INVESTMENT STRATEGY COMMENTARY

Five-Year Outlook: 2014 Edition

Northern Trust

NORTHERN TRUST'S CAPITAL MARKET ASSUMPTIONS PROCESS

Every year, Northern Trust's Capital Market Assumptions Working Group (CMA) gathers to develop long-term forecasts for economic activity and financial market returns. These forecasts are designed to be "forward looking, historically aware." This means we seek to understand historical risk, return and correlation relationships between and across asset classes, while we also attempt to predict how and why these relationships may differ from historical trends in the years ahead. We encapsulate these forward-looking views in our annual list of CMA themes. This "forward looking, historically aware" mindset is the foundation of our base case outlook expectations.

In addition to formulating five-year return expectations, the CMA exercise includes specific risks identified by our investment teams. The return and risk expectations are combined with other portfolio construction tools (standard deviation, correlation, etc.) to annually review and/or update the recommended strategic asset allocations for all Northern Trust managed portfolios.

SUMMARY

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Another year, another 20% year-over-year gain in global equity markets. Similar to last year's Capital Market Assumptions (CMA) meetings, we entered the 2014 discussions debating the justification for the impressive risk asset appreciation in the context of a slow (albeit enduring) growth environment. Looking back to our 2012 CMA update, we assumed fairly robust returns from risk assets despite our expectations for low to moderate growth. These return expectations were predicated on the cushion provided by below-average valuations and an expectation for continued monetary policy accommodation. Revisiting these foundations two years on, we have lost our valuation cushion (at least in developed markets) and, while monetary accommodation is still in place across the developed world, five years of easy money without a notable uptick in the growth trajectory risks causing "accommodation exhaustion." Symptoms may include: rising levels of dissatisfaction with current levels of income inequality resulting in political backlash and/or populist movements; ingrained expectations for low to no price inflation – with the risk of deflation; and percolation of financial asset bubbles. These considerations were debated alongside the recent and unforeseen rise in geopolitical tensions.

The primary theme to result from our 2014 exercise was a belief that global growth will endure and mature over the CMA's five-year time horizon. The sub-par growth trajectory in the five years since the global financial market crisis has prevented excesses – the kinds that generally prompt central banks to engineer a recession to bring markets back into equilibrium – from building in developed markets. Meanwhile, emerging markets continue to adjust to a maturing growth profile, causing global growth to mature as well. Effectively, the mediocrity of the current expansion increases its expected longevity. Regulatory initiatives designed to make the financial system safer have hindered central bank monetary policy efforts to boost the economy, while persistent output gaps and heightened productivity potential have challenged central banks' desires to put inflation back at healthier levels. The combined expectation of continued easy monetary policy and sub-par growth increases the risk of asset bubbles, though generally lower leverage in the financial system reduces concerns of systemic risk. Geopolitical concerns are back on the radar and will test the strength of the globalization trend. But they could also represent a potential catalyst for increased demand.

Overall, we expect risk asset return premiums to be squeezed by both lower expected equity returns (reflecting the impact the last 12 months' market appreciation had on valuations) and slightly higher expected fixed income returns (reflecting the higher future interest rates priced into the market). However, positive implications from the enduring and maturing global growth theme should support margins and valuations – preventing the risk asset return premium from falling too dramatically.

EXHIBIT 1: THE SLOWLY SHRINKING RISK ASSET PREMIUM

Five-Year Asset Class Outlooks	
Fixed Income	Cash return forecasts are beginning to increase as central banks eventually make their exit. Fixed-income forecasts increased slightly as markets continue to price in the prospect of higher interest rates as we look toward the back half of our five-year time horizon. High yield forecasts have fallen moderately, given tighter credit spreads over the past year.
Equities	Developed market equity forecasts have fallen to reflect the expansion in valuations over the past 12 months. Holding current valuations and margins steady, we anticipate returns will largely reflect revenue growth. Emerging market maturation reduces growth prospects, but low relative equity valuations still support a return premium over developed markets.
Real Assets	Natural resource/commodity return forecasts continue to be negatively affected by the global growth maturation theme. Global real estate and global listed infrastructure provide a better risk/return trade-off, given their exposure to interest rates, which we believe will remain lower than market consensus.
Alternatives	We continue to expect that private equity will provide an illiquidity premium over public equities. Our in-depth analysis of *average* hedge fund strategy returns and dispersion found within the asset class highlights the importance of manager selection.

FIVE-YEAR THEMES

Enduring and Maturing Global Growth

Global growth expansion is expected to endure through our five-year time horizon (i.e., no recession) as still-persistent output gaps and the lack of excesses allows for an extended economic cycle. Developed market growth is expected to be moderate, while emerging market growth will continue to mature. This maturation of emerging market growth will weigh on global growth but also help it endure by reducing inflationary pressures.

Central Bank Paradox

Central banks continue to embrace highly accommodative policies while also imposing tougher regulatory standards, which have served as a headwind to credit extension. Central bank efforts to get labor markets back to full employment have been hindered by companies switching to technology from labor. Both of these dynamics will drive a continuation of accommodative monetary policy.

Developed Market Inflation Sponge

Increases in productivity, sizable output gaps and simple lack of global demand continue to offset inflationary efforts by most developed-market central banks. Demand for credit has shown signs of life and labor market output gaps may be overstated, but productivity enhancements will continue to soak up inflationary pressures – leaving a base case expected trend of "low-flation" despite the ever-present potential for transitory inflation spikes.

Bubble Hyperbole

Any expectation that vigilant regulatory bodies can deflate bubbles arising from aggressive monetary accommodation is optimistic. However, fears of massive bubbles over the next five years seem overstated using our definition of a bubble: A set of financial assets at risk of a meaningful loss in capital, exacerbated by leverage causing systemic harm to the financial system.

Geopolitical Risk: A Balanced Assessment

Recent events have been interpreted by some as the reintroduction of a Cold War-style geopolitical variable not seen since the fall of the Berlin Wall – with governments looking for more strategic alignment with like-minded allies and companies, in some cases, reconsidering globalization initiatives. We believe conflicts will increasingly be dealt with through the financial system (cutting off credit) as opposed to military intervention, reducing risks of geopolitical escalation. It could also serve as an economic catalyst – such as potential demand from increased military spending and new energy infrastructure build out.

Emerging Markets: Becoming More Value Than Growth

Differences in expected growth and the drivers of that growth (i.e., productivity versus demographics) have diverged across the emerging market constituent countries, as have the corresponding valuations. Emerging markets are no longer a homogeneous high-growth cohort, but they are expected to provide a valuation-driven return premium for the risks involved.

The Search for Yield

A theme that will not go away, the low-rate environment will continue to foster the bidding war for yield-producing investments and open the door to more holistic, contemporary approaches to yield generation across the broader portfolio. Yields are once again positive on a real basis (if you take on enough duration risk) but still below what many target out of their investment portfolio.

Asset Classes Without Borders

Global capital markets and globally diversified companies continue to further the case for a global approach to asset allocation. Going forward, asset allocation will focus less on where the company is domiciled and more on where the company generates its revenues. However, more interesting will be how individual assets can be combined to provide specific exposures to compensated forms of risk.

MACRO VIEWS

Ever since the global financial market crisis, developed-market central banks have been tasked with propping up the global economy while the financial system deleveraged, political leadership dithered and emerging markets proved unable to carry the global growth torch. Nearly six years after the fact, all four major developed-market central banks have policy rates below 1%. Together, they own more than $10 trillion in financial assets, moving beyond Treasury holdings into asset-backed securities and, in the case of the Bank of Japan (BoJ), equities. Recently, the European Central Bank (ECB) proved to the world that "zero" was not the lowest interest rate boundary by taking its deposit rate negative – meaning European banks now pay Europe's monetary policy-setter to hold their money. Despite these unprecedented efforts, developed market real economic growth has been tepid at best, averaging just 1.9% from 2010 through 2013; global real economic growth (including emerging markets) has averaged 3.8% over this same time frame. These numbers look poor versus the longer-term (since 1980) average levels of growth (2.5% and 4.6%, respectively), but are especially disappointing when trying to make up for lost time and lost output.

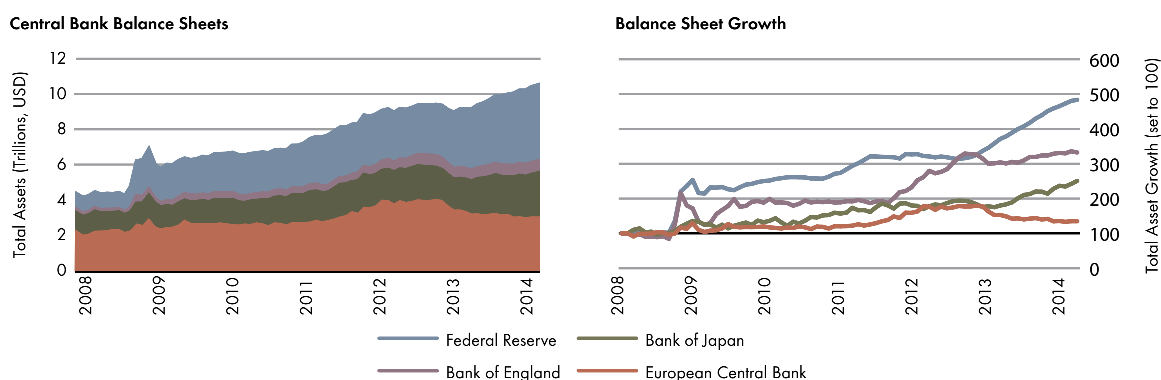
While "zero" may not be the lower bound, we do believe that developed markets/economies need to begin bridging toward organic growth. At the same time, important international developments – notably, the growing East-West divide in the aftermath of the Crimea situation, but also the growing tensions and nationalistic fervor in Asia and new concerns in the Middle East – have reintroduced a geopolitical element to the decision-making process. Keeping these developments in mind, the CMA working group set out to understand how each of the major developed economies would deal with the consequences of slow growth and/or chart the growth course forward. Specifically, the working group considered the central banks (whether there was anything left in the tank as well as policy and regulatory efforts); populace/legislation (e.g., populist movements/nationalism); direct means/executive order (e.g., regulations and/or belligerent actions); and the private sector/animal spirits (e.g., organic growth). The exercise was done for the four major developed economies.

EXHIBIT 2: WHAT NOW?

	Central Banks	Populace/ Legislation	Direct Means/ Executive Order	Private Sector/ Animal Spirits
United States	Quantitative easing should end on schedule, but accommodative policies will likely stay in place to battle "low-flation" and bridge the "political gap" to 2016 presidential elections; meanwhile, the Fed may look to quell bubbles through regulatory efforts. Republican opposition and international issues will continue to derail President Obama's attempt to focus on his domestic agenda, which includes initiatives to reduce inequality. Steady growth in the job markets and growing comfort with the "enduring" recovery provide for some increase in private sector demand/animal spirits.			
Europe	The last to undergo unconventional measures, the ECB is expected to remain very accommodative. Regulatory initiatives (e.g., banking union) will continue making slow progress. Legislative and private sector initiatives vary; periphery countries continue to make progress (Italy's economic reform; Portugal, Spain and Ireland show more private-sector orientation) while France looks inward to the state for help. Little is accomplished via direct measures as Germany (the de facto leader of Europe) balances security desires with growth needs.			
United Kingdom	The Bank of England (BoE) looks set to be the first major central bank to raise rates, but it will lean heavily on targeted regulatory measures to battle potential asset bubbles (e.g., housing). Next year's parliamentary elections are viewed as a risk with the populist Labour Party gaining in the polls. London may do more "saber-rattling" than Brussels or Berlin, but will still look to the United States to lead on Russia. Globalization is a key element of the U.K. economy, leading us to believe policy-makers will ensure a good environment for private investment.			
Japan	At this point, Japan is "all in" on Abenomics, with little in the way of a "Plan B." Concerns are mounting over the ability to implement the "third arrow" of structural reform, but nationalism remains high, spurred on by direct measures (e.g., resetting its pacifist constitution) as Japan attempts to battle China for influence in the region. The private sector, if unleashed, could have an impact, but it will be difficult to overcome the entrenched mindset of savings/thrift and an aging population.			

Stemming from the working group's discussions, it was clear that central banks would still represent an important support mechanism in providing a foundation for the future growth trajectory of developed markets (despite risks of accommodation exhaustion) as they bridge themselves back to organic growth. Of the four major developed market central banks, two – the ECB and the BoJ – are expected to be just as, if not more, accommodative as they are now at the end of the five-year time horizon, while the other two (the Federal Reserve and the BoE) should still be viewed as accommodative by historical standards. Typically characterized as "inflation fighters," some central banks now face the prospect of deflation, given tepid demand from a deleveraging and maturing global economy and the increased ability to supply the world what it needs through continued productivity gains. We view deflation as a consideration but certainly not a base case; given the steady repair of the financial system (which should allow central bank efforts to be more successful) and the slow re-engagement of private sector "animal spirits" (as consumers and businesses become more comfortable with the economic environment). However, we do believe the interplay between the factors we describe above will keep us in a low-flation environment in developed markets.

EXHIBIT 3: THE $10 TRILLION CLUB



Source: Northern Trust, Bloomberg. Data as of 6/30/2014.

At any rate, central banks will continue to play a role in the financial markets based purely on their size. As seen in Exhibit 3, the four major central banks in aggregate now control more than $10 trillion in assets. To put this in perspective, the size of the "Big Four" central bank balance sheets equals 22% of the $45 trillion in developed market gross domestic product in 2013. Before the financial crisis (using 2007 data), this figure was just below 10%. As seen in Exhibit 3's right-hand panel, which shows the growth of each central bank balance sheet, the Fed is clearly leading the way. Its three quantitative easing programs are easy to spot. It appears that the Fed will operate with this inflated balance sheet for some time into the future; quickly reducing it would impose overly restrictive monetary policy on the system. This will affect the way it conducts its monetary operations so as to address the excess reserves in the system (e.g., the use of reverse repurchase agreements and heavier reliance on interest paid on excess reserves). The chart also clearly shows the quantitative easing programs of both the BoE and the BoJ. But while the BoE is halting its balance sheet expansion, the BoJ will most likely extend its program beyond 2014.

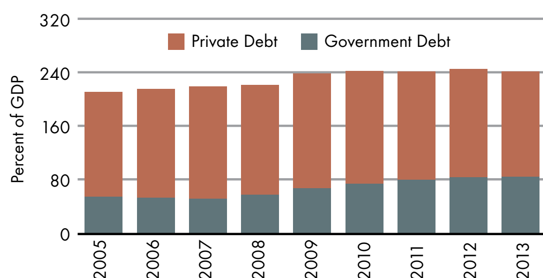
The ECB is the clear laggard. Not only has the growth of its balance sheet been slow relative to other central banks, its increase – at least up until this point – has been completely sterilized (offset by ECB programs designed to pull money out of the system). For instance, the €175 billion Securities Market Programme put in place in 2010 – which provided liquidity in the form of Greek, Italian, Spanish and Portuguese bond purchases – was offset by the weekly collection of fixed-term deposits of the same amount. This increased the size of the balance sheet but not the amount of aggregate money in the system. The actual reduction seen in the ECB's balance sheet over the past few years is a result of the three-year liquidity provisions (long-term repurchase operations) provided by the ECB rolling off. Again, these were sterilized so that the actual quantity of money in the system was unchanged. The ECB has the power to engage in unsterilized bond purchases,

but has opted not to do so – favoring other measures such as its recent decision to take the deposit rate (the amount banks earn on their excess reserves) negative. Looking ahead, Europe's low levels of growth and fears of deflation have some arguing that a quantitative easing approach is warranted, while others question what such an approach would achieve. Successful results to the monetary experiments in the United States, United Kingdom and Japan will likely help influence ECB's path forward. We think they will eventually get there but will exhaust other options first.

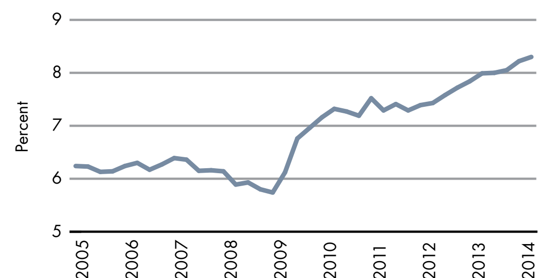
Our expectation for continued accommodative monetary policy raises serious questions about the prospect of financial market bubbles; signs of stretched valuations in some markets are fueling the fire. Central bankers and other policy-makers, keen to not make the same mistake twice, have ramped up regulatory efforts since the global financial crisis. Incidentally, the irony of central bankers stepping up their monetary accommodation while, at the same time, restricting credit creation through regulatory policy is not lost on us. This development serves as the primary foundation of our "central bank paradox" five-year theme (see page 2). We find it unrealistic to believe that regulators have the foresight (or wherewithal) to prevent all potential asset bubbles at a time when liquidity in the system is so high. But we also think fears of a massive disruption to the global economy are overblown. We formally define a bubble as a set of financial assets at risk of a meaningful loss in capital exacerbated by leverage causing systemic harm to the financial system. The housing bubble had all of these elements in spades. Looking at the current environment, we see fewer warning signs: interest rates are low, but investors should expect a return of principal; tight credit spreads – a particular concern of former Fed governor Jeremy Stein – are justified by constructive high yield fundamentals in our view. It is true that equity valuations are slightly above long-term averages, but this is more likely to result in below-average equity returns than systemic collapse. Aggregate debt levels have not improved much since 2009 (merely shifting from the private sector to the government) – but financial companies are much better funded now (see Exhibit 4). This cushion should help the financial sector act as a "circuit breaker" in the event of asset price deflation.

EXHIBIT 4: THE STATE OF DELEVERAGING

Major Developed Economy Aggregate Debt Levels



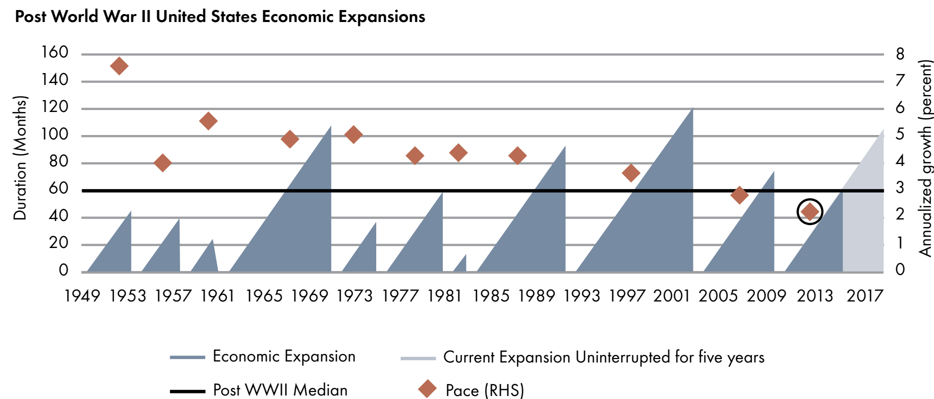
Global Financial Sector – Equity/Total Assets



Source: Northern Trust, MSCI, Bloomberg. "Major developed economies" represented by U.S., U.K, Europe and Japan. Data as of 6/30/2014.

The deleveraging is not without consequences and has been the driving force behind the slow recovery. The current 2.2% annualized pace of real economic growth is the slowest of all the post-war expansions in the United States, the country for which we have the longest and best data. This is an especially acute problem given the severity of the downturn that preceded the current expansion. It is also why we think the current expansion can continue through our five-year time horizon, despite the fact that the current expansion is exactly at the post-war average expansion length of 58 months (see blue triangles in Exhibit 5). An extra five years would put us at the second-longest expansion in post-war history – bested only by the 10-year expansion of the 1990s.

EXHIBIT 5: THE DOT YELLEN IS REALLY WORRIED ABOUT



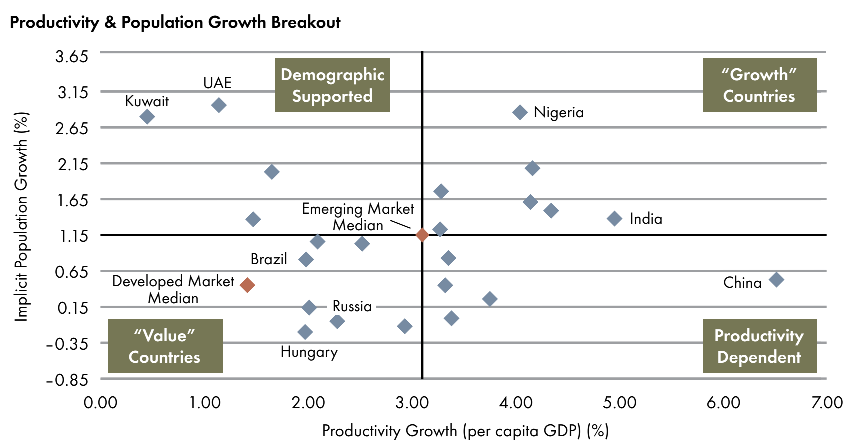
Source: Northern Trust, National Bureau of Economic Research, Bloomberg.

In simple terms – and assuming an eventual closing of the output gap – the current expansion's slow rate of growth requires a longer length in duration. However, that is not to say that the slow and steady path to a 10-year expansion and beyond is guaranteed. For one, slow growth and technological advancements whereby labor can be replaced by machine may increase the levels of income inequality. In theory, technological advancements – when accompanied by appropriate policies (e.g., education initiatives) – allow workers to shed monotonous tasks and move up the value chain. In practice, however, the situation risks being remedied by populist movements and redistribution policies, such as the current country-by-country and sometimes municipality-by-municipality campaigns to increase the minimum wage level. A pure free-market disposition equates redistribution to bad outcomes. However, research from the International Monetary Fund (IMF) shows redistribution is a risk only when taken to the extreme and that moderate redistribution policies can actually lead to more stable and durable growth. The ambiguous impact from redistribution policies, combined with likely inaction from divided governments, reduces our concerns over negative effects related to current levels of inequality.

Recent geopolitical concerns have also come to represent a risk to the continuation of the current global economic expansion. At the very least, this has introduced a new variable to consider – both for companies when considering globalization initiatives and governments when determining global policy. Mistrust resulting from the recent revelations of National Security Agency spying has also tempered demand for globalization. We appreciate the heightened tension but take a more balanced assessment of the risks it poses. We believe the Russian situation highlighted the way in which global conflicts will increasingly be influenced by the financial system (cutting off credit) as opposed to full-out military conflict, helping to reduce escalation. We also see its potential as a demand catalyst for the global economy – though one that comes with challenges. For instance, Japan's determination to check China's push for influence in the western Pacific region has led to a heightened sense of nationalism, including a recent decision to reinterpret its pacifist constitution. The movement could reinvigorate Japanese domestic demand through both increased consumption and military spending, but needs to overcome cultural (thrift mindset) and demographic (aging population) issues. Meanwhile, European countries are considering new options and sources for meeting energy needs as they attempt to untangle themselves from Russian ties. However, fracking within Europe is not as straightforward as it has been in the United States, given government mineral right ownership, denser populations and heightened sensitivity over potential earthquakes and environmental concerns. U.S. liquefied natural gas imports would require infrastructure updates and are not a near-term solution. Longer-term potential exists. But, questions surround the ability and political appetite of the United States to be a global supplier, given domestic energy needs and concerns over the effects exporting would have on prices.

Uncertainty around emerging market growth represents another risk to the global market outlook. We expect emerging market growth to "mature" – meaning a reduction in emerging economies' growth rate – but remain a significant contributor to the global economy. Even our conservative forecast of 4.5% emerging market growth (versus the IMF's 5.0% and the past 10 years' 6.4% level) represents a pace of growth more than double that of our 2.0% expectation for developed economies. Challenges certainly exist – including the need to corral credit expansion/inflation pressures and transition toward internal consumption. But the potential growth of emerging markets on the whole provides foundational support to meet these challenges. That is not to say all emerging market economies are alike. In fact, there is an increasing amount of dispersion in the IMF's expected growth levels out of emerging market countries. Expected growth rates of key emerging markets (per IMF projections) vary from a low-2% forecast for Hungary to the optimistic 7%-plus growth expectation for China. Growth profiles also vary by source (demographics vs. productivity gains). Some countries are true "growth" countries, displaying both above-median productivity growth levels and productivity levels (India, Nigeria), while others are supported by demographics (Kuwait, United Arab Emirates) or are dependent on productivity (China). Finally, some economies (notably Russia) have below-median prospects on both fronts, with growth profiles closer to developed – rather than emerging – markets.

EXHIBIT 6: APPLYING THE STYLE BOX TO EMERGING MARKETS



Source: Northern Trust, International Monetary Fund.

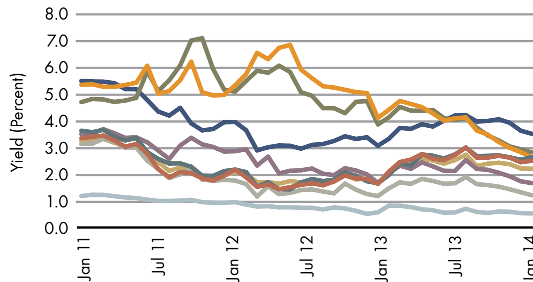
So what do these evolving emerging market dynamics mean from an investment perspective? Overall, despite the heterogeneous mix of growth profiles and growth drivers found in the representative countries, the risk premium embedded into the valuations is the common bond among the individual regions. For instance, we expect both the MSCI Emerging Market EMEA (Europe, Middle East, Africa) and MSCI U.S. indices to grow earnings by 4.8% over the next five years. However, the United States currently commands an 18.3 price-to-earnings multiple, while the EMEA index is only valued at 9.6 times earnings. Overall, emerging market equities carry a 12.3 price-to-earnings multiple, with earnings growth expectations of 6.0% (compared to 17.7x and 4.8%, respectively, for developed markets). This leads us to conclude that emerging market equities are considered to be more like value stocks than growth stocks.

Individual asset class return expectations across each of our major asset class categorizations (fixed income, equities, real assets and alternatives) will be covered in more detail on the pages that follow. However, from a thematic perspective, two other asset class-oriented dynamics continue to influence our outlook and approach to capital markets. The first is "the search for yield," a theme that, despite its long shelf life, continues

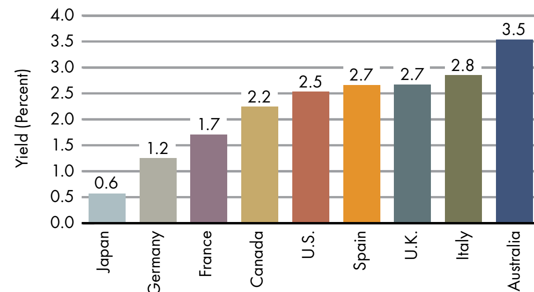
to be relevant, given expectations for still-accommodative monetary policy and low expected growth levels. Nowhere is the demand for yield more prevalent than in the sovereign debt markets (Exhibit 7). We note that Italy and Spain now are funding themselves at interest-rate levels similar to those in the United States.

EXHIBIT 7: SCAVENGING FOR YIELD

Sovereign Debt Yields – Recent History



Sovereign Debt Yields – Current



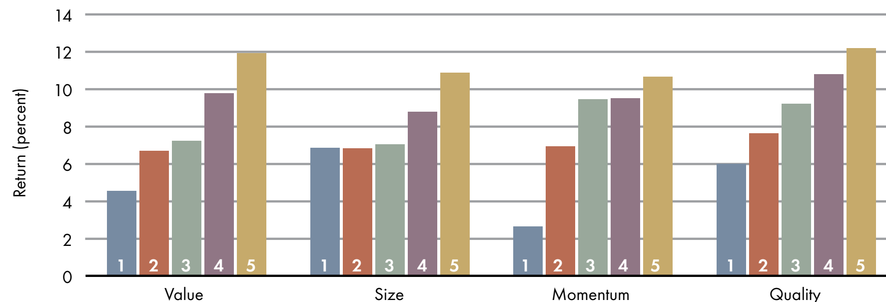
Source: Northern Trust, Bloomberg. Data as of 6/30/2014. Line chart colors/countries match bar chart colors/countries.

Within equities, we continue to explore the theme of "asset classes without borders," wherein the geographical composition of company revenues takes precedent over the company's country of domicile. At the country and regional index level we make our future revenue growth assumptions with these geographical compositions in mind. The "asset classes without borders" theme also suggests that there may be other, non-geographical, ways to slice-and-dice the global opportunity set through the use of factor-based portfolios. Our research confirms the well-documented size, value and momentum factors and expands into other factors such as quality – both defining it and understanding its risk/return characteristics.

Exhibit 8 shows the returns of the factor "quintile buckets" for the global universe of stocks, as found in the MSCI World index. Using the quality factor as an example, we find that the quintile with the highest quality exposure provided an annualized return of 12.2% since 1996 (tan bar). This compares to a 6.0% annualized return from those stocks with the lowest quality exposure (blue bar). Even more impressive, the "high quality" names provided this outperformance with less overall risk, making the returns very impressive on a risk-adjusted basis. We explore factor analysis in more detail in research from our quantitative research group.

EXHIBIT 8: THE POWER OF FACTOR EXPOSURE

Factor Performance From 1996 to 2013



Source: Northern Trust, Bloomberg, Northern Trust Quantitative Research. 5 = quintile with the most exposure to the factor.

FIXED INCOME

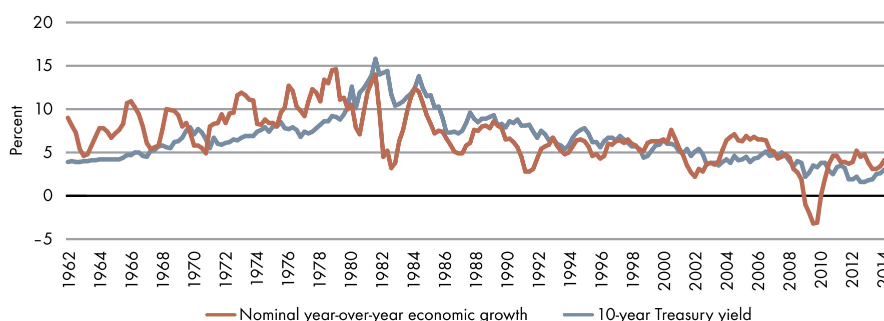
Our five-year central bank rate forecasts remain low by historical standards and market consensus, and are driven by our expectations for slow growth and low inflation. Meanwhile, our expectations for longer-dated Treasuries are closer to market consensus. Putting numbers to it, we expect the following versus approximate market expectations (based on forward rates, in parentheses):

United States:	Fed: 1.5% (3.0%)	10-year UST: 3.25% (3.50%)
United Kingdom:	BoE: 2.0% (3.0%)	10-year Gilt: 3.75% (3.65%)
Europe:	ECB: 0.5% (1.4%)	10-year Bund: 2.75% (2.50%)
Japan:	BoJ: 2.0% (3.0%)	10-year JGB: 1.75% (1.50%)

Many market observers have questioned how long rates can stay so low. Exhibit 9 may provide some insight. Historically, the yield on the U.S. 10-year Treasury has closely approximated year-over-year nominal growth. Thus, a moderate growth/low rate environment combined with a continued "search for yield" would justify both our expectations and market consensus forecasts for a moderate – but not severe – increase in rates over the next five years. Technical supply and demand factors (i.e., the global savings glut) further support our expectation for low rates.

EXHIBIT 9: ARE RATES REALLY TOO LOW?

U.S. GDP Growth & Soveriegn Debt Yield



Source: Northern Trust, Bloomberg.

The end result is a continued low rate of return from cash investments and a slight uptick in longer-dated fixed income returns, as higher rates have been slowly priced into the markets. European periphery spreads continue to see the "credit element" come out of them as the situation in Europe stabilizes (see Exhibit 7 on page 8), and we expect this to continue. In the United States, municipal debt yields have also seen a reduction in their "credit element" as state and local governments, in general, have started taking the necessary steps to address their debt burdens. Going forward, we believe municipal debt will continue to revert back to its traditional relationship with U.S. Treasuries.

Credit spreads continue to benefit from the search for yield as well. Over the past year, global corporate debt spreads have fallen to 1% from 1.5%, while high-yield bond spreads have fallen to 3.5% from 5.25%. Going forward, we see a bit more credit tightening, given a continuation of the search-for-yield theme – though not much. We expect corporate spreads to reach 0.8% (versus historical lows of 0.5% in 1997; data exist back to 1990) and high-yield spreads to reach 2.9% (versus historical lows of 2.4% in 1997; data exist back to 1994). The continued spread tightening (resulting in a lower yield "starting point") has slightly reduced high-yield forecasts, though the asset class will benefit from low default rates, given strong fundamentals and low refinancing needs over the next five years.

EQUITIES

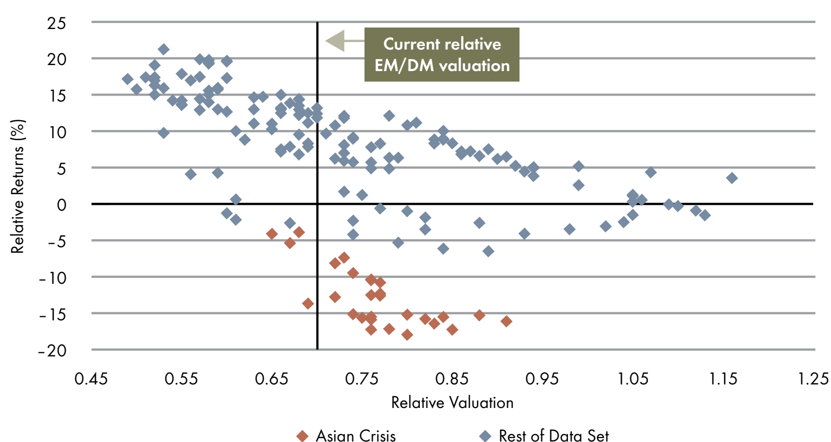
In formulating our forecasts for developed market equities, we first consider historical financial and economic metrics and the impacts they have on future equity market returns. As covered in previous editions of the Capital Market Assumptions whitepaper, we find that valuations – particularly cash flow yields – can provide insights into what to expect over a five-year time horizon – explaining 45% of return variation within global equities. Valuations show a negative correlation to equity returns because of the element of mean-reversion that exists in the equity markets: when valuations are high they tend to revert back to the mean, putting pressure on equity returns. The current above-median valuation levels suggest a five-year (annualized) developed-market equity return of approximately 5%.

We take this quantitative assessment into our forecasting process, and through our "forward-looking" themes, attempt to understand what other elements may be at play. To better understand what could drive the other 55% of return variation, we examine revenue and margin expectations as well as revisit the assumption of mean-reverting valuations. We assume that revenues within developed market equities will approximate their regionally weighted exposures to nominal economic growth. These regional weights are approximately 40% North America, 25% Europe, 15% Japan, 5% Asia ex-Japan and 15% emerging markets, resulting in a revenue growth assumption of 4.5%. We believe margins will continue to remain high, given our themes around continued productivity and low inflation. As such, we have an earnings growth assumption of 4.8%, benefiting from slight margin expansion. Finally, we believe valuations will fall slightly, but remain above historical averages. These assumptions translate to a 7.2% five-year (annualized) return forecast for developed markets, adjusted upward from our quantitative model, given more constructive forward-looking views on margins and valuations.

Emerging market equities have underperformed developed markets by more than 10% since the last CMA effort. This has reduced relative valuations, prompting us to examine what cheap valuations can tell us about future returns. Using data from 1995 to present, we found a somewhat unclear relationship, but one that becomes clearer when separating out the returns affected by the 1997 Asian financial crisis. Based on the history we have, current relative valuations (highlighted by the vertical bar in Exhibit 10) suggest a 10% return premium to developed markets is possible – assuming no crisis events. Our building-blocks model pared back our expectation significantly to a 1.8% return premium (9.0% total return). This is based primarily on less-constructive assumptions on valuation mean-reversion, with the current price-to-earnings ratio remaining steady at 12.5 versus the long-term average of near 15, as emerging economies deal with their economic transition to a more consumption-oriented economy.

EXHIBIT 10: RELATIVE VALUE IN EMERGING MARKETS

Emerging/Developed Markets – Relative Valuations/Returns



Source: Northern Trust, Bloomberg, MSCI.

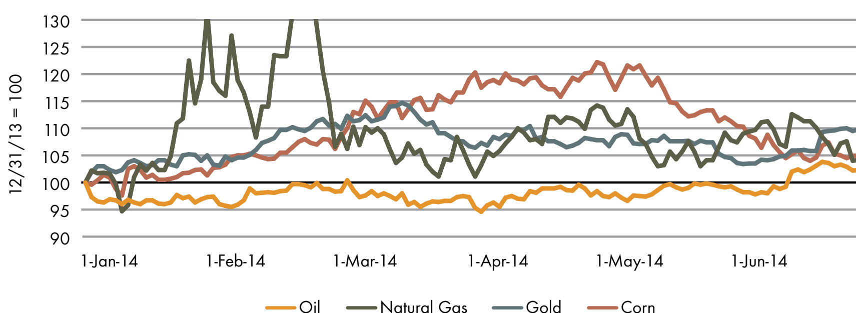
REAL ASSETS

Real assets serve a purpose in the portfolio by providing protection against unanticipated inflation. Most prominent are commodities and natural resources, which have historically exhibited high correlations to consumer prices. Also included in our real assets category are global real estate and global listed infrastructure, which provide bond-like income streams and, therefore, are exposed to interest-rate movements. But they also have the ability to adjust to inflation pressures through higher dividend payments and increased valuations to keep pace with inflation (i.e., not tied to a par value).

Our long-term return expectations for commodity-based asset classes remain fairly unchanged from the previous year. The potential for commodity price spikes has been on grand display so far this year. Whether from polar vortexes, geopolitical tensions or potential civil wars, potential disruptions to the global economy seem to show up first in commodity prices. Natural gas has shown notable price volatility, mostly caused by the unusually cold winter in the United States. (Note: Exhibit 11 truncates the early-year natural gas gains of 45% so as not to dwarf the other commodity price movements.) The experience thus far this year serves as a reminder of the potential for transitory price increases based on unpredictable weather and geopolitical events. However, we believe the longer-term trend is for modest appreciation within the commodity complex, given the headwinds to commodity demand from slow-growing developed markets and transitioning emerging markets. We expect futures-based commodities to return an annualized 3% (still burdened by low collateral yields) while equity-based natural resources are expected to return 7%, owing their superior return profile to their exposure to the equity risk factor.

EXHIBIT 11: COMMODITY PRICE SPIKES

Select Commodity Prices



Source: Northern Trust, Bloomberg.

Global real estate (GRE) and global listed infrastructure (GLI) are viewed as hybrid securities, given their exposure to risk factors beyond traditional equity risk (a staple of all risk assets). Specifically, GLI has statistically significant exposure to term (interest-rate) risk while GRE is exposed to both term and credit risk. Our themes around central bank accommodation provide support to both asset classes, though less so than in the past because of the reduced difference between our interest-rate forecasts versus market expectations (see page 9). A slow-growth environment generally benefits GLI more than GRE, but recent outperformance (30% for GLI versus 12% for GRE over the past year) tempers our expectations. Meanwhile, positive GRE fundamentals (with slowly improving demand outpacing new supply) should result in returns that justify GRE's higher risk profile. We are forecasting returns for GLI and GRE to be an annualized 7% and 8%, respectively.

ALTERNATIVES

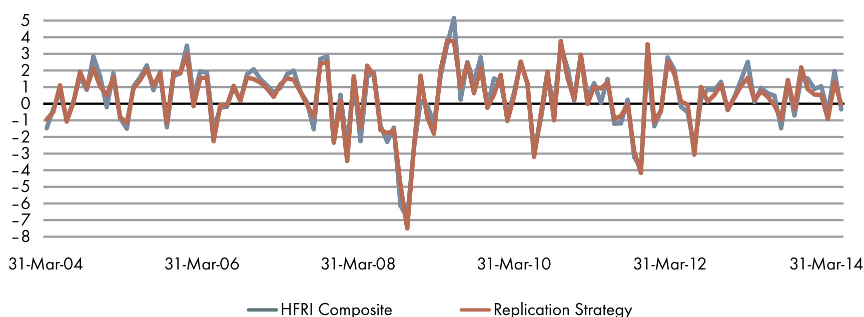
We define alternative investments as those asset classes that enhance risk-adjusted portfolio returns but introduce nontraditional risks into the portfolio. For instance, private equity investments have historically enhanced portfolio returns in exchange for adding an element of illiquidity to the portfolio. Alternatively, hedge funds have historically provided portfolio diversification to investors looking to smooth out overall portfolio returns through less-correlated return streams (versus other risk assets). However, hedge funds come with greater transparency risk and, in some cases, liquidity risk. Both private equity and hedge funds require careful manager selection to ensure they are generating enough alpha (i.e., returns not driven by individual risk factors) to justify their higher fees.

Our private equity forecast is determined by assigning an illiquidity premium to our equity forecast. Analyzing private equity returns – and determining the appropriate premium to assign – is complicated by incomplete return disclosure, uneven cash flows and varying assumptions on asset valuations. The most recent academic research analyzing public market equivalent (PME) data, which allows an apples-to-apples comparison of private and public equity returns, suggests an illiquidity premium of 2.5%. We agree with this assessment of the illiquidity premium, which results in our return forecast of 9.4%.

The average hedge fund represents a mix of factor exposures and uncorrelated sources of return through market timing and/or security selection (alpha). Historical data show that average hedge fund returns (as proxied by the Hedge Fund Research Institute [HFRI] Fund Weighted Composite Average) can be materially explained by "long/short" factors such as size, value and momentum, as well as other risk factors such as equity, term, credit, emerging markets, commodities and currency. Taken together, these risk factors explain 93% of hedge fund return variation, as measured by the adjusted r-squared. Exhibit 12 shows the way in which these factor returns, when weighted by their beta coefficients to the index, can replicate the HFRI Fund Weighted Composite Average.

EXHIBIT 12: REPLICATING THE HEDGE FUND UNIVERSE

Hedge Fund Composite & Replication Strategy Monthly Returns



Source: Northern Trust, Bloomberg.

Leftover returns not explained by the factor exposures shown above represent alpha. The average annual alpha across the HFRI Fund Weighted Composite Average has equaled 0.8% over the past 10 years. Given our mandate to forecast the index, we combine this alpha with the factor exposures highlighted above to arrive at our 4.3% hedge fund forecast. However, because of the wide dispersion of skill levels in the evolving hedge fund universe, manager selection is paramount in the asset class. A robust approach to manager analysis – using both quantitative and qualitative inputs, as well as proper due diligence – can lead to higher alpha terms and superior outcomes. Research from our hedge fund team details these best practices more thoroughly.

APPENDIX 1: FIVE-YEAR RETURN FORECASTS

Fixed Income Forecasts – All Returns in % Annualized				2014 Return Forecast	Historical 5-Year Return Forecasts By Year					5-Year Actual Return+
		Asset Class	Proxy		2013	2012	2011	2010	2009	
Developed Markets	United States	Cash	BarCap 3-Month U.S. Treasury	0.9	0.5	0.5	1.5	1.5	0.8	0.1
Developed Markets	United States	Sovereign	BarCap U.S. Treasury	2.8	2.5	1.2	2.5	2.4	2.5	3.6
Developed Markets	United States	Inf. Linked	BarCap U.S. TIPS	3.0	2.7	1.4	2.7	2.0	2.0	5.5
Developed Markets	United States	Inv. Grade	BarCap U.S. Aggregate	3.0	2.8	2.0	3.3	4.0	4.0	7.7
Developed Markets	United States	High Yield	BarCap U.S. High Yield	5.6	6.1	6.1	5.6	6.6	11.4	13.9
Developed Markets	United States	Municipal	BarCap Municipal Bond Index	4.0	3.0	2.9	3.5	3.2	4.8	5.8
Developed Markets	United Kingdom	Cash	3-Month Gilts	1.3	0.6	1.0	2.3	*	*	0.5
Developed Markets	United Kingdom	Sovereign	BarCap Sterling Gilts	3.5	3.0	2.5	2.8	*	*	5.3
Developed Markets	United Kingdom	Inf. Linked	BarCap Global Inflation Linked: UK	3.0	3.2	2.7	2.8	*	*	7.7
Developed Markets	United Kingdom	Inv. Grade	BarCap Sterling Aggregate	3.7	3.5	3.1	2.6	*	*	9.9
Developed Markets	Europe	Cash	3-Month German Bunds	0.4	1.0	1.3	2.4	*	*	0.2
Developed Markets	Europe	Sovereign	BarCap Euro Treasury	2.8	3.0	2.7	3.7	*	*	5.5
Developed Markets	Europe	Inf. Linked	BarCap Euro Inf. Linked: Eurozone	2.8	3.2	3.1	3.3	*	*	4.8
Developed Markets	Europe	Inv. Grade	BarCap Euro Aggregate	2.8	3.0	2.9	3.6	*	*	7.0
Developed Markets	Europe	High Yield	BarCap Pan-European High Yield	6.0	8.0	9.0	5.9	*	*	16.7
Developed Markets	Japan	Cash	3-Month JGB	0.1	0.1	0.3	0.3	*	*	0.1
Developed Markets	Japan	Sovereign	BarCap Asia-Pac Japan Treasury	1.2	0.8	0.7	0.5	*	*	2.2
Developed Markets	Japan	Inf. Linked	BarCap Inflation Linked JGB	1.5	0.6	0.5	0.8	*	*	6.3
Developed Markets	Japan	Inv. Grade	BarCap Asia-Pac Japanese Aggregate	1.2	0.8	0.7	0.5	*	*	2.2
Developed Markets	Aus.	Cash	3-Month Australia Gov't Bond	2.8	3.3	4.0	*	*	*	3.8
Developed Markets	Aus.	Inv. Grade	BarCap Australian Composite	4.0	3.6	3.3	*	*	*	6.3
Developed Markets	Canada	Cash	91-Day Canada T-Bill	1.3	1.5	1.5	3.0	*	*	0.8
Developed Markets	Canada	Sovereign	FTSE TMX Government	3.2	3.0	2.0	3.3	*	*	4.6
Developed Markets	Canada	Inf. Linked	FTSE TMX Real Return Bond Index	3.2	3.2	2.3	3.3	*	*	6.7
Developed Markets	Canada	Inv. Grade	FTSE TMX Universe	3.4	3.5	2.5	3.5	*	*	5.1
Developed Markets	Canada	High Yield	Merrill Lynch Canadian High Yield	5.6	6.1	6.1	5.6	*	*	10.8
Global Aggregate			BarCap Global Aggregate	2.7	2.6	2.0	2.1	*	*	4.6
Global High Yield			BarCap Global High Yield	5.8	6.5	6.5	*	*	*	14.4
Emerg. Mkt. Debt			JP Morgan GBI-EM Diversified	6.0	7.0	6.1	6.9	*	*	8.1

+Five-year period ending 6/30/14.

**No forecast developed*

Forecasts listed here represent total return forecasts for primary asset classes, annualized using geometric averages. For further detail on our capital market assumptions (risk, correlation etc.) or assumptions for non-primary asset classes, please contact your relationship manager.

Five-year actual returns listed in local currency.

APPENDIX 1(CONT.): FIVE-YEAR RETURN FORECASTS

	Equity Forecasts – All Returns in % Annualized		2014 Return Forecast	Historical Return Forecasts By Year					5-Year Actual Return+
	Asset Class	Proxy		2013	2012	2011	2010	2009	
Developed Markets	United States	MSCI United States	6.6	7.1	8.5	7.5	7.5	9.0	19.0
	Europe	MSCI Europe ex U.K.	8.2	7.8	7.0	7.0	*	*	11.9
	Japan	MSCI Japan	6.6	5.8	5.0	4.0	*	*	8.5
	United Kingdom	MSCI United Kingdom	8.6	8.4	8.0	7.5	*	*	13.7
	Canada	MSCI Canada	7.1	7.6	8.0	7.5	*	*	9.8
	Pacific Rim	MSCI Pacific ex Japan	9.1	9.4	8.5	8.0	*	*	11.2
	Developed Markets	MSCI World	7.2	7.4	7.8	7.3	7.2	9.0	15.1
Em. Mkts.	Asia	MSCI EM Asia	10.0	9.9	11.5	11.5	*	*	9.9
	Latin America	MSCI EM Latin America	7.0	10.6	11.0	10.0	*	*	7.2
	EMEA	MSCI EM EMEA	7.9	10.4	9.5	8.5	*	*	9.9
	Emerging Markets	MSCI Emerging Markets	9.0	10.1	11.1	10.7	10.5	13.5	8.9
	Global Equity	MSCI All Country World	7.4	7.7	8.4	7.8	7.5	9.5	14.4

	Real Asset Forecasts – All Returns in % Annualized		2014 Return Forecast	Historical Return Forecasts By Year					5-Year Actual Return+
	Asset Class	Proxy		2013	2012	2011	2010	2009	
Real Assets	Futures-Based Nat. Res.	DJ-UBS Commodities	3.0	3.0	5.0	5.3	5.0	7.0	2.0
	Equity-Based Nat. Res.	Morningstar GUNR	7.0	7.2	7.9	*	*	*	9.7
	Global Listed Real Estate	FTSE EPRA/NAREIT Global RE	8.0	8.0	8.4	9.4	9.4	12.0	16.3
	Global Listed Infrastructure	S&P Global Infrastructure	7.0	7.5	8.9	*	*	*	14.0
	Global Inflation-Linked	BarCap Global Inflation-Linked	2.9	2.9	1.3	*	*	*	6.1

	Alternative Forecasts – All Returns in % Annualized		2014 Return Forecast	Historical Return Forecasts By Year					5-Year Actual Return+
	Asset Class	Proxy		2013	2012	2011	2010	2009	
PE	Buyouts	Cambridge Global Buyout	8.8	9.2	10.8	10.5	9.5	9.8	N/A
	Venture Capital	Cambridge Global VC Only	10.2	10.6	11.8	12.0	11.5	11.8	N/A
	Fund of Funds	Blend: 75% Buyout/25% VC	9.2	9.6	11.0	11.0	10.0	10.3	N/A
Hedge Funds	Equity Hedge	HFRI Equity Hedge	3.3	3.6	5.1	7.6	8.5	8.5	7.1
	Event Driven	HFRI Event Driven	5.2	5.9	7.3	10.0	10.0	10.2	9.3
	Relative Value	HFRI Relative Value	5.4	4.4	5.0	7.9	7.3	7.0	9.0
	Macro	HFRI Macro	3.9	4.2	5.3	8.5	9.7	9.7	1.3
	Composite	HFRI Fund Weighted Comp	4.3	4.4	5.5	8.4	8.1	8.4	6.3

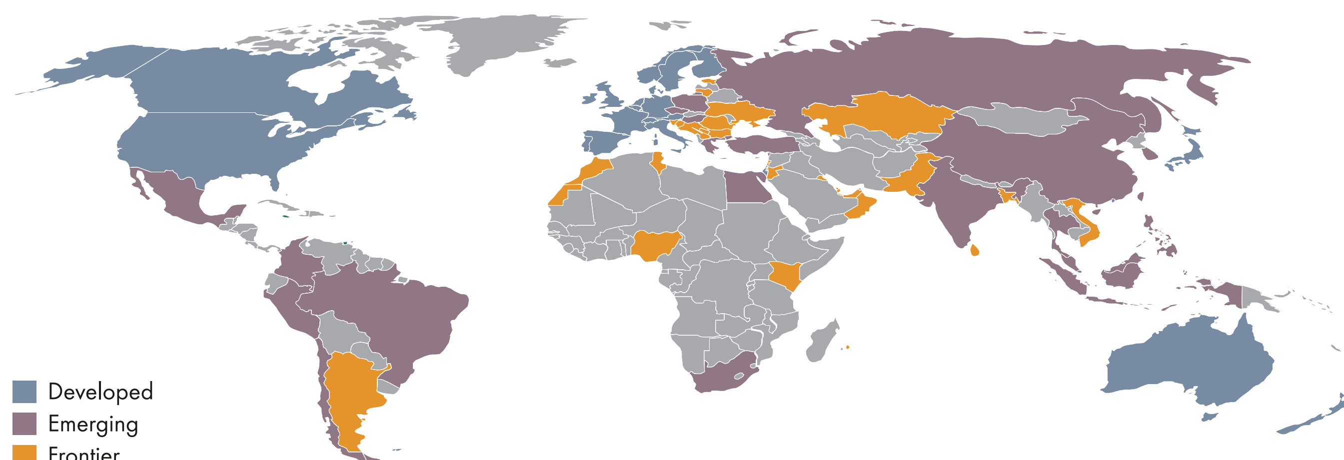
+Five-year period ending 6/30/14.

**No forecast developed*

Forecasts listed here represent total return forecasts for primary asset classes, annualized using geometric averages. For further detail on our capital market assumptions (risk, correlation etc.) or assumptions for non-primary asset classes, please contact your relationship manager.

Five-year actual returns listed in local currency.

APPENDIX 2: GLOBAL OPPORTUNITY SET



Global Equity, Economic Output & Population Composition

	Country	% Global Equity	% Global GDP	% Pop.	Country	% Global Equity	% Global GDP	% Pop.
Developed Markets	United States	48.7	22.8	4.5	Italy	0.9	2.8	0.9
	United Kingdom	7.8	3.4	0.9	Denmark	0.5	0.4	0.1
	Japan	7.3	6.6	1.8	Singapore	0.5	0.4	0.1
	Canada	3.8	2.5	0.5	Belgium	0.4	0.7	0.2
	France	3.7	3.7	0.9	Norway	0.3	0.7	0.1
	Germany	3.4	4.9	1.2	Finland	0.3	0.3	0.1
	Switzerland	3.3	0.9	0.1	Israel	0.2	0.4	0.1
	Australia	2.8	2.0	0.3	Ireland	0.1	0.3	0.1
	Spain	1.3	1.8	0.7	Austria	0.1	0.6	0.1
	Sweden	1.1	0.8	0.1	Portugal	0.1	0.1	0.2
	Hong Kong	1.0	0.4	0.1	New Zealand	0.0	0.2	0.1
	Netherlands	1.0	1.1	0.2				
Emerging Markets	China	2.0	12.4	19.4	Poland	0.2	0.7	0.5
	Korea	1.7	1.7	0.7	Chile	0.2	0.4	0.3
	Taiwan	1.3	0.7	0.3	Colombia	0.1	0.5	0.7
	Brazil	1.2	3.0	2.8	Philippines	0.1	0.4	1.4
	South Africa	0.8	0.5	0.8	Greece	0.1	0.3	0.2
	India	0.7	2.5	17.7	United Arab Emirates	0.1	0.5	0.1
	Russia	0.6	2.9	2.0	Peru	0.0	0.3	0.4
	Mexico	0.6	1.7	1.7	Qatar	0.0	0.3	0.0
	Malaysia	0.4	0.4	0.4	Czech Republic	0.0	0.3	0.2
	Indonesia	0.3	1.2	3.5	Hungary	0.0	0.2	0.1
	Thailand	0.2	0.5	1.0	Egypt	0.0	0.4	1.2
	Turkey	0.2	1.1	1.1				
Totals	**Developed**	**88.8**	**57.9**	**13.2**	**Frontier Markets**	**0.3**	**4.0**	**13.3**
	Emerging	**10.9**	**32.8**	**56.7**	**All Investible**	**100.0**	**94.8**	**83.1**

APPENDIX 3: THE CAPITAL MARKET ASSUMPTIONS WORKING GROUP

CMA is composed of senior investment professionals from across Northern Trust globally, incorporating both manufacturing (analysts, portfolio managers, strategists) and client-facing investment professionals. Key membership positions are as follows:

- Northern Trust's chief investment officer
- Northern Trust's chief investment strategist
- Specific asset class managing and research directors
- Chief investment officers from the various business units and regions

2014 CMA PARTICIPANTS

Peter Flood
CMA Committee Chairman

David Blake
Director Global Fixed Income

Wayne Bowers
International Chief Investment Officer

Bob Browne
Northern Trust Chief Investment Officer

Brad Camden
U.S. Fixed Income

Sanford Carton
Investment Analyst

Michael DeJuan
Lead Strategist, Portfolio Construction Desk

Kelly Finegan
Global Real Estate

Jackson Hockley
Natural Resources

Tony Lizzusso
Hedge Funds

Adam Magyar
Hedge Funds

Jim McDonald
Chief Investment Strategist

Peter Mladina
Wealth Management Director of Portfolio Research

Abdur Nimeri
Wealth Management Portfolio Research

Katie Nixon
Wealth Management Chief Investment Officer

Matt Peron
Managing Director, Global Equities

Brad Peterson
Senior Portfolio Manager, Wealth Management

Dan Phillips
Investment Strategist

Colin Robertson
Managing Director, Fixed Income

Jeff Rosenblum
Global Infrastructure

Edward Trafford
Natural Resources

Peter Yi
U.S. Short-term Fixed Income

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