Fresno County Employee's Retirement Association

Asset Allocation Study

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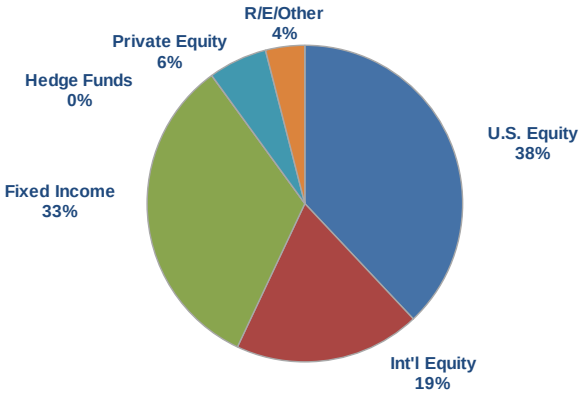
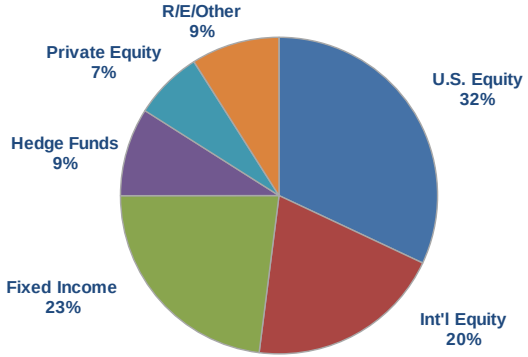
Evolution of FCERA Asset Allocation

6/30/2008: Prior to A/L Study

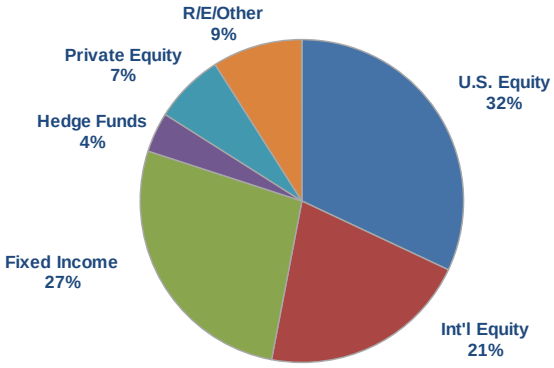


A/L Study Target Allocation



- Wurts & Associates conducted an Asset-Liability in September 2008 and recommended an asset allocation which was subsequently approved by the Board.
- Capital markets have undergone tremendous change since 2008.
- The Board implemented various changes the Plan to take advantage of opportunities becoming available in the market.
- Wurts & Associates has conducted this asset allocation study to reflect a stabilized market environment and incorporate our most current capital market assumptions.

Current Target Allocation



Asset Allocation Changes: 2008 - 2010

Overweighted credit by investing in opportunistic fixed income

Credit spreads were at historically unprecedented levels

Participated in TALF investments

These investments provided a unique opportunity to generate excess returns.

Created an allocation to commodities and TIPS to hedge inflation risk

These investments were passively managed to avoid active management potentially undermining the intended exposure to the asset classes.

Carved out a dedicated international small cap allocation

To diversify the equity allocation and economic drivers.

Impact of Asset Allocation Changes

Credit

Since inception in May 2009, Loomis Opportunistic outperformed the Barclays Aggregate Index + 300 basis points by 8.3%. Standish Mellon Opportunistic outperformed by 6.8%.

TALF

Since inception in August 2009, MetWest TALF returned 13.1% above the Barclays Aggregate Index. PIMCO TALF returned 20.0% above the index.

TIPS and Commodities

The SSgA TIPS Index Fund added 2.3% over the Barclays Aggregate Index since inception in February 2009. The TIPS mandate was funded from fixed income.

The BlackRock Commodity Index Fund added 13.3% above the S&P 500 Index since inception in March 2010. The commodity mandate was funded from equities.

Intl Small Cap

Since inception in November 2009, Mondrian Intl Small Cap generated 24.0% excess returns from the weighted Barclays Aggregate and MSCI Emerging Markets indices. The international small cap equity mandate was funded equally from fixed income and emerging markets.

Prevailing Capital Market Conditions

Equities are getting expensive

- US equity valuations suggest a moderate scale back in returns. International equities offer more attractive risk-adjusted returns.
- Small cap stocks do not appear poised to compensate investors commensurate with the volatility.

Credit spreads are narrowing

- Rising risk free rates from stronger economic growth would narrow credit spreads

Inflationary pressures still remain a concern

- Fed must still successfully remove monetary stimulus, government deficits still need to be reduced and there remains economic incentive to inflate our way out
- TIPS are more attractive than nominal Treasuries over the decade

Real Estate is still looking a bit ugly, but won't be forever

- Real estate represents one-third to one-half of total household assets, affecting household net worth which in turn impacts consumer spending and eventually economic growth

Middle Market Mezzanine Debt looks attractive nowadays

- Lenders are able to command better loan covenants, lend at high rates but get better credit risk through lower leverage levels

Portfolio Implications

Equities are getting expensive

- **Underweight Small Cap (domestic and international)**
- **Increase International and Emerging Markets equities**

Credit spreads are narrowing

- **Credit is much less attractive now than two years ago, but maintain exposure to Opportunistic Fixed Income for the remaining yield advantage**

- **Closely monitor the Opportunistic Fixed Income exposure**

Inflationary pressures still remain a concern

- **Enhance inflation protections with higher TIPS and Commodities allocation**

Real Estate is still looking a bit ugly, but won't be forever

- **Make additional commitments to Core Real Estate**

Middle Market Mezzanine Debt looks attractive nowadays

- **Review Mezzanine Debt opportunities and make additional commitments to this Private Equity strategy**

Recommended Allocation Shifts

	Current Policy	Revised Target Allocation	CMA's (10 Yr)
Large Cap US Equity	24	24	*6.8*
Small/Mid Cap US Equity	8	5	*6.3*
Total Domestic Equity	***32***	***29***	
International Large	12	15	*7.0*
International Small	6	4	*6.5*
Emerging Markets	3	5	*8.8*
Total Int'l Equity	***21***	***24***	
Total Equity	***53***	***53***	
US Credit Fixed Income [1]	16	16	*3.8*
High Yield Fixed Income[2]	9	6	*5.5*
Total Fixed Income	***25***	***22***	
TIPS	2	4	*4.3*
Commodities	3	4	*8.0*
Real Estate	6	6	*6.2*
Total Inflation Overlay	***11***	***14***	
Liquid Alts/HFoF	4	4	*5.6*
Private Equity/VC	7	7	*9.8*
Total Non-Public Investments	***11***	***11***	
Total Allocation	**100**	**100**	

[1] This is described as "core plus" in the current Investment Policy Statement.

[2] Current policy high yield allocation comprised of opportunistic mandate 6%) and TALF (3%). The revised target allocation is a result of the TALF investments winding down.

	Current Policy	Revised Target Allocation
Expected 10 Year Return[1]	**6.26**	**6.35**
Mean Variance Optimizer Analysis		
Forecast 10 Year Return	***6.91***	***6.99***
Standard Deviation	11.53	11.45
Return/Std. Deviation	*0.6*	*0.6*
1st percentile ret. 1 year	*-16.6*	*-16.4*
Sharpe Ratio[2]	0.30	0.30
Wurts Economic Scenario Analysis		
10 Year Return Forecast		
Stagflation	4.2	4.4
Weak Economy	3.8	3.9
Average Economy	***5.6***	***5.7***
Strong	7.6	7.7
Range of Scenario Forecast	*3.8*	*3.8*
Economic Shock (1 year)	*-36.1*	*-35.2*

Note: It is difficult to fully incorporate macro factors for opaque illiquid investments such as private equity and hedge funds

[1]Expected return is average of MVO forecast and "average economy" scenario forecast

[2] Note that this calculation assumes risk free rate of f 3.5%

FCERA Real Estate Program

Real Estate Commitment			
A	Total Plan Assets	-	2,978,499,000
B	Total Real Estate Market Value*	-	141,582,000
C	Target Real Estate Market Value	A * 6%	178,709,940
D	Real Estate Uncommitted Capital	C - B	***37,127,940***

* Includes Unfunded Commitment of $13.5m to TA Realty IX.

Real Estate Strategy Mix			
Strategy	Target	Current*	Proposed*
Core	60%	41%	54%
Value Add / Opportunistic	40%	59%	46%

* Includes Unfunded Commitment of $13.5m to TA Realty IX.

Recommendations:

$37m additional commitment to INVESCO Core Real Estate
The additional commitment to Core Real Estate will further balance the strategy mix and effectively lower the overall risk of the FCERA Real Estate Program.

Liquidate the Sentinel Real Estate Fund by year-end 2011
A diversified core real estate fund like INVESCO provides the exposure to multi-family and, given the current real estate and economic cycles, overweights that property type. Waiting a few quarters will allow time for additional recovery in the Sentinel fund.

FCERA Private Equity Program

Private Equity Commitment Assumption Model			
A	Total Plan Assets	-	2,978,499,000
B	Total Private Equity Market Value	-	163,645,000
C	Target Private Equity Market Value	A * 7%	208,494,930
D	Private Equity Market Value Gap	C - B	44,849,930
E	Funding Estimate	D * 1.5	***67,274,895***

Note: Based on 12/31 data. Private Equity market value data is provided by the General Partner(s)

Recommendation:

Commit $30m to Mezzanine Debt

Approved and available Mezzanine Debt managers:

- KKR
- GSO II
- York Street III

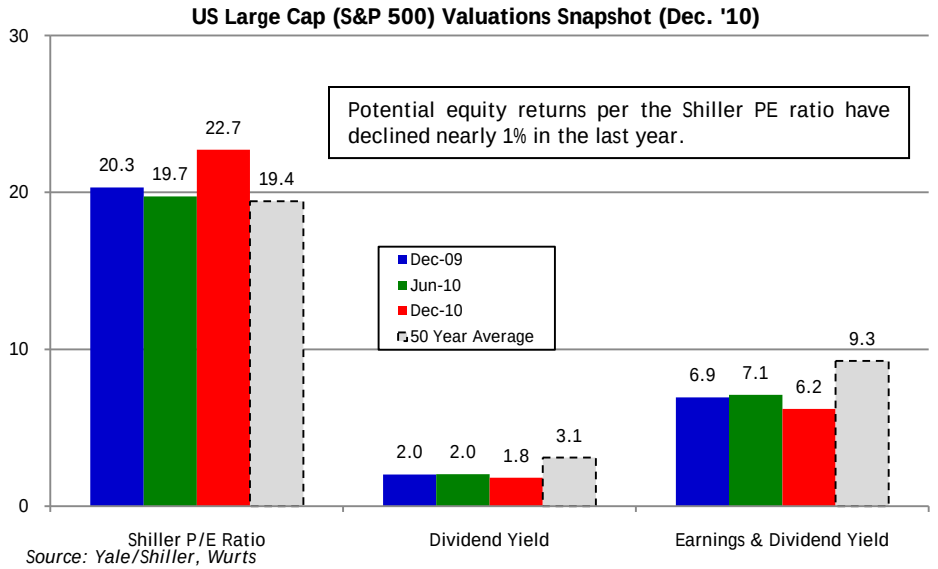
KKR Strategy: The Fund will primarily target mezzanine investments as part of leveraged buyouts, other private equity sponsored transactions, recapitalizations, refinancing, and growth financing.

Projected Return: Cash and PIK interest on mezzanine investments should yield mid-teens returns. This in addition to upfront origination fees, call protections, and potential equity upside creates a gross of fee return objective of 15%-20% given the current market environment.

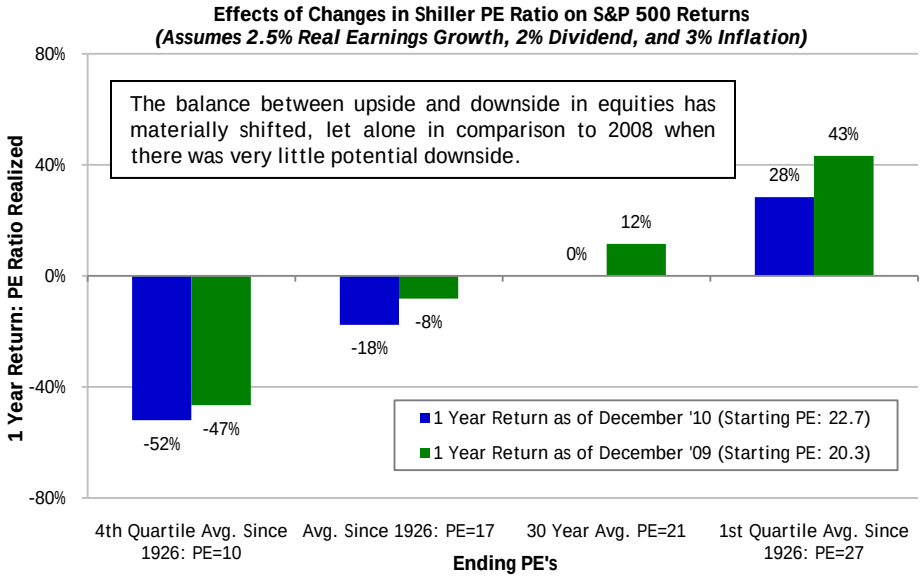
KKR Mezzanine Partners I, L.P. will have its final close in the second quarter of 2011.

Equities are Getting Expensive Yet Again

- As discussed in the previous section of this report, US equity valuations are starting to appear somewhat rich on an absolute and relative basis.
- The Shiller PE ratio is indicating around 6% returns over the next decade and the 1 year forward PE ratio implies nearly a 9% rate of return. However, when you consider the aforementioned research on forward PE ratios and that they overstate returns by 1.5% on average, it is reasonable to expect mid-single digit equity returns going forward.
- Relative to credit markets, the potential risk premium for holding equities is slim, which is quickly making this asset class one of the least attractive on a risk adjusted basis.
- Additionally, the balance between potential upside/downside in equities is starting to get lopsided once again.



Source: Yale/Shiller, Wurts



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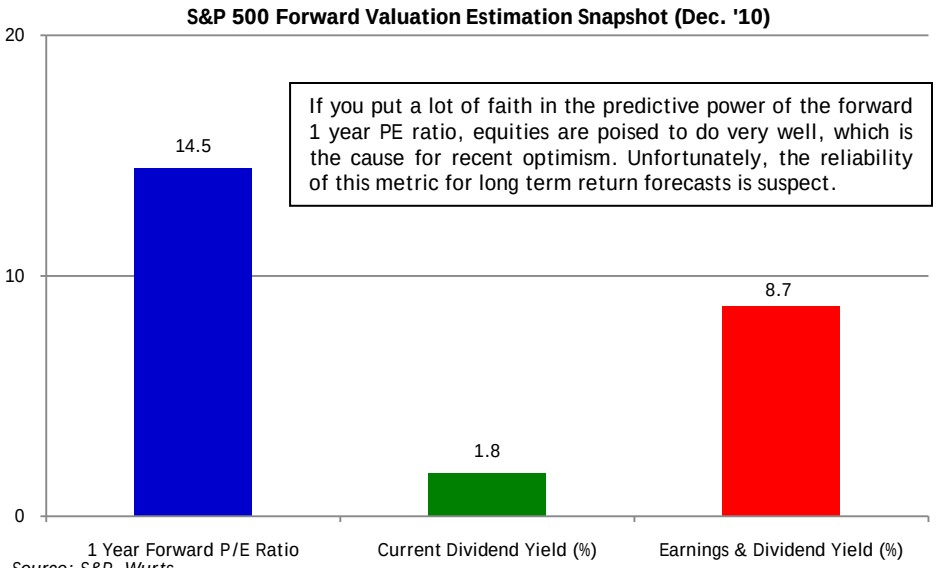
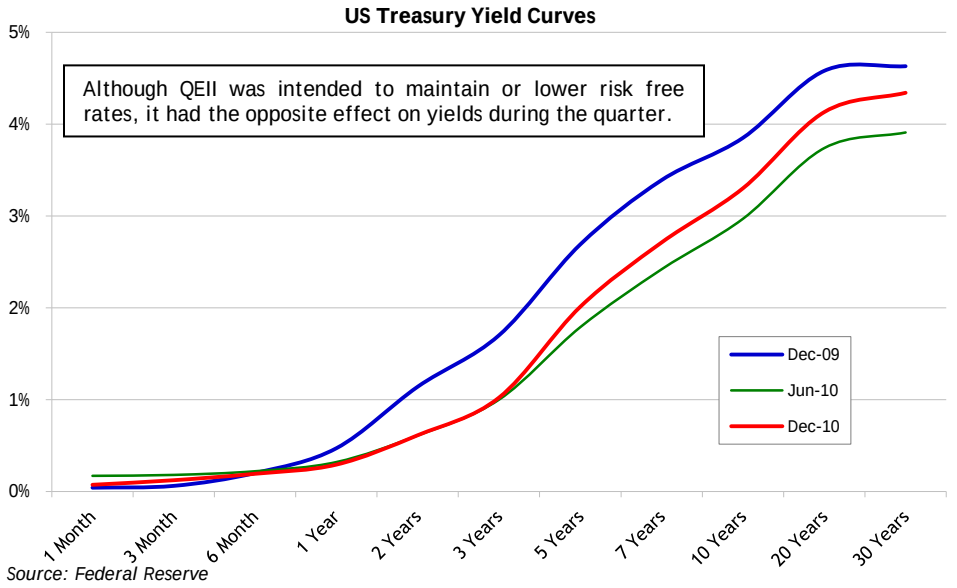


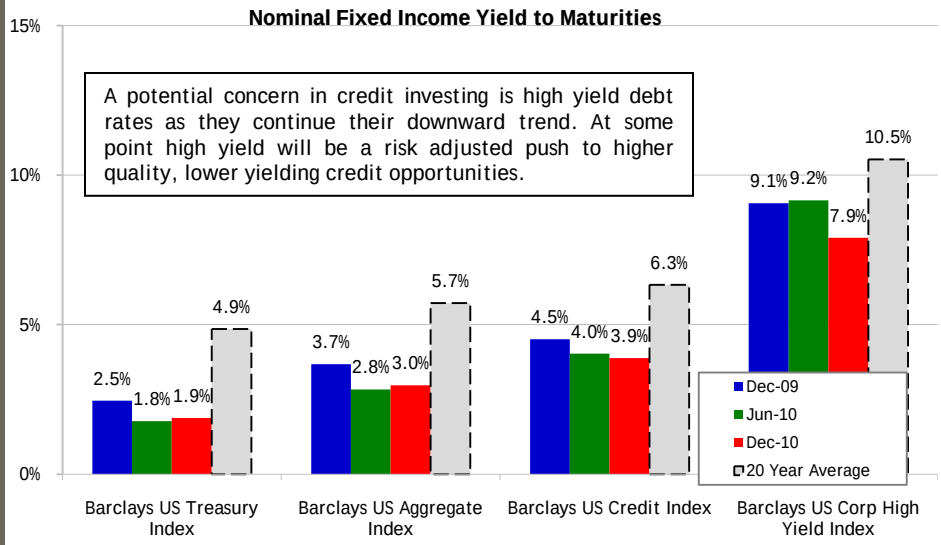
Source: S&P, Wurts

Risk Free Rates are Edging Higher & Spreads are Narrowing

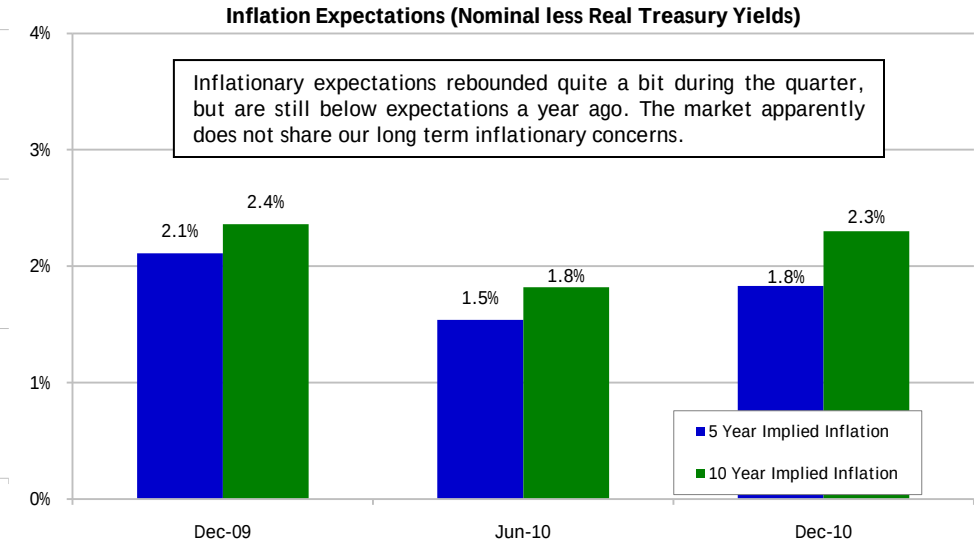
- One of the primary drivers for maintaining our strategic overweight to credit has been the potential protection such investments offer against rising risk free rates.
- If rates rise due to stronger economic growth expectations, credit spreads should narrow as a result to offset losses, which was the case during the last quarter as Treasury rates rose on increased economic and inflationary expectations.
- Going forward credit remains poised to offer a return advantage relative to Treasuries, but this advantage is slowly but surely getting priced away.
- US Treasury inflation protected bonds (TIPS) continue to look more attractive than nominal Treasuries over the decade, at least assuming you agree with our view inflation will likely exceed the Fed's target rate of 2.5% over that time period.



Source: Federal Reserve



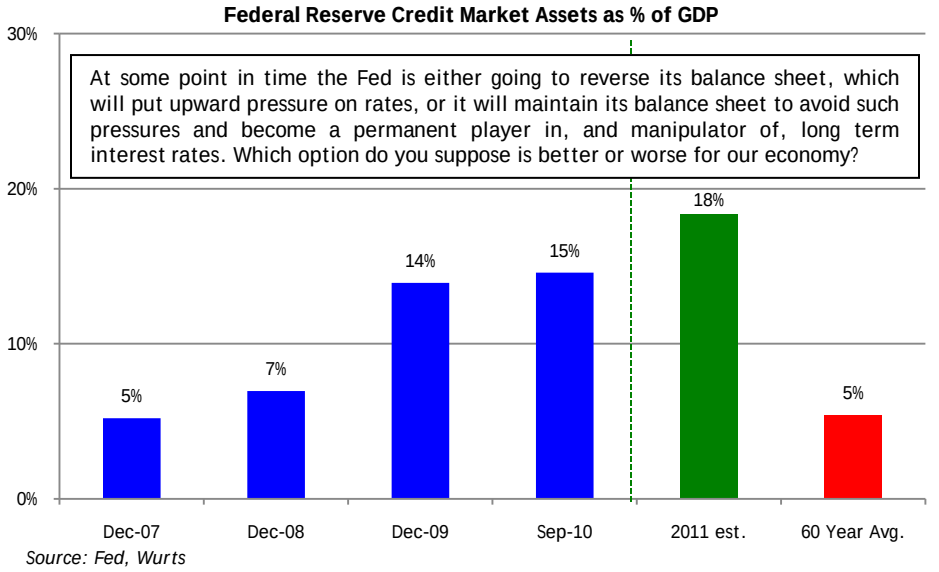
Source: Barclays



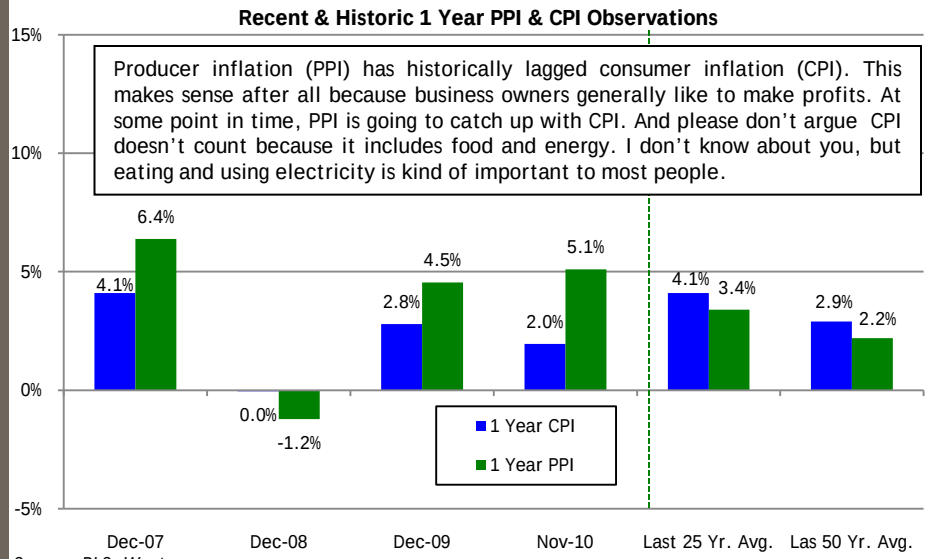
Source: Federal Reserve, Wurts

Inflationary Pressures *Still* Remain a Concern

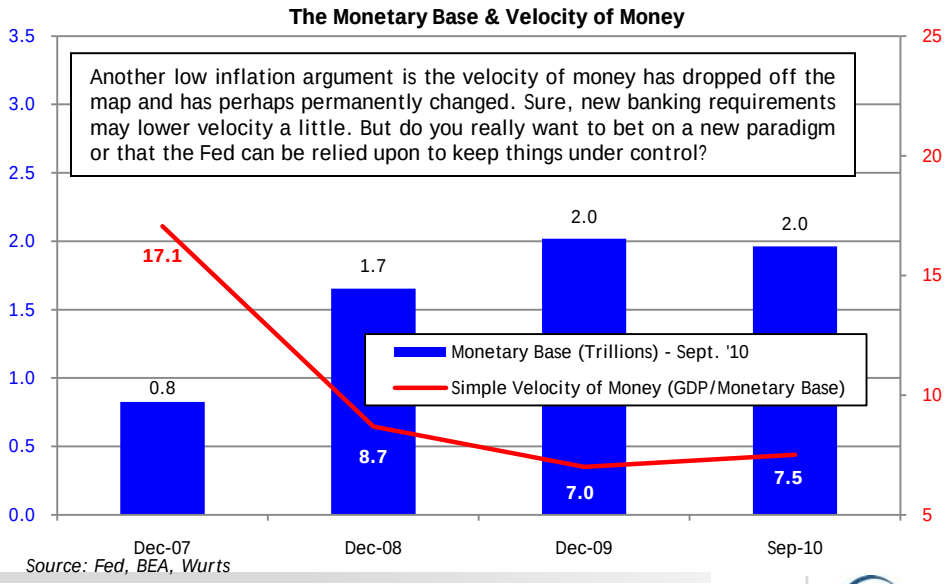
- We have been warning of the threat of higher than expected inflation for some time, and will continue to do so until the Fed successfully removes monetary stimulus, let alone until government deficits are reduced and the economic incentive to inflate our way out of this mess is removed.
- Although inflation has been tame on an absolute basis the last few years, ranging from 2.0% to 2.8%, it has not been on a relative basis in the context of doing so during one of the largest and longest economic recessions in history.
- We are well aware of prevailing anti-inflationary arguments, which essentially amount to the concept that inflation is not high and therefore will not become high, but disagree with them as a basis to ignore this threat to real portfolio values.
- History is littered with very painful examples of people extrapolating current events too far into the future.



Source: Fed, Wurts



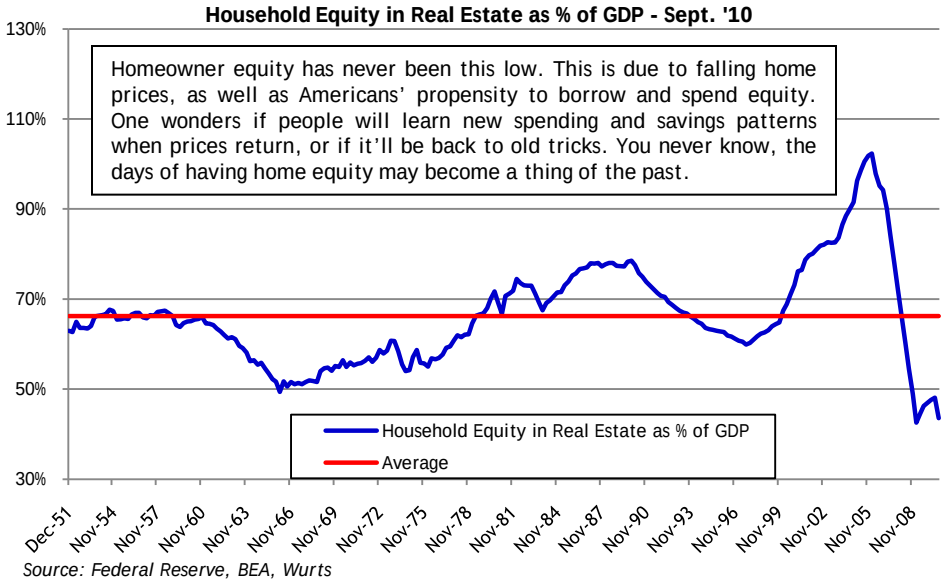
Source: BLS, Wurts



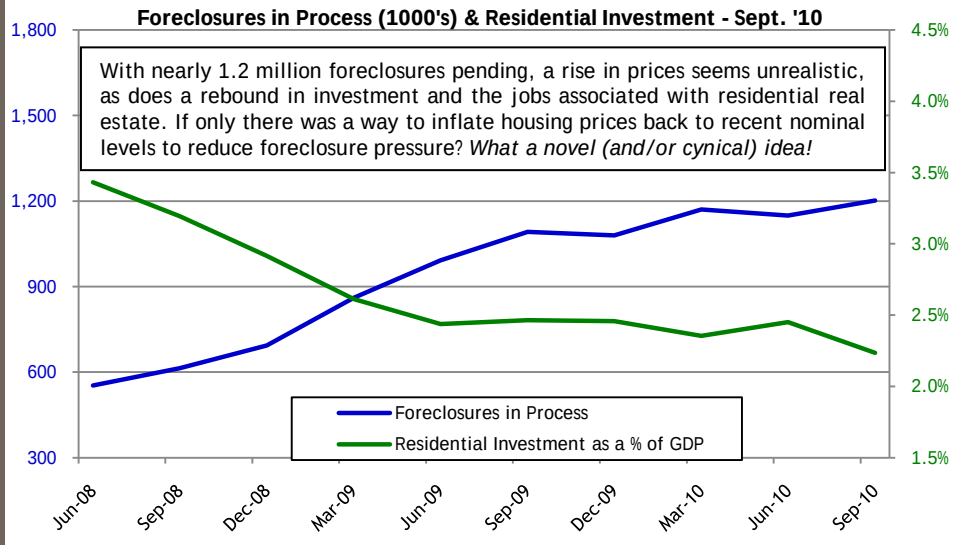
Source: Fed, BEA, Wurts

Real Estate is Still Looking a Bit Ugly, But Won't Be Forever

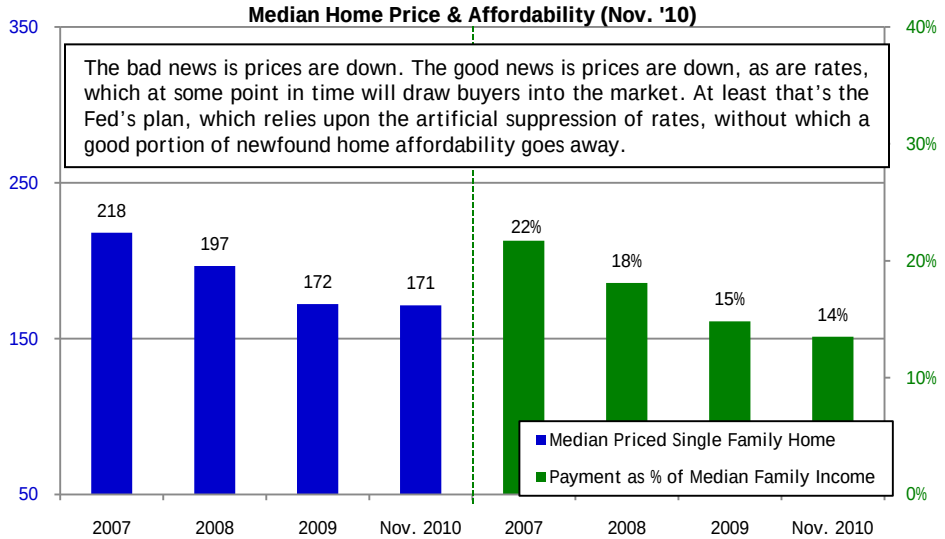
- As much as we'd like to report all good news for the quarter, we cannot ignore one of the most important aspects of our economy, the housing market, which is still looking a bit ugly.
- Real estate has represented anywhere from one-third to nearly half of total household assets over recent periods. As such, its effect on household net worth and therefore consumer spending patterns are undeniable and continues to be a net negative for economic growth.
- Also do not forget the associated effects for the rest of the economy; i.e., the jobs associated with housing construction and the durable goods used in new household formation.
- It seems as if the real estate market is yet to "clear," and the bottom doesn't appear to be in sight. Nonetheless, houses are far more affordable than just a few years ago, which will eventually produce positive pricing pressure, at least if rates stay low.



Source: Federal Reserve, BEA, Wurts



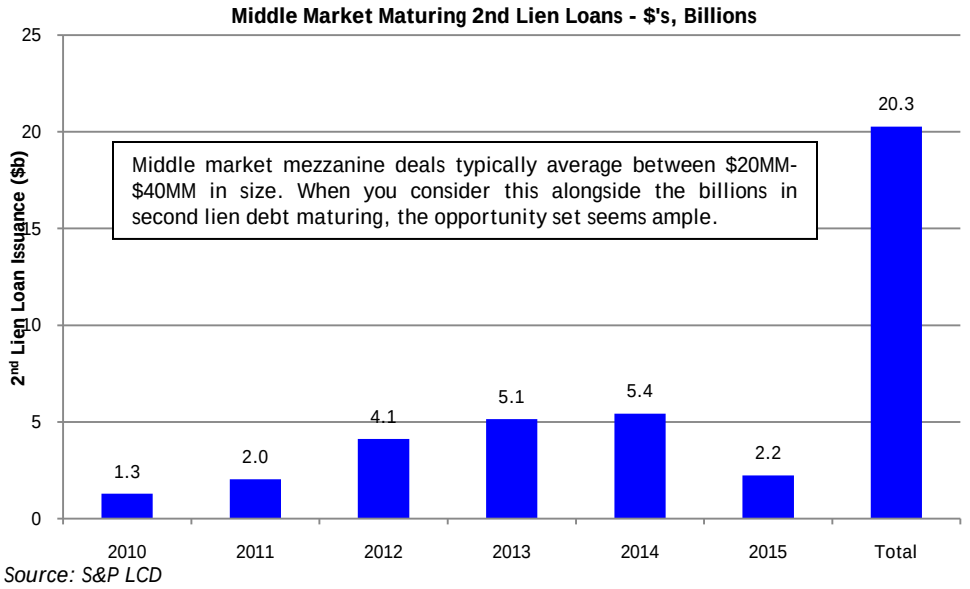
Source: OCC, BEA, Wurts



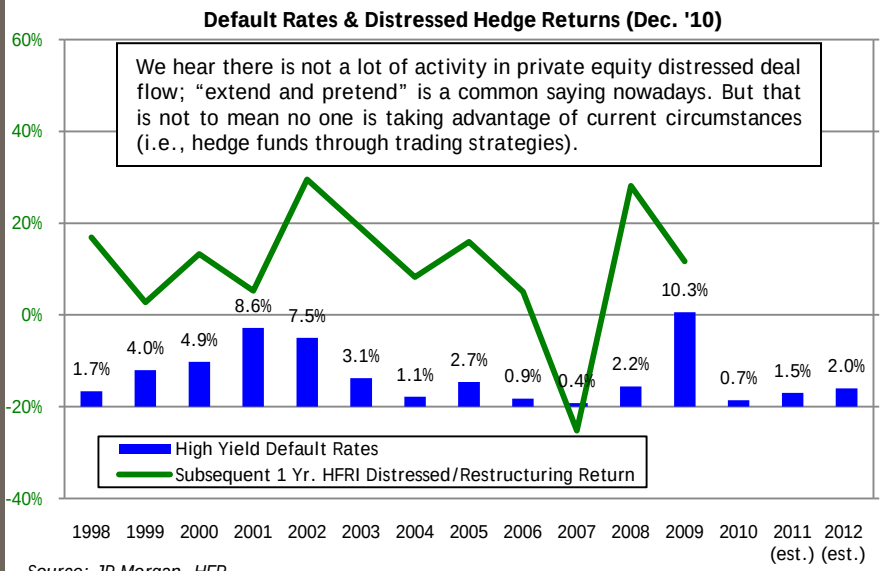
Source: Census Bureau

Middle Market Mezzanine Debt Looks Attractive Nowadays

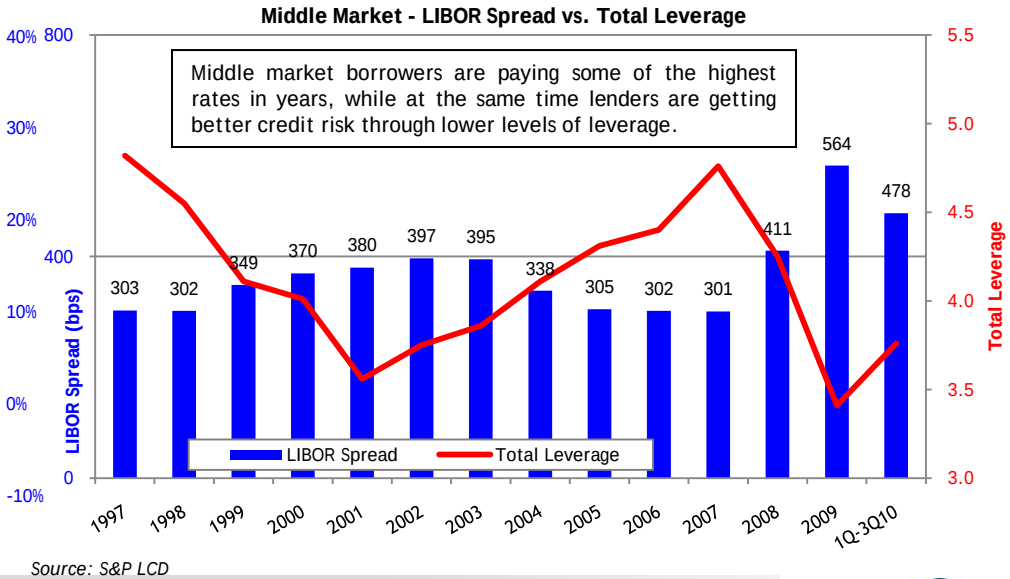
- Within private equity markets we see the biggest "fat pitch" to be middle market mezzanine lending in the current market environment .
- As opposed to just a few years ago, lenders are able to command far better loan covenants, are lending at lower levels of leverage, while at the same time getting higher rates of returns than seen in more than a decade.
- These strategies also appear to have an ample opportunity set over the next several years, and are offering up investors a reasonable expectation of low teens returns, the majority of which is based on cash flows;ideal in choppy markets.
- Distressed debt has also gotten a lot of attention recently, but anecdotally we are not hearing or seeing much activity in this part of private markets, at least not for now.



Source: S&P LCD



Source: JP Morgan, HFR



Source: S&P LCD

Capital Market Expectations: Overview of Methodology

Appropriate Frame of Reference

There are several methods for forecasting capital markets returns, none of which has proven predictive value. So regardless of which methodology is used, one must accept the results thereof are simply an educated scientific guess as to the future. However, the longer term your outlook, the better your chances of being correct. This is because capital markets tend to reflect human irrationality over short periods of time, but are ultimately rational and reflective of the underlying economic theories that govern financial relationships. In our opinion a ten year outlook is the minimum time frame in which we can expect markets to behave in line with theoretical expectations, and is the time frame for our return forecasts.

Approach to Forecasting

Our approach is based on a combination of underlying macroeconomic conditions, valuations, historical analysis of economic relationships, and our subjective analysis. Essentially we use a top-down approach to return forecasting based on theoretical relationships.

Macroeconomic factors play a primary role in the determination of cash and inflation rates. This is because economic health will materially dictate cash rates as effectively determined by the Federal Reserve. Moreover rates of inflation will be fundamentally driven by the expansion or contraction of the economy, as well as monetary policy necessary to achieve the desired economic outcome.

Valuation analysis for fixed income centers around current yields and expectations for defaults in credit markets. Within equity markets, our analysis consists of current price to earnings valuations on a normalized basis (or rolling ten year periods) and expected growth thereof, as well as dividend yields. Our basis for all equity expectations is built from the S&P 500 index for which we have the longest period of historic data. Expected return forecasts for other equity investments are based on relative valuations to the S&P 500. This methodology also extends into real estate investments, but with the primary predictive metric being capitalization rates.

Within the area of alternative investments *(hedge funds & private equity)* a more subjective analysis is required. These asset classes typically have less available data from which to derive economic relationships. Furthermore they tend to be somewhat opaque in their underlying holdings, have complicated fund formats, and are not publicly traded. So this portion of our expectations will be more theoretical in nature, but not devoid of historic analysis.

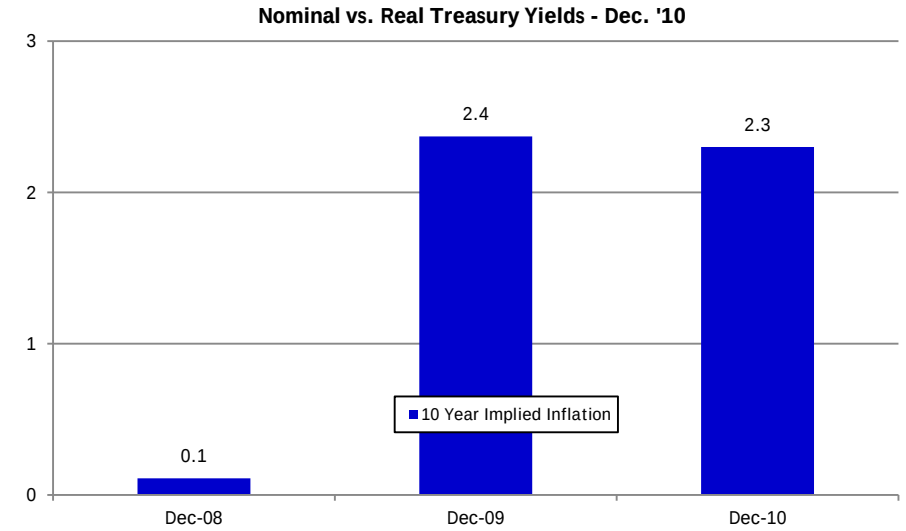
Volatility forecasting is based primarily on realized historic standard deviation of returns for publicly traded asset classes, hedge funds, and real estate. For private equity investments which are the least frequently marked to market, we assume volatility that is more along the lines of underlying equity valuations, with the S&P 500 as the base index.

Expected Rate of Inflation

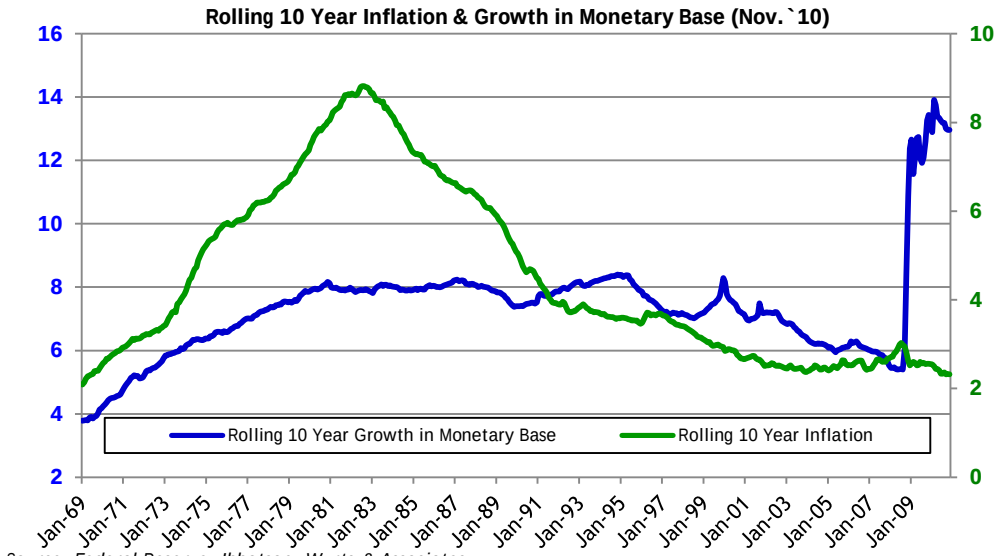
- One of two primary indicators for expected inflation is the implied rate of inflation by comparing nominal to inflation protected treasuries (TIPS).
- Based on this analysis it appears capital markets are predicting a 2.3% rate of inflation over the next decade, which is up substantially from a few years ago during which inflationary expectations were non-existent.
- Another method to forecast inflation is to look at the growth in the monetary base over time.
- Because of the recent financial crisis and economic recession, the Federal Reserve has engaged in multitudes of monetary stimulus measures.
- The most notable measure is the more than doubling of the monetary base in 2009, which we believe will put upward pressure on inflation over the next decade.
- We have detailed our inflationary concerns through the course of 2009-10 and recommend viewing our Quarterly Research Reports for our complete rationale for expecting higher than historic inflation over the next decade.

	Last 1 Year	Last 10 Years	Last 20 Years	Next 10 Years
CPI (all items)	1.1	2.4	2.5	3.25

Source: Bureau of Labor Statistics



Source: Federal Reserve, Wurts & Associates



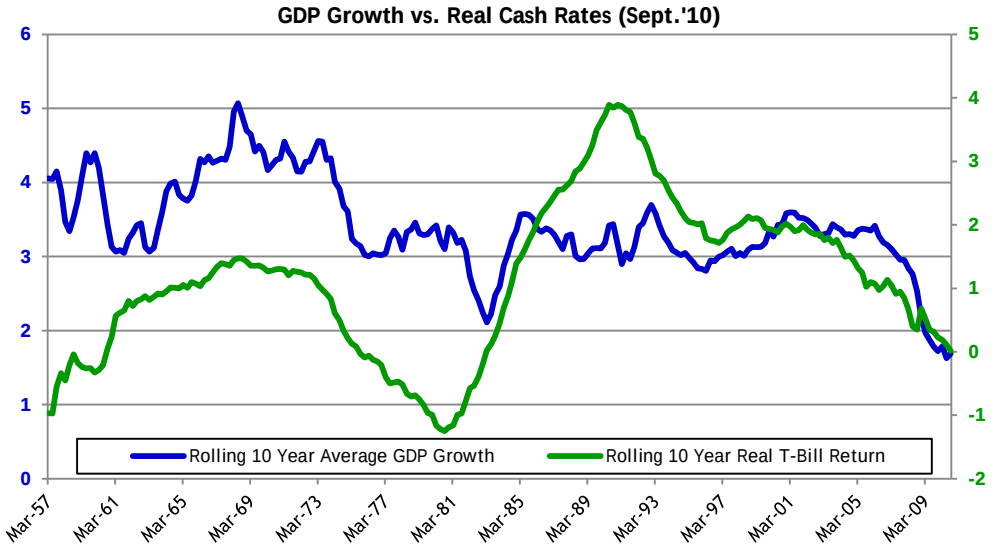
Source: Federal Reserve; Ibbotson; Wurts & Associates

Cash Rates

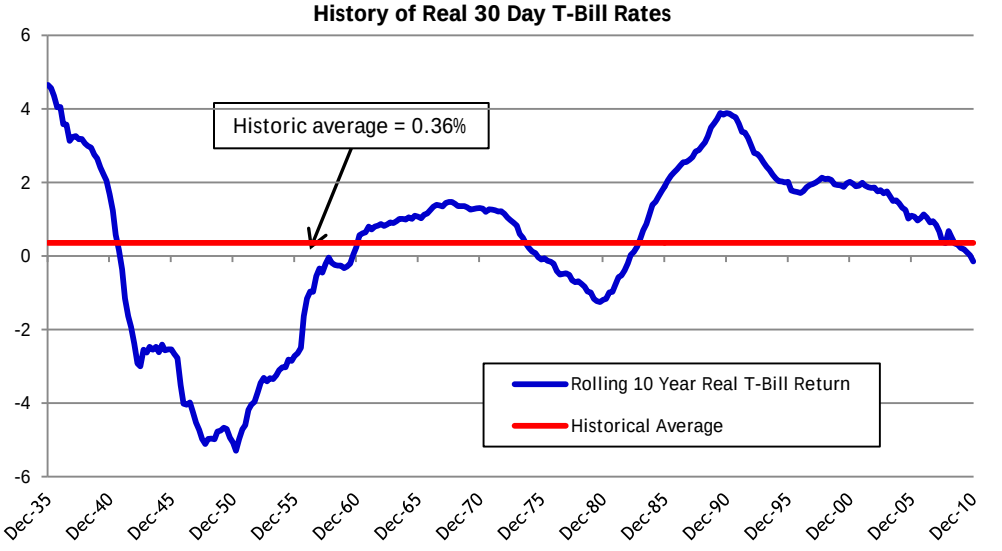
- There is a fundamental relationship between real cash rates and economic growth. As an economy strengthens, higher real cash rates are needed to keep inflation under control. As an economy weakens, lower real cash rates are needed to stimulate activity.
- Currently the US economy is in the middle of a very strong recession. Therefore it is reasonable to expect lower real cash rates from historic levels to renew and maintain economic growth.
- We expect real cash rates over the next ten years to increase slightly from the current rolling 10 year level -0.14% to 0.25%, which is slightly less than the historic average.
- The end result is a nominal cash forecast of 3.5%.

	Last 1 Year	Last 5 Years	Last 10 Years	Next 10 Years
Real 30 Day T-Bill	-1.27	0.07	-0.14	0.25
Nominal				3.50

Source: Ibbotson



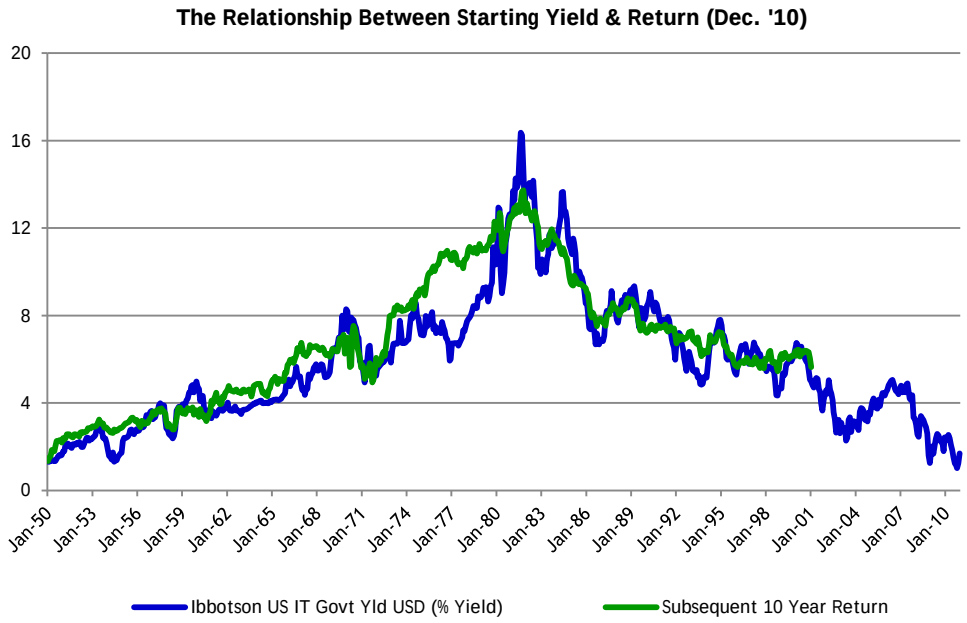
Source: Bureau of Economic Analysis; Ibbotson



Source: Ibbotson

US Treasuries: Inflation Protected (TIPS)

- Generally speaking the starting yield for a particular bond index offers very good predictive value for the subsequent ten year rates of return.
- Of course fluctuations in interest rates contribute to index returns over time, the scope of which depends on the duration, or interest rate sensitivity of the index.
- Normally expected defaults come into play, but this is not a concern for Treasuries.
- *Unlike forecasting for other asset classes, the expected return for a 10 year investment in Treasuries is known due to the lack of defaults, and therefore no default forecasting necessary.*
- Similarly our forecast for 10 year TIPS returns is derived by the same method. However because TIPS yields are quoted in real terms, we simply add our inflation assumption to produce a nominal return expectation.



Source: Ibbotson

	10 Year Expectation
Nominal	4.25
Current 10 Yr TIP Real Yield	1.00

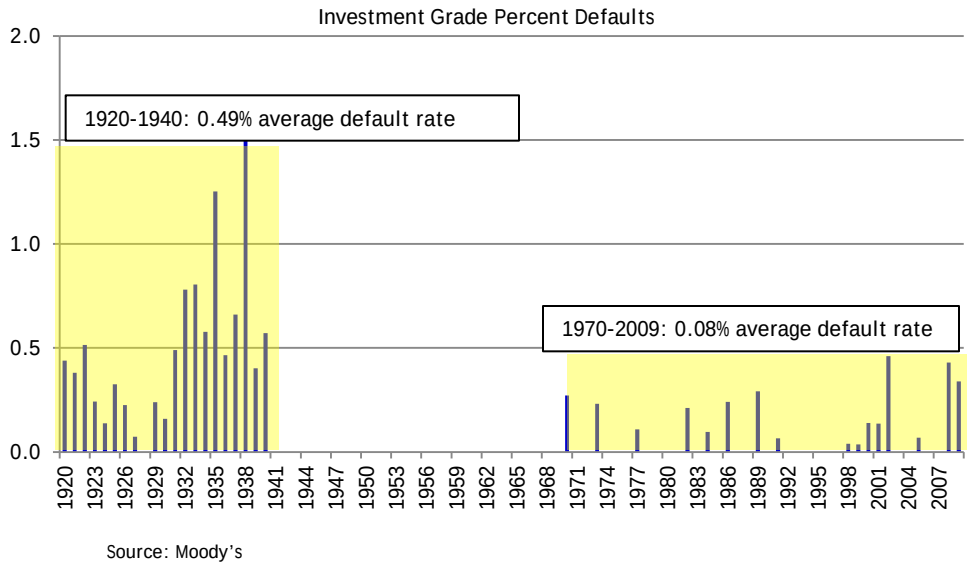
Source: Ibbotson, Federal Reserve

US Corporate Investment Grade Credit

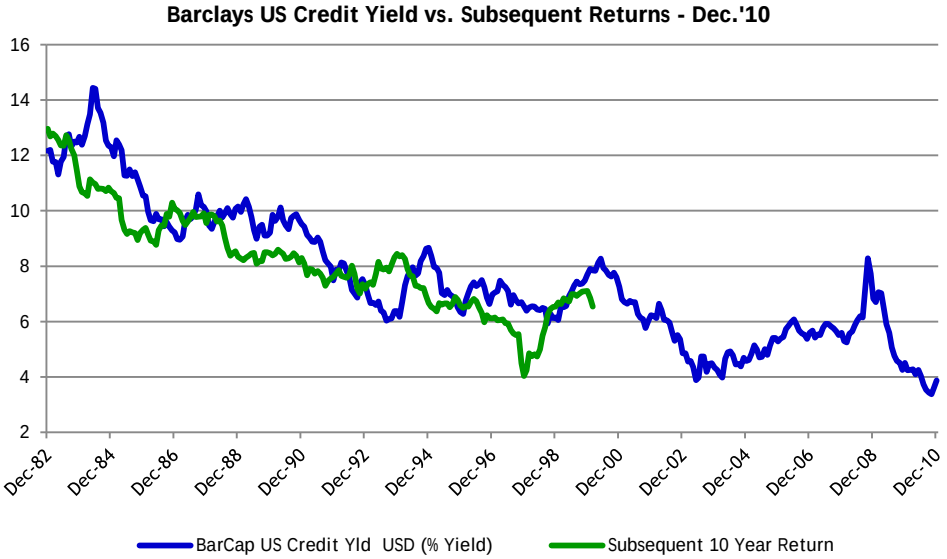
- Like other fixed income asset classes, we primarily base our return expectation for investment grade corporate credit on starting yields; defaults are also taken into consideration.
- Over time default rates for investment grade debt are very low, with the average rate since 1970 coming in at only 0.08%.
- During times of significant economic stress such as the Great Depression we saw much higher default rates, but they were still only a modest 0.50%.
- We recognize the potential for defaults given the recent credit crisis and near term economic weakness.
- So we are taking a conservative approach to forecasting defaults for corporate credit to be 0.10% over the next decade.

	10 Year Expectation
Starting Yield	3.90
Less Expected Defaults	-0.10
Nominal	3.80
Real	0.55

Source: Barclays



Source: Moody's



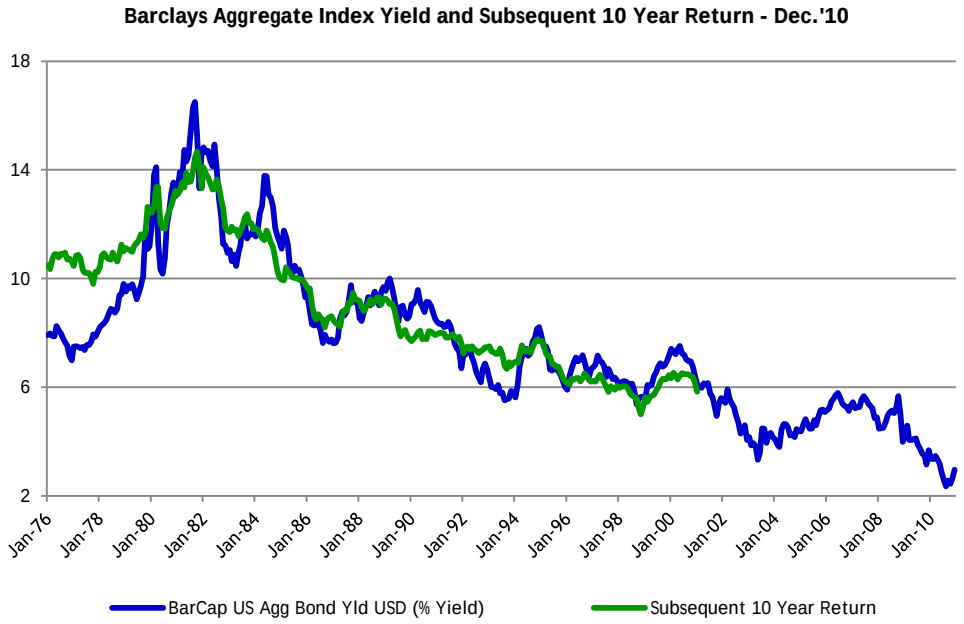
Source: Barclays; Ibbotson

US Core Fixed Income/Aggregate Bond

- Our US aggregate bond forecast is based on the starting yield of the Barclay's Aggregate Bond index, less the expected defaults of the corporate credit portion of this index.
- Corporate investment grade credit comprises about 1/3 of the Aggregate index, and we've assumed a 0.20% default rate for these bonds.
- The December 2010 YTM for the Barclays Aggregate index is 2.97%, from which we subtract 0% total index default rate as a rough estimate of expected defaults due to credit exposure.

	10 Year Expectation
Starting Yield	3.00
Less Expected Defaults	-
Nominal	3.00
Real	-0.25

Source: Barclays



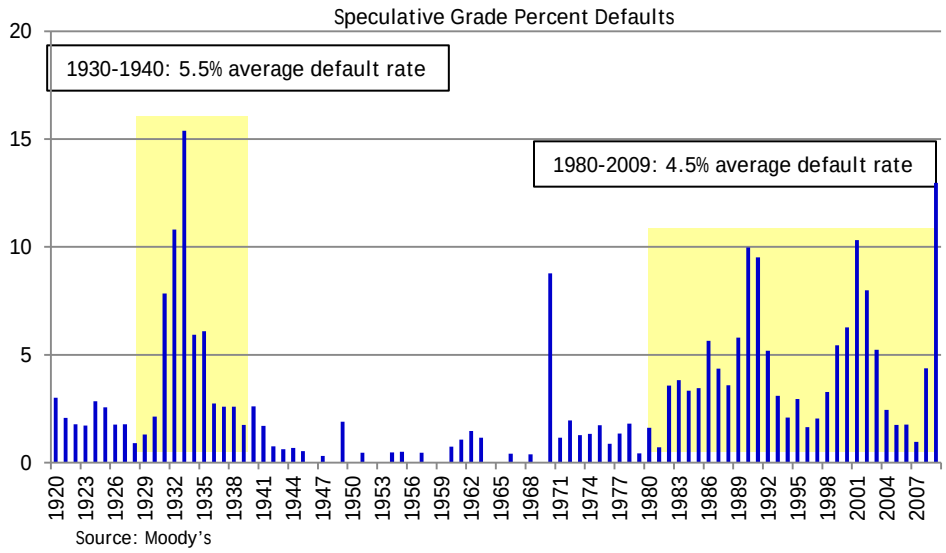
Source: Ibbotson

US High Yield Credit

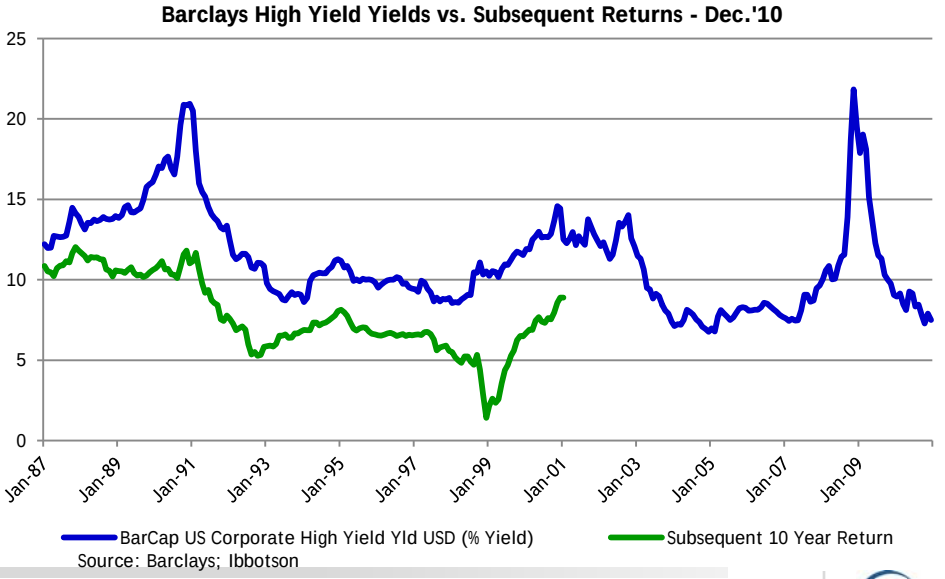
- Similar to our analysis for corporate investment grade debt, we take a combination of starting yield and expected default rates.
- The current yield to maturity for the Barclays High Yield debt index is 7.5% as of December 2010.
- The default rates for high yield debt are highly variable over time, and have reached as high as 15% during the Great Depression and around 10% over the last few decades.
- On average high yield debt defaults are around 4%-5%, but with recovery rates of around 20%-30%.
- Our assumed default rate for actively managed high yield debt is 2.5%, but with a 20% recovery rate, resulting in net asset class defaults of 2.0%.

	10 Year Expectation
Starting Yield	7.50
Less Expected Defaults	-2.00
Nominal	5.50
Real	2.25

Source: Barclays



Source: Moody's



Source: Barclays; Ibbotson

Global Credit & Emerging Markets Debt

Global Credit

- For global credit we use a combination of starting yield and expected default rates for our return assumption.
- The current yield to maturity for the Barclays Global Credit index is 4.3% as of December 2010.
- The default rates for global credit are around 0.1% based on historic data from Moody's

Emerging Markets Debt

- The current yield to maturity for the Barclays Emerging Market debt index is 5.8% as of December 2010.
- The default rates for emerging market debt are historically around 0.5% per annum based on historical data from Moody's.

	10 Year Expectation (Global Credit)
Starting Yield	4.30
Less Expected Defaults	-0.10
Nominal	4.20
Real	0.95

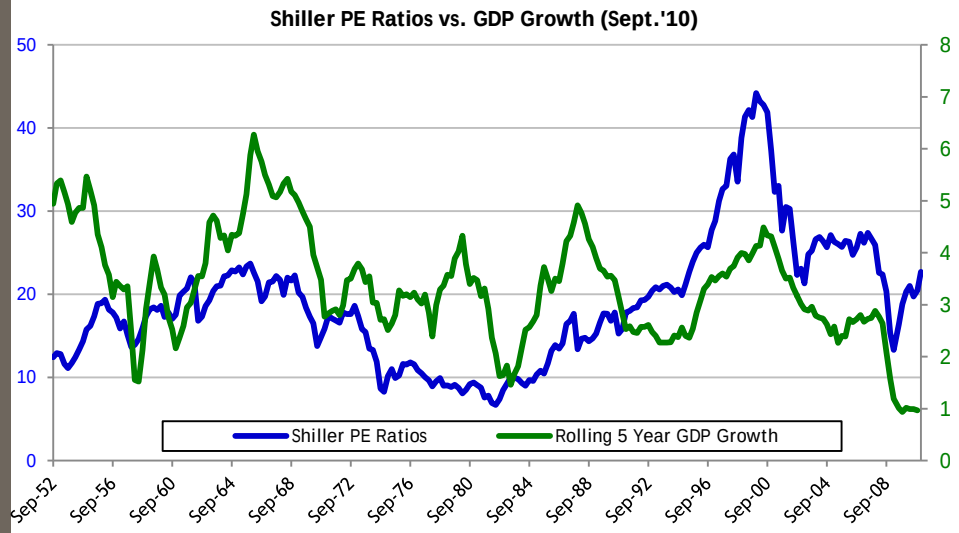
	10 Year Expectation (Emerging Markets Debt)
Starting Yield	5.75
Less Expected Defaults	-0.50
Nominal	5.25
Real	2.00

Source: Ibbotson, Moody's

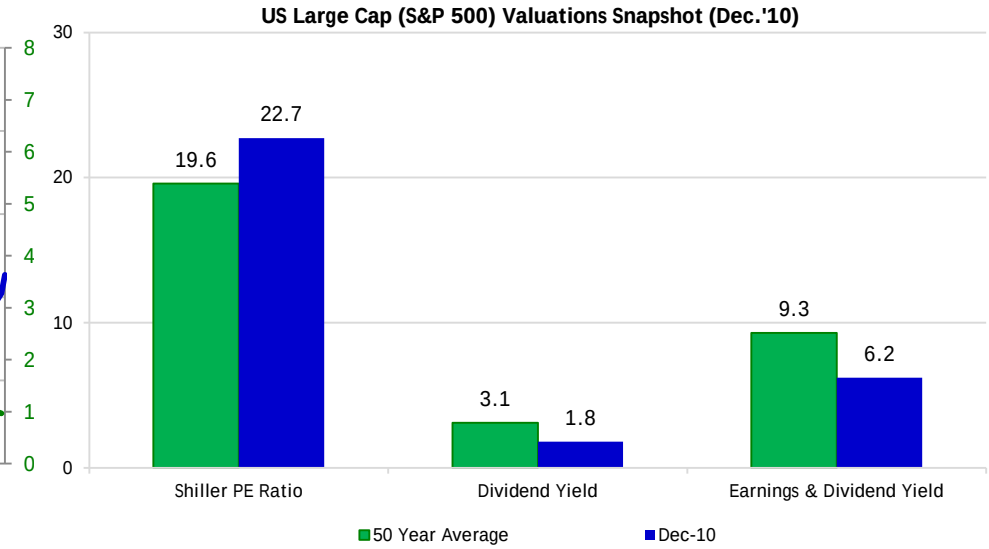
US Large Cap Stocks

- We use two methods for equity return forecasts.
- The first is a "building block approach" based on three fundamental factors.
    - Expected earnings for equities
        - Earnings growth fluctuates dramatically from year to year, but is somewhat steady over long periods of time and generally follows slightly behind real economic growth.
        - Over the long term we expected GDP to grow at 3%, and for equity earnings to slightly lag. So our 10 year real earnings expectation for US large caps is 2.75%; nominal expectations are 6% due to 3.25% inflation.
    - Dividend rate
        - The current dividend yield for US large cap stocks based on Shiller data is 1.8%
    - Expected price to earnings (PE) ratio
        - We believe PE ratios are driven by underlying economic growth. So as GDP growth is stronger, PE ratios are higher.
        - PE ratios are currently at 22.7 in spite of economic weakness, presumably due to expectations of an economic recovery.
        - Our estimate for the 10 year ending PE ratio is 20, which is in line with average for the last 30 years and assumes strong enough GDP growth to support this valuation.
- The second approach is the "earnings and dividend" model, which is based on the concept returns will be the result of earnings and dividend yields over time.
    - The earnings yield based on Shiller PE ratios is currently 4.4% (1/PE ratio).
    - The current dividend yield based on Shiller data is 1.8%.
- *Results of these models and supporting historic evidence of these relationships is on the following page.*

US Large Cap Stocks *(Cont'd)*

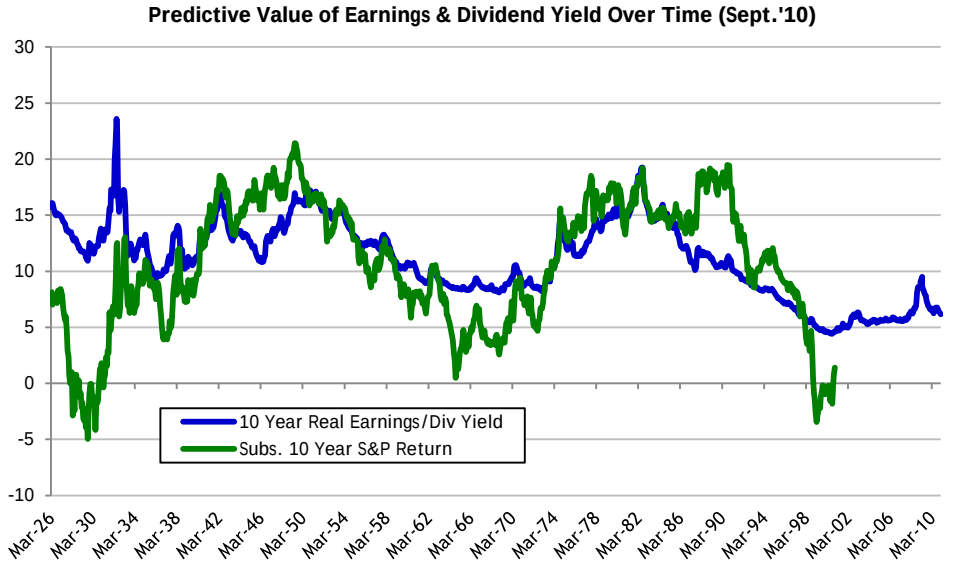


Source: Yale/Shiller, BEA, Wurts & Associates



Source: Yale/Shiller, Wurts & Associates

	10 Year Annualized Return Forecast
Ending PE Assumption	20
Building Block Model	
Real Earnings Growth	2.75
Inflation on Earnings	3.25
Dividend Yield	2.20
Contribution from PE Expansion	-1.45
Total Expected Return	**6.75**
Earnings & Dividend Yield Model	
Earnings Yield	4.4
Dividend Yield	1.8
Total Expected Return	**6.20**
(Subjectively derived) Nominal	6.75
Real	3.50

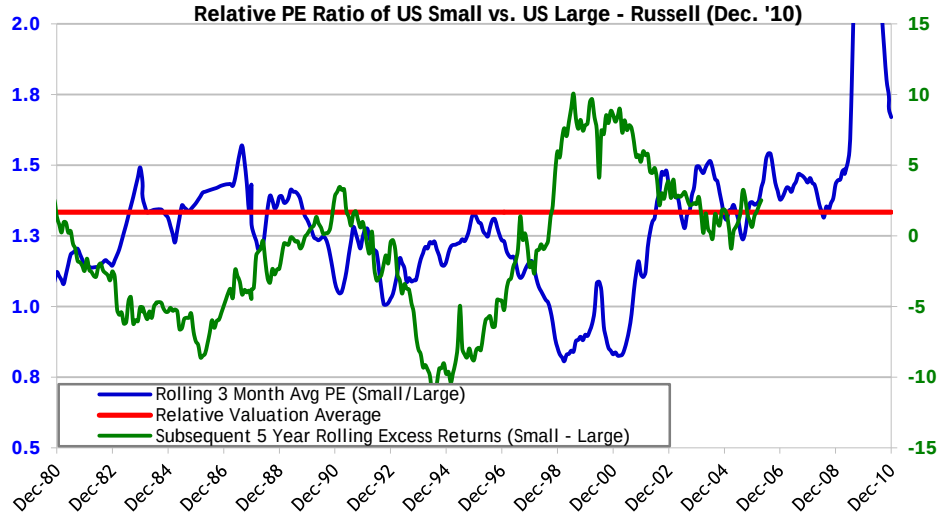


Source: Ibbotson, Yale/Shiller

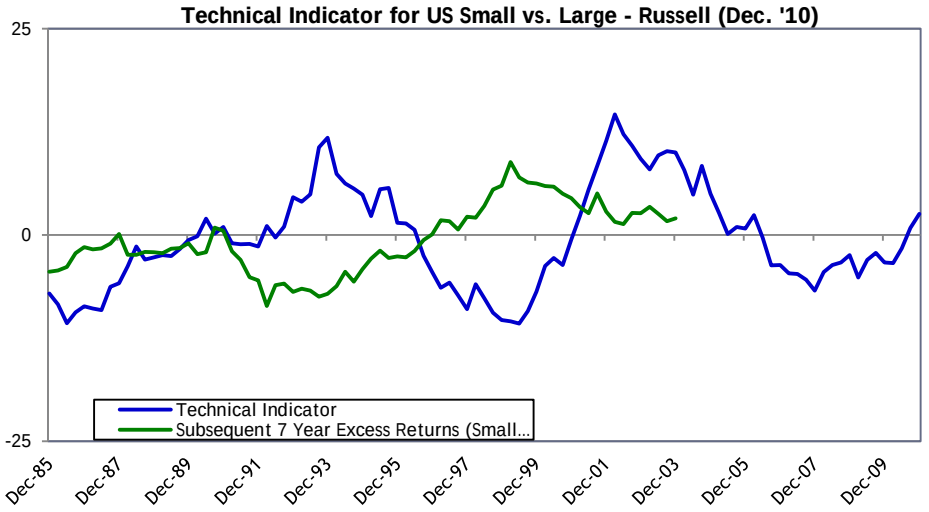
US Small Cap Stocks

- Our return forecast for US small cap stocks is based on valuations relative to US large cap stocks. Research indicates a comparison of price to earnings (PE) ratios between US small and large stocks yields reasonable predictive value over long periods of time.
- Unfortunately there are only a few decades of data available for this comparison. So forecasting this return differential is a very subjective exercise.
- Recently US small stocks have become expensive relative to their large counterparts, and should likely underperform as a result over the next ten years.
- Note recent economic events have created substantial volatility in balance sheets, distorting valuations. However, valuations were more expensive than large caps going into this recent period.

	10 Year Annualized Return Forecast
US Large	6.75
Valuation Premium/Discount	-0.50
Nominal	6.25
Real	3.00



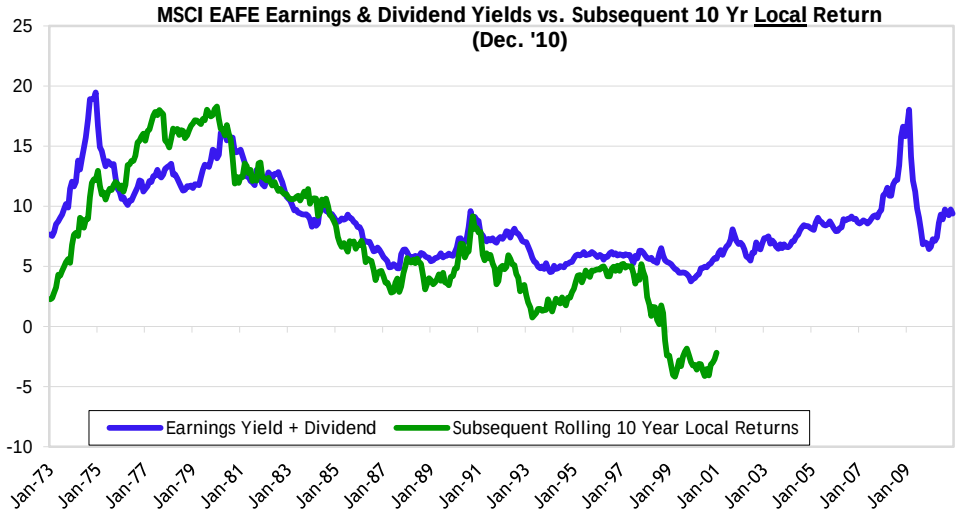
Source: Russell; Ibbotson; Wurts & Associates



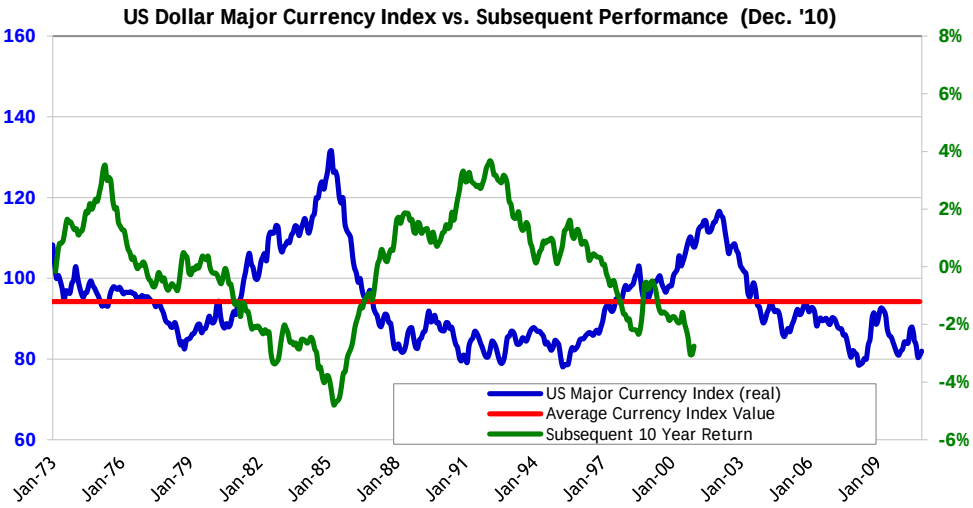
Source: Russell; Ibbotson; Wurts & Associates

International Developed & Emerging Markets

- Return forecasting for international equity markets is potentially a far more complicated task than domestic markets.
- This is because there are many countries in this asset class, each with their own rates of GDP growth, inflation, equity profit margins, earnings growth, price to earnings valuation ratios, etc.
- Therefore we must examine this equity universe based on composite level index data, which we obtain from Morgan Stanley through the MSCI EAFE (developed markets) and MSCI EMF (emerging markets) indices.
- To further complicate matters we must take into consideration the potential effects of currency movements on returns to US investors, which assumes allocations are unhedged to currency movements.
- Ideally we would apply a similar sort of analysis as that for US large stocks to derive our return expectations. Unfortunately the depth of historic data that exists for the S&P 500 does not exist for international markets. So we are somewhat handicapped in this regard.
- Nonetheless, research does support underlying theory in that earnings and dividend yields offer reasonable predictive value for forecasting returns over time (MSCI EAFE, top right chart). Of course we see the same potential for forecasting error in this model, and therefore must incorporate another point of view.



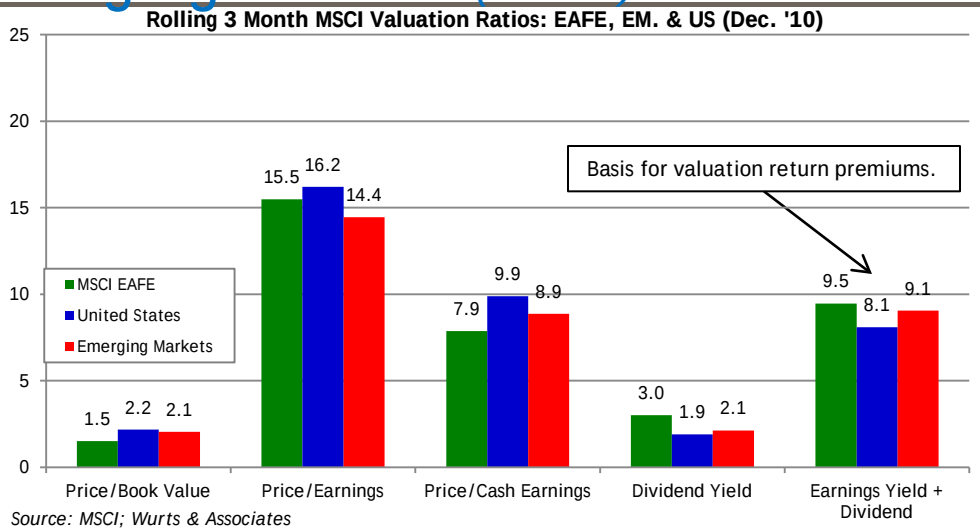
Source: Ibbotson; MSCI; Wurts & Associates



Source: Freelunch.com; Wurts & Associates

International Developed & Emerging Markets *(Cont'd)*

- Given current valuations, the earnings and dividend model predicts mid single digit returns for the MSCI EAFE and EMF indices before currency fluctuations.
- However, these data are more current than US Shiller data, meaning there are more reflective of the recent recessionary environment and are less reflective of long term earnings.
- Therefore we use these data primarily to dimension potential return premiums relative to US equities.
- On top of this we must also make an assumption for potential movements in the US dollar. Currently it is at historic lows.
- Though we believe it unlikely the US dollar will fall and stay below historic valuations, it is equally unlikely it will see a strong resurgence over the next decade due to our macroeconomic concerns as delineated in our Quarterly Research Reports. So we assume an annual correction in the US dollar of 0.75%, which detracts from potential returns abroad.
- We must also account for the fact developed economies and should have lower GDP growth rates than emerging markets, giving the MSCI EMF a return advantage due to higher rates of earnings growth.

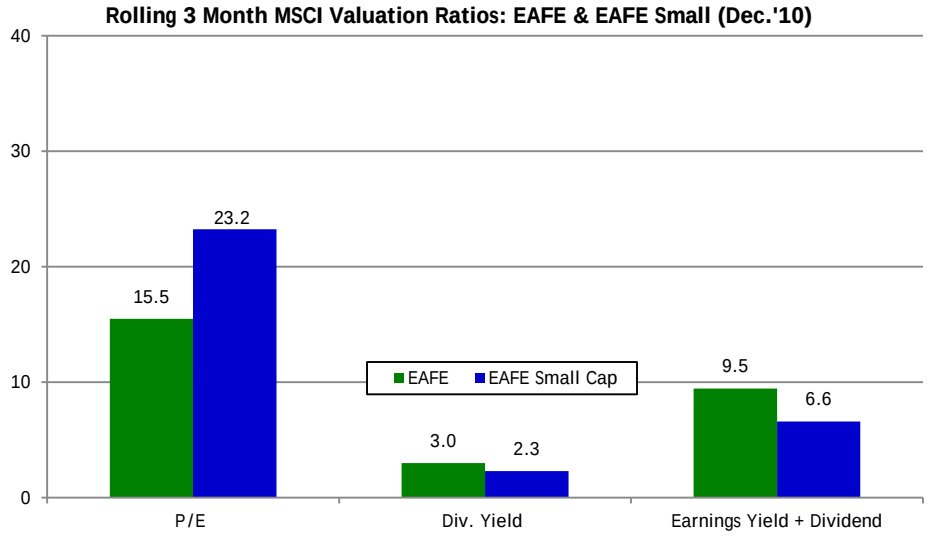


Source: MSCI; Wurts & Associates

	10 Year Annualized Return Forecast	Comments
US Large Stocks	6.75	
MSCI EAFE		
Valuation/Dividend Premium	1.00	Based on relative valuations/dividend
Contribution of Currency	-0.75	Assumes modest recovery in US dollar
EAFE Nominal	7.00	
EAFE Real	3.75	
MSCI EMF		
Contribution of Valuations	0.75	Based on relative valuations/dividend
Contribution of GDP	1.00	Assumed higher GDP growth
EMF Nominal	8.75	
EMF Real	5.50	

International Developed Small

- Similar to our return methodology for US small stocks relative to US large stocks, we compare relative valuations for MSCI EAFE large and small stocks.
- The biggest problem in forecasting for this asset class is the limited amount of historic data for international small stocks.
- So it is difficult to dimension long term financial relationships between these two asset classes.
- Current valuations for international small stocks are higher than their large counterparts, and are suffering from the same accounting effects as their US small cap counterparts.
- Nonetheless, we believe valuations warrant a discount in prospective returns.



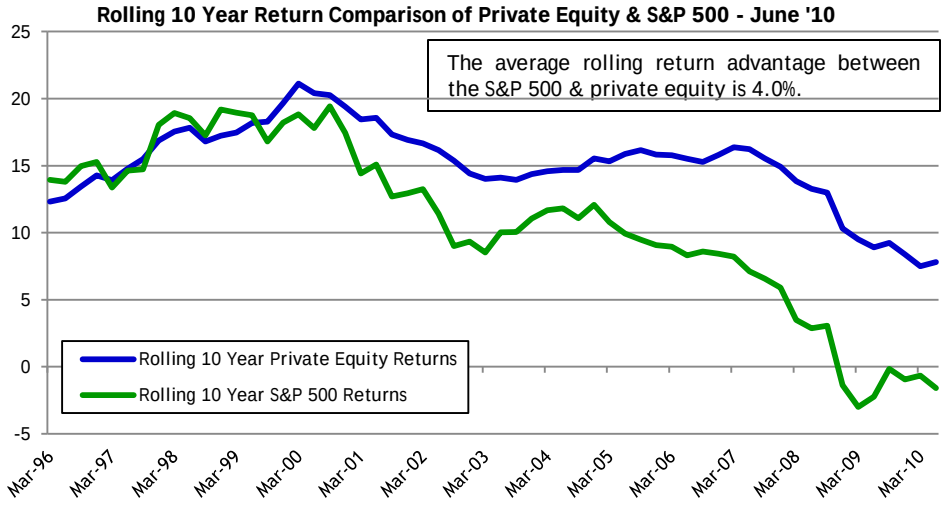
Source: MSCI; Wurts & Associates

	10 Year Annualized Return Forecast
International Large	7.00
Valuation Premium/Discount	-0.50
Nominal	6.50
Real	3.25

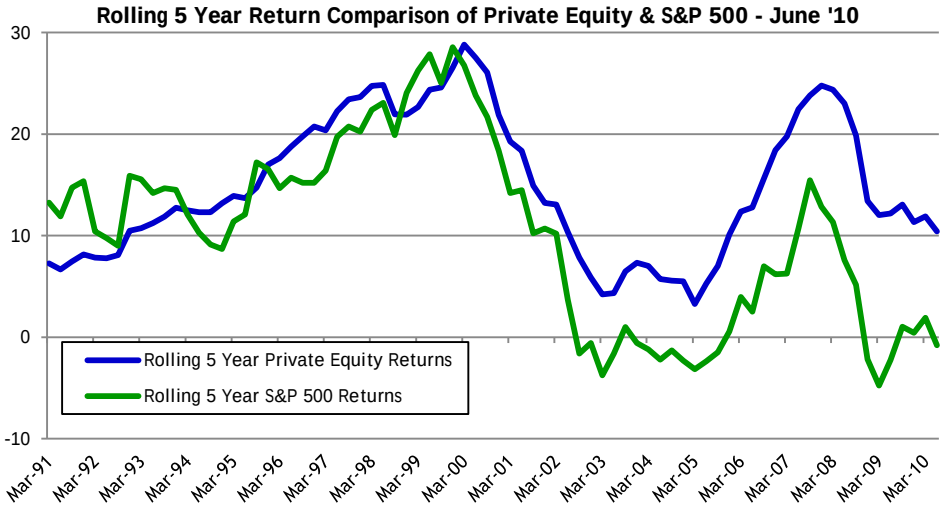
Private Equity

- Undeniably public and private equity markets are exposed to the same underlying economic forces. This is why they tend to move in tandem over rolling periods, but with private markets exhibiting a distinct return advantage over long periods of time.
- This return advantage makes sense due to greater potential valued added by privately negotiating deals as well as managers' ability to exercise flexibility in liquidating positions given the lock-up periods of their funds.
- Interestingly though, the return advantage for private equity fluctuates over time. The largest return advantage is during times of systematically declining public markets; the smallest advantage is during times of systematically rising public markets.
- Given we believe rolling period public equity returns will rise over the next ten years from current levels, we must conclude the subsequent return differential for private equity will be less than recent periods and slightly below its historic average.

	10 Year Annualized Return Forecast
S&P 500	6.75
Private Equity Premium	3.00
Nominal	9.75
Real	6.50



Source: Cambridge; Wurts & Associates



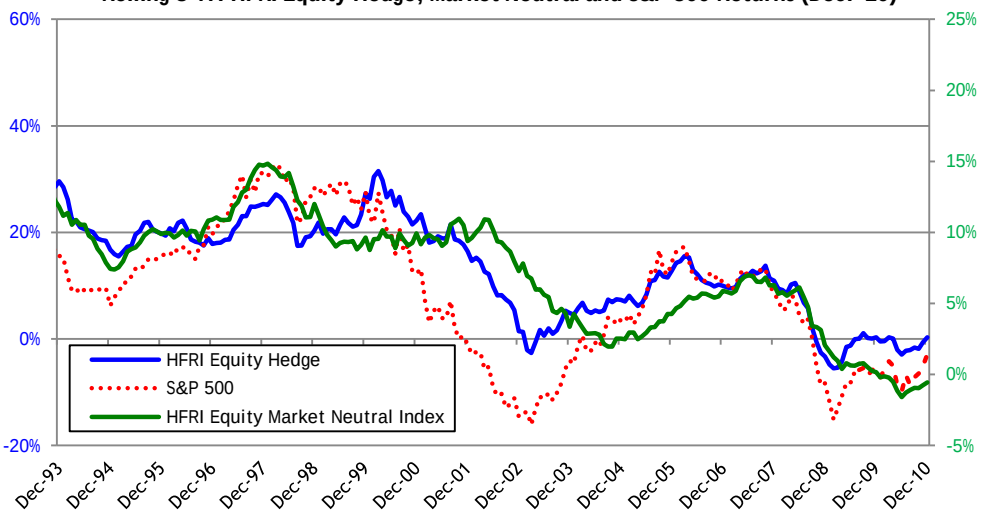
Source: Cambridge; Wurts & Associates

Hedge Funds

- As demonstrated in our Hedge Fund Outlook, this asset class consists of a series of strategies that are inextricably linked to underlying macroeconomic and capital markets conditions.
- More specifically, we can draw strong relationships between long/short and US large cap returns (chart to right), relative value and event driven strategies and credit returns, and global macro and commodity returns.
- Of course this is a broad simplification of the asset class, and there are many mitigating factors to forecasting returns such as shifting exposures, leverage, and liquidity issues.
- Nonetheless, we believe a combination of the returns representing the broad strategy allocations is a reasonable means to forecast returns.
- We reference the broad hedge fund strategy allocations represented by the HFR Fund of Funds index to project future returns on net of all fees basis below.

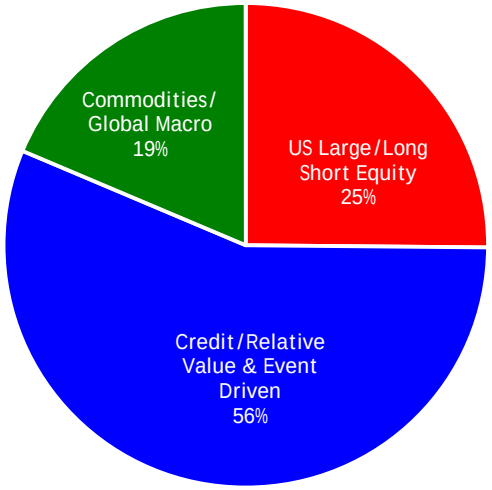
	Component Return	Weighting	Weighted 10 Year Annualized Return Forecast
US Large	6.75	25%	1.70
US Credit	3.80	50%	1.90
Commodities	8.00	25%	2.00
Nominal			5.60
Real			2.35

Rolling 3 Yr. HFRI Equity Hedge, Market Neutral and S&P 500 Returns (Dec. '10)



Source: HFR, Yale/Shiller

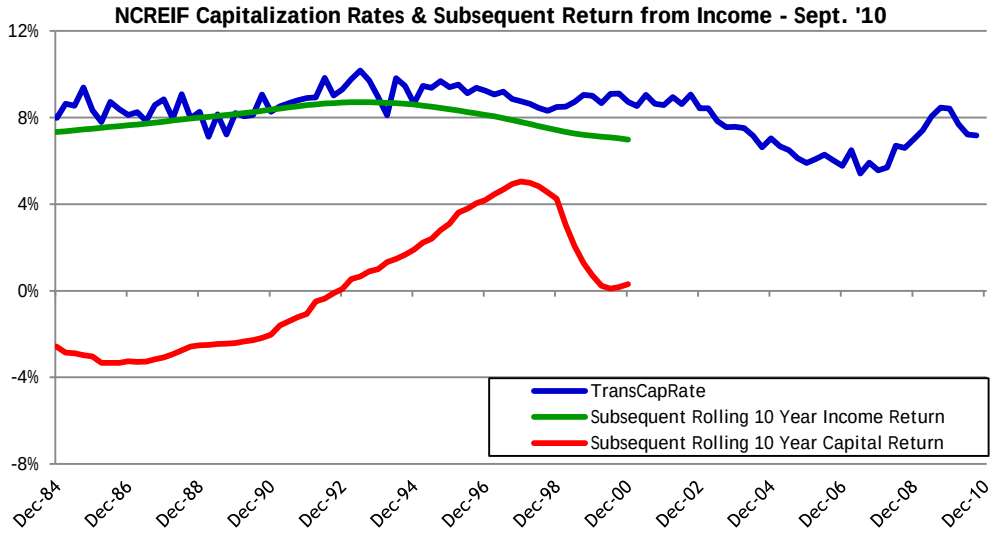
Hedge Fund Strategy Composition by AUM (Q3 '10)



Source: HFR

Core Real Estate/REITs

- Return forecasts for core real estate are based primarily on capitalization rates as represented by the NCREIF index.
- Over time capitalization rates appear to be a steady indicator of future returns from income and account for nearly 90% of investor returns
- Capitalization rates currently stood at 6.5% as of September '10. Capital appreciation fluctuates strongly over time and currently stands at low levels due to recent losses in real estate. Over time we think it is reasonable to assume properties will at least appreciate at the rate of inflation from current levels.
- Our forecast for REITs is slightly higher than core real estate due to the leverage they employ. Also expected volatility in REITs should be substantially higher because they are publicly traded equity investments.



Source: NCREIF; Wurts & Associates

Composition of NCREIF Returns Over Time - Sept. '10

	Income Return	Capital Appreciation Return	Total Return
Annualized Return (Since Mar-78)	7.7	1.1	8.8
% of Total Return	88%	12%	100%

	Weighting	10 Year Annualized Return Forecast	Weighted 10 Year Forecast
Return from Income	90%	6.50	5.85
Return from Price Appreciation	10%	3.25	0.33
Nominal			
Core			6.20
REITS			6.45
Value Added Opportunistic			8.45
Real			
Core			2.95
REITs			3.20
Value Added Opportunistic			5.20

Source: NCREIF; Wurts & Associates

Commodities

- The most common model used for commodity return forecasting is the building block approach, which bifurcates returns into three components.

- The first component is the "collateral return," which is the return generated on the cash investments that collateralize an investor's futures contracts positions. Our return assumption for cash represents this component; or 3.5%.

- The second component is the "roll return," which represents either the backwardation (or contango) in futures markets. Backwardation occurs when future expected commodity prices are lower than current prices; contango occurs when future expected prices are higher than current prices. Over time futures markets fluctuate between backwardation and contango. Predicting the net behavior over time is impossible from an objective scientific basis. So we just assume backwardation and contango will equal out over time, meaning a 0% contribution of the roll return to our commodities forecast.

- The final component to commodity returns is the assumed rate of price appreciation over time. This of course is difficult to predict. Theoretically, commodities should appreciate at the rate of inflation (3.25%) over long periods of time, but with some return contributions due to global economic growth. Given the global economy is currently in a slowdown, we believe it reasonable to see modest *real* price appreciation of 1.25%, which is reflective of a return to more normal economic growth.

	10 Year Annualized Return Forecast
Collateral Return (cash)	3.50
Roll Return	0.0
Nominal Spot Price Return	4.50
Nominal	8.00
Real	4.75

Summary of Expectations

Asset Class	Index Proxy	2010 Ten Year Forecast	2011 Ten Year Return Forecast	2011 Ten Year Standard Deviation Forecast	Change in Return Expectations '10-'11
Equities					
US Large	S&P 500	8.00	6.75	16.0	-1.25
US Small	Russell 2000	7.50	6.25	22.0	-1.25
International Developed	MSCI EAFE	8.25	7.00	19.0	-1.25
International Small	MSCI EAFE Small Cap	7.75	6.50	23.0	-1.25
Emerging Markets	MSCI EM	9.50	8.75	28.0	-0.75
Private Equity	Cambridge Private Equity	11.00	9.75	22.0	-1.25
Fixed Income					
Cash	30 Day T-Bills	3.50	3.50	1.0	0.00
US TIPS	Barclays US TIPS Index	4.65	4.25	8.0	-0.40
Core Fixed Income	Bardays US Aggregate Bond	3.70	3.00	6.0	-0.70
Investment Grade Corp. Credit	Barclays US Credit	4.40	3.80	7.0	-0.60
High Yield Corp. Credit	Bardays High Yield	7.10	5.50	10.0	-1.60
Global Credit	Barclays Global Credit	4.65	4.20	10.0	-0.45
Emerging Markets Debt	Barclays Emerging Markets	6.09	5.25	14.0	-0.84
Other					
Commodities	Dow Jones AIG	7.75	8.00	17.0	0.25
Hedge Funds	HFR Fund of Funds	7.25	5.60	10.0	-1.65
Core Real Estate	NCREIF Property	7.50	6.20	9.0	-1.30
REITs	Wilshire REIT	7.75	6.45	17.0	-1.30
Opportunistic Real Estate	NA	9.75	8.45	20.0	-1.30
Inflation	US Consumer Price Index	3.25	3.25	1.0	0.00

Historic standard deviations are based on historic annual return standard deviations over the last 20 years.

Wurts' Correlation Assumptions

	Large US Equity	Small/Mid US Equity	Int'l Large	Int'l Small	Emerging Markets	TIPS	US Core Fixed	US Credit Fixed	High Yield Fixed	Global Credit	Emerging Market Debt	Real Estate	REITs	Opp. Real Estate	Liquid Alts/HF	Private Equity/ VC	Commo dities	Cash	US Inflation
Large US Equity	1.00																		
Small/Mid US Equity	0.81	1.00																	
Int'l Large	0.77	0.68	1.00																
Int'l Small	0.67	0.64	0.85	1.00															
Emerging Markets	0.70	0.68	0.76	0.77	1.00														
TIPS	-0.05	-0.06	0.01	0.08	-0.06	1.00													
US Core Fixed	0.06	-0.06	-0.02	0.02	-0.05	0.63	1.00												
US Credit Fixed	0.28	0.23	0.27	0.29	0.20	0.64	0.85	1.00											
High Yield Fixed	0.50	0.49	0.42	0.47	0.41	0.23	0.24	0.45	1.00										
Global Credit	0.41	0.36	0.58	0.58	0.51	0.64	0.60	0.81	0.59	1.00									
Emerging Market Debt	0.53	0.52	0.54	0.55	0.69	0.36	0.30	0.47	0.56	0.71	1.00								
Real Estate	0.11	0.00	0.04	0.08	-0.03	0.06	0.04	-0.19	0.19	-0.06	-0.05	1.00							
REITs	0.55	0.66	0.52	0.39	0.45	0.07	0.16	0.29	0.48	0.48	0.39	0.09	1.00						
Opp. Real Estate	0.13	-0.11	-0.07	0.10	-0.17	0.15	0.07	-0.15	0.22	-0.10	-0.11	0.80	-0.16	1.00					
Liquid Alts/HF	0.56	0.60	0.66	0.63	0.74	0.10	0.05	0.27	0.23	0.52	0.59	0.08	0.33	-0.16	1.00				
Private Equity/VC	0.66	0.60	0.56	0.50	0.50	0.06	-0.16	-0.06	0.26	0.29	0.43	0.30	0.34	0.23	0.67	1.00			
Commodities	0.15	0.24	0.25	0.35	0.38	0.25	0.04	0.15	0.24	0.46	0.27	0.15	0.15	0.09	0.40	0.30	1.00		
Cash	0.04	-0.04	-0.08	-0.12	-0.06	-0.03	0.21	0.04	-0.05	-0.10	-0.03	0.35	-0.05	0.37	0.05	0.05	0.00	1.00	
US Inflation	-0.05	-0.15	-0.15	-0.01	-0.05	0.04	-0.13	-0.06	-0.01	-0.03	0.03	0.15	-0.10	0.19	0.01	-0.03	0.22	0.12	1.00

Note: Correlation assumptions are based on both historical observations and Wurts' estimates of future correlation trends.