MEMORANDUM

From: Steven R. Smith, JD, CFP®
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To: Finance and Investment Committee
Date: January 1, 2008

RE: Perpetual Legacy Foundation--Investment Policy:

Considerations in Determining Whether to Employ Passive or Active Strategies, Including Tactical Asset Allocation©

I. Introduction

Fiduciary investors come in a variety of shapes and sizes, each with a different statutory source of their legal obligations: Trustees (Prudent Investor Act, adopted in 43 states); Pension Plans (ERISA); and Charitable Endowments (UMIFA, UPMIFA). All of these statutes, to greater and lesser degrees, have as their main root source the common law Prudent Investor Rule as set forth in Section 227 of the Restatement of Trusts (3rd). (Published in 1992, republished and renumbered in 2007.) The Rule's text, comments and reporter's general notes--largely informed by the body of investing science called Modern Portfolio Theory (MPT)--serve to define the landscape for understanding the duties of investment fiduciaries.

The essence of fiduciary investing is procedural prudence in establishing and managing a portfolio, as set forth in the 22 practices documented in the Periodic Table of Global Fiduciary Practices promulgated by Fiduciary360™. (Cited as SA 1.1 through 4.6) Nevertheless, there are some bedrock substantive issues.

A threshold question for all investors, fiduciary or not, is whether one believes, philosophically, in either "active" or "passive" investing. Those that believe in active investing hire managers whose mission is to "beat" the market or their appropriate benchmarks, through security selection and/or market timing. Passive investors subscribe to the so-called "Efficient Market Hypothesis" (EMH), which asserts that the current prices of securities generally reflect all the available information and that, while perhaps possible, it is not worth the risk and expense of trying to beat the market. The available evidence demonstrates that most active managers, with their significant cost disadvantage, for the most part have a dismal record. This is one of the liveliest debates in investment management. (A bibliography of recommended reading is attached.)

At times, the debate appears to be a question of taste. Like choosing between red or white wine with dinner. However a fiduciary is legally obliged to prudently select managers for implementation of the portfolio and to make and document decisions regarding passive and active strategies (SA 3.3.1).

Wherever one comes down in the active vs. passive debate in managing one's own portfolio, there is a strong argument that fiduciaries are **required** to first consider passive investing as the default strategy. This conclusion is the result of a broad comprehension of the Prudent Investor Rule, together with the examination of a constellation of MPT concepts. The most compelling reason, perhaps, is that the due diligence and monitoring process is substantially more onerous with active management. (See generally, *The Prudent Investor Act, A Guide to Understanding*, Ch. 7, *Two Fundamentally Different Approaches to Investing* (W. Scott Simon, Namborn Publishing 2002). (SA 3.1)

II. Modern Portfolio Theory (MPT)

The most fundamental requirement of fiduciary investing—the management of risk through diversification—is grounded in Modern Portfolio Theory. Consequently, a rudimentary understanding of its principles is well advised—if not required--of members of an investment committee.

Today we take for granted the relationship between risk and expected return. But this concept only entered the lexicon of mainstream investors after the awarding of the Nobel Prize in Economics in 1990 to Professors Harry Markowitz and William Sharpe. Balancing this trade-off, primarily through broad diversification, is the "central consideration" for the fiduciary.

The standards governing fiduciary investing acknowledge that risk in a portfolio is ***unavoidable***, particularly in the face of the likelihood of loss of purchasing power through inflation; and the task is to manage it prudently.[1] Critically, though, after beginning to understand the fundamentals of MPT, the focus turns not to the risk of its individual components in isolation, but on the portfolio ***as a whole***.

A. CAPM and Diversification

Investment risk hides in many places. Naturally, inquisitive and enterprising scholars are called upon to find it. William Sharpe won his Nobel Prize for developing the Capital Asset Pricing Model (CAPM)--explaining the ways in which risk and investment return are related.

One element ("unsystematic" or "uncompensated" risk) is company specific, such as when sales of I Phones fail to meet expectations and shares of Apple stock fall by 10% or 15% in a single day. Another element ("systematic" or "compensated" risk) is more macro: reflecting changes in the levels of inflation and unemployment, or geo-political events, such as a major terrorist attack; which affect the market as a whole. Together, these two kinds of risk comprise all the risk of owning an individual stock. The gist of CAPM is that by combining a multitude of stocks in a diversified portfolio, unsystematic risk is reduced--or even eliminated--and the investor is exposed only to systematic or compensated risk. Sharpe labeled the unavoidable risk of exposure to the market as ***beta***,

[1] *See generally, Restatement Sec.227, Comment e.*

which is rewarded over time with a premium over risk-free assets such as treasury bills or CD's.

CAPM is the link between the fiduciary's principal statutory requirement of exercising "caution" and the duty to diversify:

The ultimate goal of diversification would be to achieve a portfolio with only the rewarded or "market" element of risk. (Restatement Sec. 227, Comment g.)

Moreover,

Failure to diversify on a reasonable basis in order to reduce uncompensated risk is ordinarily a violation…On the other hand, the prudent investor rule is considerably more flexible in addressing questions concerning the degree of compensated risk, essentially questions of conservatism. This flexibility is appropriate because of the tradeoff between risk and expected return, and because a consideration of the purposes, obligations and circumstances of the trust is proper in evaluating the suitability of a trustee's investment strategy. (Restatement Sec. 227, Comment e.)

Diversification is required both across and within asset classes. (Restatement Sec. 227, Comment g.) The broad diversification requirement emanates from the fiduciary's inability to know—or predict with reasonable certainty, even with expert advice—which individual securities or small subset of securities within an asset class will outperform the asset class as a whole. The broadest form of diversification within an asset class would come from owning virtually all of the securities in the asset class, such as via an index fund[2]; thus eliminating entirely uncompensated risk.

The same principle applies in choosing among asset classes for the portfolio.

And this sort of diversification works best when the securities and asset classes chosen have relatively low correlations with one another--allowing some parts of the portfolio to zig, while others zag--thereby reducing the volatility of the overall portfolio, but not diminishing returns over time.[3]

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[2] Index funds--whether open-end mutual fund, ETF or separate account--are composed of either all or a cross-section of securities making up indexes, selected by firms such as Standard & Poors or Russell--and are generally weighted and maintained by market capitalization. This is not the only--nor necessarily the most effective--type of passive implementation. Other examples are "equilibrium" based asset class strategies by Dimensional Fund Advisors, www.dfaus.com and "fundamentally weighted" indexes by Wisdom Tree, www.wisdomtree.com.

[3] The great contribution of Dr. Markowitz to this body of knowledge is the discovery that even by adding securities and /or asset classes to a portfolio that have ***lower*** expected returns and ***higher*** risks, investors can nevertheless ***add*** to over all portfolio efficiency when such investments have low correlations to the portfolio's existing holdings.

B. The Efficient Market Hypothesis (EMH)

Active investing purports to bring insight and skill to the functions of security selection, in an attempt to achieve above market returns by predicting future movements in the prices of individual stocks or of the market. A presupposition of active managers is that the market is mispricing securities in an exploitable way. Fundamental analysis, the tool most typically employed by active managers, is supposed to reveal securities that the market is pricing differently from their "intrinsic" values. A portfolio is then constructed of securities selling at discount prices.

Active management is making a bet on markets ***not*** working and identifying--in advance--strategies or managers to exploit these supposed failures.

Future Laureate, Eugene Fama, is generally given credit for, in 1965, developing EMH, the economic theory in opposition to the view that would make such strategies reliably possible.

The hypothesis states:

- Current prices incorporate rapidly all available information and expectations.
- Current prices are the best approximation of intrinsic value.
- Mispricings sometimes occur, but not in predictable ways that can lead to consistent outperformance.

The implication is that active strategies cannot consistently add value through security selection and market timing and that passive strategies reward investors, over time, with capital market returns. The Restatement agrees,

> ***Economic evidence shows that, from a typical investment perspective, the major capital markets of this country are highly efficient, in the sense that available information is rapidly digested and reflected in the market prices of securities. As a result, fiduciaries and other investors are confronted with potent evidence that the application of expertise, investigation, and diligence in efforts to "beat the market" in these publicly traded securities ordinarily promises little or no payoff, or even a negative payoff after taking account of research and transaction costs. Empirical research supporting the theory of efficient markets reveals that in such markets skilled professionals have rarely been able to identify under-priced securities (that is, to outguess the market with respect to future return) with any regularity. In fact, evidence shows that there is little correlation between fund managers' earlier successes and their ability to produce above-market returns in subsequent periods.***
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> (Restatement Sec. 227, Reporter's General Note on Comments e through h.)

C. Zero Sum Game

One of the most powerful arguments in favor of passive investing is ***the fact*** that active investing is a "zero sum game." It is simple arithmetic that those investors who outperform the benchmark--which by definition represents the average return, before costs and taxes--are taking their winnings out of the hides of those who underperform. A "free riding" passive investor in the benchmark index will always outperform 50% of active investors, before costs[4] and taxes. Over time, this percentage increases due to the natural drag on performance by investors flocking to skilled managers and by geometric compounding of the cost drag.

D. Three-Factor Model

CAPM and Beta, it turns out, do not entirely explain the returns of diversified portfolios. During the period from the 1960's through the 1990's--contemporaneously with the work of Markowitz and Sharpe--researchers examined thousands of portfolios that diverged dramatically in composition—and returns--from those essentially replicating the market. But they were unable to account for the differences in returns until Eugene Fama (University of Chicago) and Kenneth French (Dartmouth College) published "The Cross-Section of Expected Stock Returns" in the June 1992 *Journal of Finance*.

Fama and French concluded that—like Newton's 2d and 3rd laws of motion—two more factors determine portfolio returns, in addition to market exposure: ***size*** (small-cap outperforms large-cap) and ***value*** (value outperforms growth). This issue goes beyond style, in which size and value characteristics might go in and out of favor and expected returns would eventually converge. But the Fama/French configuration comports with CAPM in a crucial respect: small companies are riskier than large companies due to their immaturity and shorter track records and value stocks are riskier than growth stocks because of unreliable earnings and distressed balance sheets. Value stocks typically have lower price/earnings ratios (P/E's) and higher book/market ratios (BtM's.) They are "cheaper" than growth stocks, the prices of which have been bid up relative to the market. Ironically, "bad" companies are expected to have better returns than "good" ones. The size and value factors actually reinforce CAPM: taking on more systematic risk has the potential to reward investors with higher returns over time.

[4] Costs generally include management fees, brokerage commissions, bid/ask spreads and market impact costs.

Average Annual U.S. Returns[5] 1927–2006*

Large Value	11.54%
S&P 500	10.41%
Large Growth	9.34%
Small Value	14.51%
Small Core	12.05%
Small Growth	9.33%

*Source: Dimensional Fund Advisors

So in designing portfolios, fiduciaries should give serious consideration to incorporating the Fama/French risk factors (Value and Small Cap Premiums) into the portfolio. These factors demonstrate that, over time, systematically tilting the portfolio away from the "market portfolio" in favor of value stocks and small cap stocks (with their attendant higher risk) increases the risk adjusted return of the overall portfolio.

But there is a caveat. While such strategic and systematic investing doesn't require a great deal of skill, it demands uncommon discipline. The small-cap and value premiums emerge and disappear—seemingly at random—persisting and then vanishing for years at a time. From 1995–1999, leading up to the bursting of the technology bubble, large-cap value underperformed large-cap growth (think Microsoft and Cisco) by an average of 10% per year. Many investors lost their discipline and abandoned a balanced strategy at exactly the wrong time. But self-control would have been rewarded in the ensuing meltdown. From 2000 to 2003, large-cap growth stocks had an average annual return of negative 11.2%, while large cap value returned a manageable -3.5%. Meanwhile, small-cap value soared, experiencing an average annual return of 20.4% over the period.

The value and small cap premiums endured for an additional three years thereafter, but underperformed in 2007.

III. Active Management Presents a Nearly Insurmountable Monitoring Challenge.

The quintessential duty of an investment fiduciary is monitoring the portfolio strategy and implementation against the appropriate indexes, peer groups, and IPS objectives. (SA 4.1, Restatement Sec. 227, comment d.)

A. Seeking Alpha

Employing an active strategy presumes a belief in the possibility of the chosen manager being able to outperform the passive alternative, i.e. generating *alpha*.[6] But

[5] These systematically compensated risk factors are equally strong in both developed and emerging international markets.

[6] Some investors choose to index the large-cap domestic component, which is generally acknowledged to be the most efficient market in the world, while other asset classes--in arguably more exploitable, less efficient markets--are managed actively. Of course, outperformance even in ***inefficient*** markets has been demonstrated to be just as difficult due to higher research costs, commissions and spreads.

marshalling the right tools and choosing the appropriate index or peer group for comparison is no easy task. In order for a benchmark to be appropriate, the manager whose performance is being measured must be fishing in the same pond as the benchmark.

B. Comparing Apples to Apples

One of the more powerful instruments in the MPT arsenal is the concept of R^2. R^2 measures the degree to which movements in a portfolio can be explained by a particular index. *Alpha* statistics only have meaning when the R^2 of the portfolio being measured is high relative to the benchmark index.

The R^2 number is a percentage between 0 and 1. So, for example, a portfolio consisting of the fifty largest stocks measured by market cap could barely be explained at all by movements in the Russell 2000 index of small cap stocks and would have a very low R^2 vis-à-vis that index. In contrast, a large cap core mutual fund, such as Davis NY Venture Fund has an R^2 of 91 vis-à-vis the S & P 500 index. Bridgeway Ultra-Small Company Fund has an R^2 of 60 vs. the S & P 500, but 77 against the Russell 2000 Growth index. This demonstrates the crucial concept of using the "best fit" index for performance comparison as opposed to a broad market index.

Concentrated portfolios are a particularly vexing challenge, even when you have chosen the best fit index.[7] Take Oakmark Select, a fund which Morningstar categorizes as Large Blend. This fund tends to contain just 20-30 holdings out of the large cap universe. Yet its R^2 against the S & P 500 is only 63.

C. Style Drift

Unfortunately, many active managers wander off the reservation; often chasing returns in asset classes which are "in favor" when theirs is not. One year they lurch toward growth stocks. The next year they favor value. Frequently, large cap managers dip their toes into small cap stocks. So even the best fit index can be a moving target. On this score, SA 3.1 prescribes that, "a minimum of 80% of the Investment Manager's holdings should be consistent with its investment style".

D. Fama/French

Many active managers operating both within style boxes—and some without such restraints—boast of achieving *alpha.* But it appears to be just a myth.

Mentioned earlier was the three-factor Fama/French model. In the June 2007 issue of *The Journal of Financial Planning*, Steven Pollock examined the performance of all

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[7] The ultimate irony is that once you have a sufficiently diversified portfolio to have a meaningful R^2 you run the altogether too common risk of being a "closet indexer." This represents the worst of both worlds—paying for the potential (and risks) of active management and receiving index hugging performance.

actively managed U.S. equity mutual funds with an inception prior to January 1991 and still listed with Morningstar on June 30, 2006. He compared the fund managers' performance with "the market" and with the expected returns of portfolios with varying degrees of exposure to size and value factors, as those factors evidenced themselves throughout the period. Nearly all of what appeared to be *alpha* out-performance was attributable to exposure—or not—to the size and value premiums.

Significantly, investors could have captured ***all*** of the excess return over "the market" by employing a passive strategy—including exposure to size and value by adding small cap and value index funds to their portfolios—avoiding the risk of whether their active managers (including the added expense) would accomplish this through stock selection.

IV. Asset Allocation--Tactical Overlay—Market Timing

The main work of the committee is developing an "overall investment strategy" to achieve the endowment's purposes and goals; incorporating its risk and return objectives.

> ***Asset allocation decisions are a fundamental aspect of an investment strategy and a staring point in formulating a plan of diversification.*** (Restatement Sec 227, Comment g)

A portfolio's asset allocation is the mechanism by which exposure to compensated—that is market—risk is taken. Determining the asset allocation is the most sacred of the fiduciary investor's responsibility.

Many fiduciaries are tempted to employ tactical asset allocation or overlay strategies, which permit a portfolio's asset allocation to be varied--not based on criteria intrinsic to the investment policy--but based upon an adviser's contemporaneous estimation of the state of the market and/or the relative value of asset classes in the portfolio. Execution of such a strategy is accomplished either by giving the adviser discretion to make such changes or with authority retained by the investment committee to make changes based on the recommendation of the adviser.

Such a strategy is philosophically in stark contrast to an alternative "fixed allocation" strategy, which establishes policy allocations for each of the asset and sub-asset classes and ***requires*** rebalancing back toward the policy allocation when values reach pre-established boundaries. A premise of this approach is that the risk/return relationship among asset classes is relatively stable over time and that predicting changes in that relationship is little more than guesswork. A benefit to this type of strategy, while sometimes psychologically difficult, is that it forces sales when values are relatively high and mandates buys when values are relatively low.

Ever since the release of the Brinson[8] study of pension plan performance, investors have had to respect the dominant role that asset allocation—as opposed to security selection and market timing—plays in portfolio performance. Indeed, the study showed that dynamic asset allocation actually ***detracted*** .66% from performance, while security selection detracted an additional .36%.

As mentioned, one frequently considered option is delegating ***to the adviser*** the authority and discretion to undertake tactical asset allocation decisions on its own. Prudent practice permits—and sometimes requires-- the prudent delegation of a great number of investment functions. (Restatement Sec. 227 (c) (2)). It is strongly suggested, however, that delegating ***this*** authority, particularly within broad ranges, would be impermissible. (SA 1.2)

> ***The trustee is not required personally to perform all aspects of the investment function. The trustee must not, however, abdicate the responsibilities of the office and must not delegate unreasonably. Prudent behavior in this matter, as in other aspects of prudent investment management, cannot be reduced to a simple, objective formula.***
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> ***With professional advice as needed, the trustee personally must define the trust's investment objectives. The trustee must also make the decisions that establish the trust's investment strategies….***

(Restatement Sec. 227, comment j)

[8] Not without it's critics, ***Determinants of Portfolio Performance,*** Brinson, Hood and Beebower, 42 *Financial Analysts Journal*, July/August 1986, ascertained that more than 90% of the variance of returns within 91 large pension funds over a ten-year period was explained by asset allocation—i.e. market risk. Subsequent studies have shown that asset allocation explains nearly 100% of an average fund's total return. *See generally,* ***Does Asset Allocation Explain 40, 90, or 100 Percent of Performance?***, Ibbotson and Kaplan*, Financial Analysts Journal,* January/February 2000; ***The Importance of Investment Policy: A Simple Answer To A Contentious Question*****,** *Vanguard Investment Counseling & Research*, July 2003; and ***The Asset Allocation Debate: A Review and Reconciliation,*** Tokat **,** Wicas and Kinniry**,** *Journal of Financial Planning,* October 2006.

V. Conclusion—Passive Investing is Presumptively Prudent

Who still believes markets don't work? Apparently only the North Koreans, the Cubans and active managers.

Rex Sinquefield, Co-Inventor of the Index Fund

The decision regarding whether and to what extent to adopt active or passive strategies is at the vortex of fiduciary responsibility. Clearly, under standards of prudence, active investing is not precluded and passive investing is not required.

> ***Active strategies, however, entail investigation and analysis expenses and tend to increase general transaction costs, including capital gains taxation. Additional risks also may result from the difficult judgments that may be involved and from the possible acceptance of a relatively high degree of diversifiable risk. These considerations are relevant to the trustee initially in deciding whether, to what extent, and in what manner to undertake an active investment strategy and then in the process of implementing any such decisions.***
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> ***If the extra costs and risks of an investment program are substantial, these added costs and risks must be justified by realistically evaluated return expectations. Accordingly, a decision to proceed with such a program involves judgments by the trustee that:***
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> ***a) gains from the course of action in question can reasonably be expected to compensate for its additional costs and risks;***
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> ***b) the course of action to be undertaken is reasonable in terms of its economic rationale and its role within the trust portfolio; and***
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> ***c) there is a credible basis for concluding that the trustee-or the manager of a particular activity-possesses or has access to the competence necessary to carry out the program and, when delegation is involved, that its terms and supervision are appropriate.***

(Restatement Sec. 227, comment h.)

And, as the Reporter's General Note on comment h observes,

> ***The greater the trustee's departure from one of the valid passive strategies, the greater is likely to be the burden of justification and also of continuous monitoring.***

The law, together with the science of investing, appears to create a strong presumption in favor of fiduciaries adopting passive strategies unless we can specifically overcome the presumption with convincing evidence.

That's all well and good in theory, but what does this mean for us in practice?

First, the notes and comments to the Prudent Investor Rule are overwhelmed with a discussion of MPT and starkly frames the primacy of passive investing for fiduciaries.

But more important: firms like Vanguard and Dimensional have proven that it works. And we should also note the proliferation of broad market index ETF's to support even the brokerage industry's migration toward this kind of investing.

In markets of publicly traded securities, as much as we would like to believe that human intervention can spare us from the requirement of being exposed to compensated risk to achieve the required rate of return—it just isn't possible.

And being human, neither investment committee members nor professional advisors are immune from the hazards of behavioral finance—prediction addiction, herd chasing, overconfidence, etc. These perils may even be magnified by our drive, talent and intelligence.

Plainly, prudence does not preclude the use of active strategies. Nevertheless, passive strategies are the "base case"--defined as the expected outcome from a very large sample of long run results—against which proposed alternatives must be measured. But the question for the member of an investment committee is not whether one believes, personally, in the potential efficacy of active strategies. Rather it is whether, with the evidence and tools at our disposal, we can rationally justify the adoption of a particular such strategy for the funds over which we have been entrusted.

Resources on Prudent Investing and Passive Asset Allocation

Restatement of the Law (3d) Trusts (Prudent Investor Rule) (American Law Institute 1992)

The Prudent Investor Act, A Guide to Understanding (W. Scott Simon, Namborn Publishing, 2002)

The New Fiduciary Standard (Tim Hatton, Bloomberg, 2005)

Prudent Practices for Investment Stewards (Fiduciary360, 2006)

Unconventional Success (David F. Swenson, Free Press 2005)

The Intelligent Asset Allocator (William Bernstein, McGraw Hill 2001)

The Four Pillars of Investing (William Bernstein, McGraw Hill 2002)

The Successful Investor Today (Larry Swedroe, St. Martin's Press 2003)

All About Asset Allocation (Richard A. Ferri, McGraw Hill 2006)

Asset Allocation (Roger Gibson, McGraw Hill 2000)

A Random Walk Down Wall Street (Burton G. Malkiel, Norton, 9th Ed. 2007)

Winning the Losers Game (Charles Ellis, McGraw Hill 2002)

Dimensional Fund Advisors, www.dfaus.com