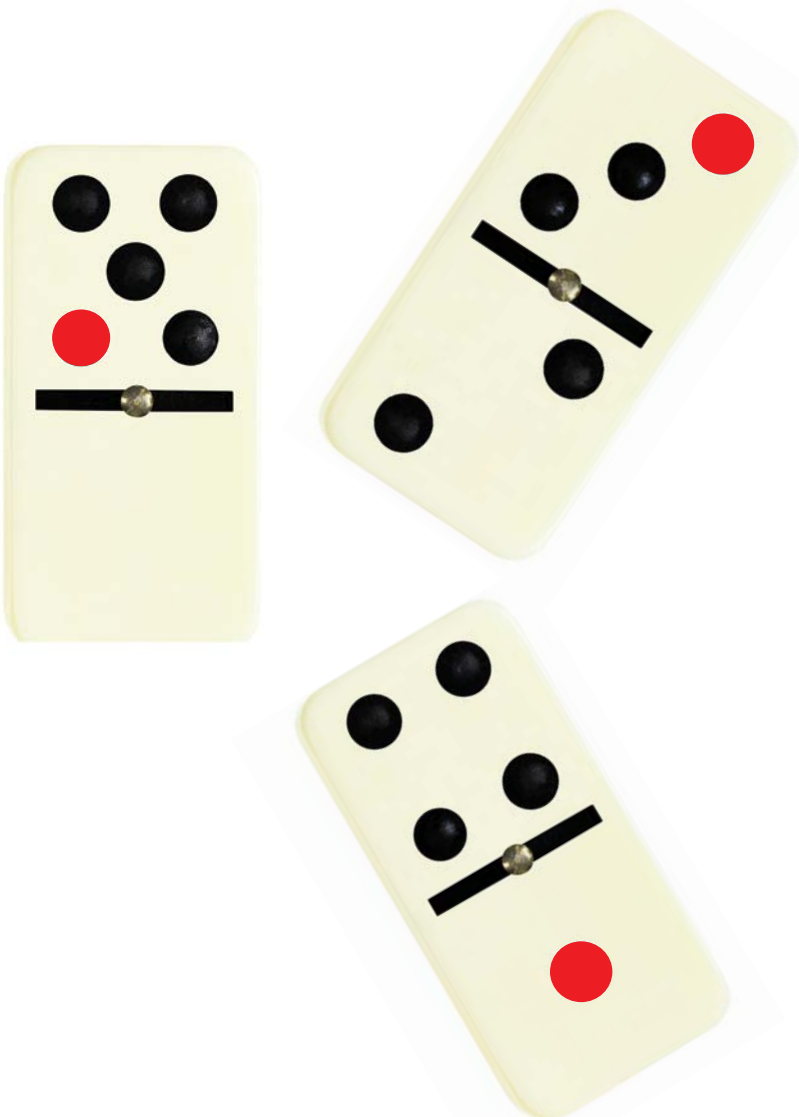
UBS

Asset Management Research

Swiss edition
December 2014

Investing in 2015

Five centers of expertise, five investment themes, five investors to watch



Outcome-oriented solutions. *Delivered.*

UBS Global Asset Management's 32-year track record in multi-asset funds is one of the longest in the investment industry. And we have pioneered services that go beyond fund management by delivering outcome-oriented solutions to clients, whatever their needs.

Our Global Investment Solutions team boasts a diverse range of investment and risk management specialists based in seven different time zones. The team leverages UBS Global Asset Management's global resources while providing local expertise.

Clients have access to tailored investment advice and to a range of multi-asset funds catering to a wide range of needs. The offering continues to evolve with the ever-changing requirements of investors.

Whether an investor is seeking income in a low-yield environment, equity exposure with structured downside protection, or a comprehensive package to achieve a pension fund's goals, we can deliver a solution that fits your needs.

Product-driven solutions	Advice-driven solutions
• Global and regional balanced	• Pension risk management
• Diversified income	• Investment risk systems and advisory services
• Benchmark-agnostic	• Strategic portfolio advice
• Asset allocation and currency alpha	• CIO outsourcing
• Managed volatility portfolios	• Family office solutions
• Convertible bonds	

For more information, please ask your regular UBS Global Asset Management representative.
www.ubs.com/gis

To help our clients achieve their investment goals, we can draw on five centers of expertise within the Global Investment Solutions team. Our clients can tap into one or two of these areas to meet a specific need. Or they can access a fund or advisory service that combines three or four areas to provide a holistic investment solution.

Asset Allocation & Currency	A rich heritage of proven, team-based portfolio management and investment advisory capabilities including: • A long-standing, disciplined investment philosophy • A broad array of both traditional and innovative global multi-asset portfolios • Alternative sources of alpha and diversification including currency, convertible bonds and commodities, either on a stand-alone basis or as part of a multi-asset portfolio
Global Risk Solutions	Spanning all aspects of a sound risk management practice: • Consistent risk measurement across a broad range of traditional and alternative assets • Full operational support and oversight of risk management data and processing • A flexible advisory service run by experienced risk managers offering tactical and strategic insights to portfolio managers and boards
Structured Solutions	Globally focused capability targeting a diversified client base, providing: • Customized solutions typically employing derivatives or derivative techniques • Collaboration with clients to design precise outcomes such as downside risk control or targeted income • Particularly relevant for clients switching from benchmark-relative returns to a focus on outcomes
Manager Selection	We seek to give our clients exposure to the best specialist fund managers: • Research insights supported by qualitative and quantitative assessments and comprehensive due diligence • Knowledge of managers' skills and styles utilized to construct portfolios with diversified alpha sources • Ongoing and extensive review and adjustment of portfolios based on forecast risks and opportunities
Pension Risk Management	• Focus on maximizing the funding ratio return while minimizing its volatility • Implementation of capital efficient hedging strategies incorporating physicals and derivatives • Client oriented team combining portfolio management, implementation, derivative and actuarial expertise

Introduction

Dear investor

Welcome to *Investing in 2015*, the fourth edition of our annual series looking at both near-term and long-term investment developments.

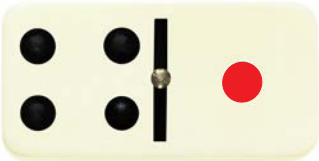
Investing in 2015 begins with articles on five investment themes affecting markets in which we invest. Second, each of the five centers of expertise in our Global Investment Solutions (GIS) team highlight a topic that they think will be relevant in the coming year. Finally, we look at five types of investor looming large on the investment landscape, including contributions from our Equities and Global Sovereign Markets colleagues as well as GIS.

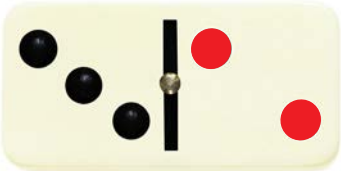
We hope you find *Investing in 2015* useful and enjoy reading it.

Curt Custard, CFA
Head of Global Investment Solutions

Matthew Richards, CFA
Strategist, Global Investment Solutions
Editor, *Investing in 2015*

Executive summary





Investment themes 01

Central Bank Action 02
Given different economic outlooks and deleveraging efforts, countries now stand at different points of the business cycle. Thus, central bank action in 2015 is bound to diverge. We identify the three distinct groups of central banks- the "tighteners," "holders" and "looseners"- and provide an overview of their policies' impact on different asset classes.

The Great Rotation 04
Investors expected a large-scale selling of bonds and buying of stocks, "the great rotation," would finally take place in 2014. However, 2014 was just another year of asset price reflation with continued excess liquidity filtering through to virtually all asset classes. We analyze some trends within the bond market, primarily the effect of aging demographics, and how it comes into play to determine the timing of the great rotation.

Eurozone Restructuring 06
Investors have finally regained confidence in the periphery and in 2015, we expect Eurozone investors to focus more on economic growth and corporate earnings than on the risk of sovereign defaults. However, more reforms are needed. We explore structural and political factors that are still affecting the Eurozone and identify possible solutions.

Deleveraging 08
Six years after the global financial crisis, we are still seeing disappointing growth. Many suggest that it is the level of debt that is taking its toll on the growth rate of economies. We examine debt levels across economies to determine its impact and we also provide a brief assessment of what this could imply for future growth and the implications this could have on asset class returns.

Energy Evolution 10
The energy landscape continues to evolve with the benefits for the US economy becoming increasingly apparent while also affecting broader markets. We provide an insight into the transitioning of the energy industry in the coming years.

Centers of expertise 13

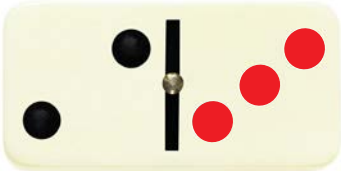
Asset Allocation and Currency 14
Asset classes are a set of underlying risk premia that demand compensation, liquidity being one of them. If liquidity is correctly priced, you can use it to create extra income for your portfolio. We provide an overview of liquidity in different markets and highlight concerns in high-yield bonds.

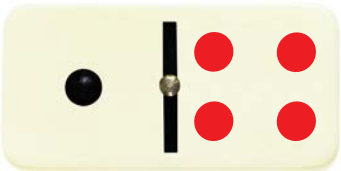
Structured Solutions 16
Investors should be aware of the unique challenges of in-retirement investing. Together with income-generating strategies, they need to incorporate approaches to target a defined level of income while still managing risk and seeking capital preservation to be sure that their income will be sustained throughout retirement.

Manager Selection 18
The resilient growth of the US economy and upcoming interest rate hike by the Federal Reserve will work as a catalyst for the valuation gap to mean revert, resulting in the underperformance of Dividend Yield strategies relative to Momentum Growth and Deep Value strategies in the coming year. Dividend Yield investing in Europe ex-UK may hold up better if the European Central Bank opts for quantitative easing.

Pension Risk Management 20
Defined benefit plan sponsors are anxiously waiting for the Federal Reserve to hike rates before hedging their pension liabilities. But pension liabilities are governed by long-term rates and history exemplifies that an increase in the Fed Funds rate does not always cause long-term rates to rise in tandem. Plans that wait will find it more difficult and more expensive to hedge.

Global Risk Solutions 22
Mandated by regulators and recognized as a valuable tool by practitioners, stress testing has increased in popularity since the financial crisis in 2008. We provide an overview of how stress testing allows you to analyze vulnerabilities and see how gains and losses in different parts of the portfolio may behave.





Investors to watch 25

Pension Funds 26
Pension funds have re-embraced multi-asset investing in pursuit of a wide range of objectives as 'outcome-oriented' investing has gained acceptance. We trace the origins of multi-asset investing and compare it to today's approach, critiquing the evolution.

Sovereign Investors 29
Over the last decade, assets managed by sovereign institutions have increased fourfold. We explore how these institutions have changed their investment approach, how it will be affected going forward with the expected interest rate rises and also the possibility of the renminbi emerging as a reserve currency.

Asian Investors 31
Asian investors typically have non-standard perspectives on inflation, risk and return trade-offs, and downside protection. We examine these differences and also some tools and approaches suitable for Asian investors to achieve a higher return by diversifying away from their domestic market.

Family Offices 34
As the family business grows, there is a need to professionalize the managing of the family's wealth to create a trusted environment to ensure long-term wealth preservation or growth commensurate with a certain level of acceptable risk. We provide an overview of family offices' most prevalent needs together with possible solutions.

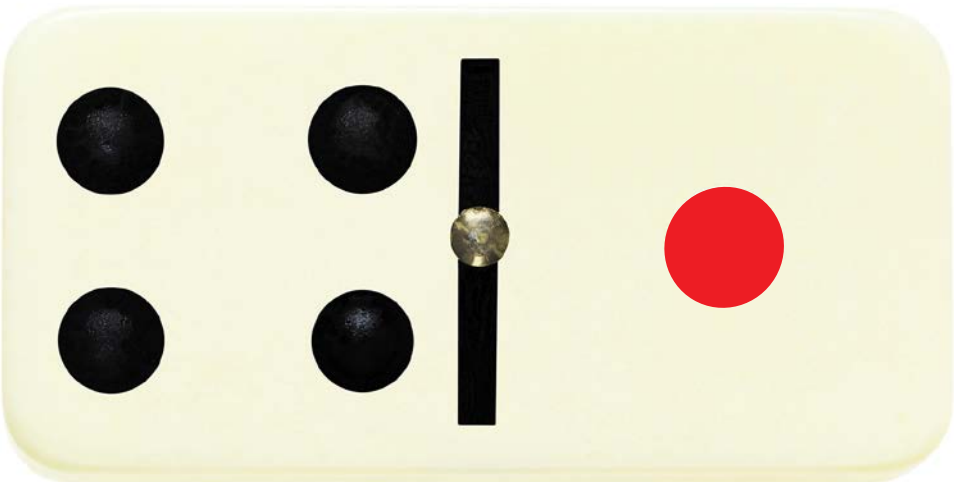
Sustainable Investors 36
The third generation of sustainable investing is becoming mainstream and is directly competing with investment processes that are purely based on financial analysis. The consideration of material non-financial data can lead to superior investment results and is likely to be widespread in the coming years as accounting standards and disclosure evolve over time.

Focus on Switzerland 39

Slight slowdown in growth, no turning point
With low unemployment, little sovereign debt, innovative companies and a functioning credit supplysystem, Switzerland is in an exemplary position compared to its European neighbors. Nevertheless, the Swiss economy was unable to escape the latest slowdown in the European economy unscathed.

About the authors 42

Five investment themes



The great divergence

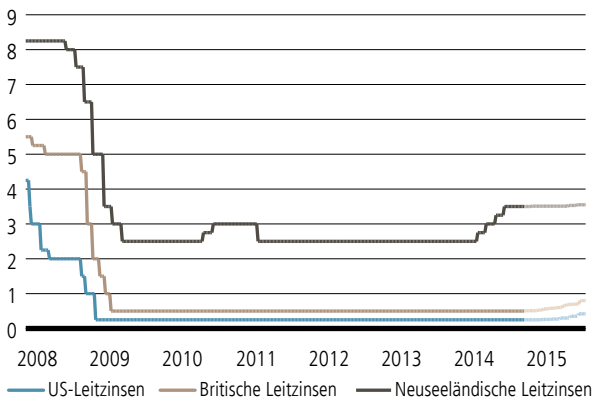
In the wake of the Global Financial Crisis (GFC), central bank policies around the world converged towards an extremely loose stance. Given their different economic outlooks and deleveraging efforts, most countries are now at different points in the cycle. Therefore, central bank action in 2015 will be dominated by one word: "Divergence." Currently, three main groups of central banks can be determined. First, the "Tighteners," such as the Reserve Bank of New Zealand (RBNZ), the Federal Reserve (Fed) and the Bank of England (BoE). Second, the "Holders," a small group of central banks that hiked as early as 2009 but reversed shortly after. Third, the "Looseners" that are looking to ease rates further, namely the Bank of Japan (BoJ) and the European Central Bank (ECB).

As the first central bank in the "**Tighteners**" group (Figure 1), the **RBNZ** already started to raise rates in March 2014. Given the moderate pace of its rate hikes, the impact on the New Zealand economy, such as effective mortgage rates and business investments, has so far been quite muted. Also among the Tighteners, the **Fed** has repeatedly stated that it is not simply looking at one single economic data point that will tip the scales on when it will raise rates; rather it is looking at a combination of several employment indicators, inflation and economic growth numbers to determine the timing of its first rate hike. Employment in the US is growing steadily, but some structural changes have occurred. The share of employment taken by part-time workers is still above pre-crisis levels and the labour participation rate has declined significantly. With regards to inflation, some argue that it will only materialize if the level of unemployment falls below the "non-accelerating inflation rate of unemployment" (NAIRU), which could range from 5.5% to 6%. The positive trend for unit labour cost and average weekly earnings might be a first sign of higher inflation, yet inflation remains currently below target. As such, some people argue that the Fed should wait for inflation to come through and not act on what is anticipated. US GDP numbers are on a solid growth path and the US is likely to continue to be the driver of global growth.

We expect the Fed to remain quite vague in its communication

Weighing all of the above, the Fed simply wants to have some rate cushion for the next economic downturn. In addition, the Fed will raise rates even if some of the above economic indicators are not entirely free of slack. Yet Fed Chair, Janet Yellen, has clearly communicated that rates will stay on hold for a "considerable time," and it seems she is happy being slightly behind the curve. Therefore, we expect the Fed to remain quite vague in its communication in 2015 and not to make rate hikes conditional on any single data point.

Figure 1: Policy rates of the "Tighteners" (%)



Source: Bloomberg Finance L.P., Morgan Stanley Research
Data as of October 2014.
Note: Lighter lines are forward rates as of October 31 2014.

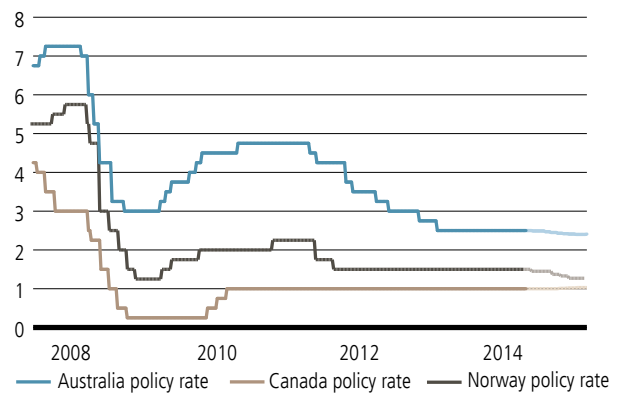
On the other side of the pond, the UK has been able to decouple its growth story from that of the lagging Eurozone. As a result, the **BoE** will likely be the next central bank to hike rates. For the majority of the BoE's Monetary Policy Committee members, the most significant economic factor to watch is wage growth, which helps to assess inflationary pressures before they occur. Markets are expecting the first rate hike in early 2015, which would put the BoE roughly six months ahead of the Fed if that timing played out. BoE Governor Mark Carney has said that the normalization will be "gradual and limited," to keep the effects on public balance sheet repair and the highly-levered private sector as muted as possible; but as has been the case with New Zealand, we will only be able to see how the UK economy is adjusting months after the first hike.

The "**Holders**" consist of a group of small central banks such as Australia, Canada and Norway, which started to decouple from the global easing bias as early as 2009. In line with that development, they raised rates (Figure 2). However, the tightening was somewhat premature and they started to reverse or put rates on hold shortly after. For the time being, they are expected to keep rates on hold because they all hiked in 2009 or 2010 and hence their economies have more slack. The difference in monetary policy between the Tighteners and Holders is more about time than direction. The Holders are also expected to hike, but much further down the road.

On the other hand, the group of "**Looseners**" are heading in the opposite direction (Figure 3). The **BoJ** has been loose for a number of years, but its rounds of QE in 2001 and 2010 were rather timid and inflation did not flare up. However, the bold

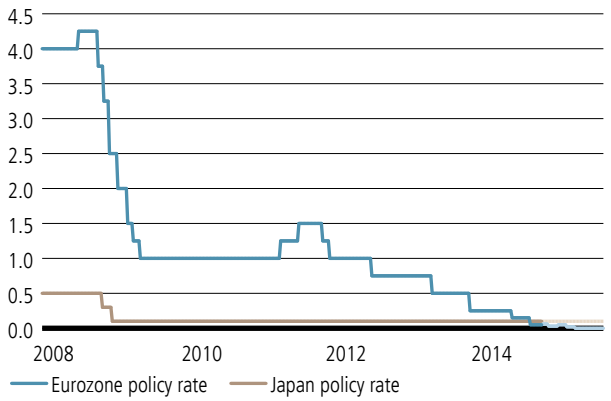
steps of the QE program in early 2013 initially led to encouraging results with inflation expectations coming much closer to the central bank's target of 2%, a prerequisite for future growth.

Figure 2: Policy rates of the "Holders" (%)



Source: Bloomberg Finance L.P., Morgan Stanley Research
Data as of October 2014.
Note: Lighter lines are forward rates as of October 31 2014.

Figure 3: Policy rates of the "Looseners" (%)



Source: Bloomberg Finance L.P., Morgan Stanley Research
Data as of October 2014.
Note: Lighter lines are forward rates as of October 31 2014.

A substantial part of the realized inflation in the Japanese economy has come from the recent sales tax hikes and higher energy import prices. As such, the BoJ is assessing the impact of tax hikes and has stated that it will continue its monetary stimulus "…aiming to achieve the price stability target of 2%, as long as it is necessary for maintaining that target in a stable manner." Clearly the third arrow of Abenomics, in the form of supply side reforms to tackle corporate lifetime employment, protected agriculture and immigration, is key for future Japanese growth and has yet to be tackled. Overall, a mix of highly accommodative monetary policy, firm fiscal policy and structural reforms could be a role model for the Eurozone to escape the disinflationary environment.

With his famous "whatever it takes" speech, ECB President Mario Draghi saved the euro in 2012, but challenges remain for the ECB. First, deflationary pressures in the Eurozone persist and inflation expectations over the next few years have fallen substantially. Second, the credit markets remain fragmented and the record low interest rates are not being transmitted to all small and medium enterprises. In fact, Spain and Italy are already facing negative inflation and therefore their high debt burdens are even increasing in real terms. Some pressure has been taken off by the ECB's latest programs, which are trying to revive the transmission mechanism into the real economy. They could be called "QE light." The remaining tool yet to be used by the ECB of buying sovereign debt could alleviate deflationary pressures by further pushing down the euro and thus stimulating exports and inflation. However, there are some obstacles to buying sovereign bonds, including the opposition of the German Bundesbank. The crucial question for the Eurozone remains: can a mix of QE light, austere fiscal conditions and a lack of structural reforms suffice to deliver economic growth and increase employment? With the steps that have been taken, we will likely see a weaker euro and higher inflation prints in 2015, but monetary policy can solely kick-start the economy. A combination of further fiscal stimulus and structural reforms, such as lower income taxes in Italy and France to reduce unit labour cost and boost productivity, is clearly needed.

By Boris Willems

What to watch in 2015

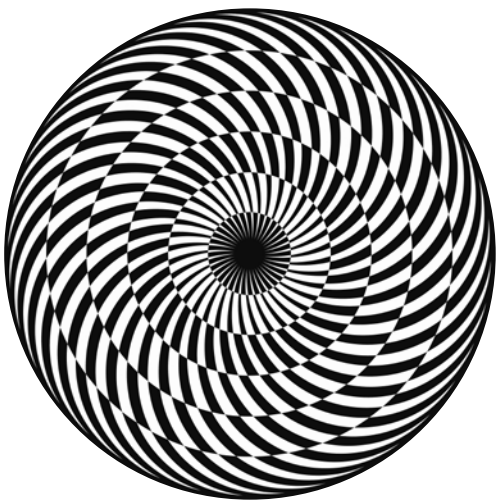
- Given different economic outlooks, major central banks are diverging in their monetary policy.
- Inflation is likely to remain around target in the US and the UK. In Japan, it might even overshoot the BoJ's 2% target in the short term, as tax increases may have a significant impact. In the Eurozone, outright deflation is unlikely as the ECB is highly committed and could act further.

How are asset classes affected?

- Eurozone credit is likely to benefit from a highly accommodative ECB where full scale QE still remains an option. On the other hand, US credit might have more headwinds.
- With regards to the US yield curve, the short end is being pushed higher by the Fed, and the longer end is being bought by pension funds given the relatively attractive yield levels; the US yield curve is likely to flatten.
- The USD is expected to appreciate across the board, whereas the EUR has more room for depreciation.
- With major central banks diverging in their policies, we expect more volatility in both fixed income and foreign exchange markets.

Just an illusion?

The phenomenon of a large-scale selling of bonds and buying of stocks has been named as the 'great rotation' in recent times. Many market observers had anticipated that a great rotation would finally take place in 2014, six years after the global financial crisis of 2008, helped by tightening monetary conditions and presumably at the top of the business cycle. Last year, we expressed our skepticism about such a scenario, pointing to structural reasons. What is the status for 2015?



2014 should be seen as another year of asset price reflation with continued excess liquidity filtering through to virtually all asset classes

Firstly, it is important to remember that the number of outstanding bonds and stocks does not need to change in a rotation. By definition, there is a seller and a buyer in every trade and on a market aggregate level the flows net to zero (absent of any buybacks, de-listings, or new issuance). So for example when money 'flows' out of bonds, these bonds do not cease to exist but rather one group of investors has less inclination to hold them relative to another group. What does change in a rotation are the security prices, indicating a shift in investor preferences. Take for example the total returns of the S&P 500 (+32.4% in 2013 and +4.3% in 2014 (to October 22)) and Barclays US Government 10 year TR (-5.8% in 2013 and 8.2% in 2014 (to October 22nd)): interestingly, the 2013 bond losses were more than recouped in 2014 while stocks were also up. If the rotation happened at all, then it took place in 2013, when equity inflows exceeded bond inflows for the first time since 2007. Looking at the global flows in bonds and stocks across mutual funds and ETFs, flows for both asset classes have been positive in every year since 2009 (see Table 1). 2014 should be seen as another year of asset price reflation with continued excess liquidity filtering through to virtually all asset classes.

There were noticeable trends within the bond space too. Government bond inflows ebbed away in 2013 but partially returned in 2014. Corporate bonds and emerging market debt flows stagnated since Q2 2013 following the beginning of the taper discussions, while high yield bonds for now continued on their five-year trend of positive inflows. A new niche of total return and 'go anywhere' funds has been established under the name 'flexible bonds.' Their volume remains small but the inflows mark an increase in investor appetite for bond funds, which promise to effectively manage a rising rate environment and exploit opportunities more flexibly. Arguably, this leads to more risk-taking in less understood areas, such as illiquidity risk.

Clearly, what did not happen in 2014 was a decisive repositioning in portfolios from bonds to equities. Quite likely there are longer-term structural reasons favoring the new normal 'lower yields for longer' accompanied by a flattening of yield curves. Perhaps the most powerful force is ageing demographics affecting most of the developed world. On the other hand there are many developing countries with healthier demographic trends, but they typically lack an equity investment culture. Therefore, the net effect so far is one of derisking driven by the Western world, resulting in greater aggregate demand for yield and certainty of capital. A shifting preference from 'profit maximization' to 'income risk minimization' changes the investment behavior of individuals fundamentally. Once large retirement pools are added to the equation, which have strong regulatory incentives to match their liabilities with long-dated bonds, it looks likely that demand for safe-haven government bonds may exceed supply for the foreseeable future.

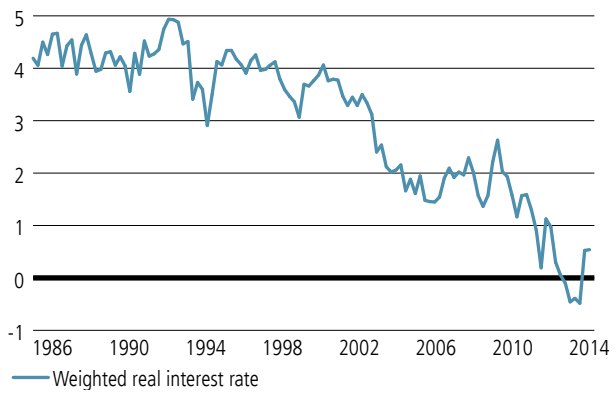
Table 1: Global equity and bond fund flows (USD billion per year)

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Equity Funds	588	452	-210	219	225	1	82	581	200
Bond Funds	119	100	-171	674	505	282	851	187	223

Source: ICI, EFAMA, J.P. Morgan. Amounts in USD billion per year represent net inflows and include global Mutual Fund and ETFs. Mutual Fund flows are from ICI and EFAMA. 2014 YTD flows are estimated as of August. ETF flows are from Bloomberg Finance LP.

One scenario capable of overcoming these structural headwinds outlined above would be higher consumer price inflation. If people were to realize that future inflation might surprise on the upside rendering future goods prices unaffordable to them that would be a strong incentive to shed nominal bonds. However, with deflationary tendencies at the forefront the currently still depressed nominal yields actually become more attractive from a real, inflation-adjusted standpoint. Figure 1 illustrates a picture of secular change. In this context, the year 2013 was an adjustment in direction but hardly a reset to levels previously seen as normal. In a 'great rotation' scenario, we would expect to see sustainably higher real growth prospects, a steady development towards higher interest rates alongside a greater risk-bearing capacity on investors' behalf. These developments may need more time.

Figure 1: Global weighted real interest rate (%)



Source: Measuring the world real interest rate (2014), Mervyn King, Daniel Low. Estimates based on spot yields on 10-year bonds across all G7 countries for which data are available with each country weighted according to its average real GDP over the whole time period. Inflation estimates are derived from index-linked bonds for each country with interpolations necessary given the limited number of index-linked instruments in issue at any one time.

So where do we stand? It looks like the great rotation has been parked for now. Potentially, we will have to wait until ageing demographics fully play out which will be a decade-long process. In any case the opportunity window for a true great rotation is elapsing unless we change our assumption on how long this current business cycle can last.

By Daniel Rudis, PhD, CAIA

What to watch in 2015

- Demographics pose structural headwinds for a decisive repositioning in portfolios towards higher equity allocations.
- Disinflation is a dark cloud on the 2015 investment horizon, especially in Europe. Consumer price inflation would be a positive sign in most markets.
- Investors will have to continue to search for yield in remote places. More flexible bond strategies will likely continue to see increased interest.

How are asset classes affected?

- Quickly rising interest rates may initially have an adverse impact on bonds and on stocks. However, as higher rates would be an indicator of a stronger growth outlook stocks should ultimately fare better.
- Market illiquidity is being disregarded in some market segments. Even investments perceived as safe havens may become stress-tested as liquidity is withdrawn from the markets.

The sick men of Europe

During the Eurozone sovereign debt crisis, the currency bloc was sometimes compared to a patient on the verge of a heart attack. As 2015 approaches, it seems fair to say the patient has survived – the Eurozone remains intact, and only one country (Greece) defaulted on its debts. During and after the crisis, many ways were suggested to help the Eurozone become fitter and reduce the risk of a future financial heart attack. However, parts of the Eurozone now resemble patients who say they want to become healthier but actually remain obese and won't give up smoking. Government debt levels are high and keep rising, economic growth rates hover around zero, and despite talk of structural reforms, some countries still suffer from inflexible markets and high levels of corruption.

The crisis saw spreads of Eurozone periphery government bonds widen dramatically over equivalent German bonds, reflecting perceived default risk. Since 2012, spreads have tightened significantly as investors have regained a measure of confidence in the periphery. One of the goals of official responses to the crisis has been to seek to break the link between banks and sovereigns – a link that caused difficulties for Spain and Ireland in particular. However, while there have been moves toward banking union in the Eurozone, it appears the union will not extend to pooling sovereign liability for banks – Germany, for example, is not expected to bail out periphery banks if they are in distress.

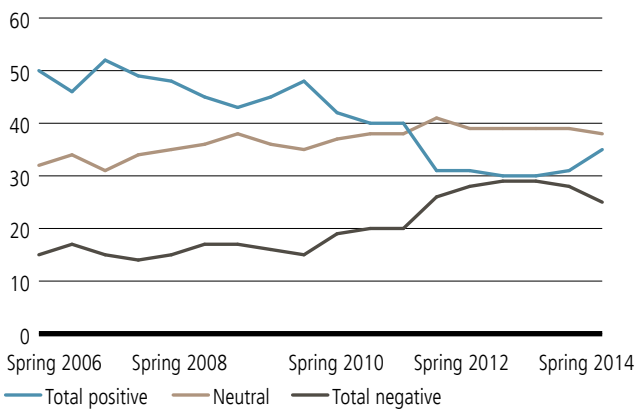
We expect Eurozone investors to focus more on economic growth and corporate earnings than on the risk of sovereign defaults

In 2015, we expect Eurozone investors to focus more on economic growth and corporate earnings than on the risk of sovereign defaults. Here, too, banking is crucial. The Eurozone's corporate bond markets are proportionately smaller than those of the US and the UK, which leaves Eurozone companies more reliant on funding from bank loans. The European Central Bank's survey of bank lending showed that Eurozone banks tightened their lending standards in every quarter from the first quarter of 2008 to the second quarter of 2014. Over the same period, demand for bank loans plunged. However, the latest data show tentative signs of recovery in demand and a slight easing in lending standards. If these fragile shoots turn into more robust growth in lending, the prospects for economic recovery would be greatly increased. Investors will also want to see how the ECB's plans to buy asset-backed securities (ABS) work out in practice.

The ECB has a strict policy mandate to keep Eurozone inflation close to, but below, 2%. Since late 2013, inflation has been below 1%, and heading toward zero. The ECB has tried to stimulate the economy by loosening monetary policy. It is hard to imagine the ECB going much further with cuts to its main interest rates, one of which is already below zero. If inflation stays well below target, there could be pressure for quantitative easing on a larger scale than the ABS program, but purchases of government bonds could face legal and political obstacles.

The biggest political controversies, however, surround government deficits and structural reforms. Periphery government debt levels remain high and continue to rise – spending cuts and tax rises are unpopular with voters. Meanwhile, some voters in core Eurozone countries such as Germany have complained about the perceived transfer of wealth from the northern half of the Eurozone to the southern parts. Against that backdrop, the Eurozone crisis saw a big drop in the popularity of the European Union among its own citizens, shown in Figure 1. The latest results available at the time of writing suggest the EU may be past its lowest point in terms of citizen dissatisfaction. Nevertheless, politics could remain polarized in 2015 and beyond.

Figure 1: EU citizens' views of the EU (%)



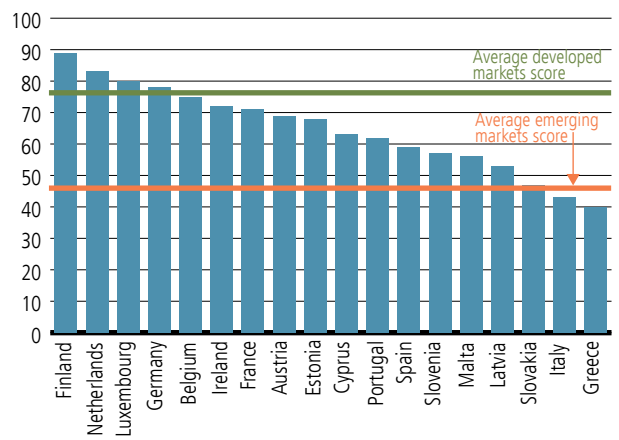
Source: European Commission
Note: The percentages represent responses to the question "In general, does the EU conjure up for you a very positive, fairly positive, neutral, fairly negative or very negative image?"

The periphery countries also have highly regulated product and labour markets, and low rankings in the World Bank's ease of doing business survey, relative to other developed markets such as the US and the UK. Deregulation may boost an overall economy, but it can be unpopular with special

interest groups. In some ways, loose monetary policy may have made debt reduction and structural reform harder by removing pressure on governments. Eurozone sovereign bond yields, and therefore governments' borrowing costs, are near record lows, reducing the incentive for governments to reduce debt levels or to enact the structural reforms that could improve long-term creditworthiness.

Another structural reform that could benefit some periphery countries is reducing levels of corruption, which is associated with many harmful effects including loss of public resources, lower economic efficiency and higher government borrowing costs. A widely used metric is the Corruption Perceptions Index published annually by Transparency International, shown in Figure 2. A high score represents less corruption. In the Eurozone, countries with scores closer to the developed markets average generally did not experience difficulties in government debt markets during the Eurozone financial crisis that began in 2010 – Ireland being a notable exception. However, countries with scores closer to the emerging markets average were much more likely to show signs of market stress, such as high and rapidly rising government bond spreads, at some point in the crisis.

Figure 2: Corruption Perceptions Index scores



Source: Transparency International, UBS Global Asset Management
Note: The data refer to the 2013 Corruption Perceptions Index. Developed markets countries and emerging markets countries are based on MSCI definitions.

By Matthew Richards, CFA

What to watch in 2015

- Ongoing debate over quantitative easing by the ECB – the central bank's officials may be uncomfortable using the term "QE," but if inflation and growth remain close to zero, they should expect mounting pressure to increase the size of asset purchases and widen their scope.
- The ECB's quarterly bank lending survey is a key barometer of financing conditions in the Eurozone – after a long period of deterioration, investors are hoping that recent signs of recovery will turn into a substantial improvement in lending conditions and activity levels.
- The UK general election in May 2015 could unsettle European Union politics if the result is victory for the Conservative Party, which has promised to renegotiate membership conditions ahead of a 2017 referendum on UK exit from the EU.

How are asset classes affected?

- The euro could be weakened if the ECB adopts aggressive QE-type measures, but could strengthen if the ECB is more conservative than expected – a weaker euro would help exporters and may reduce the risk of deflation.
- With less focus on tail risks such as Eurozone break-up, European equity markets could return to a focus on fundamentals such as earnings and economic growth.
- Periphery government bonds tend to behave as risk assets with country-specific risks, but with less scope for big gains compared with recent years because yields have already fallen so far.

Pass the parcel

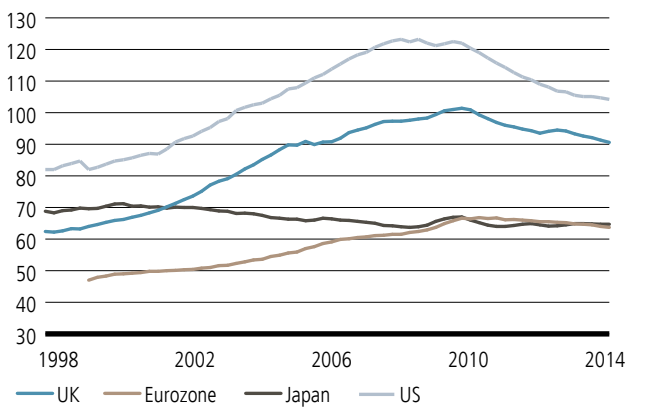
Coming out of the global financial crisis (GFC) there were many differing views as to what lay ahead and what policies (and policy tools) should be employed to drag the world economy out of the wretched place it found itself in. Now, six years on, there is mounting evidence to suggest that the lost output, based on the pre-crisis trend, has been permanently lost. In other words, unlike a typical cyclical recession where the 'bounce back' in the subsequent period is stronger, making up for the weaker period during the recession, growth has found a new and, so far, disappointing trend. Many commentators have suggested that the level of a country's debt plays a role in the growth rate of its economy. Some have even tried to determine thresholds over which crises might start. Through the course of this article, we will examine the debt levels across economies and see what impact, if any, this has had on the tepid recovery we have seen so far. We will also provide a brief assessment of what this could imply for future growth and the implications for asset class returns.

In the lead up to the GFC, there was a huge build-up in household debt in the Anglo-Saxon (and some other) developed markets as shown in Figure 1. For example, both the UK and US saw household debt (expressed as a percentage of GDP) increase by 40 percentage points from 1997 to their peak. The increase for the Eurozone as a whole was more muted, rising 25 percentage points, however some markets such as Spain and Ireland had much larger increases but these were offset by a decline in Germany and more modest increases in Italy and France. In the years since the GFC, indebtedness of the household sector in the developed world has generally declined and, in some cases, noticeably so. The US household sector is now back to 2004 levels while the UK is now back at 2006 levels (although clearly both are elevated in a historical context). The Eurozone and Japan, where the denominator, GDP, has been weaker and household debt wasn't such a significant headwind (at least in aggregate in the Eurozone), have seen levels stabilise.

In the non-financial corporate sector, there is a less clear picture. Corporations generally went into the financial crisis in relatively good health and for that reason had less need to de-leverage. For example, in the 10 years prior to the GFC, debt levels increased by around 15-20 percentage points in the UK and the Eurozone to, coincidentally, 71% in both in September 2008, while only increasing 4 percentage points in the US (to 47%). Japan, the outlier, saw a sharp decline over the same period from 128% to 92%. Since then, corporate debt levels have remained relatively stable, falling only slightly in UK, Eurozone and Japan but increasing in the US to around 53% in March 2014. The increase in US corporate debt levels appears to be principally driven by capital restructuring considerations given the general declines we have seen in gross fixed capital formation since the crisis hit. This has been particularly prevalent in the US where share buybacks have been a large support for the US equity market.

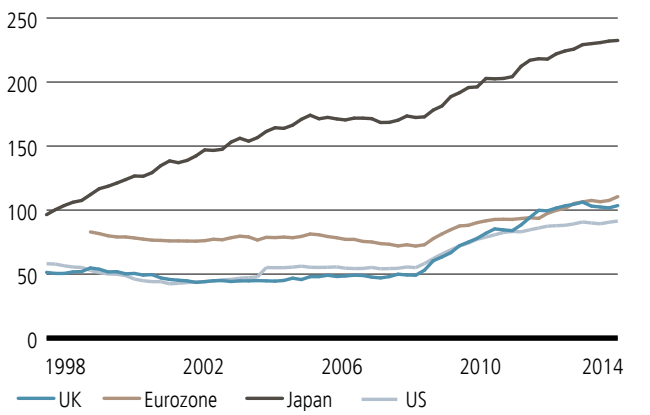
Figure 2, which illustrates government debt levels across the key developed markets, tells a much more striking story. With the significant exception of Japan, government debt levels across the key developed markets (as a percentage of GDP) were largely stable and moderate in the period prior to the GFC. However, debt levels spiralled in its aftermath. For example, for the period from September 2008 to March 2014, debt levels increased by 60 percentage points in Japan, 54 percentage points in the UK, 39 percentage points in the Eurozone and 36 percentage points in the US. In part, this reflected automatic stabilisers, like the natural increase in benefits payments as workers lost their jobs (and a corresponding decline in tax receipts). In addition, it also reflected the impact of the fiscal measures taken by governments, both in terms of the (varying) stimulative measures undertaken, as well as assistance offered to sectors of the economy, particularly the finance sector.

Figure 1: Household debt (as % of GDP)



Source: Datastream
Data from December 1997 to March 2014

Figure 2: General government debt (as % of GDP)



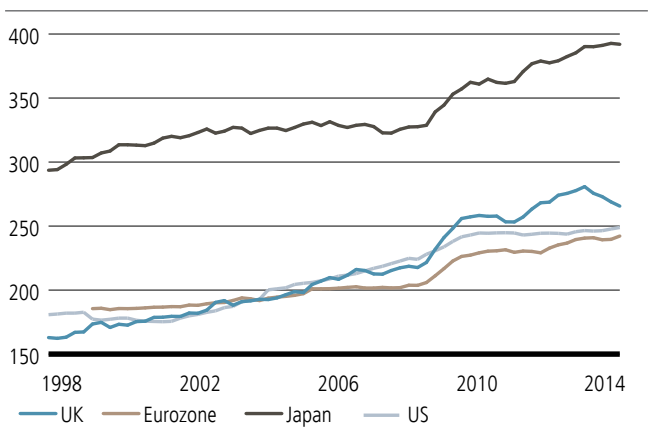
Source: Datastream
Data from December 1997 to March 2014

At present, with bond yields very low and central banks still very accommodative, the increase in debt levels has not yet resulted in large increases in interest expenses. Indeed, in Germany and France net interest rate expenses since 2008 (expressed as a percentage of GDP) have actually fallen by 0.5% and 0.9%, respectively. Italy and the US have roughly remained the same while Japan (+0.8%), the UK (+1.1%) and Spain (+2.2%) have seen the largest increases. Although Italy has seen relatively little change, the punitive level of its debt servicing costs (around 4.7% of GDP) does not bode well when combined with its weak growth and inflationary outlook. This is most stark when viewed relative to some of its Eurozone peers. For example, Germany's interest expense is just 1.4%, France's is just 2.2% while Spain's interest expense, despite the large increase, remains around 3.2%. Clearly if bond yields do move generally higher, some countries may find it harder to service their debts.

The total debt level, combining household, non-financial corporates and government debt, is actually higher than its pre-crisis level, despite the often noted deleveraging of the household sector

Combining household, non-financial corporates and government debt provides a total measure of debt within the major economies (excluding the financial sector). This is shown below in Figure 3. Most striking is the level of indebtedness of the Japanese economy. The other interesting and, to some, perhaps surprising observation is that total debt levels on this measure are actually higher than pre-crisis, despite the often noted deleveraging of the household sector.

Figure 3: Total debt (ex-financials) (% of GDP)



Source: Datastream
Data from December 1997 to March 2014

So far we haven't considered emerging markets or any Asian countries except Japan. In part, this reflects the comparative difficulty of getting reliable data, but also that the problems of the GFC were primarily driven by developments within the US and other western markets. Unquestionably, however, some of the more alarming trends of the past few years have been events in some Asian markets that came through the GFC relatively unscathed. In particular, many of these countries have seen rapid growth in private sector credit, which in the past has often precipitated financial crises. In China's case this was principally a policy response, with the Chinese government using state-controlled banks to channel funds to firms in an effort to kick-start growth in 2009. In the case of Hong Kong and Singapore, growth, in part, will be driven by their links to the US dollar. In several instances, credit in these countries has grown more rapidly than in some of the Western markets before the GFC. Needless to say, this will be an area we will be monitoring closely.

What are the implications of all this? Clearly, the deleveraging process has not yet really begun. Instead, debt in developed markets has effectively been passed from the private sector to the public sector. Outside the major developed markets at the heart of the GFC, we have seen rapid credit growth over the past few years, perhaps most startlingly in China, the world's second largest economy. The scale of credit growth here has, we believe, led to a potentially significant misallocation of resources. This increases the likelihood that returns from these investments may not be high enough to service debt burdens and could be a catalyst for stormier waters in the future. In the developed markets, we expect to see muted growth continuing and central bank policy commensurately accommodative. While adjustments within the Eurozone have been made, the large government debt of some countries, combined with the weak growth and inflationary outlook, might lead to further flare-ups in the Eurozone crisis.

By Matthew Bance, CFA

What to watch in 2015

- Signs of a Chinese-led slowdown…
- …and the knock-on impact on countries that have benefitted from Chinese (investment-led) growth.
- Potential flare-up in the Eurozone on weak growth/real value of debt concerns.

How are asset classes affected?

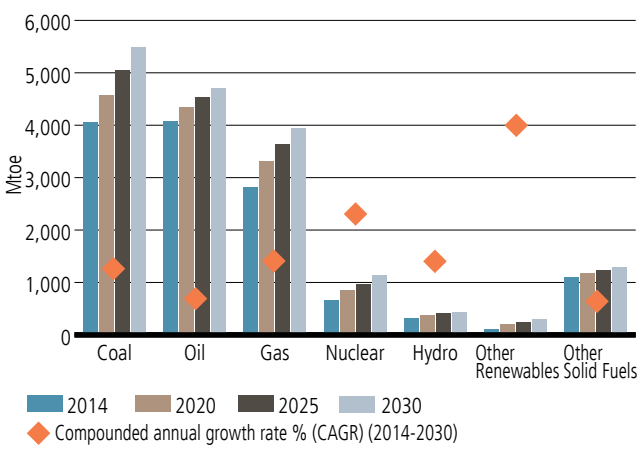
- Bond yields are likely to remain contained and curves flatter than in the past.
- Potential for further weakness in European periphery.
- Potentially less well-supported commodity-linked currencies.

Shifting sands

North America's energy landscape continues to evolve with the benefits for the US economy in particular becoming increasingly apparent. The shale gas and tight oil supply story remains largely American. Its ramifications, be they technological, economic or geopolitical, however, are much farther reaching driving global energy markets towards a new equilibrium.

BP forecast that by 2035, global energy consumption will have increased by 32% to 17,566 million tonnes of oil equivalent (Mtoe). Due to a combination of changing demographics, government policy and relative phases of economic growth, almost all of this projected increase comes from non-OECD countries. As a result, coal could become the world's most consumed fuel by 2018, due to its role in power generation in the energy-intensive economies of China, India and South East Asia.

Figure 1: World primary energy supply by fuel (2014-2030)



Source: Wood Mackenzie

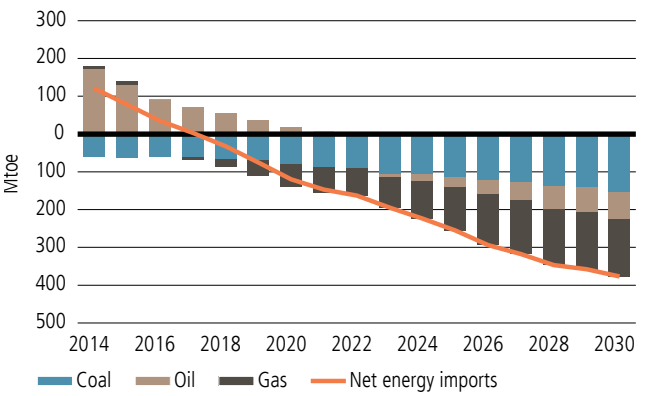
The next 20 years could see global energy consumption growth met by equally robust energy supply growth and significant efficiency gains across both conventional and unconventional energy sources. In spite of sizeable technically recoverable shale gas and oil reserves globally, and in particular in China, it is the increase in North American unconventional gas and tight oil supply that is expected to influence energy markets the most. Why? A recent report by the World Resource Institute noted that roughly 38% of the world's shale oil and gas reserves lie beneath water-stressed regions. Further to this, approximately 386 million people globally live in areas with workable shale reserves outside of the US. The majority of North America's shale areas are not particularly water stressed and are sparsely populated. This makes it considerably more straightforward to carry out such an area and resource intensive process. While investment and policy efforts substantiate China's aspirations to embrace shale as a way of reducing its carbon footprint, these and other structural issues remain. China's National Energy Administration (NEA) recently halved mid-term shale supply forecasts to an amount equivalent to only approximately 1% of current Chinese energy consumption. While countries such as Australia, Argentina and Colombia are making (slow) progress, it's becoming clear that the confluence of factors

Coal could become the world's most consumed fuel by 2018, due to its role in power generation in the energy-intensive economies of China, India and South East Asia

that have enabled the US to flourish are not easily replicable. Meanwhile in the US, an already well-established shale industry continues to develop, nurtured by a benign if not facilitative regulatory environment, skilled labour and innovative technology, sufficient infrastructure and of course, abundant natural resources. Forecasts for US shale oil production growth have been revised upwards as more sophisticated 'quaternary' or enhanced oil techniques allow for up to 20% more oil recovery, bringing many previously marginal opportunities back into play.

At the same time, US domestic energy demand continues to fall, with forecasts being revised downwards. Inter-fuel substitution is transforming demand with renewables and gas displacing coal and nuclear in power generation, also having the potential to replace oil in transportation. The US administration has also pledged to improve energy efficiency and increase the use of renewables through over 300 commitments in 2014. The overall implication is that North America could become a net energy exporter by 2018, impacting the balance of global energy markets.

Figure 2: North American net energy imports



Source: Wood Mackenzie

By mid-2014 the US Department of Energy had approved gas exports of 6.8 billion cubic feet per day (bcf/d). This could quite conceivably double by the end of the decade. The high margins US producers enjoy allow them to deliver relatively low-cost petroleum products almost anywhere in the world, creating new linkages between regional gas markets, most notably between those of North America and Asia-Pacific where premia are highest. This could eventually cause price convergence across widely different regional contracts and help develop a robust Liquefied Natural Gas (LNG) spot market.

It is feasible that US suppliers could see significant demand from European markets. While European energy demand is forecast to fall over the next 20 years, it is also the only region where domestic energy supply is expected to contract owing to declining output from mature oil and gas fields, EU emission reduction targets and declining nuclear capacity. As a result, Europe will become increasingly import dependent and energy insecure.

Although Europe has some estimated 639 trillion cubic feet of technically recoverable shale, geology alone is not sufficient to spark a US-style renaissance. European opposition to hydraulic fracturing on environmental grounds has galvanised over the last year with extensive moratoria coming into effect throughout the continent (Poland being the notable exception). This comes at a time when the need to diversify away from Russian gas imports could not be more apparent. In fact, it is likely that the interdependence between Russia and Europe will remain with Russia reliant on gas export revenues and the EU's commitment to low carbon energy. Russia currently supplies one third of European demand (half of which passes through Ukraine). Geopolitical tensions throughout 2014 will, if anything, serve to evolve European gas infrastructure, hastening the building of interconnectors along with two-way pumps that can reverse the flow in transit pipes. This would facilitate the free flow of gas between member states, allowing for distribution of gas from countries that have sufficient quantities in store, to those that don't, perhaps causing Russian bargaining power to wane. Further to this, US supply coming online could help instil discipline among energy exporters such as Russia in their business with importers the US deems strategically important.

Geopolitical risks have historically impacted markets through a growth shock, an oil price shock, or both. While ultra-loose monetary policy may be responsible for insulating markets from a growth shock through 2014, it could be the case that US supply coming online has alleviated the impact of an oil price shock in spite of resurgent geopolitical tensions in Eastern Europe and the Middle East – the emergence of US shale could help provide stability in energy markets going forward.

The final observation worth commenting on is the rise of renewables – forecasts suggest that renewables will be the fastest-growing source of energy supply, averaging above 6% growth per year, over the next 20 years. So what has changed? The typical challenge associated with renewable energy generation is intermittency, i.e. renewable energy is often not available when there is high demand, and equally over supplied when there is less. Recent developments in flow battery technology are enabling energy storage on a scale and cost that could become commercially viable and make solar-for-oil switching a realistic prospect in some cases. We expect renewables uptake to be largely concentrated in a handful of markets that have catalysts for their development: China and India, driven by overall increase in energy demand matched by the need for non-coal electricity sources; Germany, owing to commitment to low-carbon non-nuclear energy and a need to diversify Russian gas imports; Japan, due to a shift away from nuclear power and government feed-in tariffs setting cheaper energy prices for renewables; and the US.

With technology, geopolitics, environmental concerns and economics all jostling for influence, energy markets continue to evolve and will play a part in determining the global investment landscape of the next 20 years.

By Stephen Friel

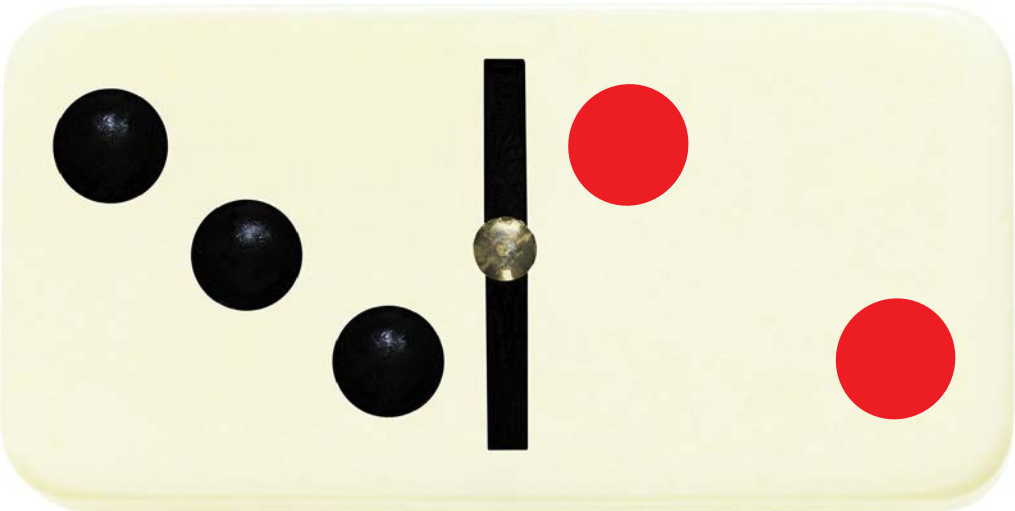
What to watch in 2015

- Low natural gas prices offer a competitive advantage boosting US industrial production.
- The potential for delinking of oil demand growth and economic growth in both OECD and non-OECD economies, owing to improved efficiency and inter-fuel substitution.
- Renewable energy generation grows, initially due to policy, but later due to the increased economic competitiveness of solar and wind technologies.
- An increasingly diverse energy supply mix could increase price stability within energy markets.

How are asset classes affected?

- Improvement in the US trade balance is supportive for the US dollar.
- US manufacturing and industrials sectors benefit owing to falling input costs.

Five centers of expertise



Liquidity, the other asset class

Usually by asset classes we mean equities, bonds, currencies, commodities etc. However, those asset classes are nothing more than a set of underlying risk premia that compensates investors for taking a given risk. To a certain point, all asset classes are therefore dependent on the same underlying risks but with different proportions attributed to each risk premium. As an example, a diversified high yield fund would be made of interest rate risk, default risk, term risk and… liquidity risk premium.

To help us better understand a liquidity risk premium, let's start by differentiating it with a more "traditional" one, default risk. Intuitively, the investor demands a premium higher than the chance of default or, in other words, credit worthiness of the issuer. But one should not forget that credit worthiness fluctuates over time, albeit gradually and therefore so does the size of the expected risk premium. Sometimes the default risk premium gets mispriced, especially during bubbles or market correction. Compared to the default risk premium, the liquidity risk premium is not that different; it makes asset classes more or less attractive over time and can sometimes be wrongly priced. What is interesting is that while most sophisticated investors have complicated models on defaults and interest rates, they usually lack a view or tools on liquidity. One reason might be that liquidity is indeed very hard to define… or not?

Let's think through this and have a go at a simple framework. When one thinks about liquidity risk it can take different forms: some asset classes such as Private Equity are 'explicitly illiquid,' meaning that on a "normal day" the investor is fully aware that the asset cannot be easily bought or sold. Other asset classes can be defined as 'infrequently illiquid' in the sense that they are liquid on a normal day but not on a 'bad day.' We intuitively understand this, remembering situations such as the Global Financial Crisis of 2008 (GFC), where it was near impossible to sell most assets as the market had almost shut down completely.

Liquidity risk premium is similar to default risk premium; it makes asset classes more or less attractive over time and can sometimes be wrongly priced

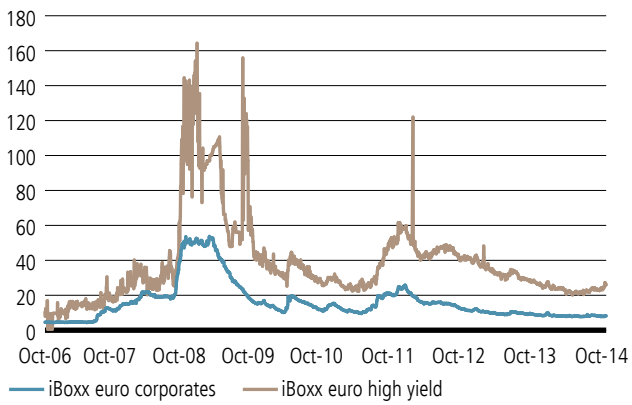
Let's tackle 'explicitly illiquid' assets first: investors can make a conscious decision to relinquish liquidity. Take private equity for an example where money often can be 'locked in' for 5 or 10 years. An investor will give up on liquidity as he expects to be compensated for this long holding period. Research from the Journal of Finance put this risk premium at 3% per annum.[1]

[1] Phalippou, Ludovic (2012) Private Equity Performance and Liquidity Risk. The Journal of Finance, 67 (6). pp. 2341-2373

Does 'explicit illiquidity' always pay? A global macro hedge fund investing in liquid equities might well limit investors' ability to redeem but does that mean there is a liquidity premium? We would argue not. The premium exists when the fund invests in illiquid assets.

Next let's turn to 'infrequently illiquid' assets such as fixed income, equities and currencies. When investors are investing in these asset classes, they assume these to be highly liquid and tradable on a daily basis. For the major equity and currency markets this may be true most of the time. As an example, on a 'good day' or a 'bad day' an S&P 500 future bid-ask spread will likely be just over 1 basis point with volumes in hundreds of billions. Similarly, trading on the exchange rate US-dollar against Euro costs a fraction of a basis point on any day and volumes are likely in the trillions. Trading bonds however is a different story. Bonds, unlike equities, for the most part trade over the counter (OTC hereafter), involving banks as intermediaries and counterparties to the trade, which can have negative consequences on the liquidity. As an example, when analyzing the historical bid-ask spread for Eurozone corporate and high yield bonds in Figure 1 below, one can observe that while transaction costs are low in a normal market environment, they skyrocket in turbulent markets with volumes drying up, making it very difficult to sell without having a large market impact.

Figure 1: iBoxx bid-ask spreads



Source: Markit iBoxx, UBS investment Bank
Note: iBoxx bid ask spreads are divided by duration

We previously mentioned that liquidity is not stable and can be mispriced. Let's confront a few ways in which this can happen:

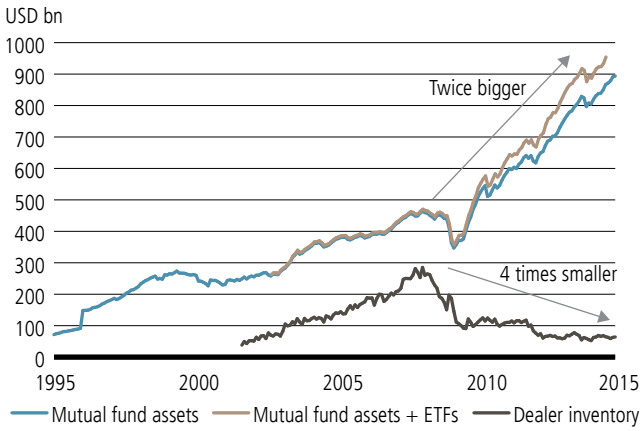
1. Investors tend to forget historical events or haven't experienced a 'bad day' and thus don't price it.

2. Structural changes mean 'bad days' will become worse in the future.

3. Innovation gives the financial illusion of better liquidity through improved 'normal days,' but in truth bad days are still the same…. or even worse.

The obvious asset class to talk through these three risks is the high yield bond market. We can use Figure 2 as a reference:

Figure 2: High yield market size



Source: Mutual Fund IG +HY Assets from Haver Code (ICBACOR@ICI and ICBAHYB@ICI), ETF Flow from Internal ETF File (Bloomberg Tickers) and Dealer Inventory from New York Fed (http://www.newyorkfed.org/markets/gsds/search.html)

For risk (**1**) high yield bonds have seen large money inflows from retail buyers, many of whom are new buyers in this market: since 2009 the market size has doubled in size (beige line). One reason why clients have massively increased their exposure might be that record low interest rates have forced them to take more risk in order to reach their expected return or income needs. Another clear reason is that market access has been eased thanks to the rise of Exchange Traded Funds (ETFs). The best way to illustrate risk (**2**) is to take the ratio of primary dealers' inventories to market size: the dark brown line clearly shows that while the market grew, inventories shrank massively. This is a critical structural shift because, especially in previous crises, dealers used their ability to inventory bonds in order to create liquidity. After the GFC, banks have been subject to increasingly biting regulations requiring them to hold much more capital on their balance sheet in order to warehouse the same bond positions than before the GFC. The evident consequence is that their activity has either stopped completely or weakened tremendously. While until now this has not troubled market participants, nobody actually knows what will happen in this new regime. When the next "sell off" will take place…and we believe that it will… the situation will be clear. Investors should probably have demanded a higher risk premium.

Figure 3: Risk premiums breakdowns for different asset classes

			Liquidity? Premium
	Liquidity Premium		Default Premium Risk
Equity Risk Premium	Equity Risk Premium	Term Risk Premium	Term Risk Premium
Real Interest Rate	Real Interest Rate	Real Interest Rate	Real Interest Rate
Inflation	Inflation	Inflation	Inflation
Equity	**Private Equity**	**Treasury Bonds**	**High Yield**

Source: UBS Global Asset Management

For risk (**3**) one needs to open the history book and return to the forgotten times when ETFs did not exist yet: the almost exclusive way an investor actually could get exposure to high yield bonds was to buy a mutual fund. While the fund manager traded at a daily frequency, asset managers made it rather expensive to enter or exit the mutual fund. The incentive for "retail" investors to act frequently therefore was rather limited. With the apparition of cheap ETFs trading live on stock exchanges and trading at almost no cost, even retail investors now get the impression that high yields have become a permanently liquid market… but it's just an illusion, as the final underlying asset – high yields – typically remains highly illiquid in time of crisis.

For once it seems that regulators are ahead of the curve of tail risks, according to the Financial Times.[2] The UK regulator voiced concern at the hidden risk, and the Federal Reserve has gone a step further by discussing the introduction of exit fees on bond funds.

The point all of this "doomsday thinking" is you need to understand the risk you are taking, and anticipate possible future storms. But that is not to say illiquid assets are bad as such, on the contrary: liquidity risk premiums creates extra income for your portfolio (if it's correctly priced). You just have to be comfortable with the idea of 'not selling' when times get tough, i.e. don't hold a higher percentage than you can really afford to hold. If you think that a given risk will give you sleepless nights then just don't take it.

A final suggestion: If you are looking at boosting your portfolio's return but can't afford to increase the illiquidity risk in your portfolio, there are a broad range of liquid alternatives at disposal: especially active asset allocation, currency and commodity managers. They can help you seek alpha from markets while keeping a low correlation to other asset classes, therefore remaining liquid on 'bad days' and potentially enhancing the portfolio's risk adjusted returns.

By Vincent Duval, CEFA, CAIA, and Matthew Quaife, CFA, CAIA

[2] "Fed looks at exit fees on bond funds", Financial Times - June 16, 2014

Reaching the summit isn't the end of the journey

Saving and investing for retirement is an uphill struggle. It requires a patient and disciplined approach and along the way there are many hard choices to be made to balance saving against the competing priorities of everyday life. Increasingly, the responsibility of investing to achieve these retirement goals is falling on individuals, requiring additional decisions about asset allocation and manager selection.

Investors who have successfully negotiated these challenges and achieved their investing goals when they retire can reflect on a job well done. In the past, this was often the end of the investing journey as retirees invested their accumulated wealth in safe annuities and bonds to provide a stable income in retirement.

Today's retirees, however, will live longer and have less certainty about their future financial needs. As a result, retirees are now recognising the need to continue to invest (in some cases, such as in the UK, prompted by changing regulations) and achieve higher returns during their retirement. Put simply, having climbed up to the 'summit' of their investments retirees now also need to manage a safe descent to be sure that their income will be sustained throughout retirement.

Just as in mountain climbing, extra care needs to be taken on the way down as the descent can be the most hazardous part of the journey. For a retired investor managing the balance between generating returns, drawing down income and preserving capital shifts presents new challenges and requires an adapted approach.

Early losses in a portfolio will be compounded when income is drawn resulting in a significant impairment to capital

While the underlying principles of investing don't change there are significant changes in circumstances which have an impact on investment strategy after retirement. Four major differences between pre-retirement and in-retirement investing are:

1. **Time:** For younger investors time is the dominant factor and an investor with a long time horizon will place much less emphasis on short term risks and greater emphasis on long-term return potential. For in-retirement investing this equation is reversed and long-term returns aren't the dominant factor.

2. **Flexibility:** Investors who are still working have much more flexibility then their retired counterparts. They can adapt to setbacks by increasing pension contributions, working harder, changing jobs or even by postponing retirement. Retirees typically have limited flexibility and are reliant on savings and pensions built up.

3. **Portfolio Size:** During the early phases of pension savings, the portfolio value is relatively low and market swings have little impact. Through time, with increased pension contributions and compounding returns, the portfolio value increases significantly and at the time of retirement typically represents a sizeable chunk of lifetime wealth. As a result, the exposure to market risk is also high at this point and the returns achieved over the relatively short period after retirement have a disproportionate impact on the income achieved.

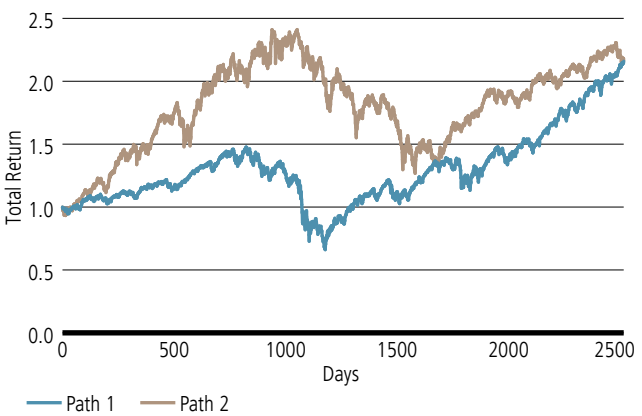
4. **Income:** Drawing down an income from a portfolio will impact the returns achieved. In particular, early losses in a portfolio will be compounded when income is drawn, resulting in a significant impairment to capital.

Each of these differences point towards a single conclusion: market risk is a key factor for in-retirement investing and incurring losses in the early years of retirement can cause permanent damage to a retirement fund.

To see the potential impact of short-term market returns for an investor drawing a regular income, we consider the returns which would have been achieved given two actual 10-year market returns for the S&P 500 index with a steady income of 8% of initial capital in each case. The periods were carefully selected as in each case the total return over the period was also 8% p.a., matching the income level, but interim performance was different.

Figure 1: Total return performance for two periods

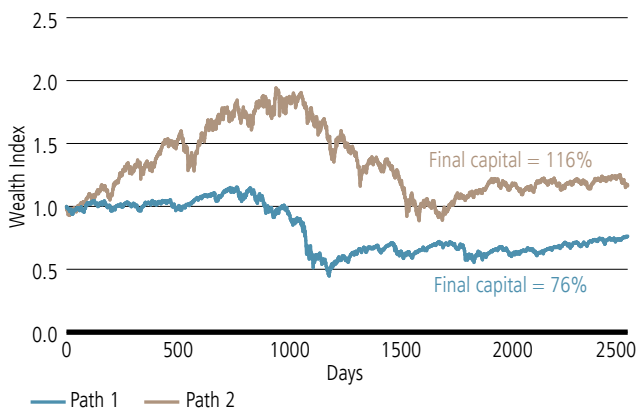
Path 1 is 10 years to 1 July 2014. Path 2 is 10 years to 27 June 2006



Source: Bloomberg Finance L.P., UBS Global Asset Management
Note: Past performance is no guarantee of future results.

Figure 2: Wealth index for an investor drawing income over two periods

Path 1 is 10 years to 1 July 2014. Path 2 is 10 years to 27 June 2006



Source: Bloomberg Finance L.P., UBS Global Asset Management
Note: For illustrative purposes only.

The expectation might be that an 8% annual return and an 8% annual income would net off, resulting in neither a capital gain nor a capital loss. In fact, this wasn't the case and the interim performance over the period meant the difference between a welcome capital gain (+16% for Path 2) and a painful capital loss (-24% for Path 1). This clearly demonstrates that for a retired investor drawing an income, it's not just the total return that matters but the path taken to get there (this is sometimes called 'sequence of returns risk' or 'path dependency'). Negative returns, particularly in the early years of retirement, combined with income drawdowns can severely deplete retirement savings, leaving investors with little opportunity to bounce back.

This analysis points to a need for investments that are specifically designed to counter these risks. So how can retired investors achieve a better outcome? We believe that better outcomes can be achieved for retired investors with transparent and robust investment strategies. In particular, we would highlight two important features for in-retirement investments:

Managed risk: Markets are not always well behaved and we frequently see periods of market stress associated with sharp bear markets. Managing the amount of risk in a portfolio, for example by implementing a target volatility approach, which adjusts market exposure as risk levels fluctuate, can help to reduce vulnerability to losses in these periods of high volatility. When risks are managed through time, the resulting performance is smoother with fewer peaks and troughs while retaining the potential for strong returns.

Capital Preservation: An additional step to manage risk is to implement downside risk management to seek effective protection in falling markets and minimise losses. Typical approaches to downside risk management include purchasing put options or employing systematic techniques. These strategies are more defensive than managed risk approaches but a well-designed downside risk strategy can still generate attractive upside for investors in positive markets while providing a high degree of security.

These techniques can be implemented with highly liquid and cost-efficient instruments (e.g. index futures) and do not require complex or expensive structured products. The strategies are also fully flexible and can be customised to match the needs of investors. For example, a range of funds could be developed with different risk levels to appeal to investors with different risk tolerances, income and return targets. These approaches can also be combined with income-generating strategies to target a defined level of income while still managing risk and seeking to preserve capital.

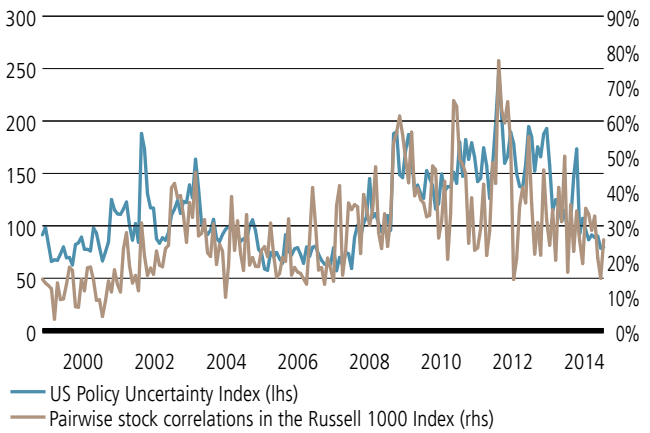
Investors and their advisers should be aware of the unique challenges and pitfalls of in-retirement investing. Tools do exist to address these challenges, however, and we believe there are opportunities to develop targeted investment products which employ transparent and efficient strategies to provide predictable outcomes and, ultimately, deliver better results for retired investors.

By Richard Lloyd

Riding the alpha cycle

What counts as "effective" changes with time. A few years have passed since stock correlations peaked in 2011, and investors have gradually moved away from the often trendless risk-on/risk-off environment, characterised by high levels of policy uncertainty (see Figure 1). Since then, many active equity managers have seen a pick up in the efficacy of their investment processes.

Figure 1: US policy uncertainty and stock correlations



Source: Citi Equity Quant Strategy, www.policyuncertainty.com, UBS Global Asset Management. Data as of July 2014.

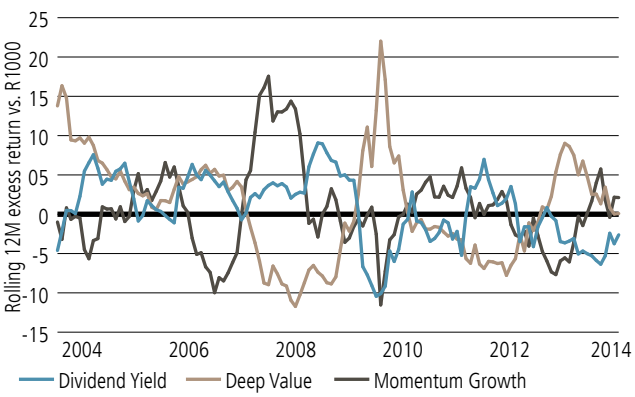
Not all investment approaches will typically win at the same time. We believe that it may be worth revisiting equity style allocation in the coming year. Of the most complementary investment approaches, namely Deep Value, Momentum Growth, Quality and Yield, equity investors should pay particular attention to their relative allocation to Dividend Yield oriented strategies within the Quality/Yield space. In our view, this market segment remains priced at a premium relative to more cyclical areas and is likely to underperform once interest rates start to rise.

Style matters in the short run. It is helpful to group together equity managers who follow a similar investment philosophy. Such groups represent true peers and are useful in evaluating historical performance. In fact, we have often found true peer performance to be more significant in explaining alpha cycles than manager-specific risk. Although we can identify a fair number of these groups in the US Large Cap space alone, factor analysis suggests that three peer groups in particular (Deep Value, Momentum Growth, and Quality/Yield) have historically experienced the most distinct performance cycles. The excess returns correlation among these styles was negative or near zero over long horizons.

Deep Value strategies tend to focus on companies that look attractive on valuation metrics like earnings or book yield and are temporarily out of favor. **Momentum Growth** strategies target companies with favorable expectations for future growth that have delivered positive earnings surprises. The third complementary investment style, **Quality**, is broad and includes **Dividend Yield** oriented strategies. Yield-oriented strategies focus on companies paying above-average dividends and deliver 'quality' characteristics, such as profitability and earnings stability to support future dividends.

Both Momentum Growth and Deep Value investment approaches added value in 2013, outperforming Dividend Yield by over 5% (see Figure 2). While US policy uncertainty abated, investors felt less risk-averse as corporate earnings growth remained relatively strong and bond yields started to rise. Dividend Yield strategies have historically done well when bonds rallied (and yield became more scarce) as investors treated high dividend stocks as bond proxies. Another observation we can make from Figure 2 is that, at the time of writing, the rewards to all three investment styles seem to be converging. This is symptomatic of the recent historically low market volatility, which has led to tighter dispersion in stock returns. When dispersion is tight, even winning strategies have a difficult time differentiating themselves from the rest.

Figure 2: Excess returns to US large-cap investment styles (%)

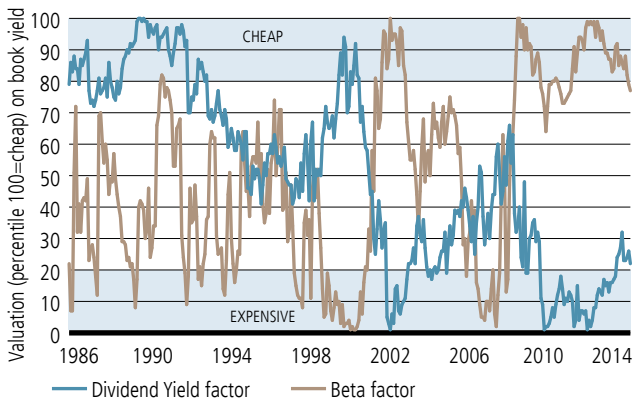


Source: StyleResearch, UBS Global Asset Management.
Data as of June 2014.
Past performance is no guarantee of future results.
Note: Data as of June 2014 and covers top 1000 US stocks

Valuation matters in the long run. Both the Deep Value and Momentum Growth styles have recently been more pro-cyclically biased. Stocks with the highest earnings growth expectations have come with above-average beta, i.e. sensitivity to moves in equity markets, while pro-cyclical areas of the market

remain priced at a discount compared to long-term history despite the recovery in relative performance after March 2009 (see Figure 3). High dividend yielding stocks remain priced at a premium and the valuation gap between these two market segments has been wide since 2011.

Figure 3: Style factor valuation



Source: StyleResearch, UBS Global Asset Management
Data as of July 2014.
Note: Style Factors are sector-neutral top/bottom quintile long-short baskets sorted by the factor. Data as of June 2014 and covers top 1000 US stocks

The seemingly resilient growth of the US economy creates the potential for US interest rates to rise in the coming year as the Fed may ease up on accommodative monetary policy. We expect that this will work as a catalyst for the valuation gap to mean revert, resulting in the underperformance of Dividend Yield focused strategies relative to Momentum Growth and Deep Value strategies.

A risk to this view is the possibility that the ECB might initiate more accommodative policy while the Fed tightens. If rates in Europe decline, this may boost demand for US Treasury bonds and dampen US rate rises. We would, however, still expect US Dividend Yield focused strategies to underperform in such a scenario, albeit to a lesser degree.

We find more headwinds in the US for Dividend Yield-oriented strategies than in Europe over the coming year

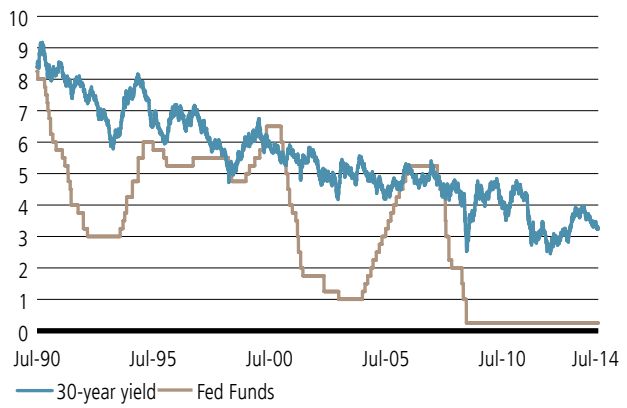
The picture in Europe looks a bit more clouded. Although the relative performance of Dividend Yield strategies on both sides of the Atlantic has sometimes correlated, periods of divergence also occurred. Contrary to the US and mainland Europe, we found that the valuation spread between high yield stocks and cyclical sectors in the UK had already come down to historically average levels in 2013 as economic activity started to show signs of growth. The Bank of England may also start to tighten monetary policy, which could be a headwind to Dividend Yield investing. Dividend Yield investing in Europe ex-UK may hold up better if the ECB opts for quantitative easing. We feel that the economic growth outcome will be a key driver for Dividend Yield performance here and that the valuation gap may stay wide for longer.
In conclusion, we find more headwinds in the US for Dividend Yield-oriented strategies than in Europe over the coming year as monetary policy and economic growth have diverged. When this rotation takes place US stock return dispersion may rise somewhat from currently depressed levels, which would allow managers to distinguish themselves once again.

By Fred Lee, CFA, FRM

The coming crunch for US pension funds

When it comes to managing pension fund liabilities, we often hear "Why hedge now, when the Fed is sure to raise rates?" Our response is that an increase in the Fed Funds rate does not always cause long-term rates to rise in tandem, as shown in Figure 1. The Fed controls the overnight rate. But pension liabilities are governed by long rates. As people live longer, soon-to-be-updated mortality tables will cause the duration for pension funds to rise. This dynamic is likely to increase demand for long bonds further still.

Figure 1: Federal Funds rate and 30-Year Treasury yield (%)



Source: Bloomberg Finance LP

The three most recent instances of rising rates show this dynamic at work, as shown in Figure 2. Between June 2004 and June 2006, the Fed Funds rate increased 4.25% but the 30 year rate actually declined slightly, by 0.12%. We saw a similar disconnect in the period June 1999 to May 2000, when the Fed increased rates by 1.75% but the 30 year rate only increased by 0.05%. In the period from February 1994 to February 1995, the Fed Fund rate increased from 3% to 6% but the 30 year rate only increased by 1.44%.

Figure 2: Changes in Federal Funds rate and Treasury yields over three tightening cycles

	Change (%)		
	Fed funds rate	**2yr yield**	**30yr yield**
2/1994 - 2/1995	3.00	3.07	1.44
6/1999 - 5/2000	1.75	1.19	0.05
6/2004 - 6/2006	4.25	2.37	-0.12

Source: Bloomberg Finance LP, UBS Global Asset Management

Financial theory helps to explain these superficially surprising results. When a change is widely expected by the market, prices tend to anticipate the change. In other words, investors must consider the possibility that the yield curve has already incorporated the expected rate hike. They may well be waiting for a train that has already been cancelled. The dispatcher just hasn't announced it yet.

Today, while there is consensus that the Fed will raise rates – after all, Janet Yellen has said so – no one knows when. Is it advisable for pension plans to get in the business of making this market call? We would advise against it. We believe that pension risk management is all about hedging; we do not believe that plans should be speculating on the direction of interest rates.

> Investors must consider the possibility that the yield curve has already incorporated the expected rate hike

Furthermore, while funds wait for rates to rise, the market is experiencing significant yield volatility. If that volatility kicks in at the wrong time, such as fiscal year-end, unhedged liabilities could soar and, as a result, financial statement volatility could increase.

Even if long-term rates do rise, we could be waiting a long time before that happens. This is a point that Curt Custard, head of UBS Global Investment Solutions, made in his recent paper, "A warning to bond bears." For a typical plan hedged 75%, liabilities will grow faster than the Fixed Income portfolio by about 1% annually, under current market conditions. This is not a scenario that plan trustees will tolerate for long. We expect increasing demand for long-term bonds that will not be met by increasing supply. So, we expect the cost of hedging pension liabilities with corporate bonds to rise. Plans that wait will find it more difficult to hedge and more expensive.

As pension funds increasingly implement liability-driven investing (LDI) strategies to manage their pension fund liabilities, they are driving a massive increase in demand for longer-term corporate bonds to hedge their liabilities. In 2013, many unhedged plans saw their funding ratios improve dramatically only to give back half their gains when markets shifted in the first half of 2014. To avoid adding to

this disappointment, many plans are moving to "de-risking" strategies, which also entail increased allocations to corporate fixed income as funding ratios improve. These de-risking strategies are further driving demand for long-term credit.

Where is the supply to meet this increased demand? We estimate that US corporate defined benefit pension plans represent about 2.3 trillion US dollars in liabilities. On the supply side, the long maturity credit market is valued at about 1.4 trillion US dollars. New issuances at this end of the curve are expected at a pace of about 150-200 billion US dollars a year, not nearly enough to meet expected demand. If regulators begin to tighten the accounting requirements for public pension plans (as of the date of this publication, we estimate public plan liabilities at 3.5 trillion US dollars), this demand problem could explode, with the gap between supply and demand potentially widening from 0.9 trillion US dollars to 4.4 trillion US dollars. Plans that wait to put these hedges in place may well pay more for them. We think US regulators should be urged to change the liabilities' discounting universe from corporate bonds to government bonds. If this change happens, we still expect the supply-demand problem to move from the corporate bond market to the government bond market, possibly leading to an inverted yield curve.

There is a crowding problem here too. If a plan waits to hedge until rates rise, it will be on one very crowded train. Not only pricing but liquidity issues are likely to kick in. Economic theory suggests that this crowding would depress yields further, another unpleasant surprise for those who assume that longer-dated yields are bound to move higher. Pensions plans could experience a double whammy, as lower yields drive liabilities higher and funding ratios lower, at the same time drying up the supply of long corporates that could help them hedge against further damage.

Pension funds should consider creating a plan for hedging their liabilities and start implementing it promptly. The LDI plan could include a "glide path" designed to de-risk the plan's portfolio as its funding ratio improves. Plans that have these strategies in place already can step back and allow them to work.

By Robert Guzman, PhD and Neil Olympio, CFA, FIA, CMT

Based on "The Coming Crunch for US Pension Funds" by Robert Guzman and Neil Olympio, published in Chief Investment Officer magazine.

Crash test dummies

The last 20 years have seen a steady development of risk management techniques in financial institutions. Risk modelling methods such as Value at Risk (VaR) and stress testing were included in the Basel Committee on Banking Supervision's Amendment to the Capital Accord to Incorporate Market Risks in 1996. At that time, such risk models were mainly used by the most sophisticated banks, but over time, such risk measurement techniques have appeared in recommendations and regulations for many areas of financial activity. Examples include the European UCITS regulations for fund management (see for example Commission Directive 2010/43/EU) and Solvency 2 proposals for insurance (Directive 2009/138/EC).

Before the Global Financial Crisis of 2008, risk in investment portfolios was usually measured with an ex-ante estimate of standard deviation of returns, or controlled with simpler measures like duration or active money. Since the financial crisis, with its sudden increase in market volatility and large market movements, tail risk measures such as VaR and Expected Shortfall, and stress tests have become more widely used. These developments have been driven both by the need for investors to understand the risks in their portfolios in an uncertain environment, and by regulations in which phrases such as "rigorous, comprehensive and risk-adequate stress testing program" (CESR/10-788 §3.6.5) have become common. This article focuses on stress testing using historical scenarios.

Stress tests have been driven by both the investors' need to understand the risks in their portfolios in an uncertain environment, and by regulations

Stress tests assess how global events can affect financial markets and in turn affect the ability of a business to achieve an aim. The aim may be to meet regulatory requirements, to satisfy clients' guidelines, or to preserve capital, revenue, or liquid funds above a certain level. The terms "stress testing" and "scenario analysis" are often used almost interchangeably. We will consider the term "stress testing" to cover significant negative impacts to a business. Scenario analysis is a more general term that includes stress testing but also includes analyzing optimistic scenarios and sensitivities to small market moves.

Stress testing allows you to analyze the vulnerabilities of a portfolio. It is complementary to risk analysis using a risk model. A risk model is calibrated using historical data, and statistical assumptions are imposed so that a meaningful decomposition of risk is possible. This process is objective once the risk model has been designed, and input parameters like the calibration period are determined. Stress testing is subjective, as forward-looking scenarios are formulated, or historical periods are chosen. It allows you to examine how the portfolio would behave under extreme or unusual market conditions.

A typical stress testing program includes standardized, forward-looking, and historical stress tests. Standardized stress tests shift market variables by a set amount, like all equities declining by 20%, or interest rates increasing by 100 basis points (bp). Another way of defining a standardized stress test is to specify shifts for a few market variables (e.g. US equity declines 20%, US treasury rates shift up by 100bp) and then to use a risk model to fill in the shifts for all other markets. This is called conditional or predictive stress testing. Forward-looking scenarios are constructed by considering possible future economic and market developments and then formulating market moves for those scenarios. The process typically involves economists, market specialists and portfolio managers. This process of discussing future economic scenarios and translating them into market moves can help to make the best of analysts' skills by promoting debate and producing concrete output.

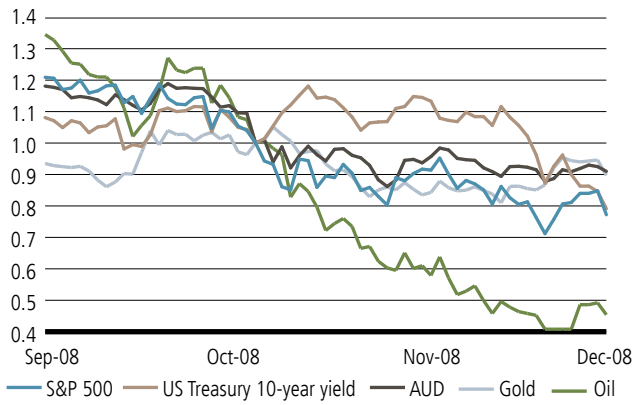
Historical scenarios replay the market movements over some past period. For stress testing, these are usually based on events that were widely reported in the media at the time and that are widely recognized. These events can be physical, political or financial. Examples are the financial crisis of autumn 2008, the terrorist attacks of September 11, 2001, and the European sovereign credit crisis peaking in 2010 and 2011.

A period around an event needs to be chosen so that the impact on financial markets can be observed. This period can depend on the event itself as well as on the portfolio or business to which the stress test is to be applied. Some events, such as an earthquake, happen at a certain point in time and last only a short time. Other events like a war or a recession can last for years. The stress test period is usually chosen to span a short event or to cover a severe period within a longer event. Often the period is adjusted to capture the largest moves in the most significant or relevant markets. Some business exposures have a short time horizon. Examples are the need to meet redemptions from a mutual fund, or a requirement for liquidity from sovereign stabilization fund. Other business exposures, such as a pension fund maintaining a certain funding ratio or a life insurer meeting solvency requirements, have a longer time horizon. For these businesses, the 40% decline in equity markets in late 2008 and early 2009 is more threatening than the 15% decline over a single week. The time horizons

of scenarios should be chosen to be relevant to the business they are applied to.

Often markets move in different directions relative to each other at different times. For example, in autumn 2008 (shown in Figure 1), the most severe week for equity losses was 6th to 10th October, when the S&P 500 declined by 15%. Over this period, US 10-year treasury yields increased by 42bp. However, over a 3-month period from 9th September to 1st December, as the S&P 500 declined by 33%, US 10-year treasury yields decreased by 84bp. In a multi-asset portfolio, it is helpful to look at different time periods to see how gains and losses in different parts of the portfolio behave as shown in Figure 1.

Figure 1: Performance of asset classes in autumn 2008



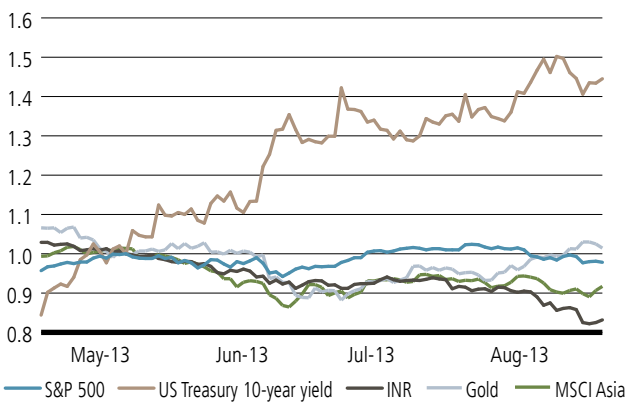
Source: Bloomberg Finance L.P.
Market prices and rates normalized to 1 at 6th October 2008.
Note: Gold is gold spot price in USD per Troy Ounce.
Past performance is no guarantee of future results.

Recent scenarios can be more relevant to current market conditions and more practical to construct than scenarios from the distant past. For example, how should we regard a sudden spike and then decline in the 12 month GBP LIBOR rate from about 11% to 8.5% in September 1992 as the pound exited the European exchange rate mechanism? The current rate is about 0.9%. Although negative rates may be encountered, a decrease in rates of 2.5% down to -1.6% seems unlikely. In practice, such a historical scenario would need to be re-interpreted in the light of current economic and market conditions. Other examples include currencies that have now joined the euro but were previously independent and currencies that have moved from being pegged or managed to floating freely. Some derivatives markets did not exist a long time ago, or closed down for a period. In these cases, assumptions have to be made about what to do with exposures to factors for which shifts are not available historically. Problems with older periods mean that it is more attractive to use more recent events unless the older events had important distinctive features and are still considered to be relevant to the current time.

Large crash events usually get the most attention in historical stress testing. That is logical as these events present the biggest threat to most businesses. There is limited diversity in global crash events, which tend to involve the value of risk assets falling and the value of safe-haven assets rising. Some portfolios have relative return objectives and some business areas are hedged against some risk sources. In these cases, it can be important to explore other types of historical stress tests. If portfolios are short or underweight to risk assets, bull market scenarios are the ones that will lead to losses. For example, portfolios that were defensively positioned in March 2009 would have failed to participate fully in the equity market rebound in the following three months. Relative return strategies can have a variety of different types of exposure, for example to emerging markets, high yield debt, or cross market country or sector positioning. For relative return stress testing, it is useful to look for historical periods where certain markets have a crisis and others do not. Although these events tend to have smaller market moves, the diversity can be more effective at stressing hedged strategies that do not have big outright market exposures.

An interesting event was the emerging markets shock in May to June 2013 (Figure 2). Emerging market Asian currencies were strongly affected as well as the corresponding equity markets. Developed market equities were also affected, with the S&P 500 declining by 6%, and the US 10-year treasury yield increased by 61bp. The losses simultaneously in risk assets and assets usually considered as safe havens is notable. Such a stress scenario can be especially relevant to defensive multi-asset portfolios and to high quality fixed income portfolios.

Figure 2: Performance of asset classes in summer 2013



Source: Bloomberg Finance L.P.
Market prices and rates normalized to 1 at 21st May 2013.
Note: Gold is gold spot price in USD per Troy Ounce. Oil is the generic first future.
Past performance is no guarantee of future results.

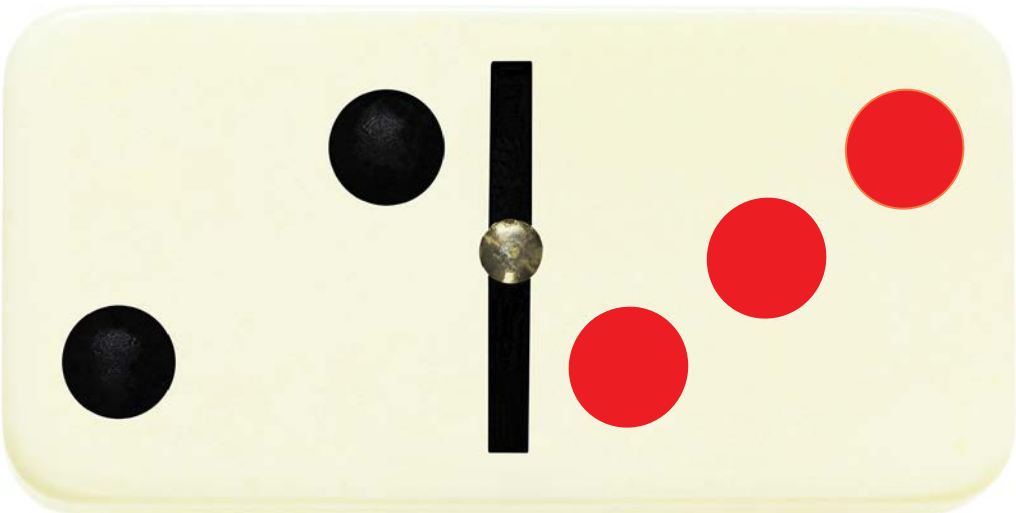
Figure 2 shows the relative moves clearly. Historical scenarios may reflect some aspects of current concerns. For example, if growth were to slow and inflation rise in 2015, long-term treasury rates could rise and equity markets decline. These are features of the summer 2013 historical scenario.

Many types of multi-asset portfolios such as pension funds, sovereign future generation funds and endowments may contain illiquid assets. These assets (e.g. real estate, private equity and infrastructure) do not have liquid observable prices, so it can be difficult to incorporate them into a historical stress test. In practice, although illiquid assets may not show a mark-to-market price decline in a crisis, if an attempt was made to sell those assets, an impaired price would be realized. A risk factor model can allow the relationship between illiquid asset prices and liquid asset prices to be modelled. In this way, movements in listed asset prices, interest rates, and spreads can be used to calculate an estimated move in illiquid asset prices in a historical stress scenario.

Historical stress testing gives a direct view of how a current portfolio may have performed over a past period. Mandated by certain regulators and recognized as a valuable tool by practitioners, stress testing has continued to increase in popularity. For multi-asset portfolios, especially where relative return or return versus liabilities is a concern, it is worth considering a variety of historical time periods and stress scenarios aside from the peak to trough of the largest equity crashes. Where a portfolio contains illiquid assets such as real estate or private equity, these must be modelled too. A risk factor model allows returns from illiquid assets to be estimated.

By Mark Deans, PhD, FRM

Five investors to watch

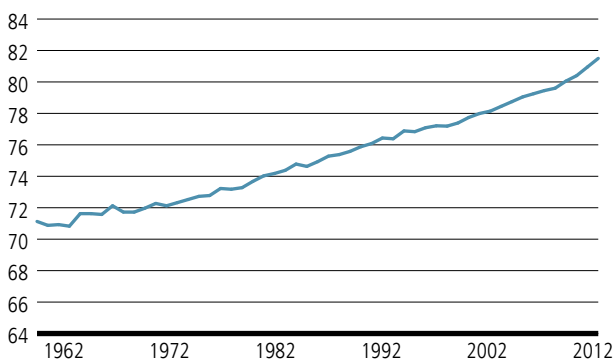


Continuity and change

Pension funds have had an on-off love affair with multi-asset investing, which was the mainstay of pension fund investing for several decades before a 'specialist' approach was broadly adopted. More recently, pension funds have re-embraced multi-asset investing in pursuit of a wide-range of objectives, such as achieving growth, absolute returns or income, as 'outcome-oriented' investing has gained acceptance. Through the course of this article we trace the origins of multi-asset investing to the approach of today, critiquing the evolution. The focus is on the UK, but much of what follows also applies to pension funds in other countries.

Pension funds have not always used multi-asset strategies. In their infancy, before the 1950s, many invested solely in government bonds. The more adventurous occasionally dabbled in preference shares as well, but this was the exception rather than the rule. This was principally because pension funds were set up to support former employees for a comparatively short period of time before they died. Of course, life expectancies have changed markedly since then. Figure 1 shows the trend in increasing life expectancy, and, consequently, the ever-increasing burden faced by pension funds since 1960. For example, assuming a retirement age of 65, a person born in 1960 was assumed to be, on average, supported by their occupational pension for six years. By the mid-1990s, this figure had doubled. It is easy to see why many defined benefit schemes have closed.

Figure 1: UK life expectancy at birth (years)



Source: Datastream
Data as of April 2014.

In the 1950s, pension funds' approach changed. Increasingly, pension funds began investing in equities, which seemed a natural candidate for inclusion in pension funds given their long-time horizons and the need to protect against the corrosive impact of inflation. This gave rise to the era of the 'balanced' fund where the relative attractiveness of bonds and equities (active asset allocation) became an important decision alongside the decision of which individual securities to pick (active security selection).

With this approach entrenched, investors' resources were increasingly focused on how best to measure performance. Up until this point the primary concern was whether portfolio returns had risen or fallen, sometimes referencing returns relative to inflation. This initially took the form of peer group benchmarking – measuring the performance of a pension fund relative to the performance of other pension funds. At first glance, this appears to be a relatively harmless and straightforward manner of measuring performance but, ultimately, proved to be highly flawed. In particular, tracking performance relative to peers understandably incentivised pension fund managers to take asset allocation positions referencing their peer group, a strategy that was formalised by the establishment of peer group median positions. These median positions were calculated and reported on a quarterly basis, typically with a two-month lag. Therefore, in positioning a portfolio around this median position, managers would typically be responding to data which was at least three months in arrears and up to five months in arrears.

This approach to benchmark construction led to 'pyramiding' of allocations by managers. This phenomenon occurs because, over time, if managers tend to like a given asset class, they are forced to hold even more of it to maintain a given overweight. For example, if Manager A wanted to be 2% overweight equities, then he must take an overweight to the median manager's allocation to equities. If other managers also favour equities, then, next quarter, the median allocation to equities will be higher. For Manager A to maintain a 2% overweight to equities, he must increase his allocation to equities given the median is now higher. Over time this can have a pyramiding effect, which leads to higher and higher weightings to particular asset classes. This led to ever higher benchmark weightings in equities, typically the most risky asset class.

Another fundamental flaw was that this form of benchmarking encouraged herding behaviour. This is where managers all tend to take broadly similar positions to not 'stand out' from the crowd as they do not wish to expose themselves to the risk of underperforming the peer group. In practice, this led to a clustering of positioning. This was because it disincentivised managers from expressing large positions, even where they fundamentally did not find a particular asset class attractive, for fear of being sacked by their client for relative underperformance. This brings us to the final and most crushing of criticisms of peer group relative investing: why does the underperformance or outperformance

of a peer group benchmark even matter? Each individual pension scheme has its own investment goals that could be wildly different from other pension funds in a given peer group.

Peer group investing for pension funds came to a head in the wake of the collapse of the technology bubble which began to unwind in 2000. Many pension funds had significant allocations to equities, accentuated by the flaws of peer group benchmarks discussed above, and suffered dramatic falls in the value of their assets, resulting in significant pension deficits. This proved to be somewhat of a watershed moment for balanced funds.

The fallout from the tech bubble prompted the pension fund industry to reflect on how pension funds were approaching the management of their assets. Two key changes can be traced back to this time. Firstly, pension funds began to measure their performance versus bespoke composite benchmarks designed to take into account a pension fund's specific long-term objectives rather than just measuring performance relative to other pension funds. The second change, leading on from this, was that rather than employing one asset manager to manage a 'balanced' portfolio, each individual component of the composite benchmark was increasingly managed by a 'specialist' asset manager. This manager was employed solely to beat their individual benchmark that referenced their specific sub-set of an asset class, such as equities. This reflected the view that no manager could be the best at managing each individual sub-component of a portfolio. Composite benchmarks became ever more sophisticated and helped drive a focus on terms like 'alpha' and 'beta,' and ever-smaller subdivisions of asset classes and styles, such as 'growth' and 'value' or smal-cap and large-cap equities.

However, what investors gained in specialism they often lost in portfolio oversight. In particular, each individual manager was simply employed to beat their specific asset class' benchmark over three to five years, irrespective of whether the benchmark itself did extremely well or extremely poorly. Because the allocations to these managers were determined for the long term using equilibrium assumptions, the approach lost the ability to allocate more or less to particular asset classes on account of their prevailing attractiveness (active asset allocation), removing a potential source of uncorrelated excess return. It also assumed that correlations between asset classes were constant. In the event, investors were often left with portfolios of managers who were solely concerned with the performance of each individual sub-component of the portfolio rather than how the portfolio behaved in totality – which, ultimately, is what really matters to a pension fund. For example, should a portfolio have the same allocation of 65% to equities if the equity market is up 40% as if it was down 40% over the last year?

Too often, allocations were made to the 'best' managers (often the best performing over the past three years) who would see a flood of new assets which would, in turn, make it highly unlikely that they could deliver similar returns going forward. Moreover, 'bucketing' of portfolio allocations led pension funds increasingly towards comparisons of managers within a particular asset class, rather than focus on the more pressing question of the impact a manager's inclusion would have on the overall portfolio (from both a risk and return standpoint).

Finally, the costs involved in establishing and maintaining a specialist structure were often overlooked or underappreciated. At the very outset, pension funds were required to undertake many manager searches (typically employing consultants) across each sub-division of the composite benchmark (rather than simply undertaking one balanced manager search). Then it was necessary for the balanced manager to redeem their holdings and for the new managers in specialist structures to purchase their preferred securities, which entailed more costs. Finally, when the inevitable three-year review came around, there was often further turnover of managers incurring more manager search and transaction costs.

More recently, pension funds have re-embraced multi-asset strategies. This has been driven by two key considerations – the demand for 'outcome-oriented' solutions and the desire for managers to be more aligned with pension funds' ultimate goals, particularly in terms of portfolio oversight.

Pension funds have re-embraced multi-asset strategies

The demand for outcome-oriented solutions accelerated following the financial crisis as the flaws of a specialist approach were exposed. In particular, specialist approaches lacked a combination of portfolio oversight (beyond just a monitoring function) and the tools to quickly and efficiently implement changes to the overall scheme's allocations to mitigate significant capital losses. In contrast, multi-asset strategies have the flexibility to quickly respond to changing market dynamics and hedge out market exposures using a wide range of financial instruments. Further, given this flexibility, they are able to target particular outcomes – for example, a given absolute return or income – which more

closely matches the pension fund's given requirements, rather than simply trying to exceed the return of an often arbitrary long-term strategic benchmark. Given that the managers are accountable for the overall performance of the portfolio, oversight is fundamental – in terms of overall asset allocation, the underlying holdings and for all the costs incurred in achieving the portfolio.

To some it may feel that we have gone full circle from the days of the original balanced funds in the 1960s. However, undoubtedly a lot of progress has been made. On the one hand, pension funds have learnt to re-embrace the portfolio oversight that multi-asset managers provide. On the other, the strategies that they allocate to today are substantially different from those of the past.

Multi-asset strategies now seek a much broader level of diversification than in the past, frequently incorporating a wide range of alternative asset classes, alongside equity and fixed income. Moreover, they seek diversification in other ways too. For example, many consciously seek to reduce market exposure in favour of employing strategies that seek to capitalise on relative movements between markets and currencies. They are also much more actively managed and typically free of benchmark constraints. Risk is rarely measured in terms of tracking error and instead tends toward measures of risk more pertinent to a pension fund, such as absolute levels of risk and an awareness of potential drawdown. The mantra is very much to give up some of the upside in an effort to not suffer on the downside. To facilitate this, the tools at the disposal of multi-asset managers are much greater than in the past. This is as much about managers being entrusted by clients to use instruments like futures, forwards, swaps and options, as about financial innovation. Nonetheless, without such instruments, managing for outcomes becomes much more difficult.

The way that asset managers' performance is evaluated is more consistent with what a pension fund should actually care about. That is to say, fewer multi-asset portfolios are managed versus potentially irrelevant long-term strategic benchmarks. Equally, multi-asset managers are no longer hired or fired on the basis of peer comparisons, which are dangerous and drive the wrong incentives. Instead, more focus is placed and, should continue to be placed, on whether or not a manager has achieved the outcome that they set out to meet. Pension funds and multi-asset managers are increasingly in agreement on what the destination is – and ever more focused on the journey to get there.

By Matthew Bance, CFA

More growth on the horizon

Over the last decade assets managed by sovereign institutions have increased fourfold; sovereign institutions, including reserve managers and central banks, currently manage assets worth approximately USD 17 trillion. When a broader definition of sovereign institutions, including public pension funds, is adopted, the total assets managed by this type of investor rises to over USD 29 trillion. By way of comparison, OECD pension funds' and life insurers' assets amounted to nearly USD 22 trillion and USD 24.5 trillion respectively in 2012. The rise of this class of investors has coincided with the rise of emerging markets in the global economy; nearly 70% of currency reserves are in fact managed by emerging market's institutions with China accounting for two-thirds of the total. While the largest sovereign wealth fund (SWF) in the world is actually in an advanced economy (Norway), the majority of the assets managed by SWFs are in the Middle East, China and other emerging economies.

The rapid accumulation of reserves managed by central banks and SWFs has prompted an evolution of how these assets are invested in global markets. Fifteen years ago, central bank reserves were traditionally invested into very liquid and short-dated liquid assets such as government bonds issued by advanced economies. Today, central banks invest into a wide range of asset classes including corporate bonds, emerging market bonds and more recently, equities. The move into equities, in particular, appears to be a bold move according to some, given the fact that central banks are perceived as the holders of a reserve of liquidity. On the other hand, when currency reserves are managed with multiple goals, including capital preservation and liquidity, diversifying a fixed income portfolio into an uncorrelated asset class such as equities appears to be a sensible investment strategy. This is particularly true given the current low returns on fixed income assets and the potential losses arising from the expected normalization in monetary policy and the rise in interest rates.

SWFs, institutions established to diversify reserves more aggressively, are very sophisticated investors, investing in wide range of markets including emerging economies and allocating a substantial share of assets to alternative asset classes such as real estate, private equity and infrastructure. SWFs have also become "direct" investors by taking large stakes in listed or unlisted corporations and sometimes actively influencing the strategy of the institutions where they invest. The increased corporate activism of SWFs is seen with suspicion by some as it is perceived as a renewed form of state capitalism.

The large size and increased activism of sovereign institutions in global markets has not passed unnoticed among investors. This does not only reflect the most obvious impact of central banks' unorthodox monetary policies whose ultimate goal is indeed to impact asset prices and as such are communicated to the investors' community, but it also reflects the less explicit but still relevant impact of the investment policies undertaken by central banks, SWFs and other state-controlled investment vehicles. If, for instance, the Government Pension Fund of Norway with more than USD 800bn under management – estimated to own about 1% of all global stocks and 2% of European stocks – communicates a change in its asset allocation, such an announcement will impact investors' behaviour. By the same token, if the Japanese Government Investment Pension Fund managing over USD 1.3 trillion announced a shift away from fixed income to domestic and international equities – as indeed was the case recently – this is likely to attract other investors to Japanese equities. In the currency markets, data on the currency composition of reserves are closely scrutinized by currency strategists to assess whether central banks are reducing their traditional strong exposure to the USD and other few advanced economies' currencies.

The pace of accumulation in assets managed by sovereign institutions has recently slowed down from the rapid pace experienced over the last two decades. This largely reflects the slowing down in the pace of growth of emerging economies and a reduction in their current account surplus. However, there are reasons to believe that the rise in currency reserves will continue in the future and thus it will continue to fill the coffers of central banks and SWFs. First of all, current account surpluses in oil exporting economies and large Asian exporting economies are likely to persist. Secondly, capital flows to emerging markets – though more volatile over the last few quarters – are likely to remain significant in the future as the asset allocation of investors is steadily adjusted to reflect the increased weight of these countries in the global economy. Last but not least, given the legacy of the 2007-09 financial crisis, policy makers in emerging markets are more likely to continue stockpiling currency reserves to insulate their economies from global financial market volatility.

In 2015 we might see the first signs of the renminbi emerging as a reserve currency

What can we expect from this type of investors in 2015? According to consensus, 2015 might finally be the year when interest rates will start rising from current, historically low, levels. Sovereign investors, central banks in particular, are large holders of fixed income assets and, therefore, they are exposed to substantial interest rate risk. Should interest rates rise faster than expected, they might experience substantial

losses on their portfolios as majority of these institutions adopt mark-to-market accounting practices. We might therefore see, at least for the largest currency reserve holders, a further acceleration in diversification into other asset classes such as equities. Some of the largest central banks might eventually consider other asset classes such as real estate or infrastructure, given their low correlation with fixed income and lower volatility than equity, thus further broadening their investment universe.

SWFs have a relatively high allocation to emerging markets when compared to other institutional investors. The expected rise in US interest rates is likely to have a negative impact on emerging economies' asset classes as already seen in the middle of 2013 when the discussion about tapering in the US triggered a sell off and weakening of their currencies vis a vis the USD. Anecdotal evidence points to the fact that sovereign institutions did not pull back from emerging market assets on that occasion, thus playing a stabilization role during the largely retail driven sell off. It will be interesting to see if this will remain the case as US interest rates increase, also in light of the current slowdown in growth in emerging economies and the uncertainty surrounding China's ability to deal with its debt overhang and smoothly shift to a growth model more focused on domestic consumption.

Finally, in 2015 we might see the first signs of the renminbi (RMB) emerging as a reserve currency. In our latest survey of sovereign investors' investment trends, more than half of respondents said that they already invest or are considering investing in RMB. The growing interest of sovereign institutions for getting more RMB exposure is confirmed by the growing RMB onshore investment quotas granted to sovereign institutions by the Chinese authorities over the last few years. The actual deployment of sovereign assets in onshore RMB markets might well take off in the course of a year.

By Massimiliano Castelli, PhD

Safer abroad

"Better to do a good deed near at home than go far away to burn incense." The pragmatic sentiments of the Chinese proverb are admirable. However, when it comes to investing, going far away from home is the most pragmatic option for many Asian investors. Asset management still applies a one size fits all approach, where the "one size" is the Western best practice based on the structure and behaviour of developed capital markets. Such an approach typically neglects some key factors relevant when investing for an investor in Asia.

Even though there is neither a typical Western investor, nor a typical Asian investor to start with, there are three key common differences when thinking about the task from a local perspective to achieve a performance objective:

1. The local economic situation (in particular inflation)

2. Contrasting the local versus foreign asset, currency and cash market returns in terms of expected return differentials and risk

3. What needs to be done to manage risk in the portfolio and protect it in times of uncertainty

Beating inflation is a different task in Asia. The hurdle rate to keep the real purchasing power is typically much higher in the Asia-Pacific region (except Japan) as inflation is higher than in Europe or the US. When comparing consumer baskets in Asia versus the US for example, typical basics, such as food, have a higher share of consumption and are typically more volatile and higher over longer periods, further increasing the hurdle rate for the Asian consumer. A multi-asset strategy aiming to outperform Asian inflation and achieve real capital growth requires a greater proportion of risk assets such as equity and credit compared to US or European investors, where growth ambitions and inflation are lower. This means that multi-asset portfolio managers in Asia often need to start with a higher average risk in the portfolio compared to the US and European counterpart.

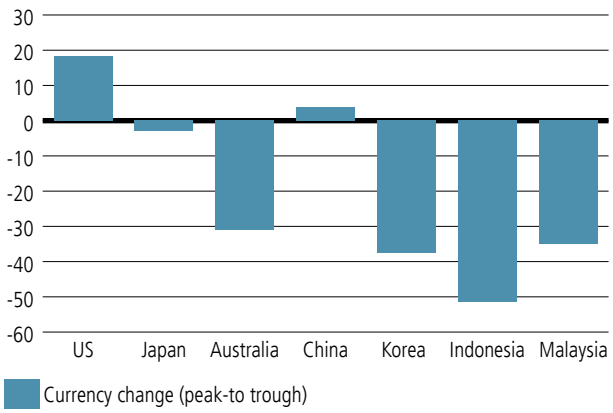
The standard procedure for a Western multi-asset portfolio manager is to de-risk in times of uncertainty into the home currency. Conversely, an Asian portfolio manager should potentially increase foreign currency risk. This is because the home currency of the Western investor typically appreciates, whereas the home currency of the Asian investor depreciates.

Furthermore, the opportunity costs of being tactically in the safe, low risk position is much costlier for the Asian investor than it is for a Western investor. This is because the US dollar cash rate reflects the inflation rate of the US market and not the typically higher inflation rate of an Asian country.

Being invested in US dollar cash then results in more costly underperformance versus the higher domestic inflation rate of the Asian consumer. The Asian investor should reduce the home currency, but then face a higher cost. Therefore, the Asian multi-asset investor should apply a more flexible currency management and be allowed to shift the exposures quickly and actively.

Figure 1: Average peak-to-trough decline, or trough-to-peak rise, of currencies during three financial crises (%)

Asian financial crisis (January 1997-December 1998), TMT crisis (June 1999-June 2003) and Global financial crisis (July 2007-June 2009)



Source: UBS Investment Bank

Adjusting the home bias means something different depending on your starting point. When investing in a non-domestic asset, the Western investor will achieve a better diversified portfolio and take on higher risk, which is compensated with higher expected returns. Adding US and developed market assets typically improves diversification for an Asian investor, but it often comes at the price of lower expected returns with lower risk premia from developed equities, lower credit risk premia and lower carry from foreign cash. To keep the same expected return, the investor would have to increase the overall share of risk assets, whereas the US investors can reduce it.

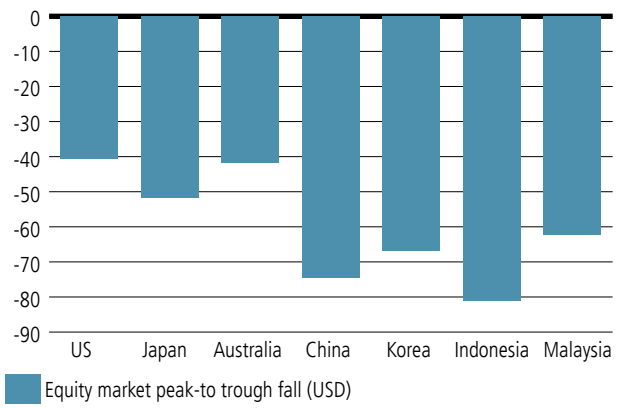
Asian investors require the same tools as other investors, but the tools and concepts need to be applied differently

The mechanics of de-risking the portfolio and avoiding capital losses within equities are again different. The Western portfolio manager should increase home bias, whereas the Asian investor might typically rather decrease home bias. From peak to trough, a US investor lost, on average of the three crises, 41% on the US equity holdings, still better than any of the Asia-Pacific equity markets when measured in US dollars.

When measured in local currency, only Australia had a smaller drawdown. The US investor did fairly well when increasing the home bias in times of crises. However, many investors in Asia would need to look for safety away from home, decrease the home bias and reduce currency hedging. Again, this requires more flexibility by the multi-asset investor to better protect the portfolio in terms of crises.

Figure 2: Average peak-to-trough equity market declines in three financial crises (%)

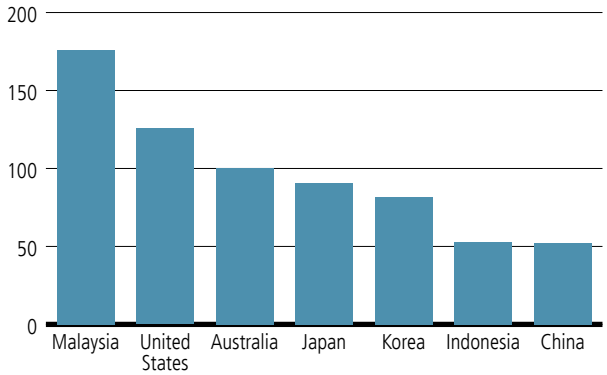
Asian financial crisis (January 1997-December 1998), TMT crisis (June 1999-June 2003) and Global financial crisis (July 2007-June 2009)



Source: UBS Investment Bank

Figure 3 illustrates that the market cap of US listed companies is larger than the US economy whereas large countries like Indonesia and China have less developed equity markets and market caps of about 50% of GDP which signals that that the home market for many Asian investors is less liquid and can therefore hurt a Chinese or Indonesian investor more than a US investor. Furthermore, flexibility increases as futures, options and other hedge instruments are easily accessible in foreign markets. Thus, foreign exposure can be built up more tactically and create additional flexibility in adjusting risk exposures at relatively low costs. This is helpful and makes it possible to employ a more active, flexible approach to portfolio management, which is of higher importance for the Asian investor.

Figure 3: Market capitalization as a percentage of GDP (%)



Source: World Bank, UBS Investment Bank
Note: Latest available monthly market capitalization data used - annual 2013/12 GDP or sum of last four quarterly GDP

In practice, there is no 'Asian investor.' The markets within Asia are by no means homogeneous, and each market requires a tailored approach.

- **Australia:** Foreign assets have typically lower carry as the Australian dollar has positive carry versus the US dollar. The advantage of the Australian dollar can, however, be offset by potential sell-offs of the Australian dollar versus the US dollar in times of crises. Reducing and managing risk for an Australian multi-asset investor means typically hedging foreign currency exposure to earn the carry, and increasing US dollar exposure tactically as a risk mitigating strategy.

- **Japan:** Not having inflation for a very long time might explain why there are barely any investment strategies targeting return above inflation or cash. Diversification into foreign equities, bonds and currency would increase expected returns and further diversify risk, but this has not happened substantially partially due to the regulator's desire to protect local investors through "safer" assets at home. Non-Japanese foreign currency exposures typically earn carry and make foreign holdings attractive. The foreign exchange risk can be systematically hedged or it can be tactically hedged into Japanese yen as a risk mitigating strategy.

A peculiarity of the Japanese market is the combination of its time zone versus the US and European markets – i.e. the first to trade in size on news after US market closure – together with being well developed, highly liquid and having a broad availability of hedging instruments. This makes it highly correlated, but lagging, to US and European markets.

- **China:** Due to its highly restricted market, the key is to expand the investment universe where possible as new instruments become accessible. One important factor to consider when investing abroad is the currently lower cash rates abroad compared to that in the home market in combination with higher inflation rates at home. Foreign investments in US dollars (or other developed currency) clearly improve diversification and mitigate risk in times of crises. However, they are typically negative carry and face the risk of further depreciation versus the renminbi as China seeks to increase the currency convert ability. Under these circumstances, the US dollar exposure is best managed and hedged by the Chinese investor.

- Most other **Asian investors** typically benefit from increased diversification, liquidity and increased safety from investments in non-domestic asset markets. Foreign currencies typically have a lower carry but also typically appreciate in times of crisis. Therefore, increasing non-domestic exposures and allowing broad flexibility to move away from the home currency increases both the return potential and risk management flexibility.

Managing multi-asset portfolios from an Asian perspective requires the same tools as for any other investor, but very often the tools and concepts need to be applied differently. For the Asian investor, reducing home bias and adding assets away from home is an essential technique and tool to manage liquidity risk, and to achieve the desired returns with less investment risk. The potential costs associated of having lower cash rates means that most investors choose a much more active approach, exploiting the increased flexibility in global markets. The approach of an Asian investor should be less rigid, but rather flexible and allow for a distinct and separate management of asset market and currency risks.

As global markets exposures are added, the portfolio becomes more liquid and allows the use of a much broader set of instruments. Thus, even though portfolio managers use the same tools and techniques, investors in Asia-Pacific need to be mindful of the different implications in terms of expected return differentials and risk to achieve their goals.

By Stefan Lecher, CFA, MBA

This article appears in the Asia Finance & Investment Review 2014/15 published by Euromoney Yearbooks. For more information please visit www.euromoneyplc.com/yearbooks

Investing family wealth

Family wealth usually begins with an entrepreneur who works long hours to build his fortune. As the business grows, additional family members become managers and the enterprise becomes a multi-generational company with a mix of professionals and family members making decisions. As the family grows, there is the need to professionalize the managing of the entire wealth to create a trusted environment to ensure long-term wealth preservation or growth commensurate with a certain level of acceptable risk. This is the stage that a family office is established to oversee the investments whereby the individual decision making remains with the wealth owner.

The family office is confronted with the task to manage the assets to fulfill the needs of many different individuals – from conservative to aggressive, from inexperienced to sophisticated. As with institutional investors, such as pension funds and sovereign wealth funds, we are seeing a shift from traditional benchmark-oriented portfolio construction that follows the long-term performance of the markets, towards risk-managed portfolios that seek to deliver tailored investment outcomes as shown in Figure 1.

How can these portfolios be constructed? To explain the concept of outcome-oriented solutions we start with a simple farming analogy. Imagine a farmer who has to decide what crop to plant on his newly plowed acre of land. Let us assume that he considers three choices: potatoes, wheat and ginseng. The three plants have distinct characteristics and outcomes.

For example, ginseng requires between 6 and 8 years to grow but eventually may sell for an incredibly high price depending on prevailing market prices of course. Although market prices for ginseng have been rising steadily due to increased demand from Chinese medicine, over 6 and 8 years many things can change and thus, ginseng would be risky to grow. Furthermore, there is no intermediate yield and ginseng will not sell well ahead of time. If you don't like the rather long wait, it would be better to choose something that can be harvested more frequently.

This is where wheat comes in. Wheat can be harvested and sold once a year, producing a regular income. Furthermore, prices are less likely to move over one year than over 6 to 8 years, and are therefore more predictable. Of course, the harvest is still dependent upon weather conditions and disease control, but in general the farming of wheat is less risky than ginseng.

Lastly, our farmer might decide to plant potatoes – one of the easiest crops to harvest. The simplicity comes from its robust nature. According to the International Potato Center, potatoes can grow almost anywhere from southern Chile to Greenland. Since potatoes are less affected by bad weather, they are the preferred crop if the farmer's primary goal is consistency.

The mood of the trading community can change just as fast as the weather

In the end, it is likely that the farmer will plant more than one crop on his acre. He will allocate the land based on his desired outcomes. For example, he might decide to allocate 40% to potatoes in case it gets stormy, 40% to wheat for a steady income and the remaining 20% to ginseng to take advantage of its high risk and reward characteristics.

If you are an experienced gardener you may have realized the simplifications used in this analogy. However, our intention is not to give you advice on how to become a better gardener, but to convey the idea behind outcome-oriented solutions.

Coming back to our family office, the similarities between farming and investing are undeniable. Both areas are plagued by risk and uncertainty. The mood of the trading community can change just as fast as the weather and – as for farming – investors have to take tradeoffs and decide what they are looking for in a portfolio.

Is it the consistency of the potato, the yield characteristics of wheat or the high potential returns of ginseng?

For some families, we see that they are increasingly seeking the same portfolio attributes (total return, income, growth), and asset managers should take these aspects into question when advising about investments

For families, these outcome-oriented solutions offer a simple and intuitive way to identify and satisfy the various needs of the different family members. For this purpose an extensive range of outcome-based multi-asset capabilities for investors can be used to assemble a portfolio that precisely matches their desired outcome.

Figure 2 summarizes the most prevalent client needs together with possible solutions.

By Drew Welton, MBA, CFP

Figure 1: The three choices

Potato	Wheat	Ginseng
		
Desired outcome Robust returns with few losses, i.e. a limited downside	**Desired outcome** Regular income	**Desired outcome** High returns (no intermediate cash flows necessary)

Figure 2: Investment needs and possible solutions

	Investment needs	Possible solutions
Enhanced Yield	• Enhanced Yield investors are looking for **low risk** and **returns slightly above prevailing cash rates**	• A **well-diversified portfolio** containing cash and fixed income instruments with a **low interest rate sensitivity** (duration) • Flexible investment approach with an unconstrained fixed income capability
Income	• Income seekers require **stable cash flows** to cover recurring cash flow needs such as living expenses, interest payments or various other liabilities. • Fixed income alone may not yield the desired cash flows	• Multi-asset portfolio with an **active and flexible tactical asset allocation** in income-generating asset classes such as investment grade and high yield bonds, REIT's, inflation-linked bonds, high dividend stocks, etc.
Inflation Protection	• **Retaining purchasing power** while generating **real returns** is the investor's main objective	• Multi-asset portfolio is managed to outpace inflation • Includes real assets such as real estate, commodities, infrastructure investments, etc.
Total Return	• Total return investors seek **consistent returns** that are less reliant on favorable market conditions and provide a smoother ride **(less volatility and drawdowns)** than traditional equity and balanced approaches	• Active multi-asset portfolio that is **not constrained** by a benchmark universe in an attempt to manage volatility and deliver more **consistent returns** • **Extended opportunity set** with long and short positions and wider bandwidths
Capital Growth	• Capital growth investors seek **equity like returns** and have a long investment horizon	• Globally diversified multi-asset portfolio with **equity-like returns** and historically **significantly lower risk** • Active portfolio management with high-conviction positions.

The third generation

Sustainable investing has evolved from screening out objectionable investments to a modern approach that can create superior returns. The roots of negative screening, the removal of investments from a portfolio that are seen as ethically objectionable, goes back as far as the 1500s when some church endowments prohibited investments in the slave trade. Later, in the 1920s, "ethical funds" screened out alcohol, tobacco, gaming and other investments that were seen as immoral.

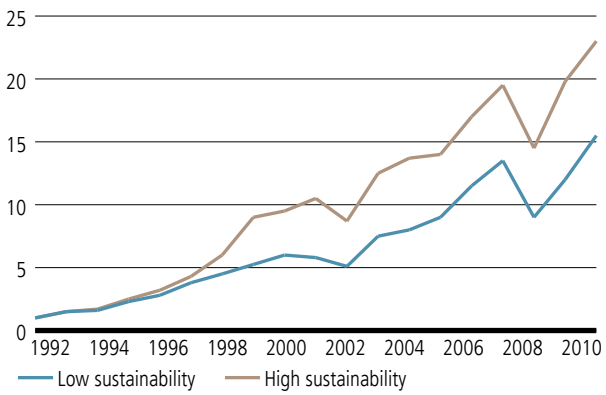
The second generation of sustainable investing that sprang up in the 1980s pivoted from negative screening to a more complete consideration of the investments in the portfolio. This approach was founded on the notion that consideration of a company's Environmental, Social and Governance (ESG) profile could help investors select better business models and at least match, if not exceed, conventional investment processes that are centered on financial analysis. The evolution of ESG analysis launched a new set of ESG ratings services for investors that portfolio managers and analysts can use to help select securities. The Global Initiative for Sustainability Ratings has identified over 120 ratings providers, of which MSCI ESG and Sustainalytics are the two largest. While these ratings services provide some utility and are widely used, academic studies show that the link between rating services and excess returns is not very strong. A significant review sponsored by CalPERS and conducted by Mercer (Responsible Investment's next decade: Developing CalPERS Total Fund process for ESG integration) "concluded that there is no performance penalty from taking ESG factors into account in the investment management process. The consideration of ESG factors can lead to outperformance, especially over the longer term. ESG integration itself is hardly sufficient, however, and manager skill, investment style and time period are equally or more important."

Sustainable investing has moved on from these roots to a modern approach that is fully integrated with a fundamental investment process. The third generation of sustainable investing closely aligns the consideration of sustainability (material non-financial factors) in the investment process with fundamental investing and modern portfolio theory. The first and most important concept in the development of modern sustainable investing is the recognition that all the data and factors that influence the decision-making process must be material. The concept of materiality is very important because it is a fundamental principle of financial reporting. Material information, according to the Sustainability Accounting Standards Board (SASB), is "important to the fair presentation of an entity's financial condition and operational performance." Material sustainability factors (or non-financial factors) are data that help investors better understand the business's operating characteristics and shed light on how the financial results captured in the accounting statements are generated.

Reducing water, energy and other material inputs is consistent with good management practices because it lowers costs and improves margins

The utility of sustainability factors in the investment process is underscored by academic studies that show that companies that score high on these material factors are able to improve their competitive advantage, leading to higher returns on equity and assets over time. In a ground-breaking 2011 working paper for the Harvard Business School, Professors Robert Eccles, Iaonnis Ioannou and George Serafeim investigated the relative performance of "high sustainability" versus "low sustainability" groups of companies. Their findings, shown in Figure 1, indicate that the companies that had superior material and fundamental sustainability characteristics, outperformed the companies that did not by a wide margin and also experienced lower volatility. Other academic studies, including a follow-on study by Professor Eccles, tell a similar story about the potential benefit of including material sustainability data in the investment process.

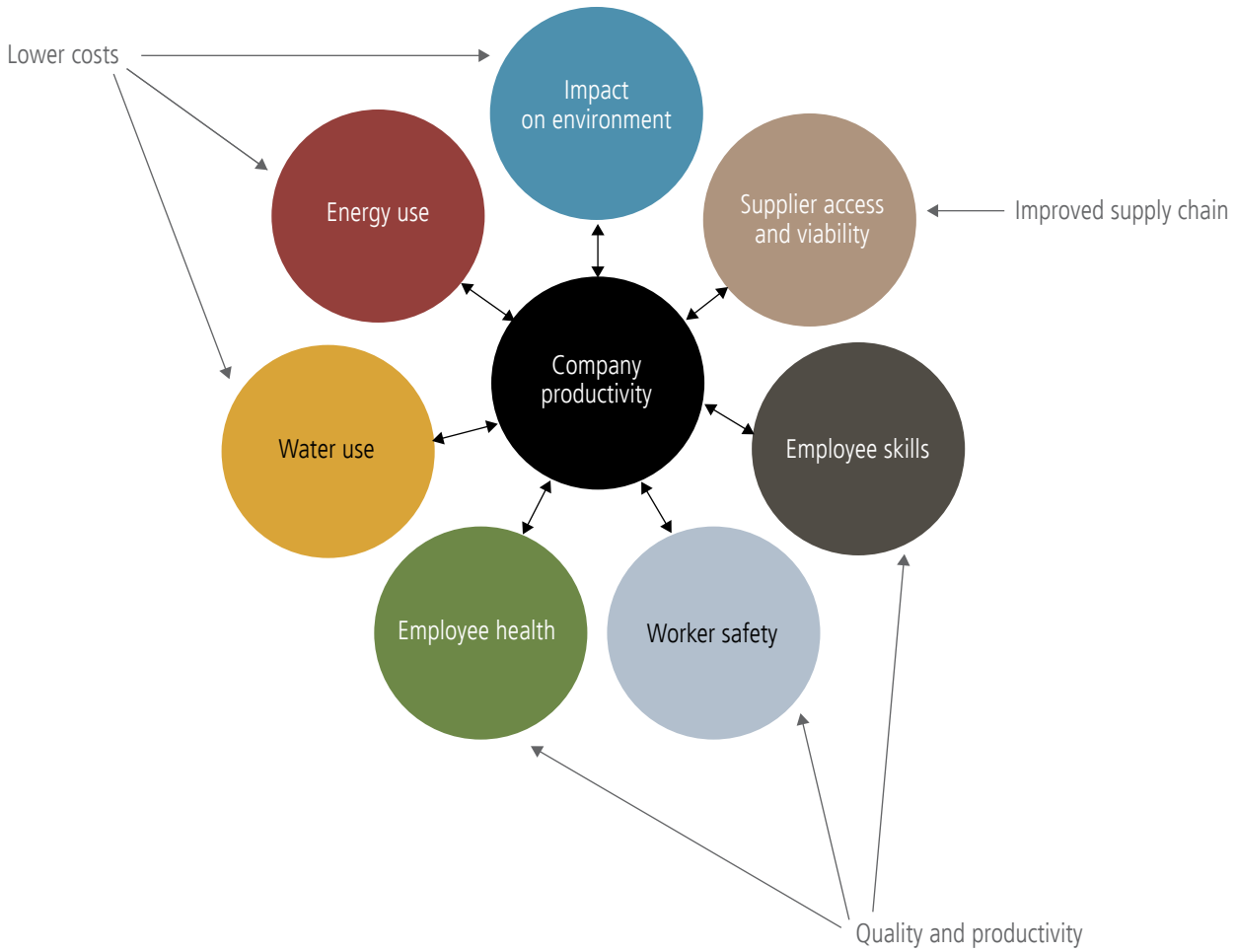
Figure 1: Growth of USD1 invested in an equally weighted portfolio of high-sustainability firms versus low-sustainability firms ($)



Note: The "High Sustainability group," as defined by the study's authors (Harvard Business School 2011, Professors Eccles, Ioannou, Serafeim in "The Impact of a Corporate Culture of Sustainability on Corporate Behavior and Performance") are companies that adopted all or most of certain environmental and social policies, outperforming the "Low Sustainability group," as defined by companies that adopted almost none of these policies. For illustrative purposes only. This does not represent the performance of any particular investment, and does not take into consideration any applicable fees, taxes or expenses.

The link between sustainability, competitive strategy and external value creation was best defined in an influential paper by Professor Michael Porter titled "Creating Shared Value" (HBR Jan/Feb 2011). In this paper, Professor Porter addresses the link between ESG factors, competitive strategy and the ability to create shareholder value. Reducing water, energy and other material inputs is consistent with good management practices because it lowers costs and improves margins. These factors, and others, are illustrated in Figure 2. At the same time, this strategy creates shared value because it enhances a company's public profile and improves its interaction with the external world. Similarly, in today's asset-light, knowledge-intensive companies, creating an environment that attracts and keeps talented employees is not a luxury; it is an essential component of a highly competitive strategy. Safe and efficient factories lower insurance costs, create superior working environments and produce higher-quality defect-free products that are well perceived in the marketplace. Modern companies often outsource many components or even entire products to an external supply chain, which means that strong supervision is necessary to maintain product quality and protect brand equity. Professor Porter addressed the broad purpose of a company by underscoring the fact that businesses need a social license to operate. They must positively interact with the broad economy, the public, regulators and other stakeholders to survive and succeed.

Figure 2: Sustainability, shared value and fundamental investing



Source: Diagram from "Creating Shared Value" article, Michael Porter and Mark Kramer, Harvard Business Review, January 2001

Material fundamental factors that help illuminate whether a company has strong practices with respect to the maintenance of all of its assets; physical, intellectual and reputational are an additive part of a mosaic of data that fundamental investors can use to make superior investment decisions. Rather than detracting from the success of the process and the generation of excess returns, consideration of these factors helps with the identification of business models that are more likely to compete well and generate superior financial results. Coupled with traditional fundamental valuation processes, consideration of sustainable factors adds a layer of quality control that helps sharpen security selection. Professor Porter says that "businesses must reconnect company success with social progress. Shared value is… a new way to achieve economic success. It is not at the margin of what companies do but at the center."

One of the most exciting developments in the field of sustainable investing is the emergence of accounting standards for material non-financial data. We take standards for financial data for granted, but they are essential to the integrity and accuracy of the information that is widely used for making investment decisions. In the US, the Financial Accounting Standards Board is the SEC-empowered regulatory body that presides over financial accounting disclosure.

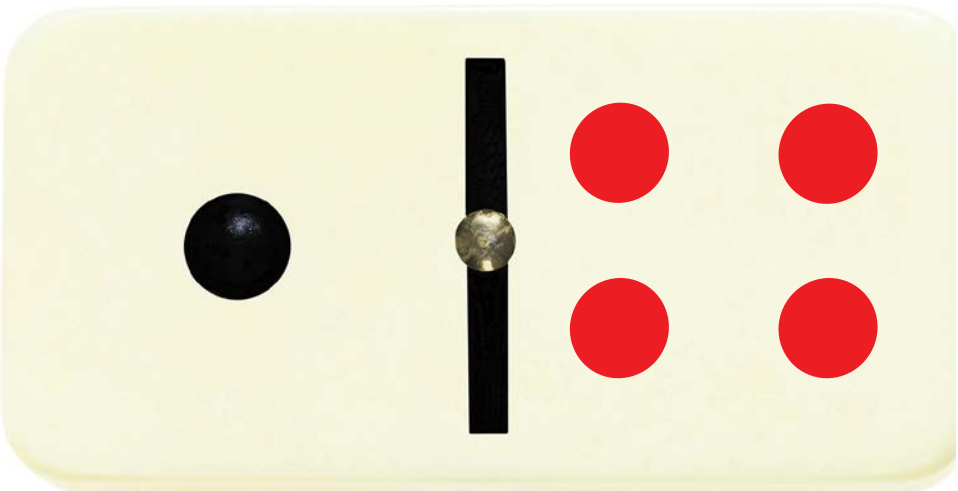
A new entity, the Sustainability Accounting Standards Board (SASB) is "…an independent… non-profit... (whose) mission is to develop and disseminate sustainability accounting standards that help publicly-listed corporations disclose material factors in compliance with SEC requirements." This effort has begun with the identification of a set of industry-specific material factors (the SASB Materiality Map ™) and the release of accounting standards associated with these factors. We believe that these accounting standards will move sustainability data from its current role informing specialized managers into a broad role informing asset owners, analysts and portfolio managers of all styles and disciplines. We see intense interest on the part of pension funds and asset owners in this evolution because it connects ethical and fundamental principles, it offers a route towards full integration in accordance with the Principles for Responsible Investing, and it should lead to improved fundamental analysis and better security selection. SASB has been particularly effective at attracting influential thought leaders. The former Mayor of New York, and founder of Bloomberg L.P., Michael Bloomberg serves as Chairman and former SEC Chairman Mary Schapiro is Vice Chair. UBS Global Asset Management's Head of the Americas, Shawn Lytle, is also a SASB board member.

At UBS Global Asset Management, the Sustainable Investors team has developed a modern, fundamental investment process that takes the SASB Materiality Map ™ as a guide. In conjunction with internal researchers and outside consultants, we have built a database of material, fundamental sustainability indicators that we use to rank companies in conjunction with traditional valuation metrics.

Through this evolution, sustainable investing has become mainstream and it directly competes with investment processes that are purely based on financial analysis. The consideration of material non-financial data is likely to be widespread in the future as accounting standards and disclosure evolve over time. Studies showing that this approach can lead to superior investment results are being recognized. At the same time, portfolios that include sustainability factors take the social concept of Shared Value into consideration, an element that is important to many asset owners including pension funds, foundations, endowments and high-net-worth individuals.

By Bruno Bertocci, MBA and Shari Gilfillan, MBA

Focus on Switzerland



Slight slowdown in growth, no turning point

With low unemployment, little sovereign debt, innovative companies and a functioning credit supplysystem, Switzerland is in an exemplary position compared to its European neighbors. Nevertheless, the Swiss economy was unable to escape the latest slowdown in the European economy unscathed.

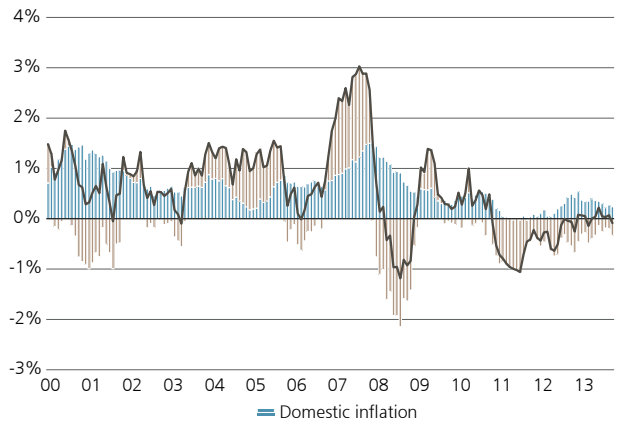
While the US economy has long recovered from crisis and looks set to accelerate further in 2015, Europe is lagging behind by at least two years in the recovery cycle since the euro debt crisis. Given the current economic slowdown, the eurozone should reach its absolute low in quarterly growth rates at the end of 2014. Based on the expected moderate upswing, Europe should still be able to reach growth ofgrow by 1.2 percent in 2015. However, this growth will not be rooted in uniform trends across countries and regions. Germany will continue to flourish, with Greece and Spain showing first signs of having overcome the crisis, while France will remain in a state of stagnation and Italy teeters on the brink of recession.

Consequently, demand for exports is unlikely to become the main driver of Swiss growth in 2015. While we anticipate exports to pick up gradually over the course of the next two years, the strong Swiss franc and high domestic cost structures will remain an obstacle that export-oriented industrial companies will struggle to overcome. Nevertheless, given rather restrained growth in imports, solid tradeing surpluses should contribute to growth.

Interest rates remain important growth driver

Interest rates are likely to remain at their historically low level in future, which should support private consumption and investment as the entire yield curve is directly or indirectly linked to the European Central Bank's monetary policy via the Swiss National Bank's exchange rate floor of EURCHF 1.20. This means that Switzerland's low long-term interest rates not only reflect dampened inflationary expectations in Europe, but also the belief that the European Central Bank (ECB) would be prepared to force interest rates back down via bond purchases or other unconventional instruments if they were to rise too quickly. We expect long-term interest rates to rise moderately over the coming 12 months – yields on 10-year Confederation bonds are likely to rise from the current 0.2 to 0.4 percent to around 0.67 percent by the end of 2015. However, – butwe anticipate short-term interest rates to remain stuck at around zero until at least early 2017.

Fig. 1: Negative inflationary pressure on imported goods slowly abatingabates, Inflation by origin



Source: Reuters EcoWin, UBS

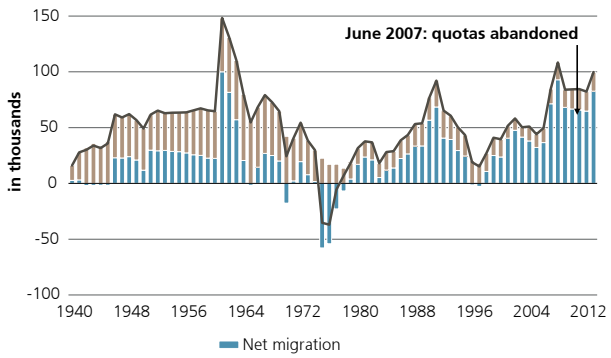
No inflationary pressure in the short term

Despite continued low-level interest rates, we expect consumer prices to only rise slightly in 2015. The gradual weakening of negative inflationary pressure on imported goods should help inflation levels to rise back to slightly positive territory overall (Fig. 1) after consumer price rises have shown slightly negative rates since 2011. Nevertheless, Switzerland is unlikely to see significant inflationary pressure any time soonin the near future.

The moderate inflation of recent years was partly due to high levels of immigration, which prevented salaries from rising even more rapidly despite a strong domestic economy. The level of immigration, which stood at around 1.1 percent of the total population (Fig. 2), also supported the economy. S – since 2007, around two-thirds of Swiss economic growth is can be attributed todown to immigration. alone. This is due in particular to the related increase in consumer demand from consumers.

The introduction of immigration quotas in line with the mass immigration initiative is unlikely to happen before February 2017. This means that immigration can be expected to remain an important driver of Swiss growth over the next quarters.

Fig. 2: High level of immigration supports growth
Change in permanent resident population



Source: BFS, UBS

Change fuels uncertainty

The adoption of the mass immigration initiative has already compromised the planningincreased uncertainty forsecurity of companies in over the course of 2014. , especially since the questions of the precise nature of its The lack of clarity regarding the future implementation of the initiative and the continuation of bilateral agreements remains unanswered. Switzerland may have offered companies an excellent environment in the recent past, but increasingly critical initiatives targeting economic measures point toward changes to come in the political and economical framework. This has caused uncertainty among companies, fewer Fewer companies are choosing to companies to relocate to Switzerland and corporate investment growth, which in in the years prior to 2014 still amounted to more than 2 percent on average, to has dropdropped significantly. We therefore expect structurally lower investment growth at around 1 percent in the coming years. A restrictive implementation of the mass immigration initiative would dampen the trend growth rate to a significantly greater extent. So, dDespite the main drivers of Switzerland's solid growth – low interest and high immigration – remaining a forcein place, the positive development of recent years cannot be seen as a guarantee for future success.

By Veronica Weisser, PhD

About the authors

Matthew Bance, CFA, is a strategist in the GIS team. Before joining GIS, he was a deputy manager in the UK business of UBS Global Asset Management.

Bruno Bertocci, MBA, is the portfolio manager of Sustainable Equities in the Global Equity team. Before joining UBS Global Asset Management, he managed the global equity investment group at Stein Roe & Farnham and he was also the global equity portfolio manager at Rockefeller & Co.

Massimiliano Castelli, PhD, is the head of Global Strategy in the Global Sovereign Markets team. Max has recently published The New Economics of Sovereign Wealth Funds in the Wiley Finance Series. He has been head of governmental affairs and a senior economist at UBS as well as a consultant advising governments and corporations in emerging markets on behalf of international institutions.

Mark Deans, PhD, FRM, is the head of Advisory Services in the GIS Global Risk Solutions team in GIS. Before joining UBS in 2004, he was deputy head of Risk Management at UFJ International.

Vincent Duval, CEFA, CAIA, is a senior portfolio manager in the Asset Allocation and Currency team in GIS. Before joining UBS in 2005, he worked as a fixed income portfolio manager with Lombard Odier Darier Hentsch & Cie and as a fixed income trader with Bank Sarasin.

Stephen Friel is an associate strategist in the GIS team. He first started at UBS in 2010 working for the Portfolio Coordination team in GIS.

Shari Gilfillan, MBA, is an equity strategist in the Sustainable Equities Team and the deputy portfolio manager of the Global Sustainable Portfolio. Previously, Shari was a portfolio manager of the Global Equities team. Before joining UBS in 1996, Shari was an investment associate at Northern Trust.

Robert Guzman, PhD, is the head of the Pension Risk Management team in GIS. Before joining UBS, he worked as an asset management industry expert at the US Securities and Exchange Commission and as the global head of liability-driven investing and derivatives at Aberdeen Asset Management.

Stefan Lecher, CFA, MBA, is the head of the GIS strategist team. Before joining UBS in 2004, he was a consultant at McKinsey and Company. Previously he worked in actuarial, risk management and accounting roles in Zurich Financial Services Group and Generali Insurance.

Fred Lee, CFA, FRM, manages the Quantitative Research & Analysis team in the Multi-Manager Solutions business in GIS. Before joining UBS, he worked as a consultant at MSCI Barra.

Richard Lloyd is the global head of Structured Solutions in GIS. Before joining UBS in 2010, he was head of structured solutions at Insight Investment Management and at Schroder Investment Management.

Neil Olympio, CFA, FIA, CMT, is a senior analyst in Pension Risk Management in GIS. Before joining UBS in 2009, Neil worked for Towers Perrin (now Towers Watson) on various pension related aspects.

Matthew Quaife, CFA, CAIA, is a portfolio manager in GIS. Matthew joined UBS Global Asset Management in 2007 and has worked as an analyst in both Structured Equities and the Strategic Planning team.

Matthew Richards, CFA, is a global strategist in GIS. He has worked as a visiting scholar at The Levy Economics Institute in New York, as a journalist at Financial Times, and in research and sales roles at AllianceBernstein and UBS Investment Bank.

Daniel Rudis, PhD, CAIA, is a strategist in the GIS team. Before joining UBS, Daniel was a visiting scholar at the University of Washington and has also worked as a portfolio manager at LGT Capital Partners.

Drew Welton, MBA, CFP, is head of Family Offices and Ultra High Net Worth Clients. Before joining UBS in 2004, Drew worked with Procter & Gamble, Bank Julius Baer and Credit Suisse, performing marketing communication roles.

Boris Willems is a strategist and portfolio analyst in the GIS team. Before joining UBS in 2012, he worked for HSBC Private Bank in portfolio management and corporate

Veronica Weisser PhD, is the head of Swiss Macro and Sectors analysis in the UBS Chief Investment Office WM, and an expert on the Swiss retirement system. Previously, she worked on European economics and as a financial analyst for emerging markets. finance solutions.

Designer Marie-Agnès Lajonie **Editorial Assistant** Priyanka Vazirani

UBS