



*2012 Asset Allocation
Return and Risk Assumptions
January 25, 2012*

*Steven J. Foresti, Managing Director
Michael E. Rush, CFA, Vice President
Russ Walker, Vice President
Wilshire Associates Incorporated
1299 Ocean Avenue, Suite 700
Santa Monica, CA 90401
Phone: 310-451-3051
contactconsulting@wilshire.com*

Table of Contents

Introduction.....	1
<i>Expected Future Returns</i>	1
<i>Historical Returns</i>	5
Inflation.....	6
Equity.....	7
<i>U.S. Stocks</i>	7
<i>Developed ex-U.S. Market Stocks</i>	8
<i>Emerging Market Stocks</i>	9
<i>Global and Global ex-U.S. Market Stocks</i>	10
Fixed Income	11
<i>The U.S. Treasury Yield Environment</i>	11
<i>U.S. Treasury Bonds: Market and Long-Term</i>	12
<i>U.S. Bonds</i>	13
<i>Cash Equivalents</i>	14
<i>Non-U.S. Bonds</i>	15
<i>Treasury Inflation Protected Securities (TIPS)</i>	16
<i>Long-Term Bonds</i>	16
<i>High Yield Bonds and Emerging Market Debt</i>	16
Private Market Investments	18
<i>Buyouts (U.S. and non-U.S.)</i>	20
<i>Venture Capital</i>	20
<i>Distressed Debt</i>	20
<i>Mezzanine Debt</i>	21
<i>Private Markets Portfolio</i>	21
Real Assets.....	21
<i>U.S. Real Estate Securities</i>	22
<i>Non-U.S. Real Estate Securities</i>	22

<i>Private Real Estate</i>	23
<i>Infrastructure</i>	23
<i>Timberland</i>	24
<i>Commodity Futures</i>	24
<i>Master Limited Partnerships (MLPs)</i>	25
<i>Oil and Gas Partnerships</i>	26
<i>Real Asset Basket</i>	27
Wilshire's Historical Forecasts	27
Risk and Correlation	28

Appendix

Appendix A: Wilshire 2012 Correlation Matrix	30
Appendix B: Wilshire 2012 Private Markets Correlation Matrix	31
Appendix C: Wilshire 2012 Private Real Estate Correlation Matrix	32
Appendix D: Wilshire 2012 Real Asset Basket Correlation Matrix	33
Appendix E: Historical 1, 5 & 10-Year Rolling Returns (1926 to 2011)	34
Appendix F: Histogram of 1, 5 & 10-Year S&P 500 Index Returns	37

Introduction

This report is Wilshire Consulting's annual study on asset allocation for institutional portfolios. The asset allocation process is comprised of four steps. The initial step requires forecasting return, risk and correlation for all asset classes. The second step is client specific and involves a review of a fund's unique financial commitments. Next, using inputs from the first two steps, an efficient frontier of diversified portfolios is constructed. The portfolios residing on this frontier are specific to each client's commitments, or spending objectives, and represent varying tradeoffs between expected risk and funding cost or expected risk and real return. The final step is to select an asset mix from the efficient frontier that matches the institution's attitude toward risk. The research presented here aids in completing the first step of the asset allocation process.

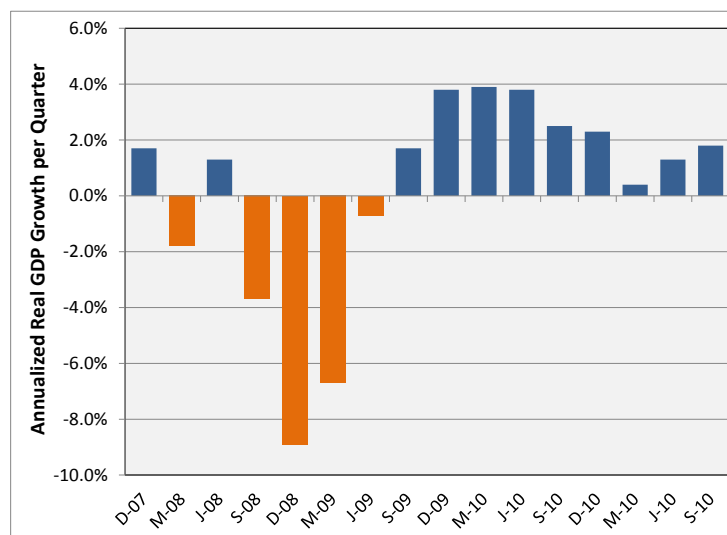
Wilshire Consulting works with funds individually to complete the remaining steps and to select the optimal portfolio that best reflects the risk tolerance and environment for that institution. Unless otherwise noted, all return assumptions represent median geometric returns based on a log-normal distribution.

Expected Future Returns

At the beginning of each year, Wilshire reviews its long-term return and risk assumptions for the major asset classes. We define "long-term" as forecasts that span at least the next ten years. This extended time horizon is consistent with the benefit/spending obligations of institutional investors. Wilshire's forecasting methodology, which will be illustrated in exhibits throughout the paper, has generally shown a strong degree of accuracy over intervals of ten or more years and is superior to short-term estimates that are notoriously error prone. As a result of this long-term forecasting horizon, Wilshire's assumptions typically experience only a moderate level of change from year to year. However, during volatile or transformative market environments, such as those experienced in recent years, one can expect more significant forecasting adjustments. The changes reflected in this year's assumptions suite are more subdued than those embedded in Wilshire's asset class forecasts during the 2007 through 2010 period and continue many of the trends seen in last year's report.

The U.S. economy continued to struggle through a choppy recovery in 2011, as investors dealt with a downgrade of U.S. government debt by S&P in August and continued sovereign debt issues in Europe. Real GDP growth stumbled to an anemic rate of 0.4% during the first quarter of 2011 before building some positive momentum into the back-half of the year. As can be seen in Exhibit 1 below, real GDP grew by 1.3% and 1.8% in the second and third quarters, respectively, with some optimism building in estimates for fourth quarter growth.

Exhibit 1
U.S. Real GDP Growth



Data Source: Bureau of Economic Analysis

Though its QE2 monetary stimulus program officially ended in June, the Federal Reserve confirmed its dedication to keeping rates low for the foreseeable future. Following its August meeting, the Fed stated that economic conditions were "likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013." Then in September, in an effort to support longer rates, the Fed formally announced its "Operation Twist" strategy; a plan to sell short-term notes and move assets into long-term Treasuries. These actions in part helped spur a fourth quarter recovery in risk-assets, which had suffered large losses through the third quarter. For the year, there was a large divergence between risk-assets and the safety of Treasuries: stocks returned 0.98% (Wilshire 5000 Total Market IndexSM), real estate securities gained 8.56% (Wilshire U.S. Real Estate Securities IndexSM), core bonds returned 7.84% (Barclays U.S. Aggregate Index) and long-dated Treasuries surged 29.93% (Barclays Long Term Treasury Index).

In this year's report we are moving away from our historical practice of rounding asset class expectations to the nearest 25 basis points and, instead, have adopted a 5 basis points rounding methodology. This change is not meant to imply that we believe there is now greater precision in the forecasting results than has been the case historically, but rather, that a tighter rounding increment will help prevent some relative asset class differentiation that is merely a byproduct of the rounding methodology (i.e. rounding one asset class up and another down with larger rounding increments can suggest greater relative differentiation than actually exists). This potential issue becomes heightened in a low-return environment, where 25 basis points can represent a fairly sizable proportion of an asset class' overall return. For these reasons, we believe that a methodology shift from 25 to 5 basis points rounding increments will lead to an improved assumption suite when utilizing the rounded forecasts in the evaluation of portfolio alternatives. Further,

while this change is in part motivated by the current low-return environment, we do not foresee a need to convert back to larger rounding increments should asset class forecasts increase in the future.

The high-level areas of change from our 2011 assumptions begin with a 25 basis points reduction in our inflation forecasts from 2.25% last year to our current 2.00% assumption. Despite the drop in our inflation forecast, Wilshire's U.S. Stock forecast increases 25 basis points, to 7.50%, as valuation multiples fell in the face of robust corporate earnings growth in 2011 against flat stock prices. The generally declining yield environment through 2011 continued to push fixed income expectations lower. Wilshire's Core Bond assumption now stands at 2.85%, down nearly a full percent from last year's 3.75% forecast. Following a sizable reduction in last year's report, Wilshire's real estate assumptions reflect a continued move lower – from 5.50% to 5.05% for public real estate securities.

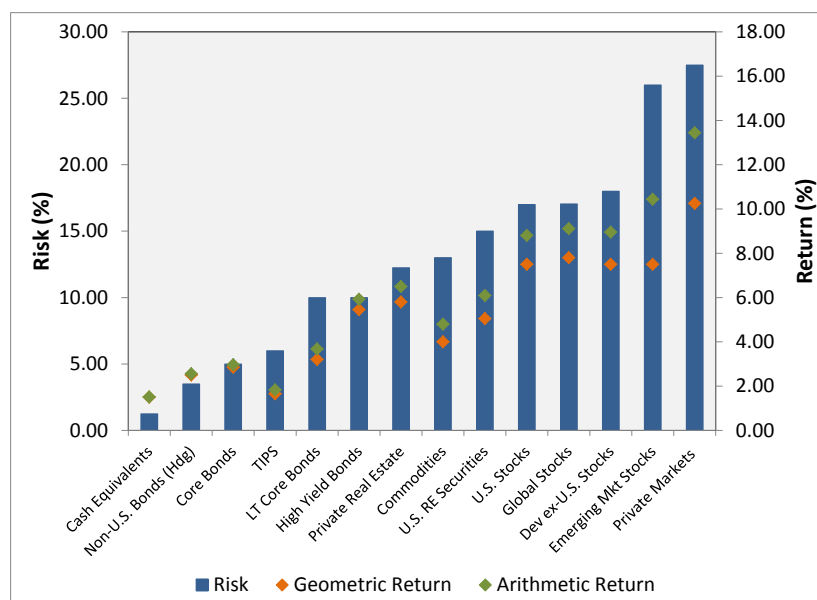
Long-term return forecasts play an important role in the institutional investment process. Actuarial interest rate assumptions, which are essentially portfolio return forecasts, are intensively scrutinized because of their potential impact on plan contributions. Wilshire has been forecasting asset class returns using forward looking assumptions since 1981 with a strong record of success for ten-year periods. We believe the methods used in this report are intuitive, robust and, as the recent environment has demonstrated, provide sufficient flexibility to adapt to a rapidly changing landscape. Exhibit 2 presents Wilshire's 2012 return forecasts and contrasts them with our 2011 assumptions, while Exhibit 3 displays our 2012 projections in graphical form.

Exhibit 2 Wilshire's 2012 Expected Return and Risk Assumptions

	Total Return			Risk		
	2011	2012	Change	2011	2012	Change
Investment Categories:						
U.S. Stocks	7.25 %	7.50 %	0.25 %	16.00 %	17.00 %	1.00 %
Dev ex-U.S. Stocks	7.25	7.50	0.25	17.00	18.00	1.00
Emerging Mkt Stocks	7.25	7.50	0.25	24.00	26.00	2.00
Global Stocks	7.50	7.80	0.30	16.00	17.05	1.05
Private Markets	9.70	10.25	0.55	26.00	27.50	1.50
Cash Equivalents	2.50	1.50	-1.00	1.25	1.25	0.00
Core Bonds	3.75	2.85	-0.90	5.00	5.00	0.00
LT Core Bonds	4.75	3.20	-1.55	10.00	10.00	0.00
TIPS	3.25	1.65	-1.60	6.00	6.00	0.00
High Yield Bonds	5.50	5.45	-0.05	10.00	10.00	0.00
Non-U.S. Bonds (Hdg)	3.40	2.50	-0.90	4.00	3.50	-0.50
U.S. RE Securities	5.50	5.05	-0.45	15.00	15.00	0.00
Private Real Estate	6.30	5.80	-0.50	12.25	12.25	0.00
Commodities	4.25	4.00	-0.25	13.00	13.00	0.00
Real Asset Basket*	6.65	5.85	-0.80	8.10	7.75	-0.35
Inflation:	2.25	2.00	-0.25	1.75	1.75	0.00
Total Returns minus Inflation:						
U.S. Stocks	5.00	5.50	0.50			
U.S. Bonds	1.50	0.85	-0.65			
Cash Equivalents	0.25	-0.50	-0.75			
Stocks minus Bonds:	3.50	4.65	1.15			
Bonds minus Cash:	1.25	1.35	0.10			

* 2011 Real Assets Basket return & risk are derived from the 2012 basket structure and 2011 sub-asset class assumptions

Exhibit 3 2012 Return and Risk Assumptions



Historical Returns

A key check on the reasonableness of Wilshire's assumptions is their relationship to historical returns. Exhibit 4 contrasts Wilshire's return assumptions with historical returns over various periods of time and market scenarios.

Exhibit 4
Historical Returns¹ vs. Wilshire Forward-Looking Assumptions

	Historical Returns (%)					Wilshire Forecast (%)
	1802-2011 *	1926-2011	High Inflation 1970-1979	Bull Market 1980-1999	"Lost Decade" 2000-2009	
Total Returns:						
Stocks	8.0	9.8	5.9	17.8	-1.0	7.5
Bonds	4.9	5.7	7.2	10.0	6.3	2.9
T-bills	4.2	3.7	6.4	7.2	3.0	1.5
Inflation:	1.5	3.0	7.4	4.0	2.5	2.0
Returns minus Inflation:						
Stocks	6.6	6.8	-1.5	13.8	-3.5	5.5
Bonds	3.5	2.7	-0.2	6.0	3.8	0.9
T-bills	2.7	0.7	-1.0	3.1	0.5	-0.5
Stocks minus Bonds:	3.1	4.1	-1.3	7.8	-7.3	4.7

* Returns for 1802-2001 are from "Stocks for the Long Run" (Siegel, 2002) and S&P 500 Index and Barclays Capital Aggregate Index after.

There are several notable relationships, in both absolute and relative terms.

- Wilshire's stock and bond return forecasts, 7.5% and 2.9%, respectively, are below the actual returns achieved during the 210- and 86-year periods ending 2011. Wilshire's bond forecast in particular is a notable 2.0% and 2.8% lower, respectively, than the 210- and 86-year periods. This relative relationship versus historical returns is quite intuitive given the current low interest rate environment.
- Although Wilshire's 2012 inflation estimate of 2.0% is 1.0% below the 86-year historical inflation rate of 3.0%, our return estimates for stocks and bonds relative to inflation – 5.5% and 0.9%, respectively – are notably lower than the historical spreads of 6.8% for stocks and 2.7% for bonds.
- Wilshire's return forecast for stocks relative to bonds of 4.7% is marginally higher than the 86-year historical spread of 4.1%.
- Due to current cash yields hovering near 0%, Wilshire's return assumption for cash relative to inflation is -0.5%, which is significantly lower than the historical records over the 210- and 86-year periods.

The remainder of the report explains the methodologies behind Wilshire's return forecasts.

¹ Source of historical returns presented throughout this report is Wilshire Compass unless otherwise noted.

Inflation

Wilshire's long-term inflation forecast is 2.00%, which is down 0.25% from a year ago. Wilshire's practice since 2003 has been to derive its inflation forecast by observing the market's breakeven inflation – the spread between the yield on a 10-year Treasury and the real yield on a similar maturity Treasury Inflation Protected Security (TIPS). During periods of market stress, TIPS pricing may be affected by liquidity demands or a high level of inflation uncertainty, like in 2008. However, the breakeven signal has moderated since then in terms of its volatility and, therefore, Wilshire believes that the market's current implied estimate of future inflation is a reliable forecasting signal.

The current inflation forecast is based on data as of December 30, 2011. The 10-year Treasury yield at year-end was 1.87% while the yield on the ten-year TIPS was -0.11%. The 1.98% difference in yields is the bond market's estimate for inflation for the next ten years, or the ten-year breakeven inflation rate. Consequently, we round the 1.98% breakeven inflation rate to arrive at our current inflation rate forecast of 2.00%. Exhibit 5 provides a summary of Wilshire's historical inflation forecast and the actual result for the following ten-year period.²

Exhibit 5
Wilshire's Inflation Forecast and Historical CPI



Data Source: Bureau of Labor Statistics

² Please note that TIPS are relatively new and have only recently produced a ten-year track record, therefore their accuracy in forecasting future inflation is now only beginning to be measured.

Equity

U.S. Stocks

The U.S. stock market, as represented by the Wilshire 5000 Total Market IndexSM, bounced back from a negative return in the third quarter to post an impressive 12.0% total return during the fourth quarter, thus producing a modestly positive return of 0.98% for 2011. This marked the Wilshire 5000's third consecutive year of gains, following returns of 28.3% in 2009 and 17.2% in 2010. The U.S. stock market is up nearly 52% over the past three years and 101% since the March 2009 low. Earnings on the S&P 500 Index grew 16% in 2011, which, compared to a flat index price level, resulted in more attractive equity valuations by the end of 2011 than from a year earlier.

As we have discussed in recent reports, Wilshire employs two distinct models in deriving our long-term stock forecasts; a dividend-discount model ("DDM"), which serves as our main forecast driver, and an Income-Growth-Valuation ("IGV") model as a supplemental signal of future equity return prospects. Our current expected return for stocks incorporates the following DDM assumptions:

- A year-end 2011 S&P 500 Index price of 1,258 (the same as last year);
- A base earnings level of \$97.1 per share;
- Earnings-per-share growth of 6.5% during the next five years, dropping incrementally to 4.0% from years six through 15 (our long-term earnings growth assumption of 4.0% implies a 2.0% real rate of growth above Wilshire's 2.0% long-term inflation forecast);
- A 40% dividend payout ratio over the forecast horizon.

Wilshire's current DDM forecast, which builds from the inputs listed above, points to a 7.65% long-term stock assumption.

Wilshire's IGV model utilizes the market's current dividend yield for income, a historical dividend growth rate for growth and a valuation component that assumes a market price in ten years that leads to the historical average dividend yield. The supplemental IGV model suggests a long-term return for U.S. stocks of 6.70%. This is notably higher than last year's IGV projection of 2.60%³ and compounds up from component contributions of 2.1% from income, 5.3% from growth and -0.8% from valuation change. While we continue to place greater emphasis on the DDM result, Wilshire believes that the IGV model may offer valuable market insights during market regimes that present a significant challenge to a DDM framework. For example, the DDM failed to anticipate the depth of the negative equity environment experienced in the most recent long-term returns. Wilshire's IGV model, however, correctly forecasted negative ten-year returns,

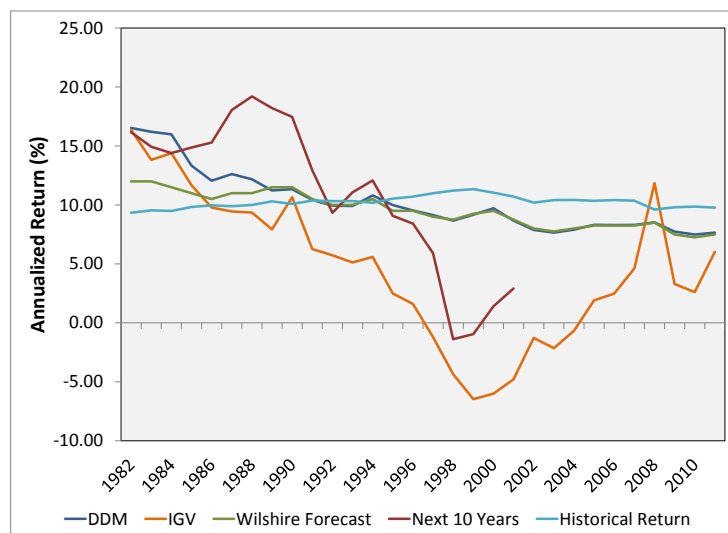
³ The IGV model result of 2.60% reported here differs from the 2.50% figure reported in last year's report as a result of final 2010 fiscal year data, something that was not available to the model at that time.

although to a greater degree than what was realized. Recent results reveal the potential value of this signal, particularly during periods of large valuation changes.

Wilshire's 2012 long-term U.S. Stock assumption is 7.50% and reflects the DDM's forecasted return of 7.65% but with a minor deduction due to the modestly lower 6.70% IGV signal. We limit the impact of the IGV model to prevent the volatility of its result from dominating the DDM estimate; one that we have trusted with relative success for many years. Wilshire currently believes that the 0.15% deduction is prudent given the model's volatility and the fact that, even though the IGV model has been quite impressive over the past few rolling ten-year periods, it has overstated the market's actual downturn by hundreds of basis points.

Exhibit 6 details the history of Wilshire's stock return forecast together with the dividend-discount and IGV models' return forecasts, historical returns and the rolling returns for the ten-year period following each estimate.

Exhibit 6
Wilshire U.S. Stock Forecast and Historical Equity Returns



Developed ex-U.S. Market Stocks

Wilshire uses the same 7.50% expected return for the stocks of non-U.S. developed markets as it does for U.S. stocks. This view has gained wider acceptance among institutional advisors in recent years and, as demonstrated in Exhibit 7, the historical record is quite supportive of return parity between U.S. and non-U.S. developed stock markets over the long run.

Exhibit 7
Historical Equity Returns: 1970 – 2011

	U.S. Dollar		Local Currency	
	Return	Risk	Return	Risk
S&P 500 Index	10.0 %	15.7 %	10.0 %	15.7 %
MSCI EAFE Index	9.5	17.3	7.4	14.7
Europe	9.9	17.7	9.1	15.5
Pacific	9.4	20.4	6.2	17.2

Reliable returns for non-U.S. stocks are available beginning in 1970. Since that time U.S. stocks, as represented by the S&P 500 Index, have returned 10.0% per year, versus 9.5% for developed market non-U.S. stocks as measured by the MSCI EAFE Index in U.S. dollars. Given this long-term performance record, similar risk levels and common financial attitudes toward risk-taking, it would seem reasonable to forecast similar long-term returns for the U.S. and non-U.S. developed stock markets.

Emerging Market Stocks

Wilshire believes that the arguments for a consistent return expectation from U.S. to developed markets stocks apply to emerging markets. Some investors have long supported the view that emerging market stocks should produce returns above those of developed markets given their far higher growth projections in terms of GDP. While growth rates can be in the high single digits, they are also far more volatile than in developed markets – and emerging markets equity returns generally follow that risk profile. It is important to understand that the historical record on emerging market performance is limited and shows mixed results. Poor returns in the late 1990s have reversed course during the past decade and, while cumulative relative returns over the full history now look attractive, the rolling 10-year relative return line in Exhibit 8 demonstrates the questionability of anticipating a sustainable return premium for emerging stocks over the long-term. These results give us little confidence in forecasting a return premium to emerging markets above our return forecast for the developed stock markets.

Exhibit 8
Emerging Market Returns: 1988 – 2010



Despite a level of return equal to that of the developed equity markets, Wilshire's research shows that efficient portfolios include a meaningful allocation to the emerging markets, consistent with a market-weighting. For example, an efficient frontier constructed from Wilshire's underlying assumptions for U.S., non-U.S. developed market and emerging market stocks suggests an allocation of approximately 14% to emerging markets at a 17% risk level, which is representative of our expected risk level of global stocks. This allocation is in line with the emerging markets' 13% weight within the global opportunity set, reflecting a market-commensurate attraction to emerging market stocks despite their elevated risk level. We believe this provides strong support for our outlook of geometric return parity between the developed and emerging markets.

Global and Global ex-U.S. Market Stocks

Despite creating separate forecasts for the developed and emerging markets as discussed above, Wilshire's asset allocation work – unless otherwise directed by client circumstances – will implicitly assume a market weighted combination of our non-U.S. developed and emerging market components in a single non-U.S. equity asset class. The emerging markets component will be market-weighted, which, as of 2011 end-of-year market values, represents approximately 24% of total non-U.S. equity. This approach is consistent with Wilshire's treatment of the U.S. stock market where large stocks are not separated from small stocks and value stocks are not separated from growth stocks in the asset allocation process. Wilshire believes that emerging markets have become sufficiently integrated into the fabric of institutional money management that market capitalization weighting will give most investors a near optimal return/risk tradeoff.

In this framework, emerging stock markets become a risk management or diversification vehicle rather than an asset class that is expected to generate outsized long-term returns. Some institutions may prefer to treat emerging markets as a separate asset class. Such an approach is easily accommodated and is well supported by our practice of deriving separate assumptions for the developed and emerging markets. A market-weighted blend of our developed ex-U.S. and emerging market stock forecasts leads to a combined global ex-U.S. equity return of 7.80%, or a 30 basis point premium to each of the underlying components, which is due to the complementary nature of combining diversifying sub-asset classes.

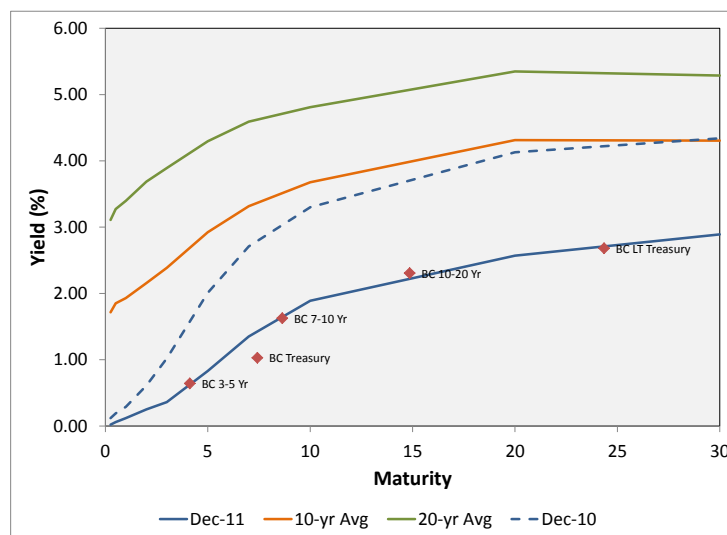
Wilshire can build the process up one step further for clients that view the entire global equity market as a single asset class; thus completely eliminating any home-country equity bias within their portfolios. Within this context, we construct the global market-weighted portfolio with allocations of 46% to U.S. stocks and 54% to the Global ex-U.S. market, resulting in a 7.80% return forecast at just over 17% estimated risk.

Fixed Income

The U.S. Treasury Yield Environment

The U.S. yield curve moved lower during 2011 at basically all maturities, with a notable flattening of its upward slope. Long-term yields have drifted farther below the past 10-year average, while the short end of the curve remained pinned down near zero for 3-month yields. Exhibit 9 illustrates the yield curve shift and compares the current curve to the historical 10 and 20-year averages. Current yields are still relatively low across the term structure with wide spreads between maturities. The current spread between the ten- and two-year yields is 1.64% versus 1.52% for the ten-year average and 1.12% for 20-years. The spread between the thirty- and ten-year yields is 1.00% versus 0.63% and 0.48% for the ten- and twenty-year averages, respectively. As will be explained in the discussion of U.S. TIPS, the Barclays 7-10 Year Treasury Index shown in Exhibit 9, provides the supporting data for our TIPS forecast.

Exhibit 9 Treasury Yield Curve Environment



Data Source: Barclays Capital, U.S. Department of Treasury

U.S. Treasury Bonds: Market and Long-Term

Wilshire's return assumption for Treasuries has historically been derived from the yield-to-maturity on the Barclays Capital Treasury indexes with no assumed change in interest rates. However, given the historically low interest rate environment that the U.S. is experiencing, we modified our fixed income return models in 2009. While our inflation assumption is based on market signals for 2012, we will maintain our added scrutiny of the fixed income market rather than extrapolating current real yield levels into the future.

It is well accepted that the economy's inflationary environment will affect the Federal Reserve's rate decisions to some degree. The U.S. economy's recovery from recession has been sluggish. Additionally, the ongoing fiscal crisis in continental Europe has driven global investors to the safe haven of U.S. Treasuries, which has pushed Treasury yields to historically low levels. Even recognizing that the Fed will maintain the fed funds rate at its current level into 2013, Wilshire is assuming that the bond market will "normalize" during the next ten years and that the yield on the Treasury Index will reach a 1.95% historical spread above inflation, or 3.95% based on our inflation assumption. Rising rates will affect a current investment in Treasuries in two ways: 1) the principal value will decline as rates rise and 2) the reinvestment rate will increase, boosting interest income. Based on the December 30, 2011 yield-to-maturity of 1.03% for the Barclays Treasury Index and its duration, Wilshire's model indicates that, despite a drop in principal value from rising rates, the improving reinvestment rate during the next ten years will provide a boost to the overall return of the Treasury Index. A simulated investment in Treasuries under this environment would yield a return of 1.50%, which serves as our 2012 return forecast. The same model applied to the Long Term Treasury

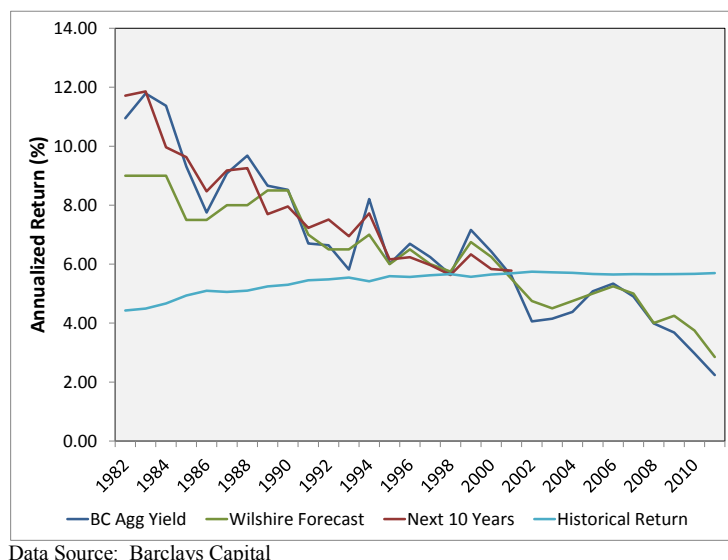
Index reveals that a rising rate environment would be a detriment to long-term bonds as the decreasing principal value is too great for the higher reinvestment rate to compensate. Based on the Barclays Long Term Treasury Index year-end yield-to-maturity of 2.68% and its duration, a simulated investment would return 1.55%, which is our 2012 assumption.

U.S. Bonds

The core bond market is represented by the Barclays U.S. Aggregate Bond Index and is comprised of four major segments: Treasuries, Government-related, Corporate and Securitized. As introduced in the previous section, we have modeled each segment based on an environment of rising Treasury rates but also normalizing spreads versus a historical average. Current spreads for U.S. non-Treasury market segments are above historic averages, so our credit model incorporates a slight tightening of spreads for these issues during the projection horizon. Simulated investments show that, besides the improving Treasury bond environment, the other three market segments also would receive a boost in return. The performance of a market-duration core bond index (4.95 years for the Barclays index) would benefit as the yield curve normalizes. Our model suggests that the net effect is an overall boost in return for the core market with an expected return of 2.85% versus the Index's yield-to-maturity of 2.24% on December 30, 2011.

Exhibit 10 compares Wilshire's past bond return assumptions with historical returns, yields and the rolling returns for the ten year period following each forecast. The accuracy of Wilshire's forecast methodology of future long-term returns is confirmed by the tight relationship between the forecast line and the rolling ten-year historical return line depicted below.

Exhibit 10 Wilshire Bond Forecast and Historical Fixed Income Statistics



Cash Equivalents

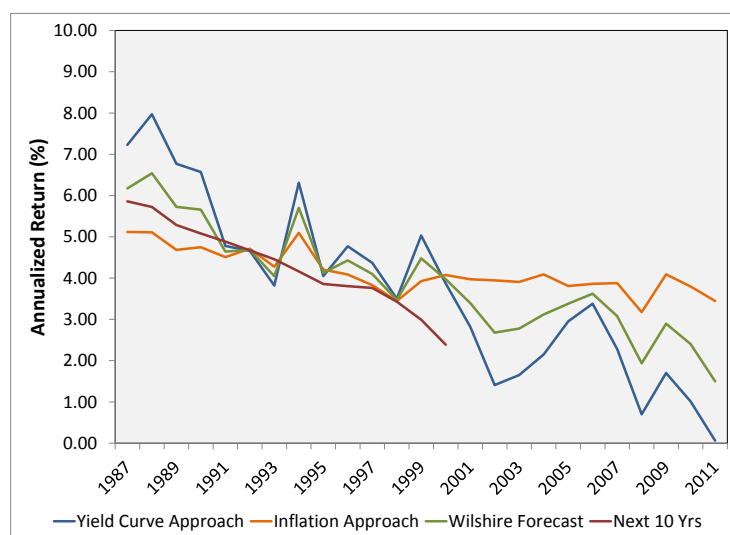
Wilshire typically blends two methodologies in forecasting returns for cash equivalents: a “Yield Curve Approach” and an “Inflation-plus Approach.” However, given that Fed Funds rates will be held to near 0% through 2013, our cash return forecast for 2012 reflects a qualitative adjustment to our model.

The yield curve approach starts with the yield-to-maturity on Treasury bonds and subtracts the average yield premium between short and long bond yields. As a result of our rising rate assumption, we use our unrounded Treasury return forecast (1.48%) described above as a proxy for yield. A 20-year average premium is used and allows for changes in market conditions while avoiding undesirable swings in the assumed premium. As of December 31, 2011, the 20-year yield curve premium averaged 1.42%, resulting in a 0.06% cash return forecast using this approach. Alternatively, the inflation-plus approach adds a short-term real return component to our inflation rate forecast. During the past half-century, real returns for Treasury bills have averaged 1.44% that, when added to our 2.00% inflation rate forecast, equals a 3.44% cash return forecast. An equal blend of the two approaches, rounded to the nearest 0.05%, leads to a 1.75% cash return forecast. However, Wilshire recognizes the unusual circumstances currently holding short-term interest rates at an artificially low level; therefore, our 2012 final cash return forecast deducts 25 basis points from our blended-model return, or 1.50%.

Exhibit 11 compares Wilshire’s yield curve approach, inflation-plus approach and a 50/50 blend of the two approaches (2012’s adjusted forecast excepted) with the Treasury bill return for the rolling ten-year period following each estimate. Focusing on the red

line depicting a 50/50 blend of the two approaches and the blue line depicting the Treasury bill rolling ten-year return, it appears that the 50/50 blend serves as a relatively accurate forecast of cash equivalents for the forward ten-year period.

Exhibit 11
Wilshire's Cash Equivalents Forecast vs. Actual 10-Year Return



Data Source: U.S. Department of Treasury, Bureau of Labor Statistics

Non-U.S. Bonds

Investment theory suggests that non-U.S. bond yields will be equivalent to core U.S. bond yields when currency adjustments are taken into account. This would imply using the same 2.85% core U.S. bond return forecast for non-U.S. bonds. Our experience, however, shows that custodial costs, taxes, transaction fees and a higher credit quality versus the U.S. bond market, due to the large proportion of government debt in non-U.S. bond indexes, reduce the non-U.S. bonds return by 25 basis points. Thus, our methodology results in a 2.60% expected return for non-U.S. bonds. Exhibit 12 compares historical core U.S. bond return and risk values⁴ with hedged and unhedged values of the Citigroup Non-U.S. Government Bond Index.

Exhibit 12
U.S. vs. Non-U.S. Bond Returns: 1985 – 2011

	U.S. Dollar		Local Currency	
	Return	Risk	Return	Risk
Core U.S. Bonds	8.0%	4.6%	8.0%	4.6%
Citigroup Non-U.S. Govt.	9.4%	11.4%	7.0%	4.0%

⁴ Wilshire uses the Barclays Aggregate U.S. Bond Index as the principal benchmark for U.S. Core Bonds.

Unhedged non-U.S. bonds offered better returns over the 27-year period due to a net fall in the dollar, in aggregate, for the entire time period. Hedged non-U.S. bond returns take out expected and unexpected currency movements and have exhibited returns 1.0% below core U.S. bonds at less risk. A long-term forecast for non-U.S. bonds should not include a currency return, positive or negative, and should rely upon historical hedged returns. Risk forecasts, however, should come from the experience of the unhedged indexes unless a hedged strategy is employed.

In summary, Wilshire is using a 2.60% expected return for non-U.S. bonds and a 2.50% expected return for hedged non-U.S. bonds, with a ten basis point deduction in return due to expected additional hedging costs.

Treasury Inflation Protected Securities (TIPS)

Wilshire typically recommends using an expected return for Treasury Inflation Protected Securities (TIPS) equal to the expected return for nominal Treasury bonds of similar maturity. As with other fixed income asset classes, we have modeled the Treasury segment closest in maturity to TIPS including our forecast for the interest rate environment during the next ten years. However, our modeled TIPS assumption is very close to the current yield on the comparable nominal Treasury index. The results are not surprising, as the average maturity for U.S. TIPS is significantly longer than the broad Treasury. The average maturity for the Barclays U.S. TIPS Index was 9.31 years on December 31, 2011. The index with the closest average maturity is the U.S. Treasury 7-10 Year Index, at 8.64 years. The modeled return assumption for this index is 1.67%, resulting in a U.S. TIPS assumption rounded to 1.65%. The assumption is in line with the 1.63% yield-to-maturity of the Treasury 7-10 Year Index.

Long-Term Bonds

Beginning in 2009, Wilshire's return assumption for long-term bonds was derived from the yield-to-maturity on the Barclays Long Term Government/Credit Index. Previously, we had utilized the Citigroup Large Pension Fund (LPF) Index. Both indexes are comprised of government and credit securities with relatively long-term maturities. The Barclays index consists of Treasuries, government-related and corporate securities with a minimum maturity of ten years. As with the core bond market, we modeled the various sectors within the index due to our custom return forecast for long-term Treasuries. In all three segments of the long-term index, the rising rate environment is expected to provide a drag on returns. Our return forecast for long-term bonds is 3.20% versus the yield-to-maturity of 3.94% on the Barclays index as of December 31, 2010.

High Yield Bonds and Emerging Market Debt

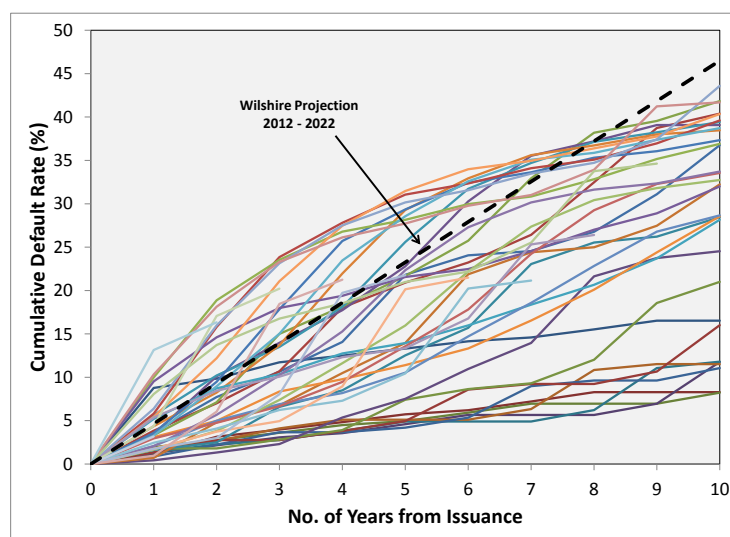
Wilshire's return forecast for high yield bonds is 5.45%, which is essentially in line with last year's assumption of 5.50%. Our return forecast is based upon our high yield bond

model that accounts for the dynamic nature of credit yield spreads, defaults and recoveries. The current 5.45% forecast incorporates the following assumptions:

- An initial yield spread of 7.50%, up from 6.50% one year prior;
- An annual default rate of 4.65% over the forecast period, reflecting the 20-year average default rate of speculative-grade U.S. debt;
- A ten-year cumulative annual default rate of 46.5%;
- An annual recovery rate of 40%, again reflecting the long-run average rate;
- A ten-year cumulative annual loss rate – defaults minus recoveries – equal to 28%, versus 30% last year.

Wilshire's high yield bond model incorporates the ability to input variable default rates as necessary. In Exhibit 13 we graph Wilshire's expected future default rates against all historical cumulative default rates from 1970 through 2010. Each line represents the historical cumulative default rates for high yield bonds issued in a single vintage year. The black dotted line is Wilshire's forward-looking default rate that is used in our expected return model for high yield bonds. Wilshire's default forecast line represents default expectations for a market portfolio holding bonds issued across various years. While it differs in nature from the vintage year default lines, which represent cumulative default rates specific to each single year of issue, the chart is useful in comparing our projection to historical default rate paths.

Exhibit 13
Historical Cumulative Default Paths: 1970 – 2010



Data Source: Moody's Investor Service

Our previous research on high yield bonds⁵ explains the rationale behind Wilshire's long-term return forecasting methodology in greater detail.

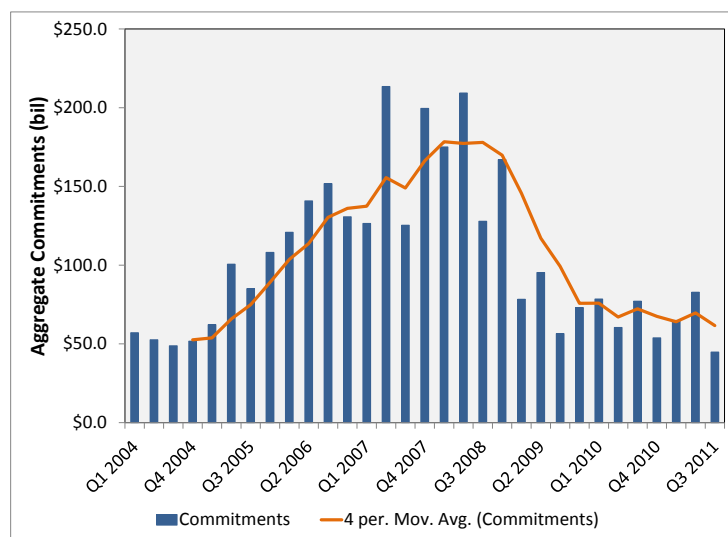
⁵ Wilshire Associates Incorporated (2005). *High Yield Market Update*: Yang.

In the context of a portfolio, emerging market debt can be viewed as a spread product among other high yield fixed income components providing access to unique country specific risk.⁶ As such, returns to emerging market debt can be forecasted using modeling techniques similar to other credit instruments. Wilshire incorporates the mechanics of the high yield model described above in deriving our emerging market debt forecast of 5.25%, which is unchanged from our 2011 assumption.

Private Market Investments

The slowdown in private equity fundraising that began in 2009 has continued through 2011. However, considered another way, the rate of commitments is approximately what it was before the rapid increase during the mid-2000s, indicating that the credit crisis has not caused investors to abandon the asset class. Global private equity fundraising is displayed in Exhibit 14 and has averaged \$64.2 billion during the first three quarters of 2011, although the third quarter was the weakest in more than five years.

Exhibit 14
Global Private Equity Fundraising

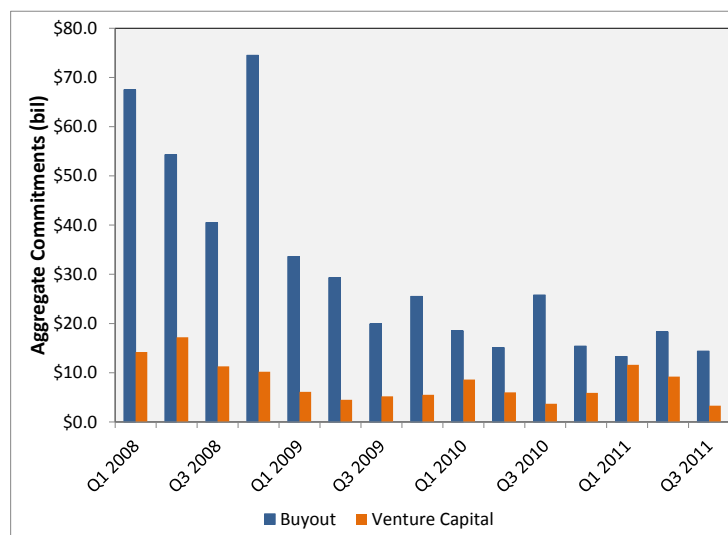


Data Source: Preqin

Exhibit 15 shows quarterly equity investments in buyout and venture capital-backed deals since the beginning of 2008. Buyout commitments have dropped -28% for the previous four quarters ending September, 2011 versus the preceding four quarters but venture capital has increased 26% during the same periods. For just 2011, buyout commitments total \$46.0 billion while venture capital equals \$24.1 billion.

⁶ For details on Wilshire's forecasting methodology: Wilshire Associates Incorporated (2009). *Emerging Markets Debt Part I – Introduction to the Asset Class*: Browning.

Exhibit 15
Buyout and Venture Capital Commitments



Data Source: Preqin

Wilshire's assumptions for individual private market asset classes are contained in Appendix B together with risk and return comparisons to some of the major public asset classes. Our private market return expectations are based upon drawing parallels to the public markets where appropriate. Further detail on Wilshire's methodology is available in part two of our three part series on private equity investing.⁷ Return forecasts are shown in the first row of Appendix B.

Wilshire's risk forecasts, which are expressed as standard deviations of annual returns, are reported in the second row of Appendix B. Risk estimates for the Private Market asset class pose a unique challenge because infrequent private market investment valuations preclude the calculation of short-term periodic returns. As a result, projections of risk based on accounting data consistently understate risk. Wilshire's approach has thus been to estimate risk by drawing parallels to the public markets and adjusting for any added risk contributed by financial leverage, the absence of liquidity or greater business risk.

The remaining rows in Appendix B contain correlation forecasts. Again, these estimates come from parallels to the public markets and are useful in assessing the diversification benefits of private markets. In general, Wilshire views the use of private equity as a type of leveraged equity return rather than a diversification tool. The linkage between these markets is quite intuitive, as private equity returns are subject to the receptiveness of the capital markets to generate potential outsized returns.

⁷ Wilshire Associates Incorporated (2006). *Private Equity Investing Part 2 – Generating Asset Class Assumptions*: Foresti and Toth.

Buyouts (U.S. and non-U.S.)

Our expected return assumptions for U.S. and non-U.S. buyouts are 8.75%. The assumption is that buyouts will exhibit similar business risks as publicly traded companies but will have greater financial risk. Therefore, it is appropriate to model buyout returns using public market proxies for equity returns and financing costs. Wilshire's buyout return forecast is 50 basis points higher than last year's return expectation and is in line with the 0.25% increase in our underlying public equity forecast. Expected returns in Appendix B are intended to be net returns. For example, the 8.75% expected return for buyouts should be viewed as net of all fees, including carried interest.

Wilshire's risk forecasts for U.S. and non-U.S. buyouts are 30.0% and 32.0%, respectively. These forecasts are considerably higher than the 17.0%-18.0% risk levels we assume for public stocks and are attributable to greater financial risk due to a more leveraged capital structure in buyout companies. Our leverage assumption is based on a capital structure with 60% debt and 40% equity, representing 2x leverage for buyouts, which is consistent with historical levels.

Venture Capital

Wilshire's return assumption for venture capital is 11.50%, up 1.00% from last year and built up from our underlying view on the public markets. The valuation of venture capital investments can vary by manager. A mix of current and stale valuations becomes an issue when aggregating venture performance for use in asset allocation. Therefore the presence of stale valuations suggests that, to the extent venture capital performance is related to public market performance, it will have some sensitivity to both recent and past returns. By including lagged data from the public markets, a more correct beta can be derived versus one naively found with a regression on contemporaneous data.

Our analysis indicates that venture capital exhibits a beta of 1.7 to the public market. Using the familiar CAPM formula $E(r) = \beta(R_m - R_f) + R_f$, we can derive an expected return for venture capital. This return estimate makes intuitive sense as investors should demand a return premium for making venture investments considering the uncertainty inherent in investing in new ventures.

Distressed Debt

Wilshire utilizes the Citigroup Global Markets Bankrupt/Defaulted Debt Index as a public market proxy for distressed debt investments. The index contains virtually all issues in default. The 20.00% risk forecast and correlations reported in Appendix B for distressed debt are based upon historical measurements for the Citigroup Index. The 7.75% expected return for distressed debt comes from our view that successful distressed

investors take equity-like control positions in distressed companies with significant upside potential but less risk than other buyouts because companies have already encountered financial distress. A key benefit of including distressed debt in a private markets portfolio is its low correlation with public asset classes, particularly stocks, when compared with other private market asset classes.

Mezzanine Debt

Wilshire views mezzanine debt like a convertible bond. However, unlike publicly traded convertibles with characteristics combining stocks and bonds, mezzanine debt possesses characteristics combining buyouts and high yield bonds. Consequently, we expect their return and risk measures to lie somewhere between buyouts and high yield bonds. Therefore, the 7.50% return and 20.00% risk forecast for mezzanine debt in Appendix B is based upon a blend of our buyout and high yield assumptions.

Private Markets Portfolio

The return and risk forecast for a diversified private markets portfolio is provided in Appendix B. The makeup of the private markets portfolio is as follows:

U.S. Buyouts	50%
Non-U.S. Buyouts	20%
Venture Capital	20%
Distressed Debt	5%
Mezzanine Debt	5%

When the components are geometrically calculated with a lognormal assumption, the forecast return for a diversified private markets portfolio is 10.25%, which is 2.75% above Wilshire's 7.50% expected return for U.S. stocks. The expected risk for the diversified private markets portfolio is 27.5%, which is slightly more than 1.5x the forecasted risk of U.S. stocks.

Real Assets

Asset correlation, or the degree to which asset prices move in tandem, results from a common sensitivity to underlying economic forces (i.e. growth, employment, inflation). Real assets, in particular, share a positive correlation to inflation and therefore can partially hedge real asset investment values against inflationary environments. This connection with inflation generates a relatively low correlation with other traditional assets. Therefore, Wilshire groups together the discussion of several asset classes into a Real Assets⁸ section – Real Estate, Infrastructure, Timberland, Commodity Futures, Oil and Gas Partnerships and, new for 2012, Master Limited Partnerships (MLPs). While we

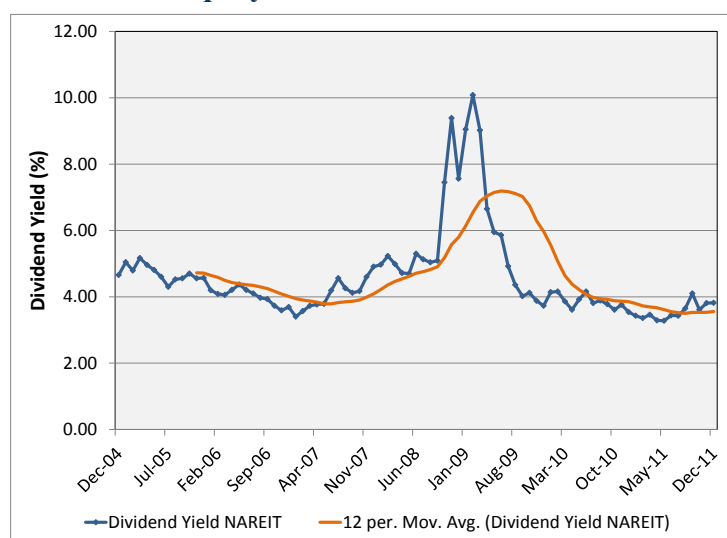
⁸ Wilshire Associates Incorporated (2007). *Real Asset Investments*: Browning.

consider TIPS a member of the real asset class, they are absent from this section as a discussion of our TIPS methodology was included in the Fixed Income section above.

U.S. Real Estate Securities

Wilshire is forecasting an expected return of 5.05% for U.S. real estate securities, down 45 basis points from last year's forecast of 5.50%. Since 2007, Wilshire has derived its forecast from combining a trailing 12-month average Equity REIT dividend yield with an expected dividend growth rate equal to three-quarters of long-run inflation.⁹ During the market turbulence of 2009, however, we modified this methodology. As REIT yields have been more reflective of their history since then, we are back to our standard process for formulating our REIT assumption. Exhibit 16 illustrates this reversion along with the one-year moving average dividend yield.

Exhibit 16
Equity REIT Dividend Yields



Data Source: FTSE Group and the National Association of Real Estate Investments Trusts

Non-U.S. Real Estate Securities

Wilshire's usual practice is to assume comparable non-U.S. and U.S. returns within a global asset class containing regional components. Within this context we often employ a market or model based approach to forecasting the U.S. component return, which we then build into a non-U.S. component assumption. Similar to our equity assumptions, we forecast a long-term return for U.S. real estate securities and then expand that result to serve as our non-U.S. real estate securities return forecast. While the historical record for global real estate securities is short, it does not support a non-U.S. return premium and

⁹ Examining REIT dividend growth historically, Wilshire found that REITs were able to pass through about three-quarters of long-run inflation through rent and dividend increases.

until strong evidence supports otherwise, we are comfortable assuming a similar return outside of the United States. This approach leads to our 5.05% long-term return forecast for non-U.S. real estate securities.

Private Real Estate

Private real estate investments can be divided into three primary subsets: core, value-added, and opportunistic. Wilshire's return assumption for private real estate is 5.80%, down from 6.30% last year, and is based on a private real estate portfolio consisting of 70% core, 15% value-added and 15% opportunistic property investments. The 50 basis point decrease in our private real estate return is comparable to the reduction in our public real estate assumption and reflects the combination of a falling yield environment and current financing rates. These private real estate asset weightings are flexible and dependent on a client's investment objectives. Wilshire's assumptions for individual private real estate asset classes are contained in Appendix C together with comparisons to some of the major public asset classes.

As mentioned above, the private real estate portfolio can be broken up into three categories: core, value-added and opportunistic. Core real estate investments are characterized by larger properties with more stable cash flows, less utilization of financial leverage and a lower level of risk than the other real estate investment strategies. Value-added investments in the real estate market are characterized by improvements in a number of attributes. Value-added real estate investors are able to create wealth by developing new properties as well as redeveloping underperforming properties through physical, financial and operational upgrades. Investing in opportunistic real estate occurs after the cyclical nature of assets in different geographies and property types cause market values to fall. The opportunistic investor attempts to successfully exploit inefficient market pricing through property selection and market-timing while at the same time managing risk appropriately. For a more detailed discussion of the private real estate market, please refer to Wilshire's 2006 research paper "Private Real Estate Investing."

Infrastructure

Direct infrastructure investments cover a broad range of asset types, ranging from stabilized, income producing assets ("brownfield infrastructure") to new and unproven development projects ("greenfield infrastructure"). These physical assets are further differentiated by geographic location, sector, financing and other characteristics. Similar to real estate properties, infrastructure returns are primarily generated by owning and operating physical assets; and like real estate, operating income is often linked directly or indirectly to long-term inflation trends. Until a historical track record develops for direct infrastructure types and sub-types, Wilshire will utilize private real estate as an

infrastructure proxy in asset liability studies.¹⁰ Recognizing the imperfections that exist in this methodology, Wilshire believes there are few better corollaries than private real estate with relation to inflation capture and physical asset cost structure. On a project basis, customized assumptions can be developed to model the unique characteristics of specific infrastructure investments.

Timberland

Timberland Investment returns are driven by four primary components: biological growth, the market price for timber, the market price for land and the skill of active management. Wilshire's return assumption for the timber asset class is 7.00% and is based on a return attribution of 5.00% annual biological growth and a 2.00% increase in timber market prices. The timber market price component is consistent with our inflation forecast and reflects the ability of timberland products to capitalize expected and unexpected inflation over long time periods. The holding period return to land is assumed to be negligible, and thus estimated to have no addition to return unless successful management is employed. Active timber management is thus viewed as a potential source of excess return, which in our forecast is assumed to contribute 0% net-of-fees across the universe of timber managers. For a more detailed discussion on our forecast methodology, please refer to Wilshire's 2007 research paper "Timberland Investments – Does the Return Fall Far From the Tree?"

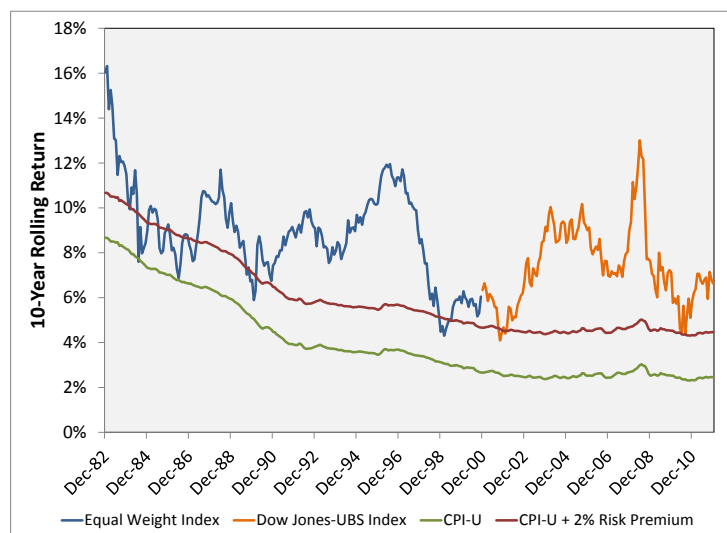
Commodity Futures

The returns for commodities differ from other asset classes because commodities do not represent compensation for the risk associated with future cash flow uncertainty. Instead, investors in commodity futures are compensated for bearing the risk of short-term commodity price fluctuations. In other words, a majority of a commodity future investor's exposure is to short-term economic conditions.¹¹ Exhibit 17 lays out a return history for the Dow Jones-UBS Commodity IndexSM, an equal weight index, CPI-U and a CPI-U + 2% premium over time. From this historical record, we estimate that the future expected return for commodities will be inflation plus a two percent risk premium, or 4.00%.

¹⁰ Wilshire Associates Incorporated (2007). *Infrastructure Investing*: Dudkowski and Toth.

¹¹ Wilshire Associates Incorporated (2005). *Commodity Futures Investing: Is All That Glitters Gold?*: Foresti and Toth, provides a more in-depth examination of the history of commodities and their use in an institutional portfolio.

Exhibit 17 Historical Commodity Index Returns



Data Source: Gary Gorton and K. Geert Rouwenhorst "Facts and Fantasies about Commodity Futures," (February, 2005), Dow Jones Indexes

Wilshire's forecasted risk for commodity futures is 13% based on the historical record of the Dow Jones-UBS Commodity Index. It is important to note that other indexes differ in composition from the Dow Jones-UBS index and may be substantially more or less risky.

The low measured correlation of commodity returns with more traditional assets, such as stocks and bonds, stems from their price sensitivity to current economic supply and demand forces. In contrast, stock and bond valuations are more heavily driven by forward-looking expectations. Historically, these factors have caused traditional assets and commodities to have lower correlations. A complete list of correlations for commodities versus other asset classes can be found in Appendix A.

Master Limited Partnerships (MLPs)

A Master Limited Partnership (MLP) is a public partnership that is traded on a stock exchange. It is a legal structure that combines individual limited partnerships into one large entity to make the ownership interests more marketable, with a general partner operating the business. The majority of energy MLPs engage primarily in the midstream portion of the energy chain – i.e. pipelines, storage terminals, gathering, processing. However, MLP businesses have expanded to include the exploration and production of oil and natural gas, coal leasing and mining and shipping. Tax implications of investing in MLPs are quite complicated and institutional investors are ultimately encouraged to seek guidance from tax advisors before investing. For a more detailed analysis of the asset class, please refer to Wilshire's 2011 research paper "Investing in MLPs."

As MLPs are prominently a yield-returning asset class, Wilshire looks to both the current yield and potential for yield increases in the future to formulate a return assumption. Our starting point is the 12-month trailing average yield for MLPs, which is similar to our REIT methodology. Our forecast for the growth in distributions is based on a regulated tariff increase allowance for the two largest segments of the MLP asset class – natural gas pipelines and petroleum transportation – currently PPI + 2.65%. While Wilshire does not directly forecast PPI (Producer Price Index), we can adjust our inflation forecast by utilizing the historical relationship between PPI and CPI, which reveals that PPI runs at 85% of CPI. Additionally, we will not assume that a full 2.65% premium will flow through to income for two reasons. First, the 2.65% is a maximum with no guarantees that operators will be successful in consistently achieving that level. Second, MLPs, in general, have significant discretion as to what they determine is available cash and may reinvest some of that premium back into the business. Therefore, we assume that future distributions will increase by one-half of the maximum regulated premium, which we believe is a conservative approach. Exhibit 18 walks through the basic calculation for Wilshire’s current MLP return assumption and highlights the importance of the “going-in” yield as the major driver of our forecast.

Exhibit 18
MLP Return Assumption Methodology

<u>Date</u>	<u>Yield</u>		
Jan-11	6.1%	12-Month Average Yield	6.2%
Feb-11	5.9%		
Mar-11	6.0%	Inflation Assumption	2.0%
Apr-11	5.9%	Adjusted for PPI (85%)	1.7%
May-11	6.2%		
Jun-11	6.2%	FERC Regulated Increase	2.7%
Jul-11	6.4%	One-half of increase	1.3%
Aug-11	6.6%		
Sep-11	6.9%		
Oct-11	6.3%	Return Assumption	
Nov-11	6.4%	Avg Yield + PPI + Premium	9.25%
Dec-11	6.1%	(6.8%) + (1.9%) + (0.7%)	

Our risk forecast for MLPs is based on historical observations, much like with other asset classes. The observed risk on the Alerian MLP Index has moved since inception between 13% and 18%, increasing through time. Our analysis currently suggests an assumed risk on the asset class of 17%.

Oil and Gas Partnerships

With the introduction of an MLP assumption, Wilshire has modified its methodology for forecasting returns and risk on Oil and Gas Partnerships. These private partnerships

invest in very similar assets as are held within the MLP structure – and to a similar degree given the available opportunity set of energy investments. One major difference is in the amount of leverage utilized through the different approaches, with MLPs employing a higher level of borrowing. Therefore, Wilshire’s MLP assumption forms the basis for our private Oil and Gas forecast but is refigured to reflect the appropriate amount of leverage. For 2012, our long-term forecast for Private Oil & Gas Partnerships is 7.75% with annual volatility of 15.00%.

Real Asset Basket

In an effort to assist institutions who take a holistic approach to inflation linked investing, Wilshire develops forecasts for a broadly diversified Real Asset Basket. In that approach, we construct a 50/50 combination of underlying public and private real asset portfolios. The underlying sub-component asset classes are risk weighted within the public and private real asset baskets to efficiently gain exposure to the inflation capture of the individual underlying investments. The approach weights the sub-components as follows:

- Public Real Asset Basket
 - TIPS 45%
 - Commodity Futures 20%
 - Global REITs 20%
 - MLPs 15%
- Private Real Asset Basket
 - Private Real Estate 40% (includes infrastructure)
 - Timberland 30%
 - Oil & Gas Partnerships 30%

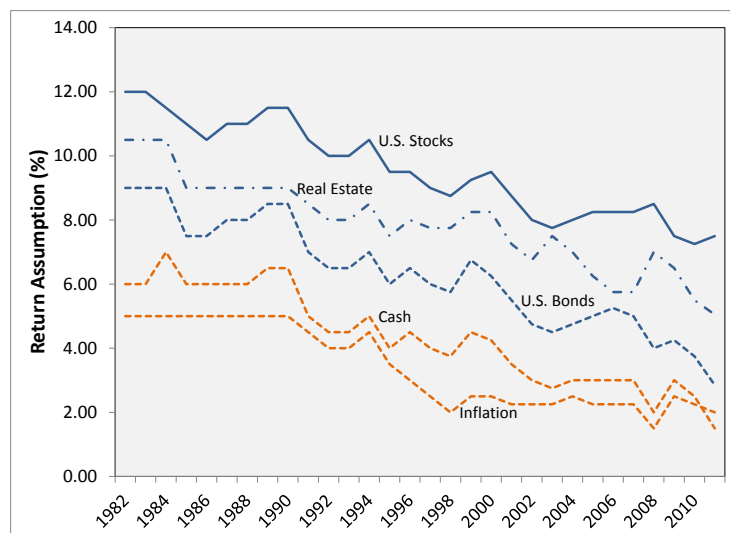
The aggregate Real Asset Basket with risk weighted sub-components is expected to return 5.85% and is included in the standard annual asset class matrix (Appendix A). Furthermore, the Real Assets sub-matrix, which contains the individual real asset basket component classes along with the private and public combinations, can be found in Appendix D.

Wilshire’s Historical Forecasts

Exhibit 19 shows how Wilshire’s return forecasts have changed during the past 30 years. Notice the relative relationship between asset classes and how, when the assumptions change, they generally move together. This co-movement in assumptions is the result of common economic drivers, such as the level of growth, inflation and interest rates, which contribute to all asset class valuations, thereby linking various investments to each other in, at minimum, an indirect way. Such a natural linkage accommodates Wilshire’s

practice of publishing asset class assumptions on an annual basis and protects the usefulness of forecasts based on somewhat lagged valuations and market conditions.

Exhibit 19
Historical Returns



Risk and Correlation

Wilshire’s approach to forecasting long-term risk and correlation is largely based on observed historical asset class behavior. Generally, past relationships across market cycles serve as reasonable predictors of future risk and correlation. This year we implemented some small changes to risk estimates; most notably, 1%, 1% and 2% increases to our U.S., Developed non-U.S. and Emerging Stock forecasts, respectively. Our disciplined approach did not result in lowering risk excessively during the years leading up to 2008, and as a result we have not been in a position to push risks higher when the risk regime shifted from low to high. That said, we did believe a small adjustment was prudent given the continued challenges facing the global economy and related knock-on effects to stock market volatility. As is the case every year, we did make some minor modifications to several correlation assumptions primarily as the result of relative moves in sub-asset class component weights. For example, our introduction of MLPs into the Real Assets basket changes that portfolio’s relationship with other asset classes. We view these changes as minor and insignificant rather than indicative of a more meaningful shift in our view of asset class relationships.

In practice, Wilshire applies sound financial theory and judgment to the interpretation and analysis of historical results. The role of judgment (“art”) versus measured statistics (“science”) is more pronounced for investment categories with less historical data or that have experienced material structural changes. In general, Wilshire places much more confidence in the predictive accuracy of past relationships for asset classes with longer

and more robust historical data. In this report we rely upon historical measurements of risk and correlation through 2011 to estimate future risk and correlation. To maximize the quality of our estimates, we observe this historical behavior over various time horizons (i.e. five years, ten years, full history, etc.). Wilshire does not use a preset or static rolling time period to derive these forecasts, as such an approach could result in forward numbers reacting too quickly to what may prove to be short-term relationships or event driven anomalies between markets.

A full listing of Wilshire's risk and diversification assumptions for all asset classes is found in Appendix A.



Appendix A: Wilshire 2012 Correlation Matrix

	Equity						Fixed Income							Real Assets					
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Markets	Cash	LT			TIPS	High Yield	ex-US Bond (Hdg)	Real Estate			Cmnty Assets	Real Assets	US CPI
								Core Bond	Core Bond	LT Treas				US RES	Global RES	Private RE			
Expected Compound Return (%)	7.50	7.50	7.50	7.80	7.80	10.25	1.50	2.85	3.20	1.55	1.65	5.45	2.50	5.05	5.25	5.80	4.00	5.85	2.00
Expected Arithmetic Return (%)	8.80	8.95	10.45	9.35	9.10	13.45	1.50	3.00	3.70	2.15	1.85	5.90	2.55	6.10	5.95	6.50	4.80	6.15	2.00
Expected Risk (%)	17.00	18.00	26.00	18.50	17.05	27.50	1.25	5.00	10.00	11.00	6.00	10.00	3.50	15.00	12.25	12.25	13.00	7.75	1.75
Cash Yield (%)	2.00	3.75	2.75	3.50	2.75	0.00	1.50	2.85	3.20	1.55	1.65	5.45	2.50	4.00	4.00	3.10	1.50	2.90	n.a.
Correlations:																			
US Stock	1.00																		
Dev ex-US Stock (USD)	0.80	1.00																	
Emerging Mkt Stock	0.70	0.68	1.00																
Global ex-US Stock	0.83	0.96	0.84	1.00															
Global Stock	0.93	0.93	0.82	0.96	1.00														
Private Markets	0.75	0.65	0.63	0.69	0.75	1.00													
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00												
Core Bond	0.29	0.12	0.00	0.09	0.18	0.32	0.20	1.00											
LT Core Bond	0.31	0.16	0.01	0.12	0.21	0.33	0.10	0.95	1.00										
LT Treasury	0.19	0.10	-0.05	0.06	0.12	0.24	0.12	0.92	0.97	1.00									
TIPS	-0.05	0.05	0.00	0.04	0.00	0.01	0.15	0.20	0.17	0.20	1.00								
High Yield Bond	0.55	0.40	0.50	0.46	0.52	0.34	-0.10	0.24	0.31	0.21	0.01	1.00							
Non-US Bond (Hdg)	0.16	0.26	-0.01	0.19	0.19	0.27	0.10	0.68	0.65	0.67	0.25	0.27	1.00						
US RE Securities	0.35	0.25	0.30	0.29	0.32	0.35	-0.05	0.15	0.18	0.14	0.15	0.45	0.00	1.00					
Global RE Securities	0.49	0.48	0.49	0.52	0.52	0.51	-0.03	0.14	0.19	0.14	0.17	0.49	0.06	0.91	1.00				
Private Real Estate	0.34	0.24	0.29	0.27	0.31	0.33	-0.03	0.24	0.24	0.19	0.16	0.48	0.08	0.82	0.76	1.00			
Commodities	0.00	0.20	0.24	0.23	0.14	0.05	-0.05	0.00	0.00	0.00	0.20	0.08	0.00	0.20	0.26	0.21	1.00		
Real Asset Basket	0.31	0.34	0.39	0.39	0.37	0.33	0.02	0.20	0.21	0.12	0.41	0.46	0.08	0.69	0.74	0.73	0.53	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.14	-0.10	0.10	-0.12	-0.12	-0.12	0.10	-0.08	-0.08	-0.10	-0.06	-0.07	0.20	0.13	1.00



Appendix B: Wilshire 2012 Private Markets Correlation Matrix

	Buyouts	Venture Capital	Distressed Debt	Mezz Debt	Non-US Buyouts	Private Markets Portfolio	US Stocks	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Cash	Core Bond	High Yield Bond	Global RES
Expected Compound Return	8.75	11.50	7.75	7.50	8.75	10.25	7.50	7.50	7.50	7.80	1.50	2.85	5.45	5.25
Expected Arithmetic Return	12.55	18.90	9.50	9.30	13.00	13.45	8.80	8.95	10.45	9.35	1.50	3.00	5.90	5.95
Expected Risk (%)	30.00	44.00	20.00	20.00	32.00	27.50	17.00	18.00	26.00	18.50	1.25	5.00	10.00	12.25
Correlations:														
Buyouts	1.00	0.65	0.15	0.65	0.78	0.95	0.70	0.55	0.55	0.59	0.00	0.40	0.30	0.49
Venture Capital	0.65	1.00	0.10	0.35	0.50	0.81	0.60	0.50	0.50	0.54	0.00	0.10	0.25	0.42
Distressed Debt	0.15	0.10	1.00	0.65	0.15	0.21	0.30	0.25	0.25	0.27	0.00	0.05	0.55	0.15
Mezzanine Debt	0.65	0.35	0.65	1.00	0.40	0.62	0.70	0.55	0.58	0.60	0.05	0.35	0.65	0.55
Non-US Buyouts	0.78	0.50	0.15	0.40	1.00	0.83	0.60	0.70	0.60	0.72	0.00	0.25	0.25	0.43
Pvt Mkts Portfolio	0.95	0.81	0.21	0.62	0.83	1.00	0.75	0.65	0.63	0.69	0.00	0.32	0.34	0.51



Appendix C: Wilshire 2012 Private Real Estate Correlation Matrix

	Public Real Estate			Private Real Estate				US Stocks	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Cash	Core Bond	High Yield Bond
	US RES	Non-US RES	Global RES	Core	Value Added	Opport	Prvt RE Basket							
Expected Compound Return	5.05	5.05	5.25	4.50	7.25	9.40	5.80	7.50	7.50	7.50	7.80	1.50	2.85	5.45
Expected Arithmetic Return	6.10	5.85	5.95	5.00	8.35	11.70	6.50	8.80	8.95	10.45	9.35	1.50	3.00	5.90
Expected Risk (%)	15.00	13.00	12.25	10.50	15.50	23.00	12.25	17.00	18.00	26.00	18.50	1.25	5.00	10.00
Correlations:														
US RE Securities	1.00							0.35	0.25	0.30	0.29	-0.05	0.15	0.45
Non-US RES	0.50	1.00						0.50	0.65	0.60	0.68	0.00	0.10	0.40
Global RES	0.91	0.82	1.00					0.49	0.48	0.49	0.52	-0.03	0.14	0.49
Core RE	0.90	0.45	0.82	1.00				0.30	0.20	0.25	0.23	-0.05	0.15	0.45
Value-Added RE	0.70	0.40	0.66	0.85	1.00			0.35	0.25	0.30	0.29	0.00	0.30	0.45
Opportunistic RE	0.55	0.35	0.52	0.70	0.94	1.00		0.35	0.25	0.30	0.29	0.00	0.35	0.45
Private RE Basket	0.82	0.44	0.76	0.96	0.96	0.88	1.00	0.34	0.24	0.29	0.27	-0.03	0.24	0.48



Appendix D: Wilshire 2012 Real Asset Basket Correlation Matrix

	Public Real Assets					Private Real Assets				Real Asset Basket
	Global RES	TIPS	Cmdty	MLPs	Public RA Basket	Private RE	Timber	Oil & Gas Prtnshp	Private RA Basket	
Expected Compound Return	5.25	1.65	4.00	9.25	4.35	5.80	7.00	7.75	7.20	5.85
Expected Arithmetic Return	5.95	1.85	4.80	10.55	4.60	6.50	8.05	8.75	7.65	6.15
Expected Risk (%)	12.25	6.00	13.00	17.00	6.80	12.25	15.00	15.00	10.00	7.75
Correlations:										
Global RES	1.00									
TIPS	0.17	1.00								
Commodities	0.26	0.20	1.00							
MLPs	0.46	0.15	0.25	1.00						
Public RA Basket	0.70	0.59	0.65	0.70	1.00					
Private RE Basket	0.76	0.16	0.21	0.41	0.57	1.00				
Timber	0.20	0.15	0.30	0.25	0.34	0.16	1.00			
Oil & Gas Prtnshp	0.46	0.15	0.25	0.70	0.58	0.41	0.25	1.00		
Private RA Basket	0.67	0.21	0.35	0.63	0.69	0.75	0.64	0.76	1.00	
Real Asset Basket	0.74	0.41	0.53	0.72	0.90	0.73	0.55	0.74	0.93	1.00
US Stocks	0.49	-0.05	0.00	0.30	0.27	0.34	0.00	0.30	0.30	0.31
Dev ex-US Stocks	0.48	0.05	0.20	0.25	0.36	0.24	0.10	0.25	0.28	0.34
Emg Stock	0.49	0.00	0.24	0.30	0.38	0.29	0.15	0.30	0.34	0.39
Global ex-US Stock	0.52	0.04	0.23	0.29	0.40	0.27	0.12	0.29	0.32	0.39
Cash	-0.03	0.15	-0.05	0.05	0.05	-0.03	-0.05	0.05	-0.01	0.02
Core Bond	0.14	0.20	0.00	0.14	0.18	0.24	0.00	0.14	0.18	0.20
High Yield Bond	0.49	0.01	0.08	0.45	0.38	0.48	0.05	0.45	0.46	0.46

Appendix E: Historical 1, 5 & 10-Year Rolling Returns (1926 to 2011)

Appendix E: 1-Year Returns

Year	S&P 500 Index	Bond Index	T-bills	CPI	Year	S&P 500 Index	Bond Index	T-bills	CPI
1926	11.6	7.4	3.3	-1.5	1969	-8.5	-8.1	6.6	6.1
1927	37.5	7.4	3.1	-2.1	1970	4.0	18.4	6.5	5.5
1928	43.6	2.8	3.5	-1.0	1971	14.3	11.0	4.4	3.4
1929	-8.4	3.3	4.7	0.2	1972	19.0	7.3	3.8	3.5
1930	-24.9	8.0	2.4	-6.0	1973	-14.8	2.3	6.9	8.7
1931	-43.4	-1.9	1.1	-9.5	1974	-26.4	0.2	8.2	12.4
1932	-8.2	10.8	1.0	-10.3	1975	37.2	12.3	5.8	7.0
1933	54.0	10.4	0.3	0.5	1976	24.1	15.6	5.0	4.9
1934	-1.4	13.8	0.2	2.0	1977	-7.3	3.0	5.4	6.7
1935	47.7	9.6	0.1	3.0	1978	6.4	1.4	7.5	9.0
1936	33.9	6.7	0.2	1.2	1979	18.5	1.9	10.3	13.3
1937	-35.0	2.8	0.3	3.1	1980	32.2	2.7	11.8	12.5
1938	31.1	6.1	0.0	-2.8	1981	-4.9	6.3	14.5	8.9
1939	-0.4	4.0	0.0	-0.5	1982	21.1	32.6	11.1	3.8
1940	-9.8	3.4	0.0	1.0	1983	22.4	8.4	8.8	3.8
1941	-11.6	2.7	0.0	9.7	1984	6.1	15.2	9.9	4.0
1942	20.4	2.6	0.3	9.3	1985	32.1	22.1	7.7	3.8
1943	25.9	2.8	0.4	3.2	1986	18.6	15.3	6.1	1.1
1944	19.7	4.7	0.3	2.1	1987	5.2	2.8	5.4	4.4
1945	36.4	4.1	0.3	2.3	1988	16.8	7.9	6.7	4.4
1946	-8.1	1.7	0.4	18.2	1989	31.5	14.5	9.0	4.6
1947	5.7	-2.3	0.5	9.0	1990	-3.2	9.0	8.3	6.1
1948	5.5	4.1	0.8	2.7	1991	30.6	16.0	6.4	3.1
1949	18.8	3.3	1.1	-1.8	1992	7.7	7.4	3.9	2.9
1950	31.7	2.1	1.2	5.8	1993	10.0	9.8	3.2	2.8
1951	24.0	-2.7	1.5	5.9	1994	1.3	-2.9	4.2	2.7
1952	18.4	3.5	1.7	0.9	1995	37.5	18.5	6.1	2.5
1953	-1.0	3.4	1.8	0.6	1996	23.1	3.6	5.4	3.3
1954	52.6	5.4	0.9	-0.5	1997	33.3	9.7	5.5	1.7
1955	31.6	0.5	1.6	0.4	1998	28.8	8.7	5.4	1.6
1956	6.6	-6.8	2.5	2.9	1999	21.0	-0.8	4.6	2.7
1957	-10.8	8.7	3.2	3.0	2000	-9.1	11.6	6.2	3.4
1958	43.4	-2.2	1.5	1.8	2001	-11.9	8.4	4.4	1.6
1959	12.0	-1.0	3.0	1.5	2002	-22.1	10.3	1.8	2.4
1960	0.5	9.1	2.7	1.5	2003	28.7	4.1	1.2	1.9
1961	26.9	4.8	2.1	0.7	2004	10.9	4.3	1.3	3.3
1962	-8.7	8.0	2.7	1.2	2005	4.9	2.4	3.1	3.4
1963	22.8	2.2	3.1	1.7	2006	15.8	4.3	4.8	2.5
1964	16.5	4.8	3.5	1.2	2007	5.5	7.0	5.0	4.1
1965	12.5	-0.5	3.9	1.9	2008	-37.0	5.2	2.0	0.1
1966	-10.1	0.2	4.8	3.4	2009	26.5	5.9	0.2	2.7
1967	24.0	-5.0	4.2	3.0	2010	15.1	6.5	0.1	1.5
1968	11.1	2.6	5.2	4.7	2011	2.1	7.8	0.1	3.0

Winning Percentage: 62% 26% 13%

Appendix E: 5-Year Returns

Year	S&P 500 Index	Bond Index	T-bills	CPI	Year	S&P 500 Index	Bond Index	T-bills	CPI
1926-30	8.7	5.8	3.4	-2.1	1967-71	8.4	3.3	5.4	4.5
1927-31	-5.1	3.9	3.0	-3.7	1968-72	7.5	5.8	5.3	4.6
1928-32	-12.5	4.5	2.5	-5.4	1969-73	2.0	5.8	5.6	5.4
1929-33	-11.2	6.0	1.9	-5.1	1970-74	-2.4	7.6	6.0	6.6
1930-34	-9.9	8.1	1.0	-4.8	1971-75	3.2	6.5	5.8	6.9
1931-35	3.1	8.4	0.5	-3.0	1972-76	4.9	7.4	5.9	7.2
1932-36	22.5	10.3	0.3	-0.8	1973-77	-0.2	6.5	6.3	7.9
1933-37	14.3	8.6	0.2	2.0	1974-78	4.3	6.3	6.4	8.0
1934-38	10.7	7.8	0.1	1.3	1975-79	14.8	6.7	6.8	8.1
1935-39	10.9	5.8	0.1	0.8	1976-80	13.9	4.8	8.0	9.2
1936-40	0.5	4.6	0.1	0.4	1977-81	8.0	3.1	9.9	10.1
1937-41	-7.5	3.8	0.1	2.0	1978-82	13.9	8.4	11.0	9.5
1938-42	4.6	3.8	0.1	3.2	1979-83	17.2	9.8	11.3	8.4
1939-43	3.8	3.1	0.1	4.5	1980-84	14.6	12.6	11.2	6.5
1940-44	7.7	3.3	0.2	5.0	1981-85	14.6	16.5	10.4	4.8
1941-45	17.0	3.4	0.3	5.3	1982-86	19.7	18.4	8.7	3.3
1942-46	17.9	3.2	0.3	6.8	1983-87	16.4	12.5	7.6	3.4
1943-47	14.8	2.2	0.4	6.8	1984-88	15.4	12.4	7.1	3.5
1944-48	10.9	2.4	0.5	6.7	1985-89	20.4	12.3	7.0	3.7
1945-49	10.7	2.2	0.6	5.8	1986-90	13.2	9.8	7.1	4.1
1946-50	9.9	1.8	0.8	6.6	1987-91	15.4	9.9	7.1	4.5
1947-51	16.7	0.9	1.0	4.3	1988-92	15.9	10.9	6.8	4.2
1948-52	19.4	2.0	1.3	2.7	1989-93	14.5	11.3	6.1	3.9
1949-53	17.9	1.9	1.5	2.2	1990-94	8.7	7.7	5.2	3.5
1950-54	23.9	2.3	1.4	2.5	1991-95	16.6	9.5	4.8	2.8
1951-55	23.9	2.0	1.5	1.4	1992-96	15.2	7.0	4.6	2.8
1952-56	20.2	1.1	1.7	0.8	1993-97	20.2	7.5	4.9	2.6
1953-57	13.6	2.1	2.0	1.3	1994-98	24.1	7.3	5.3	2.4
1954-58	22.3	1.0	1.9	1.5	1995-99	28.6	7.7	5.4	2.4
1955-59	15.0	-0.3	2.3	1.9	1996-00	18.3	6.5	5.4	2.5
1956-60	8.9	1.4	2.6	2.1	1997-01	10.7	7.4	5.2	2.2
1957-61	12.8	3.8	2.5	1.7	1998-02	-0.6	7.5	4.5	2.3
1958-62	13.3	3.6	2.4	1.3	1999-03	-0.6	6.6	3.6	2.4
1959-63	9.8	4.5	2.7	1.3	2000-04	-2.3	7.7	3.0	2.5
1960-64	10.7	5.7	2.8	1.2	2001-05	0.5	5.9	2.4	2.5
1961-65	13.2	3.8	3.1	1.3	2002-06	6.2	5.1	2.4	2.7
1962-66	5.7	2.9	3.6	1.9	2003-07	12.8	4.4	3.1	3.0
1963-67	12.4	0.3	3.9	2.2	2004-08	-2.2	4.6	3.2	2.7
1964-68	10.2	0.4	4.3	2.8	2005-09	0.4	5.0	3.0	2.6
1965-69	5.0	-2.2	4.9	3.8	2006-10	2.3	5.8	2.4	2.2
1966-70	3.4	1.2	5.4	4.5	2007-11	-0.3	6.5	1.5	2.3

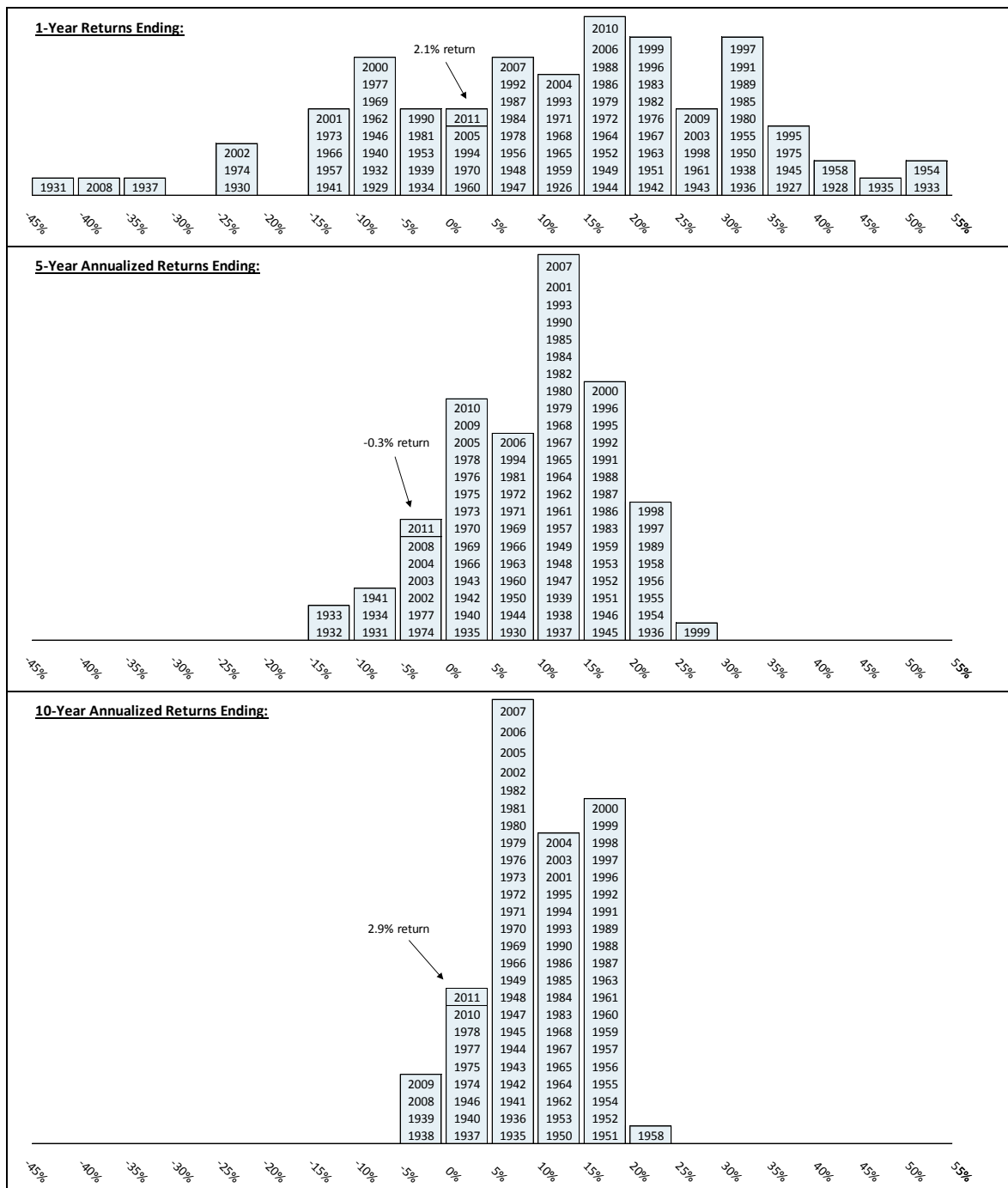
Winning Percentage: 71% 26% 4%

Appendix E: 10-Year Returns

Year	S&P 500 Index	Bond Index	T-bills	CPI	Year	S&P 500 Index	Bond Index	T-bills	CPI
1926-35	5.9	7.1	2.0	-2.6	1965-74	1.2	2.6	5.4	5.2
1927-36	7.8	7.0	1.7	-2.3	1966-75	3.3	3.8	5.6	5.7
1928-37	0.0	6.5	1.4	-1.8	1967-76	6.7	5.3	5.7	5.9
1929-38	-0.9	6.9	1.0	-2.0	1968-77	3.6	6.2	5.8	6.2
1930-39	-0.1	6.9	0.6	-2.0	1969-78	3.2	6.1	6.0	6.7
1931-40	1.8	6.5	0.3	-1.3	1970-79	5.9	7.2	6.4	7.4
1932-41	6.4	7.0	0.2	0.6	1971-80	8.4	5.6	6.9	8.1
1933-42	9.4	6.2	0.1	2.6	1972-81	6.4	5.2	7.9	8.6
1934-43	7.2	5.4	0.1	2.9	1973-82	6.6	7.4	8.6	8.7
1935-44	9.3	4.5	0.2	2.9	1974-83	10.6	8.1	8.8	8.2
1936-45	8.4	4.0	0.2	2.8	1975-84	14.7	9.6	9.0	7.3
1937-46	4.4	3.5	0.2	4.4	1976-85	14.2	10.5	9.2	7.0
1938-47	9.6	3.0	0.2	5.0	1977-86	13.7	10.5	9.3	6.6
1939-48	7.3	2.8	0.3	5.6	1978-87	15.2	10.4	9.3	6.4
1940-49	9.2	2.7	0.4	5.4	1979-88	16.3	11.1	9.2	5.9
1941-50	13.4	2.6	0.5	5.9	1980-89	17.5	12.4	9.1	5.1
1942-51	17.3	2.0	0.7	5.5	1981-90	13.9	13.1	8.7	4.5
1943-52	17.1	2.1	0.8	4.7	1982-91	17.5	14.1	7.9	3.9
1944-53	14.3	2.2	1.0	4.4	1983-92	16.2	11.7	7.2	3.8
1945-54	17.1	2.2	1.0	4.2	1984-93	14.9	11.9	6.6	3.7
1946-55	16.7	1.9	1.1	4.0	1985-94	14.4	10.0	6.1	3.6
1947-56	18.4	1.0	1.3	2.5	1986-95	14.9	9.6	5.9	3.5
1948-57	16.4	2.1	1.6	2.0	1987-96	15.3	8.5	5.8	3.7
1949-58	20.1	1.4	1.7	1.9	1988-97	18.0	9.2	5.9	3.4
1950-59	19.4	1.0	1.9	2.2	1989-98	19.2	9.3	5.7	3.1
1951-60	16.2	1.7	2.0	1.8	1990-99	18.2	7.7	5.3	2.9
1952-61	16.4	2.4	2.1	1.3	1991-00	17.5	8.0	5.1	2.7
1953-62	13.4	2.9	2.2	1.3	1992-01	12.9	7.2	4.9	2.5
1954-63	15.9	2.7	2.3	1.4	1993-02	9.3	7.5	4.7	2.5
1955-64	12.8	2.7	2.6	1.6	1994-03	11.1	6.9	4.5	2.4
1956-65	11.1	2.6	2.8	1.7	1995-04	12.1	7.7	4.2	2.4
1957-66	9.2	3.3	3.0	1.8	1996-05	9.1	6.2	3.9	2.5
1958-67	12.9	1.9	3.1	1.8	1997-06	8.4	6.2	3.8	2.4
1959-68	10.0	2.4	3.5	2.1	1998-07	5.9	6.0	3.8	2.7
1960-69	7.8	1.7	3.9	2.5	1999-08	-1.4	5.6	3.4	2.5
1961-70	8.2	2.5	4.3	2.9	2000-09	-1.0	6.3	3.0	2.5
1962-71	7.1	3.1	4.5	3.2	2001-10	1.4	5.8	2.4	2.3
1963-72	9.9	3.0	4.6	3.4	2002-11	2.9	5.8	2.0	2.5
1964-73	6.0	3.0	5.0	4.1					

Winning Percentage: 77% 18% 5%

Appendix F: Histogram of 1, 5 & 10-Year S&P 500 Index Returns



Important Information

This material contains confidential and proprietary information of Wilshire Consulting, and is intended for the exclusive use of the person to whom it is provided. It may not be modified, sold or otherwise provided, in whole or in part, to any other person or entity without prior written permission from Wilshire Consulting.

The information contained herein has been obtained from sources believed to be reliable. Wilshire Consulting gives no representations or warranties as to the accuracy of such information, and accepts no responsibility or liability (including for indirect, consequential or incidental damages) for any error, omission or inaccuracy in such information and for results obtained from its use. Information and opinions are as of the date indicated and are subject to change without notice. This report may include estimates, projections and other "forward-looking statements." Wilshire Consulting assumes no duty to update this material.

This material is intended for informational purposes only and should not be construed as legal, accounting, tax, investment, or other professional advice. Past performance does not guarantee future returns. Due to numerous factors, actual events may differ substantially from those presented.

Wilshire® is a registered service mark of Wilshire Associates Incorporated, Santa Monica, California. All other trade names, trademarks, and/or service marks are the property of their respective holders. Copyright © 2012, Wilshire Associates Incorporated.