instead, we see it as a change in the drivers of economic growth in the economy with a negative impact on its trading partners, especially commodity exporters.

In contrast to China, the US has a highly-defined business cycle. Despite the slow economic recovery since 2009, US labor-demand growth has exceeded labor supply growth by two-and-half times over the past five years. Today’s US recovery may see unemployment fall below average, as inflation is very low and the Federal Reserve is comparably patient in sustaining recovery. However, the trajectory of tightening labor markets is such that even the most liberally-measured unemployment rate – one accounting for marginally-employed and discouraged workers – may see record lows in just over two years’ time - figure 2.

We believe investors may underestimate the eventual role of the US in defining the world business-cycle again, as in most cycles past. In common with all periods of tightening US labor markets, the mismatch between supply and demand is unsustainable in the long run. With US monetary policymakers only gradually recognizing the need to address the imbalance, and the strong US dollar playing a larger-than-usual role in slowing US growth, the expansion could be meaningfully at risk in 2017.

We therefore recommend a strategy that mitigates portfolio risk during 2016, even if risk assets perform well for much of the coming year.

All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.
Figure 1. Bull-market returns for US equities*

Figure 2. Unemployment rate heading lower

Shifting our allocation
We have been gradually shifting our tactical asset allocation since late 2014, paring back our overweight to equities and lower-tier credit in fixed income.

Going into 2016, our global equity overweight stands at +3.5%, down from a peak of +6.8% in 2014, having increased our fixed-income and cash positions comparably – *figure 3.*

Given high risk premiums and continued growth, investors may expect solid equity performance relative to fixed income in many markets in the first half of 2016. We see selective tactical...
opportunities in global credit in 2016, despite rising corporate leverage and a slow or aging recovery in different regions of the world. It makes sense gradually to shift our equity overweight to higher-quality fixed income assets, where credit spreads have widened but the rise in corporate yields has not been driven by stronger economic growth.

We are overweight US high-grade corporate debt and neutral-weight long-term US Treasuries, expecting the highest-quality bonds to offset portfolio volatility in equities and high-yield credit. Unusually, global real interest rates have fallen throughout the economic expansion to date. This makes it harder to find sustainable yield and build portfolios that can endure through both sides of a business cycle - see Enduring through cycles.

Low sovereign bond yields have coexisted with strong private-credit quality outside of the energy sector for a long time. In the next few years, investors may see low sovereign bond yields coupled with weakening private credit quality.

This is usually the recipe for a notable cyclical setback in equities and credit markets. But we see a lower level of systemic risk than in 2007-2008, mitigating the severity of any collapse. In Exploiting volatility, we discuss ways of helping to prepare portfolios for downside risk.

A wider range of possibilities

Given the lateness of the cycle and increased uncertainty, we again see the potential for greater-than-expected volatility in 2016.

Concerns over deflation have re-emerged, which we see as legitimate, albeit at the margin. However, for the first time in four decades, it may be that investors underestimate inflation risk when looking further ahead in time. Inflation risk is particularly hard to overcome through asset allocation and a temporary rise in inflation might actually be a contributing factor to the next economic downturn. Among other obvious, but perhaps underestimated risks, a wholly new US administration in 2017 presents greater policy uncertainty. As Citi Research’s Tina Fordham discusses in Growth, governance and grinding geopolitics, national borders may not confine all disputes in 2016.

The investment landscape in the next few years may not fit neatly into standard categories of bullish or bearish. Correctly-identified, security-specific portfolio concentrations or managers able to go both long and short may outperform long-only index-trackers in the environment ahead. We also continue our search for opportunities among technologies that are transforming the world of commerce.

Our long-term return estimates, meanwhile, are shown on the following page.

---

Figure 3. Asset allocation

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Strategic (%)</th>
<th>Tactical (%)</th>
<th>Active (%)</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Equities</td>
<td>52.0</td>
<td>55.5</td>
<td>3.5</td>
<td>Overweight</td>
</tr>
<tr>
<td>Global Fixed Income</td>
<td>30.0</td>
<td>26.5</td>
<td>-3.5</td>
<td>Underweight</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>16.0</td>
<td>16.0</td>
<td>0.0</td>
<td>Neutral</td>
</tr>
<tr>
<td>Commodities</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>Neutral</td>
</tr>
<tr>
<td>Cash</td>
<td>2.0</td>
<td>2.0</td>
<td>0.0</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

Source: Citi Private Bank, as of Nov 2015. 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. 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.

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All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.
Strategic asset allocation (SAA) is of crucial importance to the performance and risk-exposures of multi-asset class portfolios over the long term. A large portion of long-term portfolio return is determined by the specific choice of strategic allocation.

Adaptive Valuation Strategies is Citi Private Bank’s distinctive approach to SAA, which takes into account current valuations when making forecasts of future returns or strategic return estimates (SREs) - figure 4. It currently estimates annualized returns over the next decade of 6.0% for Global Developed Equity, reflecting today’s fairly rich valuations. By contrast, modestly-valued Global Emerging Equity is forecast to produce annualized returns of 10.4%.

Within Fixed Income, more attractively-valued High Yield’s SRE of 4.5% is above those of Developed Investment Grade (2.1%) and Emerging Fixed Income (2.3%), the latter being impacted by forecast emerging-market currency weakness against the US dollar.

Cash is modelled country by country, reflecting long-term real interest-rate forecasts and inflation expectations. Our US Cash SRE is 1.6%. Meanwhile, Hedge Funds - which can play an important portfolio role as a hedge during cyclical downturns - are estimated to return 5.2%.

<table>
<thead>
<tr>
<th>Asset class</th>
<th>SRE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Developed Equity</td>
<td>6.0</td>
</tr>
<tr>
<td>Global Emerging Equity</td>
<td>10.4</td>
</tr>
<tr>
<td>Global Developed Investment Grade Fixed Income</td>
<td>2.1</td>
</tr>
<tr>
<td>Global High Yield Fixed Income</td>
<td>4.5</td>
</tr>
<tr>
<td>Global Emerging Fixed Income</td>
<td>2.3</td>
</tr>
<tr>
<td>Cash</td>
<td>1.6</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>5.2</td>
</tr>
<tr>
<td>Private Equity</td>
<td>11.9</td>
</tr>
<tr>
<td>Real Estate</td>
<td>9.4</td>
</tr>
<tr>
<td>Commodity</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Source: CPB Asset Allocation Team, as of 31 Oct 2015. Returns estimated in US dollars; All estimates are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Strategic Return Estimates are no guarantee of future performance. For further information, please consult Adaptive Valuation Strategies 2016, due for publication in January 2016.
Given high risk premiums and continued growth, we think equity performance could be solid relative to fixed income in many markets in the first half of 2016.

We also see selective tactical opportunities in global credit, despite rising corporate leverage and a slow or aging recovery in different regions of the world.

Pockets of opportunity may also exist across hedge funds, private equity and real estate, and we seek to identify the key trends behind them.

All forecasts are expressions of opinion, are not a guarantee of future results and are subject to change without notice.
We set out our top ideas for the coming year and the rationale for them

The snapback from depressed economic conditions at the turn of the decade has concluded. In a more mature business cycle, we aim to take more focused risks in markets. Our highest-conviction views are where we still see solid return opportunities and multiple implementation possibilities for investors with higher or lower risk tolerance.

<table>
<thead>
<tr>
<th>Asset class</th>
<th>View</th>
<th>Portfolio objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equities</strong></td>
<td>Long core European equities, manage Euro exposure</td>
<td>✓ ✓</td>
</tr>
<tr>
<td></td>
<td>Long selective US equities, such as high-growth transformative sectors</td>
<td>✓ ✓</td>
</tr>
<tr>
<td></td>
<td>Long Japanese equities, manage yen exposure</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Fixed income</strong></td>
<td>Position for flatter US and UK yield curves</td>
<td>✓ ✓</td>
</tr>
<tr>
<td></td>
<td>Long-term municipal bonds attractive for US taxpayers</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Manage exposure to oil-price victims</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Currencies</strong></td>
<td>Short Euro/US dollar</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Commodities</strong></td>
<td>Long volatility in crude oil</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Private equity</strong></td>
<td>Buy distressed assets of low-cost oil producers via private equity</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Real estate</strong></td>
<td>Long income-producing real estate, especially in key global cities</td>
<td>✓</td>
</tr>
</tbody>
</table>
Long core European equities, manage Euro exposure

• Eurozone economic and corporate earnings growth is accelerating, while the European Central Bank (ECB) is easing monetary policy.

• Europe ex-UK equities trade at an 11% forward-earnings discount to US equities, and a 30% discount on cyclically-adjusted earnings, with earnings expected to rise 9% in 2016.

• ECB Quantitative Easing is keeping bond yields ultra-low, encouraging investors to invest in higher-yielding assets like equities.

• With the Euro likely to be volatile, investors should consider ways to manage their exposure to the single currency.

Long selective US equities, such as high-growth transformative sectors

• We expect high levels of correlation between individual US stocks to fall, calling for greater selectivity.

• We suggest combining long-term secular growth equities and high-quality dividend payers.

• Expect sectors with high levels of innovation to generate victims as well as victors - e.g. healthcare, retail, media, mobility, and automation.

• Risk management is needed to avoid an over-concentration of positions, even among victors.

• Hedge-fund strategies with a low correlation to broad US equities may help diversify and dampen volatility.
Long Japanese equities, manage yen exposure

- Japanese equities trade at a 16% discount to US equities, with earnings expected to rise 14% in 2016.
- The Bank of Japan should further loosen monetary policy, while the US Federal Reserve prepares to tighten.
- This policy divergence could see the Japanese yen weaken further, so we recommend managing exposure to the Japanese yen.
- Japanese equities are among the most positively-correlated asset we can identify to policy-divergence between the Fed and other central banks.

Position for flatter US and UK yield curves

- The difference between short- and long-term interest rates is set to decrease in the US and UK.
- Such ‘yield-curve flattening’ is very common when central banks raise rates deep into an economic cycle like today.
- US long-term rates remain above those in many other developed economies and while the UK’s premium is not as high, its yield curve is expected to flatten as well.
- Long-term government bond prices tend to rise when equities and credit weaken; we see numerous ways of hedging broad portfolio risks with fixed-income allocations.
- In general, we see relative-value opportunities in exploiting the performance differences between weakening short-term bond prices and firm long-term bond prices.
Long-term municipal bonds attractive for US taxpayers

- US income taxpayers* can lock in estimated tax-equivalent returns above 7% on 30-year municipal bonds held to maturity, which also have a low default probability.
- This is roughly equal to estimated returns on shorter-term, high-yield corporate debt (ex-energy), but with a much higher-quality credit rating – AA vs BB.
- Long-term munis’ risk-adjusted returns have exceeded those on US equities since 1999 and the current state of the business cycle suggests outperformance again.
- While munis are particularly vulnerable to rising rates, we believe the structural slowdown in global growth makes a significant rate-rise less likely.

[Chart: Muni yield premium over corporates]

Manage exposure to oil-price victims

- The energy-supply glut and price weakness are causing significant pain, with some producers forced to sell below cost.
- The corporate default rate on US energy issuers jumped to 10.2% in the third quarter of 2015 from 3.1% a year ago.
- As well as companies, energy distress impacts national incomes, sovereign credit and currency performance.
- In the coming year, we expect defaults and losses to be concentrated in the energy sector with significant spillovers to energy-dependent sovereign bonds.
- Outperformance of benchmarks can potentially still be achieved by avoiding high-cost, leveraged oil producers.

[Chart: Falling oil, rising producer distress]
**Short Euro/US dollar**

- Record private-investor inflows into the US dollar helped push the Euro down to multi-year lows even before the ECB’s Quantitative Easing program began.
- Going by the US and UK experience, the ECB could implement a multi-year Quantitative Easing program, which could take the Euro near parity with the dollar within the next two years.
- However, it is unlikely to weaken to the Euro’s 2000 lows of $0.85, reached when investors were keen to buy assets of the much-stronger US economy.
- There is a risk that lows could be registered swiftly, perhaps in early 2016.

![Monetary policy divergence set to narrow](chart)

Source: Bloomberg, as of 31 Oct 2015. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

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**Long volatility in crude oil**

- Iran’s return to world oil export markets in 2016 could be key to determining whether the oil price finds a lasting bottom, but its success or failure is hard to forecast.
- Oil volatility is currently priced richly, so may generate an income-opportunity for volatility sellers.
- When oil volatility drops, it could present opportunities to buy hedges at attractive levels.
- Such a purchase could serve as a hedge against other asset-price swings, as implied volatility tends to be correlated across asset classes.

![Crude oil’s implied volatility tends to surge and plunge](chart)

Source: Haver Analytics, as of 30 Nov 2015. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.
**Buy distressed assets of low-cost oil producers via private equity**

- Crude oil production costs vary widely, with about half of global output unprofitable in the long-term at the current oil price.
- Unless Saudi Arabia reduces its output, higher-cost oil producers and those dependent on short-term financing seem likely to be forced into selling assets.
- We see the bust in oil investment and financing leading to substantial lower supply over the coming years, with low prices boosting demand.
- Because of the Organization of Petroleum Exporting Countries’ lack of output restraint, the process is set to last for longer than it otherwise would.
- We think this favors investments in distressed assets for those willing to wait for some years to realize returns.

**Highest-cost producers below breakeven**

<table>
<thead>
<tr>
<th>Total development, production, and maintenance costs</th>
<th>Cash cost per immediate barrel</th>
</tr>
</thead>
<tbody>
<tr>
<td>$140</td>
<td></td>
</tr>
<tr>
<td>$120</td>
<td></td>
</tr>
<tr>
<td>$100</td>
<td></td>
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<tr>
<td>$80</td>
<td></td>
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<td>$60</td>
<td></td>
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<tr>
<td>$40</td>
<td></td>
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<tr>
<td>$20</td>
<td></td>
</tr>
<tr>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

2016 Brent average $/barrel

- Lowest cost
- Highest cost

Source: Citi Research, as of Oct 2015. Note: Figure shows 2016 expected Brent oil price and Citi Research estimates for highest and lowest cost global producer costs. These include immediate production costs, and a total including so-called “all in” investment, maintenance and marketing outlays. Alternative investments 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.

*All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.*

**Long income-producing real estate, especially in key global cities**

- Falling borrowing costs have helped boost commercial and residential real estate prices significantly in many places over recent years.
- Commercial and residential construction has generally trailed the global economic recovery, limiting oversupply in locations where growth is strong.
- Since interest rates can’t be driven much lower, further price-gains are likely to be modest.
- However, some income-producing properties may offer “carry” above financing costs, even prospectively, especially in key gateway cities.

**Carry potential**

<table>
<thead>
<tr>
<th>Spread</th>
<th>Spread assuming constant cap rate and Fed tightening as priced into money markets for 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>5%</td>
<td>4%</td>
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<tr>
<td>4%</td>
<td>3%</td>
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<tr>
<td>3%</td>
<td>2%</td>
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<tr>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>1%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: Real Capital Analytics, Haver Analytics, Bloomberg, Citi Private Bank, 30 Nov 2015. Spread is property income as % of market price less LIBOR Rate +225 basis points. Shown for illustrative purposes only and do not represent the performance of any specific investment. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.
The fall in many Asian currencies in 2015 has cast further doubt on debt sustainability. Investors are worried whether the region’s US$2.4 trillion increase in foreign debt since 2010 – of which US$1.5 trillion has been issued by Chinese and Hong Kong entities – can be safely managed through an economic slowdown and potential US interest-rate rises, drawing comparisons with the Asian crisis of 1997-98.

Unlike 1997-98, though, Asian economies generally have much larger foreign-exchange reserves and healthier current accounts – figure 1. Also, we believe that the US Federal Reserve will raise rates only gradually in 2016. Along with cheaper energy costs, this gives Asian borrowers a cushion to manage their debt and regional central banks more policy-flexibility. The economies most exposed to foreign debt compared to their currency reserves and also to commodity weakness are Malaysia and Indonesia, whose currencies were already hardest hit in 2015.

China’s slowing growth has been driven by its efforts to deal with overcapacity and excessive indebtedness. However, credit availability and costs are now improving thanks to easing, while the central government has the capacity to boost spending as well as centralizing local-debt risks. Japan, Korea, Indonesia, Thailand and Malaysia have also recently announced plans to increase fiscal support for their economies.

Asia’s scope for policy flexibility, the benefits of low oil prices and the likelihood of gentle US rate-rises offer more support than market prices currently reflect. While confidence in Asian policy-making has waned, we still see the region’s prospects as stronger than those of other emerging regions.

Equities
While suffering from a cyclical economic downturn for now, we believe Asia still has longer-term growth potential, particularly as regards consumption. Urbanization and the emergence of the middle class continue across much of the region, particularly in China, India and Indonesia. China’s consumption growth rate remains robust, with retail sales expanding at least 10% year-on-year. China’s recent relaxation of its one-child policy and push for reform are further catalysts for growth.

We continue to look for positive returns for Chinese equities in 2016, but also expect elevated volatility. Equity sell-offs such as we saw in 2015 create potential opportunities to enter at favorable valuations.
Structural problems remain a drag on Chinese corporate earnings in traditional industries like banks, energy, telecoms and materials. Policy easing and renewed urbanization efforts could avert a major downturn, but the property market is unlikely to see much growth in 2016. We prefer industries exposed to positive longer-term trends, such as digitization of consumption and payments, infrastructure investment abroad, population aging and healthcare, rising wealth and insurance/asset management.

Dividend yields remain attractive across many parts of Asia, around 4% in the cases of Singapore and Taiwan - figure 2. However, investors need to be selective. Taiwan’s prospects are dependent on political risks around its relationship with China and its uncertain technology supply-chain. Although Australia has the highest yield of all, dividend-cuts are likely from its banks. India and Korea have higher yields than they have had historically, but India’s other valuation metrics look high whereas Korea’s do not.

One selective opportunity lies in Japan, where the central bank is likely to provide additional quantitative easing, while the government is actively easing fiscal policy. The corporate sector continues to recover, while macro policy and corporate governance reform have motivated companies to boost
returns on equity and share buybacks. The buyback potential augments the dividend yield, and valuations are well below other developed market (DM) equities.

Amidst today's dearth of growth, India and Indonesia's potential are hard to find. In India, the Modi government continues to push through structural reforms, with the potential to take greater political control in the Upper House election in October 2016. Indonesia has cut taxes to incentivize investment and repatriation of the significant capital its citizens kept outside of the country. Both countries have large infrastructure investment potential. Both currencies have depreciated over 30% since 2011, which should augment future equity returns in US dollars when the currencies recover.

Our two most favored markets in the region are Japan and India, and our two least favored are Malaysia and Thailand. As to sectors, we would highlight those that combine yield and value - where financials stand out - and those that combine quality and growth - where consumer discretionary and staples stand out. Internet and healthcare also score highly.

**Fixed income**

As with other emerging market (EM) regions, volatility in Asian fixed income has risen, owing to Chinese growth concerns, lower commodity prices and expectations for higher US policy rates. At the country level, idiosyncratic events have put further strain on already-fragile markets, weighing on 2015 performance in varying degrees. Though dovish policy in the US and China has stabilized markets, periodic spikes in volatility could re-emerge in 2016.

Since the sudden depreciation of the Chinese yuan last summer, investors have reduced positions in local Asian sovereign debt markets. Policy intervention is likely to limit further yuan weakness, although China is also experimenting with selective defaults of inefficient, state-owned corporations. This will likely increase idiosyncratic risk for the credit markets, even if systemic risks can be contained. Moreover, eventual Fed tightening and softer commodity prices may also continue to weigh on investor sentiment.

Asia remains our most favored EM region, but we stress selectivity in local markets. We prefer countries with improving economic fundamentals and favorable central-bank support. For example, the Bank of India is expected to ease policy further, amidst lower inflation and a robust 7.5% growth rate. Further rate-cuts are also expected from the Bank of Korea. Though yields are relatively low, South Korea local sovereign debt could be considered a core EM holding.

In corporate credit, external debt - primarily US dollar-denominated - is likely to be supported by higher absolute yields than US and European equivalents.

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**Figure 2. Asia Pacific valuations**

<table>
<thead>
<tr>
<th>Index level</th>
<th>Estimated EPS growth, %</th>
<th>Fwd P/E, 1yr</th>
<th>Dividend yield, %</th>
<th>10-year govt. yield, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia Pacific ex-Jp</td>
<td>503</td>
<td>6.8</td>
<td>12.1</td>
<td>3.4</td>
</tr>
<tr>
<td>Australia</td>
<td>1,043</td>
<td>3.3</td>
<td>15.1</td>
<td>5.2</td>
</tr>
<tr>
<td>China</td>
<td>60</td>
<td>6.5</td>
<td>9.2</td>
<td>3.2</td>
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<td>14.6</td>
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<td>459</td>
<td>20.0</td>
<td>12.6</td>
<td>3.3</td>
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</tbody>
</table>

Source: Bloomberg, as of 30 Nov 2015. Indices all from MSCI. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.
shrinking supply and institutional demand for dollar assets. Though regional benchmarks are heavily weighted towards China – making up nearly half of investment-grade (IG) and high-yield (HY) benchmarks – we expect credit to remain resilient during spikes in volatility. Indeed, Chinese HY debt has gained roughly 10.5% in 2015, while local equity markets have declined 8.5%.

Risks remain, however, that further local-currency weakness could make external debt obligations more expensive to finance. In our view, IG credit is better suited to withstand a meaningful deterioration in fundamentals. Though telecom and consumer sectors have large exposures to foreign currency debt, many of these issuers have put on appropriate hedges. We would avoid energy-related sectors, and look for value within state-owned enterprises, especially in higher-yielding corporate hybrids.

Currencies

The Chinese authorities allowed the Chinese yuan to become more market determined, so that it could become a part of the International Monetary Fund’s (IMF) reserve currency basket, thereby adding to its credibility as a reserve currency. The concurrent devaluation sparked fears of a currency war. But since then, China’s central bank has managed to stabilize the yuan. We believe that the 2% devaluation since August 2015 was likely not enough given both how much the currency had strengthened since 2010 and the deterioration in China’s economy. We envisage more depreciation at some point, but low probability of a large one for now. Citi Research’s 6-12 month target for the yuan is 6.7 to the US dollar.

As well as US monetary policy, the yuan should be a key driver for other Asian currencies - figure 3. The Australian and Singaporean dollars are the most China-sensitive, while both central banks remain on easing bias. We expect weakness in both. The Malaysian ringgit remains the most vulnerable to commodities and external funding, with unstable internal politics. Similarly, a weakening economy and internal political risks weigh on the Thai baht. The Indian rupee is less sensitive to China owing to the country’s low export dependency and relatively high growth prospects, which continue to draw in capital. The Indonesian rupiah may find support from potential capital repatriation. We see these as candidates for outperformance among EM currencies.

Meanwhile, further large-scale quantitative easing by the Bank of Japan is likely to see the Japanese yen weaken further in 2016.

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

Figure 3. The pains of joining the IMF fraternity

Source: Bloomberg, as of 30 Nov 2015. Asia dollar index is provided by Bloomberg and JP Morgan. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.
The key risks are potential threats to earnings from weaker growth outside the region, from delays to structural reform, and from domestic politics in individual countries like Greece and the UK, with a vote on European Union withdrawal expected in the latter.

The European economic upturn is modest but the pace has steadily improved. Citi Research forecasts GDP growth of 1.5% in 2015 and 1.8% in 2016. Growth in the money supply and in credit are strong, companies are more confident and finding it easier to borrow – figure 1. Consumer activity is expected to strengthen thanks partly to lower fuel costs and improving employment and wage prospects. Further growth is unlikely to be accompanied by higher inflation as the Eurozone still has ample spare capacity.

The peripheral nations’ economies should keep recovering if borrowing costs fall further and structural reforms progress. Greece’s political and economic challenges remain, but contagion risks have been dramatically reduced. In Spain, the result of December 2015’s election is important but not expected to derail key labor-market reforms already implemented.

The ECB is committed to its quantitative easing (QE) program, especially with an inflation rate well below its 2% target. The program’s €1.1 trillion size could be increased and also has been extended to at least the end of 2016. The ECB’s actions will probably limit the extent of sell-offs in corporate and sovereign bonds as well as in equities during outbreaks of volatility.

**Equities**

The outlook for Eurozone equities is positive in local-currency terms over the next twelve months. On a US dollar-hedged basis, we look for total returns on Eurozone equities in the low teens.

With the Eurozone economy strengthening and the European Central Bank providing support via its QE program, Eurozone equities look undemandingly valued.

The MSCI Europe ex-UK Index trades on 15.4 times next year’s consensus forecast earnings, with a dividend yield of 3.2%, compared to the global MSCI benchmark of 15.4 and 2.6%. Earnings are expected to grow at between 8 and 10%.

Nevertheless, the investment rationale is somewhat different for the various countries across the region.

While we see further upside potential in equities and corporate credit, we stress the need for greater selectivity

Although Europe’s recovery has lagged that of the US since 2009, the region’s investment outlook continues to look positive. Structural economic reforms and a cyclical upturn are underpinned by support from the European Central Bank (ECB). Equity and credit valuations aren’t particularly demanding, but the recent rise in volatility may persist. We expect European assets to move less closely together in 2016, so investors may need to be more selective.
The core Eurozone nations of France and Germany benefit most from a weaker Euro, given the heavy weighting of exporters in their equity markets. At the same time, though, they have fairly low export exposure to China, amounting to only 1% of their combined GDP.

The UK market, by contrast, contains more companies with exposure to slowing emerging economies more broadly. Political risk in the UK is also rising ahead of a possible referendum on EU membership next year or in 2017. However, UK equities are well supported by a dividend yield of around 4%.

Equities in the Eurozone’s periphery offer higher potential rewards as their economies and market continue to

Figure 2. Europe valuations

<table>
<thead>
<tr>
<th>Market</th>
<th>Index level</th>
<th>Estimated EPS growth, %</th>
<th>Fwd P/E, 1yr</th>
<th>Dividend yield, %</th>
<th>10-year govt, yield, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
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<td>4.6</td>
<td>15.4</td>
<td>4.1</td>
<td>1.82</td>
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<tr>
<td>Europe ex-UK</td>
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<td>8.0</td>
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<td>3.2</td>
<td>1.26</td>
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<tr>
<td>Italy</td>
<td>798</td>
<td>24.3</td>
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<td>3.1</td>
<td>1.42</td>
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<tr>
<td>Spain</td>
<td>959</td>
<td>8.6</td>
<td>13.8</td>
<td>4.0</td>
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<tr>
<td>Sweden</td>
<td>11,690</td>
<td>10.2</td>
<td>15.7</td>
<td>2.8</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Source: Bloomberg, as of 30 Nov 2015. Indices all from MSCI. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. 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.
recover from depressed levels. Our two preferred markets in the entire region are Italy and then Spain, while the core markets of France and Germany are our two least favored. However, political risk is also higher in the periphery, with anti-establishment parties seeking to halt or reverse key economic reforms. As to regional sectors, we favor consumer discretionary and staples as well as financials, which stand to benefit from low energy costs and low rates respectively.

The prospects for emerging European and South African equities are rather less promising, owing to political risks and commodity-price pressures, with resolution of these issues needed before they can recover meaningfully.

**Fixed income**

As a whole, interest rates in the developed world remain near historic lows. Though markets have already begun to discount tighter monetary policy in the US, central banks everywhere else are expected to stay overly accommodative. In the Eurozone, slow growth prospects, low inflation, and risks of further EM volatility are likely to keep sovereign bond yields lower for longer. Even in the UK, the Bank of England’s lowered growth and inflation forecasts have pushed expectations of rate-hikes into the second half of 2016.

Spreads in peripheral countries have tightened dramatically since the 2012 sovereign crisis and may improve further. ECB policy has squeezed available net supply, pushing investors into longer-duration or higher-risk assets. Future elections are likely to drive relative country performance, though the overall technical backdrop should remain supportive. Thanks to QE, Citi Research projects negative net supply of Eurozone government debt issuance for the remainder of the year. We expect this trend to continue in 2016.

Our highest conviction resides in credit markets. After reaching a post-crisis low earlier in 2015, an increase in new supply and concerns over global growth has forced spreads in both investment-grade (IG) and high-yield corporate debt to their widest levels in years. Not only have valuations become relatively attractive, but the increase in net supply adds breadth and liquidity to a market that is nearly 2.5 times smaller than the US dollar market. This will likely introduce new investors and larger institutional participation. As the ECB’s QE program and the search for higher yields continue, we would expect European credit to benefit and spreads to compress.

Within IG sectors, we focus on areas that should benefit from an improving economic environment. Accelerating albeit slow growth, falling

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**Figure 3. Euro/dollar exchange rate follows interest-rate gap**

![Graph showing the relationship between German minus US 10-yr govt bond yield and Euro/US dollar exchange rate.](image)

Source: Citi Private Bank, Haver, 30 Nov 2015. Past performance is no guarantee of future returns.
unemployment and improvements in consumer spending, should support consumption-related sectors, such as retailers. We like the telecom and utility sectors, which contain strong issuers with resilient operating cashflows. We also favor higher yields in subordinated financials, as post-crisis bank reform continues to support stronger balance sheets. In high yield, selectivity and timing will be important drivers of future performance. We favor consumer-driven sectors, including retailers, gaming and the food/beverage sector.

**Currencies**

Largely because of the ECB’s monetary easing, the Euro should weaken further against the US dollar during 2016 - figure 3. A second force driving the single currency lower is likely to be traders continuing to use the Euro as a funding currency for more speculative trades in risky assets. This “carry trade” tends to unwind sharply when risky assets sell off, so we expect a volatile path towards Citi Research’s 6-12 month forecast of US$1.01. A weaker Euro should help Eurozone growth and exporters in particular.

The outlook for sterling has weakened somewhat as the Bank of England seems less likely to raise interest rates while the UK remains close to deflation. Moreover, there is a risk of the country voting to leave the European Union, which would have negative consequences for inward investment into the UK. A pick-up in inflation and a vote to stay in the EU could boost sterling, by contrast. Citi Research has a target for sterling of $1.47 in the next 6 to 12 months.

While ECB President Draghi over-promised and under-delivered on further monetary easing in December 2015, we expect QE in the Eurozone to persist longer than the central bank has formally announced. Counter-trend rallies in the Euro may present selling opportunities therefore, while sell-offs in equities may be buying opportunities.

**Largely because of the European Central Bank’s monetary easing, the Euro should weaken further against the US dollar during 2016**

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Citi economists forecast no GDP growth for the region in 2016. The Pacific Alliance countries – Mexico, Chile, Colombia, and Peru – may grow by 2% or more in 2016. By contrast, Brazil, Argentina, and Venezuela may suffer recessions. Across the region, a collapse in commodity prices has resulted in worsening current-account and fiscal balances and currency depreciations. Brazil and Mexico have seen double-digit currency depreciations – figure 1. Upcoming elections in Venezuela and Peru and the corruption scandal in Brazil – which could see President Rousseff impeached – add to the political uncertainty.

Mexico’s economy may reap the benefits of its close links to the US during 2016. Foreign direct investment has not followed swiftly upon the plans to auction off state-owned oilfields to private firms, owing to global oversupply and the collapse in crude prices. However, Mexican energy reforms are cause for optimism in the longer term.

In Brazil, political turmoil and domestic fundamentals are hampering growth. Attempts to balance the budget have demanded tough austerity measures, deepening the country’s recession. At the same time, high inflation has required interest-rate rises, further crimping growth potential. Finally, an investigation into alleged corruption at the state-owned oil monopoly has implicated several politicians, generating a political crisis.

**Equities**

We are still not convinced that regional equity markets have reached a turning point. Our preference remains for Mexico over Brazil, despite the Brazilian equity market having fallen for five straight years in US dollar terms. The analyst consensus is for 17.1% earnings growth for the MSCI Latin America index in 2016. This seems optimistic, given Citi Research’s projection of no GDP growth next year and the unresolved regional risks highlighted above.

Brazil is trapped in a negative spiral of corruption scandals, political problems, currency depreciation, collapsing aggregate demand, and debt downgrades, which still shows no sign of ending. We therefore remain underweight Brazilian equities. Admittedly, valuations are not expensive at 10.3 times forecast earnings for 2016, compared to a ten-year historical average of 11.0. But challenging macroeconomic conditions and the difficult political environment make the risks too high. Consensus estimates of

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**Latin America faces difficult conditions and low economic growth as we enter 2016**

The global backdrop for emerging markets is unfavorable owing to prospective US interest-rate rises, lower Chinese import demand, and depressed commodity prices. Along with sharp regional currency declines, these factors could put pressure on highly-indebted Latin American companies. Meanwhile, upcoming elections and corruption scandals create political risk for the region. If these issues were to be resolved in the first half of 2016, the regional outlook may improve. However, we would not raise our allocations based simply upon hope.
12.2% earnings growth for the MSCI Brazil index in 2016 seem high in light of our expectation of a 2.2% contraction in the economy.

Potential opportunities will depend in large part on political dynamics and in particular whether there will be sufficient political change and a fiscal adjustment program. For those wanting exposure to Brazilian equities, we would focus on exporters.

Mexico may expand by more than the regional average in 2016. Citi Research forecasts its economy to grow 2.8%, with the consensus looking for a 27.6% rise in earnings on the MSCI Mexico index. While this is arguably too high an estimate, Mexico does stand to benefit from growth in the US for much of 2016. And despite the slow start, a potential increase in oil-related foreign direct inflows is expected.

Domestic private consumption is getting a boost from improving employment and from the higher value of remittances resulting from the depreciation of the Mexican peso. Overall, we are neutral on Mexican equities, which are trading at 18.2 times forecast earnings for 2016. Within the market, however, we would focus on consumer discretionary, financials and tourism-related sectors.

**Fixed income**

Fixed income in Latin America has been harder hit than in any other emerging-market region in 2015. Currency depreciation, low commodity prices, credit downgrades and political change have led to heightened volatility and large declines in asset prices. To be fair, the region also contains two of the most volatile issuers in EM sovereign and corporate debt: Brazil and Venezuela.

<table>
<thead>
<tr>
<th>Market</th>
<th>Index level</th>
<th>Estimated EPS growth, %</th>
<th>Fwd P/E, lyr</th>
<th>Dividend yield, %</th>
<th>10-Year govt. yield %</th>
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<tbody>
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<td>Brazil</td>
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<td>12.2</td>
<td>10.3</td>
<td>4.2</td>
<td>15.82</td>
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<tr>
<td>Peru</td>
<td>855</td>
<td>10.9</td>
<td>11.3</td>
<td>1.7</td>
<td>6.99</td>
</tr>
</tbody>
</table>

Source: Bloomberg, as of 30 Nov 2015. Indices all from MSCI. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.
Major regional economies have suffered currency depreciation largely as a result of the commodity-price fall, worsening current and fiscal accounts, the weaker emerging-market environment and expect US interest-rate hikes.

Brazil has been under pressure, as the country suffers from political scandal, negative growth rates and a weaker currency. Indeed, S&P downgraded Brazil’s sovereign debt to below investment grade on fiscal concerns in September. As a result, local government bond yields spiked, becoming one of the world’s highest-yielding bond markets. Despite the high yield, Citi Private Bank remains underweight both local and external Brazilian debt, as another downgrade by either Moody’s or Fitch could trigger further outflows.

While Argentina is still sorting out a legal conundrum surrounding previously-defaulted bonds, Venezuela remains problematic. Despite repeated loans from China and early debt repayments, reserves are down 60% since its peak in 2009 to $14.8 billion, as of early December. The decline in oil prices has led investors to question the sovereign’s ability to make nearly $10bn in bond payments due in 2016. Without major reform, Venezuela’s fiscal outlook may be unsustainable and debt restructuring may eventually become inevitable.

For buy-and-hold investors, valuations in Latin American sovereign and credit markets have become attractive. That said, economic fundamentals remain broadly weak and political risks are expected to intensify. We recommend a selective investment approach, with a focus on high quality. Our favored local and external sovereign market is Mexico, which remains highly correlated with US interest rates. Latin American currency volatility may persist, so we favor hedging peso exposures.

In credit, we favor Investment Grade over High Yield and would avoid the oil and gas sector entirely. Financials in highly volatile countries may offer value, but we prefer to look for opportunities in safer Mexican and Peruvian banks. Alternatively, Latin American investors can look to diversify into US assets that offer high yields and may be less sensitive to EM flows, such as US non-agency residential mortgage-backed securities (RMBS) and structured credit.

Currencies
Following weakness in 2015, Citi Research expects mild appreciation for regional currencies by the end of 2016. Major regional economies have suffered currency depreciation largely as a result of the commodity-price fall, worsening current and fiscal accounts, the weaker emerging-market environment and expected US interest-rate hikes. Central banks in Mexico, Peru, and Brazil have intervened to slow currency depreciation with questionable success. While the outlook for 2016 is for more currency stability, the risks remain to the downside.
The investment outlook for 2016 remains positive. We prefer the US to Canada and maintain our focus upon buying quality assets across the spectrum.

The US and its financial markets remains a pillar of stability in a slower-growth world, where worries about China are particularly acute.

The proof is in the numbers. Six years after the global financial crisis, the unemployment rate has halved to 5% and inflation remains firmly below the Fed’s 2% threshold with financial conditions still accommodative. In 2016, Citi Research forecasts 2.5% growth in the US economy and 1.5% for Canada.

Given the stable US economic backdrop, investors continue to view US equities, government and corporate bonds and the US dollar as among the higher-quality and better suited to weather volatility. There are nevertheless risks for the US markets that require careful monitoring, including the impact of a Fed interest-rate hike, the sensitivity of corporate earnings to the global growth slowdown, and the regulatory and political backdrop as the next Presidential election approaches.

While US markets remain among the most favored and liquid, investors’ views of Canada have been less benign. Given the Canadian equity market’s heavy exposure to commodities – nearly three times that of the US – its economy entered a recession in 2015, vindicating our Global Investment Committee’s stance of remaining neutral to underweight of both Canadian equity and fixed-income markets. The silver lining is that the Bank of Canada’s (BoC) monetary policy is expected to remain accommodative, following its reduction from 1% to 0.5% in 2015. Citi Research forecasts unchanged rates for Canada, and recent remarks about fiscal stimulus from the incoming government of Justin Trudeau may reduce the need for monetary stimulus, barring new sources of weakness.

Equities
Valuations and earnings will remain key considerations in 2016. Following the S&P 500’s near-200% rally from its lows of March 2009, its valuation is arguably elevated. With the index at 2,080 as of 30 November 2015, it trades at 16.3 times next year’s consensus earnings forecast, slightly above the 15.7 seen at the major market peak of October 2007.

One bright spot is that the drag on earnings from the energy sector in 2015 – which resulted in near-zero index earnings growth for the year – is unlikely to be repeated in 2016, allowing for potential index earnings growth of around 10.3% – figure 1. In Canada, the consensus expectation among analysts is that earnings may rise 23.9%.

In 2016, investors should look to invest in quality stocks – those with high return on equity, low earnings variability and low leverage. We prefer large-cap sectors that continue to show growth, such as the autos and housing-related sub-sectors, as well as healthcare and technology. Higher interest rates may benefit some sectors such as financials, especially life insurance companies and money-center banks, but may hinder others like utilities.
Two challenges for equities are the stronger US dollar and a likely Fed interest-rate hike. However, these seem unlikely to derail overall earnings. The stronger US dollar should be a minimal drag as S&P 500 companies earn about 70% of their revenue domestically, while many at least partly hedge the remaining 30% of international revenue. And US equities have tended to perform well after first interest-rate hikes in the past. In the seven interest-rate cycles since 1973, the S&P 500 has on average been 1.4% higher 90 days after the initial cut and 3.1% after 180 days.

**Fixed income**

US fixed-income markets were held captive by numerous factors in 2015. Emerging-market growth concerns and lower energy prices played an important role in keeping volatility high and the appetite for conservative assets strong. But nothing demanded more attention than the Federal Reserve’s intent to tighten monetary policy.

For most of the year, declining inflation expectations and global market volatility led the Fed to maintain its near-zero interest-rate policy. This helped to keep long-dated yields low, supporting high-quality, rate-sensitive markets, such as US Treasury debt, US agencies including mortgage-backed securities, and municipal bonds.

Since the Fed’s October meeting, expectations for monetary policy have shifted. Subtly hawkish comments by Fed committee members, reduced emerging-market concerns, and robust labor growth have increased the likelihood of a rate-hike. As a result, yields of all maturities have moved higher, though predominantly in short-dated maturities. Indeed, 2-year US Treasury yields spiked to their highest level since 2010.

Despite tighter US policy in 2016, we at Citi Private Bank expect long-dated Treasury yields to be relatively anchored and for short rates to rise more than long-term yields. Improvements in housing and labor markets are offset by modest growth projections and benign inflation pressures. Demand from US banks and foreign investors may persist. US Treasuries are also among the higher-yielding developed sovereign markets. Likewise, risk aversion from lingering concerns over China growth or unanticipated periods of global market volatility may support investor

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

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**Figure 1. US sector earnings growth**

![Figure 1. US sector earnings growth](image_url)

Source: FactSet as of 30 Nov 2015. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. 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.

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 recommend adding duration, where appropriate, especially in investment-grade credit, where valuations have fallen. Heavy new issue supply has driven corporate bond spreads and yields to multi-year highs. Though leverage metrics are elevated, improved interest coverage and large cash balances may keep fundamentals and spreads well-supported. We favor opportunities in financials – specifically subordinated and hybrid/preferred structures, where appropriate.

Our view on US high yield is somewhat nuanced. Energy-related issuers make up one-fifth of the US HY market, and should be avoided. The remaining four-fifths benefits from attractive yields and ample liquidity. Volatility is forecast to persist, but will likely offer market dislocations and opportunities.

We also remain overweight US municipal bonds, where the relative value proposition for taxable client is attractive. Though underfunded pension liabilities and Puerto Rico may remain in the spotlight, we don’t expect contagion to the broader muni market. Yields on long-term maturities are more than double those on US Treasuries and exceed IG corporates on a taxable equivalent yield basis.

Currencies
US dollar strength is likely to extend into 2016, following a rally of as much as 15% in the trade-weighted US dollar index in 2015. The rapid return to normality of the US labor market should lead the Federal Reserve to raise interest rates in 2016, at a time when many other countries may still be easing monetary policy. The wide interest-rate differential between the dollar and other developed- and emerging-market currencies should see the trade-weighted US dollar index (DXY) to increase, Citi Research estimates it rising from 97.11 today to 99.2 within 6 to 12 months.

The Canadian dollar, despite the 5% loss suffered against the US dollar in 2015, has fared much better than other commodity currencies such as the Australian dollar, which has depreciated by nearly twice as much. While we suspect some further depreciation, we would not expect a full repeat of 2015. Citi Research’s 6-12 month forecast is C$1.27 per US dollar, compared to the current level of C$1.33.

US dollar strength is likely to extend into 2016, following a rally of as much as 15% in the trade-weighted US dollar index in 2015.
Global alternatives

We examine some of the key trends behind potential opportunities in hedge funds, private equity and real estate

With the financial-market investment cycle now in its later stages, the valuations of many asset classes are at or nearing all-time high levels amidst a backdrop of increasing market volatility. Preparing portfolios for a more challenging environment than that of the last six years is therefore one of our key priorities for the coming year, as we highlight in our themes of *Enduring through cycles* and *Exploiting volatility*. We believe that skillful active managers across hedge funds, private equity, and real estate can play a valuable part in helping to preserve and grow wealth.

Of course, these alternative asset classes are subject to many of the same market conditions as equities and fixed income, especially when it comes to valuations. In private equity, purchase-price multiples are at a 17-year high while resources available for new investment stand at a record peak. US commercial property values, meanwhile, have broadly exceeded their pre-crisis highs of 2007, while we observe capitalization rates for many trophy assets in key locations worldwide at all-time lows.

Notwithstanding, we believe there are pockets of opportunity in alternative assets. In private equity, for example, we look to less-competitive segments of the market, especially those that are facing market dislocation. In real estate, we identify a strategy focused on returns where there is potential to create value, mitigate risk, and maximize returns. And we see hedge funds as likely to benefit from increased volatility and declining correlations between asset classes and within them. Here we examine the key trends that are creating these opportunities.

**North American energy**

The 60% plunge in crude oil’s price to $43 a barrel between June 2014 and October 2015 has put many heavily-indebted oil producers under pressure. Among US onshore producers, debt-service costs consumed more than four-fifths of operating cash-flow in the second quarter of 2015.¹ Failing a near-term rebound in the oil price, some firms may be forced into selling their prime acreage.

Despite the current dislocation, oil’s long-term outlook is constructive. Oversupply is expected to decline, while demand is expected to grow, driven by emerging markets. If correct, this should support higher oil prices over time. In today’s environment, energy private equity managers may be able to buy premium assets at discounted prices and may benefit from higher oil prices in three to five years.

**Financial regulatory reform**

Since the global financial crisis, regulatory reforms have forced financial institutions to deleverage and meet new regulatory and

¹US Energy Information Agency, September 2015
Capital adequacy requirements. The IMF estimates that Europe is only halfway through the deleveraging process needed to reach regulatory requirements by 2020 and also that institutions are still holding approximately €1.5trn of non-core assets and €1.2trn non-performing assets.

Mandatory bank deleveraging, the lack of a European non-bank infrastructure, and the urgent need for credit has created a thriving non-bank private debt and specialty finance sector. This shadow-banking market is offering attractive risk-adjusted yield generating returns to investors. Investment opportunities can take the form of leveraged loan funds, collateralized loan obligations, commercial/mortgage finance companies, and existing loan pools. Many investors are now focusing on downside-risk management and defensive strategies rather than upside opportunities, leading them to potentially attractive yield-generating credit strategies.

**Hedge funds**

We classify hedge funds according to their intended impact on a diversified portfolio.* Return Enhancers are funds that we expect to perform in-line with equity markets over an investment cycle, but with lower levels of volatility. Volatility Dampeners are funds that may exhibit substantial volatility on a stand-alone basis but have low correlation to traditional equity and fixed-income markets, resulting in a potentially substantial benefit to an overall portfolio.

The environment seems to be ripe for companies that want to expand through mergers and other corporate actions. This creates potential opportunities for event-driven managers who focus on mergers, spin-offs, tender offers and other events that could unlock value, as well as for activist managers who identify companies deemed misunderstood and undervalued and work to encourage boards and senior management to take actions that are accretive to shareholder value. These managers, whom we generally classify as Return Enhancers, offer a way for clients to shift risk exposure to opportunities dictated by security selection and corporate catalysts and potentially achieve returns that are less dependent on the direction of the stock market.

We also think that hedge funds that are generally positioned for some level of macroeconomic uncertainty and ongoing market volatility may be a valuable complement to clients’ equity and fixed-income portfolios.

*Please refer to Disclosures for the full definitions of Return Enhancers, Volatility Dampeners and Diversifiers.

Sources: Bloomberg, HFR, as of 30 Sept 2015

Indices are unmanaged. An investor cannot invest directly in an index. Past performance is no guarantee of future returns. Real results may vary.
Discretionary and systematic macro funds tend to have little or no correlation with equity markets over a typical investment cycle and are often negatively correlated during market dislocations. They typically have broad, global mandates to trade in a wide range of asset classes, including fixed income, currencies, commodities and equities, giving them scope to seek out opportunities during periods of high volatility. Globally, we find that clients are underweight these funds, which we generally classify as Diversifiers, relative to both traditional and other alternative assets - figure 1. Given the outlook, now could be a suitable moment to rectify this.

**Real estate**
Desirable core real estate - high-quality, multi-tenanted properties typically located in major metropolitan areas that are 90% or more leased - is in strong demand among institutional investors. Capitalization rates - the initial annual unleveraged return on purchase price - in the major global markets for these core properties have hence dropped to the 4-6% range, and even lower for select trophy-real estate assets in cities like New York, London, Hong Kong, and Sydney.

Against this backdrop, we seek opportunities that follow a "build-to-core" strategy. We will target development, redevelopment, or repositioning projects that will become core assets in select top-tier primary and secondary markets. In today's environment, this strategy focuses on real-estate returns where there is potential to create value, mitigate risk, and maximize returns by selling to core buyers.

In the residential sector, the "build-to-core" strategy continues to focus on demographic and urbanization trends that are expected to remain favorable in the near term. Embracing technology trends has also created an opportunity to develop competitive projects with enhanced amenities, modern attributes, and desirable features.

Meanwhile, we remain cautious about core assets in major markets due to high prices, as well as about suburban office properties and big-box shopping malls that are not in line with changing consumer demands and market trends.

A "build-to-core" strategy in markets with strong job growth and technology-focused employment is therefore our preference.

Alternative investments 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.

Property values can fall due to environmental, economic or other reasons, and change in interest rates can negatively impact the performance of real estate companies. Past performance is no guarantee of future results.
In our view, regional risks in the Middle East, Ukraine and the South China Sea will endure, with potential for escalation or accidents. Key political signposts that could influence global markets include US presidential elections in November and the UK referendum on EU membership, which bears the risk of UK breakup as well as of exit from the EU.

Given the continued fragile recovery, dependence upon central banks, risk-aversion and inward focus of world leaders, the political situation in 2016 will likely see these risks persist. The question is whether any of these will reach a tipping-point and become systemic, and to what extent they represent a challenge to globalization.

Volatile geopolitical risk outlook
We retain our view that the Russia-Ukraine conflict is likely to remain a stalemate, seeing neither serious escalation nor resolution in the medium term. EU sanctions look likely to be extended for another six months in January, hampering Russia’s economic outlook.

The security situation in the Middle East continues to deteriorate, with the Syria conflict entering its fifth year. Refugees are fleeing in large numbers, while Russia is expanding its military presence. Russia’s intervention could increase the risk of NATO tensions, keeping pressure from the US to maintain sanctions. What could pull the region out of its downward spiral? A negotiated settlement with the Assad regime and new elections, for starters.

A key wildcard will be the end of much of the sanctions regime against Iran, a rare example of a diplomatic breakthrough. How will Tehran exert influence in the region and how will other regional players, from Riyadh to Jerusalem, interact with it?

Despite the gloomy geopolitical outlook in longstanding hotspots as well as growing friction in the South China Sea, and risks such as weak and failing states, terrorism, and the political risks to crude-exporters of falling oil prices, risks have thus far remained regional. Thanks to shale-gas supplies and central banks’ monetary easing, neither an oil-price shock nor a growth shock - the typical transmission mechanisms for geopolitical risk - have occurred.

Beware the vox populi
In three-quarters of thirteen key national elections in 2015, non-mainstream parties received over 10% of the vote. This suggests that the global trend of weak leadership and political fragmentation is set to continue, fuelled by declining public trust, the perception of unevenly-distributed benefits of growth, and the perceived irrelevance of mainstream party politics.
These sentiments will be much in evidence in the key market-relevant political events in 2016: US elections in November and the expected UK referendum on EU membership - figure 1.

Other flashpoints include Brazil’s lingering impeachment crisis and the anti-establishment sentiment that has spawned the rise of candidates from Donald Trump to Bernie Sanders and Jeremy Corbyn.

The refugee and migration crisis – which has intensified amid a spike in the number of forcibly-displaced people to 60 million – will continue to pre-occupy European officials, who must also contend with the ongoing Greek crisis and Russia-Ukraine tensions. Anti-immigration sentiment has displaced the economy to become the number one issue for European voters.\(^1\) For the European electorate, and possibly in the US, the catchphrase for elections may be, “it’s immigration, stupid”.

**Where is the good news?**

We could see improvements in relations between traditional allies in 2016, such as cooperation between Turkey and the EU to address the refugee crisis. This could potentially revive broader relations, long stalled over Turkey’s EU membership bid.

Although 2016’s growth outlook may be weak, one answer to boosting growth is right before us: women drive economic growth when given greater opportunity to participate in the labor force and can serve as “growth accelerators”, both in the advanced and emerging world.

We call this the WG3 effect. According to the OECD, if countries saw full convergence of men and women in the labor force, these nations would enjoy an overall increase of 12% in GDP over the next fifteen years. Some emerging countries could see increases of 20% in GDP or more.\(^2\)

In a slow-growth world, have the conditions emerged that will finally see concerted attempts by governments and the private sector to boost female labor force participation? Judging by the recent agreement at the 70th United Nations General Assembly to agree new Sustainable Development Goals, including commitments to reduce gender inequality, this is no longer a rhetorical question.

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**Figure 1. Selected 2016 elections and political signposts**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EU sanctions</strong></td>
<td>31 Jan 2016</td>
</tr>
<tr>
<td>Deadline to renew sanctions</td>
<td></td>
</tr>
<tr>
<td>against Russia</td>
<td></td>
</tr>
<tr>
<td><strong>Iran</strong></td>
<td>26 Feb 2016</td>
</tr>
<tr>
<td>Parliamentary assembly of</td>
<td></td>
</tr>
<tr>
<td>experts elections</td>
<td></td>
</tr>
<tr>
<td><strong>UK</strong></td>
<td>TBD 2016</td>
</tr>
<tr>
<td>EU referendum</td>
<td></td>
</tr>
<tr>
<td><strong>Russia</strong></td>
<td>18 Sep 2016</td>
</tr>
<tr>
<td>Parliamentary election</td>
<td></td>
</tr>
<tr>
<td><strong>US</strong></td>
<td>08 Nov 2016</td>
</tr>
<tr>
<td>Presidential election</td>
<td></td>
</tr>
</tbody>
</table>

Taiwan
January 2016

US, Iowa caucus
January 2016

Ukraine, regional
February 2016

Ireland
April 2016

South Korea
April 2016

Scotland
May 2016

South Africa
municipal
June 2016

US Republican and
Democratic National
Conventions
July 2016

Japan
July 2016

Hong Kong
September 2016

Spain, regional
November 2016

Denmark, EU
referendum
December 2015

Thailand
(TBD)

Source: Citi Private Bank, as of 21 Oct 2015

\(^1\) European Commission: Eurobarometer

Outlandish outcomes

With politics in many countries taking unexpected turns, the result of the next US presidential election and its effects on markets look murky.

When Donald Trump outpolls Jeb Bush, and Bernie Sanders outpolls Hilary Clinton, when a committed socialist is elected leader of Tony Blair’s UK Labour party, and when a far-left outfit wins power in Greece, it isn’t difficult to imagine further outlandish outcomes in politics, economies and markets in 2016. Political divisions have widened dramatically in the US as in Europe, suggesting the possibility of an ‘unstable equilibrium’ of alternating extremist outcomes going forwards.

Politics may have an important influence on investors’ expectations about financial markets. Figure 1 shows that US equity returns have been dramatically stronger under Democratic administrations than Republican ones. Of course, there are key anomalies within this pattern, such as, the low annualized returns under the Democratic President Carter and the unusually strong returns under Republican President Reagan.

Although a casual reading of this data might suggest that the Democrats cause better returns, what it really shows is that Democrats have on average happened to have been elected president at times when the US economy and equities have been cyclically depressed. As the economy then picked up, their terms in office consequently coincided with a recovering stock market.

By contrast, Republicans have on average been elected when US output and employment were already strong and financial markets therefore closer to a cyclical peak. The so-called output gap – a measure of the economy’s performance in relation to its potential – has averaged 1% above potential output when Republicans were elected and 1.9% below potential when Democrats are elected – figure 2.

The anomalies of Carter and Reagan, who were elected under the opposite conditions to their respective party’s typical experience, show that party affiliation may not be a likely determinant of financial-market performance, but that the business cycle is.

Politics may have an important influence on investors’ expectations about financial markets.
Still, electing Republicans might be described as an act of high confidence on the part of voters, if the business cycle helps determine such a result, as the historical data suggest. Weak economies tend to incentivize voters to prefer candidates favoring government intervention and larger safety-nets. A key perceived risk associated with the Democrats is market intervention when they shouldn’t intervene. A key perceived risk with the Republicans is failure to intervene when they should. Using US economic data to help forecast an election winner will be a tougher call than ever in 2016. Citi Private Bank’s own view of the US economy slightly favors the view that higher economic confidence will give Republicans a bit of an advantage, all else being equal.

Malcolm Spittler also contributed to this article.
Our themes from previous years have ongoing relevance to investors’ portfolios today

The investment themes we present in Outlook each year are not simply trade ideas or issues important to one specific region or industry. They are a focused selection of globally relevant and potentially game-changing trends that we believe may have lasting effects and impact most asset classes. Here, we consider the key themes of recent years, how they have played out and their ongoing relevance.

The US energy revolution
A part of our Harnessing global change theme in 2013, The US energy revolution has indeed had profound effects upon economies and markets globally. It has changed the composition of US economic activity and contributed to the US dollar’s revival. Consumers have benefited, while certain producers have suffered deep financial stress. Looking ahead, Saudi Arabia maintaining crude output and Iran’s potential return to export markets could lead the highest-cost producers to fail if the long-term oil price only recovers to $60-$70 a barrel. But as we discuss in Navigating emerging markets our instinct is to seek investment opportunities during a bust, not a boom.

Identifying sustainable yield
We recommended in 2013 that investors implement a multi-strategy portfolio to seek yield amidst the low interest rates of that time. With rates today even lower, this theme remains highly relevant. Market dislocations in 2015 have created some opportunities – see our regional fixed-income overviews. And while fixed-income valuations remain high, we do not see a big risk of higher US Treasury yields in the short term.

The liquidity tradeoff
We warned in 2014 that liquidity in public markets could evaporate when the demand to sell was at its highest. Several subsequent incidents have borne this out, including a 1,100-point opening plunge in the Dow Industrials, and 6% price-surge in long-term US Treasuries just in ten minutes while many other bonds proved unsaleable.1 We argued that richly-priced credit and equity markets couldn’t compete with the long-run returns of illiquid, private investments. That’s still largely the case, although sharp valuation increases in some private markets and decreases in some public ones have somewhat altered long-term returns. We discuss private-equity and real-estate opportunities in Global Alternatives.

Shifting growth opportunities
Our 2014 call for developed markets (DM) to outperform emerging markets (EM) has played out well. Since the start of 2014, DM equity returns have

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1Source: Bloomberg, as of 24 Nov 2015
exceeded EM returns by 15.9%, while DM fixed-income returns have also outperformed EM returns 0.5% and by much more if EM currency exposure wasn’t fully hedged. We retain our overweight to DM but believe an opportunity in EM may be in sight for those with a return horizon of five years or more – see *Navigating emerging markets*.

**Seek alpha over beta**

In early 2015, we argued that the strong financial-market returns since 2009 had been a “great beta rally” driven in large part by improving credit and falling interest rates. With the world’s lowest deposit return now at -0.75%, the second of these drivers has fully played itself out. A core message was to look beyond the recovery when making long-term investments. Amidst a slow-growth, late-cycle recovery, we have renamed this theme *Enduring through cycles*.

**Social investment**

In the past year, we have proudly helped clients align their portfolios with their social values, rebalancing portfolios to reflect environmental, social and corporate governance goals. Investors with these priorities did not necessarily have to sacrifice performance, as some social-investment benchmarks outperformed broader-based ones. The social goals of our clients are individualized and we continue to seek out new opportunities for those who view social investment as a priority.

Meanwhile, we continue to believe that *Exploiting volatility* and *Transforming commerce* are relevant themes for today’s environment and therefore elaborate on these in the sections that follow.

In the past year, we have proudly helped clients align their portfolios with their social values, rebalancing their portfolios to reflect environmental, social and corporate governance goals.
While we remain bullish for the period immediately ahead, a tipping-point could possibly occur in 2017, leaving sufficient time to prepare portfolios.

We expect to continue gradually shifting our tactical allocation towards higher-quality, more defensive assets over the coming year.

Given past experience and current valuations, we examine which assets and industries may cope better with a future period of stress.

We expect the global economic expansion to continue in 2016, but its pace has disappointed for five consecutive years.

Enduring through cycles

Enduring through economic and investment cycles

Steven Wieting, Global Chief Investment Strategist

While we remain bullish for the period immediately ahead, we examine which assets and industries may cope better with a future period of stress

When the US sneezes, the rest of the world catches a cold. Over time, the business cycle in the US and for the world as a whole has been virtually identical – *figure 1* – albeit with some lag of variable lengths in the impact upon different regions. While the same isn’t generally true of other large national economies, a downturn in the US can worsen existing vulnerabilities elsewhere. So, even though the US only accounts for around one-fifth of the world economy, it can still drive the global outlook and asset prices – *figure 2*.

As ever, the exact duration of today’s global economic expansion remains uncertain. But we think that a future turning-point is gradually coming into view. As such, the balance between reward and risk is slowly tipping less favorably for investors. In the third quarter of 2015, world equity markets posted their first correction of more

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than 10% since 2011. We held our asset allocation to equities steady throughout this correction, as we expected it to be short-lived. However, we have been gradually reducing our overweight to risky assets since late 2014 for reasons related to the larger business cycle.

Citi Private Bank’s data show that since the end of World War II, there have been eleven full US recessions and twelve equity market declines exceeding 20%. The nearly equal number is no coincidence. Once the next full-blown economic contraction occurs, we should expect significant declines in US corporate earnings and a drop in both US and global equities of roughly 25%. This assumes no massive overvaluation in equities like in 1999-2000 nor a system-wide shock as in 2008, where much larger equity sell-offs took place.

Despite conflicting signals influencing our view of the global economic expansion’s longevity, we still think mid-2017 is a plausible center-point for emerging US business-cycle risk, providing us with adequate time to prepare portfolios for it.

What are the conflicting positives and negatives? On the negative side, there is an ongoing imbalance in the US labor market, with the labor force failing to expand to meet record-high unfilled US job openings. However, slow economic growth has still been consistent with tightening US labor markets. In fact, when including discouraged workers or those unable to find full-time work involuntarily, the unemployment rate in the US has now fallen slightly below its long-term average and continues to fall fast, according to the US Bureau of Labor Statistics.

The slow pace of wage increases suggests there will be time before this imbalance between labor supply and demand becomes acute. However, over the past five years, US employment gains have averaged just over 200,000 a month while the labor force has grown by about 75,000 a month. Such imbalances have historically persisted until close to the time of the sharp reversals that occur during recessions - figure 3.

On the positive side, the US Federal Reserve plans to allow for the unemployment rate to fall below its own estimate of ‘full employment’ without raising interest rates sharply as it most frequently has in the past. It is able to do so largely because inflation has fallen below its target. Expansions with low inflation like that of today have enabled employment to rise by more before peaking for a variety of reasons,
Over the coming year, we expect to keep gradually shifting our tactical allocation towards assets with low correlations to equities and a history of positive returns during equity corrections.

These neatly arranged annual returns don’t fully account for the worst of the equity declines that occur around we calculate that. In nine of eleven cases, recessions were associated with equity declines in excess of 20% during some point starting just before or within two years after peak employment periods, with an average negative return 28.2%.

Over the coming year, we expect to keep gradually shifting our tactical allocation towards assets with low correlations to equities and a history of positive returns during equity corrections.
Figure 4. Financial asset performance through US recessions since World War II

<table>
<thead>
<tr>
<th>Unemployment rate trough</th>
<th>S&amp;P 500 Index</th>
<th>10-Year US Treasury</th>
<th>T-Bills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate %</td>
<td>12-month subsequent</td>
<td>Decline in 24-month Decline in 1 or 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>total return, %</td>
<td>in either year</td>
</tr>
<tr>
<td>Oct-06</td>
<td>4.4</td>
<td>14.6 (26.8)</td>
<td>Yes</td>
</tr>
<tr>
<td>Apr-00</td>
<td>3.8</td>
<td>(13.0) (24.0)</td>
<td>Yes</td>
</tr>
<tr>
<td>Mar-89</td>
<td>5.0</td>
<td>19.3 36.5</td>
<td>No</td>
</tr>
<tr>
<td>Dec-80</td>
<td>7.2</td>
<td>(4.9) 15.6</td>
<td>Yes</td>
</tr>
<tr>
<td>Apr-79</td>
<td>5.6</td>
<td>10.4 45.0</td>
<td>No</td>
</tr>
<tr>
<td>Oct-73</td>
<td>4.6</td>
<td>(28.8) (10.3)</td>
<td>Yes</td>
</tr>
<tr>
<td>Sep-68</td>
<td>3.4</td>
<td>(6.4) (12.2)</td>
<td>Yes</td>
</tr>
<tr>
<td>Jun-59</td>
<td>5.0</td>
<td>0.6 18.0</td>
<td>No</td>
</tr>
<tr>
<td>Feb-56</td>
<td>3.9</td>
<td>(0.9) (2.6)</td>
<td>Yes</td>
</tr>
<tr>
<td>Apr-53</td>
<td>2.5</td>
<td>21.6 70.9</td>
<td>No</td>
</tr>
<tr>
<td>Jun-48</td>
<td>3.5</td>
<td>(9.9) 20.4</td>
<td>Yes</td>
</tr>
<tr>
<td>Average</td>
<td>4.4</td>
<td>0.2 11.9</td>
<td>% = 64%</td>
</tr>
<tr>
<td>Median</td>
<td>4.4</td>
<td>(0.9) 15.6</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: Federal Reserve, S&P, Haver Analytics, data through 1 Nov 2015. Using Cowles Commission data for S&P 500 Index prior to 1957. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results, and actual results may vary. Future movements could deviate from historical patterns.

Figure 5. Asset class correlation to US equities and 'bear market' returns

<table>
<thead>
<tr>
<th>Period</th>
<th>Low inflation period (1985 - April 2015)</th>
<th>Low inflation period (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US equities</td>
<td>Global equities ex-US</td>
</tr>
<tr>
<td></td>
<td>Return (%)</td>
<td>Return (%)</td>
</tr>
<tr>
<td>All periods</td>
<td>12.8</td>
<td>11.8</td>
</tr>
<tr>
<td>“Bear markets”</td>
<td>-29.1</td>
<td>-31.0</td>
</tr>
<tr>
<td>All periods</td>
<td>1.0</td>
<td>0.08</td>
</tr>
<tr>
<td>“Bear markets”</td>
<td>-12.6</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Sources: Standard & Poor’s, MSCI, Factset, and Citi Private Bank as of April 2015. Past performance is no guarantee of future results, and actual results may vary. Future movements could deviate from historical patterns. Correlation measures how much two variables move together, where a reading of 1 = perfect correlation, 0 = no correlation and -1 = perfect negative correlation.
corrections – figure 5. Admittedly, a low correlation to equities does not necessarily imply a positive return during bear markets, as the example of commodities shows.

By contrast, US Treasuries and investment-grade corporate fixed income have provided positive returns during past bear markets. During the current economic recovery, however, bond yields have declined while cash yields are near zero. From these levels, it is highly unlikely or impossible for fixed income and cash to repeat their past performances in a future equity bear market.

That said, we still see pockets of value in investment-grade debt and a variety of higher-risk niches – see our regional outlook for fixed income within Portfolio perspectives. Overall, though, defensive assets such as government bonds have mostly rallied alongside equities through the present recovery. This leaves us with a narrower range of defensive possibilities to help endure through the full cycle.

In fixed income, low bond yields have coexisted with strong credit quality – outside of energy-linked credit – for a long time. In the next couple of years, investors will likely continue to see low bond yields but eventually coupled with weakening credit. This is a recipe for a notable correction in most risky assets including high-yield fixed income. Over the coming year, we expect high-yield weakness to remain largely confined to US energy credits, but that will change in a broader downturn of the future.

Enduring growth equities

Higher corporate yields over the past year have not come amid stronger economic growth expectations. A period of very sharp equity outperformance over credit would need three things in our view: corporate re-leveraging, higher market interest rates and accelerating economic growth. Of these three things, only re-leveraging is in place.

With equity earnings and dividend yields still higher than most government bond yields, the challenge is to find equities whose yields won’t compress with falling earnings. Growth in earnings is likely to be absent even in safer bond-like equity investments, whose valuations are already high. Utilities, for example, have valuations above their long-term average as a result of plummeting interest rates.

It is important to recognize the cyclical vulnerability of various economic sectors. Figure 6 shows the average decline in earnings across the US market’s ten sectors during the recessions of the past three decades. There is no coincidence that these

During the current economic recovery bond yields have declined while cash yields are near zero. From these levels, it is highly unlikely or impossible for fixed income and cash to repeat their past performances in a future equity bear market.

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3 All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.
correspond closely to their sensitivity to credit markets. Firms with falling revenues and profits have more difficulty borrowing, which reduces the value of their equities through a variety of channels.

**Figure 6** shows the interest-rate sensitivity of the ten economic sectors along with their price-to-earnings valuation. Those that are least cyclically-vulnerable and defensive have the highest valuations relative to their long-term average. The message of **figure 6** is therefore that some defensive investments today carry a significant valuation risk.

The current environment offers a narrower choice of investments that, given their current valuations, could potentially outperform in a period of financial stress. However, we see solid exceptions in a select group of equities. In a period of falling earnings, their durable growth becomes a scarce and valuable commodity.

The prime example, which covers a significant investable area, is improving nutrition and healthcare in emerging markets where penetration of use is low and populations are growing. Combining food and healthcare for example, suggests treatments for the rapid growth in obesity-led diseases such as diabetes. This is a growth rate almost entirely divorced from the global business cycle and should see firms that execute well grow through almost any downturn.

**The current environment offers a narrower choice of investments that, given their current valuations, could potentially outperform in a period of financial stress.**

---

**Figure 6. Sector characteristics**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Peak-to-trough percent change in sector EPS (average of last 3 recessions)</th>
<th>Sector P/E ratios</th>
<th>Credit sensitivity</th>
<th>Rate sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Historic average</td>
<td>Current</td>
<td>2016F</td>
<td>1= most, 10=least</td>
</tr>
<tr>
<td>Healthcare</td>
<td>8.8</td>
<td>19.5</td>
<td>20.7</td>
<td>18.8</td>
</tr>
<tr>
<td>Cons. stap.</td>
<td>4.8</td>
<td>19.4</td>
<td>20.4</td>
<td>19.2</td>
</tr>
<tr>
<td>Utilities</td>
<td>-17.4</td>
<td>13.2</td>
<td>17.0</td>
<td>16.4</td>
</tr>
<tr>
<td>Telecom</td>
<td>-32.5</td>
<td>18.6</td>
<td>26.4</td>
<td>25.7</td>
</tr>
<tr>
<td>Industrials</td>
<td>-36.5</td>
<td>17.2</td>
<td>18.4</td>
<td>17.6</td>
</tr>
<tr>
<td>IT</td>
<td>-42.7</td>
<td>22.7</td>
<td>18.1</td>
<td>16.7</td>
</tr>
<tr>
<td>Cons. disc.</td>
<td>-58.1</td>
<td>21.3</td>
<td>18.9</td>
<td>16.4</td>
</tr>
<tr>
<td>Energy</td>
<td>-61.4</td>
<td>15.5</td>
<td>16.9</td>
<td>16.9</td>
</tr>
<tr>
<td>Materials</td>
<td>-72.6</td>
<td>18.7</td>
<td>16.6</td>
<td>14.7</td>
</tr>
<tr>
<td>Financials</td>
<td>-83.9</td>
<td>16.1</td>
<td>13.7</td>
<td>12.6</td>
</tr>
</tbody>
</table>

Source: Haver, as of Nov 2015. Federal Reserve Board, Moody’s, Standard & Poor’s, and Citi Private Bank as of April 2015. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. *Average decline in earnings across the US market’s ten sectors during the recessions of the past three decades (data from 1989-2015) The credit and rate sensitivity rankings relate to how much of the variation in annual sector index returns between 1990 and 2015 can solely be explained by changing credit and rate conditions, where 1 denotes the sector whose returns were most sensitive and 10 denotes the sector whose returns were least sensitive.
Navigating emerging markets

Today’s turmoil in emerging-market (EM) equities, fixed income and currencies represents an opportunity in the making.

Our own strategic asset-allocation model already points to healthy long-term returns on EM equities and currencies over the next decade.

But EM equities could decline even further in the next one to two years, accompanied by yet more weakness in EM currencies.

While we remain tactically but selectively underweight EMs, we consider how investors should position themselves for future opportunities.

Bloomberg, as of 31 Oct 2015; Citi Private Bank Asset Allocation team, as of Nov 2015. More information on SREs is available upon request from your Banker or Investment Counselor.

All forecasts are expressions of opinion, are not a guarantee of future results and are subject to change without notice. There may be additional risk associated with international investing, including foreign, economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes, and differences in financial and accounting standards. These risks may be magnified in emerging markets. International investing may not be for everyone.
Emerging markets (EMs) around the world are in turmoil. During the first ten months of 2015, the MSCI Emerging Markets Index – which includes equities from 23 developing nations – declined by as much as 28% in US dollar terms.

The index is down 36% from its all-time high in 2007, despite record-high equity-price levels in some developed markets. Economic growth in China has slowed from 12% at the start of 2010 to below 7% today, with evidence that even this is overstated. Brazil and Russia – among others – are mired in recession. Numerous EMs have also suffered sharp declines in the value of their currencies.

Today’s turmoil, however, represents an opportunity in the making. As EM equities, currencies and local fixed income valuations adjust, the way is being paved for a future rebound in returns. From a tactical perspective, we have been underweight, especially credit and equities in Latin America and Emerging Europe, while remaining overweight of most, but not all, developed markets (DMs).

However, we recognize that the time to invest again in some EMs will come – and isn’t a lifetime away.

Likewise, it wasn’t so long ago that EMs were considered among the most desirable of investments. Between 2000 and 2010, the MSCI Emerging Markets Index rose by 209%, outpacing the MSCI World Index, which fell 10% over the decade. Many investors were captivated by the double-digit expansion of China’s economy as well as the strong performance of other emerging nations. Since then, however, many of the conditions that helped bring about that performance have gone into reverse.

Diverging fortunes
Brazil is a prime example of an emerging economy that was boosted by one-off factors in the last decade, but which has been beset by dashed expectations and vulnerability in the present decade. As commodity prices boomed – in part thanks to China’s rapid, commodity-hungry growth – Brazil’s budget and current account improved dramatically. Although China was only one buyer, commodity export demand contributed a fifth of Brazil’s GDP growth alone in 2010.

The US dollar’s decline for most of the 2001-2011 period benefited commodity exporting EMs. In Brazil’s case, it eased the burden of its US dollar debt, making consumer stimulus possible, while raising the value of its commodity exports. As a result, Brazil and other commodity exporters enjoyed uplifts in their credit ratings to investment-grade status.

As demand for commodities subsequently slowed, Brazil’s exports weakened. With internal demand exceeding national production, this moved the country back to an external deficit position. External deficits require international capital inflows to balance this account. Such inflows are difficult for Brazil to attract now. In 2015, it took outright economic contraction and a devaluation of the currency merely to begin to improve its external position.
Figure 1. Emerging markets compared

<table>
<thead>
<tr>
<th>Country</th>
<th>Real GDP growth (%)</th>
<th>Inflation rate (%)</th>
<th>Real policy interest rate (%)</th>
<th>Current account balance (% of GDP)</th>
<th>Currency vs US dollar (yr/yr, %)</th>
<th>Equity market PE²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>3.4 3.2 -2.2</td>
<td>8.9</td>
<td>4.7</td>
<td>-4.1</td>
<td>-58.2</td>
<td>14.9</td>
</tr>
<tr>
<td>Russia</td>
<td>3.4 -3.7 0.5</td>
<td>15.3</td>
<td>-2.9</td>
<td>5.5</td>
<td>-54.2</td>
<td>7.4</td>
</tr>
<tr>
<td>India</td>
<td>7.7 7.5 7.8</td>
<td>5</td>
<td>2.0</td>
<td>-1.0</td>
<td>-6.1</td>
<td>22.5</td>
</tr>
<tr>
<td>China</td>
<td>10.0 6.9 6.3</td>
<td>1.5</td>
<td>0.7</td>
<td>2.7</td>
<td>-3.7</td>
<td>9.2</td>
</tr>
<tr>
<td>Indonesia</td>
<td>5.9 4.7 4.5</td>
<td>6.6</td>
<td>-1.1</td>
<td>-1.0</td>
<td>-13.6</td>
<td>13.9</td>
</tr>
<tr>
<td>S. Korea</td>
<td>3.7 2.5 2.4</td>
<td>0.8</td>
<td>0.9</td>
<td>7.5</td>
<td>-7.8</td>
<td>11.6</td>
</tr>
<tr>
<td>Poland</td>
<td>3.8 3.5 3.3</td>
<td>-0.8</td>
<td>2.4</td>
<td>-0.6</td>
<td>-14.2</td>
<td>12</td>
</tr>
<tr>
<td>Turkey</td>
<td>4.2 2.3 2.6</td>
<td>7.7</td>
<td>1.4</td>
<td>-5.1</td>
<td>-29.8</td>
<td>9.7</td>
</tr>
<tr>
<td>S. Africa</td>
<td>3.0 1.3 1.2</td>
<td>4.7</td>
<td>1.2</td>
<td>-4.3</td>
<td>-22.0</td>
<td>17.6</td>
</tr>
<tr>
<td>Argentina</td>
<td>5.0 2.0 -1.7</td>
<td>15.3</td>
<td>6.3</td>
<td>-2.1</td>
<td>-11.8</td>
<td>5.7</td>
</tr>
<tr>
<td>Mexico</td>
<td>2.4 2.5 2.8</td>
<td>2.8</td>
<td>0.2</td>
<td>-2.5</td>
<td>-22.9</td>
<td>26.6</td>
</tr>
<tr>
<td>Venezuela</td>
<td>3.6 -9.5 -5.6</td>
<td>129.2</td>
<td>114.7</td>
<td>-10.8</td>
<td>0.7</td>
<td>29.6</td>
</tr>
</tbody>
</table>

Sources: FactSet, Haver, Bloomberg and Citi Research. GDP forecasts as of 30 Nov 2015; other data as of 3 Nov 2015.

²MSCI Indices used for all countries except Venezuela, for which IBC Caracas Stock Index PE is shown. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future results. Real results may vary.

But the weaker currency has also led to a vicious cycle of economic pressures, high interest rates and depreciation.

Meanwhile, China – whose demand formerly helped power Brazil’s expansion – appears to be undergoing the biggest change in the make-up of its economic growth since the 1950s. While much of the official data is of questionable quality, retail sales grew convincingly by 10% throughout 2015, while nominal imports slumped 20% on falling commodity prices. It means that both the domestic and international beneficiaries of China’s economy are changing, leaving key commodity exporters behind for the time being – figure 2.

Like Brazil, India also depends on external capital flows. But as a large energy importer, the country presents a different kind of EM. The oil-price drop has markedly improved its external-account position. The market-friendly government of Narendra Modi, meanwhile, has inspired confidence among businesses and consumers domestically and among foreign investors. It has also revived many previously-abandoned infrastructure projects that are critical to India’s immediate growth and long-term development.

When to invest again
Following their poor performance of recent years, EM equities as a whole are lowly valued. They currently trade on 14 times their average real earnings of the last decade, compared to their long-term average of 15. DM equities, on the other hand, trade somewhat above long-term valuation. Taking this all into account, our own strategic asset allocation model forecasts an annualized return of more than 10% for EM over the next decade – see Late-cycle investing. Likewise, the decline in EM exchange rates in the present decade present an attractive entry-point.

This is not to say, however, that EM cannot decline further in the near term. We caution that our long-term return estimate for equities could easily rise into double digits by way of a further deep price retrenchment at some point in the coming couple of years. We also see a high likelihood of yet more...
weakness in EM currencies once the current US economic expansion comes to an end, driven by the significant risk aversion that typically occurs at such a time, which tends to boost the US dollar. Real exchange rate data suggest that EM currency weakness has not yet overshot to the downside as it has done in the past – figure 3.

For commodity-exporting EMs, whatever recovery oil may have achieved the time the US expansion hits its peak may be followed by a new plunge. This could help push petroleum-sensitive EM assets to reach their secular low before a lasting recovery.

Despite the continuing risks to emerging-market assets as a whole, we are more positive on the immediate outlook for certain regions and countries. We see emerging Asia as a multi-faceted, long-term development story, and also the marginal beneficiary of falling energy costs, and therefore remain overweight select Asian equities, while underweighting most other EM regions. We also expect commodity importers to do better than commodity exporters in the period ahead, whereas they have tended to move together of late.

One prominent energy importer is India, where we are also overweight equities. Some Indian asset valuations are high compared to the EM universe, particularly those of its internationally-known services firms. This contrasts with Brazil, whose valuations are much lower, but where we stay underweight for now. At some point, Brazil may outperform against such low expectations, but we think that will come deeper into its present economic contraction.

With the US Federal Reserve preparing potentially to raise interest rates for the first time in almost a decade, we see certain EM credits as especially vulnerable, particularly high-cost petroleum producers away from those with strong sovereign support. As such, we continue to emphasize higher-quality developed markets’ fixed income.

Given our outlook for further near-term underperformance in EMs but for attractive returns over a five- to ten-year horizon, how should investors position themselves for now? In addition to the long-term development story represented by India and at the margin Indonesia, we would expect a decent, if volatile, performance from Greater China markets in 2016.
Policymakers there are focused on stabilizing growth while international expectations for China’s economic performance are low.

For investors with heavily-concentrated EM portfolios, greater international diversification should be an overriding concern. Strategic investors from developed regions should probably wait and carefully build or engage expertise before investing. EM underperformance could well reach its nadir in 2017 or a bit later, when the US economy may hit its peak. A new easing cycle by the Fed will lift depressed EM currencies at that point. Financial-market bust will give way to boom once again for many EMs if history is a guide, but only once the bust has actually occurred. When that time comes, we will aim to be poised to benefit from such returns.
Exploiting volatility

Volatility reared its head in portfolios in 2015, as we had cautioned that it might well do.

We see scope for further dislocation across various asset classes and economies from drivers including potential US interest-rate hikes.

Volatility is no longer as cheaply priced as it was a year ago, but we continue to stress preparing portfolios for further turbulence.

We highlight potential strategies for mitigating the impact of extreme sell-offs as well as for seeking additional yield.

16.1
The VIX’s level as 30 Nov 2015. Its long-run average is 20.2.

25%
The peak-to-trough decline in the GSCI commodity index in 2015.

Source: Bloomberg, as of 30 Nov 2015. Past performance is no guarantee of future results. Real results may vary.
We continue to stress the potential benefits of preparing portfolios for the possibility of further turbulence to come.

Volatility reared its head in portfolios again in 2015. In August, China set off the world’s largest market correction in four years by slightly devaluing its currency.

The MSCI World index suffered its first correction of more than 10% since 2011, with many national markets around the globe experiencing much larger falls. High-yield bonds sold off by as much as 10% in 2015, while commodities as measured by the GSCI index declined by 25%. Various measures of volatility have thus snapped back towards their long-term averages having remained subdued for much of the previous three years – figure 1.

While bouts of turbulence are by their very nature unpredictable, we urged investors to be ready for a potential increase in volatility in 2015. We noted in last year’s Outlook that some forward asset prices seemed to be forecasting an unusual degree of calm ahead, which we felt to be at odds with historical experience. We highlighted the case of crude oil, where market pricing implied low probabilities of 20% moves in either direction in the coming year. Crude oil subsequently saw both a drop of 60% and then a temporary rebound of 45%.

As of late 2015, volatility is no longer priced as lowly as it was a year ago. Nevertheless, we continue to stress the benefits of preparing portfolios for the possibility of further turbulence to come. Some evidence suggests volatility may be chronically mispriced - please the next article.

The key drivers of volatility of the last twelve months remain just as relevant today. Having kept short-term interest rates near zero for almost eight years, the US Federal Reserve’s mere discussions about raising them have already caused disruptions in various markets and economies, particularly in the emerging world. Even if the eventual rate-hikes are as gradual as we expect them to be, there is clearly scope for further dislocation across a broad range of asset classes and economies.

<table>
<thead>
<tr>
<th>Volatility index</th>
<th>Current reading</th>
<th>1 Dec 2014*</th>
<th>Average since 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Stocks (VIX)</td>
<td>16.1</td>
<td>13.3</td>
<td>20.2</td>
</tr>
<tr>
<td>US Treasury (MOVE)</td>
<td>73.2</td>
<td>67.1</td>
<td>87.1</td>
</tr>
<tr>
<td>High Yield Debt¹</td>
<td>7.78</td>
<td>8.3</td>
<td>9.4</td>
</tr>
<tr>
<td>Currencies (CVIX)</td>
<td>10.3</td>
<td>8.6</td>
<td>10.6</td>
</tr>
<tr>
<td>Crude Oil (OVX)</td>
<td>48.1</td>
<td>36.4</td>
<td>35.0</td>
</tr>
</tbody>
</table>

Sources: Haver and Bloomberg as of 30 Nov 2015. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future results Real results may vary. *1 Dec 2014 was the data displayed in last year’s Outlook. ¹High Yield volatility is defined as the implied 30-day volatility from call options on the iShares iBoxx $ High Yield Corporate Bond fund (HYG).
Having triggered volatility by altering its currency regime in August 2015, China still faces pressure from the US to let the yuan to be set by “market forces” – so long as that currency appreciates. The potential for friction here continues and China’s currency may remain another tail-risk for markets looking ahead.

The shakeout prompted by China’s August move had a striking effect on the strength of movements between assets. The daily correlation of individual equity securities in the US market jumped very sharply towards 0.75. Oil-importing emerging markets that stood to benefit from lower crude prices sold off just as severely as key oil-exporting markets. When managing portfolio risk in the coming year, we would also therefore emphasize the need to anticipate spikes in correlations like these.

The return of volatility after an historic multi-year absence keeps our theme of Exploiting volatility in the spotlight for 2016. While no-one welcomes the return of volatility to portfolios, recognizing it is essential for risk management. Like low interest rates, income-generating opportunities were eliminated by way of suppressed volatility in recent years. If we must live with volatility, thankfully such opportunities have also returned.

While no-one welcomes the return of volatility to portfolios, recognizing it is essential for risk management
Managing your portfolio through volatility

Chris Dhanraj, North America Strategist

We highlight potential strategies for mitigating the impact of extreme sell-offs as well as for seeking additional yield

The global investment cycle is in its later stages. A key lesson of history is that such maturity is often accompanied by greater volatility. Financial markets have already begun to reflect the increased uncertainty that investors feel in relation to US monetary policy, China and other emerging economies. We believe the trend rise in volatility after the calm period of 2011-2014 will persist in the coming year. As such, there is a compelling case to be made for not only employing volatility effectively in portfolio hedging but also for proactively trying to exploit market turbulence.

One of the main reasons for considering hedging portfolio risk is that financial markets often underestimate the probability of a sharp up- or down-move. This is because the indicators that investors use to ascertain this probability – implied volatility in options markets – assume a ‘normal distribution,’ where large moves are deemed statistically to be very rare occurrences. However, market data from the past 25 years shows clearly that actual market moves have not been normally distributed – figure 1. So, options markets that assume a more normal distribution are not necessarily accurate when considering the probability of large moves. As such, they often underprice this risk. Investors have taken notice of this underpricing of volatility and are using this knowledge to take an increasingly more proactive approach to protecting against sharp market declines when volatility is low. While the VIX Index – which measures movement in the S&P 500 index – retreated to more normal readings below 20 in the post-Global Financial Crisis period – figure 2 - this masks the underlying behavior of investors who have been more active in buying downside protection than chasing the upside.

The preference for extreme-downside protection strategies over seeking upside opportunities can be explained in terms of simple risk management. The second approach seeks to avoid missed opportunities, but the first – shielding against declines – seeks to avoid actual losses, which are much more acutely felt. If global developed equities fell by 30% and then achieved annualized total returns of 6.0% in line with our strategic asset allocation model’s long-term forecast, it would take an investor more than four consecutive years to earn back the lost principal.

Even with today’s increased uncertainty, investors have tools to help protect portfolios from a significant market sell-off. A diversified asset allocation is the first line of defense against a moderate market decline, as a sell-off in one asset class like equities can be mitigated at the portfolio level because of a rally in another uncorrelated asset, such as...
### Figure 1: Not normally distributed

<table>
<thead>
<tr>
<th>Asset class</th>
<th>Largest daily decline since 2000 (%)</th>
<th>Date of move</th>
<th>Expected frequency of largest decline based on normal distribution and historical data*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro/US dollar</td>
<td>-2.5</td>
<td>03 Jan 01</td>
<td>Once every 40 years</td>
</tr>
<tr>
<td>US 10-yr Treasury yield</td>
<td>-3.9</td>
<td>11 Aug 11</td>
<td>Once every 4 thousand years</td>
</tr>
<tr>
<td>US dollar/Japanese yen</td>
<td>-3.4</td>
<td>06 May 10</td>
<td>Once every 67 thousand years</td>
</tr>
<tr>
<td>West Texas crude oil</td>
<td>-15.2</td>
<td>24 Sep 01</td>
<td>Once every 19 million years</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>-9.0</td>
<td>15 Oct 08</td>
<td>Once every 3.7 billion years</td>
</tr>
<tr>
<td>Gold</td>
<td>-9.1</td>
<td>15 Apr 13</td>
<td>Infinitesimally rare</td>
</tr>
<tr>
<td>High Yield Bonds</td>
<td>-8.1</td>
<td>29 Sep 08</td>
<td>Infinitesimally rare</td>
</tr>
<tr>
<td>Investment Grade Bonds</td>
<td>-9.1</td>
<td>29 Sep 08</td>
<td>Infinitesimally rare</td>
</tr>
</tbody>
</table>

*Note: Expected frequency of largest decline is based on the normal distribution assumption and historical options-implied volatility pricing and is not forward-looking.

Source: Bloomberg and Factset, as of 30 Nov 2015. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future returns. Real results may vary.

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### Figures 2. Downside protection buying 2012-2015 even as volatility fell

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### Figures 3. The high correlation of many asset classes to international equities could potentially be mitigated by adding international fixed income to a portfolio. For example, whereas commodities have a strong correlation of 0.74 to international equities, their correlation to international fixed income is only 0.24. However, conventional static asset allocation cannot fully shield against a more significant sell-off. In periods of severe market stress, correlations among seemingly unrelated assets can suddenly become very high, hence the need for additional risk-management steps. For example, our own strategic asset allocation methodology employs more dynamic measures of “extreme
downside risk” to help limit exposure to certain asset classes. Additionally, even investors with well-diversified portfolios often consider strategies to protect specifically against tail-risk events – extreme negative moves in the markets.

**Strategies for hedging significant falls**

To hedge portfolios against major drawdowns - defined here as greater than 10% - investors need to consider both the cost of the hedge and its resulting effectiveness. With the knowledge that financial markets often underprice the likelihood of very large downside moves, buying a ‘tail-risk’ hedge tends to be cheaper than enduring potential losses, so long as hedges are put in place ahead of any market dislocations.

The most liquid and popular hedge has traditionally been the S&P 500, especially with US equity volatility significantly lower than general cross-asset volatility. Its relatively cheap cost and high correlation to other asset classes during stress periods is another reason for its use as a general tail-risk hedge, even for multi-asset class portfolios.

However, equity volatility is but one of the tools that can be used as a hedge. **Figure 5** shows that currencies and fixed income have even lower volatility than equities or commodities, and as such can be cost-effective as well.

Hedging against significant, but not catastrophic downside offers one way to cheapen a hedge like this. This could be suitable for an investor who feared a greater-than-10% drop in the market, but who also expected that policymakers would eventually intervene to support markets if the sell-off exceeded 50%.

Such a strategy could involve buying a hedge that would benefit in the event of a 10% fall in the S&P 500, while simultaneously foregoing that protection in the event of a 50% or larger decline. This combined hedging strategy would be cheaper than simply buying a hedge against a 10% market loss. If the S&P 500 then fell by 10% or more but by less than 50%, this strategy would provide an effective hedge. But if the S&P 500 fell by more than 50%, the investor would not be hedged beyond that level.

A further possibility for reducing the cost of hedging is to buy a hedge against a downside move in the asset of up to 10%, while simultaneously selling away any gains to the upside above 10%. This could be appropriate for an investor who feared significant downside in the index but who also believed that any upside would be limited.

For an example, a UK investor with significant holdings denominated in British pounds might be worried about a sharp fall in his home currency below the current level of US$1.54. With the volatility on the currency the cheapest
With uncertainty increasing in the markets, investors need not only to be aware of the risks, but have measures ready for when significant market dislocations happen.

In its asset class – figure 5 – he could potentially protect his holdings for the next year against a 10% decline in sterling to US$1.39 by giving up any gains above 8% or US$1.67.

For investors in Europe or Japan, a similar strategy to hedge against a greater-than-10% down-move also applies. However, given the heightened cost of volatility in both markets compared to the US markets, the cost for such protection will be anywhere from 40% to 70% higher. This means that in order to hedge non-US equity exposure explicitly, more creative solutions that go beyond the tools available in the exchange-traded markets may be needed.

While most volatility strategies focus on protecting a portfolio from large downside moves, investors can seek to harness volatility to pursue additional returns. With assets held in a portfolio like equities and fixed income, investors can generate additional yield by selling the upside beyond a certain level – such as 110% – on such investments. The yield potential is asymmetric across different levels – say 110% or 120% – and various asset classes. This can create an arbitrage opportunity for investors to exploit.

With uncertainty increasing in the markets, investors need not only to be aware of the risks, but have measures ready for when significant market dislocations happen.

Figure 4: Market stress in 2015 caused seemingly unrelated assets to move together.
<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Historical 3m implied volatility*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equities</strong></td>
<td></td>
</tr>
<tr>
<td>Nikkei 225</td>
<td>21.9</td>
</tr>
<tr>
<td>Euro Stoxx</td>
<td>18.2</td>
</tr>
<tr>
<td>DAX 30</td>
<td>17.6</td>
</tr>
<tr>
<td>Hang Seng</td>
<td>17.0</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>13.9</td>
</tr>
<tr>
<td>FTSE 100</td>
<td>13.3</td>
</tr>
<tr>
<td>Dow Jones</td>
<td>13.1</td>
</tr>
<tr>
<td><strong>Fixed Income</strong></td>
<td></td>
</tr>
<tr>
<td>US long bond</td>
<td>9.8</td>
</tr>
<tr>
<td>Europe 10-yr bonds</td>
<td>5.3</td>
</tr>
<tr>
<td>US 10-yr Treasuries</td>
<td>5.2</td>
</tr>
<tr>
<td>Japan 10-yr bonds</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Commodities</strong></td>
<td></td>
</tr>
<tr>
<td>WTI crude oil</td>
<td>26.1</td>
</tr>
<tr>
<td>COMEX gold</td>
<td>16.3</td>
</tr>
<tr>
<td><strong>Currencies</strong></td>
<td></td>
</tr>
<tr>
<td>Australian dollar/US dollar</td>
<td>9.7</td>
</tr>
<tr>
<td>US dollar/Japanese yen</td>
<td>9.6</td>
</tr>
<tr>
<td>US dollar/Swiss franc</td>
<td>9.1</td>
</tr>
<tr>
<td>Euro/US dollar</td>
<td>8.4</td>
</tr>
<tr>
<td>British pound/US dollar</td>
<td>7.4</td>
</tr>
</tbody>
</table>

Source: Bloomberg, as of 30 Nov 2015. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Fortunately, there are numerous strategies at their disposal, both for mitigating the impact of extreme sell-offs, as well as for generating additional returns. Most investors are best served by keeping these strategies simple and consistent with their risk-return objectives.
The benefits are widespread, including increased productivity in many businesses and greater choice and convenience for their customers.

Just as this transformation of commerce is creating victors, it is creating victims among companies whose businesses are being disrupted.

A compelling example is the healthcare industry, where investors may have yet to appreciate fully the implications of innovative treatments and technologies.

Sources: US Bureau of Economic Analysis; Citi Research, as of Feb 2015. All forecasts are expressions of opinion, are not a guarantee of future results and are subject to change without notice.
Ongoing transformation

Phil Watson, Head of the Global Investment Lab
Jeffrey Sacks, EMEA Capital Markets Strategist

Technological progress is rapidly changing business and consumer behaviour. We believe this transformation has further to go.

Economic growth today isn’t what it used to be. Global gross domestic product (GDP) has been expanding at a slower pace ever since the financial crisis of 2007-09. But while the overall picture may be one of sluggishness, rapid change is taking place beneath the surface. Technological development is fundamentally altering the ways we do business and behave as consumers. And although it has already had a major impact, we believe that this transformation of commerce still has further to go.

The benefits of the transformation are widespread. Industries are achieving greater productivity and much-needed cost savings. In Outlook 2015, for example, we explored how robotics and machinery are helping mining companies drill faster and transport freshly-mined ores without the need for a human driver. Progress in car technology, which we highlighted in our mid-year edition, is already helping reduce road deaths, vehicle emissions and travel times. Thanks to internet and mobile innovations, we have more choice and convenience than ever before in shopping, entertainment, travel, dating and socializing - to name but a few.

Just as the transformation is creating victors, however, it also has its victims. We previously highlighted the case of retail, where online retailers are commanding an ever-growing share of overall sales. But while they and the delivery firms who ship their wares to customers are reaping the gains, this comes at the direct expense of many traditional retailers. The problem is especially acute for retailers that have invested heavily in large stores in non-prime locations, where shoppers are increasingly unlikely to visit. Such retailers – as well as their landlords, lenders and shareholders – face an uncertain future.

We see the transformation of healthcare as a particularly compelling case right now, but one that is not fully understood by investors. In our view, the industry is undergoing more change than at any time in its history, with the science innovation cycle having reached an important inflection point. Approvals by the US Food & Drug Administration reached an eighteen-year high in 2014, while the recent decoding of the genome has allowed the development of ‘personalised medicines’ for the first time ever. And with the cost per genome falling from $100m to $1,000 in only twelve years, the prospects for further new treatments are bright.

The transformation of healthcare is sorely needed. The world’s population is aging fast while healthcare costs are already straining budgets everywhere. While the primary victors of more effective - and possibly cheaper - treatments will be patients and taxpayers, innovative healthcare firms and their investors potentially stand to gain too. At the same time, we seek to identify which firms may fall victim to further innovation. Although not a panacea, we believe that carefully chosen and underappreciated healthcare investments within a broader portfolio may offer a partial remedy to the effects of today’s lower-growth world.
The cost of medication can sometimes be enough to make you feel unwell. While many of today’s cutting-edge drugs have the potential to extend patients’ lives and ease suffering as never before, the expense of obtaining them can be exorbitant. In the US, some leading treatments can easily run to hundreds of thousands of dollars a year. So, while medical science continues to make life-saving innovations, there is a risk that the benefits will be felt by ever fewer of those who need them.

Sharply rising treatment costs are already putting a strain on health budgets and patients worldwide. Total national health expenditures in the US reached $2.9 trillion in 2013, equivalent to 17.4% of the size of the economy, a trend which Citi Research sees as unsustainable – figure 1. There have been an excess of bankruptcies among US cancer sufferers, while in the European Union, there has been 50% under-treatment of severe rheumatoid arthritis patients.

Among today’s more expensive treatments are some biological products or ‘biologics.’ Biologics are medications that come from living organisms including human, animal and bacterial sources, rather than pure chemical substances like conventional drugs. Their uses include treating conditions such as rheumatoid arthritis, anemia, certain cancers and skin disorders like psoriasis. Big branded biologics already swallow up almost one-third of total US drugs spending, a proportion which is growing fast. Worldwide, more than half of the top ten best-selling prescription drugs in 2014 were biologics.

As with conventional chemical drugs, branded biologics initially enjoy patent protection, which expires after a set period. Unlike chemical compounds, however, biological products are impossible for generic drug-makers to copy precisely once their patents expire. But they may be replicable to a high degree of similarity, such that they are as safe and effective as the originals, and therefore could gain regulatory approval. This is creating a new category of lookalike versions known as ‘biosimilars.’

A key attraction of biosimilars could be their cost. Citi Research expects their makers to offer aggressive discounts and rebates in order to gain market share. As a result, Citi Research believes that western healthcare budgets could enjoy savings of around 50% on biologics by 2025. With developed-world governments increasingly focused on achieving better value in their healthcare systems, this would come as important relief, especially as populations continue to age rapidly around the world. According to the United Nations, the number of people over 60 globally will more than double between 2015 and 2050, creating even greater demand for healthcare.

To fulfil their potential, biosimilars will need to win the approval of drug regulators, fend off legal and intellectual-property challenges, and commercialize themselves by gaining physicians’ and insurers’ acceptance. Citi Research believes that this will happen and estimates the companies that created the original products could lose more than $360 billion in revenues over the next ten years, with about $110 billion of that captured by biosimilar makers – figure 2.
Immunotherapy

Almost two decades into the twenty-first century, cancer remains one of the worst blights on human existence. Currently, half of us develop the illness at some point in our lives and perhaps more than one-quarter of us die from it. Aside from suffering and bereavement, its economic impacts are enormous. In 2008, Citi Research highlights that cancer is estimated to have cost $200bn in the US alone. But cancer’s days as a killer on this scale may be numbered, with our own bodies leading the fight-back.

Immunotherapy is a treatment that harnesses the body’s own defenses to fight cancer. The human body develops cancer cells all the time, but healthy people’s immune systems are able to detect and destroy them before they turn malignant. With cancer patients, however, the immune system has become compromised such that it cannot perform this vital function. Immunotherapy drugs restore the body’s ability to fight back naturally against cancer, just as it does with healthy people.

While immunotherapy is still at an embryonic stage, it is already achieving tangible results, particularly in skin cancer. Existing chemotherapy and also some newer drugs tend to shrink tumors powerfully at first, but without enduring effect, such that tumors can regrow and spread. With immunotherapy, however, the durability of responses can last a decade or more, as the body stores a memory of how to deal with the cancer cells.

The best-known applications of immunotherapy today are for skin, renal and non-small cell lung cancers. However, it may be that tumors that have not traditionally been considered immunotherapy-addressable can become so if administered alongside existing cancer therapies including chemotherapy and radiotherapy. Citi Research believes that whereas only around 3% of cancers are currently immunotherapy-addressable, this could reach at least 60% across the developed world by 2023.

Aside from the fundamental benefit of saving and extending lives, the economic benefits to society could be substantial. Many cancers could effectively be transformed from terminal illnesses into chronic but manageable ones, rather like HIV.

Figure 1. US healthcare spend appears unsustainable given macro-economic pressures

Source: Citi Research, as of Feb 2015. PPP = purchasing power parity.
when fully treated. Younger patients in particular might therefore be able to remain economically active. In the US alone, this could potentially reduce the $120bn annual costs of cancer outside of healthcare expenses. As to the commercial benefits, Citi Research estimates that the immunotherapy market could grow from around $7bn a year as of 2014 to around $35bn by 2023.*

**Beyond drugs**

With healthcare budgets under pressure and ever more interactions between patients and providers, cheaper drugs are only part of the solution. The healthcare industry needs to boost its productivity and make cost-savings elsewhere. While today’s hospitals often use cutting-edge medical treatments and procedures, the same is not always true when it comes to their administration and communications. Better use of technology could lead to a more efficient and cost-effective service, benefiting both patients and the system.

Improved interaction between healthcare providers and users is one example. In health systems across the world, time and money could be saved by carrying out appointment-making, initial medical consultations and prescription issuance over the internet. Likewise, managing physicians’ workload and patient notes is much more effectively done electronically than via traditional paperwork. Making payments tends to be very time-consuming for patients, providers and insurers alike, typified by repeated, long phone calls and time spent on hold. Once again, digitization could offer a way forward.

While it is still early days, technology companies around the world are rising to these challenges. In China, for example, Citi Research believes that internet and mobile technology could be game-changers in altering the way that patients, physicians and hospitals interact. If further deregulation occurs, existing online pharmacies hope to capture a significant share of sales of prescription drugs, while platforms have already been built that could allow patients to transmit key data about their health from wearable devices, allowing monitoring of their wellbeing.

**Portfolio prescriptions**

We do not believe that investors have fully appreciated the magnitude of healthcare’s transformation. This creates potential investment opportunities particularly within biosimilars, immunotherapy and

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*All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.
healthcare. The companies at the forefront of this progress could enjoy significant growth. But some of the advances made – especially in biosimilars – will come at the expense of other companies, whose investors will be negatively impacted. Just as important as seeking out opportunities, therefore, is reviewing portfolios regularly for exposure to potential victims of healthcare’s transformation.

Traditionally, much of the healthcare sector has been considered a more defensive sector that can help diversify an equity portfolio, especially more economically-sensitive holdings. This could be particularly valuable in today’s more uncertain environment. Of course, the sector is made up of more than 1,000 companies globally, and wide divergences in the performances of single stocks are to be expected.

For longer-term diversified exposure, an actively-managed fund or account could offer a logical way to access our favored areas. The most relevant candidates among long-only managers would obviously be those that focus specifically upon the healthcare sector and have similar views to ours on the industry’s transformation. As well as expertise in both clinical and valuation matters, we would look for a deep due diligence process and a robust track record of creating positive relative returns. Hedge-fund managers specializing in the sector, meanwhile, may also offer potential diversification opportunities, which could be of particular value for those preparing their portfolios for life beyond the present investment cycle – see Enduring through cycles.

For shorter-term and even more focused exposure, capital-markets strategies offer a broad range of possibilities. Baskets of securities with exposure to high-conviction securities within biosimilars, immunotherapy, and healthcare IT can be constructed, based on an investor’s risk and return objectives. These might include seeking enhanced yield or greater participation in price-movements, and some element of capital preservation.

Lastly, there are more opportunistic investments – from specific placements in the primary markets to longer-term illiquid investments – set to benefit from the trends above.

Duygu Baydur also contributed to this article

Just as important as seeking out opportunities, is reviewing portfolios regularly for exposure to potential victims of healthcare’s transformation.
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The DAX 30 is an index of the 30 most actively traded German blue chip stocks on the Frankfurt Stock Exchange. The value of the index is based on a free-float calculated as the arithmetic average of the 3-month level of implied volatility for all the major currency pairs.

The Currency Volatility Index (CVIX) seeks to provide a benchmark for currency market participants, representing investors' expectation of future volatility, and is stock exchanges.

The CBOE Volatility Index (VIX) is a measure of expectations of near-term volatility based on S&P 500 stock index option prices.

The Global Gold Sachs Commodity Index (S&P GSCI), a composite index of commodity sector returns representing an unleveraged, long-only methodology to United States Oil Fund, LP (Ticker - USO) options spanning a wide range of strike prices.

Global High Yield Fixed Income is composed of Barclays indices measuring the non-investment grade, fixed-rate corporate bonds denominated in US dollars, British pounds and Euros. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below, excluding emerging market debt. Ibbotson High Yield Index, a broad high yield index including bonds across the maturity spectrum, within the BB-B rated credit quality spectrum, included in the below-investment-grade universe, is used for supplemental historical data.

Global Emerging Fixed Income is composed of Barclays indices measuring performance of fixed-rate local currency emerging markets government debt for 19 different markets across Latin America, EMEA and Asia regions. iBoxx ABF China Govt. Bond, the Markit iBoxx ABF Index comprising local currency debt from China, is used for supplemental historical data.

Cash is represented by US 3-month Government Bond TR, measuring the US dollar-denominated active 3-Month, fixed-rate, nominal debt issues by the US Treasury.

Hedge Funds is composed of investment managers employing different investment styles as characterized by different sub categories – HFRI Equity Long/ Short: Positions both long and short in primarily equity and equity derivative securities; HFRI Credit: Positions in corporate fixed income securities; HFRI Event Driven: Positions in companies currently or prospectively involved in wide variety of corporate transactions; HFRI Relative Value: Positions based on a valuation discrepancy between multiple securities; HFRI Multi Strategy: Positions based on realization of a spread between related yield instruments; HFRI Macro: Positions based on movements in underlying economic variables and their impact on different markets; Barclays Trader CTA Index: The composite performance of established programs (Commodity Trading Advisors) with more than four years of performance history.

Private Equity characteristics are driven by those for Developed Market Small Cap Equities, adjusted for illiquidity, sector concentration, and greater leverage.

Real Estate contains all Equity REITs (US REITs and publicly-traded real estate companies) not designated as Timber REITs or Infrastructure REITs: NAREIT US REIT Index, NAREIT Canada REIT Index, NAREIT UK REIT Index, NAREIT Switzerland REIT Index, NAREIT Euro-zone REIT Index

Commodities contains the index composites - GSCI Precious Metals Index, GSCI Energy Index, GSCI Industrial Metals Index, and GSCI Agricultural Index - measuring investment performance in different markets, namely precious metals (e.g. gold, silver), energy commodity (e.g. oil, coal), industrial metals (e.g. copper, iron ore), and agricultural commodity (i.e. soy, coffee) respectively, Reuters/Jefferies CRB Spot Price Index, the TR/CC CRB Excess Return Index, an arithmetic average of commodity futures prices with monthly rebalancing, is used for supplemental historical data.

Index definitions

The Bloomberg-JPMorgan Asia Currency Index (ADXY) is a US dollar tradable index of emerging Asian currencies, which serves as a benchmark for monitoring Asia's currency markets on an aggregate basis. It is a spot index of emerging Asia’s most actively traded currency pairs valued against the US dollar.

The CBOE Crude Oil ETF Volatility Index (“Oil VIX”, Ticker - OXV) measures the market’s expectation of 30-day volatility of crude oil prices by applying the VIX® methodology to United States Oil Fund, LP (Ticker - USO) options spanning a wide range of strike prices.

Commodity Index is the S&P Gold Sachs Commodity Index (S&P GSCI), a composite index of commodity sector returns representing an unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities.

The CBOE Volatility Index (VIX) is a measure of expectations of near-term volatility based on S&P 500 stock index option prices.

The CSI 300 is a capitalization-weighted index compiled by the China Securities Index Company Ltd and tracks 300 stocks traded on the Shanghai and Shenzhen stock exchanges.

The Currency Volatility Index (CVIX) seeks to provide a benchmark for currency market participants, representing investors’ expectation of future volatility, and is calculated as the arithmetic average of the 3-month level of implied volatility for all the major currency pairs.

The DAX 30 is an index of the 30 most actively traded German blue chip stocks on the Frankfurt Stock Exchange. The value of the index is based on a free-float weighted system and average daily volume.
The Deutsche Bank Currency Volatility index (CVIX) is a measure of investors’ expectations of future volatility, and is calculated as the arithmetic average of the 3-month level of implied volatility for all the major currency pairs.

The Dow Jones Industrial Average - commonly known as the Dow - is a price-weighted stock market index that tracks the performance of 30 large US companies chosen by a committee.

The Euro Stoxx 600 is an index representing the performance of 600 large-, mid-, and small-capitalization companies across 18 companies across Europe.

The FTSE 100 is a capitalization-weighted equity index representing the performance of 100 large-capitalization companies listed on the London Stock Exchange.

Gold is represented by the commodity futures price for gold.

The Hang Seng index is a free-float adjusted market capitalization stock market index in Hong Kong, which aims to represent the leading companies in that country.

The MOVE (Merrill Lynch Option Volatility Estimate) Index measures the implied volatility of US Treasury markets based on options pricing.

The MSCI All Country World Index represents 48 developed and emerging equity markets. Index components are weighted by market capitalization.

The MSCI Asia ex-Japan index has large and mid-cap representation across 2 of 3 Developed Markets countries and 8 Emerging Markets countries in Asia. It captures approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI China index has large- and mid-cap representation across China H shares, B shares, Red chips and P chips. With 139 constituents, it covers about 85% of this China equity universe.

The MSCI Emerging Markets Index represents the performance of large- and mid-equITIES from 23 emerging countries, covering approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI KLD 400 Social Index is a capitalization-weighted index of 400 US securities that provides exposure to companies with outstanding Environmental, Social and Governance (ESG) ratings and excludes companies whose products have negative social or environmental impacts. The parent index is MSCI USA IMI.

The MSCI USA Investable Market Index (IMI) measures the performance of the large, mid and small cap segments of the US market. With 2,469 constituents, the index covers approximately 99% of the free float-adjusted market capitalization in the US.

The MSCI World Index represents the performance of more than 1,600 large- and mid-cap stocks across 23 developed markets countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI World ex-USA Index represents the performance of large- and mid-cap representation across 22 of 23 developed markets countries excluding the United States. With 1,005 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The Nikkei 225 tracks the performance of 225 leading stocks on the Tokyo Stock Exchange (TSE). The components of this index are reviewed yearly. Since it is a price-weighted index, the movement of the stocks is weighted without regard to their market capitalization.

Oil is represented by the West Texas Intermediate Crude Oil price.

The Standard & Poor's 500 Index 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.

USD vs developed currencies is a broad weighted average index of the foreign exchange values of the US dollar against the currencies of a large group of major U.S. trading partners.

USD vs emerging markets = The OITP (other important trading partners) index is a weighted average of the foreign exchange values of the US dollar against a subset of currencies in the broad index that do not circulate widely outside the country of issue.

CITI Private Bank Hedge Fund categorizations

Diversifier, Return Enhancer and Volatility Dampener are internal descriptors based on a fund's strategy and objective that HFRM has developed and uses to categorize hedge funds. Such descriptors have not been approved by the relevant portfolio managers. The internal classification noted above is subject to change without notice to investors. Many portfolio managers offer multiple products that could have a different objective or classification from that of the fund identified herein. Diversification does not ensure against loss of principal invested.

Volatility Dampeners are hedge funds that typically are expected by HFRM to have low to moderate correlation and/or beta to traditional markets and seek low volatility and relatively consistent returns. The portfolio managers of such funds often attempt to eliminate a substantial portion of market risk via hedges and trade construction. This classification is based on the analysis and subjective views of HFRM. The internal classification is subject to change without notice to investors and there is no guarantee that the funds will perform as described above. It is important to note that the market strategy described above may not completely eliminate market risk. There is no guarantee that hedge funds classified as "Volatility Dampeners" will perform as described above. Hedge funds should not be invested in based on their classification as "Volatility Dampeners" and other assets in a client's overall portfolio should be taken into consideration before an investment is made.

Diversifiers are hedge funds that typically are expected by HFRM to display low or negative correlation and/or beta to traditional asset classes though they may display significant degrees of market correlation at certain points of the investment cycle. The portfolio managers of such funds are often long volatility and generally may provide attractive diversification benefits to a client's portfolio though returns are often "unpredictable" and can be volatile. This internal classification is based on the analysis and subjective views of HFRM. The internal classification is subject to change without notice to investors and there is no guarantee that the funds will perform as described above. It is important to note that the market strategy described above may not completely eliminate market risk. There is no guarantee that hedge funds classified as "Diversifiers" will perform as described above. Hedge funds should not be invested in based on their classification as "Diversifiers" and other assets in a client's overall portfolio should be taken into consideration before an investment is made.

Return Enhancers are hedge funds that are expected by HFRM to generally seek to outperform traditional risk assets over the course of an investment cycle while still providing some measure of downside protection. The portfolio managers of such funds typically have a higher correlation and/or beta to traditional markets. There is also a higher level of risk associated with these types of strategies. This internal classification is based on the analysis and subjective views of HFRM. The internal classification is subject to change without notice to investors and there is no guarantee that the funds will perform as described above. It is important to note that the market strategy described above may not completely eliminate market risk. There is no guarantee that hedge funds classified as "Return Enhancers" will perform as described above. Hedge funds should not be invested in based on their classifications as "Return Enhancers" and other assets in a client's overall portfolio should be taken into consideration before an investment is made.
Other terminology

Adaptive Valuations Strategies is Citi Private Bank’s own strategic asset allocation methodology. It determines the suitable long-term mix of assets for each client’s investment portfolio.

Alpha is a measure of absolute positive or negative performance, adjusted for risk. It is commonly seen as a way of capturing an investor’s skill in generating returns over and above what could be achieved through passive investing.

Beta is a measure of the relationship between one asset class and another. It compares the average change in the return of one asset class relative to the average historical change in another. The beta of High Yield would be 0.5 to Equities if, on average, High Yield rises by 5% whenever Equities rise by 10%.

Correlation is a statistical measure of how two assets or asset classes move in relation to one another. Correlation is measured on a scale of 1 to -1. A correlation of 1 implies perfect positive correlation, meaning that two assets or asset classes move in the same direction all of the time. A correlation of -1 implies perfect negative correlation, such that two assets or asset classes move in the opposite direction to each other all the time. A correlation of 0 implies zero correlation, such that there is no relationship between the movements in the two over time.

Extreme Downside Risk (EDR) is a measure used to estimate the risk of an asset allocation. EDR seeks to estimate the typical type of loss, over a 12-month time horizon, that an asset allocation may experience in a period of extreme market stress. It is calculated using a proprietary methodology and database. For a given asset allocation, this approach estimates the loss, over a 12-month time horizon, that the asset allocation may have experienced during historical periods of extreme market stress. EDR is calculated by taking the average loss in the worst 5% of these historical periods of extreme market stress. EDR does not estimate the maximum possible loss. Potential losses for a given asset allocation may exceed the value of the EDR.

Strategic Return Estimates are Citi Private Bank’s forecast of returns for specific asset classes over a 10-year time horizon. The forecast for each specific asset class is made using a proprietary methodology that is appropriate for that asset class. Equity asset classes are forecast using a proprietary methodology based on the calculation of valuation levels with the assumption these valuation levels revert to their long-term trends over time. Fixed income asset classes are forecast using a proprietary methodology based on current yield levels. Other asset classes have other specific forecasting methodologies. Please note that hedge funds, private equity, real estate, structured products and managed futures are generally illiquid investments and are subject to restrictions on transferability and resale. Each SRE is gross of actual client fees and expenses. Components of the methodology used to create the SREs include the rate of return for various asset classes based on indices. Termination and replacement of investments may subject investors to new or different charges. Past performance is not indicative of future results. Future rates of return cannot be predicted with certainty. Investments that pay higher rates of return are often subject to higher risk and greater potential loss in an extreme scenario. The actual rate of return on investments can vary widely over time, especially for long-term investments. This includes the potential loss of principal on your investment. It is not possible to invest directly in an index.

Tactical asset allocation looks to adjust the strategic asset allocation of a client's investment portfolio to incorporate shorter-term market insights.

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

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.

REITs

REITs are subject to special risk considerations similar to those associated with the direct ownership of real estate. Real estate valuations may be subject to factors such as changing general and local economic, financial, competitive, and environmental conditions. REITs may not be suitable for every investor. Dividend income from REITs will generally not be treated as qualified dividend income and therefore will not be eligible for reduced rates of taxation. There may be additional risk associated with international investing, including foreign, economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes, and differences in financial and accounting standards.

Master Limited Partnership

• Energy Related MLPs May Exhibit High Volatility. While not historically very volatile, in certain market environments Energy Related MLPs may exhibit high volatility.

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

• Concentration Risk. Investment in a basket of Energy Related MLPs may expose the investor to concentration risk due to industry, geographical, political, and regulatory concentration.

• The price and dividends paid by Energy Related MLPs may be affected by a number of factors, including:

  - Worldwide and domestic supplies of, and demand for, crude oil, natural gas, natural gas liquids, hydrocarbon products and refined products;
  - Changes in tax or other laws affecting MLPs generally;
  - Regulatory changes affecting pipeline fees and other regulatory fees in the energy sector;
  - The effects of political events and government regulation;
  - The impact of direct government intervention, such as embargos;
  - Changes in fiscal, monetary and exchange control programs;
  - Changes in the relative prices of competing energy products;
  - Changes in the output and trade of oil and other energy producers;
  - Changes in environmental and weather conditions;
  - The impact of environment laws and regulations and technological changes affecting the cost of producing and processing, and the demand for, energy products;
  - Decreased supply of hydrocarbon products available to be processed due to fewer discoveries of new hydrocarbon reserves, short- or long-term supply distributions or otherwise;
  - Risks of regulatory actions and/or litigation, including as a result of leaks, explosions or other accidents relating to energy products;
  - Uncertainty or instability resulting from an escalation or additional outbreak of armed hostilities or further acts of terrorism in the United States or elsewhere;
  - General economic and geopolitical conditions in the United States and worldwide.

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.

Please read offering documents and/or prospectus information carefully for the risks associated with the particular MBS security you are purchasing.

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