

CALENDAR YEAR 2013



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"Markets continue to absorb the effects of developed world deleveraging and monetary policies that are distorting asset prices and risk premia. Changing demographics and labor markets will likewise have important effects on investor preferences and capital flows over the next 10 years. Low interest rates will continue to challenge investors, but select risk assets are likely to outperform."

The content in this presentation was created by the BNY Mellon Investment Strategy and Solutions Group (ISSG). ISSG partners with clients to develop thoughtful and actionable solutions to broad investment policy issues. We engage in an ongoing dialogue with our clients to achieve a deep understanding of their concerns and needs. Harnessing the full depth and breadth of our global network of specialized investment boutiques across all asset classes and return/risk objectives, we help craft comprehensive strategies relevant for clients' specific investment objectives and policies.

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EXPECTED RETURN AND STANDARD DEVIATION

	Asset Class	Representative Index	Expected Return	Standard Deviation
	U.S. Equity	Russell 3000	7.25%	18.25%
	U.S. Large Cap Equity	Russell 1000	7.00%	18.00%
	U.S. Mid Cap Equity	Russell Mid Cap	7.75%	21.25%
Equity	U.S. Small Cap Equity	Russell 2000	8.00%	23.75%
	U.S. Micro Cap Equity	Dow Jones Wilshire U.S. Micro-Cap	8.25%	25.50%
	Global Equity	MSCI ACWI	7.25%	19.00%
	International Developed Equity	MSCI EA FE	7.00%	20.25%
	International Small Cap Equity	MSCI EA FE Small Cap	7.00%	22.50%
	Emerging Equity	MSCI Emerging	8.25%	28.50%
	U.S. Aggregate	Barclays U.S. Aggregate	1.25%	3.75%
	U.S. Treasury	Barclays U.S. Treasury	0.50%	5.00%
	U.S. Treasury Bills	Barclays U.S. Bellw ethers 3 Month	1.50%	0.50%
	U.S. Intermediate Treasury	Barclays U.S. Intermediate Treasury	0.75%	3.50%
	U.S. Long Treasury	Barclays U.S. Long Treasury	-0.25%	12.75%
	U.S. Investment Grade Credit	Barclays U.S. Credit	1.75%	6.25%
	U.S. Intermediate Investment Grade Credit	Barclays U.S. Intermediate Credit	1.75%	5.00%
d)	U.S. Long Investment Grade Credit	Barclays U.S. Long Credit	2.00%	11.25%
Ĕ	U.S. TIPS	Barclays U.S. TIPS	0.25%	7.25%
ĕ	U.S. Agencies	Barclays U.S. Agencies	1.25%	3.50%
ᄝ	U.S. MBS	Barclays U.S. MBS	2.00%	2.75%
-ixed Income	U.S. Investment Grade CMBS	Barclays Investment Grade CMBS	2.25%	12.25%
	U.S. Non-Taxable Municipal (1-10 year)	Barclays U.S. Non-Taxable Municipal (1-10 year)	1.50%	3.50%
	U.S. High Yield	Barclays U.S. Corporate High Yield	5.25%	12.50%
	U.S. Leveraged Loans	CSFB Leveraged Loan	3.00%	8.25%
	Global Aggregate	Barclays Global Aggregate	1.25%	6.50%
	Global Treasury	Barclays Global Treasury	1.00%	7.75%
	Global Corporate	Barclays Global Corporate	2.25%	8.50%
	Emerging Markets (U.S. Dollar)	Barclays Emerging Markets (U.S. Dollar)	3.50%	13.25%
	Emerging Markets Sovereign Local Currency	Barclays EM Local Currency Government	6.00%	13.25%
	Absolute Return	HFRX Absolute Return	2.50%	3.50%
	Hedge Funds	HFRI Funded Weighted Composite	3.75%	7.50%
	Hedge Funds - Equity Hedge	HFRI Equity Hedge	4.75%	10.25%
	Hedge Funds - Event Driven	HFRI Event Driven	3.75%	7.75%
	Hedge Funds - Macro	HFRI Macro	3.50%	6.25%
	Hedge Funds - Relative Value	HFRI Relative Value	3.25%	5.75%
Alternatives	Commodities	Dow Jones UBS Commodities	2.50%	19.50%
	Global Natural Resources Equity	Morningstar Global Upstream Natural Resources	7.50%	27.50%
er	U.S. Direct Real Estate	NCREIF Property	5.50%	6.50%
Alt	Timberland	NCREIF Total Return Timberland	5.50%	6.50%
	Farmland	NCREIF Total Return Farmland	5.75%	7.50%
	U.S. REIT	FTSE NA REIT Equity	7.75%	29.50%
	Global REIT	FTSE EPRA/NA REIT Developed	7.75%	24.75%
	Global Private Equity	LPX 50 Private Equity	10.50%	32.50%
	U.S. Private Equity	S&P Listed Private Equity	11.75%	33.75%
	Infrastructure	Alerian MLP Infrastructure	6.00%	19.75%

Inflation

In the US, our headline inflation expectation over the next 10 years is 2.5% per year, slightly ahead of consensus forecasts. We expect higher energy prices due to supply/demand imbalances to put upward pressure on inflation, while aging demographics in developed markets will offset some of the upward momentum. We also expect inflation in emerging economies to be slightly higher than consensus forecasts at 4% per year.

Equity

Our primary building blocks for developing US equity returns are inflation, real earnings growth, and dividend yield. Our expectation for real earnings growth in the US is 2% per year, significantly below consensus forecasts of over 6%. This low growth expectation is based on our belief that real earnings growth cannot exceed real GDP growth over the long run. Given corporations' excess cash, we expect dividend yields for US equities to be 2.25% per year, slightly above long-term historical averages and current dividend yields. Our building blocks derive an expected return of 7% for US large cap stocks. We see similar risk-adjusted returns for US small and mid cap stocks. International developed equities are also expected to generate returns similar to those in the US, but with greater risk due to currency exposure. Emerging equities are expected to generate stronger risk -adjusted returns, due to continued relative strength in emerging economies and currency appreciation.

Fixed Income

We expect returns to be weaker than historical norms in most sectors due to rising interest rates. In the US, we see real cash rates rising from negative levels today to 1% in 10 years. With inflation at 2.5%, this results in US Treasury bills yielding 3.5% in 10 years. This will cause some flattening of the curve, but not enough to protect US long-dated Treasury bonds from negative returns over 10 years. Higher credits spreads and defaults compared to current levels will have an adverse impact on credit markets. However, higher yields in credit markets will help preserve positive returns over the next 10 years. Emerging market debt, especially issued in local currency, will fare better over the 10-year horizon due to relative strength in emerging economies and currency appreciation.

Alternatives

Absolute return and hedge funds are likely to generate risk-adjusted returns similar to those of equities. These asset classes may be more appropriate for reducing risk from equities, rather than the traditional view of shifting assets to fixed income. Overall, we expect commodities to experience returns similar to inflation of 2.5%. Energy will generate returns in excess of inflation due to supply/demand imbalances, while agriculture and metals are expected to return slightly less than inflation. Private real estate will see similar risk - adjusted returns as REITs, plus a liquidity premium. Private equity returns are likely to be on par with those of public equity, after adjusting for a meaningful increase in risk levels.

CORRELATIONS

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		U.S. Equity - Large Cap d Cap Equity - Sap Equity - Equity /					
		S.S. Cap of the cap of					
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	U.S. Mid Cap Equity	0.97 0.96 1.00 S S S S S S S S S S S S S S S S S S					
uity	U.S. Small Cap Equity	0.91 0.89 0.99 1.00 — 1 no 65 66					
Equ	U.S. Micro Cap Equity	0.85 0.83 0.89 0.94 1.00 S O S O S O S O S O S O S O S O S O S					
	Global Equity	0.95 0.95 0.95 0.91 1.00					
	International Developed Equity						
	International Small Cap Equity	0.75 0.76 0.80 0.74 0.75 0.89 0.83 1.00 C C G G G G G G G G G G G G G G G G G					
	Emerging Equity	0.03 0.04 0.03 0.04 0.05 0.06 0.08 0.09 0.04 1.00 5 0.05 0.08 0.09 0.04 1.00 5 0.05 0.06 0.08 0.09 0.04 1.00 5 0.06 0.06 0.06 0.06 0.00 0.01 0.00					
	U.S. Aggregate	0.03 0.04 0.05 0.06 0.08 0.09 0.04 1.00 S 0.06 0.08 0.09 0.04 1.00 S EAST USE OF SECURITY					
	U.S. Treasury	-0.25 -0.24 -0.27 -0.29 -0.31 -0.25 -0.22 -0.21 -0.24 <u>0.89 1.00</u> $\stackrel{\sim}{\longrightarrow}$ $\stackrel{\leftarrow}{\longrightarrow}$ $\stackrel{\leftarrow}{\bigcirc}$ $\stackrel{\rightarrow}{\bigcirc}$ $\stackrel{\leftarrow}{\bigcirc}$ $\stackrel{\rightarrow}{\bigcirc}$ $\stackrel{\leftarrow}{\bigcirc}$ $\stackrel{\rightarrow}{\bigcirc}$ $\stackrel{\rightarrow}{\bigcirc}$ $\stackrel{\rightarrow}{\bigcirc}$ $\stackrel{\rightarrow}{\bigcirc}$ $\stackrel{\rightarrow}{\bigcirc}$					
	U.S. Treasury Bills	0.06 -0.06 -0.10 -0.09 -0.13 -0.07 -0.07 -0.15 -0.12 <u>0.07 0.14 1.00 S J ts B</u> B B B S S S S S S S S S S S S S S S					
	U.S. Intermediate Treasury	-0.27 -0.26 -0.29 -0.32 -0.34 -0.26 -0.23 -0.23 -0.25 0.85 0.97 0.21 1.00 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5					
	U.S. Long Treasury	4.25 4.25 4.25 4.27 4.27 4.22 4.22 4.22 4.23 6.05 6.05 6.05 6.05 6.05 6.05 6.05 6.05					
	U.S. Investment Grade Credit	0.29 0.29 0.31 0.21 0.23 0.34 0.36 0.38 0.32 0.87 0.60 0.07 0.54 0.57 1.00 = 5					
	U.S. Intermediate Investment Grade Credit	0.29 0.30 0.31 0.21 0.24 0.35 0.37 0.40 0.33 0.85 0.56 0.04 0.54 0.47 0.98 1.00 1 E S					
	U.S. Long Investment Grade Credit	0.26 0.27 0.28 0.21 0.21 0.31 0.33 0.35 0.30 0.84 0.60 0.11 0.49 0.65 0.96 0.88 1.00 $\stackrel{\frown}{\longrightarrow}$ $\stackrel{\frown}{\longleftarrow}$ $\stackrel{\frown}{\longleftarrow}$ $\stackrel{\frown}{\longrightarrow}$ $\stackrel{\frown}{\longleftarrow}$ $\stackrel{\frown}{\longrightarrow}$					
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pex	U.S. MBS	-0.10 -0.09 -0.11 -0.15 -0.17 -0.08 -0.06 -0.06 -0.10 0.79 0.89 0.89 0.89 0.89 0.80 0.71 0.08 0.06 -0.06 -0.00 0.89 0.89 0.80 0.80 0.80 0.80 0.80					
II.	U.S. Investment Grade CMBS	0.43 0.43 0.47 0.42 0.40 0.44 0.43 0.38 0.40 0.15 0.17 0.00 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.00 0.01 0.00 0.00 0.00 0.01 0.00 0					
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	U.S. High Yield	0.69 0.69 0.74 0.67 0.69 0.72 0.69 0.70 0.68 0.21 0.20 0.17 0.24 0.19 0.55 0.56 0.50 0.34 0.01 0.04 0.67 0.21 1.00 $\stackrel{\sim}{\to}$					
	U.S. Leveraged Loans	0.33 0.33 0.00 0.31 0.37 0.30 0.33 0.30 0.32 0.32 0.33 0.34 0.33 0.35 0.33 0.30 0.33 0.34 0.15 0.35 0.00 0.00 0.01 1.00 0 g g g g					
	Global Aggregate	0.24 0.25 0.23 0.17 0.16 0.35 0.42 0.41 0.30 0.71 0.58 0.02 0.60 0.46 0.69 0.70 0.64 0.66 0.68 0.57 0.42 0.47 0.31 0.05 1.00 👸 🞅 😤 👸					
	Global Treasury	0.13 0.14 0.12 0.08 0.07 0.24 0.32 0.50 0.62 0.62 0.50 0.65 0.67 0.06 0.37 0.06 0.35 0.29 0.82 0.84 0.76 0.64 0.53 0.44 0.54 0.44 0.59 0.84 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.5					
	Global Corporate	0.24 0.25 0.23 0.17 0.16 0.35 0.42 0.41 0.30 0.71 0.58 0.02 0.60 0.40 0.69 0.70 0.64 0.66 0.68 0.57 0.42 0.47 0.31 0.05 0.59 0.60 0.49 0.69 0.70 0.64 0.64 0.69 0.70 0.64 0.66 0.68 0.57 0.42 0.47 0.31 0.05 1.00 0.50 0.69 0.70 0.80 0.70 0.7					
	Emerging Markets (U.S. Dollar)	0.59 0.59 0.60 0.53 0.52 0.63 0.60 0.58 0.69 0.41 0.13 -0.08 0.09 0.13 0.60 0.59 0.57 0.47 0.27 0.33 0.41 0.29 0.66 0.43 0.41 0.29 0.56 1.00 塩 漬 塩 塩 塩 塩 塩					
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	Absolute Return	0.55 0.55 0.59 0.54 0.57 0.56 0.53 0.52 0.57 0.00 0.18 0.16 0.19 0.19 0.20 0.23 0.13 0.20 0.11 0.05 0.14 0.04 0.44 0.47 0.09 0.00 0.27 0.44 0.38 1.00 呈 器 蓋 및 器					
	Hedge Funds	0.80 0.80 0.84 0.80 0.84 0.85 0.82 0.81 0.87 0.02 0.26 0.02 0.28 0.28 0.33 0.35 0.27 0.17 0.11 0.08 0.34 0.00 0.68 0.58 0.24 0.13 0.46 0.63 0.66 0.74 1.00 至 裏 蓋 望					
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	Hedge Funds - Macro						
	Hedge Funds - Relative Value	0.65 0.65 0.69 0.61 0.66 0.71 0.69 0.73 0.70 0.11 0.62 0.73 0.70 0.11 0.25 0.05 0.28 0.25 0.44 0.48 0.36 0.30 0.08 0.03 0.88 0.10 0.79 0.80 0.21 0.06 0.52 0.63 0.57 0.69 0.81 0.79 0.86 0.30 1.00 S					
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ativ	Global Natural Resources Equity	0.78 0.79 0.79 0.69 0.65 0.86 0.83 0.78 0.84 0.07 0.21 0.04 0.07 0.21 0.04 0.21 0.24 0.34 0.37 0.28 0.25 0.05 0.05 0.02 0.34 0.01 0.63 0.51 0.37 0.26 0.57 0.57 0.64 0.62 0.84 0.84 0.77 0.44 0.71 0.72 1.00 🖰 💆					
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	U.S. REIT	0.70 0.69 0.75 0.74 0.66 0.67 0.64 0.60 0.56 0.15 0.10 0.07 0.13 0.11 0.35 0.33 0.35 0.23 0.04 0.00 0.63 0.11 0.69 0.53 0.32 0.24 0.46 0.49 0.60 0.26 0.51 0.53 0.56 0.10 0.51 0.33 0.50 0.16 0.09 0.03 1.00 8 2 2 2					
	Global REIT	0.81 0.80 0.83 0.78 0.73 0.85 0.84 0.81 0.78 0.73 0.85 0.84 0.81 0.78 0.19 0.12 0.08 0.14 0.14 0.43 0.44 0.41 0.28 0.05 0.03 0.58 0.13 0.75 0.58 0.44 0.33 0.62 0.64 0.75 0.42 0.71 0.71 0.72 0.28 0.66 0.49 0.69 0.13 0.08 0.00 0.87 1.00 💍 🚉					
	Global Private Equity	0.84 0.83 0.86 0.83 0.85 0.89 0.87 0.85 0.79 0.02 0.26 0.07 0.02 0.26 0.07 0.28 0.28 0.08 0.30 0.31 0.26 0.17 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12					
	U.S. Private Equity	0.84 0.83 0.85 0.84 0.85 0.86 0.84 0.85 0.86 0.84 0.85 0.86 0.84 0.82 0.77 0.00 0.26 0.08 0.25 0.26 0.08 0.25 0.26 0.21 0.16 0.13 0.13 0.13 0.13 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15					
	Infrastructure	0.44 0.47 0.42 0.47 0.42 0.46 0.43 0.45 0.45 0.45 0.05 0.05 0.05 0.05 0.05					
NI-	Note: The equited properties are The Penk of New York Mellen's estimates based an historical performance and the current market equipment. We do not						

TOP FIVE THEMES IMPACTING ASSUMPTIONS FOR 2013

DELEVERAGING AND THE ROLE AND SIZE OF GOVERNMENT

Developed country governments have taken on significant amounts of debt in their efforts to stimulate growth since the onset of the Great Recession, with G7 countries' government net debt rising by more than 50% between 2007 and 2011. As rating agency downgrades underscore the unsustainability of this growing debt burden, we expect to see policy options diminish in the absence of robust growth and governments forced to adjust existing social spending commitments and spending priorities to get government finances back onto a sustainable trajectory. Regulatory changes, such as Basel III and Dodd Frank, are increasing capital requirements for financial institutions, raising the minimum quality of capital they can hold, and limiting their role as market makers. These changes will encourage banks to hold more high-grade government debt, reduce market liquidity, and increase financial market volatility. Since reaching the zero bound on interest rates, central banks in the G7 economies have been expanding their balance sheets through quantitative easing (i.e., asset purchases). These policies are credited with lowering U.S. Treasury yields by between 75 and 100 bps, with ancillary benefits for mortgages, corporate bonds, and other sectors of the fixed income markets. As economic conditions normalize over the next decade, central banks will contemplate unwinding their balance sheets, with consequences for these same sectors as well as broader financial markets.

CHANGING DEMOGRAPHICS AND LABOR MARKETS

The share of the global population over 60 is expected to increase in coming decades, but the sunset years for the "baby boomer" generation in developed countries have already begun. This will drive a secular change in investor asset preferences, which will be most evident in the defined benefit space, as investors seek to hedge their future liabilities with more certain cash flows. In contrast, emerging and frontier markets will continue to see faster population growth from a large base, driving an increase in consumption rates. This, together with a younger population profile, should drive investors in these markets towards higher risk assets that match investor horizons.

ENERGY SUPPLY AND DEMAND

Demand for energy is expected to grow steadily over the next 5 years, mostly led by emerging markets as their economies continue to urbanize, driving a rise in energy consumption per capita. Forecasts estimate total growth in demand at 9 million barrels per day, while new supply in the same period is likely to be less than 7 million barrels per day. Prices will also be underpinned by higher production costs involved in accessing deep water reserves. Improving energy efficiency in both developed and emerging markets is unlikely to offset further price appreciation.

EM / DM DECOUPLING

Developing markets account for an increasing share of global GDP growth (48% in the 90s versus 61% since 2000). Positive policy developments since the 1990s have given EM governments more flexibility in both monetary and fiscal policy (+150BP real rates vs. negative for DM and ~40% debt to GDP versus >100% for DM). While some markets may not avoid the middle-income trap, higher growth is likely to persist over the next five years and "South-South" trade has made EM economies less dependent on DM growth. Relative to the last 10 years, the growth spread between EM and DM growth is likely to be ~3% versus 6% and the correlation of growth will drop from 0.8 to >0.4.

EXCESSIVE OPTIMISM ON EARNINGS

Over the longer term, real corporate earnings in the US have grown in the neighborhood of 2.5%. Over the last 20 years they have grown at a 6% annual rate. The current real earnings growth rate in IBES is around 7.5%. In the short run earnings can grow faster than GDP as margins expand, and as corporations expand to more profitable markets. However, those patterns cannot continue forever, and growth in aggregate corporate earnings must converge to global GDP growth. Assuming that the numbers in IBES are representative of investors' expectations, when growth slows, P/Es will contract, and the equity markets will underperform.

IMPORTANT INFORMATION AND DISCLOSURES

The views in this presentation are provided by BNY Mellon Investment Strategy & Solutions Group ("ISSG").

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Hypothetical or simulated performance results have certain inherent limitations. Unlike an actual performance record, simulated results do not represent actual trading. Simulated trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. Also, since the trades have not actually been executed, The results may have under or over compensated for the impact of certain market factors. In addition, hypothetical trading does not involve financial risk. No hypothetical trading record can completely account for the impact of financial risk in actual trading. For example, the ability to withstand losses or to adhere to a particular trading program in spite of the trading losses are material factors which can adversely affect the actual trading results. There are numerous other factors related to the economy or markets in general or to the implementation of any specific trading program which cannot be fully accounted for in the preparation of hypothetical performance results, all of which can adversely affect trading results.

The capital market assumptions are The Bank of New York Mellon's estimates based on historical performance and the current market environment. We do not present the capital market assumptions as actual future performance.

This information has been prepared by The Bank of New York Mellon based on data and information provided by internal and external sources. While we believe the information provided by external sources to be reliable, we do not warrant its accuracy or completeness.

References to future expected returns and performance are not promises or even estimates of actual returns or performance that may be realized, and should not be relied upon. The forecasts contained herein are for illustrative purposes only and are not to be relied upon as advice, interpreted as a recommendation, or be guarantees of performance. In addition, the forecasts are based upon subjective estimates and assumptions about circumstances and events that may not have taken place and may never do so.

The results shown are provided for illustration purposes only. They have inherent limitations because they are not based on actual transactions, but are based on the historical returns of the selected investments and various assumptions of past and future events. The results do not represent, and are not necessarily indicative of, the results that may be achieved in the future; actual returns may vary significantly. In addition, the historical returns used as a basis for this chart are based on information gathered by The Bank of New York Mellon or from third party sources, and have not been independently verified

No investment process is risk free and there is no guarantee of profitability; investors may lose all of their investments.

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

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