

INVESTMENT STRATEGY COMMENTARY

Five-Year Outlook: 2015 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 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.

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.

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SUMMARY

Gravitational forces have finally started to take hold in financial markets. The approximate 5% return of global equity markets over the past 12 months is more in line with the slow global growth environment than the back-to-back 20% year-over-year returns that preceded it. In our annual Capital Market Assumptions (CMA) deliberations, we concluded that the slow global growth environment will continue – a product of current debt levels, anticipated deleveraging, aging developed markets and transitioning emerging economies. The question, of course, is how directly the laws of physics can be applied to financial markets over the next five years. Put another way: How much life is left in the cyclical force of rising asset price valuations and profit margins to offset the structural expectation for continued slow growth?

We believe the transition from cyclical to structural will occur at a modest pace over the next five years, as identified in our **Cyclical Meets Structural** theme. Helping to ease the transition is our expectation for **Low and Slow Monetary Policy**. The Federal Reserve is expected to initiate “liftoff” early in the five-year horizon, but the trajectory of rate hikes thereafter is expected to be shallow, with the Bank of England (BoE) following a similar path. Meanwhile, zero interest-rate policy is expected to persist at the European Central Bank (ECB) and the Bank of Japan (BoJ). Low productivity, as “official” numbers suggest, would challenge central bankers’ ability to maintain current monetary policy without some type of upward pricing pressures, either in the real economy (inflation) or financial markets (asset price bubbles). We believe we are witnessing a **Productivity Paradox** whereby true productivity is not being appropriately captured and is merely a reflection of the low-demand environment. Given that view, we do not anticipate inflationary problems despite continued accommodative monetary policy over the forecast time horizon. We do see, however, increased risk of financial asset bubbles as investors increasingly accept the fact that we are **Living in a Low-Yield World** and possibly take inappropriate risks in response. Accommodative monetary policy, alongside globalization and technological advancements, has also been blamed, in part, for rising inequality. But we anticipate **Inequality Inaction** as redistributionist remedies fall below other priorities on the political docket – both in importance and ease of implementation. All said, we expect **The Slow Burn of Low Growth** to define the next five years – assigning a low risk to a typical “central banks take away the punchbowl” end to the current expansion, but subject to the “slow burn” of falling demand momentum and without much cushion against potential exogenous economic shocks.

These themes – combined with a historical analysis of financial market return drivers and asset class relationships – result in the five-year capital market assumptions found in the appendix and summarized in Exhibit 1. Consistent with the past two years, we generally lowered our risk asset forecasts as valuations have caught up with – and surpassed – underlying growth fundamentals post-financial crisis. However, we still expect mid-single-digit returns for most risk assets, as we anticipate a slow transition from “cyclical to structural” will allow valuations and profit margins to remain elevated. Risk-control asset forecasts, in general, also fell alongside reduced interest rate levels year-over-year.

EXHIBIT 1: LOWER RETURNS IN A SLOW GROWTH WORLD

Five-Year Asset Class Outlooks	
Fixed Income	Cash return forecasts have risen ever so slightly as one year of zero interest rates on the front end is replaced with one year of below-average rates on the back end. Investment-grade fixed income forecasts remain low given their starting point and have less cushion in the market’s forward rate expectations. High yield’s energy sector-related selloff has provided an opportunity given solid fundamentals.
Equities	Developed market equity forecasts continue to come down as valuations march upward in the face of an expected slow-growth environment over the next five years. Although not our base case, the statistical probability of negative equity returns has risen given where valuations currently sit. Emerging market equities continue to have a modest equity premium – below long-term averages.
Real Assets	Natural resource/commodity return forecasts continue to face the headwinds of low global demand and transitioning emerging economies, but recent price declines have adjusted to the new environment. Global real estate and listed infrastructure benefit from their diversified risk exposures; their sensitivity to interest rates – which we expect to remain low – helps support return forecasts.
Alternatives	We maintained our forecasted private equity illiquidity premium over public equities; purchase prices have increased in aggregate, but financing costs will remain low and opportunities for increased efficiencies remain high. Hedge funds can benefit from nontraditional beta and alpha (in the form of manager skill), but manager selection is essential given the wide dispersion of strategy returns.

FIVE-YEAR THEMES

The Slow Burn of Low Growth

Global economic demand will be impaired by high aggregate debt levels, unsupportive demographics and transitioning emerging market economies. The debt and demographic issues are inextricably linked, with an aging global population needing to save more – possibly providing funding for profitable projects (e.g., infrastructure). But already-high debt levels and concerns over future demand will serve as a headwind to investment. Financial markets are at low risk of an inflation/central bank tightening policy-induced end to the current expansion over the five-year horizon, but they are exposed to the “slow burn” of falling demand momentum and smaller cushions against economic shocks.

Productivity Paradox

The “official” measures suggest that productivity has fallen to levels not seen in decades across many major developed economies. Meanwhile, developed economy price inflation remains stubbornly low, and corporate profit margins remain persistently high. Falling productivity, as the official numbers suggest, would undermine the continuation of these trends. We believe falling productivity is being incorrectly measured in the official statistics, driven by subdued demand that is artificially pushing productivity lower despite the increased capacity from technological advances. We expect low inflation and elevated profit margins to persist, with a view that any pickup in demand can be sufficiently met by increased supply.

Inequality Inaction

Various elements are contributing to greater income inequality in developed economies. Outsourcing of manufacturing and production jobs has been in play for decades, while easy monetary policies put in place after the financial crisis have disproportionately benefited financial asset owners. More recently, technology has started replacing higher-value white collar jobs. Despite these dynamics, those affected appear less in favor of redistributionist policies than they are of pro-growth initiatives that allow them to participate in the gains. Any efforts to employ redistributionist remedies and/or use the inequality issue for political purposes are not expected to bear fruit amid continued headwinds of austerity and competition.

Low and Slow Monetary Policy

Monetary policy “liftoff” from the Fed is expected within the early part of our five-year time horizon, but its trajectory should be shallow thereafter; we expect the BoE will follow a similar path. The ECB and the BoJ will maintain rates near zero, first making their way through the quantitative easing gauntlet. All of these “low-and-slow” policies are predicated on the expectations for low inflation and modest growth. While interest rates will remain low, volatility will rise as investors attempt to understand policymakers’ comfort with large balance sheets and plans to address them.

Living in a Low-Yield World

After holding out hope for years, financial market participants are increasingly accepting the view that interest rates could remain low indefinitely – driven by slow growth, tepid inflation and lagging debt issuance relative to investor demand. This low-yield environment reduces the yield “cushion” granted investors, versus when most thought global interest rates would normalize to historical levels. It likewise creates significant challenges for financial entities (e.g., insurance companies) burdened with above-market, long-term fixed-rate liabilities.

Cyclical Meets Structural

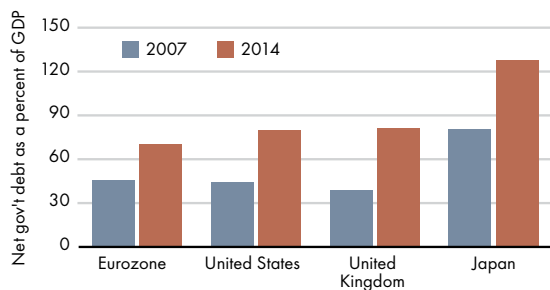
Global developed-market equity valuations have benefitted immensely from ultra-accommodative monetary policy in the post-financial crisis environment and now sit at levels significantly above long-term historical averages. The cyclical upswing in equity prices still has support from continued accommodative monetary policy, but will eventually meet the reality of the structural low-demand outlook. We believe equity returns will be in the mid-single-digit range as both valuations and profit margins are slow to revert to historical levels. But we are mindful of the increased probability of a cyclical rollover driven by structural forces.

MACRO VIEWS

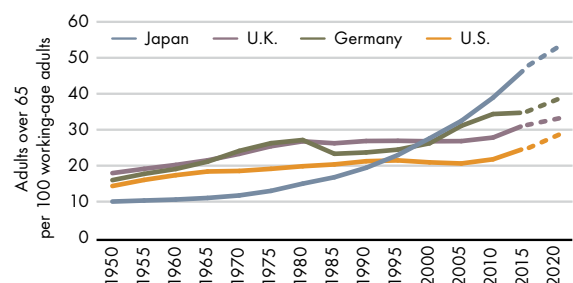
Developed economy real growth has averaged 1.8% annually over the past five years after averaging 2.8% annually prior to the financial crisis (data going back to 1980). We expect more of the same over the next five years and forecast a 1.7% real growth rate. The primary factors preventing acceleration to long-term trend growth levels are the high aggregate debt levels and quickly aging demographics. These two issues have always been on the long-term horizon (and fairly well understood) but now are increasingly within our five-year window. After rising markedly post-financial crisis (see left panel of Exhibit 2), government debt levels as a percent of gross domestic product (GDP) have slowed their increase over the past year as austerity measures have been implemented. However, deficits as a percent of GDP continue to be more or less in-line with nominal economic growth – meaning overall debt levels will continue to remain elevated. Absent stronger organic economic growth (more on that in a bit), fiscal budgets will need to be cut further in order to lower overall debt levels. It will be a difficult process – constituencies are already feeling the pain of recent reductions – made more complicated by mounting entitlement bills.

EXHIBIT 2: DOWNWARD GROWTH PRESSURES FROM DEBT AND DEMOGRAPHICS

Government Debt



Demographics



Source: Northern Trust Investment Strategy, International Monetary Fund, United Nations Population Division.

Meanwhile, the impact of demographics is set to ramp up over the next five years as increasing numbers of baby boomers retire (in the United States, the boom peaked in 1957, with those born in 1957 turning 58 this year.) The increasing dependency ratios shown in the right-hand panel of Exhibit 2 clearly show the impact of those reaching retirement age. Aging demographics play an interesting role in the debt picture. On one hand, and as mentioned above, there is a clear burden on government outlays from growing entitlements. This money does not just disappear; the portion of transfer payments that are spent would represent a source of badly needed demand. However, this demand is likely to be more than offset by deleveraging forces as consumers further reduce their debt burdens. Broadly speaking, consumers need to save more as a growing number head toward retirement. A stark example is the savings rate of the average U.S. consumer, which currently sits at 5.6% of disposable income. This metric has displayed a slight upward trend over the past year – but it is at about half the levels seen in the 30 years prior to 1980. Money saved does not just disappear either. It can fund investment in value-added projects like infrastructure, which could increase demand and potential output (assuming the right projects are chosen) at the same time. There are two problems with this construct. First, it is difficult to trust the government to invest in the right (most-profitable) projects. Second, even if the government were trusted as a good allocator of capital, there appears to be little political appetite for any increases in the national debt in the current age of austerity. This is despite the fact that profitable projects would actually be constructive for the overall debt picture. Alternative solutions (including public-private partnerships) exist but are – and will continue to be – heavily scrutinized, given the uncertain demand outlook.

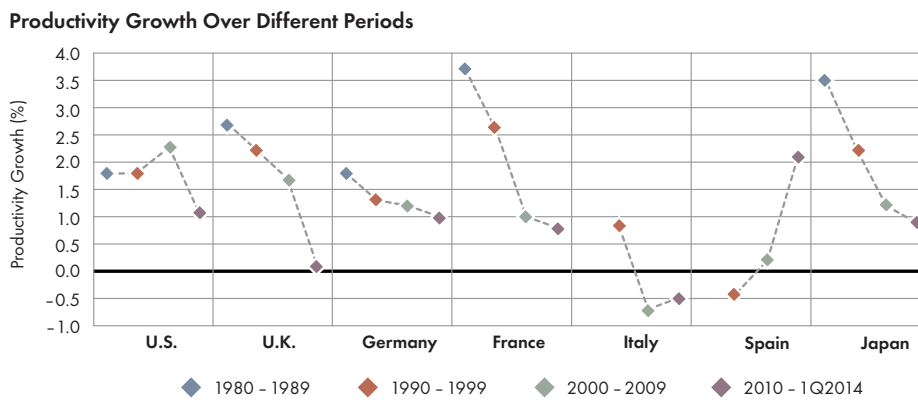
The emerging market consumer has long promised to be a major source of demand for the global economy going forward, but that dynamic has been slow to play out thus far. China's growing middle class has been slow to replace the demand previously generated by fixed asset investment and exports while the central government balances the transition alongside a crackdown on asset price bubbles (first housing, now equities).

India has seen ramped up growth, aided by Prime Minister Modi’s reforms, but – at one-fifth the size of China – cannot be counted on to offset the reduction in Chinese demand growth. Meanwhile, Russia and Brazil have low expected growth profiles over the next five years, dealing with expected economic contractions in 2015.

The debt- and demographic-constrained growth of developed economies, combined with the slowing growth profile of emerging economies, results in our expectation for low global growth over the next five years (2.6% in real terms). Carrying forward last year’s theme of enduring growth, we continue to expect the current expansion to persist over the next five years. But we assign a higher risk-case probability to a recession in the back end of the five-year time horizon. This risk case is based on our concern over falling demand momentum and the smaller cushion against economic shocks as opposed to concerns around restrictive monetary policies aimed to ward off inflationary pressures, which we do not expect.

We predicate our forecast for continued low levels of price inflation on the low global-demand thesis outlined above. It combines with a belief that the global economy could absorb increased demand if we have overestimated the effect debt, demographics and transitioning emerging economies will have. Flying in the face of our argument here are the “official” productivity measures. As Exhibit 3 shows, nearly all major developed economies have experienced falling productivity growth, Spain being a notable exception.

EXHIBIT 3: OFFICIAL DATA SUGGESTS DECLINING PRODUCTIVITY



Source: Northern Trust Investment Strategy, Barclays. No data available for Spain and Italy from 1980–1989.

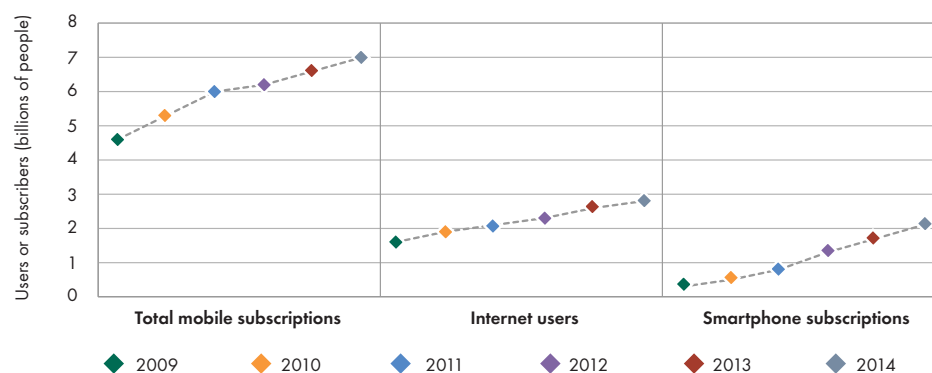
But we have a difficult time squaring this with the current low inflation levels and high corporate profit margins. According to official government statistics, U.S. productivity growth from 1973 through 1979 was close to current levels (just above 1%). As one would expect in that type of environment, inflation during that period was consistently above 6%, reaching as high as 11%. Today, however, inflation struggles to get to 2%. Meanwhile, global corporate profit margins have remained consistently high over the past five years – and they are near record levels in the United States. How are corporations able to sustain such high profit margins in the face of slowing productivity growth? Part of the answer is lower funding costs, given low interest rates – though such low interest rates combined with low productivity would theoretically induce inflation. We think another big part of the answer is that productivity is higher than the official measures suggest. Anecdotal stories abound about companies able to slash costs through the use of automation to offset slowing revenues. The problem is that technological advancements are shifting from being “job-enablers” to “job-stealers.” While the former generally resulted in the employee making more money, the latter means the employee is out of a job. The net result is that demand, already impaired as discussed earlier, is not keeping up with these increases in productivity, weighing on the official productivity metrics. History suggests that technology generally allows workers to do higher value-added jobs, but the bar keeps going higher on what technology can do, increasingly replacing white- and blue-collar jobs. By some estimates, nearly 50% of jobs in the current economy are viewed as replaceable over the next decade. We do not think this number will be realized that quickly, but we do believe it will keep a lid on the pace of wage increases. The end result is a continuation

of a low-inflation and high corporate profit-margin environment – potentially accompanied by additional downward pressures on demand.

Technological advancements are adding to the income inequality pressures already coming from globalization (e.g., the outsourcing of manufacturing and production jobs). Pressures also come from easy monetary policy disproportionately benefiting financial assets – predominately owned by the affluent – versus the real economy. All these pressures are expected to continue to some degree over the next five years. Income inequality is concerning in a global economy starved for demand as lower-income cohorts tend to spend more of a growing paycheck than do their more affluent counterparts. Income inequality is also concerning if sub-optimal redistributionist policies (distorting normal market functioning) are enacted to address the issue. While technology is exacerbating the income inequality issue, it is also deterring overly harsh political remedies. Excessive increases in top personal income tax brackets will just prompt a move to a more-favorable tax jurisdiction enabled by advances in communication technology that allow mobility for many high-level jobs. Excessive increases in minimum wage laws will accelerate the move by corporations to automated processes. Technology has also provided widespread benefits across the income spectrum. One example: the price discovery provided on the Internet to get the lowest price on a variety of consumer goods, accessed on the smartphones found in 2.1 billion (and rapidly growing, see Exhibit 4) peoples’ pockets.

EXHIBIT 4: A SUPERCOMPUTER IN EVERY POCKET

Global Technology Usage Trends



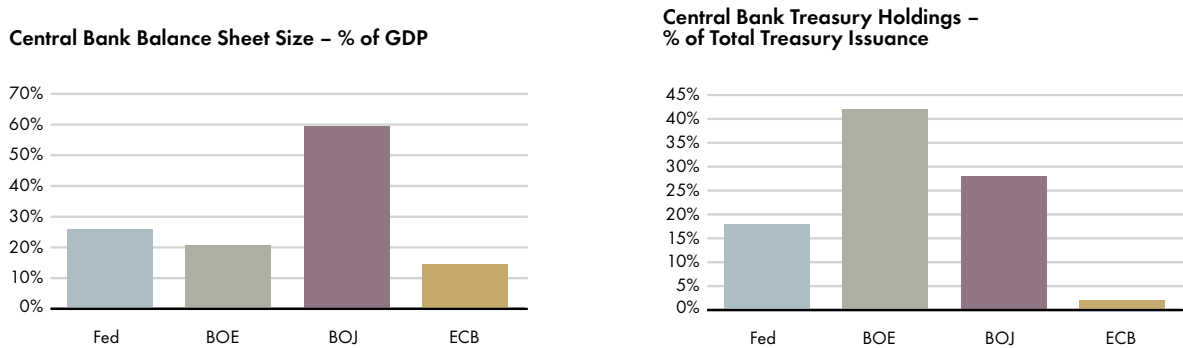
Source: Northern Trust Investment Strategy, Kleiner Perkins Caufield & Byers, ITU, Informa.

We believe income inequality will be a major issue over the next five years, but little will be done along the lines of redistributionist policies or using inequality for political aims. Constituencies appear more interested in obtaining a ladder to the middle class than a massive redistribution of wealth. Meanwhile, governments have more pressing issues on the docket, including implementing initiatives to jump start growth and employing discipline with respect to increasing debt burdens. We believe the outright majority secured by the pro-business/fiscal budget-conscious Conservatives in the recent United Kingdom parliamentary election was an example of constituencies voting with “their head over their heart.”

Turning to monetary policy, we continue to believe all major central banks will be accommodative over the five-year horizon. Better fundamentals in the United States and the United Kingdom will allow the Fed and BoE to begin raising policy rates early in the five-year period. But our longer-term structural view on growth and expectations for subdued inflation suggests their trajectory of rate hikes will be shallow. Meanwhile, the ECB and the BoJ are expected to maintain current policy rates – preoccupied with their ongoing quantitative easing programs as their respective economies look for progress on structural reforms. All four major central banks have now engaged in quantitative easing, while some (specifically the Fed) are strategizing an exit from those measures over the five-year horizon. This means we need to consider new metrics related to the impact monetary policy will have on the economy and financial markets. In Exhibit 5 (on page 6), we show each central bank’s overall assets as a percent of its economy and sovereign debt holdings as a percent of the aggregate sovereign debt outstanding of each respective region. The former measures the magnitude of the respective

central banks' efforts while the latter gives a sense of the impact these efforts are having on market functioning. Note that, in addition to sovereign debt, central banks are holding other assets as well (e.g., the Fed holds \$1.7 trillion of mortgage-backed securities; the BoJ has invested in equities and equity-related vehicles). However, we chose to focus on the sovereign debt markets for the purposes of this exhibit.

EXHIBIT 5: CORNERING THE MARKET



Source: Northern Trust Investment Strategy, Bloomberg, International Monetary Fund, Bank of America. Central bank holdings as of June 2015; GDP size assumption uses 2014 data.

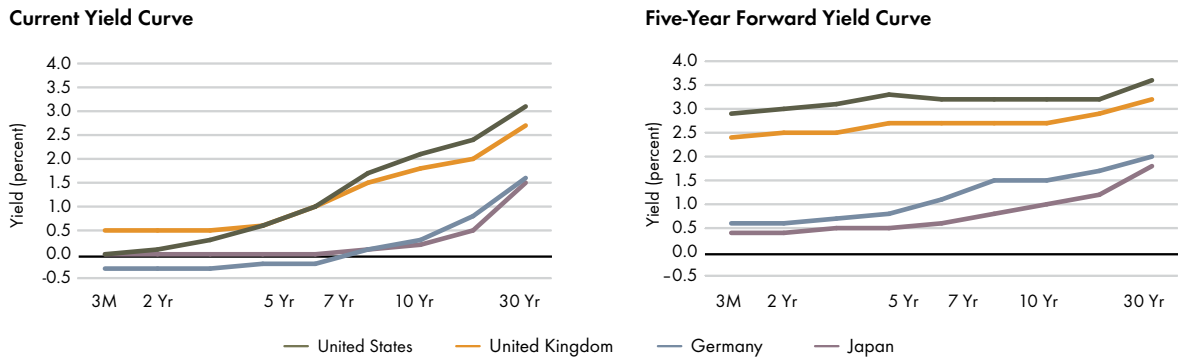
The Fed and BoE are now in a period of balance sheet maintenance; their individual balance sheets are more or less holding steady for now. Meanwhile, we expect both the BoJ and the ECB to continue aggressively implementing their quantitative easing programs. (Note: the ECB currently only owns approximately 2% of outstanding euro-market sovereign debt, but this is expected to grow to 10% by September 2016 when its quantitative easing program currently is scheduled to end.) The BoJ has political and constituency backing to push ahead with its aggressive strategy. In Europe, now that the ECB has finally taken the big first step by initiating quantitative easing (appeasing the courts, regulators and Germany along the way), we believe it will be heavily relied on to support growth and inflation as structural reforms proceed at a slow pace.

The major monetary policy focus over the next five years will be the approach the Fed takes to manage its balance sheet, both with respect to timing and implementation of any potential reductions. The first change will likely be a decision not to reinvest maturing securities. We expect this to happen during the five-year horizon but not until the Fed first moves off of its current zero interest-rate policy. It also must formulate and communicate a succinct plan to implement the move away from maturity reinvestment (e.g., how it will address the potential for “lumpy” maturities that would affect market technicals).

What we do not expect are outright sales of the Fed’s current assets in a market where the Fed already owns 18% of outstanding supply – and where market participants are already attempting to understand potential changes to the process around reinvesting maturing securities (described above). Further complicating the U.S. monetary policy outlook is the introduction of new tools necessary to actually enact policy. Excess reserves on bank balance sheets currently sit at \$2.5 trillion (versus an average of \$25 billion prior to the crisis), and deposit-taking institutions are becoming a less-prominent creator of credit for the financial system. As a result, the federal funds rate has lost its effectiveness in the current environment. In its place, the Fed will rely on Interest Paid on Excess Reserves (IOER) to control credit in the traditional banking channel and a Reverse Repurchase Program (RRP) to assist in controlling credit with institutions without access to the IOER. These new tools are widely understood by fixed income market participants but questions still surround whether they are sufficient for the Fed to maintain control of short-term interest rates. Another complicating factor is the reduction in fixed income market liquidity. Increased financial market regulations on proprietary trading have decreased the ability of broker-dealers to maintain fixed income security inventories on their balance sheets. Broker-dealers used to put these inventories to work to provide liquidity to the markets in times of oversupply or overdemand. Now that their market-smoothing capabilities are limited, interest rate volatility has increased. With onerous regulations expected to remain in place, we expect increased bond market volatility to remain as well.

Despite intermittent short-term spikes in interest rates due to the technical factors described above, we believe interest rates will remain low longer term. Increasingly, investors share this view and are beginning to accept the new reality that we are **living in a low-yield world**. The five-year forward market curves (what investors are expecting five years from now) found on the right-hand panel of Exhibit 6 bear this out. On June 30, 2020 – 12 years removed from the financial crisis – the market assumes investors will still be satisfied with less than 1% on German and Japanese short-term debt. In the United States and Britain, short-term rates are expected to show some normalization, but an expected flat yield curve results in 10-year debt still around 3%.

EXHIBIT 6: A PENNY SAVED IS A PENNY EARNING NEGATIVE RETURNS?

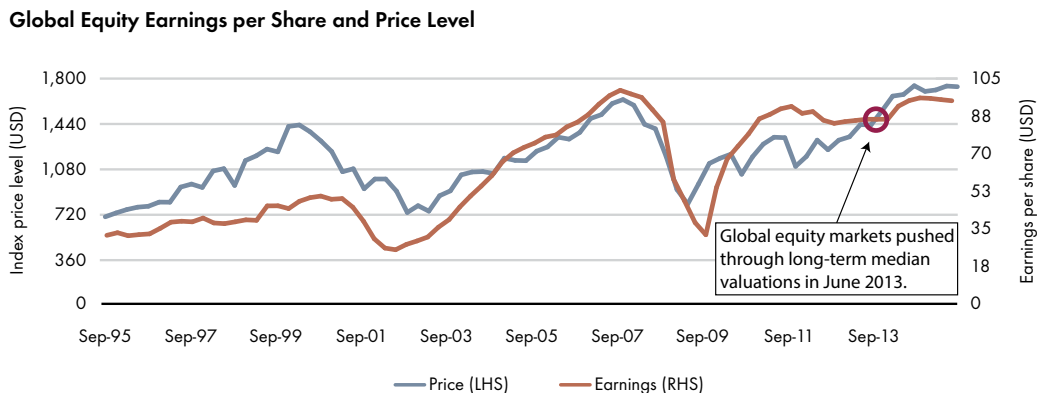


Source: Northern Trust Investment Strategy, Bloomberg.

Our interest-rate forecasts are detailed in the Fixed Income section starting on page 8. But from a macro perspective, **living in a low-yield** world prompts us to assign a higher probability to the risk case of disruptive asset price bubbles. Financial entities (e.g., insurance companies) cannot hit required rates of return through traditional fixed income currently and are growing more concerned they will not be able to in the future. Less inclined to simply wait for higher interest rates, they may increasingly take inappropriate risks – either creating asset-liability mismatches through the use of longer-duration fixed income or moving into risk assets.

Given the views expressed thus far, the primary question to answer is when/if the expectation for structural low growth overwhelms the monetary policy-induced cyclical upturn in risk asset valuations. Exhibit 7 plots global equity prices versus underlying earnings. In the recent cycle, global equity markets pushed through long-term median valuations in June 2013; however, as the late '90s showed us, valuations can remain extended for a long time. The views around when **cyclical meets structural** are fleshed out in the Equities section starting on page 10.

EXHIBIT 7: ATTEMPTING TO DEFY GRAVITY



Source: Northern Trust Investment Strategy, Bloomberg, MSCI.

FIXED INCOME

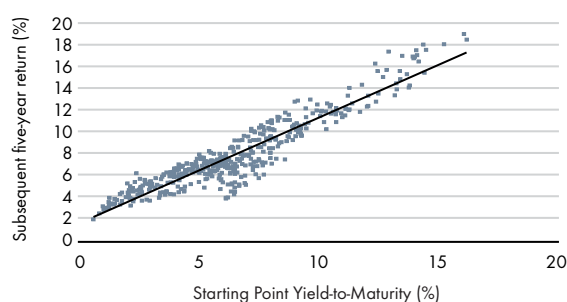
In the context of our living in a **low-yield world theme**, our expectations for interest rates do not have the cushion they once had when other market participants kept assuming a normalized trajectory (merely pushing that trajectory forward month-over-month as rates remained stubbornly low). Nevertheless, even as market participants have replaced interest-rate normalization with a lower trajectory, we continue to believe interest rates will generally remain below market expectations. Interest-rate forecasts in Japan and Europe (proxied by Germany) reflect expectations for continued monetary stimulus to fight slow growth and ongoing deflationary risks. We expect short-term interest rates in the United States to move up to 2% by 2017 and remain there for the rest of the five-year horizon, given our growth and inflation expectations. Our shallow short-term rate trajectory forecast, combined with the attractiveness of dollar-denominated fixed income investments versus those denominated in euros (the world's other only major reserve currency at present), is expected to keep the U.S. Treasury yield curve exceptionally flat. In fact, despite the potential for slightly higher interest rates over the next few years, we expect the 10-year U.S. Treasury to gravitate back toward a 2.25% yield by the end of our five-year outlook. Our interest-rate forecasts across the major currencies are provided below (with market expectations, based on forward rates, in parentheses).

United States:	3-month: 2.00% (2.96%)	10-year: 2.25% (3.20%)
United Kingdom:	3-month: 2.00% (2.46%)	10-year: 3.00% (2.91%)
Europe (Germany):	3-month: 0.50% (0.64%)	10-year: 1.50% (1.70%)
Japan:	3-month: 0.10% (0.42%)	10-year: 0.75% (1.23%)

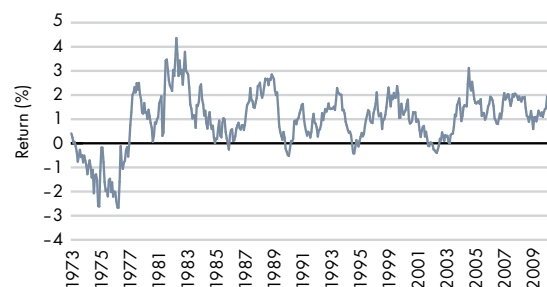
In translating forecasted interest rates into expected returns across various fixed income indices, many things need to be considered, including reinvestment, duration and market forward-rate expectations. However, the current yield-to-maturity is a good starting point in determining our five-year expected return. The left-hand panel of Exhibit 8 plots the relationship between starting yield-to-maturity and subsequent five-year annualized return for the Barclays Capital U.S. Treasury index over the past 40 years. This relationship is extremely high, with starting yield-to-maturity explaining 87% of the next-five-year total return variability.

EXHIBIT 8: A GOOD STARTING POINT FOR FORECASTING

Yields Versus Subsequent Five-Year Returns



Five-Year Return Less Starting Yield



Source: Northern Trust Investment Strategy, Barclays.

The impact of the reinvestment rate of maturing securities and the effect of shifting interest rates on fixed-income prices explain the remaining differences. The duration of the fixed-income instrument/index in question will determine the relative impact of these two forces – with shorter-duration vehicles more influenced by reinvestment rates (the prevailing interest rate when the security matures) and longer-duration vehicles more influenced by shifting interest rates. However, shifting interest rates must be considered in the context of future market expectations. Since future interest rate expectations are generally higher (i.e., an upward-sloping yield curve), returns typically benefit from a “roll-down” effect. This can be seen in the right-hand panel of Exhibit 8, wherein subsequent returns have generally outpaced starting point yields. The term roll-down refers to the way in which the yield-to-maturity of an individual bond will fall over time, resulting

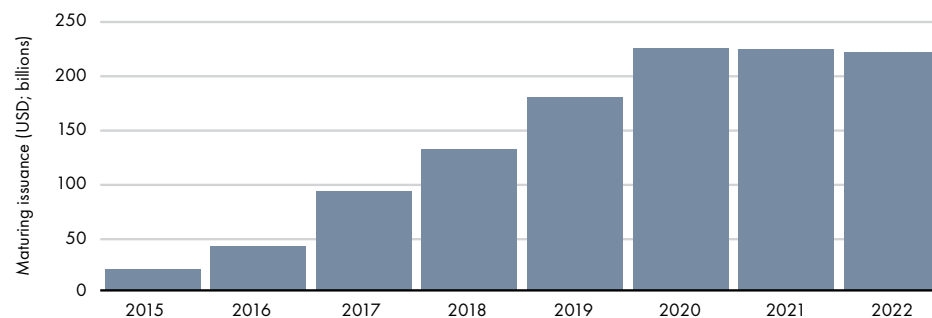
in price appreciation (importantly, this assumes an upward-sloping yield-curve environment and no changes to that yield curve). To give a theoretical example, a three-year bond yielding 3% would see price appreciation as it “rolled down” to a two-year bond yielding 2%. The time frame in Exhibit 8 benefitted from investors constantly overestimating future interest-rate levels. In the case of most global markets, we expect that trend to continue, resulting in government bond returns at or above current yield-to-maturities.

Investment-grade credit spreads are expected to tighten slightly over the next five years to a level just above 1%. This masks a u-shaped pattern wherein spreads tighten more meaningfully through the first part of the five-year time frame but then give back some of that spread contraction as the **cyclical versus structural** theme begins to take hold. Specifically, as the theme relates to fixed-income securities, the fundamentally driven impacts of structural low growth are expected to slowly replace the technically driven impacts of high demand for spread product in a low-yield world. At the sector level, we expect financials will continue to trade tighter than industrials and utilities slightly tighter than financials. The deleveraging forces of banking regulation have improved the credit quality of financials. Outside the financial sector, a trend toward financial engineering (increasing debt to improve profitability, but sacrificing some overall credit quality), as opposed to issuance for capital investment, has caused some concern. Overall, however, we reiterate our expectation for a slight tightening of spreads based on strong technicals and decent fundamentals.

We expect high-yield credit spreads to follow a similar path as investment-grade spreads, ending the five-year period at around 4%. Defaults in the energy sector (15% of the overall index) may tick up, given the material fall in the price of oil, though defaults across the broader index are expected to remain at low levels. Helping to keep default rates low is the relatively small amount of maturities over the next few years. This is a product of opportunistic high-yield issuers using the low interest-rate, post-financial crisis environment to refinance and extend maturities on existing debt. Exhibit 9 shows this maturity profile, which does not return to more-normalized levels until 2020. Healthy yields combined with low expected defaults prompted us to maintain our return expectation for the asset class versus last year amid reductions across most other risk asset returns.

EXHIBIT 9: BREATHING ROOM

High Yield Maturities by Year



Source: Northern Trust Investment Strategy, Barclays.

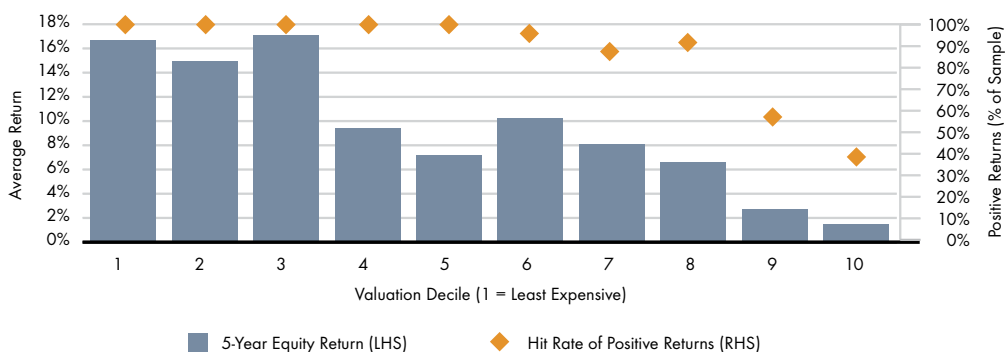
Municipals have benefitted in recent years from state and local spending cuts and shored-up tax revenues as the economic expansion has proceeded, albeit slowly. The reduction of near-term credit concerns has brought municipal yield ratios versus comparable U.S. Treasuries back to around 100% across the curve. Technical factors associated with the tax-exempt status of municipal bonds could push yields lower. Theoretically, assuming similar credit profiles, municipal yield ratios would be close to 60%, given the 39.6% top tax rate in the United States. However, insufficient demand from investors in the top tax bracket to meet overall supply prevents this. Additionally, concerns around pension liabilities are mounting as baby boomers retire, putting strain on underfunded pension systems. We believe municipal returns will largely match U.S. Treasury returns of similar duration but put an emphasis on quality issuers with a better handle on rising pension costs.

EQUITIES

We find that valuations, particularly cash flow yields, can provide insights into what to expect over a five-year horizon – explaining nearly 50% of return variation within global equities. Valuations show a negative correlation to returns because of the equity markets’ tendency toward mean-reversion. When valuations are high they tend to revert 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%. This year, we dug deeper into the implications of cash flow yields for five-year annualized returns. We separated valuations into deciles and calculated the average return and probability of a positive return within each decile (see Exhibit 10).

EXHIBIT 10: REDUCED ODDS OF SUCCESS

Equity Returns Based on Valuation Deciles



Source: Northern Trust Investment Strategy, Bloomberg, MSCI.

It is not surprising to see the fairly monotonic decrease in the average return expectation as you go from cheapest to richest valuation deciles. For perspective, current global equity cash flow yields of around 8.8% put them on the inexpensive side of the ninth decile. The 10th decile is dominated by five-year periods that began during the dot-com bubble (the range of cash flow yields going from 5.6% to 8.2%), resulting in average annualized returns that were barely positive (1.5%). In fact, the probability of a positive return when starting with such rich valuations equaled just 40%. Analyzing probabilities of positive returns more fully, we found that equities have had a 100% success rate of generating positive returns as long as cash flow yields are above 11.9% (constituting the first five deciles). From there, odds of “success” are around 90% for cash flow yields between 9.3% and 11.9%, and fall off precipitously as cash flow yields go lower.

Unfortunately, lower is where we currently sit. As such, we do recognize the potential for negative returns from global equities over the next five years. However, as detailed in the “Macro Views” section of this report, we expect subdued inflation to allow global monetary policy to remain accommodative. We project that these macro factors will allow profit margins to expand slightly and valuations to remain elevated. Putting numbers around it (five-year annualized), we expect developed-market revenue growth to equal 4.0%, earnings growth to equal 4.3% (0.3% margin expansion) and price returns to equal 3.7% (an approximate 0.5% contraction in valuations). Our dividend yield assumption of 2.4% gives us our developed-market equity total return forecast of 6.1% (versus last year’s 7.2% expectation). Our expectation that total returns can outpace what our valuation model suggests (the 5% figure noted above) depends heavily on our view that the **cyclical meets structural** dynamic will be a slow transition, given the aforementioned subdued inflation and easy monetary policy.

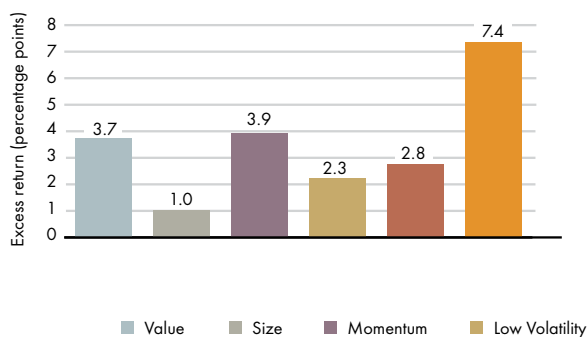
Emerging market equities have underperformed developed market equities on a five-year rolling basis for the past two and a half years. This was something neither we nor many investors anticipated coming out of the financial crisis given emerging market equities’ better growth trajectories, lower debt levels and cheaper valuations than their developed market brethren. Despite the attention paid to China’s slowing economy, its stock market has performed fairly admirably over the past five years. The MSCI China index (which, notably, excludes the recently high-flying China A shares and is, instead, composed mostly of the

more reasonably valued H shares) has a five-year trailing annualized return of 7.7% compared to 13.8% for developed market equities over the same period. The biggest contributor to poor emerging market returns has been Brazil, losing an annualized 8.0% over the past five years as the country fights inflation and political corruption. Overall, economic fortunes of the constituent emerging market countries vary widely. However, reasonable aggregate valuation levels (at long-term median levels, whereas nearly all developed market regions are trading significantly above) prompt us to maintain a modest forecasted return premium to developed market equities.

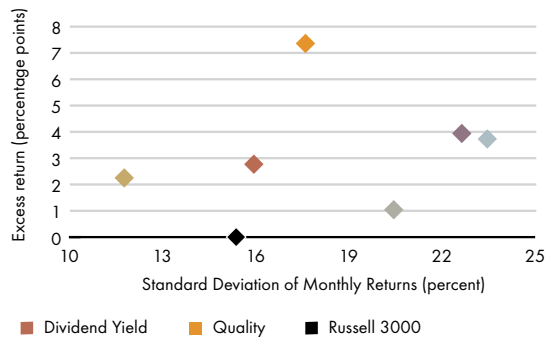
From the broad equity opportunity set, statistical analysis continues to advance the research on which stocks can be grouped according to certain shared characteristics (risk factors) to outperform the broader market. Factor-based equity investing has been around for decades; size (small cap stocks), value and momentum are well-known risk factors that investors look to for equity market outperformance. More recently, however, new risk factors have been promoted that provide statistically significant return premiums while also meeting specific objectives such as income and risk reduction. New risk factors that we have researched in-depth include low volatility, dividend yield and quality – the last of which does not yet have an industry-standard definition (we use our proprietary measure). We do not forecast return premiums for these factors, but we do acknowledge the historical return premiums to provide longer-term (beyond our five-year horizon) expectations for each. You can find these long-term return premiums on the left-hand panel of Exhibit 11.

EXHIBIT 11: TILTING THE PORTFOLIO

Factor Excess Return



Factor Excess Return vs. Risk



Source: Northern Trust Investment Strategy, Northern Trust Quantitative Research.

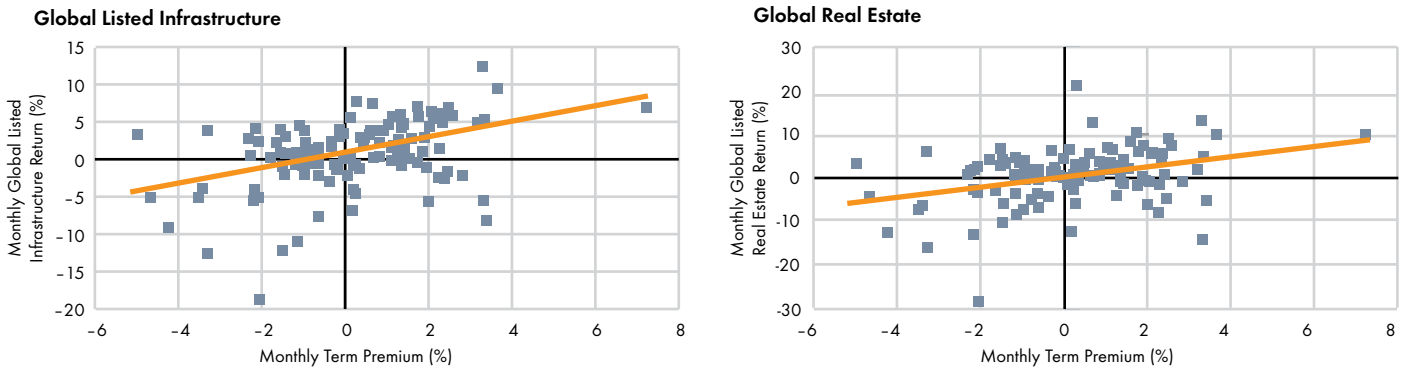
The return premiums shown here are based on data going back to 1970 and defined by subtracting the market return from the return of the top quintile of stocks for each factor (e.g., value represents the 20% of names with the lowest price-to-book ratios). Two exceptions: size is 20% of market cap (not names) and dividend yield includes all dividend payers. Factor return premiums should be analyzed alongside the volatility of returns (see right-hand panel of Exhibit 11). The lower risk profile of low volatility/dividend yield stocks improves their “efficiency,” whereas the higher returns of value/momentum also come with higher risk. Quality looks very attractive from both a risk and return perspective. While our proprietary definition benefits from the ability to optimize on a longer portion of the dataset (our measure of quality was defined more recently than other risk factors), out-of-sample tests have confirmed the risk factor’s effectiveness.

Portfolio construction requires understanding of the way risk factors interact with each other. To the extent risk factors are independent of one another, combining them can yield superior results. For example, size becomes much more effective when combined with value. Meanwhile, adding a quality overlay has been shown to improve outcomes of a variety of risk factors. The level of exposure to each risk factor within the portfolio (i.e., how much “tilt” is used) also is important. Our quantitative research group has published various research pieces examining these portfolio construction topics.

REAL ASSETS

While we expect subdued inflation over the next five years, our real asset return forecasts are supported by asset class-specific dynamics. Global real estate (GRE) and global listed infrastructure (GLI) benefit from their exposure to interest rates, for which we have a constructive outlook (see page 8). Exhibit 12 captures the relationship between monthly GRE and GLI returns and the monthly global term (interest rate) premium. The global term premium captures the excess returns generated by longer-dated government bonds over cash, and is a proxy for the impact of interest rates. Both GRE and GLI have a statistically-significant exposure to term premium. This exposure to interest rates partially offsets the negative effects of low growth and lowered equity returns, while dividend yields of approximately 3.5% in a low yield world provide support to current valuations.

EXHIBIT 12: INTEREST RATE SENSITIVITY

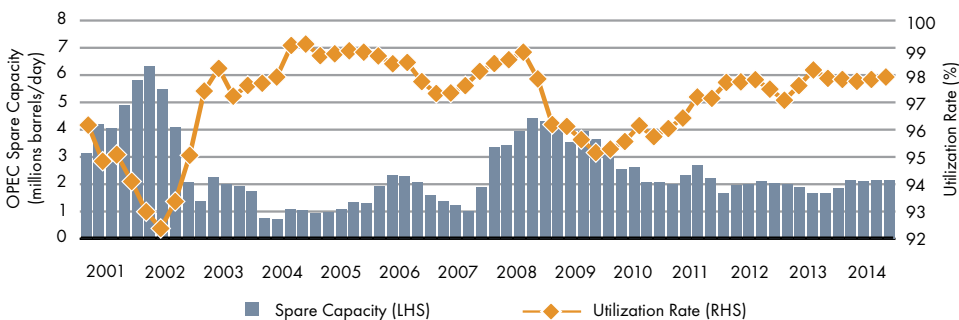


Source: Northern Trust Investment Strategy, Bloomberg.

We believe natural resource price declines – 20% over the past year – overshoot the change in longer-term fundamentals, prompting us to keep a floor under our natural resource forecasts despite our slow growth theme. The energy sector was most affected over the past year, reflecting increased U.S. oil supplies and lowered global demand. However, OPEC’s decision to maintain production quotas has kept its spare capacity tight at below two million barrels/day (see Exhibit 13); for perspective, disruption-prone Venezuela produces 2.7 million barrels/day. Even if disruptions are avoided, oil well depletion is estimated at 4% per year. Combining depletion rates with even a modest 1% demand growth rate means 36% of current oil production needs to be replaced by 2020. Fracking oil and increased Iranian production (expected at some point as Iran and the west move closer to a nuclear deal, which would presumably lift sanctions and allow oil exports to resume) will keep markets well-supplied for now. However, the longer-term supply dynamics noted above imply a need for higher prices and greater returns on investment.

EXHIBIT 13: STILL A TIGHT MARKET

OPEC Spare Capacity & Capacity Utilization



Source: Northern Trust Investment Strategy, Energy Information Administration.

ALTERNATIVES

Alternatives can access return premiums beyond the traditional returns associated with global equity, term and credit risk. Hedge funds can systematically target uncorrelated risk factors (both with each other and the broader equities market) to provide a diversified return stream. We identified many of these factors in the Equities section on page 10. However, whereas equity solutions “tilt” toward these factor exposures but are still exposed to broader movements in equity markets, hedge funds can isolate the return premiums associated with these risk factors (materially mitigating the equity exposure). They do so by taking a long position in those securities most exposed to the factor and offsetting that equity exposure through a short position in those securities least exposed to the factor. Additionally, private equity (and, in some cases, hedge funds) can benefit from an illiquidity premium through the purchase of private assets.

EXHIBIT 14: ALTERNATIVE SOURCES OF RETURN

Traditional Risk Premium Exposures	Alternative Risk Premium Exposures	Illiquidity Premiums	Alpha
Global Equity Term (Interest rate) Credit	Value Momentum/Trend Quality Low Volatility/Beta Carry	Private Assets	Security Selection Market Timing

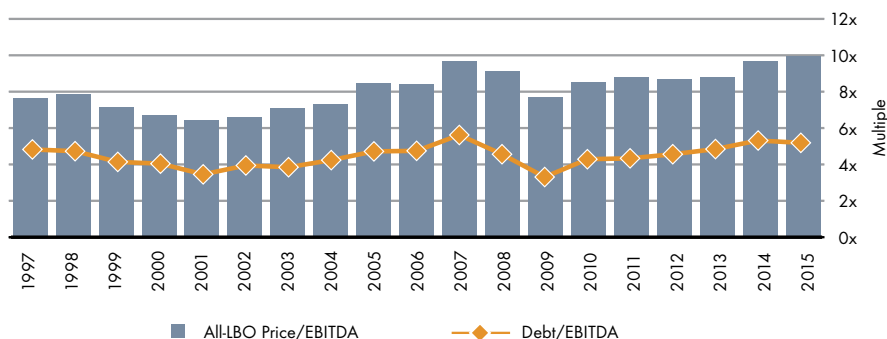
Source: Northern Trust Investment Strategy, 50 South Capital.

Finally, alternative asset classes have the potential to provide meaningful alpha (returns not attached to risk factors) through security selection and market timing. After stripping out the exposure to risk factors identified in Exhibit 14, we observe that the average hedge fund has provided 1% of alpha (after fees) over the past 10 years (up from last year’s 0.8%). However, the dispersion of returns within the hedge fund asset class advocates for a strategy-by-strategy analysis of realized alpha and exposures to both traditional and alternative risk factors.

In private equity, we expect a 2.5% return premium to global equity markets (which captures the effects of both illiquidity and alpha). This 2.5% figure is consistent with our expectation in previous years and equals the long-term average premium of private equity returns over global public equity markets. Private equity purchase price valuations have trended upward recently – eclipsing previous 2007 highs – and are a concern. However, valuation expansion also has hit public equities and is factored into the public equity returns off which our private equity forecast is based. The amount of debt issued to fund deals also has risen, but continued low interest rates and potential for productivity enhancements should support buyout return prospects. Meanwhile, venture capital prospects have been bolstered by the lowered cost to start a company and the increased ability to reach potential clients – all made possible by the ongoing technological revolution.

EXHIBIT 15: BIDDING WARS?

Leveraged Buyout Purchase Price and Leverage Multiples



Source: Northern Trust Investment Strategy, 50 South Capital.

APPENDIX 1: FIVE-YEAR RETURN FORECASTS

Fixed Income Forecasts – All Returns in % Annualized			5-Year Return Forecasts By CMA Year						5-Year Actual Return	
Asset Class	Proxy	2015	2014	2013	2012	2011	2010			
Developed Markets	United States	Cash	BarCap 3-Month U.S. Treasury	1.5	0.9	0.5	0.5	1.5	1.5	0.1
		Sovereign	BarCap U.S. Treasury	2.5	2.8	2.5	1.2	2.5	2.4	2.7
		Inf. Linked	BarCap U.S. TIPS	2.5	3.0	2.7	1.4	2.7	2.0	3.3
		Inv. Grade	BarCap U.S. Aggregate	3.0	3.0	2.8	2.0	3.3	4.0	4.9
		High Yield	BarCap U.S. High Yield	5.6	5.6	6.1	6.1	5.6	6.6	8.6
		Municipal	BarCap Municipal Bond Index	3.5	4.0	3.0	2.9	3.5	3.2	4.5
	United Kingdom	Cash	3-Month Gilts	1.5	1.3	0.6	1.0	2.3	*	0.5
		Sovereign	BarCap Sterling Gilts	2.8	3.5	3.0	2.5	2.8	*	5.7
		Inf. Linked	BarCap Global Inflation Linked: UK	2.6	3.0	3.2	2.7	2.8	*	8.6
		Inv. Grade	BarCap Sterling Aggregate	3.0	3.7	3.5	3.1	2.6	*	7.5
	Europe	Cash	3-Month German Bunds	0.0	0.4	1.0	1.3	2.4	*	0.1
		Sovereign	BarCap Euro Treasury	1.8	2.8	3.0	2.7	3.7	*	5.3
		Inf. Linked	BarCap Euro Inf. Linked: Eurozone	1.8	2.8	3.2	3.1	3.3	*	4.9
		Inv. Grade	BarCap Euro Aggregate	2.0	2.8	3.0	2.9	3.6	*	5.0
		High Yield	BarCap Pan-European High Yield	6.0	6.0	8.0	9.0	5.9	*	10.5
	Japan	Cash	3-Month JGB	0.0	0.1	0.1	0.3	0.3	*	0.1
		Sovereign	BarCap Asia-Pac Japan Treasury	0.9	1.2	0.8	0.7	0.5	*	2.0
		Inf. Linked	BarCap Inflation Linked JGB	1.2	1.5	0.6	0.5	0.8	*	3.8
		Inv. Grade	BarCap Asia-Pac Japanese Aggregate	1.0	1.2	0.8	0.7	0.5	*	1.9
	Aus.	Cash	3-Month Australia Gov't Bond	2.2	2.8	3.3	4.0	*	*	3.5
		Inv. Grade	BarCap Australian Composite	3.5	4.0	3.6	3.3	*	*	6.2
	Canada	Cash	91-Day Canada T-Bill	1.5	1.3	1.5	1.5	3.0	*	0.8
		Sovereign	FTSE TMX Government	2.3	3.2	3.0	2.0	3.3	*	2.3
		Inf. Linked	FTSE TMX Real Return Bond Index	2.5	3.2	3.2	2.3	3.3	*	2.5
		Inv. Grade	FTSE TMX Universe	2.7	3.4	3.5	2.5	3.5	*	1.8
		High Yield	Merrill Lynch Canadian High Yield	5.6	5.6	6.1	6.1	5.6	*	6.2
	Global Aggregate		BarCap Global Aggregate	2.5	2.7	2.6	2.0	2.1	*	2.1
Global High Yield		BarCap Global High Yield	5.8	5.8	6.5	6.5	*	*	8.5	
Emerg. Mkt. Debt		JP Morgan GBI-EM Diversified	6.5	6.0	7.0	6.1	6.9	*	0.9	

*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, and are annualized for the five years ending on 6/30/2015.

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

Equity Forecasts – All Returns in % Annualized			5-Year Return Forecasts By CMA Year						5-Year Actual Return
Asset Class	Proxy	2015	2014	2013	2012	2011	2010		
Developed Markets	United States	MSCI United States	5.6	6.6	7.1	8.5	7.5	7.5	17.5
	Europe	MSCI Europe ex U.K.	6.8	8.2	7.8	7.0	7.0	*	11.5
	Japan	MSCI Japan	6.2	6.6	5.8	5.0	4.0	*	16.3
	United Kingdom	MSCI United Kingdom	7.0	8.6	8.4	8.0	7.5	*	9.6
	Canada	MSCI Canada	6.9	7.1	7.6	8.0	7.5	*	8.0
	Pacific Rim	MSCI Pacific ex Japan	8.1	9.1	9.4	8.5	8.0	*	9.7
	Developed Markets	MSCI World	6.1	7.2	7.4	7.8	7.3	7.2	14.4
Em. Mkts.	Asia	MSCI EM Asia	8.5	10.0	9.9	11.5	11.5	*	7.8
	Latin America	MSCI EM Latin America	5.7	7.0	10.6	11.0	10.0	*	3.7
	EMEA	MSCI EM EMEA	6.5	7.9	10.4	9.5	8.5	*	4.7
	Emerging Markets	MSCI Emerging Markets	7.8	9.0	10.1	11.1	10.7	10.5	7.3
	Global Equity	MSCI All Country World	6.5	7.4	7.7	8.4	7.8	7.5	13.5

Real Asset Forecasts – All Returns in % Annualized			5-Year Return Forecasts By CMA Year						5-Year Actual Return
Asset Class	Proxy	2015	2014	2013	2012	2011	2010		
Real Assets	Futures-Based Nat. Res.	CTRB Bloomberg Commodity	5.0	3.0	3.0	5.0	5.3	5.0	-3.9
	Equity-Based Nat. Res.	Morningstar GUNR	7.0	7.0	7.2	7.9	*	*	3.4
	Global Listed Real Estate	FTSE EPRA/NAREIT Global RE	6.9	8.0	8.0	8.4	9.4	9.4	11.5
	Global Listed Infrastructure	S&P Global Infrastructure	6.2	7.0	7.5	8.9	*	*	11.4
	Global Inflation-Linked	BarCap Global Inflation-Linked	2.4	2.9	2.9	1.3	*	*	4.8

Alternative Forecasts – All Returns in % Annualized			5-Year Return Forecasts By CMA Year						5-Year Actual Return ⁺
Asset Class	Proxy	2015	2014	2013	2012	2011	2010		
PE	Buyouts	Cambridge Global Buyout	8.2	8.8	9.2	10.8	10.5	9.5	N/A
	Venture Capital	Cambridge Global VC Only	9.7	10.2	10.6	11.8	12.0	11.5	N/A
	Fund of Funds	Blend: 75% Buyout/25% VC	8.6	9.2	9.6	11.0	11.0	10.0	N/A
Hedge Funds	Equity Hedge	HFRI Equity Hedge	3.8	3.3	3.6	5.1	7.6	8.5	6.4
	Event Driven	HFRI Event Driven	5.0	5.2	5.9	7.3	10.0	10.0	6.4
	Relative Value	HFRI Relative Value	5.0	5.4	4.4	5.0	7.9	7.3	6.6
	Macro	HFRI Macro	4.2	3.9	4.2	5.3	8.5	9.7	2.4
	Composite	HFRI Fund Weighted Comp	4.4	4.3	4.4	5.5	8.4	8.1	5.5

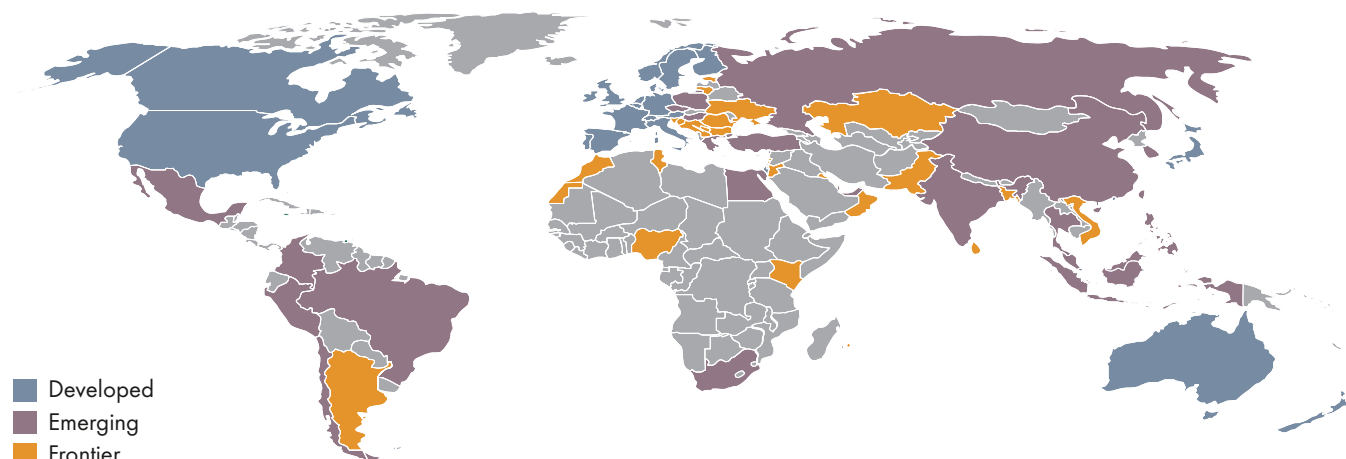
⁺Five-year period ending 5/31/15.

*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, and are annualized for the five years ending on 6/30/2015.

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	51.4	22.5	4.5	Italy	0.8	2.8	0.8	
	Japan	7.9	6.2	1.8	Denmark	0.6	0.4	0.1	
	United Kingdom	7.0	3.7	0.9	Singapore	0.5	0.4	0.1	
	France	3.3	3.8	0.9	Belgium	0.4	0.7	0.2	
	Canada	3.2	2.3	0.5	Finland	0.3	0.4	0.1	
	Switzerland	3.2	0.9	0.1	Norway	0.2	0.7	0.1	
	Germany	3.1	4.9	1.1	Israel	0.2	0.4	0.1	
	Australia	2.4	1.9	0.3	Ireland	0.1	0.3	0.1	
	Spain	1.2	1.8	0.7	Austria	0.1	0.6	0.1	
	Hong Kong	1.1	0.4	0.1	Portugal	0.1	0.3	0.1	
	Sweden	1.0	0.7	0.1	New Zealand	0.0	0.3	0.1	
	Netherlands	1.0	1.1	0.2					
Emerging Markets	China	2.6	13.4	19.2	Turkey	0.2	1.1	1.1	
	Korea	1.5	1.9	0.7	Philippines	0.1	0.4	1.4	
	Taiwan	1.3	0.7	0.3	Chile	0.1	0.3	0.2	
	South Africa	0.8	0.4	0.8	Qatar	0.1	0.3	0.0	
	India	0.8	2.6	17.7	United Arab Emirates	0.1	0.5	0.1	
	Brazil	0.8	2.9	2.9	Colombia	0.1	0.5	0.7	
	Mexico	0.5	1.7	1.7	Peru	0.0	0.3	0.4	
	Russia	0.4	2.7	2.0	Greece	0.0	0.3	0.2	
	Malaysia	0.3	0.4	0.4	Hungary	0.0	0.2	0.1	
	Indonesia	0.2	1.1	3.5	Egypt	0.0	0.4	1.2	
	Thailand	0.2	0.5	1.0	Czech Republic	0.0	0.3	0.1	
	Poland	0.2	0.7	0.5					
	Totals	Developed	89.1	57.3	13.1	Frontier Markets	0.3	5.1	13.6
		Emerging	10.6	33.5	56.5	All Investible	100.0	95.9	83.2

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:

- Capital Market Assumptions Working Group chair
- 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

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