PRESENTED BY THE *Canadian Investment Review* AND THE *Rotman School of Management, University of Toronto*

RISK Management Conference

AUGUST 12–14, 2015

PENSIONS AT RISK: EMERGING DIRECTIONS IN PLAN MANAGEMENT

Featuring:

ANDREW ANG
The art and science of factor investing

WHAT'S THE BEST INFLATION HEDGE?
Commodities are still the best bet

PANEL DISCUSSION
Plan sponsors share their take on new risks to pensions

The Rosseau
JW Marriott Resort and Spa
Muskoka, Ontario

CONTENTS

PENSIONS AT RISK:
THE NEW CHALLENGES FACING PENSION PLANS IN CANADA

The nature of pension risk has changed markedly during the years since we first launched the Risk Management Conference.

And while investment-focused factors like equity markets, inflation and interest rates still top the list of challenges facing plan sponsors, there are a host of new risks and opportunities that have emerged over the last few years. That was the key takeaway from the event, held in Muskoka, Ontario, from August 12 to 14, 2015.

Plan sponsor panelists speaking at our Pensions at Risk panel confirmed that the nature of risk is evolving into new areas, including member-focused issues like the growing number of part-time workers, the aging population and low levels of understanding about the value of the DB pension promise. Together, this makes the job of many plan sponsors more complex and challenging.

On the investment side, the landscape is also shifting as investors seek to find new ways to construct their portfolios. Keynote speaker Andrew Ang addressed the evolving smart beta space, where factors become drivers of returns over the long run. As investors look for new ways to break down and understand market returns, factor investing can provide a good basis for rethinking portfolio construction.

At the same time, keynote speaker Geert Rouwhenhorst talked about how shifting commodities prices shouldn't stop plan sponsors from using them as an inflation hedge. Drawing on historical data, he shows that, even through different market cycles, commodities are still the best way to hedge it.

We've included coverage of all the sessions in this booklet – we hope you find it helpful and useful.

BY SCOT BLYTHE

WHICH FACTOR PREMIUMS WORK BEST: HOW TO BEST USE FACTORS IN PORTFOLIO CONSTRUCTION

Keynote speaker Andrew Ang is author of *Asset Management: A Systematic Approach to Factor Investing*. Building on the work done in his career and in his book, he lead a session on factor investing that touched on how risk factors have evolved and how they're being used. During the conference, we asked Andrew a few questions about the nature of factor premiums and how best to exploit them.

Andrew Ang
AUTHOR

HOW IS FACTOR INVESTING DIFFERENT FROM MORE TRADITIONAL VALUE AND SMALL-CAP TILTS?

Factors are drivers of returns over the long run and investors holding those factors are rewarded with risk premiums. The traditional value and small cap tilts are just two examples of factor risk premiums. There's good academic theory that the value and size premiums will, over the long run, outperform the market. But there are more than just size and value risk premiums. There's a whole library of them, so why limit yourself to just those two?

HOW MANY ARE THERE?

Cam Harvey at Duke has a paper that documents 300+ factors, but many of those I think are ephemeral, many of them are not investable and many of them don't survive transaction costs.

I think there are around five to 10 risk factors. I don't want to put an exact number on them because it really depends on the type of investment. How often you can make decisions, for example. Your ability to trade. And some of them require varying amounts of skill to harvest.

YOU SAY THAT WHAT MATTERS IS NOT ASSET CLASS LABELS BUT BUNDLES OF OVERLAPPING RISK FACTORS. HOW DO YOU OPTIMIZE FACTORS?

They are two separate questions. First, what are the factors driving asset classes or individual securities? Assets are bundles of factor risks. Credit risk manifests in bonds, equities, structured credit, and derivatives. One of the problems that investors encountered in 2008-2009 was precisely that they didn't take into account these factor risks properly and double-counted many of these risks.

Second, in answering how we optimally combine factors, we must ask what factor exposures are right for me? Then, given the factor exposures, how do I express those factor exposures in a menu of different asset classes, or funds, or investment vehicles? I am developing tools to help investors optimally combine these factors. Different types of factors are going to be appropriate for different types of investors.

Ultimately, it depends on the type of investor you are. Not everyone can be a value investor. For every value investor, there has to be a growth investor. You should be a value investor if you go against the trend or can stomach the losses when value does badly—like during the financial crisis or the late 1990s. Not everyone can reap a volatility risk premium. For some people, it's better to buy protection when volatile times come. For every person who sells volatility, there has to be a person on the other side.

WHEN WE'RE TALKING ABOUT FACTORS, INEVITABLY THERE'S A TIME HORIZON INVOLVED. HOW DO WE MATCH THE TIME HORIZON OVER WHICH THE FACTOR EXPRESSES ITS OUTPERFORMANCE TO INVESTOR RISK TOLERANCE?

This is a general problem and it is valid beyond style risk factors. Even for plain-vanilla equities, people too often overestimate their risk tolerance during good times. They get scared and disinvest right after a crash—right at the wrong time. Equities, during the 2000s, had negative returns relative to bonds. You have to stay the course.

We see the same issue for general factors. Factors vary over time, just like the equity risk premium does. Value goes through periods of underperformance for years, like during the late 1990s; and momentum had a huge draw down during the financial crisis. We have to hold for the long run. We have to stay the course. The worst thing an investor new to factor investing can do is to pile on after good performance and give up after bad performance. Recently, factor risk premiums have done well, but the bad times will come. That's the reason there are factor risk premiums; they are a long-term reward for the possibility for suffering losses in the short term.

THE BEST INFLATION HEDGE: WHY COMMODITIES ARE STILL AN IMPORTANT TOOL FOR INVESTORS

As keynote speaker, Geert Rouwhenhorst, Robert B. and Candice J. Haas Professor at the Yale School of Management and Deputy Director for International Financial Center at Yale, lead a session on commodities and inflation, putting both into perspective for long-term investors. During the conference we asked Professor Rouwhenhorst about the historical correlations between inflation and commodities, how to invest in commodities and where they fit in a portfolio.

OVER TWO CENTURIES, HOW CLOSELY HAVE COMMODITIES FOLLOWED INFLATION?

There has been a 60% correlation between annual changes of commodity prices and inflation over 200 years, from 1800 to 2011. There is virtually no correlation between inflation and stocks and bonds.

The 200-year survey is about commodity spot prices, and we have seen similar results from futures prices between 1959 and 2014.

WHAT'S IN THE BASKET OF COMMODITIES?

It's an equal-weighted index and it has more than 100 commodities. Over two centuries, of course, the mix has changed—whale oil has fallen out of demand, for example. An equally weighted index is a better tracker of inflation than individual commodities are. At the same time, the correlation between individual commodities has typically been around 10%, so an index is a diversifier.

HOW DO YOU INVEST IN COMMODITIES: FUTURES OR PRODUCERS?

It's impractical for retail investors to invest in physical commodities. They don't necessarily want to own them – they would have to pay storage costs, for example—so the futures market is the most accessible way.

With companies, you don't just have the risk premium for commodity price volatility, especially when producers hedge the price risk. You also have the business premium —the risk associated with the individual company. So there can be a disconnect between the price of the commodity and the value of the company. They both merit consideration in a diversified portfolio.

But over the past 10 years, commodities have produced a risk premium of about 5.25% over the risk-free rate of T-bills. This is similar to the equity risk premium that people associate with investing in stocks. But, like the equity risk premium, this will vary over time.

Some commentators worry that, as institutional investors turn to commodities through the futures markets, they are artificially inflating prices.

Investor interest in commodities has certainly grown over the past decade. At the same time markets have expanded. If you look at the composition of the open interest in futures markets —that seems to have has remained relatively stable. So markets have grown proportionally. It is not the case that the markets have been flooded by speculators as some people have argued.

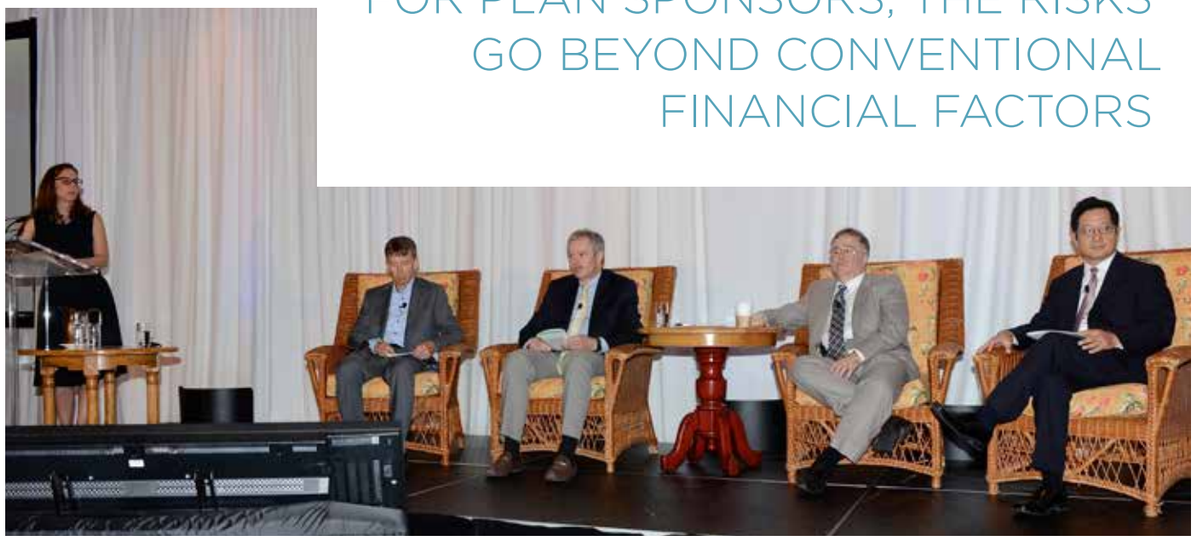
HOW WOULD YOU PUT COMMODITIES IN A PORTFOLIO?

Asset allocation is complex and dependent on a number of assumptions about risk and return. It also really depends on the investor's preference. Futures provide a form of inflation exposure. Some investors may want inflation exposure to hedge against inflation. Over shorter time frames, stocks and bonds are pretty poor inflation hedges—they are negatively correlated with inflation. An equally weighted commodity index, however, is significantly correlated with inflation.

Geert Rouwhenhorst
PROFESSOR

BY SCOT BLYTHE

PENSIONS AT RISK:
FOR PLAN SPONSORS, THE RISKS GO BEYOND CONVENTIONAL FINANCIAL FACTORS



Pension plans today face risks that go well beyond the scope of traditional asset management. The political environment—as retirement confronts many Canadians—looms large, in ways that are positive as well as negative. During the conference, a panel of veteran plan sponsors addressed questions and issues on how drastically the playing field has changed when it comes to managing the risks to pension plans.

"People don't think we're nerds anymore," says Derek Dobson, CEO and plan manager of the CAAT Pension Plan. "The relevance of retirement savings is now higher in the news cycles," which means more political scrutiny. But even for plan members, there are acute expectations.

"Even the thought that we're looking at something (i.e., early retirement rules) sends shivers down people's backs," he adds, making transparency and engagement with plan members imperative.

Conventional financial risks still matter and Dobson enumerates the chief ones: equity market risk, interest-rate risk, and inflation risk.

However, the flavours of those risks have changed, says John Zhang, senior manager, quantitative investment risk, CPPIB. Before 2007, the focus was on market risk; after, credit risk, liquidity risk and operational risk saw light of day and now it's not good enough to have a risk measure that is backward-looking. It has to be forward-looking as well. Hence the rise of stress testing in the enterprise risk management framework.

While inflation is always a risk, Dobson points out just how much wage inflation can upset plan projections. And the pyramid of compensation is changing, at least among his members. New hires have a higher age of entry—which means their end benefit is more expensive to provide. And, as colleges shift from full-time to part-time hires, the contribution base is eroded.

More than that, the low-inflation environment—apart from creating pressure on the solvency side as liabilities balloon out—may have an enduring impact, says Hugh O'Reilly, CEO of OPTrust.

"As discount rates are going inexorably downward," O'Reilly notes, "the way that the actuarial profession has modelled their discount rate is a bit of black box. The discount rates that the black box produces have not gone down as quickly. There is certainly stickiness on the way down." O'Reilly expects that stickiness to repeat as interest rates normalize.

With governments strapped for cash since the financial crisis, and contribution rates flat, pension plans are increasingly in an invidious spotlight, becoming cost centres.

"Politicians are not experts in pensions and there's a lot of misinformation out there. Pension plans need to be proactive in presenting our side of the story in order for there to be a balanced view," says Jim Keohane, CEO of HOOPP, "We need to be actually proactive with politicans. Pensions are not their expertise."

But perhaps the ultimate risk is what Dobson calls "the value vacuum: "if our members—stakeholders—don't understand that the value of what we're providing is higher than the cost, then there's no point going through with it."

PORTFOLIO DIVERSIFICATION AND RISK:
CANADA ON THE GLOBAL STAGE

If you're looking to invest in global real estate, where should you look?

Maybe not here. According to Investment Property Databank (IPD) data, "Canada really stands out in a global context, in terms of cyclical valuations being at an all-time high," said Liz Troni, global property strategist, Aberdeen Asset Management.

Data from 1997 to 2008 show a strong correlation between total returns and market pricing. In other words, overpriced markets consistently underperform, she explained. That's why she advises looking at undervalued or less-valued markets instead.

Using a global property short-term indicator to see how capital values should be performing in the next six to 12 months, Troni noted North American markets are still holding up, but there's likely to be a slowdown. Canada is already experiencing a softening in investor sentiment and a weakening economic environment. In contrast, Europe is picking up quite considerably. "We're seeing plusses in these markets for the first time," she noted.

Right now, it is important for investors to focus on fundamental value analysis—meaning, what do current market prices look like compared to where market valuations are expected to be in the long term. In that context, Europe again stands out, Troni added. European real estate appears fairly valued, supporting an overweight position. She views Europe as a good choice for near-term risk management.

THEMES FOR THE FUTURE

Since "real estate isn't a market that moves quickly," Troni believes in the importance of investing based on themes for the longer term.

"Themes allow investors to actively manage risk and ensure that capital is actively deployed against investments that reflect their convictions," she explained.

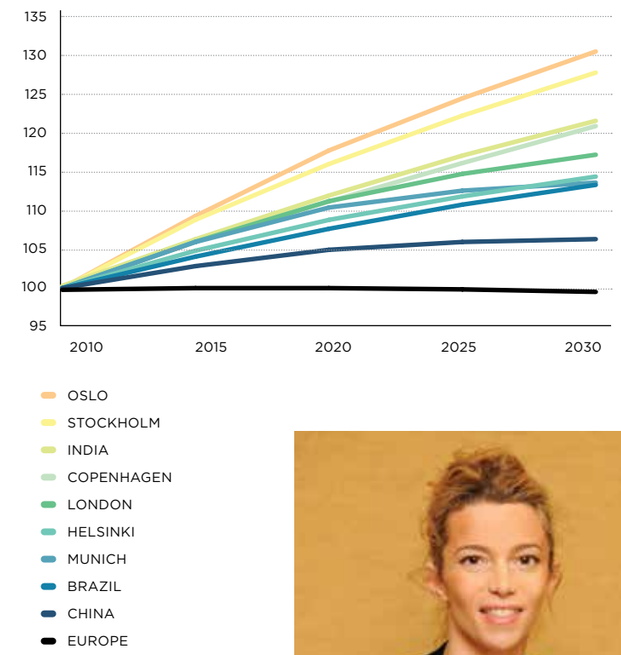
Looking out to 2030, some factors to consider include "winning city" populations (i.e., those with strong population and economic growth, as well as a large, highly educated labour force) and industrial technology (e.g., robots, 3D printing). Both factors can have a significant impact on certain types of real estate strategies.

When investing in "winning cities" such as London and Sydney, "investors have typically favoured offices, but unfortunately, they have been an underperforming sector in the long run," said Troni.

Looking at the theme of industrial technology, "tech is unquestionably a U.S.-led industry," she explained. Other regions of the world are absorbing and responding to technological advancement at different paces, suggesting diversification potential for global investors. "Technology is disruptive. There will be winners and there will be losers," she noted.

Ultimately, themes "help bridge the micro and the macro, and they're an alternative to the relative benchmark framework," Troni added.

10 TOP WINNING CITIES



ABERDEEN ASSET MANAGEMENT

Liz Troni

GLOBAL PROPERTY STRATEGIST

Source: Aberdeen Asset Management, Feb 15.
Extracted from Aberdeen Property Research & Strategy paper 'How to invest in global Winning Cities', 2014.
Forecasts are offered as opinion and are not reflective of potential performance, are not guaranteed and actual events or results may differ materially. For illustrative purposes only.

ARE YOU READY FOR THE NEXT BIG CRASH?

IT'S POSSIBLE TO MANAGE MARKET CRASH RISK – AND INVESTORS SHOULD DO MORE OF IT

Think the global financial crisis was a one-off? Think again. Such crashes are more common than you might imagine.

"The history of markets is pockmarked by crashes," said Seth Weingram, senior vice-president and strategist with Acadian Asset Management.

While the recent financial crisis, Black Monday and the Great Depression may be top of mind for most, there's evidence of debt crises dating back to ancient Mesopotamia, he explained. "While we may not want to admit it, crashes are actually pretty frequent."

And no matter how hard we try—and despite the significant impact of crashes on cumulative equity returns—we're just not very good at preventing them.

HOW TO MANAGE CRASH RISK

"As an equity owner, you already own crash risk," said Weingram. So it's critical to figure out how much you really want in your portfolio and how to manage it.

Typical approaches fall into three categories, he explained.

STANDARD OPERATING PROCEDURE – *Essentially, this means using conventional methods of portfolio diversification but not explicitly managing crash risk. "The majority of asset owners fall into this category," said Weingram.*

ASSET SELECTION – *Some investors explicitly choose holdings, such as low volatility strategies or safe havens like treasuries, to limit the severity of loss in an acute market decline.*

HEDGING – *This strategy involves overlaying an instrument—an out-of-money put, for example—over the portfolio that is specifically designed to offset losses in certain holdings.*

THE COST OF CRASH PROTECTION

If crash risk is so important, why aren't more asset owners actively managing it? Cost is one reason.

"Crash hedges tend to look expensive," Weingram explained. Complexity and capacity are also challenges.

But innovative tools are now available to investors such as options on non-equity ETFs, volatility trading instruments and dedicated tail hedging strategies. These offer "greater ability to customize exposure and greater flexibility in how hedges are financed and funded," he added.

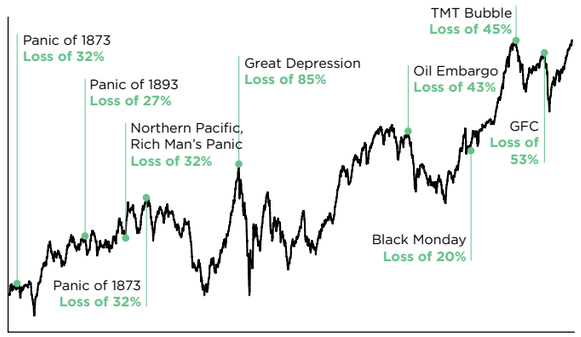
The baseline assumption for investors should be that reducing crash risk means giving up some returns. But Weingram added that there are active approaches, such as managed volatility strategies, that may help improve the risk-return trade-off.

He advised investors to carefully explore the opportunities for risk mitigation, and to be skeptical of simplistic solutions.

"Despite the analytical challenges that crash risk assessment presents, consciously consider and moderate your exposure," Weingram advised.

In short, understanding and managing crash risk may be a difficult task for investors, but it's not something they should ignore.

A BRIEF HISTORY OF U.S. MARKET CRASHES



S&P Composite Stock Price Index: Real Price, 1871 – 2014
Source: Robert Shiller online data, Yale School of Management
For illustrative purposes only.

ACADIAN ASSET MANAGEMENT

Seth Weingram

SENIOR VICE-PRESIDENT, STRATEGIST

GETTING UNDER THE HOOD:

ALTERNATIVES AND ENTERPRISE RISK ANALYSIS

BNY MELLON

Frances Barney

HEAD OF GLOBAL RISK SOLUTIONS CONSULTING – AMERICAS

More pension funds are looking at enterprise risk, but when you're invested in alternatives, it's harder to incorporate these assets into your analysis, explained Frances Barney, head of global risk solutions consulting—Americas, with BNY Mellon.

Tools to gauge enterprise risk include stress testing, sensitivity analysis, value at risk (VAR) and exposures. "VAR got a lot of bad press a while ago because it was blamed for the financial crisis," Barney explained, adding VAR can be dangerous if used badly.

Best practices for pension funds are to look at different definitions of risk and multiple risk models—and "take every conclusion with a grain of salt," she added.

INCORPORATING ALTERNATIVES

But factoring alternative investments—such as private equity, real estate and hedge funds—into enterprise risk analysis is a challenge.

Unlike traditional assets, alternatives don't have daily price movements and offer little liquidity. And you might have to make a lot of assumptions due to insufficient data, noted Barney.

Lack of transparency from hedge fund managers can be an issue. "In practice, they often won't give permission to an investor to see the underlying holdings...it's not really enough to do the kind of ex-ante risk analysis that will lead to meaningful results," Barney explained, adding, "Use the best available detail where you can get it."

The data on alternatives that's available to investors comes at different levels: top level (i.e., line item proxy of the market index representing the best match with the investment); mid-level (e.g., exposure summaries by region/country, sector/industry, etc.) or, ideally, detailed holdings. It's best to get the detailed holdings, said Barney. Although managers might not be willing to disclose them to investors, they often will make holdings available to a risk provider with non-disclosure agreements. In that case, the risk provider may be able to share calculated exposure information with the investor.

It's also important to understand that having different levels of data (e.g., exposures versus actual holdings) can lead to the appearance of different exposures—and, therefore, to a potentially different conclusion about the overall risk of the portfolio, she added.

To get a clearer picture of enterprise risk, Barney advises investors to understand the impact of proxies on risk management analysis, do risk analysis both with and without illiquid assets, and recognize that there are investment structures—e.g., dedicated managed accounts—that offer more transparency and control.

And investors shouldn't be afraid to ask for more data to improve the risk analysis. The best time to do it is when you're first making an allocation to a new alternative manager, since that's when you have the most leverage, Barney explained. "You do have the power. Use your power."

RISK MANAGEMENT AND ALTERNATIVES: 5 THINGS TO CONSIDER

1. *Use best available detail in estimating risk and exposures*
2. *Understand impact of proxies on risk management analysis*
3. *Use investor leverage at time of investment to push for increased transparency*
4. *Consider risk analysis with and without illiquid assets*
5. *Consider investment structures to enable desired transparency and asset control*

WHERE HAVE ALL THE SAFE HAVENS GONE? MANAGING CURRENCY RISK IN A ZERO INTEREST RATE WORLD

After the 2008 financial crisis, investors might feel there are no safe havens left. However, in order to identify safe haven currencies, investors need to know the difference between statistical safe havens and valuation-based safe havens, explained Michael Lewis, vice-president, currency and absolute return, with CIBC Asset Management.

A statistical safe haven is a good place to start, he said. Looking at the correlation between the currency returns (versus the Canadian dollar) and local equities, the Japanese and U.S. currencies are statistical safe havens. The premise of looking at correlations is as simple as "a safe haven is as a safe haven does," Lewis advised.

However, pre- and post-crisis data show that while some currencies remained as statistical safe havens (e.g., the Swiss franc and the South African rand), others changed significantly (e.g., the U.S dollar and the Euro).

So, while statistical relationships can be a starting point to identify safe havens, currency movements do not always play out as expected in practice, he explained. That's why some investors are moving toward valuation-based safe havens, considering valuation and other factors to help predict returns. "If you have a currency that's undervalued—or at least not overvalued—it is more likely to be safe."

HOW TO VALUE CURRENCY

So how can you know if your "safe haven" is truly safe? There are two useful models for currency valuation, said Lewis:

PURCHASING POWER PARITY: *the law of one price, which assumes the cost is the same regardless of location; and*

BALASSA SAMUELSON MODEL: *this model adjusts the cost based on a country's productivity.*

Since the U.S. dollar is particularly important to Canadian investors, careful consideration is required. While "most studies would show very clearly that the U.S. dollar is a safe haven, circumstances can change over time," he argued. For this reason, Lewis advises partly hedging exposure to the U.S. currency, or taking an active approach to hedging.

CIBC ASSET MANAGEMENT

Michael Lewis

VICE-PRESIDENT, CURRENCY AND ABSOLUTE RETURN

When implementing a currency strategy, investors can go passive, active constrained or purely active (unconstrained). For those without a lot of resources to successfully manage a dynamic strategy, passive is a good option, said Lewis. Active constrained and purely active strategies typically involve higher management fees and transaction costs, but the profits may offset some of the negative cash flows related to hedging, he noted.

Furthermore, there's a case to be made for a purely active approach, he added. "There is an argument that currency is a very strong, potentially diversifying source of alpha. As investors increase their exposure outside of Canada, an active approach to currency management can play a meaningful role to help improve the return to risk of their return seeking portfolio."

"There is an argument that currency is a very strong, potentially diversifying source of alpha. As investors increase their exposure outside of Canada, an active approach to currency management can play a meaningful role to help improve the return to risk of their return seeking portfolio.

REALITY CHECK: WHAT ARE REAL ASSETS FOR WHEN IT COMES TO PORTFOLIO CONSTRUCTION?

Real assets—which range from listed securities, to direct real estate and infrastructure, to timberland and farmland—can be a valuable tool in the pension investor's tool kit.

But positioning an allocation to a real asset isn't the same as allocating to stocks or bonds, noted Emmanuel Matte, senior managing director, global head of investment solutions, Manulife Asset Management. "First, publicly available indices on some of those assets classes may not be investable and could mislead the asset allocation process. In addition, correlations are not stable in the real asset world."

Typical investors choose real assets for two reasons, he explained: to reduce risk or to enhance yield. On the risk side, real assets provide an interesting source of stable income which could be of help in interest hedging strategies: for example, in an LDI context. Real assets also provide interesting inflation hedging characteristics.

Finally, in this prolonged low interest rate environment, "everybody's looking for some sort of fixed income substitute...and clearly, real assets are a very appealing asset class to add," said Matte.

Some consultants suggest buying direct real assets such as real estate instead of bonds—which makes sense, since "real estate can easily be seen as a long equity, long bond-like exposure," he noted. The challenge lies with the allocation model. "If you start looking at correlations among real assets, you can get all sorts of results, as they may not be representative of the actual investment that will be made," Matte said.

And even the definition of risk might need an overhaul, he suggested. Traditionally, risk has been associated with volatility, "but in the context of real assets, I'm not 100% sure this is the best way to quantify the risk investors are actually facing," he noted. For instance, due the nature of private placements, it may be more appropriate to separate risk from the two sources of return: income and capital gain.

Matte proposed a different way of looking at risk in the allocation decision by understanding that income and capital gains have different short- and long-term return, interest rate and inflation sensitivities.

"There's big interest right now in moving toward new sources of alpha within an LDI mandate.

HOW TO ALLOCATE TO REAL ASSETS

When determining how much to allocate to any asset class, the typical approach is to model the efficient frontier. But this may not work the same way for real assets, Matte cautioned.

He also suggests building real assets into your LDI strategy. "There's big interest right now in moving toward new sources of alpha within an LDI mandate," he explained. "Many plan sponsors have explored the use of core plus or active LDI as a way to enhance the LDI portfolio yield. Real assets can play a very interesting role in this case because the income component of direct real assets is less impacted by rising interest rates, unlike traditional long bonds.

"In the real asset world, you do have some stable income you can use for matching liabilities," he noted. But if you're not taking this into account in your LDI framework, "you may be understating how much hedging you really have," he added.

MANULIFE ASSET MANAGEMENT

Emmanuel Matte

SENIOR MANAGING DIRECTOR, GLOBAL HEAD OF INVESTMENT SOLUTIONS

DOES LOW VOLATILITY INVESTING WORK?

HOW HIGH-VOLATILITY REALITIES ARE DRIVING THE LOW VOL TREND

Low-volatility stocks have been all the rage recently, but is that interest justified? R. Dino Davis, investment officer and institutional portfolio manager at MFS Investment Management, thinks so.

The challenge for pension investors is first understanding and then predicting volatility. "Predicting volatility is tough," said Davis. "If you were investing 10 years ago, there were very different sectors that were high-vol versus low-vol within the U.S."

Sector—and even regional—volatility rotates over time, he explained. "That's kind of normal. We have volatility; it moves around." When comparing the VIX to the actual 30-day annualized S&P volatility, the VIX has underestimated market shocks, he added.

Since it's so difficult to predict volatility, investors should focus on reacting to it as it moves through sectors, regions and industries, Davis suggested.

HIGH-VOL VERSUS LOW-VOL

High-volatility stocks share certain common behavioural, structural and fundamental characteristics, noted Davis.

Looking at data from the largest 1,000 stocks in the U.S. from January 1979 to December 2014, low-volatility stocks have hurt during up markets.

However, when it comes to high-vol stocks, "in the long run, they disappoint," Dino said. "They definitely disappoint in down markets."

Returns can also vary significantly depending on where we are in the market cycle, he added, noting higher volatility stocks approach premium levels toward the end of a bull market and then "perform abysmally as the market corrects." In contrast, low-volatility stocks have, on average, a 4% better return on equity.

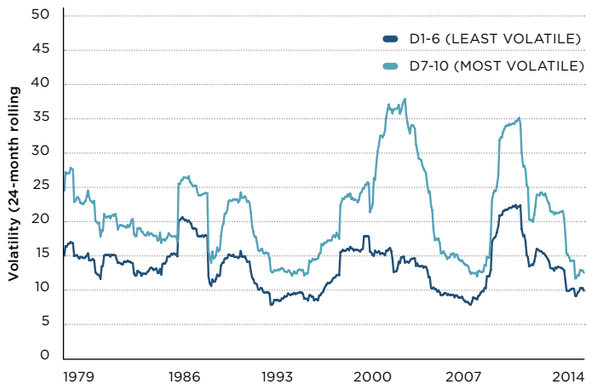
"Stocks that display higher volatility are positioned for lower and less sustainable operating margins over time," he added.

It's a similar story with earnings estimates. "Higher volatility stocks are more representative of speculative growth stocks," Dino said.

In fact, higher volatility U.S. stocks had 10% more dispersion in analysts' forecasts. That figure jumps to 30% outside of the U.S. In other words, higher volatility stocks come with higher growth expectations, but "the consensus is not only weaker but more variable," he explained. They also experienced more trading pressure and had higher levels of short interest.

When you consider all of these factors, "there might be a case that there's something about high-vol that hurts," Dino added.

PERSISTENCE OF VOLATILITY IN THE U.S.



Sources: FactSet. Data as of 31 December 2014.

MFS INVESTMENT MANAGEMENT

R. Dino Davis

INVESTMENT OFFICER AND INSTITUTIONAL PORTFOLIO MANAGER

BEYOND BORDERS AND SECTORS:

REAL ESTATE INVESTORS NEED TO LOOK FOR GROWTH IN THE RIGHT PLACES

Behavioural finance helps explain how investor biases impact investment decisions, and it applies to real estate just as well as other asset classes, noted Neil Cable, head of European real estate, Fidelity Investments (Pyramis Global Advisors).

Typical investor biases include hindsight (making decisions based on what's happened in the past), overconfidence and framing. Framing, in particular, has a major impact. "It really matters how we frame our decisions in the first place, said Cable. "And, quite often, they're so intuitive that we don't actually question them."

FOCUS ON PROPERTIES, NOT SECTORS

Real estate investors often concentrate on sectors, geographies and growth when assessing where to invest. But it's actually the individual performance of properties that tends to deliver outperformance, said Cable.

With Western markets, roughly 70% of long-term returns tends to come from income, while Asian markets are the other way around, he explained.

"Everyone keeps chasing capital growth," Cable noted. "And that's the volatile and unpredictable element."

For example, comparing GDP growth of Ontario with Toronto office returns between 2005 and 2015, investors could have achieved an average return of about 9% if they'd invested in the latter during that period.

"The problem is, your chances of actually getting that average return are close to zero," he said, since you actually have to buy the right buildings.

That's why, instead of looking at particular sectors and geographies, real estate investors should instead be thinking about individual assets and how those risks and returns work together in a portfolio. "Your chances of buying a good building in a bad market—or a bad building in a good market—are very, very high," Cable added. "Geography or sectors are therefore much poorer tools for assessing risk or return than we previously thought."

PREDICTABLE INCOME

When investing in real estate, pension funds need predictable cash flows and confidence in the returns they'll be getting. One way to achieve this is with Monte Carlo simulations—using scenario modeling to predict risk-adjusted cash flow.

FIDELITY INVESTMENTS (PYRAMIS GLOBAL ADVISORS)

Neil Cable

HEAD OF EUROPEAN REAL ESTATE

The goal, Cable said, is to give fund managers as much freedom as they can to find the best properties while also objectively understanding and capturing the risks.

Where should real estate investors start? "You should define your risk appetite first, and then match that with the label (e.g., core, core plus, opportunistic)," Cable advised.

He also believes investors should demand much more from their managers in terms of data transparency, to get the full picture.

IT'S NOT JUST ABOUT LOCATION

Differences in returns per city and year

	LOWEST SPREAD OF RETURNS / YEAR	LARGEST SPREAD OF RETURNS / YEAR
BERLIN	1,649 bp / 2010	4,900 bp / 2007
PARIS	1,955 bp / 2012	4,383 bp / 2006
STOCKHOLM	1,822 bp / 2014	4,563 bp / 2006
CITY OF LONDON	2,864 bp / 2012	6,925 bp / 2014
TORONTO	2,694 bp / 2008	4,070 bp / 2007

Source: MSCI, July 2015. Based on data for 10 years 2005-14. Figures quoted show difference in total returns, in basis points between 5th & 95th percentiles and the year in which the lowest and highest spreads occurred.

WHEN SIZE MATTERS:
RISK MANAGEMENT FOR SMALLER PLANS

Small plans may feel out of the loop when it comes to risk management, assuming they don't have the resources to do it properly. But "increasing asset size isn't necessarily related to improved risk management practices," said Tom Lappalainen, director, strategic advice, Russell Investments Canada.

There is often a misunderstanding as to what true risk management is, he explained. In many circumstances, a peer relative focus, improperly applied concepts of risk and inadequate assessment of actual contributions to portfolio risk lead to ineffective decision making. The combination of peer group comparisons and behaviour-driven risk management decision-making can lead to "making exactly the wrong decision at exactly the wrong time."

Best practices in risk management from larger plans include governance, alignment with enterprise risk, and having an ongoing total portfolio and risk management process. "The risk in a pension plan has to be reflective of the risk the enterprise can bear," he said.

Larger plans do have some advantages, including access to diversifying asset classes (e.g., alternatives), diversification within asset classes and the ability to manage risk across a more complex portfolio. "The challenge arises if a smaller plan looks at these things and says, 'There isn't anything they can do at their scale'," Lappalainen added.

RISK MANAGEMENT, SMALL-PLAN STYLE

When deciding how to approach risk, Lappalainen identified some fundamental questions that smaller plans need to address to move forward on risk management:

1. *Do you have the necessary expertise to make the required decisions?*
2. *How well defined are your roles, responsibilities and accountabilities?*
3. *Do your resources match your investment ambitions?*
4. *How effective is your oversight?*

Smaller plans need to approach risk in a more focused and comprehensive manner, said Lappalainen, looking at enterprise risk management, incorporating surplus volatility, and using risk stress testing and scenario analysis.

RUSSELL INVESTMENTS

Tom Lappalainen

DIRECTOR, STRATEGIC ADVICE

Best practices for smaller plans include risk monitoring (know what you own); risk hedging strategy (know where you want to go); risk hedging execution (know how to get there); and risk reporting (know how you did). However, "there isn't a single risk management solution to fit all smaller plans; each plan has different circumstances to determine which risks are most important to them," Lappalainen added.

For a smaller plan that needs to revisit its risk management practices, he advises identifying the level of risk the enterprise can manage in dollar terms, knowing the risks to which the plan is exposed, identifying impediments to managing each of those risks, and reviewing how well their strategic partnerships help them actually manage risk.

"In doing this, risk should become something that is defined and managed more effectively," stressed Lappalainen.

Smaller plans do have a choice when it comes to improving risk management. The only real challenge, he concluded, is whether they elect to explore a different approach.

RISK MANAGEMENT BEST PRACTICES

FUTURE IMPERFECT:
THE PITFALLS OF FORECASTING RETURNS

Investors rely on forecasting to help them make investment decisions. But "many of the metrics that investors use to predict returns have been shown to have very poor predictive powers," said Remi Ajewole, multi-asset fund manager with Schroders.

She argued that it's challenging to use valuations as a signal for short-term returns. "It's an opinion, not a fact...you're prone to forecast error," she noted. Also, the distribution of short-term versus long-term returns varies over time.

"What we have to do is take a step back and revisit the fundamental case for investing...the risk/return tradeoff," Ajewole said. But this is difficult since, of course, one can't know in advance what the risks are going to be.

"The reality is that when you invest in riskier assets, you expect to earn a higher return. But you're exposing yourself to a wider range of return outcomes," she explained.

RETHINKING PORTFOLIO CONSTRUCTION

Does this mean investors are wrong to try to forecast a single return estimate? "There are a variety of outcomes, so why should we limit ourselves to just one?" Ajewole asked.

If we agree it's difficult to forecast returns, then we really need to think about risk tolerance when constructing portfolios, she said. For example, if you're willing to accept more risk, are you also willing to expose your portfolio to higher levels of forecasting error?

"It's about considering how confident you are in your ability to forecast returns," Ajewole explained. If you don't want the risk of forecasting error, you might want to consider techniques that aren't so sensitive to it, she suggested.

What's the alternative? Rather than trying to determine what the actual returns will be, Ajewole proposes focusing on whether they will be positive, negative or neutral. "If you focus on direction, the odds are in your favour."

Instead of trying to gauge expected returns, she suggests using asset class ranks (1 being most favoured, 4 being least favoured). Then, use your portfolio construction tool to maximize these ranks and make your portfolio construction more scientific.

"It allows you to move away from relying on a point estimate," she explained. "It releases you from being so sensitive to forecast error."

Ajewole also advises stress testing—determining how much your plan can stand to lose—and dividing the portfolio into two blocks: core assets (the "good" portfolio) and hedges (the "bad" portfolio). Then optimize both blocks.

"We need to think in terms of multi-dimensional space," she added. "And when you think that way, it opens up the universe for you."

SCHRODERS

Remi Ajewole

MULTI-ASSET FUND MANAGER

> *What we have to do is take a step back and revisit the fundamental case for investing...the risk/return tradeoff, ...The reality is that when you invest in riskier assets, you expect to earn a higher return. But you're exposing yourself to a wider range of return outcomes.*

WANT TO SLEEP AT NIGHT?

INVESTING LIKE AN INSURER PUTS PLAN SPONSORS' MINDS AT EASE

How can pension plans avoid the volatility of market events such as 2008? Invest like an insurer, advised Heather Wolfe, managing director, client relationships, and Steve Morris, managing director, liability-driven investments, Sun Life Financial.

Morris outlined the three golden rules of the life insurance investing model:

1 *Don't make calls on interest rates.*
2 *Take carefully curated credit risk.*
3 *Harvest illiquidity premiums.*

MANAGE INTEREST RATE RISK

To effectively mitigate interest rate risk, "liability-driven investing (LDI) is core to our business," said Morris. This means aligning assets to liabilities and monitoring movements daily.

Insurers view interest rates as an "unrewarded risk," he explained, meaning that more risk is not expected to generate more returns. "The objective is to create a portfolio that aligns the assets and liabilities, and trade up into credit assets that can increase your yield."

INVEST IN INVESTMENT-GRADE CREDIT ASSETS

Doing this well requires a dedicated credit research team. "The ability to know when to get out of credit is really a strong feature," Morris added.

BENEFIT FROM ILLIQUIDITY

Investing in private fixed income offers "superior yield with lower risk," said Morris.

Private assets provide both diversification and returns. "It's a good risk-adjusted asset class," he noted. But to make good investments in this area, you need specialists across a range of disciplines—credit analysts, lawyers, engineers, etc.—to make sure you know what you're investing in, Morris added.

HOW PENSION PLANS CAN LEVERAGE INSURERS' GOLDEN RULES

For pension funds, managing volatility is key, said Wolfe. She offered three tips on how investing like an insurer can help:

1 ***Don't forecast interest rates.*** *Instead, pension funds should increase their allocation to fixed income, align the duration of fixed income assets to the duration of liabilities, and align key rate durations to protect against non-parallel shifts.*
2 ***Use credit spread assets for better matching.*** *This means increasing the allocation to credit spread assets to match accounting or solvency liabilities.*
3 ***Enhance yields using private assets.*** *This reduces the portfolio's overall risk, due to its diversification benefits, and also increases yield. "It's kind of like having your cake and eating it too," said Wolfe.*

What's more, you don't have to increase your fixed income allocation to take advantage of insurers' risk management strategies, she added. You can make your current fixed income portfolio work harder by increasing your allocation to corporate bonds, adding private asset classes like private fixed income and commercial mortgages.

SUN LIFE FINANCIAL

Steve Morris

MANAGING DIRECTOR, LIABILITY-DRIVEN INVESTMENTS

SUN LIFE FINANCIAL

Heather Wolfe

MANAGING DIRECTOR, CLIENT RELATIONSHIPS

BUILDING A BETTER MATRIX:

WHY A DISTORTION EFFECT IS A BETTER WAY TO CAPTURE RISK

Global macro investors determine the long-term fundamental value of stocks, bonds and currencies, according to Renato Staub, senior risk capital analyst, dynamic allocation strategies, William Blair. "By 'long-term' we are looking 10 to 30 years into the future. But, how does that help you invest your portfolio today?" he asked.

Staub explained that investors are very sensitive to the swings in the prices of markets and currencies on a short-term basis. However, plan sponsors also have benefits to pay and spending targets to meet in a one- to seven-year timeframe that can't wait for a portfolio to move toward the 10- to 30-year trend line of fundamental valuation.

To illustrate his point, Staub used the "WABAC" machine invented by Mr. Peabody in the Rocky and Bullwinkle cartoons from the 1960s. The machine allows Mr. Peabody's boy, Sherman, to travel back in time to meet Cleopatra, Napoleon, King Arthur and others. However, once they arrived in the past, they found they could not interact with the people and events. So, Mr. Peabody adjusted the WABAC Machine to make it into a "should-have-been" machine.

As Staub explained, this a "distortion effect" that makes events anachronistic and causes people to act out of character, thus making it perfectly relevant to Mr. Peabody's boy Sherman to have fun and productive interactions with the past.

> *"Global macro investors determine the long-term fundamental value of stocks, bonds and currencies...By "long-term" we are looking 10 to 30 years into the future. But, how does that help you invest your portfolio today?*

WILLIAM BLAIR

Renato Staub

SENIOR RISK CAPITAL ANALYST, DYNAMIC ALLOCATION STRATEGIES

THE DISTORTION EFFECT

Staub's most recent research is like the WABAC machine because it places risk and return expectations into a multi-layer covariance matrix, which Staub calls the "equilibrium (long-term) matrix." "To make it relevant for today's portfolios, we add a 'distortion effect' using macro themes resulting in an outlook (short-term) matrix," he explained. The outlook matrix is used to look for current price discrepancies in stocks, bonds and currencies that may move toward fundamental value in the near term.

However, while a matrix approach is robust, it cannot change easily with recent events, Staub explained. "Therefore, we use a bevy of current macro themes like 'commodity super cycle' or 'European growth' to distort the equilibrium matrix and make it relevant as an outlook matrix.

In this case, the themes are the drivers of the distortion. The themes are represented as portfolios with betas that can be scaled down for intensity and direction depending on current events, concluded Staub.

2015 RISK MANAGEMENT CONFERENCE

This year's conference provided an opportunity for Canada's top plan sponsors to network, and discuss issues in the risk management space.

THANK YOU

TO THE CORPORATE SPONSORS THAT MADE
THE 2015 RISK MANAGEMENT CONFERENCE POSSIBLE

KEYNOTE SPEAKER SPONSOR

ACADEMIC SPONSOR