do the numbers add up?

BY BILL SPITZ
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At its core, investing is simply the act of building sufficient assets to meet a future need, and the investment equation is a function of four variables: the size of the future need, the current level of assets, expected additions to the portfolio or fund, and the expected rate of return. Interestingly, small changes in the investment return can have a significant impact on the outcome, yet it has been my experience that most investment committees devote very little time and effort to considering projected returns. To the extent that they do address this topic, most committees simply extrapolate historical data.

Expected returns should be a critical discussion item for every governing body because they influence important decisions. First, in order to maintain purchasing power, the maximum sustainable spending rate is equal to the projected return on the fund less expected inflation. Second, the optimal asset allocation for the portfolio is determined by projections of relative returns and risk for each asset class. Finally, the amount that must be contributed to retirement and similar funds is importantly influenced by the return assumption. Each of these decisions requires a specific return forecast.

Of course, forecasting returns is a dirty, dangerous business, so why not simply extrapolate historical data?

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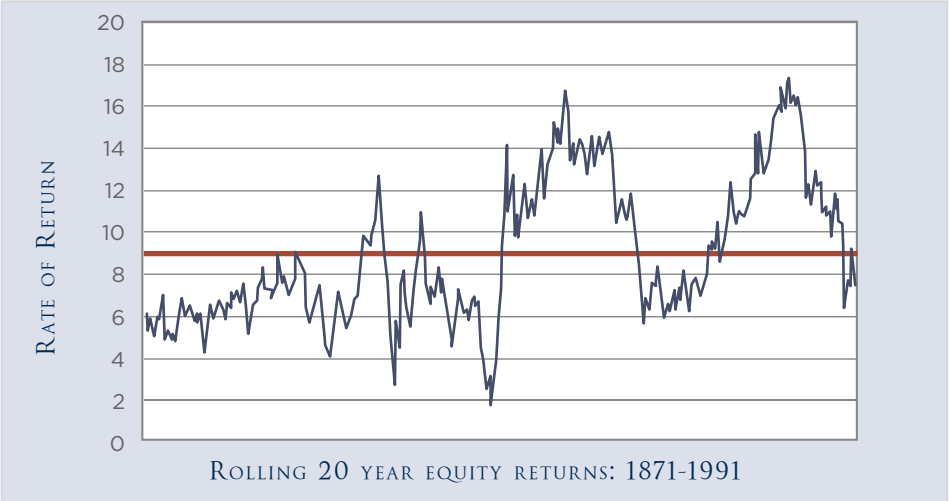
About Bill Spitz

As a Co-Founder of Diversified Trust, Bill has served on the board since its inception and has been instrumental in the ongoing development of the company's investment platform. From 1985 to 2007, Bill served as Treasurer and Vice Chancellor for Investments of Vanderbilt University where he presided over a ten-fold increase in endowment assets, during which time its investment performance placed in the top quartile of large endowments. Bill received NACUBO's Rodney H. Adams Award which recognizes significant contributions to the field of endowment management, and the Hirtle Callaghan Award of Investment Leadership with exemplary investment management performance and unwavering professional ethics. He is also the 2008 recipient of Foundation & Endowment Money Management's Lifetime Achievement award.

Bill also serves on the Board of Directors of Mass Mutual Financial Group, Acadia Realty Trust and London-based Cambium Global Timber Fund. In addition, he serves as a member of the Investment Committee for Oxford University in the United



Rolling 20 year equity returns: 1871-1991

This chart shows rolling twenty-year returns on stocks for periods beginning in the years 1871-1991. The average return is depicted by the solid horizontal line. As you will note, even twenty-year returns can vary significantly from the long-term average which suggests the use of long term returns may not provide much guidance on returns for interim periods. In other words, returns are very sensitive to the beginning and ending point of the period studied. So, an ideal forecasting methodology would have two primary characteristics: it would take into account where we may currently stand in the return cycle, and it would be relatively simple such that it could be easily used by any investment committee. While there are indeed very sophisticated return models, it turns out that a relatively simple methodology is quite useful.

building a return model.

Let's forecast returns for the three basic asset classes.

cash.

First, investors have historically demanded a real or after inflation return on money market instruments (such as US Treasury Bills) of approximately 0.7%. While economists debate whether this is the "right" spread over inflation, there doesn't seem to be a compelling reason to think that the historical figure is no longer a workable target. So, if we accept this spread, a reasonable forecast of the return on cash equivalents is equal to 0.7% plus the assumed inflation rate. The difference between the yields to maturity on nominal 30-year US Treasury and the Inflation Protected US Treasury (TIPS) Bonds is

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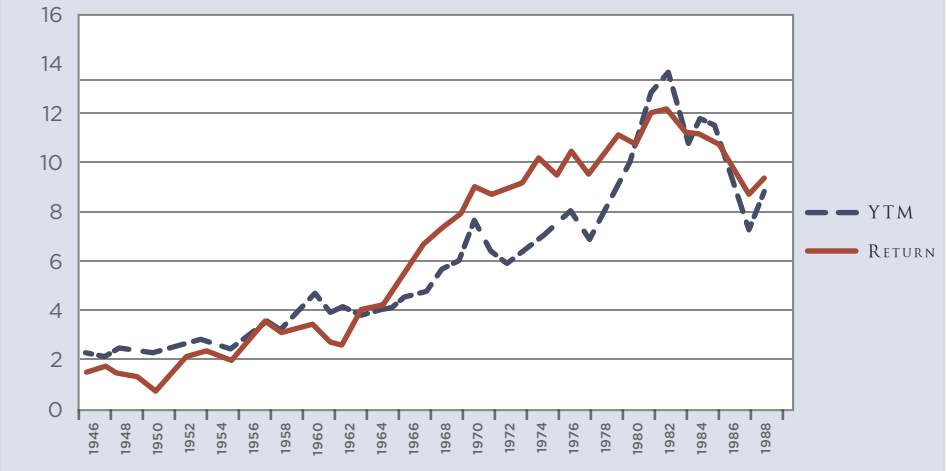
About Bill Spitz cont.

Kingdom and as a Trustee of Kenyon College in Ohio. He authored *Get Rich Slowly: Building your Financial Future through Common Sense* and is a frequent speaker at financial conferences. Bill earned a Bachelor of Arts degree from Vanderbilt University and a Master of Business Administration degree from the University of Chicago, where he was a Leon Carroll Marshall scholar.

the inflation rate that is currently priced into the bond market. For the next thirty years, that rate is currently 2.6%. You may or may not agree with this figure, but it represents the combined wisdom of all participants in the bond market. So, a reasonable forecast of the return on cash is equal to 0.7% plus 2.6% or **3.3%**. The long term average has been 3.7%.

bonds.

Now, let's focus on bonds. It turns out that the best unbiased estimate of future returns is equal to today's yield to maturity. Since the yield to maturity is available to anyone with access to a financial site on the Internet, this approach seems overly simplistic. In fact, interest rates may rise or fall so the actual return earned may vary from the initial yield to maturity for bonds not held to maturity. But, changes in interest rates are notoriously difficult to forecast so the stated yield is the way to go (unless your crystal ball is unusually clear). The following chart shows the initial yield to maturity on long term US Treasury Bonds coupled with the subsequent twenty-year return actually earned. As you will note, the two lines follow one another closely. There are minor divergences when interest rates change, but Wall Street is littered with failed interest rate seers so let's stick with the simple model. Today, the yield on twenty-year US Treasury Bonds is approximately 4.0%. In order to compensate for the increased risk of default, corporate bonds pay an additional 1.0% or so for high-grade issues. So, if we assume a portfolio is equally divided between treasury and high-grade corporate issues., then **4.5%** represents a reasonable return forecast.



Long Term U.S. Treasury Bonds Initial YTM and 20 Year Returns

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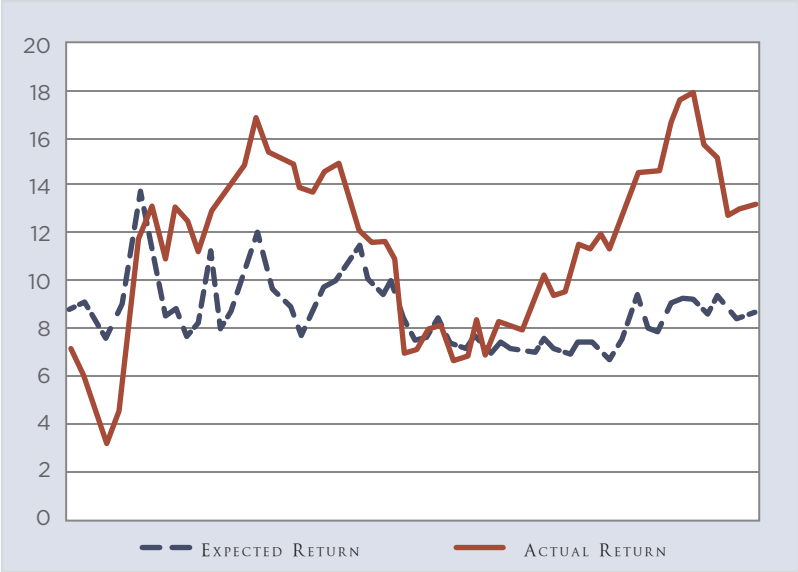
stocks.

Stock returns consist of three components: the initial dividend yield, growth in dividends, and any change in the price earnings ratio. The initial dividend yield is a known quantity; today, the yield on the S&P 500 equals 1.8%. Historical dividend growth rates have been relatively stable as shown in the following table:

PERIODS ENDING IN 2010	
10 YEARS	2.8%
20 YEARS	3.2%
30 YEARS	4.5%
40 YEARS	3.5%

As a result of the recent severe recession, these growth rates are lower than they would have been for periods ending before 2007. In order not to be unduly impacted by the recent period, it probably makes sense to use a number toward the high end of the range. In addition, the dividend payout ratio is currently approximately 31% as compared to the historical norm of 50%, which suggests that dividends could outpace earnings growth for a number of years. Taking both of these factors into account, let us assume a growth rate of 5.0%. The "price-earnings" or P/E ratio is a measure of investor sentiment, and changes in this ratio can have a significant impact on short to intermediate-term returns. But, sentiment is obviously very difficult to forecast and the impact of changes in the P/E ratio diminishes over longer time frames. So, a reasonable long-term return assumption on stocks is equal to the dividend yield plus the assumed growth rate in dividends. Assuming no change in the P/E Ratio and a 4.0% growth in dividends, the chart above plots expected returns versus subsequent twenty-year realized returns for the periods beginning in the years 1871-1991.



As you will note, there is considerably more "noise" in this chart than was evident in the same type of chart shown for bonds on the previous page. In particular, you should note the wide divergence on the right half of the chart. This period represented the great bull market of 1982-2007 when the P/E on the S&P 500 rose from 8 to 18.3. Once again, forecasting this change in valuation was very difficult.

Based on the above assumptions and approach, a reasonable forecast of stock returns today is 1.8% + 5.0% = **6.8%** (initial yield plus growth in dividends/price). It is interesting to note that this figure is at the lower end of the historical range and not far above the all time low of 5.1% which occurred in August of 2000. In other words, the expected return from stocks today is extraordinarily low.

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Inasmuch as the long-term return on stocks has averaged 10.2%, a 6.8% projected return seems both low and quite distressing. How might returns turn out much better? First, our 5.0% dividend growth assumption could turn out to be too conservative. For example, if dividends grew at an 8.4% annual rate, then stock returns would equal the historical average of 10.2%. As previously stated, dividends certainly could rise at a more rapid clip for several years because of the low dividend payout ratio, but the reality of feasible economic growth rates makes it unlikely over the long pull. A more likely source of higher returns would involve an improvement in sentiment as measured by a rise in the P/E ratio. Once again, an increase in the forward P/E from 13.1 to 18.9 would result in stock returns over the next ten years equal to the long term average. Such an increase could easily happen, but P/E ratios tend to fall during periods of rising interest rates which seems to characterize today's consensus outlook.

portfolio returns.

Our simple forecasting model suggests the following prospective returns:

Cash	3.3%
Bonds	4.5%
Stocks	6.8%

If you assume that a "typical" portfolio has a simplified asset mix of 5% cash / 25% bonds / 70% stocks, then a blended portfolio return assumption might be **6%. Ugh!!**

Potential returns of this magnitude have massive implications for a variety of investors. First, whereas most endowments spend 4-5% of the value of their fund every year, a 6% return suggests a sustainable spending rate of about 3.5% (6% expected return less 2.6% expected inflation). Second, most defined benefit plans have assumed rates of return of 7-8%. If the reality is more like 6%, then they are seriously underfunded. Similarly, individuals would need to significantly increase their contributions to 401K, college saving, and other similar plans to meet their expected needs in retirement. None of these outcomes are pleasant.

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improving the odds.

Unfortunately, I can't offer a surefire fix to the problem of low returns. Of course, the best outcome would involve a very favorable investment environment characterized by rapid dividend growth, falling interest rates, and rising valuations. In fact, some market observers forecast exactly this scenario. While these may well occur, should we bet the future of our funds on good luck? Or, should we assume modest market returns and look for other ways to enhance results? What might those be?

First, many funds have made significant allocations to "alternative assets." Longer-term annualized returns on several of these categories have been as follows:

Private Equity	12.3%	Cambridge Associates Private Equity Index
Hedge Funds	9.8%	Dow Jones Credit Suisse Hedge fund Index
Private Real Estate	8.9%	NCREIF Index

Obviously, an allocation to these and other strategies would materially enhance portfolio returns should historical returns be indicative of future results. But, alternative assets are now widely accepted by institutional investors which raises a question as to the likelihood of superior future returns. Moreover, returns on these categories must in some way be linked to the return on stocks and bonds. If our forecasts for the basic categories are in the ballpark, then it seems unlikely that alternative returns would equal their historical levels. But, they could still add materially to portfolio returns. Therefore, while there are certainly no guarantees, a prudent allocation to alternatives offers at the least the possibility of enhanced returns.

Second, a fund might materially add to return by making astute tactical shifts in asset allocation. Looking back over the past ten years, a large number of investment categories have moved to historical levels of over or under valuation. In virtually every case, they have subsequently reverted to more normal levels. Capturing these anomalies is certainly not easy because it requires considerable courage to sell when an investment has performed extraordinarily well or buy when it is on the "new low list." But the potential is quite large and there are a number of practitioners combing the markets for such opportunities.

Third, every fund should evaluate its cost of investing which directly reduces actual returns.

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Putting aside the possibility of an unusually favorable investment climate, the other prescriptions for better returns are all about superior investment management. A discussion of manager selection is beyond the scope of this paper, but a few of the characteristics of superior managers are as follows:

- A well defined, carefully articulated investment philosophy
- An identifiable and durable edge over the competition
- Disciplined implementation of investment insights
- Tight risk controls
- A deep, stable investment team with appropriate incentives
- Appropriate operational capability for the strategy employed

conclusion.

While we should hope for a positive surprise, prudence suggests that we base our planning on the moderate returns that were suggested by the simple models discussed herein. Given the potential for modest returns, every investment committee should:

- Reassess its spending rate
- Consider allocations to investment categories that offer the potential for higher returns, albeit with added complexity and illiquidity
- Carefully evaluate investment expenses
- Focus intensely on all components of investment management