CAMRADATA

Investor Conference

Incorporating change, driving potential

30th November 2017

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Contents

Welcome to: CAMRADATA's Investor Conference 2017

Incorporating change, driving potential

When looking at future predictions, the internet notes that in 2018 we will be spectators of; London's new £15 billion train line 'Crossrail' opening to the public; after success with mice, scientists beginning to test reverse-aging techniques on humans; Polio being mostly eliminated globally; China's economy overtaking the U.S. for the first time; world sales of electric vehicles reaching 5,200,000 and the first 3D printed car being created.

The title of our conference is "Incorporating change, driving potential" and although unfortunately we cannot guarantee to cover all of the exciting areas outlined above, we will, however, aim to answer the looming questions as to how institutional investors can take a long-term perspective and add further value to their portfolios. In an ever changing, and at times shocking world, markets evolve quickly and with great agility. Innovation is embracing advanced technologies such as artificial intelligence and big data with the hope to potentially enhance our investment landscape, but could it hinder?

CAMRADATA's Investor Conference will highlight ideas as to how investors can manage the pressures and constraints they face, while also staying focused on longer term future objectives.

Agenda

09.00	**Registration and coffee**
09.30	**Introduction by CAMRADATA** Sean Thompson, Managing Director
09.50	**M&G Investments** Tristan Hanson - 'When you can't know the future – Multi-asset investing in uncertain times'
10.20	**Brown Advisory** Mick Dillon - 'Capital Allocation and the Value of Behavioural Analysis'
10.50	**Break**
11.20	**PGIM Fixed Income** Gregory Peters - 'Seeking Alpha in Multi-Sector Fixed Income'
11.50	**P-Solve** Ajeet Manjrekar - 'Adapting asset allocation to changing market conditions'
12.20	**Closing remarks**
12.30	**Lunch**

Bios

Company Bio

Brown Advisory is a global, privately owned, independent investment firm with $59bn* AUM. Every employee of Brown Advisory owns an equity interest and since our inception, our mission has remained the same: to build an extraordinary investment firm, to always put our clients first, and to deliver first-class investment performance and the highest level of client service. Our firm's success and that of our colleagues depends entirely on effectively fulfilling this client-centric mission.

Brown Advisory was launched in 1993 as an affiliate of Alex. Brown & Sons, a premier specialty investment bank founded in 1800. In 1998, the current management, investment and advisory teams led a buyout to establish Brown Advisory as it is today.

**As at 31st October 2017*

Mick Dillon

Portfolio Manager

Mick Dillon, CFA, joined Brown Advisory as Global Leaders portfolio manager and has managed the Brown Advisory Global Leaders strategy since launch in May 2015. Previously, Mick was the co-head of Asian equities at HSBC Global Asset Management in Hong Kong.

While at HSBC, he was responsible for managing a range of strategies: quality/dividend, large-cap and small-cap focused pan-Asian equity, as well as a number of country-specific strategies. Before this he managed a global equity long/short fund for HSBC in London and was a global technology equity analyst at Arete Research early in his career.

Bios

Company Bio

M&G Investments is the European asset management arm of Prudential plc, operating in the UK, Europe and Asia. As a trusted partner, our clients' individual needs are at the heart of our business—based on a solid understanding of their risk and return requirements, we develop value-based investment strategies.

We have over 400* investment professionals (including what we believe to be one of Europe's largest credit research teams) and have a successful track record of generating strong and consistent returns. With £281 billion* of assets under management, our portfolio encompasses fixed income, equities, real estate and multi asset strategies.

* As at 30 June 2017

Tristan Hanson

Fund Manager

Tristan Hanson was appointed fund manager of the M&G Global Target Return Fund upon its launch in December 2016. Tristan has over 15 years of experience in asset management and joined M&G in April 2016 from Ashburton Investments, where he started in 2008 and was appointed Head of Asset Allocation with responsibility for global multi-asset funds in 2010.

Prior to this, Tristan worked as a Strategist at JP Morgan Cazenove from 1999 to 2006, covering equities, fixed income and currencies. Tristan holds a Master in Public Administration in International Development from Harvard University's Kennedy School of Government and a BA (Hons) in Economics from Durham University.

He is a Chartered Fellow of the CISI.

Sponsor

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Company Bio

PGIM Fixed Income is a global asset manager offering active solutions across all fixed income markets. The company has offices in Newark, New Jersey, London, Tokyo and Singapore. As of September 30, 2017, the firm has $695 billion of assets under management including $284 billion in institutional assets, $120 billion in retail assets, and $291 billion in proprietary assets. More than 500 institutional asset owners have entrusted PGIM Fixed Income with their assets.

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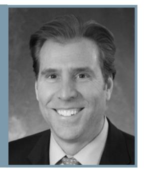

Gregory Peters

Managing Director, Senior Portfolio Manager

Gregory Peters is a Managing Director and senior portfolio manager for Core, Long Government/Credit, Core Plus, Absolute Return, and other multi-sector Fixed Income strategies. Prior to joining PGIM Fixed Income, Mr. Peters was the Chief Global Cross Asset Strategist at Morgan Stanley and responsible for the Firm's macro research and asset allocation strategy. In addition, he was Morgan Stanley's Global Director of Fixed Income & Economic Research and served on the Firm Risk, Investment, Asset Allocation, Global Credit, and Global Fixed Income Operating Committees. Earlier, Mr. Peters worked at Salomon Smith Barney and the Department of U.S. Treasury.

Mr. Peters has been recognized by Institutional Investor magazine for his efforts in macro, fixed income, high yield and investment grade strategies. Mr. Peters was also recently recognized as Business Insider's Top Analysts and Top Analyst's to Watch by CEO World. Mr. Peters earned a BA in Finance from The College of New Jersey and an MBA from Fordham University. He is also a member of the Fixed Income Analyst Society and the Bond Market Association.

Speaker

Bios

Ajeet Manjrekar

Managing Director, Solutions

Ajeet focusses on working with institutions to understand their specific investment and governance needs in order to design innovative solutions to achieve their funding and investment objectives.

As a qualified actuary with extensive experience in both investment consulting and asset management, Ajeet is part of the senior management team with responsibility for the quality and evolution of our client-driven services.

He re-joined us in 2016 having spent the last few years in Deutsche Bank's asset management businesses. Prior to that, he was a lead investment consultant advising several of our defined benefit and defined contribution clients.

Ajeet has a degree in Mathematics from Warwick University.

Sean Thompson

Managing Director

With over 25 years' experience in London's financial services, including investment consultancy, asset management and insurance, Sean brings wide industry knowledge to CAMRADATA. He was previously Managing Director at Meridian Performance Services and has also worked for companies such as AllianceBerstein and City Capital Counselling UK.

When you can’t know the future

Multi-asset investing in uncertain times.

“Not only do we look for patterns where they don’t exist, but the very patterns we identify are driven by a whole set of emotions and biases over which we have far less control than we like to admit”

Written by

Tristan Hanson,
Fund Manager

As human beings, investors confront some very fundamental challenges. This is because the human brain is not wired to deal with uncertainty.

When faced with random variation, we seek to find explanations and patterns. Even worse, as social animals, human beings find it very painful to admit that we do not understand what is going on. As a result, not only do we look for patterns where they don’t exist, but the very patterns we identify are driven by a whole set of emotions and biases over which we have far less control than we like to admit.

Investors have long grappled with these problems, and the insights of behavioural finance are very important to dealing with these challenges. Not only does the study of bias breed a self-awareness that helps us to avoid our own mistakes, but it can also shed light potential opportunities that may be created in periods of market volatility.

Importantly, there are two key lessons which can form the bedrock of a repeatable approach to investing. As is often the case these lessons are simple to articulate but very hard to put into practice:

1. Investors are not served well by an approach based on forecasting. Not only are our forecasts likely to be driven by our own misplaced and biased interpretations of the past, but they can fail to acknowledge the true level of uncertainty about the future.
2. It is important to focus on what we can know, and the importance of valuation is key to this. Economist John Cochrane has set out the role played by valuations as a guide to long term returns, while intuitively we can see that attractive valuations can provide a margin of safety against the unexpected.

Moving to passive exposures is one attempt to address these issues, but for investors with absolute return objectives even the ‘default’ exposure represents an active choice, particularly when it comes to overall asset allocation.

Applying these lessons to recent experience

We have just had a phenomenal period of performance for multi-asset funds and ‘diversified growth’ funds in the Western world. This perhaps far less to do with the strong performance of equity markets and more to do with bonds, most people’s safety assets, performing beyond many investors’ wildest dreams.

These strong fixed income returns have also come with low volatility and insurance-like properties in periods when equity markets have struggled. The result has been that even investors who incorrectly predicted deep long lasting global recessions and poor returns from traditional growth assets have been able to generate strong returns. Even those predicting severe inflation in the West have benefited in absolute terms from exposure to index-linked bonds.

This illustrates how attempts to forecast the future do not necessarily map on to the returns from assets. You can be ‘right for the wrong reasons.’

Looking ahead

The challenge presented by these developments is that the returns outlook today is much lower; there is now less of a margin of safety for the unexpected. This is most obviously true in fixed income, at least until yields rise to provide subsequent returns, but the multi-year dynamic of falling interest rates has had an impact across asset classes.

Moreover, the very fact of lower yields also suggests that we should not expect fixed income to provide the insurance properties they have in the past. There have already been signs in the last few years that bonds have the potential to be a source of risk to the portfolio, and be positively correlated with weakness in other assets rather than a diversifier. Valuation, not past patterns of return should be to the forefront of our minds.

There is no magic bullet to delivering returns without volatility, but assessing correlation patterns is going to be critical in the period ahead. This will require investment approaches that are able avoid the temptations of forecasting and extrapolating past patterns of behaviour, while at the same time being flexible enough to respond to changes in correlation regimes.

“Assessing correlation patterns is going to be critical in the period ahead. This will require investment approaches that are able avoid the temptations of forecasting...”

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Brown Advisory Global Leaders Strategy

An interview with Portfolio Managers Mick Dillon and Bertie Thomson

> Companies stand out by providing an exceptional and unique customer experience, which we believe leads to a high return on invested capital

Written by

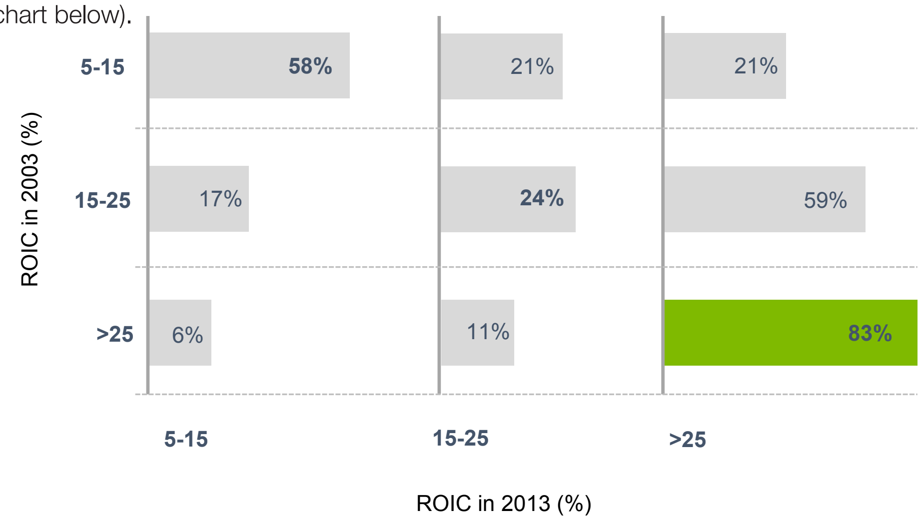
Mick Dillon, Portfolio Manager

AND

Bertie Thomson, Portfolio Manager

A host of macro-economic and political events have impacted global markets since Mick Dillon and Bertie Thomson launched the Brown Advisory Global Leaders strategy in May 2015. However, this duo strives to keep it simple by focusing on what they believe is the constant that cuts through macroeconomic noise: great companies producing shareholder value by delivering a special outcome to their customers.

Mick explains, "Companies stand out by providing an exceptional and unique customer experience, which we believe leads to a high return on invested capital". This is not only his belief, but empirically proven through a McKinsey study which found that companies generating high ROIC are also likely to outperform in the long-term. Companies generating ROIC of 25%+ in 2003 sustained that level a decade later 83 percent of the time (see chart below).



Source: McKinsey & Company. Chart reproduced with permission from McKinsey & Company Inc. as featured in the book, "Valuation: Measuring and Managing the Value of Companies, University Edition." 6th Edition, 2015. ROIC is calculated as % without goodwill. The selected sample size is the S&P500 Index.

Beyond that indicator, the managers look for companies with three other qualities: solid fundamentals, strong leadership and reasonable valuations. This quality bias gives the team conviction in its concentrated portfolio of c.40 holdings.

IN THEIR OWN WORDS...

Question: Can you give us an example of a special customer outcome?

MD: One of my favourites is Taiwan Semiconductor Manufacturing. They make the chips for Apple, Qualcomm, and other leading technology companies who sell most of the smartphones and devices we all use every day. All of their customers say the same thing: Taiwan Semiconductor de-risks technology for them, and at a fraction of the cost. Morris Chang, the company's 86-year-old founding chairman always says, "It's all about the customer."

His company provides a truly exceptional outcome for its customers, in that they do not need to worry about manufacturing investment. They can simply compete on the strength of their designs, which is where companies like Apple want to focus. In this way, the company has set itself apart and you can see it in the results.

The company has grown from $1.5 billion in revenue in 1997 to nearly $30 billion today, is larger than its next 10 competitors put together, and most important to us, produced ROIC in excess of 20% in 9 out of the last 10 years.

Question: The global equity market euphoria year-to-date seems to know no bounds; how do you feel about valuations in this environment?

BT: This question is at the front of many investors' minds and it is clear that volatility is low and aggregate equity market valuations are above historical averages. As a result of the 'hunt for yield', we believe several sectors such as consumer staples, telecoms, utilities, and real estate have become overly stretched. However we think in absolute terms, valuing each investment on its merits. We see value in companies with a high return on invested capital (ROIC) and sustainable growth but these can have low or zero dividend yields. Pricing equities relative to bonds only makes sense if you think bonds are cheap. We have therefore intentionally avoided these areas of the market while some of our peers have embraced them.

MD: I would add that we prefer enterprise value of a company divided by its earnings before interest taxes (EV/EBIT) and free cash flow yield as shorthand valuation approaches rather than price-to-earnings multiples. With this in mind, the Global Leaders strategy has an aggregate projected median EV/EBIT multiple of 16.1x which is a modest premium to its benchmark of 14.0x. Using free cash flow yield, the premium is almost indistinguishable with the strategy trading on a historic median 4.8% yield compared to the global equity market which trades on 4.5%. For this modest premium our investors are getting close to double the sales growth (8.3% vs 4.3%) and more importantly over double (20.5% vs 8.8%) the ROIC of the market.

Mick concludes, "Although we are attuned to the ebbs and flows of the prevailing macroeconomic environment, we are bottom-up stock-pickers looking for special franchises trading at discounts to intrinsic value. Accordingly, we are encouraged by the performance of our holdings and are optimistic for our strategy as we approach our 3-year track record."

> Although we are attuned to the ebbs and flows of the prevailing macroeconomic environment, we are bottom-up stock-pickers looking for special franchises trading at discounts to intrinsic value

Notes

A Look at Absolute Return Fixed Income

For Professional Client Use Only

PGIM FIXED INCOME

"Absolute return strategies can vary widely in terms of eligible sectors and security types, and alpha and risk objectives"

Written by

Michael Collins, CFA,
Senior Portfolio Manager

Although the majority of the developed country government bond rally is likely behind us, we believe fixed income still provides plenty of alpha opportunities for investors. In the following Q&A, Michael Collins, Senior Portfolio Manager, PGIM Fixed Income, discusses different types of absolute return fixed income portfolios and how a well-diversified, duration-constrained portfolio can take advantage of alpha opportunities while avoiding systematic exposure to rising interest rates.

Q) What is an absolute return fixed income strategy?

Absolute return fixed income strategies go by different names: absolute return, unconstrained, real return, strategic alpha, opportunistic, strategic income, non-traditional, and even 'go-anywhere' fixed income.

Regardless of the name, these strategies generally share two traits:

1. They strive to deliver positive absolute returns over a specified period regardless of the direction of interest rates.
2. They are often managed against a cash-based benchmark such as 3-month LIBOR or a country's risk-free rate.

	Traditional Fixed Income	Absolute Return Fixed Income
OBJECTIVE	• Seeks to maximize risk-adjusted excess returns over a market index	• Seeks to maximize risk-adjusted absolute returns over a cash-based benchmark
BENCHMARK	• Market-based	• Cash-based
PERFORMANCE GOAL	• Maximize information ratio *(excess return over benchmark/tracking error)*	• Maximize Sharpe ratio *(excess return over cash/volatility)*
LEVERAGE	• None	• Modest leverage may be utilized
DERIVATIVES	• None to extensive	• Must have capability and can be multiples of the portfolio

Source: PGIM Fixed Income. For Illustrative purposes only

Beyond these two traits, absolute return strategies can vary widely in terms of eligible sectors and security types, and alpha and risk objectives. Asset managers, in large part, each have a different concept of 'absolute return'.

Some may limit exposure to non-investment grade securities or to the credit and 'spread' sectors, some may actively adjust duration or use modest leverage, and others may invest heavily in privately-issued (vs. publicly-issued) securities.

In addition, while traditional strategies have the luxury of underweighting positions versus their benchmarks, many absolute return fixed income strategies tactically 'short' bonds or sectors—often using derivatives—to implement a negative view. Accordingly, these strategies can at times have a negative duration which can benefit investors when interest rates rise.

A key point of note is that absolute return fixed income strategies are not typically hedge funds. These strategies may be levered due to their interest rate hedging techniques, but they are not always economically levered.

Q) How would you categorize the different types of absolute return fixed income strategies?

We view absolute return fixed income strategies as falling into three categories:

1. **A macro-based approach** that expresses top-down views on interest rate, currency, country, and sector exposures.
2. **A concentrated approach**, investing either across the broad fixed income market or specializing in a single sector or region. These portfolios tend to hold larger positions in a fewer number of issues, sectors, currencies, and/or countries.

Source: PGIM Fixed Income. For Illustrative purposes only

3. **A blended macro and micro approach** that uses both top-down and bottom-up investment styles. These portfolios are generally well diversified and invest in the full spectrum of global fixed income sectors, rate markets, and currencies.

A Wide Variety of Approaches

Alpha Target	100 bps	⇔	500 bps
Expected Volatility	1%	⇔	10%
Benchmark	Cash-based	⇔	Market-based
Region	US	⇔	Global
Style	Top-down	⇔	Bottom-up
Duration	-5 Yrs	⇔	8 Yrs
Currency	-100	⇔	100
Sector	Single	⇔	Multi
# of Issuers	10	⇔	300
Position Size	1%	⇔	20%
Credit Leverage	0	⇔	1-2x
Gross Notional Exposure	1x	⇔	5x

Source: PGIM Fixed Income. For illustrative purposes only.

"A blended approach that actively manages duration within a modest, specified band represents the best approach to keeping the alpha associated with fixed income security selection"

In our view, a blended approach that actively manages duration within a modest, specified band represents the best approach to keeping the alpha associated with fixed income security selection while limiting the structural interest rate beta.

Actively managing these portfolios across the fixed income and currency markets in both developed and emerging countries provides the strongest base to consistently generate alpha, respond to changing market conditions, and manage overall portfolio risk.

Low Correlation to Traditional Fixed Income

Another benefit of absolute return fixed income is they tend to have a low correlation to traditional fixed income. In fact, during periods of rising bond yields, an absolute return portfolio with a near zero duration has the potential to post positive returns as the interest rate hedge—created via interest rate futures or swaps—may generate a positive return on a mark-to-market basis.

However, absolute return strategies may be strongly correlated to risk assets. As such, a balanced portfolio of stocks and bonds, with a large portion of the bonds invested in absolute return strategies, may be suboptimal.

Absolute Return Fixed Income Five-Year Correlation

Morningstar Non-Traditional Bond Category vs. Market Indices
Five Years Ending June 30, 2017

Market Index	Correlation to Absolute Return Fixed Income
Bloomberg Barclays U.S. Treasury	**0.02**
Bloomberg Barclays Global Aggregate Index (USD Hedged)	**0.23**
Bloomberg Barclays Global Aggregate Index (Unhedged)	**0.37**
S&P 500 Index	**0.59**
MSCI World Index (Unhedged)	**0.72**

As of June 30, 2017. Source: Historical correlations of Morningstar Non-Traditional Bond Category average versus market indices. Source: Calculated by PGIM Investments using data presented in Morningstar software products. All rights reserved. Used with permission. Correlations are based on monthly returns for the trailing 5-year period. You cannot invest directly in an index.

Q) Why does a duration constrained approach make sense?

The duration constraint, achieved by limiting interest rate risk relative to a near-zero duration cash benchmark (e.g., +/- 2 years), not only reduces interest rate risk, but focuses risk allocations on areas that can provide the greatest value per unit of risk: country, sector, industry, and issue selection. These portfolios are likely to offer higher information ratios and more consistent returns. By comparison, wider duration bands (e.g., +/- 5-8 years) can present challenges, including style drift.

For example, an investor seeking low interest rate risk may find that a portfolio manager has extended the portfolio's duration to intermediate or long duration. Such a drift could heighten interest rate sensitivity precisely at a time when the investor is looking to reduce exposure. Furthermore, strategies with significant *negative* duration can lead to subpar returns in many scenarios.

> "Strategies with significant negative duration can lead to subpar returns in many scenarios"

Q) What is an appropriate alpha target and expected volatility?

Depending on an investor's risk appetite, we believe an alpha target in the range of +100 bps to +500 bps over 3-month LIBOR or a government cash-equivalent rate is reasonable over a full market cycle, assuming the portfolio focuses largely on fixed income. The appropriate target is a function of a client's return objective, risk constraints, and willingness to invest in 'plus' sectors (below investment grade securities, emerging markets debt, and foreign currencies), and to utilize leverage.

Volatility expectations are a defining feature that differentiate the variety of styles employed by asset managers. Naturally, lower return seeking portfolios should experience lower volatility, say in the 1-3% range. More aggressive versions with return expectations of 4-6% above cash may exhibit volatility of 6-10%.

We would expect a Sharpe ratio generally between 0.5 and 1.0, given the expected Sharpe ratios and correlations of the underlying alpha-generating activities. For example, a portfolio with an alpha target of +300 bps over LIBOR and expected Sharpe ratio of 0.67 (or 2/3) would have an expected volatility of 450 bps. The expansion of the opportunity set as alpha targets increase may allow the portfolio's Sharpe ratio to remain consistent, or decline only modestly, even as the risk budget expands.

There is no guarantee these objectives will be achieved.

Q) What are the downside risks?

As in traditional fixed income strategies, the key risks in an absolute return fixed income portfolio are interest rate risk, credit risk, and currency risk. At the portfolio level, risk budgets with thresholds on systematic risk (yield curve, currency, sector, quality) and tail risk (country, industry, issuer, liquidity) can provide a framework for allocating risk and proactive monitoring. Credit exposure must also be actively monitored.

Active risk and sector allocation, including tactical shifts along the credit spread curves, selling bonds and going to cash, and moving up and down an issuer's capital structure are other ways to tactically increase or decrease credit risk. Finally, tail-risk hedging/mitigation strategies that utilize interest rates, currencies, and credit derivatives can allow managers to quickly reduce overall portfolio systematic risk.

No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment.

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