
Investing in a Low Return Environment

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OVERVIEW

Institutional investors face a particularly difficult environment at this time. Despite the bear market, valuations on domestic equities are well above the historical norm, which suggests that equities are likely to provide below average returns in the future. In our view, the S&P 500 is likely to earn real returns in the low single digits over the next ten years. And a resurgence of the bear market remains a significant risk. Fixed income also looks uninspiring with *real* yields on intermediate-term Treasuries of only 2%, far less than the spending rate for most institutions. If US equities and fixed income, which make up the bulk of most institutions' portfolios, are priced to provide low returns, how should institutions react? The painful truth is that it will be necessary to learn to live with smaller returns on portfolios. The 9% annual *real* return achieved by the median National Association of College and University Business Officers (NACUBO) reporting institution during the 1980s and 1990s, which allowed them to generously grow their endowments net of spending, will likely be next to impossible to achieve over the next 10 years. In fact, without the assistance of gifts, we believe that the median NACUBO institution will fail to maintain purchasing power after spending over the next decade.

That said, we still believe it is possible to create a portfolio that will provide sufficient return to overcome a typical spending rate, while modestly growing the endowment in real terms. It's just going to be much harder than it was in the past and will require the de-emphasis of US equities and greater exposure to alternative asset classes. In this paper, we outline our current Model Portfolio for institutions with a long time horizon.

TODAY'S ENVIRONMENT

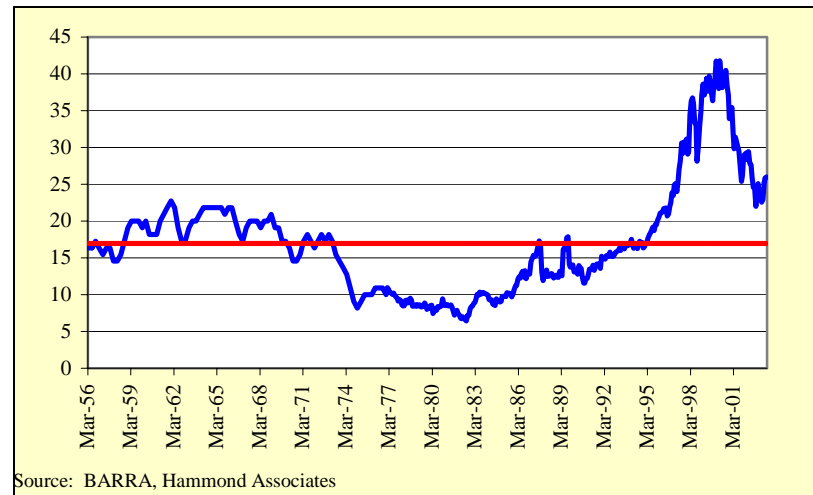
Investors in the 1980s and 1990s were extremely fortunate. In the early 1980s, equities and bonds were both exceptionally cheap. The P/E ratio on the S&P 500 was less than 10 and long-term Treasury bond yields reached 15%. While inflation was rampant and investors feared that Corporate America had lost its competitiveness, with the benefit of hindsight, it was a very attractive time to invest in both US stocks and bonds. Investors earned healthy returns in the 1980s as equity prices rose to fair value and even better returns in the 1990s as valuations reached the stratosphere.

Fast forward 23 years—because of the returns earned during the 1980s and 1990s, we are now at the opposite end of the continuum. The long-bond has a nominal yield of 5.5%, about one-third the level in 1981. With the Fed's preference to err on the side of inflation over deflation and the looming budget deficits over the foreseeable future, inflation may again rear its head, making the real return available from traditional bonds uncertain. TIPS are attractively priced versus traditional bonds, providing a

real yield of 2.0% over 10 years, but that figure represents only half of what is required to overcome spending for most institutions.

Moreover, despite the carnage over the past three years, domestic equities, which are the foundation of most institutions' portfolios, remain expensive. Based on our calculation of normalized earnings, the P/E ratio on the S&P 500 is 26, four times the 1981 level and 60% greater than the historical average of 16.¹ While the fair value P/E is open to debate, one thing is difficult to dispute—high P/E ratios portend lower future returns. Assuming no change in the P/E ratio, we estimate that stocks will provide a *real* return of about 4% to 5%, over the next 10 years, about a two percentage point return premium over bonds.

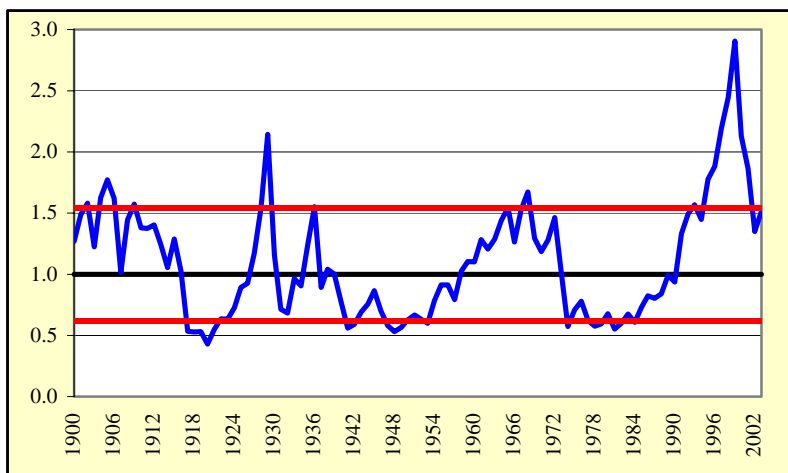
Exhibit 1: Normalized P/E Ratio History for the S&P 500



Another measure of the market, the q -ratio, also suggests that the market is richly priced. James Tobin first introduced the idea of q , which posited that the total market capitalization of stocks should trade at the replacement cost of the assets less liabilities. When stocks trade significantly above replacement cost, business investment should rise, leading to competition and lower profit margins, driving stock prices down. When stocks are trading below replacement cost, there is little incentive for businesses to invest, so competition declines and profit margins increase, resulting in higher stock prices.

¹ Over the long-term, reported earnings, which are calculated according to GAAP, are the most appropriate earnings figures to analyze. However, reported earnings can be very misleading at times because of the business cycle and write-offs. For that reason, we normalize reported earnings to estimate the true earnings power of the S&P 500. This is accomplished by applying the historical average profit margin of 5.5% to sales because sales are far less volatile than earnings. Some analysts use operating earnings to avoid the variability of reporting earnings. The problem with operating earnings is that they persistently exceed reported earnings because they exclude “unusual” expenses, leading to misvaluation.

Exhibit 2: US Equity Market q-ratio Relative to its Average



Source: Smithers & Co.

In their book *Valuing Wall Street*, Andrew Smithers and Stephen Wright argued that the *q*-ratio is the most meaningful market valuation metric, because there is a strong tendency for the *q*-ratio to mean revert. Based on Smithers' and Wright's measure of the *q*-ratio (the market value of stocks divided by the replacement cost of the underlying assets less liabilities), it stood at 1.5 as of September 2003 (down from 2.8 at the March 2000 peak). Interestingly, this is where the *q*-ratio stood just before the 1973-74 bear market. At a *q*-ratio of 1.5, stocks need to fall by a third to reach fair value of 1.0. We examined the predictive ability of the *q*-ratio on returns over the past century, and found it to be fairly reliable. As shown in Exhibit 3, a *q*-ratio of 1.4 has been associated with future *real* equity returns of 1.3% on average over the following ten years and 2.8% over twenty years.

Exhibit 3: Predictive Ability of the q-ratio (1900-2002)

| q -ratio at Beginning of Period | | Subsequent Annualized <u>Real</u> Return (%) | | | |
|---------------------------------|---------|--|---------------|--------------|-------------|
| | | 3 Years | 5 Years | 10 Years | 20 Years |
| >1.55 | Average | 0.6 | 0.9 | 1.1 | 4.0 |
| | Range | -28.4 to 23.7 | -11.1 to 19.4 | -3.1 to 4.2 | 1.8 to 10.4 |
| 1.20 to 1.55 | Average | 1.6 | 2.4 | 1.3 | 2.8 |
| | Range | -29.4 to 25.9 | -13.3 to 23.8 | -4.5 to 8.5 | 0.3 to 11.8 |
| 0.85 to 1.20 | Average | 6.0 | 4.3 | 6.2 | 6.5 |
| | Range | -8.1 to 26.9 | -14.8 to 12.4 | -1.4 to 15.6 | 1.5 to 13.0 |
| 0.60 to 0.85 | Average | 11.7 | 12.1 | 9.3 | 8.6 |
| | Range | -2.0 to 30.7 | -1.7 to 25.4 | -0.1 to 17.0 | 2.6 to 13.4 |
| <0.6 | Average | 12.1 | 11.7 | 11.5 | 8.7 |
| | Range | -2.6 to 27.1 | 2.4 to 22.4 | 2.9 to 18.2 | 4.5 to 15.4 |

Source: Smithers & Co., Hammond Associates

Lofty valuation levels suggest that a second shoe of the bear market may yet fall. In his book *Irrational Exuberance*, Robert Shiller observed that when bubbles burst, markets typically do not simply fall back to fair value. Rather, they overshoot significantly on the downside as investors become disenchanted, by extrapolating past losses into the future. The P/E ratio on the S&P 500 at the trough of bear markets has averaged 11. Following the 1973-74 bear market, the P/E ratio on the index was only 8, one-half the historical average and 70% below today's levels. The *q*-ratio following the 1973-74 bear market was 0.6, 60% lower than today's level. While we

consider it unlikely that equities will fall to those depths, the possibility must be acknowledged.

Exhibit 4 shows the impact of declining valuations on 10-year *real* returns. If the P/E ratio falls back to the historical average of 16, stocks will struggle to keep pace with inflation, let alone provide sufficient growth to overcome spending. If the P/E ratio declines to 20 over the next 10 years, stocks are likely to earn around 2% in real terms, no better than the real yield on 10-year inflation-protected bonds. If we have a repeat of the 1973-74 experience when the P/E ratio fell to single digits, equities will fall by a third in real terms over the next 10 years.

Exhibit 4: Expected Annualized *Real* Return on S&P 500 Over Next 10 Years

| Annualized GDP Growth | Normalized P/E Ratio at Year 10 | | | | | |
|--------------------------|---------------------------------|-------|------|------|------|-------|
| | 10x | 15x | 20x | 25x | 30x | 40x |
| 2.0% | -4.7% | -1.1% | 1.6% | 3.7% | 5.5% | 8.4% |
| 2.5% | -4.2% | -0.6% | 2.1% | 4.2% | 6.0% | 8.9% |
| 3.0% | -3.7% | -0.1% | 2.6% | 4.8% | 6.6% | 9.5% |
| 3.5% | -3.2% | 0.4% | 3.1% | 5.3% | 7.1% | 10.0% |
| 4.0% | -2.8% | 0.9% | 3.6% | 5.8% | 7.6% | 10.6% |

Source: Hammond Associates

Opportunities remain in public equity markets. International equities appear priced to provide more attractive returns than US equities due to valuation differences, particularly in emerging market countries. Unlike US equities, we expect that international equities will provide sufficient returns over the next 10 years to overcome spending and inflation. However, there remains risk in this view. International economies are in more fragile shape than the US economy. Furthermore, a significant contraction in domestic equity valuations would likely extend to international equities, although we would expect international stocks to better weather the storm. While international equities should have a significant role in portfolios, they alone will not fix the problems facing institutions today.

PORTFOLIO STRATEGY

Given our somewhat bleak outlook for the two asset classes that make up the lion’s share of most institutions’ portfolios—US equities and fixed income—where do we go from here? To succeed in the coming decade, we believe it will be necessary to de-emphasize US equities and fixed income in favor of other asset classes that offer more bang-for-the-buck, such as international equities and alternative investments. This has been the trend for NACUBO reporting institutions with more than \$1 billion in assets. US equities make up only 33% of the average portfolio today, versus 43% in 1990. Fixed income has declined from 40% to 23% since 1990, while alternative investments have increased from 8% to 32%.

Exhibit 5 shows the asset allocation for the Hammond Associates Model Portfolio, along with our return expectations. For comparison purposes, we also show the average asset allocation for NACUBO-reporting institutions and the average allocation for NACUBO-reporting institutions with more than \$1 billion in assets. Our Model Portfolio contains a 45% allocation to traditional equities (24% to US equities and 21% to international equities), 45% to alternative investments (15% real assets, 15% to private equity, and 15% to absolute return strategies) and 10% to fixed income.

We share many of the concerns that skeptics voice over alternatives. Indeed, we suspect that many investors will be disappointed with their alternative investment returns in the coming years. The wave of money flowing into the various alternative asset classes, coupled with exorbitant fees, will make navigating these waters treacherous. Therefore, alternative investments must be entered into with caution. In implementing an alternatives portfolio, manager selection is, of course, the key. Generally, investments off the beaten track may offer the best opportunities in the future.

Exhibit 5: Asset Allocation Comparison

| | <i>Model Portfolio</i> | <i>NACUBO Average</i> | <i>NACUBO >\$1B</i> |
|--|----------------------------|---------------------------|----------------------------|
| <i>Equities / Alternatives / Bonds</i> | 45/45/10 | 59/9/32 | 45/32/23 |
| US Equity | 24% | 50% | 33% |
| Intl Equity | 21% | 9% | 12% |
| Total Equity | 45% | 59% | 45% |
| Real Assets | 15% | 2% | 6% |
| Private Equity | 15% | 2% | 8% |
| Absolute Return | 15% | 5% | 18% |
| Total Alternatives | 45% | 9% | 32% |
| US Fixed Income | 5% | 26% | 21% |
| US Inflation Protected Fixed | 5% | | |
| Intl Fixed Income | | 1% | |
| Cash | | 5% | 2% |
| Total Fixed Income | 10% | 32% | 23% |
| Total | 100% | 100% | 100% |
| <i>Assumes 2.5% inflation</i> | | | |
| 10-Yr Horizon <u>Real</u> Expected Return | 5.7% | 3.1% | 4.2% |
| Long-Term <u>Real</u> Expected Return | 7.1% | 5.3% | 6.0% |
| Standard Deviation (1 Yr.) | ±13.2% | ±11.3% | ±11.1% |
| Sharpe Ratio (L/T Expectations) | 0.39 | 0.29 | 0.36 |

The long-term expected returns reflect our estimate of what asset classes should earn at equilibrium. However, as outlined in the previous section, we believe that US equities and bonds are currently priced above equilibrium. The 10-year expected returns in the table above represents our best estimate of returns over the next 10 years with the assumption that valuations (and interest rates) revert to their equilibrium values. For instance, they assume that the normalized P/E ratio on the S&P 500 declines from the current level of 26 to 18. Based on that assumption, equities would provide a real return of roughly 1.5% over the next ten years. Since internationals appear to be fairly valued at today's levels, we assume that they will provide their long-term expected return (5.2% real for international large).

We estimate that our Model Portfolio will earn a real return of 5.7% over the next 10 years (not including any manager alpha, except for absolute return strategies which are primarily alpha). While the expected return is

modest in the context of historical returns, we believe it will be sufficient to maintain purchasing power for the typical institution with a 5% spending rate. In addition, we believe it will perform significantly better than the NACUBO average asset allocation from the 2002 survey. Indeed, we estimate that the NACUBO average portfolio will earn a real return of 3.1%, which will be insufficient to maintain purchasing power given a 5% spending rate, without additions to capital from new gifts.

In the following sections, each of the asset classes in our Model Portfolio is discussed in detail.

TRADITIONAL EQUITIES

Our traditional equity portfolio, which comprises 45% of the model portfolio, will provide exposure to the global economy. While it appears that equities, particularly in the US, are priced to provide low returns in the future, it is still reasonable to expect that stocks will outperform bonds over a long horizon. Nearly half of the allocation to traditional equities is in foreign stocks, which roughly corresponds to their weighting in the global equity market. Financial theory suggests that the most “efficient” equity portfolio is one that is weighted the same way as the global equity market. The relative valuations of international equities make this approach particularly attractive today.

US Equities

We suggest dividing the US equity allocation into three parts—(1) 50% to an all-cap index fund (Wilshire 5000 or Russell 3000), (2) 25% to a large/mid-cap value manager, (3) and 25% to a small-cap value manager. The purpose of the all-cap index allocation is to provide core exposure to the US equity market. The other two mandates provide additional (over weighted) exposure to small-capitalization stocks and value stocks, both of which have been shown to generate excess returns to the broad equity market. This model differs from our past practice of recommending five distinct asset classes within domestic equities. With less than a quarter of the portfolio in domestic equities, we do not believe cutting the pie into many smaller slices will materially enhance the portfolio.

International Equities

We divide the international allocation into three parts—international large/mid-cap stocks, international small-cap stocks, and international emerging market stocks. As in the US equity allocation, we suggest overweighting small-cap stocks and value stocks within developed markets to provide additional return. The portfolio’s substantial allocation to emerging market stocks will provide direct exposure to the world’s fastest growing economies, which should translate in to a return premium over developed market stocks.

ALTERNATIVE INVESTMENTS

Our allocation to alternative investments is split evenly among three broad categories—(1) real assets, (2) absolute return strategies, and (3) private equity.

Real Assets

The primary reason for including real assets in the portfolio is for diversification. These investments are expected to help the portfolio most during periods of inflation. Over the long-term, we expect real assets to provide real returns in the mid-single digits. Within the real asset portfolio, we anticipate an allocation to real estate, along with commodity-based investments in oil, natural gas, and timberland.

Absolute Return Strategies

The goal of the absolute return strategies allocation (or hedge funds) is to provide equity-like returns over the long term, while moderating portfolio volatility by gaining exposure to risk uncorrelated with public equity markets. In this area, it is especially important to be cautious. We suspect that the return on the average fund of hedge funds will equal that of cash in

the coming years, after the double layer of fees. With nearly \$600 billion in assets (and, perhaps, three to five times more when leverage is considered), there are more hedge funds attempting to pick the pockets of long-only investors, such that hedge funds are increasingly competing against themselves. How can the hedge fund industry as a whole continue to provide substantial alpha when they have an ever-increasing share of the market?

While the entire hedge fund industry may post disappointing returns in the coming years, we still believe that certain managers can succeed in this environment. It will take far more selectivity and diligence to create a winning strategy in the future. With respect to strategies, the broad goal will be to seek out managers who can provide alpha with minimal net exposure to the equity market. In particular, we prefer multi-strategy managers who have the flexibility to exploit inefficiencies wherever they arise in global markets.

Private Equity

Private equity should serve to enhance portfolio returns. By sacrificing liquidity, investors should receive additional return over public equity markets. If equity markets struggle over the coming years, as we expect they might, private equity investments will have significant headwind. Nevertheless, returns in the low to mid-teens should be achievable in a prudently constructed private equity portfolio.

We expect that the private equity portfolio will have a core exposure to buyouts and venture capital, with opportunistic investments in special situations and other investments as opportunities arise. Of course, an issue with private equity for those institutions that have not yet started a program will be the implementation period. It will likely take five to seven years to get a private equity program fully off the ground and perhaps a decade to realize significant benefits.

FIXED INCOME

The 10% allocation to fixed income should serve to modestly reduce portfolio volatility. We recommend splitting the fixed income allocation to between traditional US Treasury Bonds and Treasury Inflation-Protected Securities (TIPS). The nominal bonds will act as a hedge against deflation, while the TIPS allocation will provide inflation protection. Note that with such a small allocation to fixed income, we recommend taking no credit risk. There will be ample direct and indirect credit exposure through the private equity and absolute return allocations.

MAVERICK RISK

One topic we feel it is incumbent upon us to deal with is maverick risk. John Maynard Keynes best described this risk—“Worldly wisdom teaches us that it is better to fail conventionally than succeed unconventionally.” Maverick risk is, perhaps, one of the more important risk factors to consider, but is very difficult to quantify. While we consultants can preach the long-term and the irrelevance of peer comparisons, in a world where the administration must answer to the investment committee, the investment committee to the board, and the board to a variety of outside influences including donors, politicians, and the news media, the implications of being different, and worse, different and wrong, must be considered.

Our Model Portfolio is very different from the *average* NACUBO portfolio, containing half the allocation to US equities, twice the allocation to international equities, one-third the allocation to fixed income, and four times more in alternatives. While institutions with more than \$1 billion have allocations to alternatives similar to those that we propose, the average institution has less than 10% in alternative asset classes. Boards that

implement the Model Portfolio will be subject to criticism if US equities go on another run (whether rational or not) as in the late 1990s.

To measure one aspect of maverick risk, we show in Exhibit 6 the peer ranking expectation distribution for the Model Portfolio. Over the long-term, we believe that our Model Portfolio will outperform the NACUBO average portfolio by 1.8 percentage points, with an annual tracking error of 5.6%. Based on the historical spread between the top quartile and median, we estimate that our Model Portfolio has a two-in-three chance of landing in the top quartile over any 10-year period. However, there is a fairly high likelihood of landing in the third or fourth quartile over shorter periods. Indeed, over any three-year period there is nearly a one-in-three chance of landing in the bottom half and a one-in-six chance of landing in the bottom quartile. Over the course of a decade, it is likely that there will be at least one three-year period of bottom quartile performance. Even well constructed portfolios for the long-term can have short-term periods of underperformance.

Exhibit 6: Peer Ranking Expectations for Model Portfolio

| | <i>1 Yr.</i> | <i>3 Yr.</i> | <i>5 Yr.</i> | <i>10 Yr.</i> |
|--|--------------|--------------|--------------|---------------|
| Expected L/T Excess Return to NACUBO Average | 1.8% | | | |
| Tracking Error to NACUBO Average | 5.6% | | | |
| First Quartile | 48% | 56% | 59% | 67% |
| Second Quartile | 15% | 15% | 17% | 17% |
| Third Quartile | 13% | 13% | 12% | 10% |
| Fourth Quartile | 24% | 16% | 12% | 6% |

One way to overcome maverick risk is to implement the Model Portfolio over the course of several years, which will allow a board and other stakeholders to become more comfortable with the direction. (This is necessarily the case for implementing private equity and other illiquid asset classes, due to the lag between commitments and capital calls.) While ramping in may not be optimal from an investment standpoint, it may foster buy-in, which will help keep the plan on track during the inevitable periods of disappointing performance relative to peers.

CONCLUSION

Over the next decade, we suspect that it will be difficult for the typical institution to maintain purchasing power on their portfolios due to today's high prices of financial assets. In this paper, we have outlined our Model Portfolio. The portfolio is certainly not ideal for all institutions, but for those that are willing to accept the maverick risk that it entails, we think that it will increase the likelihood of success.

*Anthony Brown, CFA
Director of Research
abrown@haifc.com*

*Hammond Associates
101 S. Hanley Road
Third Floor
St. Louis, MO 63105-3406
314-746-1630*