

Expected Inflation, Average Annual Risk Free Rates & Annual Risk Premiums for Various Classes - %

Category	Expectation – Annual %	Comments
Inflation	3.0	The 10-year TIPS breakeven inflation rate increased to 2.37% as of December 31, 2009, from zero at the beginning of 2009. Today TIPS breakeven is representative of equilibrium pricing of inflation expectations. CPI for calendar 2009 was 2.7% driven by rising energy prices. University of Michigan Survey of 5-year annual inflation expectations have centered around 2.7% during the fall. The rise in the unemployment rate has stabilized. Commodity prices have bottomed and are trending upward. While excess capacity and current unemployment levels indicate significant slack in the U.S. economy, large fiscal stimulus, loose money policy and quantitative easing, exploding deficit spending and a resurgent global economy, point to higher inflation long-term.
Real Risk-Free Rates		
Short-term (Cash)	0.50	Federal Reserve short-term lending rates remain between 0.0% and 0.25%, currently much lower than long-term inflation expectations and below recent realized inflation. Thus, the Fed's current short-term rates establish real lending rates that are significantly negative. Expectations are for very low real, short-term lending rates over the next year or two, to rise steadily as economic growth improves. Extrapolated trend shows real risk free trend barely above 0%, its current level.
Longer-term (10-year TIPS yield)	2.00	Long-term real yield is the current 10-year TIPS yield adjusted up for our view that market breakeven inflation levels underestimate long-term inflation by approximately 0.5%. As of 12/31/2009, the 10-Year TIPS yield was 1.48%, which has fallen significantly over the past year. Market participants are buying TIPS, bidding this yield down, in order to protect against inflation.
Risk Premiums over Short-term Real Risk-free Rate:		
Domestic Core Fixed Income International Fixed Income Global Fixed Income	0.50	Yield-to-maturity on the Barclays Capital Universal as of 12/31/09 was 4.04%. 2009 saw credit spreads narrow towards pre-crisis levels, as well as the maintenance of an extremely steep yield curve with Fed success in bringing down long-term rates. Most of the levers of expected future bond returns have already been pulled. Current expected return represents negligible yield spread compression from here as a source of return. In addition, long-term rates are expected to remain stable or rise. Our longer-term, higher expected inflation level is expected to prove detrimental to fixed income returns. Reflects extrapolation of recent declining trend in fixed income risk premium. At the margin, future fixed income net issuance will be government tilted.
Core Real Estate	3.75	Assumes a mix of private core real estate and an allocation of 15% to public real estate securities. Increase from 2009 reflects capital writedown already realized, and a return of cap rates to levels more in line with historical averages.
Basic Real Return	3.50	Combination of TIPS, Timber, Commodities, and Hedge Funds of Funds. May include other segments. Generally upward outlooks for TIPS and Commodities. While Hedge Funds of Funds have taken their mark-to-market writedowns, Timber may not be done. Extrapolation of historical trends is justified. Slightly higher than last year based on inflation protection aspects of class.
Domestic Equity International Equity Global Equity	5.75 6.25 6.00	Equity premium reached a trough in its long-term cycle last year, trend is expected to adjust upward over next several years. Fundamental expectations in line with trend extrapolations. Valuations appear fair on a earnings yield basis. Downside risk of an extended recession with banking sector collapse has passed. For long-term planning purposes the Non-U.S. equity risk premiums are assumed to be slightly higher than that of the U.S., due to EM growth premium.
Hedged International Equity	6.15	Equity premium less frictional cost of hedging.
Alternative Investments/Private Equity	9.00	Expected long-term illiquidity premium over global public equity of 3.0%. Higher leverage should enhance long-term return, but increases downside risk. Current expectation adjusted upward to reflect extrapolated trends and recovery of debt markets. Mark-to-market writedowns taken.

Summary of Investment Class Assumptions

	Expected Avg. Nominal Annual Return	Expected Geo. Compound Nominal Annual Return	Expected Risk of Nominal Returns (Ann. SD)	Cash	TIPS	CoreFxd	IntlBds	GlblBds	RealEst	RealRet	USEq	IntlEq	GblEq	HIntlEq	PrivEq
Cash	3.50	3.50	2.00												
Treasury Infl. Protected Securities	5.00	4.80	6.00	0.20											
Domestic Core Fixed Income	4.00	3.90	4.50	0.30	0.60										
International Fixed Income	4.00	3.50	10.00	-0.15	0.40	0.40									
Global Fixed Income	4.00	3.70	8.00	-0.05	0.50	0.50	0.95								
Core Real Estate	7.25	6.80	10.00	0.30	0.00	0.00	-0.20	-0.20							
Real Return	7.00	6.50	10.00	0.20	0.60	0.30	0.00	0.00	0.25						
Domestic Equity	9.25	7.80	17.00	0.00	0.00	0.30	0.00	0.00	0.40	0.25					
International Equity	9.75	7.75	20.00	0.00	0.00	0.10	0.10	0.10	0.40	0.25	0.85				
Global Equity	9.50	8.00	17.50	0.00	0.00	0.20	0.05	0.05	0.40	0.25	0.90	0.90			
Hedged International Equity	9.65	7.85	19.00	0.10	0.00	-0.10	-0.10	-0.10	0.50	0.35	0.90	0.90	0.90		
Priv Equity/Venture Capital	12.50	9.40	25.00	0.00	0.00	0.00	0.00	0.00	0.40	0.25	0.90	0.80	0.85	0.90	
Inflation	3.00	3.00	2.00	0.50	0.50	-0.10	-0.15	-0.20	0.40	0.60	0.20	0.20	0.20	0.20	0.10

Significant Changes from Last Year's Ten-Year Assumptions

- Fixed income expected returns have come down significantly, declining to 4.00% from 5.25%, due to falling rates and tighter spreads.
- Core real estate expected returns have risen from 6.75% to 7.25% due to price declines.
- Equity expected returns have declined across the board owing to price gains since last year.
- We have differentiated between the expected return to Domestic and International Equity owing to higher expected growth in EM equity.
- The standard deviation of inflation has increased as uncertainty around the level of inflation is expected to rise.

Indices Used in Modeling Asset Class Assumptions

Asset Class	Index
Cash	Citigroup 3 month US Treasury Bill Index
TIPS	Barclays Capital TIPS, simulated TIPS series per Bridgewater
Domestic Core Fixed	Barclays Capital Universal, Barclays Capital Aggregate Index, Barclays Capital G/C Index, Barclays Capital Intermediate Govt. Index, Barclays Capital Corp/Credit Index
International Fixed	Barclays Capital Global Treasury ex-US Unhedged, Solomon/Citigroup World Non-US Government Bond Index
Global Fixed	Barclays Capital Global Treasury Index, Salomon/Citigroup World Government Bond Index
Core Real Estate	NCREIF NPI Index, Prior Indices
Real Return	Barclays Capital TIPS, various Hedge Fund Indices, NCREIF Timber Index, Dow Jones UBS Commodity Index
Domestic Equity	Russell 3000 Index, S&P 500 Index
International Equity	MSCI/Barras ACWI ex-US Index, MSCI/Barras EAFE Index
Global Equity	MSCI/Barras ACWI World Index
Hedged Intl. Equity	Hedged MSCI/Barras ACWI ex-US Index, MSCI/Barras EAFE Index
Private Equity	Prior Brinson Venture Capital Index, VCJ Post Venture Capital Index

Notes:

PCA developed its average annual return premiums and standard deviation estimates using a combination of approaches. First, for major asset classes with an appropriate amount of history, PCA studied historical time series over both one-year and five-year holding periods to uncover any specific trends in the time series data. For example, domestic stock return premiums exhibited cyclical behavior, with each full cycle lasting approximately 40-50 years. Statistical procedures were used to identify such trends and extrapolate these trends 10-15 years forward. Second, PCA examined fundamental variables underlying several major asset classes and computed expectations based on consensus views of these variables. PCA also reviewed outlook opinions from a handful of leading investment banks and investment advisory firms. PCA compiled these opinions to develop consensus expectations for the major asset classes. PCA then used these consensus expectations as reference checks against its own expectations. Finally, PCA professionals discussed and debated asset expectations internally until a consensus view developed.

In recognizing that asset class risks are not always stable, PCA also examined risk trends utilizing similar statistical procedures. PCA also calculated risks weighting more recent periods heavier than earlier periods. In certain instances, weighted standard deviations differed materially from basic standard deviations. In these cases, PCA utilized weighted standard deviations as a base line for analysis.

In recognizing that correlations are also not always stable, PCA analyzed the current behavior of the correlations among major pairs of asset classes. In analyzing the correlation trends among pairs of assets, we focused on correlation trends across non-overlapping five-year holding periods. Using statistical procedures highlighted above, we extrapolated the trends of these correlations into the future to gain a sense of their level and direction. For correlation pairs containing short annual return histories, we analyzed correlations of annual returns. Similar to analyzing risks, we also applied a decay factor to return history and calculated weighted correlations where appropriate.

Given the complexities associated with developing capital market expectations, we advise users of the above information to rely on judgment as well as optimization approaches in setting strategic allocations to any set of investment classes. Please note that all information shown is based on qualitative and quantitative analyses. Exclusive reliance on the above is not advised. This information is not intended as a recommendation to invest in any particular asset class or as a promise of future performance. References to future returns for either asset allocation strategies or asset classes are not promises or even estimates of actual returns a client portfolio may achieve.

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