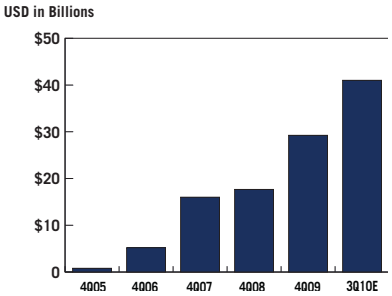
Fundamentals

John West

RAFI® Managed Assets*



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HOPE IS NOT A STRATEGY[1]

The asset management business involves its fair share of travel. Mechanical delays, cancelled flights, inclement weather, hotel overbookings, and traffic snarls are just a few of the many things that can get in the way of getting to a meeting on time. But every once in a while, we get lucky—security is a breeze, the flight arrives 20 minutes early, there's no line at the cab stand, traffic is nonexistent, and the hotel gives us a free upgrade. These rare instances are a blessed welcome.

Of course, it is not prudent to rely on good fortune, planning our itinerary on the basis of everything going right. Suppose we're planning a very important trip—one that will determine the financial well being of our company and our employees, not just for the next few years but the *decades* ahead. Most of us would be ultra-conservative in building our itineraries, with contingency plans for anything that might go wrong. We'd arrive not just the night before, but the morning before. We'd FedEx our materials and bring some hard copies with us (not even relying on our computers). We would map out the route, research the traffic, and leave an ample cushion of time for all the potential pitfalls of the journey.

Unfortunately, the return assumptions built into pension and retirement plans today are analogous to our traveler assuming that everything will go right. Hope is now the bedrock of financial planning, discount rates and pension return assumptions, allowing for no disappointments along the way. In this issue we attempt to quantify the hoped-for good luck that is needed for today's retirement assets to fully cover tomorrow's retirement liabilities. We discover $16 trillion in assets are, in effect, counting on the plane getting to the gate an hour early, followed by a road-clearing motorcade.

Baseline Expectations

We can't predict the future with complete accuracy. As physicist Niels Bohr once quipped, "Prediction is very difficult, especially if it's about the future." But we can build reasonable starting points by looking at the key components of long-term asset class returns. As we outlined in February, the return for almost any asset class can be broken down into income, growth (real growth plus expected inflation), plus changing valuation multiples.[2] These are the "building blocks" of return. Using this simple method and today's yields, we get the long-term expectations (10–20 years) for stocks and bonds shown in **Table 1**.

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Table 1. Baseline Return Assumptions Using Building Blocks, October 2010

	Stocks		Bonds	
	Expected Return	Notes	Expected Return	Notes
Income	2.2%	Dividend yield of S&P 500	2.6%	Yield to maturity of BarCap Aggregate
Real Growth	1.0%	100-year average (population and productivity growth)	–0.1%	Expected default rate for BarCap Aggregate
Expected Inflation	2.0%	10-year breakeven inflation (10 year Treasury – 10 year TIPS)	NA	Inflation expectation embedded into nominal yield
Change in Valuation	??	Shiller 10-year cyclically-adjusted P/E	??	
Nominal Expected Return	5.2%		2.5%	

Source: Research Affiliates based upon data from Bloomberg and Robert Shiller.

Most pension funds and 401(k) calculators assume total returns in the 7–8% range, and sometimes a bit higher. And yet, stocks and bonds—the two pillars for most investor portfolios—are expected to return 5.2% and 2.5%, respectively. Indeed, the return on the classic 60/40 blend of the two is not even 4.5%. With an approximate 3% differential, we have a stark disconnect between these simple "building block" estimates and "required" return rates.[3]

Are the return estimates wrong? It's a legitimate question: these return estimates shouldn't be taken as fact. One client remarked to me many years ago that we know our forecasts are going to be wrong; we just don't know by how much they are going to be wrong. Can the markets do better than these anemic prospects? Of course! Conversely, can they do worse? Absolutely!

Polly Anna's Projections

Polly Anna, head of the pension plan for Global Giant Corp., uses "typical" U.S. pension fund assumptions for her required return and asset allocation assumptions. Thus, she uses an 8% required return and the average U.S. pension fund asset allocation, currently 51.9% stocks, 30.3% bonds, and 17.8% in everything else ("alternatives").[4] Because the alternatives are used to seek equity-like returns while diversifying away some of the risk, most of her peers use return assumptions for alternatives that are similar to those of stocks. Using the estimates in Table 1, Polly Anna's 52/30/18 asset mix has a forward-looking return of only 4.7%.

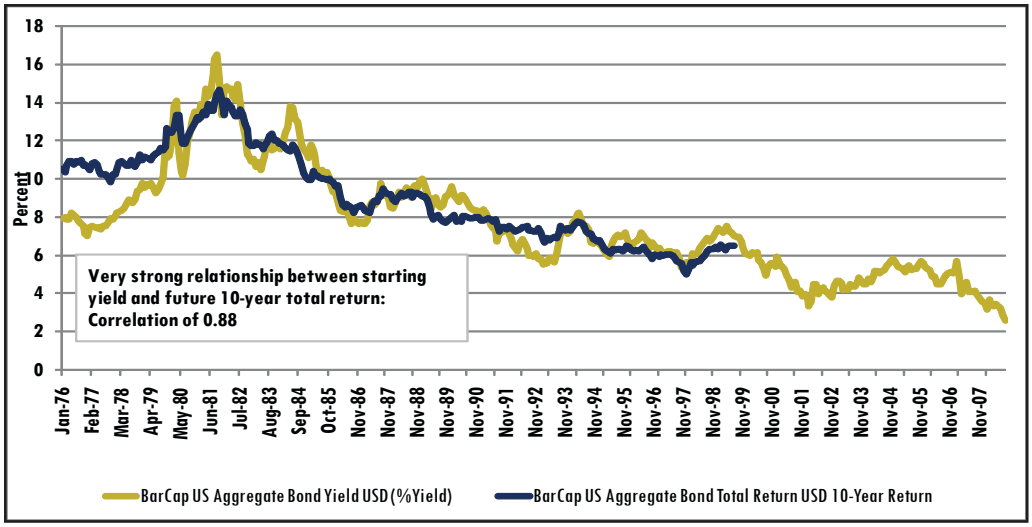
Viewing a 4.7% return as unacceptable relative to her 8% required return, Polly looks to the return forecast for three principal asset classes to see if she can squeeze more return from her investments.

- **Stocks**—The first three components are pretty straightforward. The yield is what it is. Not much wiggle room there. The real growth in earnings and dividends has been just under 1% over the past 100 years, though it reached 2% during the second half of the 20th century. Dare we expect more, with a mature economy saddled with unprecedented debt and an aging workforce?[5] Maybe inflation resumes, boosting our notional earnings and dividend growth. That's a dangerous choice because valuation multiples usually falter in the face of inflation uncertainties. So, there's precious little opportunity to boost our expectations on these three building blocks.

  The only remaining assumption is "changes in valuation." Changes in the value that the market is willing to pay for a dollar of earnings and dividends can have a huge impact on even long-term returns for equity investors.[6] The market paid twice as much for each dollar of earnings or dividends just 10 years ago. Maybe we can return to those valuation levels?

  Today's 10-year cyclically adjusted P/E ratio (so called Shiller P/E) is 20. Polly calculated what stocks had done on a subsequent 10-year basis from similar P/E levels,[7] and then took the 75th percentile observation, indicating a top quartile outcome from today's level, as her optimistic projection. This works out to 9.5%, a nearly 4% percentage point premium above our baseline.[8] What a relief! Top quartile stock returns from today's valuation level can get the returns we need.
- **Bonds**—The starting yield on a core bond portfolio such as the BarCap Aggregate Index is a very accurate predictor of the likely return of the next 10 years, as **Figure 1** shows. Even with big changes in yields over the subsequent 10 years, the return doesn't change much from the starting yield. Why? Rising yields mean falling prices; these all-too-often cancel each other out in

Figure 1. Bond Returns Closely Follow Starting Yields, 1976–July 2010



Source: Research Affiliates based upon data from Morningstar Encorr.

bond-land. But there can be modest differences. Polly Anna took all of the differences between the starting yield and the subsequent 10 years of performance and identified the 75th percentile premium of 0.86%. She then added this to the current yield, for a forward projection of 3.35% for core bonds.

- **Alternatives**—Many investors, keenly aware that returns will be lower than the past 30 years, have turned to alternative categories like hedge funds, private equity, infrastructure, emerging markets, timberland, and so forth, in a quest for equity-like returns and diversification of risk. This eclectic group has a relatively short history, dubious data (i.e. survivorship bias), and a heavy reliance on the most difficult metric of all to forecast—manager alpha. Thus, Polly simply took the 75th percentile 10-year return for the HFRI Hedge Fund of Fund Composite, which equated to 9.4%.[9] Even with the boost from survivorship bias, this gets us no better than the top-quartile stock market return. Still, her 8% return assumption does seem within reach.

Finally, Polly likes to assume that her results will capture an "alpha." Of course, asset managers don't all grow up in Lake Wobegon; they're not all above average. Alpha is a zero sum game; if we're winning, someone else is losing. Fortunately, Polly doesn't have to make this added leap. Top quartile outcomes for each of the three asset classes gets us to 8.0%. As **Table 3** shows, with the revised assumptions shown in **Table 2**, she's got what she needs. Or does she?

Table 3 illustrates that Polly can "get there" *only by assuming top quartile results for stocks, bonds, and alternatives*. Furthermore, all three must produce these lofty results *simultaneously* over the same span! What are the odds of that? Assuming these projections are representative, this works out to 25% × 25% × 25%, or about a 1.6% chance. Yikes!

This is exactly what the overwhelming majority of the U.S. retirement market—pension funds, state budgets, IRAs, 401(k)s, etc.—is not only hoping for but *depending upon*. That's $16 trillion of assets expecting a decade of sunshine to achieve the 7–8% targeted returns used for planning and budgeting purposes.

Targeted Returns—Expectations or Aspirations?

There is nothing inherently wrong with aspiring to a certain rate of return, the same way there is nothing wrong with anticipating an early flight. The disconnect

Table 2. Polly Anna's Projections vs. the Baseline, October 2010

	Building Block Return	Notes	Polly Anna Projections	Notes
Stocks	5.20%	Table 1	9.52%	75th percentile of 10-year returns from starting P/E ratios of 18-22, 1871–2010
Bonds	2.50%	Table 1	3.35%	75th percentile of 10-year premium return above starting yield of BarCap Aggregate, 1986–2010
Alternatives	N/A		9.44%	75th percentile of 10-year returns of HFRI FOF Composite, 1990–2010

Source: Research Affiliates.

Table 3. 7-8% Achievable on Polly Anna Projections, October 2010

	60/40	Average Allocation
Stocks	60	51.9
Bonds	40	30.3
Alternatives	0	17.8
Expected Geometric Return	7.4	8.0
Standard Deviation	11.5	11.0

Source: Research Affiliates.

occurs when we *rely upon* high returns or an early flight. We're staking huge financial resources on a high return assumption, despite overwhelming evidence to the contrary. The only way today's expected returns can match tomorrow's targeted returns is through remarkable good fortune in the years ahead.

We're relying on hope. But hope is not a strategy; hope will not fund secure retirements. We're planning for the best and denying that worse can happen. It makes far more sense to hope for the best, with plans for realistic outcomes—and contingency plans for worse ones.

While we think it folly to depend upon lofty targeted returns, we can still *aspire* to earn more. Next month, we'll do exactly that, as we share a sensible roadmap to attaining higher returns.

Endnotes

1. In the 1990s, there was a book on marketing by this title. The title can apply, just as aptly, to much of the financial services industry.
2. See "Lessons from the 'Naughties,'" *Fundamentals*, February 2010, http://researchaffiliates.com/ideas/pdf/Fundamentals_201002.pdf.
3. In a 2005 "Editor's Corner," Rob Arnott suggested that pensions should compute their liabilities using the Treasury yield curve because the liabilities could be fully immunized at this rate. This idea was—needless to say—not eagerly embraced, though a few funds now do this informally so that they can be aware of their downside. See "The Pension Problem: On Demographic Time Bombs and Odious Debt," *Financial Analysts Journal*, November/December 2005.
4. See "Data & Directories," *Pensions & Investments*, December 28, 2009. http://www.pionline.com/article/20091228/CHART2/912239982/1044/DataBook.
5. See "The 3D Hurricane: Deficit, Debt and Demographics," *Fundamentals*, November 2009, http://researchaffiliates.com/ideas/pdf/Fundamentals_200911.pdf.
6. As an example, P/E expansion and contraction has contributed on a per annum basis between –7% and +9% to S&P 500 Index returns over the past five decades.
7. 18–22 P/E.
8. Incidentally, the only time periods that witnessed double digit stock returns for 10 years where starting valuations were in today's range was from 1992–1995 to 2002–2005 where the P/E ratio ended about 25% higher in the 25 range. This positive outlier will skew stock market returns for the years to come!
9. We used the Fund of Funds Composite (which only dates back to 1990) as it is less likely to be affected by survivorship bias. But even this is highly optimistic. The best 10-year returns were generated when the "industry" was operating on a much smaller asset base than the current $1.7 trillion. https://www.hedgefundresearch.com/pdf/pr_20100720.pdf.

Performance Update

TOTAL RETURN AS OF 9/30/10	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
FTSE RAFI® 1000 Index[A]	FR10XTR	7.24%	8.56%	-4.41%	2.72%	4.80%	18.17%
S&P 500[B]	SPTR	3.89%	10.16%	-7.16%	0.64%	-0.43%	16.41%
Russell 1000[C]	RU10INTR	4.41%	10.75%	-6.79%	0.86%	-0.21%	16.69%
FTSE RAFI® US 1500 Index[D]	FR15USTR	10.46%	12.67%	0.27%	5.07%	10.66%	23.23%
Russell 2000[E]	RU20INTR	9.12%	13.35%	-4.29%	1.60%	4.00%	21.45%
FTSE RAFI® Developed ex US 1000 Index[F]	FRX1XTR	1.13%	-0.97%	-6.80%	4.56%	6.59%	19.88%
MSCI EAFE[G]	GDDUEAFE	1.46%	3.71%	-9.06%	2.45%	2.99%	18.48%
FTSE All World Series Developed ex US[H]	FTS5DXUS	2.49%	5.09%	-8.04%	3.44%	3.76%	18.71%
FTSE RAFI® Developed ex US Mid Small[I]	FRSDXUS	6.04%	6.10%	-3.84%	4.39%	9.89%	18.53%
MSCI EAFE Small[J]	MCUDEAFE	7.14%	5.78%	-9.07%	-0.06%	5.28%	20.15%
FTSE RAFI® Emerging Markets[K]	TFREMU	9.45%	18.20%	1.78%	17.40%	21.90%	25.39%
MSCI Emerging Markets[L]	GDUEEGF	11.02%	20.54%	-1.20%	13.08%	13.77%	25.03%
FTSE RAFI® Canada[M]	FRCANTR	6.60%	9.84%	1.13%	6.40%	8.85%	14.35%
S&P/TSX 60[N]	TX60AR	5.16%	7.86%	-1.69%	5.40%	3.68%	16.03%
FTSE RAFI® Australia[O]	FRAUSTR	-4.77%	-1.39%	-5.10%	5.05%	9.34%	13.10%
S&P/ASX 200 Index[P]	ASA51	-2.69%	0.61%	-7.23%	4.15%	7.72%	13.57%
FTSE RAFI® Japan[Q]	FRJPNTR	-6.01%	-3.82%	-16.41%	-6.49%	-0.39%	18.48%
MSCI Japan[R]	GDDLJN	-7.49%	-6.47%	-19.05%	-8.16%	-4.16%	18.27%
FTSE RAFI® UK[S]	FRGBRTR	4.87%	4.33%	3.73%	7.20%	6.46%	17.27%
MSCI UK[T]	GDDUUK	5.14%	11.39%	-1.37%	3.90%	2.36%	15.14%
RAFI Investment Grade Master[U]		10.87%	11.87%	9.51%	7.24%	7.36%	6.06%
Merrill Lynch US Corporate Master[V]	C0A0	11.29%	12.64%	8.18%	6.39%	7.13%	6.23%
RAFI High Yield Master[W]		11.99%	17.15%	11.91%	10.25%	10.49%	11.25%
Merrill Lynch US High Yield BB-B Rated[X]	H0A4	11.80%	17.04%	7.40%	7.39%	7.07%	10.24%

Definition of Indices: (A) The FTSE RAFI® 1000 comprises the 1000 largest companies selected and weighted using our Fundamental Index methodology; (B) The S&P 500 Index is an unmanaged market index that focuses on the large-cap segment of the U.S. equities market; (C) The Russell 1000 Index is a market-capitalization-weighted benchmark index made up of the 1,000 highest-ranking U.S. stocks in the Russell 3000; (D) The FTSE RAFI® 1500 comprises the 1001st to 1500th largest companies selected and weighted using our Fundamental Index methodology; (E) The Russell 2000 is a market-capitalization weighted benchmark index made up of the 2,000 smallest U.S. companies in the Russell 3000; (F) The FTSE RAFI® Developed ex US 1000 Index comprises the largest 1000 non US-listed companies by fundamental value, selected from the constituents of the FTSE Developed ex US Index; (G) MSCI EAFE (Morgan Stanley Capital International Europe, Australasia, Far East) is an unmanaged index of issuers in countries of Europe, Australia, and the Far East represented in U.S. dollars; and (H) The FTSE All World ex-US Index comprises Large and Mid-Cap stocks providing coverage of Developed and Emerging Markets excluding the United States. It is not possible to invest directly in any of the indexes above; (I) The FTSE RAFI® Developed ex US Mid Small Index tracks the performance of small- and mid-cap equities of companies domiciled in developed international markets (excluding the United States), selected based on the following four fundamental measures of firm size: book value, cash flow, sales, and dividends. The equities with the highest fundamental strength are weighted according to their fundamental scores. The Fundamentals Weighted® portfolio is rebalanced and reconstituted annually. Performance represents price return only; (J) The MSCI EAFE Small Cap Index targets 40% of the eligible small-cap universe (companies with market capitalization ranging from US$200 to US$1,500 million) in each industry group of each country in the MSCI EAFI Index; (K) The FTSE RAFI® Emerging Markets Index comprises the largest 350 companies selected and weighted using the Fundamental Index® methodology; (L) The MSCI Emerging Markets Index is an unmanaged, free-float-adjusted cap-weighted index designed to measure equity market performance of emerging markets; (M) The FTSE RAFI® Canada Index comprises the Canadian stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (N) The S&P/Toronto Stock Exchange (TSX) 60 is a cap-weighted index consisting of 60 of the largest and most liquid (heavily traded) stocks listed on the TSX, usually domestic or multinational industry leaders; (O) The FTSE RAFI® Australia Index comprises the Australian stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (P) The S&P/ASX 200 Index, representing approximately 78% of the Australian equity market, is a free-float-adjusted, cap-weighted index; (Q) The FTSE RAFI® Japan Index comprises the Japanese stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (R) The MSCI Japan Index is an unmanaged, free-float-adjusted cap-weighted index that aims to capture 85% of the publicly available total market capitalization of the Japanese equity market; (S) The FTSE RAFI® UK Index comprises the U.K. stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (T) The MSCI UK Index is an unmanaged, free-float-adjusted cap-weighted index that aims to capture 85% of the publicly available total market capitalization of the British equity market; (U) The RAFI® Investment Grade Master Index is a U.S. investment-grade corporate bond index comprised of non-zero fixed coupon debt with maturities ranging from 1 to 30 years issued by publicly traded companies. The issuers held in the index are weighted by a combination of four measures of their fundamental size—sales, cash flow, dividends, and book value of assets; (V) The Merrill Lynch U.S. Corporate Master Index is representative of the entire U.S. corporate bond market. The index includes dollar-denominated investment-grade corporate public debt issued in the U.S. bond market; (W) The RAFI®High Yield Master is a U.S. high-yield corporate bond index comprised of non-zero fixed coupon debt with maturities ranging from 1 to 30 years issued by publicly traded companies. The issuers held in the index are weighted by a combination of four measures of their fundamental size—sales, cash flow, dividends, and book value of assets; (X) The Merrill Lynch U.S. High Yield Master II Index is representative of the U.S. high yield bond market. The index includes domestic high-yield bonds, including deferred interest bonds and payment-in-kind securities. Issues included in the index have maturities of one year or more and have a credit rating lower than BBB-/Baa3, but are not in default.

Source: All index returns are calculated using Total Return data from Bloomberg except for the FTSE RAFI Developed ex US Mid Small (FRSDXUS) and the MSCI EAFE Small (MCUDEAFE) which uses price return data.

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