SPARROWS
CAPITAL

Investing in a world of zero interest rates

Strategic, evidence-based investing is effectively the real-world manifestation of Modern Portfolio Theory, an investment approach established by Nobel Economic Prize winners. It is supported by robust academic studies and consistent empirical evidence, and forms the basis of Sparrows Capital's investment philosophy.

These studies conclude that a well-constructed, diversified strategic asset allocation provides efficient access to market returns over the long term, and that cash and fixed income investments sit firmly in the lower risk spectrum of such allocation.

However, in today's historically low interest rate environment, many investors are troubled by the thought of exposing a significant portion of their investment portfolio to cash and to fixed income investments. The concept of investing in near zero, or even sub-zero yielding instruments is intuitively unappealing. Viewed in isolation, fixed income outcomes appear to be skewed to the downside.

We approach this issue pragmatically. In all asset classes, the price usually reflects all of the information held by the collective market. So we simply ask the question: **what is the fixed income market telling us?**

What does the theory say?

Let's start with a gentle reminder of the theoretical background.

A central bank change in interest rates directly affects money-market rates and indirectly affects the lending and deposit rates set by banks for their customers. Market expectations of future interest rate changes affect medium and long-term interest rates. Both affect the level of money supply and market expectations of price stability. The impact of rate changes in the economy and on market expectations may also lead to adjustments in inflation, asset prices and exchange rates.

There is also evidence that shows changes in asset prices may influence monetary policy decisions. For instance, higher volatility may delay a guided rate hike, or even lead to a decrease in the central bank official interest rate. And a long rally in the stock market can lead to an increase in rates[1].

The common view is that if a central bank increases (decreases) interest rates it leads to a drop (rise) in both bond prices and equity prices.

In general, central banks can only set short term interest rates, but there will usually be a resultant effect in the same direction across the term interest rate structure. A rise in long term rates will negatively impact bond prices. It will also eat into corporate sales, margin and cash flows and therefore negatively impact equity prices. Stock valuations will also reduce due to higher discount rates all along the yield curve[2]. An analysis over a long period of time shows that the negative impact of rate hikes on bond and equity prices generally seems to hold across countries and over time[3].

However, there are exceptions to this conventional wisdom. In the UK, the real return from bonds has historically been identical after a rate rise or a rate fall (2.5% per year on average)[3]. In fact, the real bill return was even 1.3% per year higher during a tightening cycle compare to an easing cycle. In Japan equities did better and outperformed by 5% the years following a rate rise compare to the years following a rate fall[3]. Counter intuitively, US equities have performed better in tightening cycles than in preceding loosening cycles about 40% of the time[3].

This is evidently contrary to the common wisdom.

Importantly, the academic research available today does not address the interesting and unconventional period since the Global Financial Crisis during which exceptional and unprecedented monetary policy decisions have been implemented.

Furthermore, the research has generally focussed on times of rapid interest rate change, as opposed to the long periods when official interest rates have remained stable. According to research recently published by professors Elroy Dimson, Paul Marsh and Mike Staunton (DMS) in the Credit Suisse Global Investment Returns Yearbook 2016 covering US markets

[1] Rigobon and Sach, 2003, Measuring the response of monetary policy to the stock markets, Quarterly Journal of Economics, 118, 639-669

[2] See Bernanke and Kuttner, 2005, What explains the stock market's reaction to Federal Reserve policy, Journal of Finance, 60, 1221-1257
Kuttner, 2001, Monetary policy surprises and interest rates: evidence from the Fed funds, Journal of Monetary Economics, 47, 523-544
Bredin, Hyde, Niztsche and O'Reilly, 2007, UK stocks returns and the impact of domestic monetary policy shocks. Journal of Business Finance and Accounting 34, 872-888
Bohl, Siklos and Sondermann, 2008, European stock markets and the ECB's monetary policy surprises, Internation Finance, 11, 117-130

[3] Dimson, Marsh and Staunton, 2016, Credit Suisse Research Institute, Global Investment Returns Yearbook

SPARROWS
CAPITAL

over the past 100 years, episodes of Fed funds hike lasted on average 1.9 years, while monetary easing cycles averaged 2.2 years. Yet the last time the Fed raised rates prior to December 2015 was almost 10 years ago. The December 2015 move is unlikely to be repeated with the same frequency as in previous monetary cycles (see below).

Looking beyond traditional asset classes, equity factor premia have also exhibited interesting properties during monetary policy cycles.

One would expect risk factors to exhibit a similar behaviour pattern to that of the equity risk premium (i.e. significantly positive response to easing cycles, and small or negative reaction to tightening). It is indeed the case that equity risk factors (size, value, income and momentum) demonstrate higher premia during easing cycles as compared to tightening cycles, but, notably, almost all of these equity style factors maintain positive and significant risk premia during times when rates are rising[4]. The only notable exception is size, where the risk premium turned negative after a rate rise. This suggests that a factor based asset allocation is less likely to be impacted by the interest rate cycle than an asset based asset allocation.

A brave new world

This leads us to today. The Economist has labelled deflation as “the world’s biggest economic problem”. Following the Global Financial Crisis, governments and central banks have been working hard to avoid the negative effects of deflation. They have deployed an arsenal of policies including fiscal stimulus, expansionary government spending, increased borrowings, interest rate cuts and more recently various forms of quantitative easing.

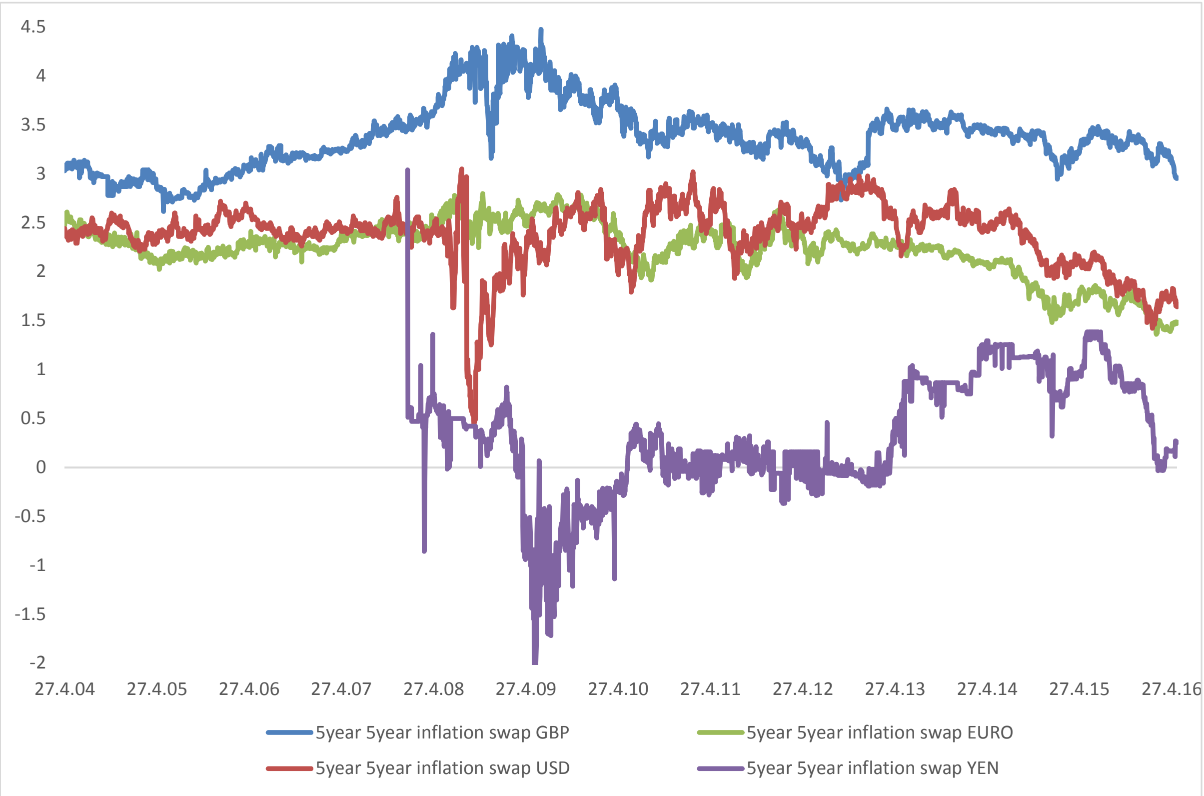
Over the past 7 years, central banks around the globe have attempted, through these measures, to force consumers away from a "saving" mind-set, and into purchasing risky assets or otherwise spending savings in hopes of stimulating inflation. The recent action by the Bank of Japan, which is designed to force banks, and consumers, to spend their cash which will now carry a penalty of -0.1%.

[4] Source Bank of England, Federal Reserve, Global Financial Data, Ken French’s website, Dimson-Marsh-Staunton database

Today's challenge is that many of these policies have already been implemented and yet inflation remains stubbornly elusive. Some 30 of the world's largest economies are currently experiencing inflation rates below their central bank targets – including the US, the Eurozone, China, Japan, India, Germany, France, the UK and Brazil. Europe is already experiencing deflation. Governments may have already reached the limits of how hard they can lean on these policies and how long they can keep them in place.

Chart 1 below exhibits the low level of inflation expectations going forward across the major economic areas. This highlights the challenges the central banks are facing today.

Chart 1: 5Y5Y Inflation swaps



Source: Bloomberg

Sparrows Capital
The Podium
1 Eversholt Street
London, NW1 2DN

Tel: +44 (0)20 3714 4624
info@sparrowscapital.com
www.sparrowscapital.com

Interest rates are already at zero and in fact are negative for $5-$7 trillions of dollars of bonds[5]; fiscal policies have been scaled down both in Europe and in the US as borrowings have spiralled out of control once again and sovereign debt levels are now at record highs. The principal economies have reached their highest level of aggregate debt in history (US, Europe, Japan and China).

To reduce the growing debt service burden, central banks need to maintain interest rates at or below the nominal level of GDP growth for an abnormal period of time, but at the same time growth remains low and is slowing. Actual deflation would increase the 'real' cost of servicing debt, a disastrous scenario governments need to avoid at all costs.

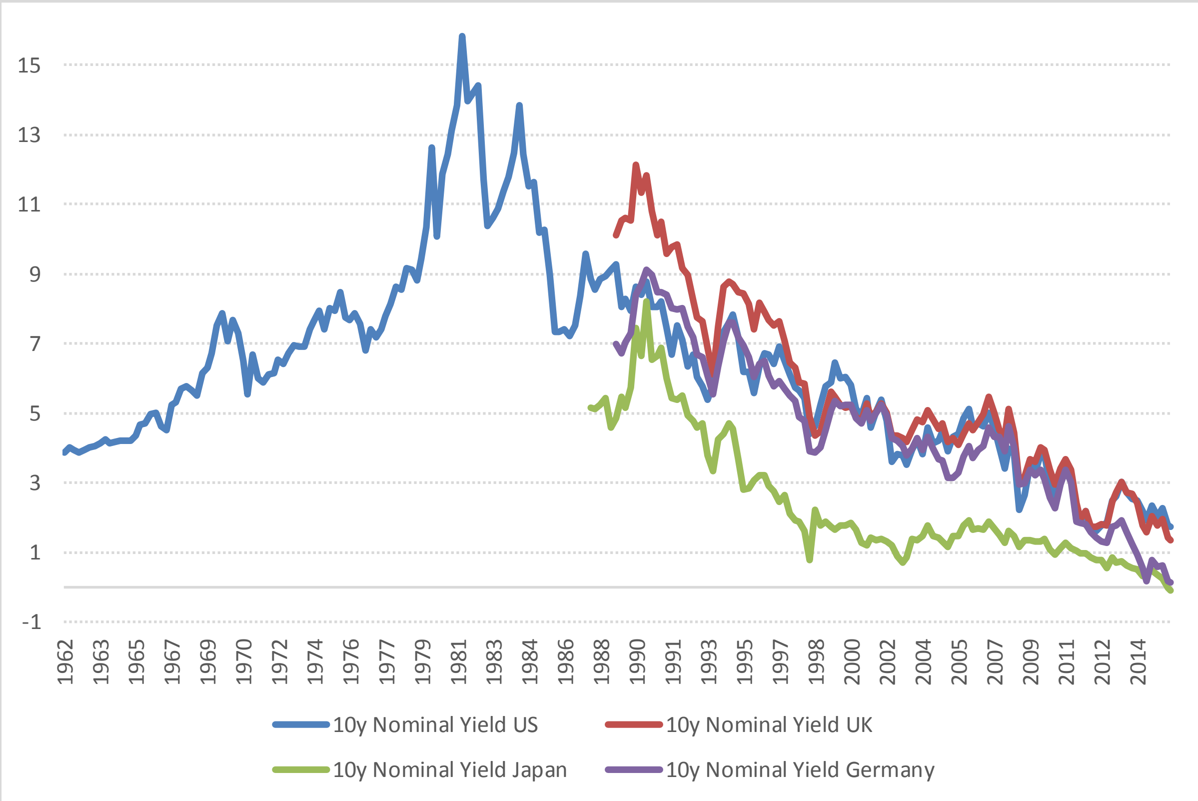
Some Central banks have gone as far as implementing negative official interest rates. Negative rates in Denmark mean that some people are actually receiving mortgage payments from their bank, while certain cantons in Switzerland are asking residents not to make monthly tax payments. In Japan, people have taken to buying home safes to avoid paying interest on their bank deposits. This is unprecedented territory (see Chart 2 below).

[5] Financial Times, JPMorgan, Bridgewater estimates at end of January 2016

Sparrows Capital
The Podium
1 Eversholt Street
London, NW1 2DN

Tel: +44 (0)20 3714 4624
info@sparrowscapital.com
www.sparrowscapital.com

Chart 2: 10 year nominal sovereign bond yield



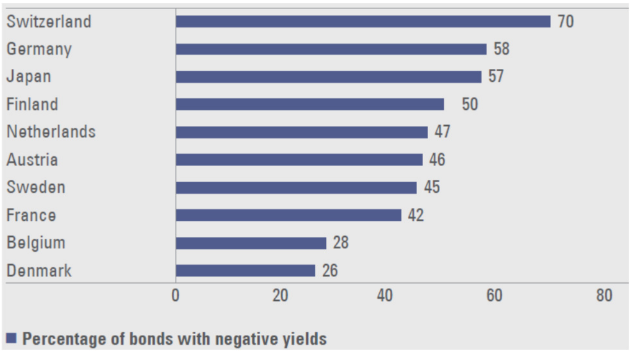
Source: Bloomberg

Negative short term rates are spilling over along the yield curve so that in a number of countries medium term bonds are now trading at negative yields, representing an expected loss to an investor intending to hold the instrument to maturity (see Chart 3 below).

Sparrows Capital
The Podium
1 Eversholt Street
London, NW1 2DN

Tel: +44 (0)20 3714 4624
info@sparrowscapital.com
www.sparrowscapital.com

Chart 3: *Countries with negative bond yields*



Source: Bloomberg, Deutsche Bank research, February 2016

From a historical perspective, long term yields have reached lows not seen since the aftermath of the Great depression and WWII (according to the DMS research). The period of time during which rates have remained low is substantially longer in the current cycle than was the case following these two previous episodes.

At these yield levels one may argue that it is becoming difficult to see how rates could go meaningfully lower, and debts meaningfully higher. Further Quantitative Easing (as recently announced by the ECB) is now widely seen as being ineffective because rates are already so low, implying that central banks may struggle to be effective in combating deflationary forces going forward. The ability of central banks to stimulate economic growth by lowering the cost of debt is coming to an end, and the impact of QE on asset prices is waning. Most importantly, market participants have lost faith: while news of a new round of QE was greeted with cheers, now investors are turning to safe assets after each such policy decision. Governments are now even resorting to competitive currency devaluations as a last ditch way to stimulate growth, again with little tangible success.

What is the fixed income market telling us?

As the Global Financial Crisis evolved, we began to see negative yields in the US in Treasury bills. Through this period, investors were willing to protect their capital by "parking" cash away from significantly larger financial risks - not just stocks, but also deposits in banks that appeared to be at risk of bankruptcy. Following the European Sovereign crisis, Europe began to adopt negative interest rates in 2014. Today around half of all government bonds carry

Sparrows Capital
The Podium
1 Eversholt Street
London, NW1 2DN

Tel: +44 (0)20 3714 4624
info@sparrowscapital.com
www.sparrowscapital.com

SPARROWS
CAPITAL

negative yields, led by Germany, Finland and Switzerland, whose negative yields extend all the way out to the 10-year maturities. At least 13 countries had or still have negative yields at 2-years, and 10 countries show negative rates all the way to the 5-year maturities. This is not only the case with sovereign bonds; ultra-low yields have also been seen for corporate bonds issued by Nestle and Shell last year for instance.

The demand for fixed income instruments has tended to subside each time financial conditions have been seen to stabilize. However, as we ended 2015 and entered 2016, investors have again become nervous in certain countries. The $5 to $7 trillion globally invested in government bonds at negative yields is hardly a negligible amount of money and presents a clear sign that the market is not yet back to "normal".

There are a number of potential messages we can take from market pricing. The most important of these relates to the implied collective fear of economic deterioration and of increasingly abnormal government and central bank policies.

Current market pricing signals underlying concerns over potential significant price reductions in the risk asset classes in a future where deflationary forces persist over the long-term. It suggests that a significant proportion of market participants currently favour minimal returns (or, in the case of negative yield, guaranteed but small losses) offered by sovereign bonds over the risk of larger potential losses from investing in riskier assets.

Cash and short term bonds:

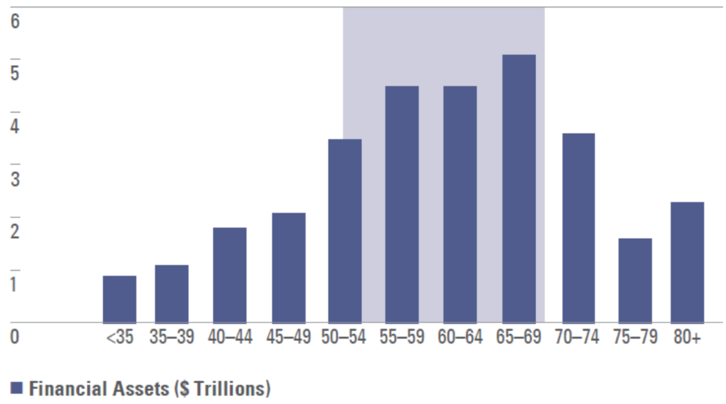
The evidence in the case of Europe's negative interest rate countries (Denmark, Sweden, and Switzerland) is that the more negative rates become, the higher the amount of household savings. In the US, the gross national saving rate has been consistently trending higher since 2009. As the BIS has highlighted, low or negative official rates may in fact be an incentive for consumers to save as retirement income becomes more uncertain.

This is a powerful economic force underpinning the ongoing low growth environment. Since the majority of private assets are held by individuals near or in retirement (see Chart 4 below), and in a pension world of defined contributions, this force is only gaining momentum.

Sparrows Capital
The Podium
1 Eversholt Street
London, NW1 2DN

Tel: +44 (0)20 3714 4624
info@sparrowscapital.com
www.sparrowscapital.com

Chart 4: US Household assets by age



Source: Federal Reserve Survey of Consumer Finances 2013

We are 7 years into the expansion phase of the economic debt cycle — which historically lasts approximately 7 to 9 years – and we are nearing the end of the expansion phase of a long-term debt cycle, which typically lasts about 50 to 75 years[6]. Spending growth financed by a combination of debt and money has its limits and cannot go on forever. It becomes increasingly less viable for central banks to keep pushing up the prices of risky assets with loose monetary policy because there is less incentive, or yield, available to compensate investors for taking the risk on debt. The fact that so much sovereign debt is offering negative returns reflects the market perception that investors are concerned about significant trouble ahead. Holding cash and short term sovereign debt, even at negative yields, remains an appropriate strategy to protect your portfolio.

Long term bonds:

The fact that inflation and inflation expectations have dropped sharply tell a slightly different story on real returns. US 10-year government bonds, despite their low nominal yields, have produced real returns (i.e. after inflation) of about 2.25% in the last few years, for the 30-year the real return has been close to 3%. Historically, the real return of the 10-year has been in the region of 2% per annum over the last 110 years, according to the DMS research. For the overall world bond markets (including both developed and emerging economies),

[6] C. Reinhart, K. Rogoff, "This time is different" A Panoramic View of Eight Centuries of Financial Crises, NBER Working Paper No. 13882, March 2008

Sparrows Capital
The Podium
1 Eversholt Street
London, NW1 2DN

Tel: +44 (0)20 3714 4624
info@sparrowscapital.com
www.sparrowscapital.com

the median 10-year yield is 2.2% so very similar to the US yield. Long duration investors are actually earning a reasonably attractive real yield today, at least from an historical perspective.

In a world where risk premia have fallen across the board, a real return of some 2% per year for sovereign risk remains a rational low risk investment allocation. Previous crises have demonstrated that term yields can still fall further or remain flat for extended periods, presenting substantial opportunity costs for the sceptical investor. In fact, Central bankers have recently discussed even more drastic options such as “helicopter money”: giving away free money directly to consumers to encourage them to spend. If this were to happen, then the notion of yield would disappear entirely.

Long term bonds still have an important role to play in a liquid investment portfolio; that role is to provide low risk, stable income, and to balance the volatility deriving from the riskier equity allocation.

Conclusions:

The world economy is reaching the end of the era of borrowing growth and profits from the future in the form of easy monetary policies. Allianz Chief Economic Adviser Mohamed El-Erian recently commented: "either we validate the financial asset prices and growth faster, or alternatively we will slip into a global recession with financial disorder".

Eight years after the GFC and its related monetary intervention, we are now at a crossroad. The world economies may head back into recession, or may continue on the same low growth path where yields would eventually start to flatten out. Either way, over the next decade Central banks are likely to remain in easing mode. This is what market participants are pricing given their ongoing investment into negative yielding bonds.

We should be humble in our analysis. We are truly in uncharted waters. There is very limited relevant academic research available and even fewer analytical models to help understand the broader economic, financial, political and social implications of our current world, primarily because we have no historical examples to examine. This is even more important to note since our global financial system has been built and is based on the assumption of positive nominal rates.

Sparrows Capital
The Podium
1 Eversholt Street
London, NW1 2DN

Tel: +44 (0)20 3714 4624
info@sparrowscapital.com
www.sparrowscapital.com

From the investors' perspective the choices are simple:

- Listen to what the market is saying, and invest strategically
- Invest strategically, but purchase protection against overall market volatility
- Allocate away from cash and fixed income into higher risk asset classes and accept the associated deflation and asset price risk
- Allocate away from risk assets into cash and accept the associated opportunity cost

Sparrows Capital argue that investing both in the short part of the curve, even at negative yield, and in the longer part of the curve is a rational decision in the current environment. We maintain our core view that that a well-constructed, diversified strategic asset allocation provides efficient access to market returns over the long term, and that cash and fixed income investments sit firmly in the lower risk spectrum of such allocation.

Fahd Rachidy

Sparrows Capital Limited

Sparrows Capital
The Podium
1 Eversholt Street
London, NW1 2DN

Tel: +44 (0)20 3714 4624
info@sparrowscapital.com
www.sparrowscapital.com

Disclaimer

For more information:
+44 20 3714 4624 | www.sparrowscapital.com | info@sparrowscapital.com

Sparrows Capital
The Podium
1 Eversholt Street
London, NW1 2DN

Tel: +44 (0)20 3714 4624
info@sparrowscapital.com
www.sparrowscapital.com