

Investment Analytics and Consulting

A PUBLICATION EXPLORING INVESTMENT OPTIMIZATION STRATEGIES, IDEAS, AND TECHNIQUES

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LETTER FROM CRAIG HEATTER



Welcome to our first JPMorgan Investment Analytics and Consulting newsletter, which aims to provide informative and thought-provoking articles quarterly on topics relating to portfolio optimization. In this issue, we examine diversification trends in pensions, endowments and foundations; the drivers behind and implementation techniques for liability-driven investing; and the Implied Views approach to producing consistent forecasts of investment returns.

We welcome your thoughts and suggestions, and hope that our first issue provides you with useful information.

CRAIG HEATTER

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ABOUT JPMORGAN INVESTMENT ANALYTICS AND CONSULTING

JPMorgan Investment Analytics and Consulting (IAC) helps institutional clients make more informed investment decisions and optimize their portfolios through creating customized, innovative, and forward-looking solutions that address both current and future needs. IAC services over 200 clients globally with over 6,500 institutional portfolios, representing approximately \$1.5 trillion in assets. Its diverse client list includes corporate and public DB/DC pensions, investment managers, endowments and foundations, corporate cash, insurance companies, and central banks.

Having the broadest and deepest product offering in the market, IAC offers security-level, multi-currency performance measurement (monthly and daily) using JPMorgan or third party accounting; analytics and attribution at the asset class, sector, country, and individual security level; ex-ante risk management (including Risk Budgeting and security-level VaR); investment manager analysis, universe comparison, and peer grouping; global consolidated reporting for multi-national plans; and consultative services in the areas of liability and plan allocation strategy, manager search, and liability-driven investments.

For further information, please contact Craig Heatter at craig.heatter@jpmorgan.com.

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TRENDS IN ASSET ALLOCATION OF INSTITUTIONAL INVESTORS

by Karl Mergenthaler, CFA, CPA

JPMorgan Investment Analytics and Consulting

The tenets of Modern Portfolio Theory, especially diversification, are well-understood and entrenched in the minds of the managers of pension funds, endowments, and foundations. Based on our analysis, portfolios have become increasingly diversified and institutional investors have been migrating away from the more efficient domestic asset classes to international equities and alternative assets. In our view, these differences in asset allocation may have a lasting impact on the total returns and overall risks of these portfolios.

It is clear that diversification, especially exposure to alternative assets, has positively impacted returns in recent years. According to Wilshire Analytics' Trust Universe Comparison Service ("TUCS"), endowments and foundations generated median returns of 8.2% and 14.1% in 2005 and 2006, respectively. Meanwhile, corporate defined benefit pension plans generated returns of 7.4% and 13.4% in the last two years. Moreover, the returns for more than 75% of these institutional investors have exceeded the returns for the S&P 500 over the past 5 year period, as summarized in the adjacent table.

Rate of Return – 5 Year Returns

	Endowments & Foundations	Corporate Pension Funds
5th Percentile	11.9	11.4
25th Percentile	10.1	9.3
Median	8.8	8.4
75th Percentile	8.1	7.3
S&P 500	6.2	6.2
95th Percentile	6.1	5.6

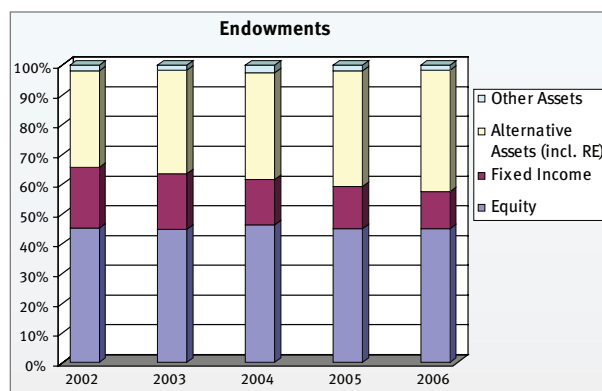
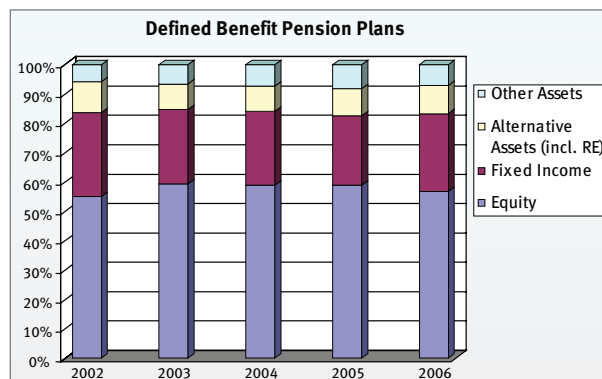
Source: Wilshire Trust Universe Comparison Service.

In order to better understand these returns, we have analyzed the trends in asset allocation of the major institutional investors. Over the past five years, institutional investors have steadily become more diversified and shifted assets away from domestic equity and fixed income securities to international equities and alternative assets. The largest endowments tend to have a higher allocation to alternative assets than their peers in the corporate defined benefit plan universe. Also, large pension plans and endowments tend to be more diversified than their smaller counterparts.

IN SEARCH OF HIGHER RISK-ADJUSTED RETURNS

In recent years, large institutional investors have increased their exposure to international equity and alternative assets. In the two adjacent charts, we illustrate the average asset allocations over the last five years of the top 200 corporate defined benefit pension plans, as well as endowments with assets greater than \$1 billion dollars.

Average Asset Allocation



Source: Pensions & Investments, NACUBO, JPMorgan estimates.

As shown above, corporate pension plans and endowments lowered their exposure to equities in recent years. Moreover, endowments tend to be more diversified than corporate pension funds, and the disparity seems to be increasing.

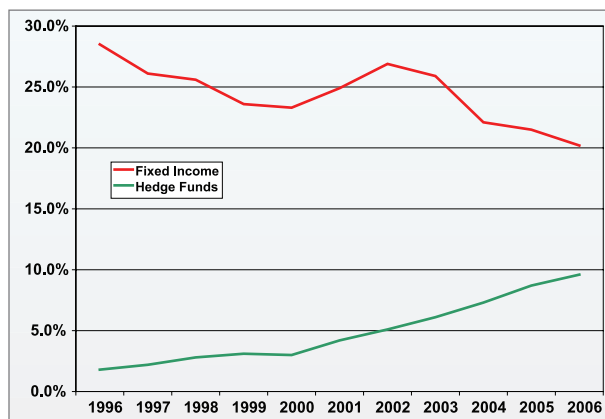
Over the past five years, the top 200 corporate pension plans lowered their overall exposure to equities from a peak of 59.3% in 2003 to 56.8% in 2006. Moreover, the largest corporate pension plans increased their exposure to foreign equities while domestic equity exposure declined modestly. Over the past five years, the exposure to alternative assets such as real estate has remained relatively steady at roughly 10%.

During the same time frame, large endowments increased their allocation to alternative assets from a median of 32.5% in 2002 to 40.9% in 2006. Concurrently, large endowments' allocation to fixed income assets decreased from 20.5% in 2002 to 12.5% in 2006. In recent years, endowments expanded their exposure to a variety of alternative asset classes including hedge funds, private equity, venture capital, and natural resources such as timber, oil & gas, and commodities.

Over the past decade, endowments have systematically allocated a higher percentage of their portfolios to hedge funds. For the most part, this increased exposure has been offset by a reduction in exposure to fixed income assets. In the adjacent

chart, we illustrate the equal-weighted average exposure to fixed income securities and hedge funds over the past ten years.

Hedge Fund Allocation



Source: NACUBO, JPMorgan estimates.

As shown above, the equal-weighted average exposure to hedge funds increased to almost 10% of portfolio assets for 2006. Moreover, according to the 2006 NACUBO Endowment Study, the largest endowments (with assets greater than \$1 billion) committed more than one-fifth of their total assets to hedge funds.

It is interesting to note that larger plans tend to be more diversified than smaller plans. In the table below, we compare the asset allocation of large endowments and pension plans to the larger universe of all plans.

Comparison - Large vs. Small Plans

	Endowments		Corporate DB Pension Plans	
	Large	All	Top 200	Top 1000
Equity	44.9%	57.7%	56.8%	57.6%
Fixed Income	12.5%	20.2%	26.5%	26.3%
Alternative Assets (incl. RE)	40.9%	18.7%	9.5%	6.9%
Other Assets	1.7%	3.4%	7.2%	9.2%
Total	100.0%	100.0%	100.0%	100.0%

Source: Pensions & Investments, NACUBO, JPMorgan estimates.

As shown above, large endowments (with assets greater than \$1 billion) tend to be more broadly diversified than the equal weighted average of all endowments. Similarly, the top 200 corporate pension plans have a slightly more diversified range of exposures than the average for the top 1000.

In his book "Pioneering Portfolio Management," David Swensen, Chief Investment Officer at Yale University, notes that the largest university endowments (Harvard, Yale, Princeton, and Stanford) pursue dramatically different asset allocation strategies than smaller universities. Swensen argues that "employing rigorous quantitative portfolio analysis contributes to the construction of diversified, high-return portfolios." ("Pioneering Portfolio Management," P. 130). Indeed, our analysis is consistent with Swensen's conclusions.

WHERE DO WE GO FROM HERE?

As we look forward, how will portfolio managers adjust their asset allocations in today's rapidly changing market and regulatory environment? Clearly, endowments and defined benefit pension plans each have their own set of goals and constraints that impact their asset allocation policies. These institutional investors will have to find a balance between the many competing interests that are often at odds with one another.

The goal of an endowment is to preserve the fund principal while meeting spending requirements. This investment objective allows endowments to accept high levels of risk and assume a long time horizon. This could account for the greater acceptance of alternative assets, particularly hedge funds, within the endowment community. In our view, the trend toward greater exposure to alternative asset classes is likely to continue within the endowment community.

The plan sponsor of a defined benefit pension plan faces a more complex set of market and regulatory issues. The fiduciary responsibility of a defined benefit plan is to act in the best interest of beneficiaries, and the primary goal of the plan is to meet its future funding obligation. Meanwhile, defined benefit pension plans face a variety of regulatory and liquidity constraints.

On the one hand, DB plan sponsors are expected to construct well-diversified portfolios and attempt to maximize risk-adjusted returns. This may lead portfolio managers to increase exposure to international equities and alternative assets. On the other hand, plan sponsors must comply with complex regulatory issues, including the passage of the Pension Protection Act and the issuance of FAS 158. This may lead portfolio managers to attempt to reduce volatility and immunize the risk of a funding shortfall by increasing exposure to fixed income assets.

Recently, several large pension plans, such as General Motors and Boeing, have announced plans to increase exposure to fixed income assets and lengthen the duration of the plan. This shift toward fixed income securities is intended to protect the plans from the risk of a funding shortfall. Unfortunately, this may also dampen future performance because the expected return for fixed income assets is relatively modest, and long-term interest rates are still at low levels.

Our analysis suggests that institutional investors are becoming increasingly diversified as they search for ways to generate excess returns. In general, institutional investors have systematically increased their exposure to alternative assets, including hedge funds, and lowered exposure to fixed income securities. In our view, endowments are likely to continue to build increasingly diversified portfolios with significant exposure to alternative assets. At the same time, defined benefit pension plans will have to strike a balance between high risk-adjusted returns and low funding volatility.

LIABILITY DRIVEN INVESTING: DRIVERS AND IMPLEMENTATION TECHNIQUES

by Manpreet Hochadel, CFA, and Douglas Campbell
JPMorgan Investment Analytics and Consulting

Liability Driven Investing (LDI) has become the current hot topic for the pension fund industry. LDI strategies attempt to structure plan assets so that their risk to interest rates is similar to that of plan liabilities. LDI analysis provides information about the real risks of the pension plan, and helps the plan sponsor better understand the exposures of the fund. Plan sponsors are hoping that a new approach to the management of pension assets may help reduce asset/liability volatility and improve the overall credibility of the pension industry.

MARKET DRIVERS

The theoretical method of focusing on liabilities when managing assets is not a new concept. LDI strategies have been a mainstay in Europe for a number of years, and during the 1980s, surplus management was conversed and debated within the U.S. pension industry and in some cases implemented.

But prior to the collapse of the markets in mid-2000, defined benefit pension plan surplus management was a relative non-issue for U.S. plan sponsors. Equity markets were roaring, interest rates were stable, and pension plans were well funded. However, the perfect storm between 2000 and 2002, which combined falling equity markets with decreasing interest rates, pushed the funding levels of U.S. pension plans to significantly negative levels.

As awareness of major pension plans defaulting (United Airlines and Bethlehem Steel) and the limitations of the Pension Benefit Guarantee Corporation (PBGC) grew, Congress took action by enacting the Pension Protection Act of 2006 (PPA), which impacts virtually all aspects of retirement savings. The PPA narrows pension funding ratios and establishes a formal market-based means for valuing both plan assets and liabilities. It sets a seven-year horizon for all plans to be fully funded, and mandates that plan liabilities be discounted utilizing a segmented investment-grade corporate yield curve.

Meanwhile, in late September 2006, the Financial Accounting Standards

Board (FASB) finally issued its long-awaited rules for reporting the obligations and expenses of pension plans and other post-retirement benefits. Under the new mandate, the funded status of a pension plan must appear on the employer's balance sheet. The funded surplus/deficit is defined as the excess of the projected benefit obligation over the fair market value of assets. Historically, a sponsor had included pension details in footnotes to the financial statements.

The passage of the PPA of 2006 and recently issued FAS 158 will certainly pressure plan sponsors to understand how the present value of their liabilities and the volatility of the plan surplus are affected by market-based discount rates. Given that a pension plan's deficit will be reflected on the balance sheet, sponsors will also be more exposed to a potential mismatch between assets and liabilities.

IMPLEMENTATION TECHNIQUES

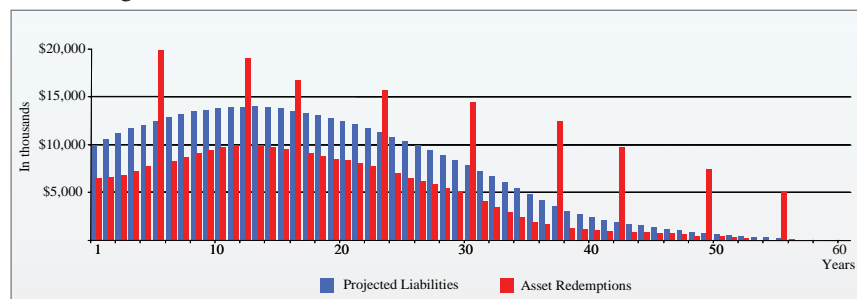
Liability driven investing is a fairly ambiguous term covering an extensive range of investment strategies pertaining to the liabilities of a plan sponsor. In a general sense, LDI strate-

gies shift the pension plan's focus away from maximizing asset returns towards minimizing the risk of underperforming the potential growth of plan liabilities¹. The foremost goal of an LDI scheme is to reduce the mismatch between the interest rate sensitivity of plan liabilities to plan assets. In other words, the investment strategies strive to mirror the interest rate sensitivity of plan liabilities to that of the assets, given that rates are the principal factor in determining the current value of future liabilities.

Traditionally, pension asset allocations were constructed in a mean-variance framework where plans managed their asset portfolio on a total return basis within predetermined risk constraints. The target return was usually linked to an index or combination of indices within a particular sector.² Most would refer to this method as a benchmark-driven investment strategy. In contrast, LDI does not link itself to any external indices; rather, it links assets to the liabilities. LDI measures risk on a relative basis instead of looking at the volatility of returns on an absolute basis.

Of course no two companies have the same liabilities, but in effect all liabili-

Terminating Pension Plan – Cash-flows



ties share one common characteristic: a change in interest rates causes the present value of future liabilities to fluctuate.³ Accordingly, pension liabilities are analogous to long-term bonds in that as a bond's current value rises with falling rates, so do the current value of future liabilities rise as rates decline.

Typically, mature pension plans have declining future cash-outflow estimates, while asset inflows are periodic and massed together.

Pension plan assets and liabilities have significantly different risk profiles and characteristics. And so, a changing interest rate environment will have dramatically dissimilar effects on each. Duration is a measure often used in finance to estimate the sensitivity of a cash-flow to interest rate changes. Duration can be applied both to assets and liabilities. LDI strategies therefore focus on minimizing the duration gap – the interest rate sensitivity between plan assets and liabilities.⁴

LDI management can be structured in different forms that enable a plan sponsor to either immunize liabilities completely or have them partially hedged:

Cash-Flow Matching/Dedicating: Plan liabilities are off-set with cash inflows. The net cash position for every day is zero. Theoretically, the strategy insures a plan's surplus will remain unchanged, even with drastic changes in interest rates. It requires surplus cash to meet the demands of future plan cash flows, and is exposed to short-term reinvestment rate risk.

Duration Matching: Attempts to mirror the interest rate sensitivity of a pension plan's assets to its liabilities through the use of longer-term securities. The duration of the plan assets, or the first derivative of the asset's price function with respect to the interest rate, is matched with the duration of the liabilities. Duration matching strategies

Implementation of Liability Driven Investing (LDI)

	Cash Flow Matching	Duration Matching	Duration Overlay
Description	Matches Cash Inflows and Outflows	Matches Duration of Plan Assets and Plan Liabilities	Matches Duration of Plan Assets and Plan Liabilities
Implementation	Fixed Income Securities	Long-Term Securities such as U.S. Treasury Strips and Zero-Coupon Bonds.	Derivatives
Advantages	Interest rate risk is minimized.	Plan is insulated from parallel yield curve shifts. Plan retains some flexibility.	Strategy does not impact underlying plan managers. Plan retains some flexibility.
Disadvantages	Trading expenses can be high. No possibility of excess returns.	Long-dated fixed income securities may be less liquid than short-dated securities.	Some plan guidelines prohibit the use of derivatives.

attempt to insulate a plan from adverse parallel shifts in the interest rate yield curve. The use of key rate durations provides more flexibility in responding to yield curve movements. Typically, plan sponsors will employ long-dated U.S. Treasury strips and zero-coupon bonds to extend plan durations. However, due to the limited supply, both usually trade at a premium to coupon cash bonds.

Duration Overlay/Alpha: Similar to duration matching, but differs in that the overall dollar duration of the portfolio is extended by purchasing derivatives. The strategy has the advantage of being implemented without disturbing the existing portfolio. Asset managers have more choices to build a diversified portfolio that offers more flexibility than simply a portfolio consisting of long cash and government bonds. Over-the-counter derivatives can be structured in any manner and maturity so that the asset portfolio can accurately reflect the interest rate risk exposure of the underlying liabilities.

CONCLUSION

The inclusion of a pension plan surplus/deficit on a sponsor's financial statements will undoubtedly have lasting repercussions on the management of pension plan assets. Surplus volatility, due to changing interest rates, causes uncertainty due to both its inclusion on the balance sheet and eventually in the income statements. Corporate managements may opt for greater stability through some blended form of LDI. A plan sponsor has a wide array of LDI options – everything from complete immunization to an overlay/alpha strategy.

Historically, plan sponsors have focused on long-term returns through portfolios fashioned in a mean-variance framework with risk defined as the standard deviation of the investment returns. On the contrary, LDI focuses on the difference between plan liabilities and plan assets with the risk measure being the surplus tracking error. As such, it represents an important change in philosophy for plan sponsors. Under proper implementation, LDI strategies are an effective means for reducing financial statement and funding volatility.

¹ Jon Taylor & Doug Earney, "White Paper: Liability Driven Investments (LDI)," Principal Global Investors.

² Stacy Marino, "The ABCs of Liability-Driven Investing," 2006.

³ "Bond Basics: Liability-Driven Investing," Pimco Bonds, January 2007.

⁴ Jon Taylor & Doug Earney, "White Paper: Liability Driven Investments (LDI)," Principal Global Investors.

AN IMPLIED VIEWS APPROACH TO CONSISTENT FORECASTS

by Frederick Novomestky, PhD
with contributions from Charles Gabriel and Karl Mergenthaler, CFA, CPA
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In our view, quantitative investment management is increasingly used by plan sponsors and other institutional investors of all management styles. At JPMorgan, we are building a quantitative tool to help investors analyze and monitor the expected performance of their portfolios based on various asset allocation scenarios. This article provides an overview of the Implied Views approach to producing consistent forecasts of investment expected returns.



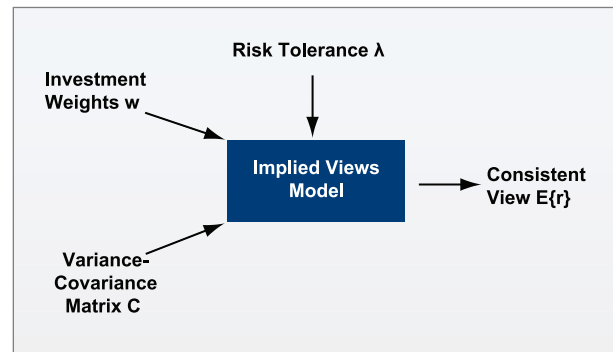
A major challenge to the portfolio design practitioner is to construct the most precise and consistent set of investment assessments. There is a large body of literature that documents the impact of differing assessments on the results of a mean-variance analysis. The desired optimal investment weights vary dramatically with the investment return assessments, in general, and the assessment of expected returns, in particular.

ACADEMIC GROUNDING OF IMPLIED VIEWS

JPMorgan's Implied Views approach is derived from the academic work of Litterman and Black. Litterman and Black determined that, under market equilibrium conditions, one can construct a set of return forecasts called Implied Views, with assumptions that include the following:

- The Implied Views apply to the aggregation of all types of investors across a chosen set of investment opportunities. Those investment opportunities can be individual securities, selected sets of securities or entire asset classes.
- The aggregate investor portfolio is characterized by the market sizes of the selected investment opportunities and is assumed to be the market portfolio. Theoretically, this is the portfolio that all investors would hold, given certain risk tolerances. This portfolio maximizes the Sharpe ratio.
- The aggregate investor has a specified risk tolerance that reflects their equilibrium tradeoff of portfolio return in excess of a risk-free asset and portfolio volatility.
- Mean-variance analysis, suitably applied, can be used to generate the Implied Views given the risk tolerance and a covariance matrix.

The following figure illustrates the Implied Views analysis process.



As shown above, the inputs to the model are the investment weights, the variance-covariance matrix, and the risk tolerance.

PRACTICAL EXAMPLE

In order to illustrate the Implied Views approach, let's consider a practical example. An investor wishes to determine the expected performance of a basic plan with \$5 billion in assets and the following investments:

- U.S. stocks;
- Non U.S. stocks;
- U.S. fixed income securities;
- Non U.S. fixed income securities.

We will use the following indices as proxies for each asset class:

- Russell 3000 Index;
- MSCI World ex U.S.;
- Lehman U.S. Fixed Income Aggregate Index;
- Lehman Fixed Income indices.

With these asset classes and indices, our Implied Views analysis will generate the expected returns and volatility characteristics of the portfolio.

IMPLIED VIEWS MODEL INPUTS

First, the Implied View analysis takes the five years of quarterly returns as of September 2006 to estimate the variance-covariance matrix of the assets in the portfolio. This data is summarized in the following table.

Variance-Covariance Matrix

	Russell 3000	MSCI World ex. US	U.S. Fixed Income	Non-U.S. Fixed income
Russell 3000	0.00689	0.00740	-0.00025	0.00008
MSCI World ex. US	0.00740	0.00977	-0.00005	0.00147
U.S. Fixed Income	-0.00025	-0.00005	0.00050	0.00065
Non-U.S. Fixed Income	0.00008	0.00147	0.00065	0.00289

Next, we define the aggregate investor by stating the market sizes for the chosen asset classes. The following table contains the market sizes for the analysis.

Aggregate Market Size (\$ Million)

	Size	Weight
Russell 3000	\$14,707,629	29.98%
MSCI World ex. US	\$12,534,101	25.55%
U.S. Fixed Income	\$8,678,726	17.69%
Non-U.S. Fixed Income	\$13,130,163	26.77%
Total	\$49,050,619	100.00%

Given the above weights and covariance matrix we can calculate a portfolio variance and volatility as shown below.

Portfolio Variance	0.00286
Portfolio Volatility	5.3457%

In order to complete the analysis, we need to select a Sharpe ratio. A reasonable default value for the analysis is 1 and the corresponding risk tolerance is displayed below.

Sharpe Ratio	1
Risk Tolerance	18.707

IMPLIED VIEWS MODEL OUTPUTS

The results of this Implied Views analysis are summarized in the table below.

Investment	Implied Return	MC Volatility	MC VaR	Return Contribution	Volatility Contribution	VaR Contribution
Russell 3000	7.36%	0.07357	0.04744	2.21%	2.21%	1.42%
MSCI World ex. US	9.54%	0.09541	0.06152	2.44%	2.44%	1.57%
U.S. Fixed Income	0.33%	0.00330	0.00212	0.058%	0.06%	0.04%
Non-U.S. Fixed Income	2.40%	0.02403	0.01550	0.643%	0.64%	0.41%
Total				5.35%	5.35%	3.45%

As shown above, the Implied Returns forecast indicates that the portfolio expected excess return for the fourth quarter should be 5.35%. The Return Contribution is the product of the investment weight and the corresponding Implied Return. The following table contains summary results for the investor's portfolio.

Summary Results	
Portfolio Excess Return	5.35%
Cutoff Return	3.45%
Value at Risk	\$172,360,203

The cutoff return is the negative of the 95% confidence level VaR for each dollar of invested capital or 3.4472%, which is the sum of the VaR Contribution values. Finally, an investor with \$5,000,000,000 of invested capital in a market weighted portfolio might experience a loss amount of \$172,360,203. In addition, the Implied Views analysis yields the following data:

- MC Volatility represents the marginal contribution of volatility. For each investment, this number is the change in total portfolio volatility for a very small increase in the allocation of that investment.
- The MC VaR is the marginal contribution of Value at Risk. For each investment, it is an estimate of the change in Total VaR for each dollar of invested capital using the normal approximation at the 95% confidence level.
- Volatility Contribution is the product of the investment weight and the corresponding MC Volatility. Notice that the sum of the Volatility Contributions equals the portfolio volatility.
- VaR Contribution is the product of the investment weight and the corresponding MC VaR.

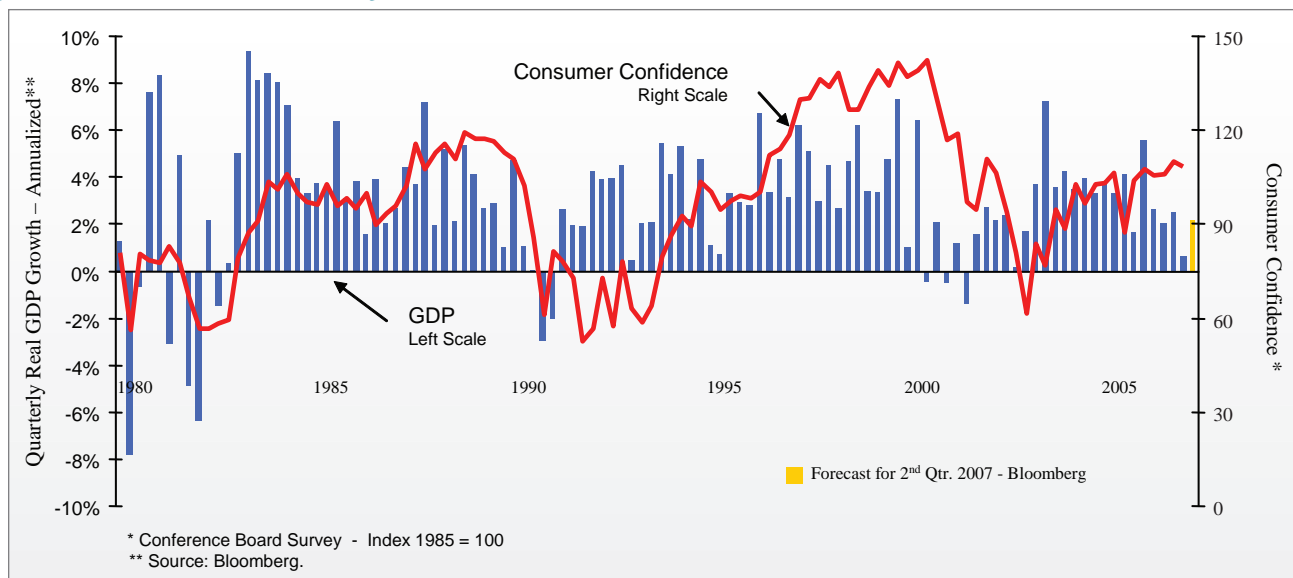
CONCLUSION

As demonstrated above, the Implied Views approach can serve as a robust tool to analyze expected returns and volatility of various asset allocation scenarios. With just a few basic inputs, plan sponsors can analyze various risk and return scenarios in a quick and user-friendly manner.

U.S. ECONOMY

by Manpreet Hochadel, CFA

JPMorgan Investment Analytics and Consulting

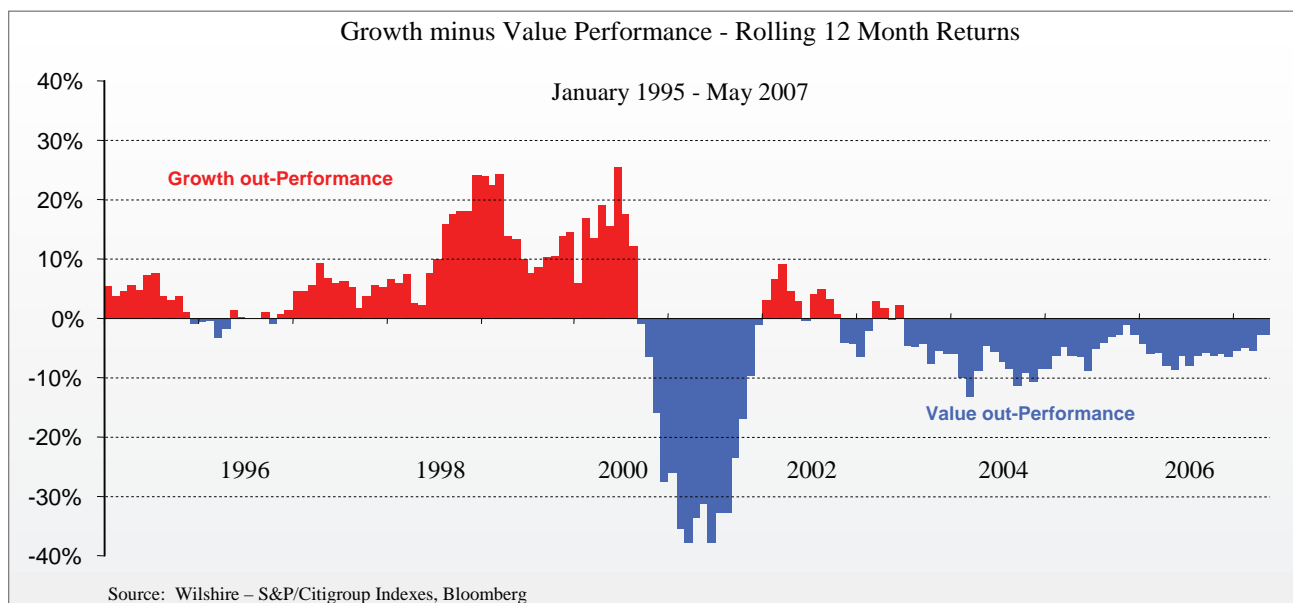


- The U.S. economy grew in the first quarter at an annual rate of 0.6%, weaker than the consensus estimate of 0.8%. The growth rate was the weakest in more than four years. The slow pace in growth in the quarter was partially due to the continuing negative effects of the housing slow down and a fall in inventories.
- However, given that inventories are expected to rise, the consensus estimate is for 2nd quarter real GDP to rise to 2.2%.** JPMorgan chief economist Bruce Kasman recently raised his 2nd quarter estimate to 4.0% real GDP growth, citing stronger than expected recent economic data.

U.S. EQUITY MARKETS

by Manpreet Hochadel, CFA

JPMorgan Investment Analytics and Consulting



- The advantage of value stocks over growth continued, as value out-performed growth by 153 basis points for the first five months of 2007.
- The value sector benefited primarily due to gains in materials, energy, and utility sectors out-pacing the overall market.

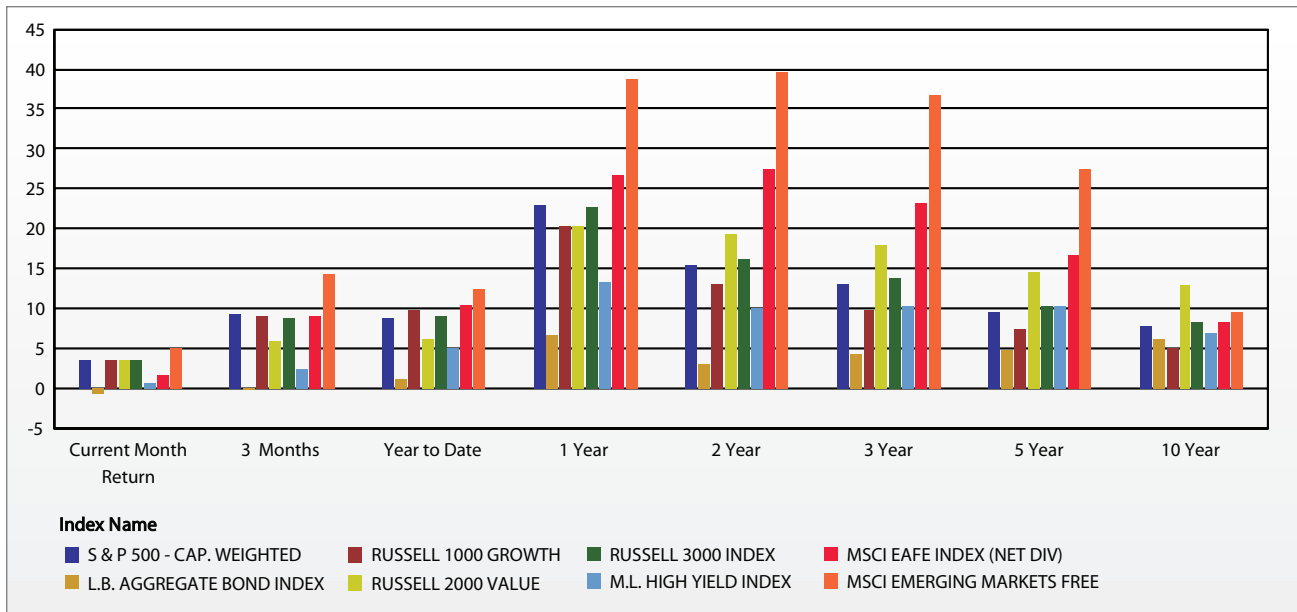
MULTIPLE ASSET CLASS RETURN COMPARISON

by William Pometto

JPMorgan Investment Analytics and Consulting

AS OF MAY 2007

Index	Monthly Return	Trailing 3 Months	Year To Date	1 Year	2 Year	3 Year	5 Year	10 Year
L.B. AGGREGATE BOND INDEX	(0.76)	(0.22)	1.28	6.66	3.03	4.28	4.72	6.17
M.L. HIGH YIELD INDEX	0.70	2.26	5.04	13.37	10.13	10.14	10.25	6.93
MSCI EAFE INDEX (NET DIV)	1.75	8.98	10.61	26.84	27.54	23.08	16.75	8.22
MSCI EMERGING MARKETS FREE	4.98	14.27	12.43	38.59	39.74	36.76	27.45	9.47
RUSSELL 1000 GROWTH	3.60	9.06	9.76	20.37	13.03	9.70	7.50	4.96
RUSSELL 2000 VALUE	3.67	6.01	6.27	20.28	19.25	17.85	14.65	12.96
RUSSELL 3000 INDEX	3.64	8.91	9.16	22.58	16.19	13.89	10.29	8.26
S & P 500 - CAP. WEIGHTED	3.49	9.29	8.78	22.82	15.51	13.02	9.45	7.78



U.S. EQUITY

- U.S. Stock Markets continued to rally in May 2007.
- It was a well rounded month for both large and small cap stocks. The Russell 1000 and Russell 2000 indices were up 3.60 percent and 4.10 percent, respectively.
- May was another record month for the Dow Jones Industrial Average. The index gained 4.65 percent in May, finishing the month at 13,627.
- Year-to-date the Dow Jones Industrial Average is up 10.42 percent.

INTERNATIONAL EQUITY

- May also proved to be a strong month for international markets. Emerging Market indices performed exceptionally well.
- The MSCI Emerging Markets Free index posted a 4.98 percent return for the month.
- The MSCI Latin America index posted a generous 10.63 percent return for May, putting the index up 23.72 percent for the year.

FIXED INCOME

- United States Treasuries returns were predominantly negative in May.
- Expectations of a Federal Reserve rate cut declined throughout the month.
- The yield curve remained inverted as of month end.

REAL ESTATE

- Real Estate markets were mixed during the month.
- The MSCI REIT index posted a modest decline of (0.14) percent while the NCREIF Property index generated a 1.19 percent gain.
- Investors continued to look for evidence that the softness in domestic real estate markets could be short-lived.