

POINT OF VIEW

GLOBAL INVESTMENT SOLUTIONS FROM NORTHERN TRUST

Spring 2010

MANAGING LIQUIDITY IN THE PRIVATE EQUITY MARKET

Investors look to better understand
capital calls, distributions

BRINGING DB DISCIPLINE TO DC INVESTING

Extended asset classes
within target date funds
can benefit investors

SCRUTINIZING THE FIXED-INCOME LANDSCAPE

Insights on changes within
the global fixed-income markets



Northern Trust

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HOW AND WHERE TO TAKE ON RISK IN A DIVERSIFIED PORTFOLIO

BY ROBERT BROWNE, CFA

The recent crisis of confidence in Greece and the subsequent sharp volatility of the country's government bond prices remind me yet again of one of my favorite truisms from the insurance industry: There is no such thing as a bad risk; there is only bad premium.

I wonder how many bond investors remembered this when they recently participated in an 8 billion euro new debt the Greek government issued in January. Initially, the deal was viewed as a success, but just two days later, investors had a change of mind as the realization of certain ugly facts took hold: a 12.7% fiscal deficit in 2010 and total debt to GDP rising to 135% in 2011. The newly issued five-year Greek government bond has been bouncing up and down in a five-point range as investors speculate back and forth on the prospects of a bail-out. That's a lot of volatility for an intermediate investment grade bond, and I wonder if investors now feel the yield premium was worth the risk.

The intention of this commentary is not to discuss the woes of the Greek government or even its implications for the capital markets. Rather, it is to discuss how and where we should take on risk in a diversified portfolio. More precisely, I would like to talk about the role of each asset class.

The Role of Assets

There are four roles an asset can play in a portfolio: It can be a source of ready liquidity; generate reliable, high quality income; be a highly dependable store of value; or be a source of long-term capital return. It is the rare asset class that serves all four purposes very well; in fact, I cannot think of one.

Prior to the financial crisis, investors of all types were focused on "risk-adjusted return" as the primary goal for nearly all asset classes. What investors didn't realize, or simply forgot, was that in practice risk-adjusted return is a concept that relates to the total portfolio and is not one easily applied to individual asset classes or single securities.

Post-crisis Re-evaluation

As investors review their strategic asset allocations in the wake of all that has happened in the past few years, they should evaluate multiple portfolio outcomes over varying horizons and a wide range of scenarios. They should then review their tolerance for changes in portfolio liquidity, capital preservation, capital return opportunities and income stream in these scenarios. Designing asset class investment guidelines around the priority of these four objectives is the next step from an investment policy perspective.

The next time investment grade portfolio managers buy Greek bonds, they may want to check their guidelines with regard to liquidity and capital preservation objectives. ♦



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MANAGING LIQUIDITY IN THE PRIVATE EQUITY MARKET

Investors look to better understand capital calls and distributions.



In recent years, the only thing seemingly predictable about private equity investments is their lack of predictability. Private equity investors accept that the timing of both the funding of their investments, as well as the distributions of any returns, is difficult to forecast and largely out of their control. Yet even

the most knowledgeable investors still seek better ways to understand the likely behavior of their holdings of these long-term obligations.

Private equity partnerships differ from other funds or pooled investments in that investors commit an amount of money to the private equity fund, but they don't pay that

money into the fund until the manager/general partner has found a company in which to invest.

“These capital calls from the manager to the investor occur periodically during the first several years of a fund’s life,” says Bob Morgan, director of private equity at Northern Trust, “but not on a fixed schedule and typically with little advance warning.” For any given partnership, the distributions of investment returns are not expected for a few more years. “Payouts generally don’t occur until the companies within the fund are exited through a sale to another investor or by going public,” Morgan adds.

“The timing of these ‘exit strategies’ depends on a range of factors, such as the vagaries of the markets for public offerings and acquisitions,” says Raj Vora, vice president of private equity with Northern Trust. Moreover, each sub-sector within the private equity world, such as venture capital and buyouts, has its own patterns for capital calls and distributions.

“We know that if the general partner builds a good business, it will find a buyer at some point. But, it could

to be called and when it will come back,” says Steven N. Kaplan, professor of entrepreneurship and finance at the University of Chicago.

Moreover, investor desire for a liquidity model has assumed added urgency during the past few years, notes Paul Finlayson, global product manager in the alternative investments servicing group at Northern Trust. “As a starting point, the languishing IPO and M&A markets have slowed the pace of distributions and prompted greater concern on the part of investors about liquidity,” he says. “Many investors have prudently diversified across vintage years so new partnerships’ capital calls would be funded by the distributions of older partnerships.”

But some investors have had to sell other assets in order to meet capital calls as the distributions slowed to a trickle. “The liquidity shocks have made it very clear to people, in a way that hadn’t been clear before, that they have to pay attention to liquidity,” Kaplan says.

On top of the expected uncertainty of private equity cash flow, portfolio managers are now facing greater

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—Steve N. Kaplan

be in one year or seven years,” Vora adds. “With private equity investments, there’s a high level of illiquidity, and limited partners can’t count on selling just because they need the cash.” Not surprisingly, many private equity investors have been interested in finding a model that could provide a reasonably accurate forecast of capital calls and distributions.

Attempts to Model Liquidity Needs

A private equity liquidity model that could provide a reasonably accurate forecast of capital calls and distributions is attractive for several reasons. Such a model would allow investors in private equity funds to better manage their own cash flows. It also would help reduce the risk of not being prepared to pay a capital call that might hit when their own liquidity was constrained. “The limited partners want a sense of when cash is going

scrutiny from management, auditors and others. All want some assurance that their firms’ investments are prudent, and that the timing of future capital requirements and distributions can be reasonably estimated. “Every pension fund has a risk manager who wants information like the standard deviation of returns and the correlation with the public markets,” says Susan Woodward, Ph.D., founder of Sand Hill Econometrics in Palo Alto, California. Just as investors have placed a premium on understanding performance behavior, liquidity modeling is now being viewed as a vital part of risk management. To date, however, the options have been fairly limited. “There are no industry standards for modeling calls and distributions,” Finlayson says.

Of course, investors always have been able to review historical patterns of capital calls and distributions in private equity investing, Finlayson notes. The challenge investors



“Models that provide a range of possibilities usually are more useful and accurate than those that offer a single number. That’s because by providing a range of scenarios the investor can, for instance, build in both optimistic and pessimistic levels of capital calls and distributions.”

—Raj Vora, vice president of private equity, Northern Trust

face is determining whether these patterns can be applied to investments in different funds and made at different points in time.

Or, investors can simply assume that capital calls and distributions will ramp up at a certain rate before leveling off, Finlayson says. For added safety, investors using these assumptions often reserve more money than they

actually think they’ll need. “However, such protection comes at a price,” Vora notes, “because the investors usually hold the extra money in highly liquid, but low-yielding investments.”

In addition, some purely quantitative models have been available, says Vora. “However, these offer no way to account for extraneous events that can have a significant impact on private equity investments and liquidity, such as a venture capital bubble,” he adds. When it comes to combining all these factors into a viable model, “there is nothing in widespread use that I’m aware of,” says Kaplan. “To the extent that such a model would allow investors to more accurately forecast their liquidity needs, they would be able to invest more in private equity, if they wanted to,” he adds.

Advances in Modeling Techniques

“One reason for the lack of solid models until now has been the extensive work required to assemble and clean the data that’s available on private equity companies so



that it can be used to develop a strong, solid algorithm,” Woodward says. Acquiring all the data needed and then getting it into usable shape is expensive and time-consuming.

For the last four years, Northern Trust and Sand Hill Econometrics have worked on developing a model that they believe more accurately forecasts private equity liquidity needs. The Northern Trust/Sand Hill team used least squares regression analysis, a proprietary database of 1,500 partnerships, as well as public market indexes and economic indicators to construct an analytical framework that can help investors understand the range of liquidity behaviors of their private equity portfolio. In back testing, the capital call schedule predicted by the model against actual capital call schedules, the model’s accuracy rate topped 90%, Finlayson says. “The information in this database is periodically updated and the model is calibrated annually to keep relevant to current conditions,” he notes.

Empirical evidence has shown that although capital calls and distributions are at the discretion of the fund manager, they tend to follow a pattern. Some of the drivers behind private equity cash flows include the state of public equity, debt and IPO markets, as well as interest rates, Kaplan says. Both capital calls and distributions tend to be positively correlated with the equity markets and negatively correlated with interest rates, he adds.

“In our near term factor model, for instance, we incorporate the behavior of the Wilshire 5000, which we see as the foot on the accelerator of the speed of capital calls,” Finlayson says. That is, rising public markets tend to lead to faster capital calls, with declining markets slowing the pace of capital calls.



“Many investors have prudently diversified across vintage years so new partnerships’ capital calls would be funded by the distributions of older partnerships.”

—Paul Finlayson, global product manager, alternative investments servicing group, Northern Trust

The Northern Trust model can be customized to forecast a client’s probable range of near- and long-term capital calls for their private equity investments. The model takes into account factors specific to each private equity partnership, such as its type, its start date, commitment amount and the capital calls and distributions to date. The model then can develop median, best and worst case scenarios. For the near-term forecast, the model evaluates the influence of changes in public market performance.

“If the investor is fairly certain of upcoming events, such as the date of a future capital call, that information can be incorporated into the near term forecast,” Finlayson notes. The longer term model projects the range of potential calls and distributions, as well as their likely impact on the portfolio’s unrealized market value, which helps project impacts on asset allocation.

“Models that provide a range of possibilities usually are more useful and accurate than those that offer a single number,” Vora notes. “That’s because by providing a range of scenarios investors can, for instance, build in both optimistic and pessimistic levels of capital calls and distributions.” They also can create custom scenarios, such as faster or slower distributions by the subsectors within the portfolio. Similarly, the investor can review the valuations of the companies within the portfolio to forecast potential changes in the allocation within the portfolio.

Continuous Refinements

Modeling private equity cash flows can help investors better manage their liquidity and maintain their desired allocation of assets, but the process is akin to a beaver building a dam. Although the structure will result in a pond where the beaver can build a lodge in which to live, water is constantly flowing and the dam requires vigilant maintenance. Likewise, information is constantly flowing in and out of a private equity cash flow model.

“There will always be variability in factors being fed into the model, such as the general business market, or the particular management style and the underlying investments of each private equity fund in an investor’s portfolio,” Morgan notes. Ultimately, the goal of the model is to provide a structured framework that demonstrates process and diligence for analyzing these inputs and perhaps — much like the beaver’s lodge — a sense of certainty, even in the midst of an uncertain economy and investing environment. ♦



GLOBAL MEGATRENDS

Today, and over the foreseeable future, a series of events — call them global megatrends — will have a profound impact on the world economy. Each issue of *Point of View* will share insight into these trends and how the institutional investment community is preparing to address them.

Legislating Transparency

Following the market decline and credit crisis that began in 2008, regulators worldwide are looking to implement new rules governing the transparency of investment strategies and vehicles. In the United States, the Securities and Exchange Commission has adopted new regulations around money market funds, and the Department of Labor has proposed new regulations governing fees charged for investment advice offered to defined contribution plan participants. In Europe, the Institutional Money Market Funds Association also adopted changes to its Code of Practice governing money market funds, and two new proposals — changes to Undertakings for Collective Investments in Transferable Securities funds, and the Alternative Investment Fund Managers directive — could change the way investment managers do business.

New Rules for Money Market Funds

In the United States and Europe, new rules are being imposed on the money market fund industry.

In the United States, the Securities and Exchange Commission (SEC) adopted several new regulations, all aimed at making money market funds more resilient to economic stresses and runs on the funds.

In addition to proposals on portfolio composition, new rules include:

- Periodic stress testing to gauge a fund's ability to maintain a stable asset value.
- Monthly reporting to the SEC of detailed portfolio schedules, with public disclosure following 60 days later.
- A required ability to process trades at variable share prices.

"Monthly reporting will give the public more current information, even with the lag, and could shine a light on the marked-to-market net asset value," says Brad Adams, senior product manager, Northern Trust. "Using a variable net asset value would remove the need for strict rules to control risk, but could create some operational challenges."

	SEC PROPOSALS	IMMFA PROPOSALS
Weighted Average Final Maturity (WAFM)	Limit of 120 Days	Limit of 120 Days
Weighted Average Maturity (WAM)	Limit of 60 Days	Limit of 60 Days
Overnight Securities	Minimum of 10%	Minimum of 5%
Securities Maturing in One Week	Minimum of 30%	Minimum of 20%

The U.S. regulations take effect in May 2010, with staggered compliance dates.

In Europe, the Institutional Money Market Funds Association (IMMFA) adopted changes to its Code of Practice that took effect in January 2010 and are aimed at improving standards for maturity, credit quality, liquidity and disclosure. The changes include:

- Funds must respect the AAA-rating credit criteria established by the credit rating agencies.
- Funds must disclose their WAM, WAFM, liquidity ladder and performance data monthly.
- Funds must make available the percentage held by the top ten shareholders upon request.

European Action Sends Ripples Worldwide

Two sets of proposed regulations in Europe could have far-ranging implications for investment managers beyond the continent's borders. First, Undertakings for Collective Investments in Transferable Securities (UCITS) funds – which have been a global success story, with assets under management of almost 5.3 trillion euros at the end of 2009¹ – have new proposals that are due to become effective in mid-2011. Second, the original draft of the Alternative Investment Fund Managers (AIFM) directive, published in April 2009, has led to intense lobbying from across the industry, both in the European Union and globally. The final version is due for approval in July 2010. Key changes to UCITS funds, and the objectives for the AIFM directive, are below:

UCITS

- Introduction of the UCITS Management Company, which will allow UCITS to be managed by a management company authorized in another member state
 - Introduction of rules to permit master-feeder UCITS structures
 - Clarification of the rules for cross-border UCITS mergers
 - Streamlining the UCITS notification procedure to improve the cross-border funds distribution process
 - Replacing the Simplified Prospectus with a Key Investor Information document
 - Improved cooperation procedures between national supervisors
- “UCITS IV will potentially allow fund promoters to streamline their operations, generating cost savings for the industry,” says Judith Scattergood, senior product manager at Northern Trust, London. “It should also facilitate product development and improve marketing opportunities.”

AIFM

- To provide regulators with the ability to monitor, identify and, if necessary, address potential systemic issues arising from the activities of AIFMs, in accordance with the G20 agreement
- To create a universal passporting regime for alternative investment funds

The directive covers not only hedge funds and private equity funds, but also traditional long-only investment funds, which are not UCITS compliant.

¹ “Trends in the European Investment Fund Industry in the Fourth Quarter of 2009 and Results for the Full Year 2009,” European Fund and Asset Management Association, March 2010.

U.S. Addresses 401(k) Fees

Defined contribution (DC) plan sponsors have been demanding lower – and unbundled – investment management and administrative fees. Now, the U.S. Department of Labor (DOL) has proposed new regulations governing fees charged for investment advice offered to plan participants.

The DOL proposal, released in February, stipulates that advice must be provided on a “level fee” basis or through a computer model that has been certified as unbiased.

Under the level fee provision, an adviser's compensation can't be based on a participant's selection of a particular investment option. The advice also must be based on generally accepted investment theories and consider the historical risks and returns of asset classes over time and the fees of any recommended investment. The adviser also should consider, if known, the participant's age, risk tolerance, retirement age, life expectancy, other investments and other sources of income.

The DOL proposal also requires an annual independent audit confirming the adviser's relationship with the plan is

in compliance. In addition, before any advice is given, the adviser must provide written notice of certain information free of charge, including:

- Any material relationship between the adviser and another party in developing the advice program
- All fees and compensation the adviser or affiliates receive for providing investment advice or for a participant acting on the advice
- Any relationship the adviser or affiliates have in recommended securities
- The services provided in connection with the investment advice

“Downward pressure on fees charged to participants remains a top priority for DC plan sponsors,” says James Danaher, senior investment product manager in the DC solutions group at Northern Trust. “They want participants to be able to track what they are paying without having to watch assets under management.”

Comments on the proposals are due by May 5, 2010.

BRINGING DB DISCIPLINE TO DC INVESTING

Including extended asset classes within target date funds can benefit investors.

BY JANET YANG

Perhaps as a vestige of the puritan heritage of the United States, most of us take for granted the notion that there's no such thing as a "free lunch." Yet, whole industries and academic lives have been dedicated to discovering those free (or at least cheap) lunches. One of the greatest examples of this search is asset allocation — the art and science of combining and adding certain historically low-correlating asset classes to an investment portfolio with the goal of increasing returns or decreasing volatility with minimal negative consequences.

Historically, sophisticated institutional investors have long benefited from the more efficient portfolios generated when adding asset classes beyond stocks, bonds and cash. Even individual investors, to the extent that they participate in their companies' defined benefit (DB) plans, may indirectly benefit from the diversification effects that asset classes such as real estate and commodities have on a portfolio. However, as the retirement savings landscape continues to shift from employer-directed DB plans to participant-directed defined contribution (DC) plans, employees are losing access to some of the potential benefits of professionally managed asset allocation.

From both the participant's and plan sponsor's viewpoints, more streamlined fund lineups in a DC plan makes sense. Numerous studies on investor behavior demonstrate that too many investment options can lead to inappropriate diversification or lower overall participation and savings. To encourage optimal behavior, plan sponsors straddle a delicate balance between paternalism and participant autonomy. This method often leads to highly edited investment menus offering choices typically limited to stock and bond funds. Therein lies a dilemma; many of the DC plan sponsors who subscribe to cutting edge investor behavior research and simplify their fund lineups are often the same DB plan sponsors who invest in cutting-edge asset classes, such as infrastructure, timberland and catastrophe bonds.

DB Discipline in a DC-ready Offering

The rise of target date solutions has allowed plan sponsors to reconcile these philosophical differences and has given DC plan participants the opportunity to benefit from the same portfolio diversification that institutional investors have long enjoyed. Offering an asset class such as commodities on a standalone basis within a DC plan would give pause to even



plan sponsors with highly sophisticated employee populations. However, including the asset class as part of a professionally diversified target date solution offers plan sponsors the best of both worlds — efficient portfolios via a streamlined investment menu. Although the inclusion of more extended asset classes within a target date option potentially benefits investors, plan sponsors would be wise to understand just which asset classes should or should not be added to a target date portfolio.

Economic historian Joel Mokyr, who specializes in the means and ways of technological progress, writes, “When no one knows why things work, potential inventors do not know what will not work and will waste valuable resources in fruitless searches for things that cannot be made, such as perpetual-motion machines or gold from base metals.” Commodities, real estate, inflation-protected securities and a variety of alternatives might be additional asset classes included in target date solutions. DC plan sponsors who know the roles that different asset classes play in a portfolio



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will be better suited to understand the differences between the potentially free, cheap and expensive lunches.

Commodities

While large institutional investors have long invested in commodities, the advent of exchange traded funds (ETFs) and exchange traded notes (ETNs) has essentially

TABLE 1

Correlation of Commodities, Stocks and Bonds to Inflation

Over the past decade the DJ-UBS Commodity Index has demonstrated a low correlation with inflation while delivering performance that has surpassed both stocks and bonds.

	CPI-ALL URBAN CONSUMERS, MONTHLY % CHANGE	10-YEAR RETURNS THROUGH 2009
DJ-UBS COMMODITY INDEX	0.28	7.22%
S&P 500 INDEX	0.04	-0.57%
BARCLAYS CAPITAL U.S. AGGREGATE INDEX	-0.23	6.45%

Source: Northern Trust.

Note: Past performance does not indicate future potential. It is not possible to invest directly in an index.

democratized this asset class and allowed individuals to access its unique diversification and potential return benefits. With increasing demand from emerging markets such as China and India, commodity prices have risen dramatically in recent years. Investors have had an opportunity to participate in an asset class that has outperformed the S&P 500 by a significant margin. From 1999 to the end of 2009, the Dow Jones-UBS Commodity Index rose 7.2% compared to the -0.6% return posted by the S&P 500 Index. As “real” assets versus “financial” assets, such as stocks and bonds, commodities also offer unique diversification potential, especially as an inflation-protecting asset. Commodity prices typically rise with rising inflation whereas stock and bond prices generally decrease in rising inflation environments. Table 1 demonstrates the historically strong correlation between commodities and inflation.

Global Real Estate

Like commodities, the argument for including real estate in a portfolio centers on the “hard” nature of the asset class. Including global real estate in a target date fund structure provides additional diversification as well as the potential to hedge inflation while providing enhanced return potential. Debate continues regarding how to gain exposure to the asset class — direct real estate investments give pure but hard-to-access asset class exposure to individual investors, while exchange traded real estate investment trust securities (REITS) provide convenient exposure with greater correlation to the general stock market. REITS have traditionally been lauded for

their stock-like returns and bond-like income streams. For the 10-year period ending in 2009, the FTSE EPRA/NAREIT Global Real Estate Index returned 9.34%, outperforming both the S&P 500 and the Barclays Capital U.S. Aggregate Bond indexes.

TIPS

Treasury Inflation-Protected Securities (TIPS), backed by the U.S. government, provide a hedge against inflation’s eroding effect on purchasing power. Principal and interest payments for TIPS adjust according to the CPI-All Urban Consumers, which means that when consumer prices increase, principal and interest payments of TIPS also increase. In addition to inflation protection, TIPS have acted as a powerful portfolio diversifier due to their historically low correlation with other fixed-income assets and equities. For the 10-year period ending in 2009, U.S. TIPS had a 0.06 correlation with the S&P 500 Index, a 0.78 correlation with the Barclays Capital Aggregate Bond Index, and a 0.28 correlation with the Barclays Capital Corporate High Yield Index.

Cumulative Effect of Greater Diversification

Over the long term, the historical effect of incorporating additional asset classes has markedly benefited the overall risk and return equation. We use the asset allocation of the glidepath for Northern Trust Focus Funds™ to demonstrate a before and after simulation of the effect of including extended additional asset classes in portfolios. These benchmarks allocate assets to U.S. and international equities, commodities, global real estate, TIPS, core and high yield fixed-income and cash equivalents. Table 2

Modern portfolio theory shows that by judiciously adding asset classes, professional investors can construct portfolios offering higher return potential and lower volatility.

summarizes how the 2040 and 2010 portfolio benchmarks within the glidepath fared with and without the additional diversifiers. Over the past 10 years, the more diversified portfolio benchmarks delivered higher return with lower risk. Our research also shows that on a three-year rolling risk and return basis over the same 10-year period, the more diversified portfolio benchmarks delivered higher returns with lower volatility than the benchmarks that excluded commodities, REITs and TIPS.¹

Other Alternative Assets: Hedge Funds, Private Equity and Beyond

If more closely matching the diversification profile of pension plans helps individual investors, then it stands to reason that adding an even more robust spectrum of the investment universe also should help. DB plans also may invest in more exotic asset classes such as hedge funds, private equity, timberland and infrastructure. Should target date funds used in DC plans emulate this strategy? When

TABLE 2

Asset Classes' Effect on 2040 and 2010 Benchmark Model Returns

THROUGH DECEMBER 2009	10-YEAR ANNUALIZED RETURN	10-YEAR CUMULATIVE RETURN	10-YEAR ANNUALIZED STANDARD DEVIATION
NORTHERN TRUST FOCUS 2040 CUSTOM BENCHMARK	3.34%	38.86%	14.35%
NORTHERN TRUST FOCUS 2040 CUSTOM BENCHMARK WITHOUT COMMODITIES, REITS, OR TIPS	2.71%	30.64%	14.44%
NORTHERN TRUST FOCUS 2010 CUSTOM BENCHMARK	4.76%	59.16%	9.35%
NORTHERN TRUST FOCUS 2010 CUSTOM BENCHMARK WITHOUT COMMODITIES, REITS, OR TIPS	4.05%	48.68%	9.39%

IMPORTANT INFORMATION REGARDING BENCHMARK RETURNS. The Northern Trust Focus Fund Benchmark is a weighted index for each Northern Trust Focus fund comprised of the S&P 500 Index, the S&P 400 MidCap Index, the Russell 2000 Index, the MSCI EAFE Index, the MSCI Emerging Markets Index, the FTSE EPRA/NAREIT Global Index, the iPath Dow Jones-UBS Commodity Index, the Barclays Capital U.S. TIPS Index, the Barclays Capital U.S. Aggregate Index, the Barclays Capital U.S. Corporate High Yield 2% Issuer Capped Bond Index and the iMoneyNet Govt & Agencies Instl (Net) Index. Each index is weighted at the appropriate strategic neutral allocation of its respective asset class, which is predetermined and changes over time. These benchmark rates of return should not be considered as exact replications of any particular asset class, security or strategy returns, but rather as an approximation for illustrative purposes. Direct investment in an index is not possible and does not reflect an actual portfolio's investment results.

Source: Northern Trust

The Relationships Among Asset Classes

(10-year period ended January 2010)

	Cash	TIPS	Domestic Core Fixed Income	International Fixed Income	Global Fixed Income	Core Real Estate	Real Return	Domestic Equity	International Equity	Global Equity	Hedged International Equity	Priv Equity/Venture Capital	Inflation
Cash	1.00												
TIPS	0.20	1.00											
Domestic Core Fixed Income	0.30	0.60	1.00										
International Fixed Income	-0.15	0.40	0.40	1.00									
Global Fixed Income	-0.05	0.50	0.50	0.95	1.00								
Core Real Estate	0.30	0.00	0.00	-0.20	-0.20	1.00							
Real Return	0.20	0.60	0.30	0.00	0.00	0.25	1.00						
Domestic Equity	0.00	0.00	0.30	0.00	0.00	0.40	0.25	1.00					
International Equity	0.00	0.00	0.10	0.10	0.10	0.40	0.25	0.85	1.00				
Global Equity	0.00	0.00	0.20	0.05	0.05	0.40	0.25	0.90	0.90	1.00			
Hedged International Equity	0.10	0.00	-0.10	-0.10	-0.10	0.50	0.35	0.90	0.90	0.90	1.00		
Priv Equity/Venture Capital	0.00	0.00	0.00	0.00	0.00	0.40	0.25	0.90	0.80	0.85	0.90	1.00	
Inflation	0.50	0.50	-0.10	-0.15	-0.20	0.40	0.60	0.20	0.20	0.20	0.20	0.10	1.00

Source: Pension Consulting Alliance

Note: A correlation of 1.0 means the asset classes are perfectly aligned. The further you move away from 1, the less correlated the asset classes.

considering this question, the plan sponsor and target date manager begin to push the line from a cheap to potentially expensive lunch. These asset classes generally charge notably higher fees for access to the more highly rated managers. Indirect costs of adding such alternative asset classes also materialize in the form of liquidity and psychological costs (investors are influenced by a sequence of psychological beliefs when making buy-sell decisions). For example, the gates invoked by hedge funds in late 2008 prevented large investors from accessing their funds. Imagine the impact such a restriction would have on the average investor who was not aware or did not understand these potential restrictions when they invested in target date options through their DC plan. Similar to how commodities were largely inaccessible to individual investors prior to the widespread use of highly liquid ETFs, we believe the use of

more exotic asset classes within DC plans may be limited until financial technology and markets advance further.

Conclusion

The quest for free lunches in the investment world ultimately stems from the desire to expand the efficient frontier. Modern portfolio theory shows that by judiciously adding asset classes, professional investors can construct portfolios offering higher return potential and lower volatility. Plan sponsors using target date portfolios may do so knowing that the funds available to their employees provide professionally controlled access to certain extended asset classes. By understanding how each additional asset class contributes to an overall portfolio, DC plan sponsors can understand the difference between providing a free, cheap or expensive lunch to their plan participants. ❖

¹ Results are modeled and may not reflect the actual results for this time period. Past performance is not necessarily a guide to the future.

In the continuing series on the pertinent issues facing DC plan sponsors, Susan Czochara and Jim Danaher will examine the impact of expense structures on participant accumulation and reporting transparency in a forthcoming issue of *Point of View*.

SCRUTINIZING THE FIXED-INCOME LANDSCAPE

*Insights on short- and long-term changes within
the global fixed-income markets.*



The fixed-income crisis that shook global markets from mid-2007 through early 2009 reverberated far and wide. During the worst of it, markets that were normally liquid froze. Even low-risk, stable investments, such as money market instruments, faced difficulty and raised investors' fears. Terms

such as “structured,” “securitized” and “leveraged,” which previously promised enhanced yield, became red flags, warning risk-averse investors to steer clear of securities that were too complex to understand fully.

The impact that all this will have on investment opportunities and risk perceptions is significant, according to

Northern Trust investment executives. Among the changes they see are changing supply and demand dynamics, increased regulation, better risk management, a focus on liquidity and a return to more historical return levels following the extreme volatility of 2007 to 2009.

Shifting Issuance – Changing Demand

As economies recover from the broadest and deepest downturn in decades, one of the most profound changes the Northern Trust team sees is a shift in the composition of global fixed-income markets. “With governments deeply in debt, issuance of government securities is rising and is likely to remain high for years,” says Brad Adams, senior fixed income product manager at Northern Trust. “Governments have become heavy issuers of debt, running huge deficits. We expect that their outstanding debt — and, consequently, the weighting of government securities in fixed-income market benchmarks — will grow.”

Over the past year there also has been increased issuance of corporate debt. One factor contributing to the rise in the supply of these types of securities has been banks’ greater caution to engage in lending. Also, it has been much easier and less expensive for corporations to obtain funding in the capital markets. Investors leaving the securitized sectors perceive diversified corporate exposure as a decidedly better way to pick up yield with less volatility.

In addition to the expansion of debt issuance, there is a rising aversion to structured products, such as asset-backed and mortgage-backed securities. “Institutional investors now find simple, straightforward securities, such as government and corporate bonds, more appealing than complex products that may carry unknown risks,” notes Wayne

Bowers, chief executive officer, Northern Trust Global Investments, London.

As a result of these supply and demand trends, the composition of fixed-income indexes is expected to shift toward government bonds and relatively high-quality corporate credit and away from structured products, which are out of favor with investors.

The move toward a more basic approach to debt management dovetails with another investor trend: a growing interest to shift from active to passive investment management. “With investors wanting less complicated investment solutions,” says David Rothon, director of cash and fixed income product development, Northern Trust, London, “the increased use of passive strategies will magnify the impact of shifts in issuance. And as the dynamic of rising government bond issuance changes the composition of fixed-income benchmarks, we will likely see a cycle that perpetuates further demand for government securities.”

This points to a concern investors have with index strategies tied to broad benchmarks such as the Barclays Capital Aggregate Index; index composition is driven by issuance. “In recent years, this meant that investors employing passive strategies held a higher weighting in mortgages than they might have wanted and less Treasury debt,” says Adams. “That decision was made for managers of indexed products by the composition of the overall market rather than the merit of the investments themselves, although the index concentrates on the best, most liquid securitized products.”

An additional risk facing investors using a passive fixed-income strategy is that the largest issuers of debt within an index universe typically will have a large weighting within the benchmark. Depending on the health of a bond issuer’s balance sheet, investors could be exposed to hidden risks. “One way that we have seen clients manage around that in a global fixed-income mandate,” Rothon says, “is to exclude a country that is considered particularly high risk from a passive portfolio in the design phase, and then work with us to manage the remaining market exposure passively.”

Uncover Hidden Risks

Whether pursuing passive or active strategies, investors must be aware of hidden risks. For instance, just as investors in passive strategies are subject to the benchmark’s default asset allocation, active investing has typical biases as well. “Active managers tend to be overweight spread product,” Adams says.



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“When spread products such as mortgage-backed or asset backed, and even corporate securities, perform handsomely, active managers generally do well. But when spread products falter, active managers have tended to underperform the benchmark, sometimes significantly.”

Active managers regularly invest in “out of benchmark” securities (e.g., emerging market debt and high yield

securities), which is a key tool they use to generate excess return, but with added risk.

Another major risk associated with active management involves manager selection. Only a handful of active managers have consistently outperformed the market over long periods. Choosing the wrong manager could substantially affect returns.

When investing passively, investors must first decide on which index to track. For U.S. bonds, the Barclays Capital Aggregate Bond Index and the Government/Credit Index present material differences. The Aggregate Index holds a weight of more than 40% in asset-backed and mortgage-backed securities while the Government/Credit benchmark excludes these, Adams says. Investors should consider very carefully the type of risk exposure they prefer.

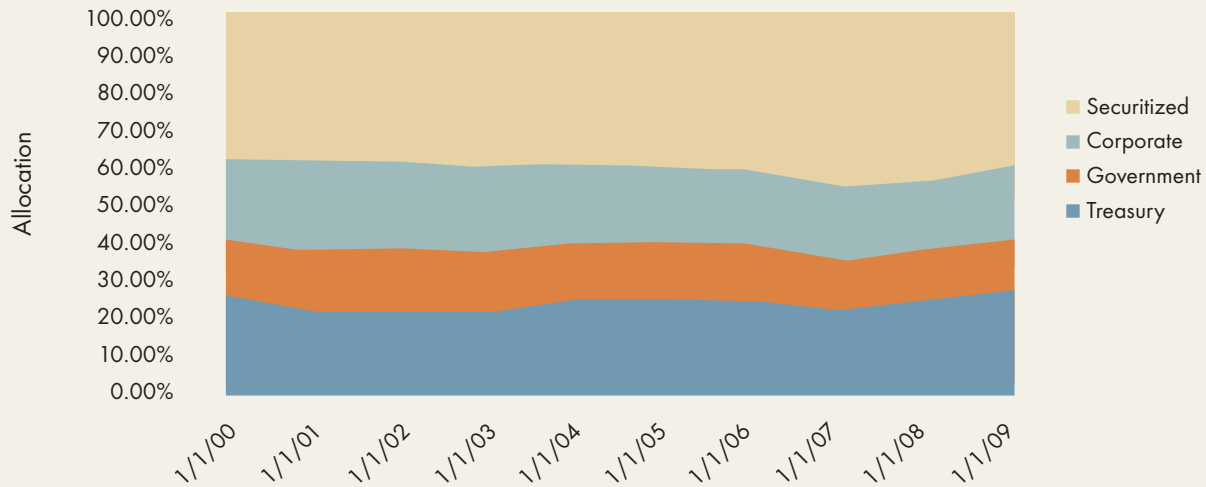
Back to Basics

The unraveling of complex structured investments, and the ensuing negative impact on investors’ portfolios, has



U.S. Aggregate Bond Index: Sector Allocations 2000 - 2009

Over the past decade, securitized instruments have made up a large part of the U.S. Aggregate Bond Index, reaching a high of 45.10% at the end of 2007. At the end of 2008 that weighting move slightly lower to 43.72%. Northern Trust experts predict that weighting to continue to decrease as issuance of securitized debt has tailed off in the aftermath of the credit crisis.



Source: Northern Trust

understandably fueled a back-to-basics movement. “In practical terms, it means that corporate bonds with a basic, plain vanilla flavor are more attractive than structured debt products, reflecting a growing distaste for risk,” notes Adams.

A logical outcome of this move toward simpler solutions will directly affect the behavior of institutions such as banks. “Banks will act more like banks,” Bowers says. “They’ll have smaller balance sheets. They’ll take deposits and use that money to lend, rather than issue securitized products. And they’ll rely less on leverage or structure for the creation of lending products.”

Bowers also foresees more stringent capital reserve requirements against a business line that supports structured credit or securitized products. Should such requirements come into being, he sees basic profitability equations driving behavior. “Banks won’t sell asset-backed commercial paper to money market funds any more, and they won’t look to buy longer-dated, lower-rated, higher-yielding, securitized products on their balance sheet.”

In the United Kingdom, the Financial Services Authority (FSA) has proposed that all banks with a branch in the

country will need to demonstrate that they have a liquidity buffer. “In essence, they’ll be required to own high-quality U.K.-issued government bonds,” observes Bowers. “The thinking is that this liquidity buffer is needed in order to protect the depositors, shareholders and the banks themselves in times of crisis.”

In some cases, a bank may have had a buffer during the recent liquidity crisis but couldn’t access it because it had invested in asset-backed commercial paper, floating rate notes or collateralized debt obligations. Although these products had attractive yields and contributed to bank profitability, they didn’t help when liquidity was needed. The regulatory proposals aim to prevent a repeat of that situation. “This also has the effect of increasing demand for government bonds, whilst reducing demand for structured and securitized bonds,” Bowers says.

Lower Return Expectations

In terms of fixed-income market performance, the unusually strong across-the-board market bounce in 2009 can’t be expected to last, Rothon says. “Rather than continue to be thirsty for yield, investors have to accept a changing scenario



“Rather than continue to be thirsty for yield, investors have to accept a changing scenario and reel in their expectations for higher returns because of the fundamental changes that are leading to greater government bond issuance.”

—David Rothon, director of cash and fixed income product development, Northern Trust, London

and reel in their expectations for higher returns because of the fundamental changes that are leading to greater government bond issuance.”

However, institutional investors must assess their organizations’ investment goals. A pension plan sponsor, for example, will need to weigh tradeoffs such as seeking higher returns — and accepting more volatility — through greater equities exposure or focusing on matching the pension plan’s liabilities with more fixed-income exposure. “An underfunded pension plan might be under pressure to seek additional return,” Rothon says. “That might lead it to take on more risk in an effort to reduce its deficit. In the big picture however, investors generally have to accept that the road to recovery will be bumpy and understand that we may not see double-digit returns in the fixed-income markets again for some time.”

Bowers observes that because emerging markets bonds made very significant gains last year, they’ve attracted a great deal of interest. However, he cautions that they comprise less than 1% of global bond issuance. “Before investors take on emerging markets exposure, they should be diversified in the major markets of the United States, Europe, Japan and the U.K.,” he says. “That provides exposure to four distinct economic, policy, fiscal stimulus and inflation cycles.”

Bowers also sees value in ramping up sovereign bond research capabilities to be able to understand the factors that affect the creditworthiness and risks of exposure to troubled countries, such as Greece and Ireland. With increasing government bond issuance, he says it makes

sense to focus research “on the balance sheets of countries rather than just companies.”

A critical opportunity may arise when governments decide how to unwind their fiscal support based on their country’s specific economic circumstances. “What will be the impact on fixed-income markets when countries begin to withdraw some of these stimulative policies?” Rothon asks. “It’s like switching off a life support machine. We won’t know how robust any economy is until that happens.”

Updated Money Market Fund Proposals

Globally, regulatory bodies have been considering risk-limiting rules that are designed to further stabilize money market funds and increase the safety and liquidity for money market fund shareholders. In the United States the Securities and Exchange Commission recently approved rule changes to tighten existing requirements regarding the maturity, quality, liquidity and disclosure of money market fund portfolios. A dozen more organizations around the globe, including the Institutional Money Market Funds Association in Europe, have proposed similar changes designed to reduce credit, interest rate and liquidity risk.

The anticipated impact of these actions, Bowers says, would be to reduce demand for securitized asset-backed products by money market funds and force them to own safer, lower-yielding securities, from Treasury bills to short-dated government debt. “This will tighten the focus of money markets on preserving principal and providing liquidity, and limit the chasing of yield, which is how Northern Trust manages these pools,” he says.

Adapt and Move Forward

As the markets move forward from the credit crisis to the creation of a more normal and healthy market, it’s important to distinguish between any temporary market phenomena and longer-term or permanent changes. “The move to greater government bond issuance and away from structured product was prompted by the credit market disaster of 2008,” Adams says, “but these and other major trends, such as increased pension plan focus on matching liabilities, are long-term changes. We all need to move in step with the market as it evolves, adjust our expectations and capitalize on new developments.” ❖

INTERNATIONAL COMPLETION STRATEGIES

Developed international small-cap, emerging and frontier markets can help investors better align their portfolios with the global economy.

During the past 10 years, institutional investors have shifted asset allocations away from their home country biases. Despite this trend, it has not been enough to align their allocation with the global markets, says Greg Behar, senior investment strategist, Northern Trust global index management group.

According to *Pensions & Investments*, in 2008, the top 200 U.S. defined benefit (DB) funds allocated only 33.2% of their portfolios to international funds. “This is a significant underweight to international equities if you look at global benchmark such as MSCI where the non-U.S. market represents 56.8% of global equities,” Behar adds.

Another factor that hinders investors’ potential to participate in global growth opportunities is that many strategies tend to concentrate exposure to large-cap equities of developed and emerging countries. “That may be due, in part, to the benchmark selected,” notes Stefanie Hest, senior investment strategist, Northern Trust global index management group. “By underweighting their portfolio allocation to developed international small-cap, emerging market small-cap and frontier market sub-asset classes, investors may forgo a significant portion of the opportunity set and miss an opportunity to diversify their portfolios,” she adds.

result, investors using the MSCI EAFE Index as a performance benchmark tend to systematically underweight the other 31% of the international opportunity set,” Behar says.

More progressive investors have shifted from an MSCI EAFE benchmark to the broader MSCI All Country World excluding U.S. benchmark, which includes emerging markets. Yet, they are still leaving opportunity on the table with regard to developed international and emerging market small cap, and frontier market companies.

Investors should consider shifting to newer, more complete “total international equity” benchmarks, Behar says. In November 2006, MSCI announced that it would update its benchmark methodology in the MSCI Global Investable Market Indexes (GIMI) to include non-overlapped asset class subsets for both developed and emerging large-, mid- and small-cap equities. Such benchmarks would include the MSCI All Country World Investable Market Index (ACWI IMI). “These new indexes more closely resemble the broad representation of major U.S. indexes, such as the Russell 3000 or Dow Jones Total Market Index, and help investors incorporate a truly international equity mix into their portfolios,” Hest says.

Benchmark providers such as Standard & Poor’s and MSCI have also created benchmarks that allow for exposure to frontier

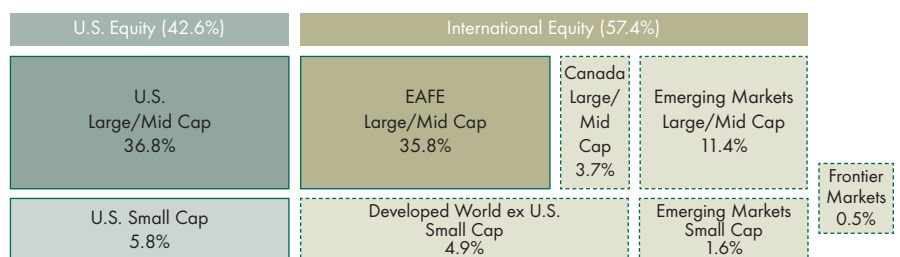
Benchmark “Gap”

The MSCI EAFE has been the standard benchmark for U.S. investors seeking international exposure for more than 30 years. Although it continues to provide a comprehensive proxy for developed international large-cap equities, MSCI EAFE only captures 69% of the total non-U.S. equity market cap, rendering it an outdated proxy for true global non-U.S. equity markets, notes Behar. “That’s a stumbling block,” he says.

Until recently investors have been slow to adopt benchmarks that completely measure the full international opportunity set. “As a

Global Equity Universe

Defining the global equity opportunity set

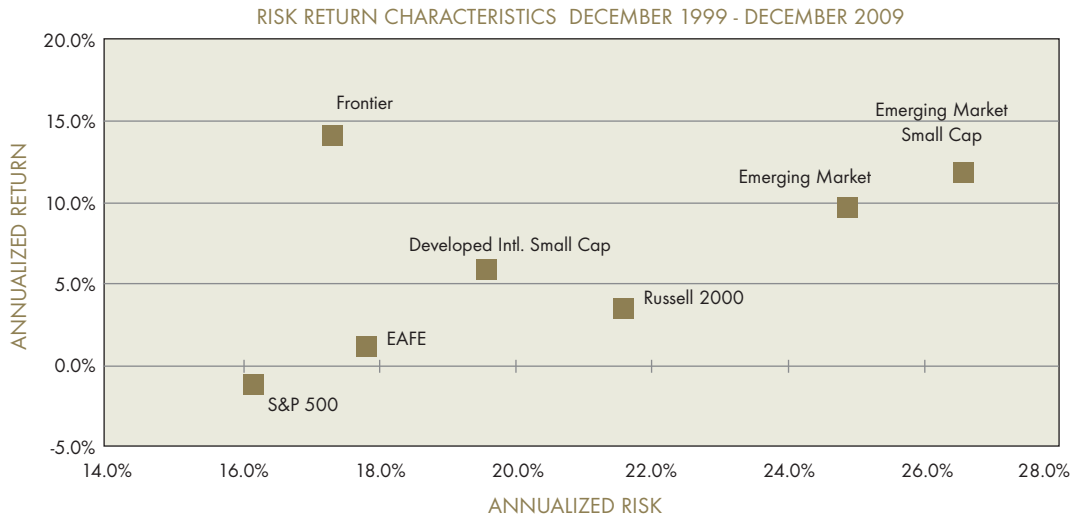


Source: Northern Trust

Global segmentation and market capitalizations are based on MSCI definitions from the All Country World Investable Market Index (ACWI IMI) series. Frontier Markets is based on the MSCI definition and its weight is calculated relative to the free float market capitalization of the ACWI IMI. All data is as of 12/31/09.

Examining the Complete International Investment Set

Performance over the past decade shows the attractiveness of frontier, emerging markets and developed international small-cap equities on a risk/return basis.



Source: Northern Trust

FM is BMI Frontier, Developed Intl Small Cap is S&P World ex U.S. Small Cap, EM Small Cap is S&P Emerging Markets Small Cap.

Note: Past performance does not indicate future potential. It is not possible to invest directly in an index.

markets. “Frontier markets are the remaining piece of the puzzle to complete the investable international opportunity set,” Behar says.

Beyond Correlation

Historically, U.S. investors looked to international equities to provide diversification within a portfolio. However, as the recent global recession demonstrated, the correlation between U.S. and non-U.S. equities has increased. The correlation between the S&P 500 and MSCI EAFE was a moderately low 0.54 in the 1990s and increased to 0.88 from January 2000 to December 2009. During this period, emerging market equities have exhibited higher correlations with both the developed markets including the U.S. market.

While the MSCI EAFE and MSCI Emerging Market indexes have become more highly correlated to U.S. equities than in the past, its bias toward large- and mid-cap equities doesn't provide the full correlation picture. According to Behar, “Developed small-cap, emerging small-cap and frontier sub-asset classes — which comprise \$2 trillion of market cap or 12% of the \$16.5 trillion total international equity opportunity set — are less correlated to the global economy and can offer diversity to a portfolio.”

Emerging Markets Grow Up

In 1988, emerging markets represented 1% of the world market capitalization. Two decades later, they now represent 13%. Emerging markets also have different characteristics than in the past. In the 1990s emerging market growth was driven solely by

commodities and exports to developed markets such as the United States. Today, these markets are importers and consumers in their own right. “There is now the belief that 50% of China's goods are exported to other emerging markets,” Behar says. “Other emerging markets have implemented financial controls that make them more attractive to investors. Brazil, for example, was plagued by hyperinflation in the 1990s, but it implemented policies to control inflation to the single digits.”

“As emerging market companies become more global, some investors are

looking to the next generation of emerging markets,” Behar says. Frontier markets are developing countries with high economic growth rates and small, relatively illiquid and undercapitalized equity markets such as Nigeria, Kenya, Vietnam, Sri Lanka, Croatia, Romania, Qatar and Kuwait.

Some investors are hoping that frontier markets, which represented approximately 1% of world market cap in 2009, will have a similar trajectory as emerging markets. “Time will only tell if that comes to pass,” Behar says. “But the potential is there for significant economic growth in these frontier markets.”

Frontier markets have experienced strong economic growth in the last few years, significantly outpacing both developed and emerging markets. “Despite this growth, frontier market economies remain very small compared to developed and more advanced emerging market countries, which leaves room for steady equitization of their economies,” Behar says. However, he notes that investors who want to add frontier markets to their portfolio should look for a broad exposure rather than investing in only a few frontier markets because of the inherent risks — from political unrest to operational, regulatory and market risk — that exist in individual countries.

Regardless of the benchmark or investment approach they use, investors should not ignore the international developed small-cap, emerging small-cap and frontier markets. “Incorporating these three sub-components of the global markets tends to provide investors with a complete and efficient global equity allocation,” Hest says. ❖



AHEAD OF THE CURVE

Ahead of the Curve covers developments that may impact the behavior and portfolio positioning of institutional investors. Take a closer look at events in the ever-changing regulatory, legislative and investment markets to determine how they may impact you.

IMF: Short-Term Surges in Capital Can Prompt Policy Changes

In a staff position paper “Capital Inflows: The Role of Controls,” issued in February, IMF staff discusses the circumstances under which controls on capital inflows to emerging market economies can usefully form part of the policy toolkit to address the economic or financial concerns surrounding sudden surges in capital.

According to the IMF staff, there are a number of policy choices governments can make when faced with a short-term or sudden surge in foreign capital. These include: allowing the currency to appreciate; accumulating more reserves; changing fiscal and monetary policy; strengthening rules to prevent excessive risk in the financial system; and capital controls.

In some circumstances, capital controls may complement the use of economic or prudential remedies to more effectively address the problem. To read the IMF staff paper, visit imf.org.

Survey: DB Pension Plans May Likely Disappear from the U.K.

The recent financial crisis has accelerated the demise of defined benefit (DB) pension schemes, so much so that U.K. companies predict that DB schemes will cease to exist within the next decade, according to the survey and report “The Future of Corporate Pensions,” from the Economist Intelligence Unit and Buck Consultants.

Asked about the biggest challenges their firms will face this year in managing their pension schemes, the 251 executives surveyed for the study point to increasing deficits, possible regulatory intervention and uncertainty over future interest rates. Of those U.K. companies surveyed, 20% still offer a DB pension scheme that is open to new employees, but three-quarters predict that these schemes will no longer exist by 2019. For more on this report, visit eiu.com.



Risk Parity Approach Gaining Traction, Despite Flaws

Suggestions that large institutional investors adopt a risk parity approach has been an increasing trend at the policy portfolio level, states a February Callan Investments Institute Research report, “The Risk Parity Approach to Asset Allocation.” This approach already is common among asset management firms managing diversified global multi-asset class portfolios.

Despite this trend, the report argues that in the absence of leverage, the expected return of a risk parity portfolio employing standard asset classes is too low to be compelling for most institutional investors.

According to the report, by combining leverage with a risk parity portfolio, an investor can theoretically achieve their required rate of return (typically between 8.0% and 8.5%) with a lower level of risk than can be achieved with an unlevered portfolio along the Efficient Frontier. But in spite of its intuitive appeal, the risk parity portfolio is not the risk-minimizing portfolio. It lies below the Efficient Frontier, meaning there are other portfolios on the Frontier which, when combined with leverage, can achieve the same expected return as the levered risk parity portfolio at an even lower level of risk.

For more on this report, visit callan.com.

Exclusive content at northerntrust.com/pointofview



The Northern Trust Perspective

VIDEO: Each month, Jim McDonald, chief investment strategist for Northern Trust, discusses how recent market events might impact investment allocation decisions in this ongoing video series.



Closing the Gaps in Retirement Readiness

WHITE PAPER: Read Northern Trust's white paper on methods to enhance defined contribution plan design so it addresses the challenges sponsors face when helping prepare their participants for retirement.



Fixed-Income Market Update

PODCAST: In this podcast with Colin Robertson, managing director of fixed income for Northern Trust, you can gain insights into how liquidity, volatility and government actions are impacting the credit markets and the economy.

ALSO ON THE WEB:

- Watch our Retirement Solutions On Demand series.
- Read our quarterly investment manager survey report.
- Take our online poll on international portfolios.

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