PRUDENCE

PATRICK J. COLLINS

"…to be truly prudent trustees need to evaluate their own abilities."
Dominic J. Campisi

"…the market portfolio is not an efficient portfolio. It follows that there is no representative investor, because no investor wants to hold the market portfolio."
Harry M. Markowitz

This article begins with a brief recap of recent fiduciary surcharge cases in which defendant trustees, offering investment management services, were found to be in breach of their duties because of failure to establish a credible basis upon which to exercise investment discretion. This article also works through the question: "what constitutes a prudent decision making process?" — i.e., allows for the exercise of reasonable, (and defensible) trustee discretion. Its primary focus is on commercial fiduciaries providing discretionary asset management services to private trusts.

This article has two themes. First, prudence cannot be defined by any single, exclusive, pre-defined path of fiduciary conduct, nor can it be based

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on any unique formula, any *a priori* delineated procedures, checklists, or methods. The world of trusts and investments is too heterogeneous and too complex to accommodate simplistic black-and-white investment or administrative prescriptions. Unfortunately, however, there appears to be groups of self-appointed "prudence police" that insist on a strict adherence to certain pre-specified rules of procedure. This said, however, wealth stewardship requires a trustee to demonstrate skill, rather than to merely espouse good intentions at the expense of ignoring both how investment returns are generated and the risks of the trustee's return-generating strategies. Prudence, or its judicial counterpart — a credible basis for wealth management decision making — is, in large measure, a function of the trustee's skill set.

Second, commercial fiduciaries offering money management services have the duty to self-evaluate their skill sets — that is evaluate internal and proprietary processes and procedures with respect to investment selection and portfolio management strategies. Although there is a vast quantity of literature on the "request-for-proposal" [RFP] process through which a consumer, seeking asset management services, evaluates money managers as part of prudent investment delegation, this paper focuses on how fiduciaries, retaining the asset management function, evaluate the effectiveness and credibility of their own investment strategies. Although much advice literature suggests that prudent consumers of investment management services seek to develop RFPs that ask the money manager/respondent to characterize the organization's return-generating processes and investment philosophy, this essay suggests that the money management firm's self evaluation — internal quality control/performance evaluation — procedures are of equal or greater importance in determining the prudence of investment strategies and elections. Investment skill is defined as the ability to define and implement successful wealth management programs; self-evaluation is required to determine if the organization possess the requisite skill to pursue such strategies. Needless to say, if a money management organization is not in the habit of realistic self-evaluation, it is probably imprudent to do business with them.

Specifically, prudence requires an active, ongoing, and critical examination of the investment decision-making process to identify both its successful and unsuccessful aspects. In this respect, because self-assessment may be both difficult and unpleasant, prudence is a standard of competence as well

as a standard of conduct. Such a definition may have profound implications for commercial fiduciaries electing to pursue portfolio strategies the success of which rely not only on superior investment forecasting skills but also on abilities to complete successfully each of a series of complex steps in the design, implementation, monitoring and evaluation of the trust-owned investment portfolios under their stewardship.

This article develops the implications of the well-known principle of trust law that if a trustee represents that he or she has greater expertise than the average investor, the trustee is under a duty to exercise such expertise for the benefit of the trust. In large measure, it is the existence of such expertise that provides the foundation for the prudent exercise of investment discretion. With respect to commercial fiduciaries, it argues that failure to establish reasonable self-diagnostics reduces the asset management process merely to good intentions. Although intentions to pick good securities, create attractive investment returns, and provide generous income and/or growth for trust beneficiaries are laudable goals, it is incumbent upon the investment fiduciary to verify that it possesses the requisite skills and talents to operationalize its intentions through strategies that realistically increase the probability of achieving the intended outcomes. Intention, however, is not a portfolio construction principle; and failure to evaluate the methods and platforms underlying the trust's administration may be strong evidence of gross negligence. Similarly, continuing to pursue investment programs that fail reasonable evaluative tests may be strong evidence of bad faith. Thus, a crucial aspect of prudence is the trustee's self-evaluation of its abilities to discharge successfully the selected wealth management strategies.

A CREDIBLE BASIS FOR EXERCISING DISCRETION

The office of trustee requires asset administration that is legally defensible, academically sound, and administratively reasonable. By now, the books and articles written on the legal and regulatory environment shaped by the series of Uniform Acts (Prudent Investor, Principal & Income, Trust Code) flowing from the 1992 Restatement Third of Trusts could fill a small library. Likewise, investment-oriented articles debating the prudence of active management, the merits, and liabilities of index funds, the importance of asset

allocation relative to security selection, etc., continue to fill both legal and financial journals.

Not surprisingly, the revised fiduciary standards for prudent wealth management inform recent fiduciary breach litigation. Several New York cases, in particular, are noteworthy not only because of their substantial surcharge awards, but also because of the judicial reasoning underlying the courts' decisions. Specifically, the *Janes* case,[1] *Dumont* case,[2] *Saxton* case,[3] *Rowe* case,[4] and the *Liss v. Smith* ERISA case,[5] taken in the aggregate, suggest threshold standards of prudence for commercial fiduciaries. In the *Janes* case, for example, the court castigates the trustee for violating the court's "sense of reason and logic" by failure to provide:

1. Any evidence of appropriate procedure and
2. Any grounds for exercising discretion.

Trustee's investigation into critical wealth management options, and trustee use of substantive care, skill, and caution for asset management are not merely administrative "niceties;" but, rather, lie at the heart of prudent trust administration. Furthermore, the *Dumont* case finds that the lack of documentation in these areas is, itself, a breach of trust. Written investment policy evidencing the asset management guidelines specific to and appropriate for the purposes, terms, distribution requirements and other circumstances of the trust is, according to *Liss v. Smith*, a cornerstone of prudence. A Pennsylvania court[6] extends the need to formulate and implement investment policy by declaring: "even a trustee, who must act with gross negligence before he can be held accountable, must be able to explain how an investment strategy was developed for a specific trust and why that strategy was prudent under existing circumstances."

LITIGATION: COMPETING VIEWPOINTS REGARDING PRUDENT INVESTING

The incorporation of Modern Portfolio Theory into trust law led some commentators to conclude that "the time and effort expended on investment

analysis is wasted, that index funds are not merely satisfactory but superior investment vehicles and that the coming wave of lawsuits will be based on the failure of conventional investment analysis (the prudent man standard) to match the overall performance of the markets."[7] The great debate over market efficiency / active vs. passive investment approaches that currently rages in university business schools and economics departments threatens to spill over into both plaintiffs' expert witness reports and defendants' rebuttals. In both academic and legal publications one finds a range of arguments from claims that use of active investment management is unsound under principles of modern financial economics and, therefore, may be a *per se* breach of fiduciary responsibility, to claims that the "interior decorator" approach to investment management wherein the trustee selects a few good stocks tailored to the needs of the trust is, in the main, a satisfactory approach to wealth management.[8]

The claims of the first camp flow, in part, from empirical data suggesting the difficulty of beating the market through security selection or market timing efforts, and from mathematical approaches suggesting that, as the number of securities increases within the portfolio, risk is dominated by the correlation structure of the securities (the cross-product or co-variance terms) rather than by a security's risk/return characteristics evaluated in isolation. Suitability is determined from the portfolio context rather than from the individual investment context. Whereas a well-diversified portfolio mitigates unsystematic risk, it is a trustee's duty to avoid unique, unnecessary and, ultimately, uncompensated risk that characterizes portfolios holding only a few securities.[9]

The claims from the second camp rest on the belief that forming "focused" portfolios holding only a few securities allows trustees to customize trust assets to accomplish a variety of tax, income distribution, and other objectives either specified by the settlor within the trust instrument or required of the trustee to balance the competing needs of beneficiary classes. The focused (or, depending on one's viewpoint, truncated) portfolio approach tends to reject several cornerstone principles of modern portfolio theory[10] [MPT] as having any special relevance to modern trust management for a number of reasons including:

- The asset valuation models taught in many business schools (especially the Capital Asset Pricing Model or CAPM) rest on assumptions that are clearly invalid for private wealth management for taxable trusts seeking to fulfill heterogeneous grantor objectives and beneficiary needs (i.e., CAPM measures utility over a single-period planning horizon, for a non-taxable investor with unlimited capacity to borrow funds at the risk-free rate, operating in an environment where investors share homogeneous expectations on the market's expected return, variance and correlation structure, and where there are no investment costs);
- The performance evaluation metrics flowing from MPT (Jensen's Differential Alpha Measure, Sharpe's Reward to Risk Ratio based on standard deviation; Treynor's Reward to Risk Ratio based on Beta) rest on return distribution assumptions that may be invalid, or on regression analyses wherein the independent variables are benchmarks (such as the S&P 500 U.S. stock index) that may be wholly inappropriate for trustees charged with unique distributional as well as terminal wealth objectives;
- The parameters of early versions of CAPM and other asset valuation models (e.g., Beta as the sole measure of systematic risk in the single index CAPM model; asset price sensitivity to macro-economic variables in the Arbitrage Pricing Theory [APT] model; fundamental security attribute factors in the three and five-factor models developed by Fama and French) are ill defined, unstable over time, or difficult to measure at any specific point in time.

The second camp sometimes claims a "behavioral finance" view based on the assumption that markets are driven by limited or severely flawed investor rationality.[11] When operating in such an environment, the trustee must exercise judgment and discretion deriving from the wisdom and experience of market professionals. In the limit, some suggest that (1) the simplifying assumptions or lack of testability of asset pricing models (CAPM, APT, & Multi-factor models), (2) the uncertainty of their key parameters, and (3) the irrelevance of benchmark regression variables to the actual tasks confronted by trustees who must produce periodic distributions of cash with

safety and consistency and who most balance such distributional requirements against the need to provide inflation protection and reasonable asset growth across multiple time periods rather than at a single end point, makes the Restatement Third's alleged bias towards MPT singularly unfortunate.[12]

In general, the Plaintiffs' Bar embraces the arguments of the first camp because they provide:

- A convenient set of damage measures based on index total returns;
- A set of risk metrics against which the trust administration can be measured and evaluated; and,
- A framework of asset management which has academic credibility.

In general, the Defendants' Bar embraces the arguments of the second camp because they provide:

- A counter-argument to the assertion that there is a homogeneous set of proven academic principles that uniformly applies to all asset management activities;
- A justification for portfolios that are not mere replications of paper indices; and,
- A basis for traditional trust administrative practices based on market analysis, security valuation, and portfolio construction principles tailored not to match an abstract benchmark but rather to match real world liabilities (cash flow expectations and terminal wealth accumulation).

In general, the issue seems to boil down to complaints from trustee/defendants that it is unfair to hold them accountable to investment standards or to performance measures extracted directly from early formulations of purely normative investment selection theories and from the asset pricing models based on them. This is all the more true given that subsequent research in the field of financial economics has either called into question the assumptions underpinning the theories or has extended the theories in new and greatly modified directions.

IS MODERN PORTFOLIO THEORY PRUDENT?

Modern Portfolio Theory, according to recent commentators, "emphasizes that investors should hold efficient portfolios." That is to say, investors should hold portfolios that maximize expected return for any given level of expected risk.[13] Accordingly, MPT can "be viewed as a top-down passive approach to investing because an investor is only concerned with *portfolio choices*…rather than stock selection choices by company, industry, and even market sector." It is a short, but nevertheless *incorrect*, leap from the statement that MPT assumes a top-down passive investment approach in which security selection efforts are irrelevant or tragically misguided, to the argument that Restatement Third establishes indexing as either the default standard or preferred method for asset management.[14] The commentators cited above hasten to point out that one must "be careful to distinguish between top-down passive investing and top-down active investing. They point out that the goal of active investment management is to analyze the financial markets "…to identify those sectors and industries that will benefit the most on a relative basis from the anticipated economic forecast. Once the amount to be allocated to each sector and industry is made, the manager then looks for the individual stocks to include in the portfolio." For the top-down investor (the passive strategic asset allocator or the active tactical asset allocator) the focus is primarily on the macro-activity of asset allocation. The rationale for active top-down investment management is a function of the manager's ability to generate forecasts that facilitate the effectiveness of the investment process. The rationale for bottom-up investment management is the ability to identify underpriced securities. This is a function of the forecasting ability of the manager's investment valuation procedures. The common prerequisite for both portfolio management approaches is the ability to generate sufficiently accurate forecasts. This essay will argue that it is imprudent for a fiduciary to embark on active investment management programs without first verifying that it possesses either the requisite macro forecasting skills, or the acumen in building reliable security valuation models. This position comports with Restatement Third's admonition that trustees should "…adopt reasonable investment strategies of types that are appropriate to their skills."[15]

The answer to the question "Is MPT prudent for private trusts?" in large part depends on how one defines MPT.[16] If MPT is defined as the formation of portfolios derived from academic asset pricing models built during the period 1952 through the present, then one is left with a serious quandary: "The problem with the academic asset pricing theory is it takes the individual out of the decision process. Buy the market index and insure it with put options. As the individual's wealth changes, change the put position. Where is the individual's utility function? It has been assumed away in the asset-pricing model….In the real world, investors have portfolio insurance premiums, different time horizons, different wealth levels, different goals, different tax situations, and most importantly, multiple goals. The "one size fits all" approach from the academic world is not any more useful to a practitioner than the academic approach that attempts to determine one utility function for a person to maximize."[17] As practitioners have observed: "the universe of private investors is heterogeneous, burdened by taxes, and often less well suited to the simplifying assumptions of modern financial theory."[18] Likewise, if one defines MPT as demanding a strict adherence to index construction principles, one may be left with an admittedly sub-optimal portfolio: "Indices are intended to be tools to measure performance, not rules for managing portfolios."[19] However, if one defines MPT, as does Nobel Prize winner Robert Merton, as a process to analyze portfolio choices based on the efficient use of risk,[20] then the trustee finds himself closer to the demands of prudence demanded in the recent series of fiduciary litigation decisions.

Modern principles of trust law require trustees to utilize the requisite amount of care, skill and caution with respect to:

1. The portfolio composition problem: what strategic asset allocations enhance the likelihood that the trust's distributional/accumulation objectives can be met;
2. The portfolio selection problem: what securities, when considered in combination, offer an attractive tradeoff between risk and return while, simultaneously addressing the (sometimes competing) needs of trust beneficiaries and the preferences and constraints of the trust settlor;

3. The portfolio implementation problem: the determination that investing takes place on trading and administrative platforms that do not incur unreasonable or inappropriate fees, expenses, costs, and other portfolio frictions; and,
4. The portfolio performance evaluation problem: measuring progress towards a trust's unique economic goals rather than towards return maximization or benchmark matching.

There are many examples of customized portfolios that may be prudent under the standards of fiduciary asset management and academically sound under the principles of MPT. Several examples come to mind. The multi-factor MPT models, developed by academic research extending and modifying William Sharpe's single index CAPM equilibrium model, comfortably co-exist with prudently constructed trust portfolios which deviate from index weightings because of a need to include a "yield-tilt" factor for current beneficiaries. MPT's Consumption Capital Asset Pricing Model may comfortably co-exist with a trustee's decision to tilt the portfolio towards fixed income or tax-favored investments to secure greater after-tax spendable income.[21] As both MPT and Restatement Third acknowledge, no investment or investment strategy is *per se* imprudent; hence, there is no academic or legal requirement that a prudent trust portfolio correspond to the single-index domestic or global capital market levered up or down to reflect investor risk tolerance.[22]

TOWARD A DEFINITION OF PRUDENCE

On a preliminary basis, prudence is a credible process to enhance the probability of a successful financial outcome at a level of risk appropriate for the purposes, terms, distribution requirements and other circumstances of the trust. Bevis Longstreth articulated the concept of prudence as a *process* as opposed to *a result* in his influential 1986 commentary:[23]

> "…prudence is a test of conduct and not performance….Prudence should be measured principally by the process through which invest-

ment strategies and tactics are developed, adopted, implemented, and monitored. Prudence is demonstrated by the process through which risk is managed rather than by the labeling of specific investment risks as either prudent or imprudent."

If, however, the fiduciary elects to emphasize "process" while concurrently failing to give due emphasis to a "test of conduct" (a critical self-evaluation of skills) this may have the unfortunate result of relegating prudence to a byproduct of mere formalism — i.e., a process without substantive content. Fortunately, Longstreth did not make this mistake: "…the test of prudence is the care, diligence, and skill demonstrated by the fiduciary in considering all relevant factors bearing on an investment decision. Among the relevant factors to be considered are…the competence of the fiduciary or the delegates selected by him to employ the product or technique."[24] Throughout Restatement Third, the phrase "required degree of care, skill, and caution" becomes a defining expression for prudence.

Conversely, the famous two-minute Reg. 9 review of portfolios consisting of stocks picked from a list of recommended investment "strong buys" may certainly qualify as an easily documentable process. Whether it also qualifies as an appropriate procedure evidencing the trustee's care, skill, and caution is an entirely different question. If the process is to enhance the probability of a successful financial outcome, it must reflect a test of conduct where conduct can be defined in terms of the methods by which a fiduciary determines that its investment strategies and elections are well suited to the trust. This, of course, brings us directly back to the Scheidmantel decision in which the court opined that the trustee "must be able to explain how an investment strategy was developed for a specific trust and why that strategy was prudent under existing circumstances." The judicial decision brings us closer to a standard of prudence that reflects both a standard of competence as well as a standard of conduct. The Longstreth definition strongly suggests the importance of a standard of competence; and it would be difficult to argue that phraseology suggesting that prudence is demonstrated by the process through which strategies are developed, portfolios are implemented and monitored, and risk is managed does not implicitly assume trustee expertise in these areas.[25]

It is only the rare case where the trustee is hired to "beat the market" (the goal of active investing) or even to "match the market" (the goal of passive investing). These are performance metrics that are largely irrelevant to the task of providing sufficient funds to satisfy the legitimate needs and expectations of the settlor and the trust's beneficiaries; and, in the world of trust investing, the ongoing battle between active and passive investment strategy advocates may also be largely irrelevant. What is relevant, however, is whether the trustee is meeting the goals of the settlor and needs of the beneficiaries. The determination of whether portfolio composition matches investor needs is easy to see in the context of defined benefit pension plan asset management where a bond portfolio's duration risks may not match the pension plan's cash flow liabilities.[26] Duration (a measure of interest rate risk) is, however, comparable either to Beta (measure of market risk derived from the CAPM single-index model developed by Sharpe and others) or to multiple betas (measures of economic or accounting risks for factor loadings in multi-factor models).[27] Failure to align portfolio risk with investor requirements is a serious flaw in portfolio management because it creates a "risk-gap." In the case of a defined benefit pension, a risk gap may require the corporate sponsor to make larger than expected plan contributions (sometimes, as in the case of United Airlines, at the risk of its own continued survival absent the intervention of the bankruptcy court); in the case of an insurance company, a risk gap may drive it into insolvency, or, in the case of a family trust, a risk gap may jeopardize the funds necessary to discharge reasonable trust objectives.

In the private trust context, risk arises from the need to match a finite amount of capital resources, invested in risky assets under conditions of uncertainty, to liabilities which are themselves often difficult to quantify (e.g., the need for lifetime inflation-adjusted income depends on several stochastic variables including the force of mortality and the magnitude of future inflation). Invasion of trust principal, even under ascertainable standards language, requires the trustee to exercise discretion with care and thought.[28] It is immediately clear that risk control in an asset/liability matching wealth management environment, requires the trustee to do something more than pick good stocks, or to pick stocks according to a label ("safe, "growth," "undervalued," "strong buys," etc.). This is wealth man-

agement from the asset side of the balance sheet only and, no matter how well intentioned, it is a strategy that is likely to create a risk gap. Any process focused primarily on finding securities, the intrinsic value of which is greater than their current market price, is a process focused primarily on investment return forecasts. Such a focus may or may not be prudent (depending, in part, on the ability of the fiduciary to identify such securities and to purchase them on a profitable basis); however, if the fiduciary builds portfolios based merely on the security valuation process it will almost certainly have failed to determine the prudence of the aggregate portfolio to the purposes, terms, distribution requirements and other circumstances of the trust. This is one of several critical distinctions between a money management firm seeking only to win a rate-of-return investment horse race and a prudent steward of wealth operating with a defensible and appropriate level of conservatism in its trust administration.[29] Likewise, a passive investment approach may prove equally imprudent if the trustee neglects to calibrate portfolio risk to the trust's economic liabilities. Replication of benchmark index returns may be a goal of the investment management firm, but is not likely to be the goal of the trust.[30] Indexing of investment positions cannot be a default or "safe harbor" because there is no guarantee that the risk/return characteristics of the index (or even an aggregate portfolio with customized weightings of various indexed investments) match the needs of the trust: "…the course of action and the overall strategy of which it is a part must be suitable to the particular trust in light of its objectives, risk tolerance, liquidity requirements, and other circumstances."[31] Passive investment is every bit as imprudent as active investment when the fiduciary ceases to think.

It is noteworthy, however, that the discussion of prudence ("appropriate procedure" and "grounds for exercising discretion") remains comfortably within the risk/reward portfolio choice perspective that lies at the core of MPT. In this context, prudence means that a trustee's exercise of discretion should be based on knowledge of critical quantitative methods of portfolio management — the measurement and management of risk. The trustee's solutions to the problems of portfolio composition, selection, implementation and monitoring should reflect both a concern to uphold the fundamental duty of loyalty (avoid inappropriate portfolio costs and compensation arrangements that benefit primarily the commercial fiduciary), and to

acquire and employ skill sets allowing the trustee's money management organization (or, in the event of investment delegation, the delegated agent's or advisor's organization), to manage wealth on both sides of the balance sheet. If, for example, the settlor creates a liability by establishing a trust objective to pay his or her grandchildren's college expenses, it is reasonable to expect the trustee to quantify the amount needed, the time available to invest, the amount of investable capital earmarked to this task, the required return, and the appropriate level of risk — i.e., establish prudent investment policy.[32] These tasks should have little or nothing to do with a trust officer's compensation package that provides a bonus for beating the S&P 500, or with a trust department's marketing goals based on a hope of achieving better than average rates of investment return so that it may attract future customers. The non-satiation principle (more money is always better than less) does not work in such a context because, at the limit, the quest for maximizing returns carries a high risk of failure.

It is also noteworthy that Restatement Third's black letter language in §227 also comports with MPT when it is defined not in terms of the assumptions underlying classical asset pricing model building, but rather in terms of a rational portfolio construction and management process in which investment goals are quantified, strategies appropriate to goals and constraints are developed, portfolios are designed and implemented on low-cost administrative and trading platforms, performance is evaluated, and progress is monitored. The determinates of prudence in Restatement Third are not a function of the fiduciary's adherence to any set of pre-specified hypothetical economic doctrines whether originating from the University of Chicago's department of economics or from MIT's financial engineering labs. Likewise, Restatement Third fails to proscribe active management in favor of indexed or passive investment approaches. Rather, it requires the fiduciary to be prudent — that is to say, not to undertake a course of action without determining (and documenting) that the course has a reasonable probability of success and that the fiduciary has the required skill sets to execute it successfully. In the words of Dom Campisi: "…to be truly prudent trustees need to evaluate their own abilities…."[33] How trustees evaluate their own abilities is a critical, but often neglected, topic.

ACTIVE VERSUS PASSIVE APPROACHES

It is important to distinguish between the active investment process (market forecasting, security selection, etc.) and the active portfolio management process (asset allocation, rebalancing and tax mitigation decisions, monitoring against objective benchmarks or customized liability benchmarks, etc.). Portfolio management, when pursued by commercial fiduciaries, should be active lest the trustee be surcharged for a not-so-benign neglect. That is to say, even passively invested (indexed) portfolios should be actively managed to meet the needs of the beneficiaries.

Furthermore, there is no such thing as purely passive investing. Even index funds must employ active cash management strategies, must develop strategies to confront liquidity issues such as insufficient float, must deploy trading strategies to mitigate costs upon index reconstitutions, corporate mergers and acquisitions, and so forth. Passively managed investment products exist on a spectrum ranging from full replication indexes, to quantitatively screened investment universes, to "enhanced" index funds that combine various value-added strategies focusing on combinations of fixed income and derivative instruments, fundamental indexing, volatility capture strategies, and so forth. It is readily apparent that a bright line between passive management and active management does not exist.[34] Although the fiduciary will want to weigh carefully the merits and disadvantages of either investment approach, some arguments (e.g., the argument that only index funds are prudent because they maximally reduce unsystematic risk; or the argument that index funds are inherently imprudent because they force investors to overweight securities with high current market values) surrounding the active v. passive management debate often border on dogmatism rather than serious investment analysis.[35]

Although the Reporter's comments in Restatement Third advances the proposition that a trustee has "…a duty to use reasonable care and skill in an effort to minimize or at least reduce diversifiable risks," it does not proscribe active investment management. Using phraseology that is close to an endorsement of the efficient market hypothesis, the reporter asserts: "Because market pricing cannot be expected to recognize and reward a particular investor's failure to diversify, a trustee's acceptance of this type of risk

cannot, *without more*, be justified on grounds of enhancing expected return." [Comment e. General requirement of caution. Emphasis added].[36] In many respects, the subject of this paper is the exploration of the meaning of "without more." What makes investment decision making prudent? How can the commercial fiduciary establish a credible basis for the exercise of investment discretion? One possible justification for eschewing broadly diversified investment portfolios, according to Restatement Third's reporter, may lie in the "specialized investment capabilities of or available to the trustee."[37] It is not sufficient, however, to claim such capabilities merely because the commercial fiduciary has a long history of business operation or because it employs analysts and account managers with many initials following their name. Fortunately, however, investment skill is identifiable; and the implementation of focused investment portfolios may be prudent if "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…."[38] Prudence is a *test* of conduct. Before engaging in the conduct of designing and implementing a focused portfolio, the fiduciary should verify the presence of sufficient skill. *Skill is the prelude to prudence.*

THE OPPORTUNITY SET, FORECASTING SKILL, AND THE FUNDAMENTAL LAW OF ACTIVE MANAGEMENT

One reason why the active/focused portfolio versus passive/broadly diversified portfolio investment decision requires careful thought lies in the recent court decisions surcharging fiduciaries for failure to administer trust-owned assets prudently. The surcharge awards often occur in cases that allege a failure to diversify adequately the trust portfolio. Therefore, it is instructive to discuss circumstances under which it would *not be prudent* to diversify. The evolution of this discussion occurs within a MPT context; but does not require an *a priori* signoff on any academic theory concerning efficient markets or asset pricing methodologies.

Investment portfolios are designed and implemented under conditions of uncertainty. No one can know how future events will unfold; or whether such events will have a positive or negative influence on future portfolio returns.

This is, for example, why the Uniform Prudent Investor act specifies: "compliance with the prudent investor rule is determined in light of the facts and circumstances existing at the time of a trustee's decision or action and not by hindsight."[39] This means that a plaintiff cannot simply look back in time and decide to initiate legal action against the trustee simply because, in retrospect, the investment return is poor. The impossibility of predicting future events is why modern standards of prudent asset management require portfolios to be designed according to a prudent decision making *process*. At the heart of this process is the consideration of risk. Uncertainty that is not quantified puts the investor into a cloud of uncertainty that may paralyze the ability to make good decisions. Risk that is measured and understood, however, becomes a critical tool for portfolio design and management.

Modern principles of asset management do not require the fiduciary to be *right*; nor do they require the fiduciary to conform to a particular school of academic thought; rather, they require the fiduciary to be *prudent*. That is to say, the portfolio should not be managed exclusively towards return (which is a future random variable outside of any investor's control) but should be managed by aligning portfolio risk with investor objectives so that the investor has the expectation (not the guarantee) that the portfolio will generate a successful outcome over the relevant planning horizon. This means that the fiduciary must also have a clear idea of *the required return* — the return on assets required to discharge the liabilities created by the settlor. It is easy to see the mistake of constructing a portfolio at a risk level that precludes the possibility of earning a return sufficient to discharge the legitimate expectations of the client. In today's investment climate, for example, it is highly unlikely that an all short-term U.S. treasury portfolio would be well suited to objectives that require a 10 percent annual return. However, a similar mistake occurs if the portfolio manager voluntarily incurs more risk than necessary by seeking returns substantially higher than the required return. All else equal, the greater the risk, the greater is the dispersion of possible results.[40] A critical component of "care skill and caution" is the mandate to consider consciously investment risk *before* implementation of any investment strategies or transactions. Common asset management techniques for risk control and for calibration of the portfolio to the risk/return preferences of the investor are (1) asset allocation, and (2) diversification.

Absent special considerations (e.g., illiquid or low-basis assets) or client preferences (e.g., directive to retain shares of a closely-held family business), under what circumstances might it be reasonable to reject portfolio diversification in favor of asset concentration? To formulate an answer to this question, it is first necessary to recognize that, absent complete portfolio diversification, a decision to buy or sell asset A is, concurrently, also a decision not to buy or sell asset B. In the limit, a portfolio manager selecting only a few stocks must also demonstrate that, at the time the selection (or, upon review, the retention) decision is made, the security is not only "good," but is superior to the other "non-selected" securities remaining in the opportunity set. For example, many trust departments concentrate on a universe of several hundred U.S. large company stocks from which they form portfolios consisting of securities issued by 20 to 60 companies. Economists define the opportunity set as the set of securities that are available for purchase or sale by the portfolio manager.[41] In general, institutional money managers form portfolios from asset classes[42] representing one or more of the following capital markets:[43]

Large Company U.S. stocks
Mid-Cap U.S. stocks
Small-Cap U.S. stocks
Micro-Cap U.S. stocks
U.S. Securitized Real Estate
Foreign Large Company stocks
Foreign Small-Cap stocks
U.S. Short Term Bonds
U.S. Intermediate Term Bonds
U.S. Long-Term Bonds
International Bonds

How large is this global opportunity set? In a diversified model portfolio comprised of indexed investments replicating the above-listed asset classes, the number of securities commonly utilized by institutional investors is approximately 20,959.[44]

If an investor has zero forecasting ability (i.e. has no confidence whatso-

ever that he or she is able to forecast future security price changes and income yields), the prudent portfolio selection decision is to diversify completely. Market-based returns are readily available at low cost through a variety of investment vehicles including indexed investment programs. Any deviation from broad-scope diversification subjects the portfolio to the chance that selected securities will do less well than omitted securities.[45] If an investor has macro-economic forecasting ability,[46] he or she may wish to concentrate the investment position by overweighting a particular capital market.[47] For example, the investor may wish to overweight the S&P 500 U.S. stock index if the forecast indicates economic conditions particularly favorable for U.S. large company stocks relative to, say, U. S. bonds. The point to note is that, as confidence in one's forecasting abilities increases, the prudence of limiting the opportunity set also increases.[48] Confidence, however, cannot be based merely on conviction about a subjective belief or on the strength of a marketing intention. One can believe with 100 percent confidence that there is a UFO base on the dark side of the moon; or, one can fully intend to live up to marketing claims regarding superior investment performance. Prudent asset management, however, requires that the investment fiduciary possess a level of skill sufficient to justify both the marketing claims and the extra costs and risks attendant with portfolio asset concentration. One can label this requirement as a demand to adhere to the tenets of MPT, or one can simply acknowledge that undertaking a task without possessing the requisite skills is strong evidence of imprudence.

Many trust officers create focused portfolios by selecting undervalued securities on the institution's "approved list." Such a portfolio construction method is primarily judgmental; and often offers an ad hoc view of investing that blends the trust officer's preferences with the institution's investment selection approach. Securities are selected primarily on the basis of qualitative forecasts based on careful analysis of the attributes of corporate financial instruments as well as evaluation of various market and macro-economic indicators. The analysis yields a directional forecast: "stocks are expected to outperform bonds during the forthcoming period," and, depending on the organization's confidence in their analysis, the portfolio is typically overweighted in securities reflecting a bullish outlook. The problems with such an approach are well known. Such a portfolio, if not carefully designed,

magnifies the risk of tracking error vis-à-vis well known indexes such as the S&P 500 stock index; and, therefore, may increase the trustee's litigation risk from disgruntled beneficiaries. Even if the trust investment officer is constrained by portfolio construction rules requiring a minimum number of stocks or a minimum amount of sector exposures, there is no guarantee that the proportional weighting of assets reflects a consistent set of macro-economic viewpoints. The manager selecting 20 stocks from an approved list may create a suboptimal portfolio that subjects the trust to nasty, albeit, unintended risks by incorporating hidden bets the extent of which depend on stock interactions as opposed to isolated valuation opinions.[49]

Fortunately, there are a number of straightforward statistical tests that measure a fiduciary's forecasting ability. These tests represent a set of diagnostics that the prudent fiduciary uses to determine whether proprietary investment strategies are likely to add or subtract value for their clients. Employing investment strategies leading to extreme levels of asset concentration, without performing appropriate diagnostics within the money management organization, however, may be evidence of imprudent trust administration. Such conduct puts the organization's interest in collecting fees above the clients' interest in achieving successful financial outcomes. In most respects, acting in the capacity of investment advisor or money manager without prudent diagnostics and internal controls is no different than selling medications without sufficient research and testing and without sufficient quality control in the manufacturing and distribution of the pharmaceutical product.[50]

Institutional investment managers employ internal diagnostics not only to measure the forecasting ability of their organizations, but also to evaluate staff and determine compensation. For example, a security analyst's compensation may, in part, be based on measures of dispersion in a variety of forecast metrics such as earnings-per-share or target vs. realized share price.[51] An especially important set of statistical diagnostics is the measurement of forecast errors. These may include (1) standardized forecast error measurement (to determine if good results are statistically significant at a reasonable confidence level); (2) information ratio measurement (the return added to or subtracted from the asset class benchmark divided by the amount of risk assumed by deviating from the benchmark); or (3) the information coefficient (the correlation struc-

ture of forecasted return and realized return).[52] The information ratio is an interesting statistic because it measures the amount of excess return relative to the amount by which the portfolio manager limited his or her selections from the full set of opportunities in the benchmark index.[53] A technical decomposition of the information ratio is as follows:[54]

$$\text{Information Ratio} = \text{Information Coefficient} \times (\text{number of securities})^{1/2}$$

This is a critical piece of information because the term on the right-hand side (the square-root of the number of securities) explicitly recognizes the relationship between forecasting ability and the number of securities that should be held within a prudent portfolio. If a portfolio manager has perfect forecasting ability (a prophet), diversification would be a stupid and wasteful use of client money. He or she would simply own the single security that over the forthcoming planning horizon would generate the greatest return.[55] If a portfolio manager has forecasting ability that is less than perfect, the optimal number of securities that should be held within the portfolio exists on a spectrum that extends from only a few securities to a large number of stocks. As the forecasting ability approaches 50/50, the portfolio's composition should approach the fully diversified index or customized asset benchmark that aligns with the liabilities to be discharged from the trust corpus. Managers who market time by overweighting or underweighting sectors must have exceptionally high levels of forecasting skill because their portfolios tend only to own a few stocks concentrated in a few industries. However, prudence is not measured by adherence to a philosophy of passive investment management or a commitment to active investment management, but rather by a practical real-world measure of investment skill.[56] Confirmation of skill is a necessary prelude to prudent active management.

PRELIMINARY TESTS FOR INVESTMENT SKILL

Prudent asset management requires a skill set, not a set of good intentions. A commercial fiduciary's internal diagnostics or self-evaluation procedures are proprietary information and will generally not be available prior

to the initiation of litigation discovery. However, without data derived from well-specified internal diagnostic systems, it is difficult to determine the prudence of portfolios that drastically limit the number of securities selected from the available opportunity set. This is a primary reason why the prudent fiduciary takes care to evaluate its money management processes and to document the results of such evaluations.

How might the outside observer lacking direct information of the commercial fiduciary's internal diagnostics form an opinion regarding the prudence of a fiduciary's portfolio selection and implementation processes? One way to obtain some intuitive understanding of a trustee's forecasting ability is to conduct a test with explanatory power in the face of incomplete information. This "back-of-the-envelope" measure of forecasting skill involves a comparison between two portfolios at two different moments in time.[57] The following example, based on a Colorado case alleging fiduciary breach against a commercial fiduciary,[58] provides insight into this type of performance evaluation. The example compares a 19 stock equity portfolio owned by the trust on January 1, 1997 with a 12 stock equity portfolio dated one year later. The portfolio's final 12 equity positions are:

Amoco
Boca Research
Boeing
Cisco Systems
Crown Cork & Seal
Ford Motor
IBM
Johnson & Johnson
J P Morgan
PepsiCo
Security First Network Bank
United Companies Financial

Listed in the tables below are the stocks that left the portfolio during 1997 (the "sold portfolio") and the stocks that entered the portfolio during 1997 (the "bought portfolio"). Of course, the snapshots do not reveal inter-

im trade dynamics; but they provide some indication as to the fiduciary's security selection skill.

The sold portfolio's securities generated the following returns during the period under evaluation:

AT&T	53.19%
Texaco	14.41%
Fleet Financial	55.15%
Atlantic Richfield	25.75%
Hewlett-Packard	25.25%
Mobil	21.77%
Rubbermaid	13.26%
Sundstrand	19.74%
Electronic Data Systems	3.13%
Sara Lee	54.21%

By contrast, the bought portfolio's securities generated the following returns during the period:

Cisco Systems	31.43%
Boeing	-7.10%
Security First Network Bank	-29.27%

Absent further inquiry, it appears that the trustee reduced the number of securities in the portfolio during a period when its forecasting ability was ques-

tionable. If this allegation is correct, it is a good example of asset management based on a treasure-hunting model where bets are further concentrated in order to chase returns. This wealth-seeking behavior is found in Las Vegas where gamblers "double-down" in the often-futile expectation that their strategies will be rewarded. There is a fiduciary duty (upheld in a variety of court decisions where the fiduciary failed to take appropriate action in the face of patently poor performance) to abandon asset management approaches that do not work.[59] It is difficult to imagine a set of circumstances that would allow the fiduciary to defend successfully the prudence of its investment activities when such activities are based solely on the treasure-hunting model and when wealth management is conducted solely on the asset side of the balance sheet.[60]

The bought/sold portfolio comparison provides the outside evaluator with some insight into the fiduciary's investment skill. Of equal importance, however, it illustrates how even simple and straightforward monitoring of buy/sell decisions by a commercial fiduciary can indicate whether an investment approach is, in fact, adding value for its wealth management and trust clients. Such tests are approximations to precise statistical tracking of investment skill. At least one major mutual fund, for example, tracks each portfolio manager's buy/sell investment decisions (as well as the trading costs required to implement the decisions) in real time over various evaluation periods to determine the extent to which investment decisions add or subtract value. It is not enough, for compensation bonus purposes, for the portfolio manager to demonstrate that his or her portfolio was profitable; rather, the relevant question is whether their investment decisions added value over a naive "no-change" model.

A second example of a "holdings-based" test sometimes used by both outside observers and internal investment supervisors is an attribution analysis.[61] Attribution analysis provides insights into the market timing and security selection abilities of the investment manager. It tests the managed portfolio against a comparable passive benchmark portfolio to determine the value added or subtracted by the manager's tactical allocation and stock-picking decisions. An attribution analysis may be done on a macro "asset class" level by considering only the decisions to change allocations between cash, fixed income and equities, or at a more detailed level by considering allocations within each asset class (changing weightings between investment

grade bonds and high-yield bonds, between U.S. stocks and foreign stocks, and so forth).[62] The goals of the analysis, however, are to provide data for evaluation of one or both of the following portfolio management elements:

1. the decision to allocate funds between investment markets [market timing]; and,
2. the security selection decisions within each market.

The comparable benchmark portfolio must, by definition, consist of passively managed investments such as indexes. Indexed portfolios screen out the "noise" that enters into averaged performance figures of the aggregate universe of active managers each of whom are making bets on specific securities or strategies. In counterpoint, indexed benchmarks can be considered to be neutral with respect to their security selection decisions. Additionally, an indexed benchmark holding a constant ratio of cash to fixed income to equity can be said to be neutral with respect to its asset allocation across asset classes. Presumably, the manager will make a series of ongoing changes in his or her asset mix in order to capture returns generated from being in the right market at the right time or in order to capture returns from being in the right stocks at the right time.

Given the availability of a comparative benchmark, the economic consequences of the shifts made by the active manager can be measured. On a period-by-period basis, the performance evaluator subtracts the return earned by the benchmark portfolio from the return earned by each of the specific asset classes, industries, or sectors within the portfolio. Superior performance relative to the benchmark portfolio is achieved when the portfolio manager overweights investments in asset classes or industries that perform better than the composite return of the benchmark. That is to say, the manager shifts funds to investment markets that perform well and underweights markets that perform poorly.

To determine the contribution of management's security selection decisions to the success of a portfolio, the evaluator determines the period-by-period difference between the actual performances of the portfolio's investment positions with the performance of benchmarked positions at the same allocation weighting.[63] Superior performance within a given market segment

is achieved when, for example, the portfolio manager's commitment to U.S. mid cap stocks does better than the comparative fully-diversified mid-cap index. A detailed attribution analysis may reveal managerial skill in certain market segments and an absence of skill in others. Presumably the prudent fiduciary would index those areas in which it fails to add value and continue active management in the remaining areas.[64]

In a recently settled fiduciary breach action in the state of Texas (subject to confidentiality restrictions), discovery revealed that the defendant trust company performed an internal attribution analysis to facilitate compensation and promotional policies for its employees. The trust company allowed the trust officer to form portfolios by selecting individual securities from an "approved list" with the constraint that no single security could constitute more than 5 percent of the portfolio.[65] Although no formal analysis beyond this naive diversification test was performed at the portfolio level, the defendant trustee argued that the portfolio was prudent because the organization employed skilled analysts, using disciplined investment methods, and proven proprietary valuation models, to identify exceptionally promising securities well suited to a trust portfolio. However, the organization used an attribution analysis for employee compensation and for stock selection evaluation. The attribution analysis focused on primarily on security selection; and the case settled quickly when plaintiff discovered that the attribution tests recorded significant and persistent negative performance numbers. The prudent fiduciary has an obligation to evaluate what it is doing; and has an obligation to modify or cease doing those things that do not work.[66]

Following substantial investment losses, a California case, also bound by confidentiality agreements, alleges a breach of fiduciary duty with respect to investment of trust assets against a large "blue-chip" trust company. Plaintiff alleged that the commercial fiduciary presented educational material showing the historical results of globally balanced and diversified portfolios implemented with various ratios of stocks to bonds wherein each stock and bond position was proxied by a broadly diversified index. A well-known manufacturer of investment data and communications materials developed the educational material. Based on the presentation, which included information on the historical "best" and "worst" investment years for model portfolios at various risk levels, the client selected a portfolio reflecting a moder-

ately high tolerance for risk relative to the other illustrated portfolios. However, portfolio implementation resulted in a trust-owned portfolio of approximately 25 to 30 U.S. large company stocks. Discovery further revealed that the trust company compensated the trust account manager by means of a bonus formula one component of which included monetary incentives to beat the S&P 500 stock index by selecting stocks from an "approved company" list. The trust company followed a universe of approximately 300 stocks (as opposed to the universe of thousands of stocks and bonds illustrated in the educational material) from which it only approved approximately 100 for inclusion in trust portfolios. The case settled with the defense claiming that its process was prudent and "disciplined."

It is worth spending a few moments to consider the marketing of "a disciplined" investment philosophy by many commercial fiduciaries. Goldman Sachs' Abby Joseph Cohen notes: "…discipline sometimes does not give the right answer. It just gives a formulaic answer and can intensify the consequences of an incorrect answer."[67] There is a critical difference between being a disciplined investor (i.e. staying the course, not making common mistakes, etc.) and being a professional investment firm capable of adding value to a benchmark. Although the two propositions sound similar, the first claim merely suggests that the organization will not blunder as badly as amateur investors; the second that the organization possesses unique advantages that enable it to outperform its professional competitors.[68]

Thus, the essential question is: what makes the fiduciary believe that its "disciplined" approach can create excess profits (profits beyond those reasonable for the risk to which it exposes the trust's wealth)? The question is critical because without a verifiable answer, the fiduciary should have no expectation that its trades will be profitable (at least not for its clients). Organizations that do not, in fact, possess true competitive advantages that allow them to generate excess profits (i.e., add value for their clients) tend to emphasize qualities like "discipline," "personal service," "enthusiasm for meeting organizational goals," and so forth in their sales and client communications materials. It is not enough, in a highly competitive market, merely to advance reasons why an investment strategy should work. One must also be clear on why and how other institutional trading organizations will lose when faced with your organization's resources and skills.[69]

DIVERSIFICATION REVISITED

As previously stated, if it were possible to predict future security returns with perfect accuracy, there would be no need to control risk through diversification — you would just pick the best stocks. Absent perfect foresight, however, investment risk can be managed through diversification.[70] Prudent portfolios may be defined as rationally diversified portfolios wherein the extent of diversification is a function of the fiduciary's internal self-evaluation process confirming its ability to generate accurate inputs, build robust valuation models, achieve reasonably precise macro-economic forecasts (for top-down management organizations) or security price change forecasts (for bottom-up management organizations), and its ability to preserve investment insight values after trading and tax costs.[71] Portfolios operating under a "treasure-hunting" model are portfolios based primarily on market prognostications as opposed to principles of rational portfolio composition. For the litigator, understanding the difference between the two models is of great importance. Absent specific instructions within the trust instrument, a prudent portfolio may hold only a few stocks provided that it is tailored specifically to meet the objectives of the trust (i.e., there is a written investment policy quantifying the trust's required return, acceptable risk parameters, investment constraints, allocation targets, and so forth), and provided that the fiduciary has a justifiable reason to be confident in its portfolio construction and security selection skills. The danger of the focused portfolio lies, in part, on the sometimes thin line between a well-considered aggregation of securities designed to discharge specific income and wealth accumulation objectives, and an ill-considered aggregation of securities built from screening the investment universe for stocks that, in the manager's opinion, are mispriced or undervalued, and, therefore, offer the opportunity for above average appreciation during the forthcoming period. Although everyone enjoys market-beating returns, beating the market may not be the same as prudent stewardship of wealth.[72] The treasure-hunting model attempts to solve the portfolio selection problem by buying a group of securities that the manager believes offer the best odds of maximizing return over the forthcoming period.[73] Securities appearing on the "recommended" list for use in trust portfolios do not appear by virtue of their appropriateness to the trust

estate; but, rather, because the money management organization considers them to be a good buy — a bargain. Portfolios formed on the treasure-hunting model invite fiduciary surcharge litigation.

The academic arguments against poorly diversified portfolios are well known. Attempts to employ proprietary valuation methods in order to find "good," or "safe," or "growth," or (insert your label here) stocks is a process that is likely to result in a suboptimal portfolio. The selection process itself truncates the market and gathers stocks that share certain common characteristics that the manager (either following macro-economic forecasting, discounted cash flow calculations, relative value measures, comparative advantage / franchise value approaches, option pricing models, etc.) deems desirable. Although it is the assembling of securities with common characteristics that leads to portfolios of "good" stocks, these portfolios can be very risky. A portfolio of 50 securities, each of which is selected after screening according to certain pre-specified criteria, may not be too different than a portfolio of only three or four securities. Statistically, the portfolio is not diversified because it does not represent 50 independent trials (uncorrelated return vectors). Rather, the screening / security evaluation process may create a portfolio in which each and every stock acts in lockstep — either all doing well at the same time (the hoped-for result) or all falling as fast as Enron, WorldCom, Global Crossing and other "good" stocks.

HOW MANY STOCKS ARE ENOUGH?

The answer to this question lies, in part, on the level of confidence provided by the fiduciary's internal self-assessment process. The answer also lies in the nature of the engagement. If the terms of the trust encourage the fiduciary to speculate, or to "beat the market" (whether one chooses to define the market narrowly with, for example, an S&P 500 U.S. stock index proxy, or broadly with a Morgan Stanley Capital International world market index proxy), with little or no concern for risk, then such an engagement might support a strategy of owning concentrated investment positions. Portfolios constructed on the prudence model do not merely bundle together stocks of blue chip companies (firms exhibiting strong current and historical financial statements and favorable accounting ratios). Rather, opti-

mal portfolios combine securities (the number of which is, in part, a function of the confidence levels revealed by the fiduciary's internal diagnostics) with differing economic characteristics as measured by their volatility and tendency to move either in tandem or separately from each other.[74] Investors who seek only to maximize returns (i.e. those who do not care about risk) will, in the limit, put all of their money in the single most promising security or sector. Investors who are concerned about risk, however, will employ an asset management strategy based on a prudent level of diversification.

In one MPT sense of the term, diversification does not mean owning many investments. Rather, it refers to eliminating non-market risk.[75] A statistic that captures the degree of closeness between the actual investment portfolio and the market in general is correlation (or, the square of correlation known as the R^2 or the coefficient of determination statistic). When stocks are selected *randomly* (i.e. not screened according to a manager's predetermined valuation criteria), there is an expectation (but not a guarantee) that the risks and returns of the randomly assembled portfolios will correlate highly with asset class proxies. Thus, a random selection of U.S. large company stocks will, on average, tend to exhibit a high R^2 value when regressed on a proxy such as the U.S. Large Company S&P 500 stock index.[76] In most studies, randomly selected portfolios formed from 20 to 60 stocks achieve 90 to 95 percent diversification.

Lest an unsophisticated investor make a horrible mistake, however, there are three concepts that require additional clarity:

Randomly Selected: This selection process refers to random sampling[77] from the population under the condition that no security has any greater or lesser likelihood of selection than any other security. This condition obviously fails when investment managers employ pre-defined security valuation criteria. The stocks selected by the managers are less likely to exhibit statistical independence; and, therefore, are less likely to provide diversification benefits under changing economic conditions. An important extension of this concept is the notion of "equal weighting." If portfolios that are randomly selected overweight or underweight certain securities or sectors, their risk/return characteristics may become extremely idiosyncratic relative to a fully diversified capitalization-weighted comparative benchmark.

On Average: If hundreds of portfolios are randomly assembled, the central tendency (median result) is to provide risk/return benefits that are closely correlated to those of the asset class proxy. For example, a diversification study focusing on the period January 1986 through June 1999[78] compares the volatility of the S&P 500 index (standard deviation of 14.5) to the median (50th percentile) result of 60-stock portfolios (standard deviation of 15.2). Not surprisingly, these values are fairly close. However, at the fifth percentile of results, the standard deviation of the randomly formed 60-stock portfolio was 17.2 — approximately 19 percent higher risk. The comparable increase in risk for a 15 stock portfolio was approximately 33 percent. Reliance upon average results works well when the investor owns thousands of portfolios. Usually, however, the investor owns only one. Without understanding the perils and pitfalls of reliance on average values, the trustee is likely to repeat the tragedy of the naïve statistician who drowned while crossing a river averaging only three feet in depth.

Asset Class: An asset class such as the S&P 500 is only one of many asset classes that institutional investors utilize to exploit the global opportunity set for the benefit of their clients. If a professional money manager artificially limits the opportunity set, he or she should make it clear that the client is hiring a U.S. large cap manager, or a U.S. mid-cap manager, or an international bond manager. Constructing a balanced and globally diversified portfolio may require 10 or more asset classes. This, of course, raises the number of required securities accordingly.

DIVERSIFICATION ACROSS AND WITHIN ASSET CLASSES

As noted, modern economic research views risk as being composed of two elements.[79] The first source of risk (risk is defined as uncertainty about the magnitude and direction of future price changes) is "market risk." Market risk includes changes in rates of industrial production, inflation, national income, unemployment, tax rates, regulatory policies, and so forth. This risk cannot be eliminated through diversification simply because it

exists as part of the marketplace itself. The only way to avoid market risk is to avoid the market — i.e., not investing. The second source of risk is "non-market," "idiosyncratic" or firm-related risk. One of the central tenets of modern portfolio theory is that idiosyncratic risk is uncompensated risk — because idiosyncratic risk can be eliminated, the market does not reward those who voluntarily elect to assume it.

The prudent focused portfolio is willing to embrace firm-related risk because forecasting accuracy creates the conditional expectation of reward. The danger lies in the fact that future share prices will be adversely impacted by unfavorable/unexpected news. For example, the price of Ford Motor stock might decline if a key executive departed the company, if management decided to commit substantial resources to the production of unprofitable auto types, if a subsidiary or affiliate engaged in deceptive marketing practices, if injured motorists launched a product defect suit alleging faulty manufacturing, and so forth. The price of Ford may plummet despite the fact that its corporate financials and competitive industry position looked extremely attractive at the time of purchase. However, an investor holding Ford might protect his or her investment by holding the stocks of other automotive companies that would be unaffected by such events, or that might profit from Ford's misfortunes.

The above observations lead to several investment insights. If a fiduciary has the obligation to utilize care, skill, and caution, then the duty of caution admonishes the portfolio manager not to set the level of uncompensated or firm-related risk higher than suitable for the particular trust under his or her stewardship. Ordinarily, absent special circumstances and directives, the portfolio manager should mitigate uncompensated (i.e., non-market) risk unless there is clear and compelling justification for assuming it. Interestingly, in adequately diversified portfolios, potentially virulent risks diminish as one expands the opportunity set of investments. It is easy to see how owning a single stock is a perilous wealth management strategy. Likewise, representing an economic sector by owning only one or two stocks within the sector is also a high-risk venture.[80] Sector betting within an asset class is risky because of the low-breadth problem — it takes an extraordinary level of forecasting skill to achieve persistent profitability in the betting system; and, conversely, one wrong call in the sector shifting strategy can

destroy the profitability of a long series of past correct calls. Sector betting that, in turn, represents an entire industry by holding only one or two stocks within it may be neither academically sound nor legally defensible.[81]

Sectors, in turn, are the building blocks of asset classes. Diversifying an asset class requires diversification across all sectors within the asset class as well as diversification within each of the sectors. This, in turn, requires that the portfolio hold a sufficient number of securities. For example, Robert Wilks, chief investment officer at Mellon Capital Management, was recently quoted as saying that Mellon Capital's institutionally managed U.S. large company portfolio contains "about 240 of the S&P 500's total stock universe, and is well diversified across 15 economic sectors."[82] Sector diversification is only one part of what has been termed "domestic diversification."[83] Consider, for example, the research findings of Burton Malkiel: "…to get to where idiosyncratic risk asymptotically touches the systematic risk line…you need about 10 times as many stocks as before, or 200 stocks. If you want to get the returns of the asset class itself, of course, indexing would be the best strategy. Keep in mind, however, that idiosyncratic risk still exists when you index only to the S&P 500 because of the exclusion of small-cap stocks, which today are probably more reasonably valued than the rest of the market."[84]

But the benefits of domestic diversification can be enhanced significantly through the inclusion of foreign securities within the portfolio. If the manager's goal is to build a portfolio with stable returns over time and with risks appropriate to the terms, purposes, distribution objectives and other circumstances of the trust, then there may be good reasons to add foreign securities. What are systematic risk factors to a U.S.-only investor become unsystematic risk factors from a global perspective. Perils inherent in U.S. tax and fiscal policies, for example, are easily hedged by including securities from other nations. Purchasing power declines that may be traced to a variety of domestic macro-economic factors (a growing federal deficit, high trade imbalances, and unfavorable currency exchange rate movements), which are systematic risks for a U.S. only portfolio, are fully diversifiable when investing in an international context.[85]

ELEMENTS OF A PRUDENT ASSET MANAGEMENT PROCESS

As one shades the investment management process away from indexed, broadly diversified capital market exposures and towards a focused portfolio based on security selection decisions, there are several components critical to success:[86]

1) Calculation of accurate financial estimates based on a variety of sources including corporate financials, assessment of competitive advantages, evaluation of extra-company activities ("channel checking" suppliers, customers, etc.), determination of non-financial data such as length of patent protections, pending litigation, and so forth. At this stage of the active management process, the commercial fiduciary would want to monitor the accuracy of its analyst's forecasts in order to spot systematic bias, recurrent errors, degree of forecasting accuracy, and so forth. Many professional organizations have systemized the monitoring and evaluation process of analyst estimates so that they can base incentive compensation on excellence of results. Needless to say, if an organization advertises professional skills and abilities, it should rely on independent analysis derived from the reports of its own (in-house) team of analysts.

2) Input of accurate estimates into well-specified valuation models. This is not merely a garbage in / garbage out observation. Valuation models are critical to forming opinions regarding mispriced securities. If an organization can find undervalued securities, it may be able to exploit the mispricing for the advantage of their clients. The issues involved in such a search are several: (1) valuation models must yield positive "information content" [IC]. That is, the model must be able to estimate mispricing with real world results that are better than chance; (2) valuation models must provide consistent IC. In fact, models vary greatly over markets, industry groups, and economic environments with respect to IC. This is the primary reason why it is imprudent to rely on only one or two valuation models. An analyst may employ six or eight valuation models (each of which is checked for IC) to arrive at a reasonable estimate of a security's valuation.

Likewise, it is important for the analyst to determine how much weight will be given to the estimate produced by each model. Some organizations discard the high and low estimates and average the remaining estimates; others prefer to assign a weighting based on their confidence level for IC. Additionally, it is critically important to check the independence of the models (i.e. adjust for cross correlation of estimates) to make sure that the estimates can each stand on their own. Finally, the fiduciary organization should have a protocol for monitoring the models to assure that they are well specified. One way of doing this is to back test a model by entering 100 percent accurate information gleaned from the benefit of hindsight, in order to determine how closely its estimates match the actual stock price change.

Among the commonly used equity valuation models in the security analysis industry are:

Earnings Based Valuation Models:

- Dividend Discount Models — estimating discounted present value of future cash flows to investors;
- H-Models — assume transitions across different earnings and profitability regimes;
- Multiple Yield Models — estimating discounted present value of cash flows plus changes in relative valuation estimates such as the Price/Earnings multiplier;
- Free Cash Flow Valuation Models — estimating cash flow available to investors after adjusting for both current finance and operational costs as well as for asset replacement requirements.

Asset Based Valuation Models:

- Earnings on Book Value or Return On Equity models — calculates the earnings rate on existing assets to assess the relative attractiveness of a security; and,
- Tobin's Q Ratio — determines the expected benefit of increasing the firm's asset base (i.e. investing in the firm) by an additional amount of money.

Other Valuation Models:

- Analyst Forecasts — estimates of stock price changes made by analysts not connected with the fiduciary organization or the delegated investment management agent;
- Risk Forecasts — estimates of either Beta or discount rate changes that will impact the rate of return required by investors;
- Equity Duration Models — estimating the interest rate sensitivity of a security where the duration measure parallels the beta measure;
- Modern Portfolio Theory forecasts — based on calculation of the security market line (the risk/return ratio for all investments in the market) and on the forecast of changes in the slope and position of the line;
- Real Options Models — values corporations as investment projects that provide options to capture earnings within specific markets;
- Franchise Value Models — estimates the unique competitive advantages provided by a firm's patents, "brands," or its intellectual property assets (i.e., the ability of a firm to earn "abnormal profits"); and,
- Relative Value Models — compares current pricing assumptions in the cash market for a security with assumptions in the derivatives market. Where assumptions differ markedly, there may be opportunities to spot and exploit mispricing.

There are, of course, many variations on and additions to the above-listed equity valuation models just as there is an extensive list of fixed income valuation approaches.[87]

3) The next step in assuring a prudent asset management process (using either active or passive investment approaches) is to monitor and evaluate the trading process and platforms that the fiduciary's portfolio managers utilize to bring their investment ideas to the marketplace. Failure to control trading costs and transaction impact can wipe out any benefits that the manager may have spotted for a specific security. This peril is especially acute for growth-oriented equity managers who often trade on informational insights

that tend to disappear quickly in a relatively efficient market. Growth portfolio trades must often be executed quickly with high liquidity costs and high market impact. Execution costs can obliterate the potential positive values of a portfolio manager's insights.

Because capital resources are finite, prudence demands that the trustee eliminate unjustifiable costs. The duty of cost consciousness extends far beyond the achievement of "best execution."[88] Evidence indicates, over long-term planning horizons, a fundamental determinate of dollar wealth is cost control as much as market timing, security selection, or asset allocation. Achieving "best execution" in a high-cost trading venue (e.g., floor exchange vs. electronic communications network) where the customer trade is sequenced last because of directed brokerage agreements (wrap fee accounts) involving various forms of soft-dollar compensation arrangements may, over time, drain enormous sums of money from a trust portfolio.[89] Seeking "best execution" only in a narrowly defined sense of buying or selling a security at the best published (bid/offer) price available at a pre-selected trading venue is comparable to the pitfalls of using "best valuation"/"strong buy" designations as the primary criteria for solving the portfolio composition and selection problems. Rather diagnostic tests such as the "Implementation Shortfall Measure," proposed by Andre Perold are the appropriate tools for effective self-evaluation.[90]

4) Portfolio design is a critical step in prudent asset management. From the universe of eligible securities, the portfolio manager must decide which securities are the best candidates for inclusion within the portfolio. At this point, the basic unit of analysis is the portfolio not the individual investment. Paradoxically, stocks that exhibit a likelihood for less attractive future performance may be preferred candidates for the portfolio if they fulfill a hedge or risk-control function.[91] That is to say, it is the analyst's job to distinguish between promising and unpromising stocks; it is the portfolio manager's job to determine how the stocks will interact within the portfolio. Often, the inclusion of stocks exhibiting the highest return forecasts, to the exclusion of other assets, creates a portfolio that is high risk (despite the fact it is filled with "good stocks") because all the securities may tend to move in lockstep. If things turn bad, they become very bad.

Furthermore, the essential component of portfolio design for private trusts is to avoid creating an unnecessary and inappropriate risk gap. Even if the portfolio is funded with securities that are expected to yield above-average future returns, diversified across economic sectors, built from assets reflecting a reasonable cross-section of world capital markets, the fiduciary has not yet completed the job; because, at this point, the crucial issue is whether the portfolio is a suitable match to quantifiable economic objectives (liabilities) which the settlor has asked the trust to discharge.[92] A well-designed portfolio is not a portfolio with good stocks; it is a portfolio that lowers the risk of an unsuccessful financial outcome for the beneficiaries. Measurement of risk and calibration of portfolio risk to the goals of the trust is the essence of prudent wealth management. As Bevis Longstreth notes: "Prudence is demonstrated by the process through which risk is managed…."

Whether the measurement of portfolio risk takes the form of the statistical variance or standard deviation of returns (the risk measure used by Markowitz and other early pioneers of MPT under the simplifying assumption that portfolio return distributions are normal or symmetrical), semivariance (a risk measure used under the assumption that portfolio return distributions are exponential or skewed); lower-partial moments (used under the assumption that portfolio return distributions reflect kurtosis and other statistical characteristics; shortfall risk (probability of returns above a designated target given the distributional characteristics of the return series; range (performance in up and in down markets); or actuarial risk measurement (gain/loss probabilities adjusted for risk-aversion factors); and whether the trustee elects analytical (parameterized forms of risk assessment) solutions or numerical solutions (simulations with or without discontinuities — Poisson processes exhibiting jumps or regime shifts) is up to the judgment (and skill sets) of the trustee.[93] Judgment ("grounds for exercising discretion") is critical. The selection of appropriate risk measures depends on the types of risk faced by the trust — risk to remainder interests, risks to income interests, etc. To put it bluntly: "if portfolio managers are not managing portfolio risk, they are not managing portfolios."[94] The contribution of MPT to the modern concept of investment prudence, however, is not creation of a new "orthodoxy" in risk measurement or management, or a mandate to measure risk exclusively in terms of standard deviation. Rather, it lies in the require-

ment for the trustee to make sure that the efforts to generate returns (or ensure safety) do not allow the portfolio to gallop full speed into financial oblivion because relevant risks are ignored. The portfolio evidencing a reasonable probability that future economic goals will be attained, as opposed to the portfolio evidencing the highest expected return or the maximum protection of the nominal principal is, under any measure of prudence — MPT or otherwise — the portfolio that is most appropriate for the trust. The prudent trustee considers the magnitude and consequences of permitting a large risk gap to appear at any stage in the portfolio construction, implementation, or management process.[95] Otherwise, to use the language of the courts, the trustee lacks any basis for the exercise of discretion.

A key point is that the prudent asset management organization must be successful at each step in the portfolio process.[96] An organization that prides itself on astute stock picking, but which is lacking in trade execution skills or portfolio design skills, is unlikely to achieve success for its clients. As noted above, a further, and most critical, extension of prudence rests on the existence, or lack thereof, of ongoing internal diagnostics of the commercial fiduciary's investment decision-making processes. Evaluation of institutional portfolios including mutual funds, bank common collective funds, separate accounts for qualified and non-qualified trusts, usually involves examination of the portfolio's track record. But a track record is a result that is achieved only after an extensive series of inputs, evaluations, and decisions that occur beyond the purview of portfolio owners, trust beneficiaries, accountants, academic evaluators, or plaintiff's expert witnesses who, presumably, are presented only with ending numbers rather than with insight into proprietary investment methods. Unfortunately, however, it is difficult to make any determination regarding investment skill vs. investment luck from periodic results (track-record analysis) because the evaluator has only limited understanding of the process used to generate the results. Trivially, the process of buying super-lotto tickets might generate observable results that are both pleasing and spectacular. It would be difficult, however, to characterize this asset management strategy as prudent.

It is an organization's internal decision making that decides the number and identity of securities within the portfolio as well as their respective weightings. If the organization uses a proprietary valuation model, for

example, to identify mispriced or undervalued securities, it is critical for the fiduciary offering investment management services to know and to evaluate its rate of accuracy and degree of predictive ability prior to employing it over future market cycles and economic regimes.[97] If the wealth management organization makes the sequence of internal portfolio design, security selection, and portfolio implementation decisions successfully, they can have a high level of confidence in their ability to provide valuable asset management services for their trust accounts. If they cannot make such decisions successfully; or, if they fail to establish the diagnostics to identify areas of success and failure, the organization has no expectation whatsoever that they will provide prudent asset management services.[98] The organization may have an "intention" to do well; and an "enthusiasm" for its organizational goals; but intention and enthusiasm do not constitute prudence. Without prudence, defined as both the establishment of appropriate internal diagnostics and confirmation from the diagnostics of the likelihood of successful portfolio outcomes, the commercial fiduciary operates in an environment characterized by bad faith and gross negligence.[99] Furthermore, one can easily argue that commercial fiduciaries advertising deep expertise and extensive investment experience are engaging in deceptive trade practice if their internal self-evaluations fail to confirm these claims.[100]

The body of aforementioned court decisions resonates with judicial expectations for prudence. They do not resonate with judicial demands for trust administration conforming to an academic hypothesis or to the mathematics of an asset pricing model.[101] In the main, the court decisions tell trustees that prudence is something more than a yearly two-minute "Reg. 9" review, or something other than checking a box showing that the portfolio holds only securities from the organization's "recommended list" (a somewhat curious throwback to portfolio formation during the days of legal lists created by state legislatures).[102] A careful and considered reading of the portfolio management process outlined in regulatory handbooks and guidelines published by the Office of Thrift Supervision, the Office of the Comptroller of the Currency, The American College of Trusts & Estates Counsel (for fellows acting in the capacity of trustee), the Association for Investment Management and Research (recently renamed the CFA Institute), and other organizations promulgating best practice standards do not stress the need for

an academically pure trust administration, but rather, stress the need to use care, skill and caution. Substance and critical inquiry is elevated over mere proceduralism. There is not a single path to prudence; a 26 or 31 or 14-step checklist of prudence, an academically approved method of prudence, or any such other nonsense.[103] Rather, prudence is a critical assessment of the needs of the trust, the amount of capital supplied by the trust settlor, the skill set of the investment manager, and a determination that the trust administration provides a reasonable opportunity for financial success.

CONCLUSION

Prudence continues to be a dynamic and evolving concept. Prior to the promulgation of Restatement Third, trust law defined prudence primarily as an absence of speculation. However, the advent of modern capital market theory suggests that the rational utility-maximizing investor wishes to avail him or herself of the most favorable risk/return tradeoff by combining the market portfolio with an appropriate amount of the risk-free asset. The maximally efficient portfolio, under early models, exposes the investor to the broad range of investable assets. In the world of MPT defined primarily by Markowitz and Sharpe, *investors* use the market to solve intertemporal cash flow issues; and their investments in the broad market are justifiable in terms of the unconditional expectations of a risk premium. *Speculators*, on the other hand, seek to beat the market by creating focused portfolios. This generates only a conditional expectation for positive reward with the strength of the expectation based on the results of appropriate internal diagnostics flowing from self-monitoring and critical assessment. Hence the strategy that truncates the market in favor of selecting a narrow range of securities sharing common characteristics of yield, growth, safety or other desirable attributes, appears, under the new principles of modern trust administration, to be the more speculative venture. Traditional concepts of prudent wealth management are turned upside down.

A new generation of research, building on the economic insights of MPT, is again revising the perspective on the investment process. The academy now views the market as multidimensional — the derivatives market, which must be in equilibrium with the cash market, trades notional princi-

pal that often is many times the value of cash market trades. The market is seen as a place that allows for price discovery through trading activities, as a place for gambling, entertainment, and speculation, as a place to embrace risks voluntarily in hopes of receiving excess profits, as a place to solve intertemporal cash flow imbalances either by borrowing funds (e.g., for a home mortgage) or by investing funds to finance future consumption expenses (e.g., a 401k contribution), or as a place to offload risks in hopes of decreasing the variance of total wealth (including labor income and other nontradable assets) not just wealth as measured by tradable financial assets. In the theories of financial economics that develop and extend MPT, participants do not come to the market either with homogeneous expectations or objectives. Rather, participants have various motivations regarding their entertainment, hedging demands, intertemporal return requirements, and so forth. Hence, the market is viewed as an abstraction reflecting the aggregation of motives by investors faced with various resources and liabilities — not as the maximally efficient investment configuration.[104] Under this richer perspective, the prudent investment process is fundamentally a matter of determining and executing appropriate investment policy. What risk/reward factors are appropriate to embrace or eschew so that the terms, purposes, distribution requirements and other circumstances of the trust are fulfilled? But such a portfolio design and implementation process remains squarely in the MPT tradition and, most importantly, provides the trustee with a sound basis for exercising discretion.

It is not enough for a fiduciary to pick stocks from a recommended list with little thought as to either their interaction within the portfolio context, or their ability to form a portfolio suitable to the needs of the trust where such needs are characterized by clear, quantitatively-oriented expressions of acceptable risk and required return. Nor is it enough for a fiduciary to justify such a strategy by pointing to academic studies of the 1970s and 80s stating that a 20 stock portfolio is fully diversified. Prudent asset management weighs the consequences of investment decisions on both the asset and liability side of the equations — i.e., it avoids the unintentional creation of risk gaps that are inappropriate to the economic objectives of the trust. Unfortunately, however, the asset-side, stock selection approach to fiduciary wealth management appears to remain entrenched within certain segments

of the commercial U.S. trust industry.

On the other hand, it is not appropriate to accuse a trustee of imprudent trust administration for failure to employ a passive investment strategy or a failure to purchase indexed investment products. The efficient market theory is not an incontrovertible doctrine; nor is market efficiency both a necessary and sufficient condition for assuming that a market-oriented portfolio like the S&P 500 stock index is itself efficient. Rather, it is the basis for a null hypothesis — markets are tough to beat and the money manager must meet a burden of proof demonstrating the prudence of activities that differ greatly from indexed portfolio construction approaches to wealth management. Plaintiff's discovery and defendant's response should focus on how well or how poorly the fiduciary assessed, monitored and verified that it possessed the requisite degree of investment acumen (skill); that it had a credible basis for exercising discretion (caution); and that it had a justifiable expectation that the investment strategy and asset management policies had a high likelihood to meeting settlor objectives (care). As Restatement Third notes, "…the applicable requirements of care and skill allow responsible individuals of ordinary intelligence to serve as trustees and to adopt reasonable investment strategies of types that are appropriate to their skills. Yet the standards require fiduciaries possessing special facilities and skills to make those advantages available to the trust and its beneficiaries."[105] Thus, if we define prudence as a function of the trustee's skill set, then prudence becomes a relative rather than absolute standard; and, by extension, it is reasonable to infer that a skilled commercial fiduciary electing to provide active investment management of trust assets should try to beat the market under certain conditions. These include (1) if there exists sufficient proof of investment acumen; and (2) the goal of beating the market comports with grantor objectives and beneficiary needs.

Despite common practices for institutional fiduciaries similarly situated, this process requires something more than sleepwalking through a two-minute Reg. 9 review, a cursory investment committee discussion making inquiries regarding the presence or absence of beneficiary complaints, or a completion of "yes" boxes on the latest fiduciary audit form listing 27 steps of prudence. Rather, the prudent fiduciary needs to make critical inquiries regarding the needs of the trust and regarding the development and imple-

mentation of investment policy suitable to the needs. Finally, the prudent trustee documents its process fully so that it may successfully defend the decision making process if future investment expectations fail to occur.

NOTES

[1] *Matter of Lincoln First Bank, N.A.*, 630 N.Y.S.2d 472 (Sur.1995), *aff'd as mod.* 643 N.Y.S.2d 643 (1996), *aff'd as mod. sub nom Matter of the Estate of Janes*, 90 N.Y.2d 41 (1997).

[2] *Testamentary Trust UW Dumont*, 2004 WL 1468746 (Surr. Ct. June 25, 2004). The Appellate Court recently reversed the Surrogate's Court ruling on narrow grounds based on the applicable date on which a fiduciary breach may have occurred. *In re Dumont*, 2006 WL 259834, 2006 N.Y. Slip Op. 00866 (N.Y. App. Div. 4th Dept, 2006).

[3] *Estate of Saxton*, (App. Div. 2000) 712 N.Y.S.2d 225.

[4] *Estate of Rowe*, N.Y. App. Div. (3rd Dept.), 712 N.Y.S.2d (August 10, 2000).

[5] *Liss v. Smith*, 991 F. Supp. 278 (S.D.N.Y. 1998).

[6] *In re Scheidmantel*, Appeal of Trustee Sky Trust, N.A., 868 A.2d (Pa. Super. 2005) at 487.

[7] Paraphrase of Professor John Langbein in Ross, Bruce S., "Steering The Fiduciary Past The Shoals of Surcharge: Advice to Trustees and Their Advisors," *Fifth Annual Advanced ALI-ABA Course of Study for the Estate Planner, Litigator and Corporate Fiduciary Counsel* (San Francisco, California, July 2002), pp. 7-8.

[8] The nature of the debate is nicely summarized by Harry Markowitz: "Before the CAPM [Capital Asset Pricing Model], conventional wisdom was that some investments were suitable for widows and orphans whereas others were suitable only for those prepared to take on 'a businessman's risk.' The CAPM convinced many that this conventional wisdom was wrong; the market portfolio is the proper mix among risky securities for everyone. The portfolios of the widow and businessman should differ only in the amount of cash or leverage used." Markowitz, Harry A., "Market Efficiency: A Theoretical Distinction and So What?" *Financial Analysts Journal* (September/October, 2005), p. 18.

[9] Systematic risk is the portion of an asset's price variability that can be attributed to a common factor (or factors). Nobel Prize winner William Sharpe defined a "single-index-market-model" in order to isolate the systematic and unsystematic components of an asset's return. This means that priced risk is a function of a single factor, that the single factor governs the variability of all assets within the market, that the market is a proxy for this single factor and, in turn, can be proxied by an index

of securities like the S&P 500 or the Wilshire 5000 index. Market-related risk represents the variance of returns attributable to factors that impact all securities within the market (e.g. unexpected inflation, GDP growth rate, changes in unemployment, industrial production, federal deficit, etc.). The variance in returns attributable to non-market factors (i.e. risks that are unique to the specific firm such as technological obsolescence, poor management decisions, strikes and labor uncertainty, litigation against the firm, etc.) is termed unsystematic or unique risk. In a fully diversified portfolio, unsystematic risk can be eliminated and, according to Sharpe, is not priced by or rewarded in the marketplace. Therefore, poorly diversified portfolios assume unsystematic risk for which the investor is not compensated. Under a CAPM worldview, unsystematic risk cannot be justified because it is uncompensated risk.

[10] Especially the two-fund separation theorem which states that optimized portfolios consist only of a combination of the market portfolio and the risk free investment, and the efficient market hypothesis which implies that it is difficult to systematically earn excess profits because the current prices of securities impounds all known information. Note that, in recent academic literature, the two-fund separation theorem of the single-index-market-model world has been extended to a multi-fund separation theorem as asset pricing models identify multiple pricing factors.

[11] For a discussion of the intellectual roots of competing viewpoints on the market (investing in financial assets is speculative and driven by non-rational motivations vs. markets are rational and an effective way of allocating productive resources within a society), *see* Fabozzi, Frank J., Focardi, Sergio M. & Kolm, Petter N., *Financial Modeling of the Equity Market* (Wiley, 2006), p. 2.

[12] For a general critique of MPT's ability to provide useful guidance for attainment of practical investment goals, see Mitchell, Malcolm, "Is MPT the Solution — or the Problem?" *Investment Policy* magazine (July, 2002). As a counterpoint, Don Chance provides an overview of the contributions of MPT insights to the practical needs of the investment management industry. *See*, Chance, Don, "The Strange Relationship Between Academics and Practitioners in Derivatives and Risk Management," *Financial Engineering News* (July/August, 2005). Chance observes that investment theory and practice integrate by virtue of the necessity to adhere to the principle of arbitrage: "The absence of arbitrage opportunities is a necessary but not sufficient condition for a market to be efficient. Arbitrage opportunities of the purest form, such as those that allow an option to trade for less than its exercise value at the time of expiration, simply cannot exist" p. 19. A review of the impact of the collapse of the NASDAQ market on theories of rational asset pricing is found in chapter five ("The 1990s Bubble and the Crisis in MPT") Siegel, Laurence B., *Benchmarks and Investment Management* (The Research Foundation of AIMR,

2003). For a general overview of the role of MPT in modern trust administration, *see* Ellis, James B., Hartog, John A., Wolf, Kenneth S. & Gifford, L. Andrew, "Issues in Trust Administration and Experiences of Professional Trustees: Applying Prudent Investor and Principal and Income Act Adjustment Powers," *Estate Planning 2005* (Continuing Education of the Bar California, 2005), especially § 9.16 Does MPT Require Trustees To Index?

[13] Focardi, Sergio M. & Fabozzi, Frank J., *The Mathematics of Financial Modeling & Investment Management* (Wiley Finance, 2004), p. 566.

[14] *Restatement (Third) of Trusts: Prudent Investor Rule*, American Law Institute (1992), Comment h. Prudent investment: theories and strategies: "…there are endless variations in reasonable strategies for investing and for the prudent management of risk, with a variety of legitimate theories of investment to support and incorporate into these strategies."

[15] *Restatement (Third) of Trusts: Prudent Investor Rule*, Comment d. General requirements of care and skill.

[16] "Modern Portfolio Theory has become a customary tool used by investment professionals and, as such, constitutes an industry standard that prudent fiduciaries cannot ignore." Ellis et al., *supra*, at 344, quoting the editor of the *ACTEC Journal*.

[17] Nawrocki, David, "A Brief History of Downside Risk Measures," *Journal of Investing* (Fall, 1999), pp. 9-26. *See, also*, Jacob, Nancy L., "Advanced Tax-Aware Asset Allocation and Location (New York Society of Security Analysts, January 24, 2002), pp. 2-4, www.aimrdirect.org.

[18] Bronson, James W., Scanlan, Matthew H. & Squires, Jan R., "Managing Individual Investor Portfolios," *Managing Investment Portfolios: A Dynamic Process*, 3rd Edition p. 3. *See, also*, Fama, Eugene F. & French, Kenneth R., "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives* (Summer, 2004), pp. 25-46: "The CAPM's empirical problems may reflect theoretical failings, the result of many simplifying assumptions….the failure of the CAPM in empirical tests implies that most applications of the model are invalid."

[19] French, Kenneth, "Mission: Improbable," CFA Magazine (September/October, 2005), p. 42. *See, also*, Markowitz, *supra*, at 19: "…the market portfolio need not be an efficient portfolio. This departure from efficiency can be quite substantial. In fact, the market portfolio can have almost *maximum* variance among feasible portfolios with the same expected value rather than *minimum* such variance; that is, the market portfolio can be about as *in*efficient as a feasible portfolio can get." Markowitz argues that a CAPM investor (i.e., a rational investor under conditions of market equilibrium) cannot arbitrage away the inefficiency of the market portfolio because, in part, unconstrained short positions imply either a negative or a zero demand for certain securities. Such a result violates CAPM's equilibrium conditions.

[20] Bodie, Z., & Merton, R. C., *Finance* (Prentice Hall, 1998), p. 232: "Portfolio theory is defined as quantitative analysis for optimal risk management."

[21] Mark Rubenstein and Douglas Breeden independently introduced the Consumption Capital Asset Pricing Model (CCAPM) in the 1970s. Under this model, investors may not be primarily interested in the utility of terminal wealth. Rather, wealth may be valued not for its own sake but for the standard of living that it supports. Investment portfolios capable of supporting targeted levels of real (inflation-adjusted) consumption over the applicable planning horizon may be more valued than portfolios providing high levels of ending wealth or safety of principal. Trustee investment strategies become flexible and reflect the utility of consumption vs. utility of final wealth tradeoffs. The astute reader may recognize possible applications of CCAPM to the trustee's struggle to discharge the duty of impartiality between the needs of the income and remainder beneficiaries.

In a CCAPM context it is vital for the trustee to go beyond "the four corners of the trust document" [*Hatleberg v. Norwest Bank Wisconsin*, 678 N.W.2d 302 (WI App, 2004)] to ascertain the needs of the trust beneficiaries. Utility derives only from expenditures above a threshold level of subsistence. The higher the subsistence level, the more total human wealth is decremented by the "negative labor income" required to achieve the threshold standard of living level. Under CCAPM, settlors with high gift or bequest preferences for remaindermen may prefer trustees to act like Markowitz/Sharpe investors seeking to maximize end of period wealth. However, CCAPM settlors also may prefer trustees to maximize the utility of consumption for current beneficiaries. At the limit, a highly risk averse income beneficiary under a CCAPM model, may wish the trustee to mitigate longevity risk (the risk of living longer than "life expectancy"), investment risk (the risk that returns may be insufficient relative to economic objectives), and consumption risk (the risk of bankruptcy prior to death of the income beneficiary) by "spending" all wealth to secure a real (inflation-indexed) immediate annuity income stream.

Trustees creating portfolios based on Consumption Capital Asset Pricing Models consider, in part, utility of wealth functions, utility of consumption functions, and the beneficiary's elasticity of intertemporal substitution [EIS]. The latter term means both a willingness to consume under economic regimes that change over time (equal willingness to spend an equal proportion of wealth in recession or prosperity denotes an EIS equal to 1; willingness to spread consumption equally over the planning horizon as opposed to front or back end loading consumption denotes an EIS equal to 1, etc.). *See* Campbell, John Y. & Viceria, Lewis, *Strategic Asset Allocation* (Oxford University Press, 2003).

As noted, the basic notion underlying trust portfolio construction under a CCAPM strategy is that, in a multiperiod setting, the investor derives utility pri-

marily from consumption; and, because consumption above the threshold level is critical to maximizing utility, the importance of terminal wealth conditions gives way to the importance of financing adequate consumption at each intermediate point in time. In fact, the time horizon can go to infinity (planning horizon is no longer a critical determination in investment policy) as long as the model calibrates period-by-period consumption preferences through subjective time discount factors (e.g., some money now may be more important than more money later). Maximum utility is achieved when the marginal utility of spending a dollar equals the marginal benefit of reinvesting the dollar to enhance the probability of (discounted) future consumption. At the limit, as the subjective discounting rate goes to zero, investors behave as single-period Markowitz/Sharpe CAPM investors.

Trust portfolios based on a single index / single period model, for example, might avoid an asset class like long-term bonds because of their relatively low reward-to-risk (Sharpe) ratio. Under a CCAPM portfolio approach, however, the trustee might favor higher coupon long-term bonds where the trust settlor indicates a preference for the current beneficiary's consumption requirements. For a highly risk-averse CCAPM investor, the risk-free asset may be an inflation-indexed annuity as opposed to a U.S. T-Bill. They key points are: (1) there is no single "prudent" portfolio (strict conformity with an index may not be prudent); and, (2) the trustee must be able to justify the composition of the trust portfolio in terms of a well-articulated and fully documented investment strategy.

Parenthetically, it might be a good idea to communicate the strategy to interested parties at the time of portfolio formation — i.e., prior to the onset of litigation. The ability to articulate and document rational investment policy might, for example, have provided defense with a partial counter to plaintiff's expert-witness testimony in *Meyer v. Berkshire Life Insurance Company*, 250 F. Supp.2d 544 (D. Md.2003, aff'd, 372 F.3d 261 (4th Cir. 2004). An insurance agent foolishly defended a decision to load a retirement plan with high cost annuity products because he "would rather have a return of your money than a return on your money." The court concluded that there was a fiduciary breach for failure to maintain a 50 percent allocation to equities.

[22] Trivially, all models, economic or otherwise, are incorrect in that they are mere approximations of a more complex reality. The model of a jet airplane that has utility for an accountant differs greatly from either the model that attracts a small child or the model that is of interest to an aeronautical engineer. It would be both easy and disingenuous to mock the model of the jet airplane developed by and used in the corporate Treasury department simply because it looks like a pile of paper instead of an airplane. Derision and obfuscation, however, are not the equivalents of intellectual insight. Models derived from research in financial economics are

tools that can be used or abused according to the agendas of money managers or litigating parties.

[23] Longstreth, Bevis, *Modern Investment Management and the Prudent Man Rule* (Oxford University Press, 1986), p. 111.

[24] *Id.* at 111. The language of the reporter's comments in the Third Restatement echoes this approach: "Comments in §227 [General Standard of Prudent Investment] are thus intended to preserve the law's adaptability by confining its mandates to those that seem essential to prudence (based on traditional duties of care, skill, and caution)…." *Restatement (Third) of Trusts: Prudent Investor Rule, supra,* (Introduction) at 5. The research paper by Schanzenbach, Max M. &. Sitkoff, Robert H., "Did Reform of Prudent Trust Investment Laws Change Trust Portfolio Allocation?" *New York University School of Law Working Paper No. 05-30* (December, 2005) argues that "trust law supplies a set of default terms known as fiduciary duties that prescribe the trustee's level of care (the duty of prudence) and proscribe misappropriation (the duty of loyalty) p. 3.

[25] *See*, for example, the discussion of "Investment Skills/Duty of Care" in Schwartzel, C. Boone, "Is The Prudent Investor Rule Good For Texas?" *Baylor Law Review*, Vol. 54, No. 3 (2002), pp. 795-799. Michael T. Johnson argues that the shift in the Third Restatement's definition of prudence away from the absence of speculation towards a process based on the "principles of prudence" creates a danger that trustees will elevate process over substance: "…with process as the determinative factor, the [Prudence] standard risks making *prudent process* the standard rather than *prudent investing*, thus subjecting the fiduciary to constant scrutiny of his procedural performance rather than his investment performance." Johnson. Michael T., "Speculating on the Efficacy of 'Speculation': An Analysis of the Prudent Person's Slipperiest Term of Art in Light of Modern Portfolio Theory," *Stanford Law Review* (January, 1996), p. 441. Certainly, the two-minute Reg. 9 review is a cogent example of the triumph of process over substance, of conduct over competence. Worse, however, is the propensity to define prudence as an adherence to the pre-specified checklist of rules and procedures dictated by the self-accredited prudence police. Johnson's solution is to allow the standard of care — i.e., Prudence — to be "…set by the industry in which a particular trustee is employed" (p. 446). The professional standard, in Johnson's view, is analogous to medical malpractice standards where the critical question is whether "…the defendant acted in conformity with the common practice within his profession" (p. 444). It is interesting to conjecture whether courts will tend to define prudence standards in line with the local community's standards of practice; or, whether, if such practices largely ignore (1) the fundamental insights of financial economics, (2) the analysis of risk/return tradeoffs operating within the investment portfolio, and (3) the probability of meeting the objectives of

the grantor and the legitimate expectations of beneficiaries, the courts will define prudence standards in terms of a more defensible academic approach to portfolio design and asset management.

[26] Or in the statutory accounting rules faced by life insurance companies. Companies risk insolvency when they mismatch the duration of policy reserves (liabilities) with the duration of assets (primarily bond portfolios). *See, also*, Markowitz, *supra*, at 27: "Because different institutions have different liability structures, they properly have different efficient sets of marketable securities. For example, an insurance company or pension fund, with liabilities determined outside the portfolio analysis, should choose portfolios that are efficient in terms of the mean and variance of assets minus liabilities. When different investors properly have different efficient sets, the question of whether the market portfolio is a mean-variance efficient portfolio raises the questions: efficient for whom?"

[27] Bacon, Carl R., *Practical Portfolio Performance Measurement and Attribution* (John Wiley & Sons, 2004), p. 82.

[28] *Estate of Smith* (1981) 117 CA3rd 511, 520, 172 CR 788.

[29] Focardi, Sergio M., & Fabozzi, Frank J., *The Mathematics of Financial Modeling & Investment Management* (Wiley Finance, 2004), p. 589: "The investing process involves forming reasonable return expectations, controlling portfolio risk to demonstrate investment prudence, controlling trading costs, and monitoring total investment performance."

[30] Waring, M. Barton, "The Dimensions of Active Management," *Improving the Investment Process through Risk Management*, (Association for Investment Management and Research, 2003), p. 30: "Published index benchmarks do not represent the liability of most investing organizations, really not of hardly any organization. Any organization that invests its money to fund a liability will probably be gravitating to the use of custom fixed-income benchmarks in the coming years. The customization will be for the purpose of matching the market-related characteristics of their liability, particularly in terms of the dual durations, inflation duration, and real rate duration."

[31] *Restatement (Third) of Trusts: Prudent Investor Rule*, Comment d. General requirements of care and skill.

[32] It is readily apparent that the mere completion of an NASD-mandated investment suitability form cannot substitute for investment policy. For example, the know-your-customer form usually requires only a general description of the account's objectives ('growth,' 'balanced,' 'income," etc.). Objectives, however, are not labels; but, rather: "investment objectives are specific and measurable desired outcomes." Maginn, John L., Tuttle, Donald L., McLeavey, Dennis W., Pinto, Jerald E., "The Portfolio Management Process and the Investment Policy Statement,"

Managing Investment Portfolios: A Dynamic Process, 3rd Edition, p. 19.

[33] Campisi, Dominic J., "Fiduciary Risk and Liability Update," *ABA Webcast*, Wednesday, August 18, 2004 (American Bankers Association, 2004) p. 52.

[34] *See*, for example, Schoenfeld, Steven A. & Maeda, Kevin, "Fundamental Index Portfolio Management Techniques," *Active Index Investing*, ed. Steven A. Schoenfeld (John Wiley & Sons, 2004), pp. 365-387.

[35] A good summary of the positions on the pros and cons of active management are found in Simon, W. Scott, *The Prudent Investor Act A Guide to Understanding* (Namborn Publishing, 2002), especially, Chapter 7.

[36] *Restatement (Third) of Trusts: Prudent Investor Rule, supra*, General Comment e. at 19.

[37] *Restatement (Third) of Trusts: Prudent Investor Rule, supra*, General Comment f. at 25.

[38] *Restatement (Third) of Trusts: Prudent Investor Rule, supra*, General Comment h. at 30.

[39] *Uniform Prudent Investor Act* § 8. As the Official Comment to this section notes: "Hindsight is not the relevant standard. In the language of law and economics, the standard [for prudent asset management] is ex ante, not ex post."

[40] Thus, for example, if the fiduciary determines that a market-based return is sufficient to achieve the trust's economic objectives, it may be imprudent to incur unnecessary risks and costs by trying to "beat the market." *See, also*, Elton, Edwin J. & Gruber, Martin J. "The Lessons of Modern Portfolio Theory," *Modern Investment Management and the Prudent Man Rule*, Bevis Longstreth (Oxford University Press, 1986), p. 188: "…if the manager outperforms a passive component, the fiduciary must ensure that the extra performance was sufficient to compensate for the extra diversifiable risk that was involved, the extra transaction costs involved in actively managing this segment of the portfolio, and the management fee that would have to be paid." One way of assuring the prudence of engaging an active money manager is to investigate the earnings and return forecasts of the organization's analysts, the portfolio composition and implementation processes of its managers, and the ongoing internal performance evaluation diagnostics.

[41] *See*, for example, Reilly, Frank K. & Brown Keith C., *Investment Analysis and Portfolio Management* Fifth Edition (The Dryden Press, 1997), p. 68: "When investors compare the absolute and relative sizes of U.S. and foreign markets for stocks and bonds, they see that ignoring foreign markets reduces their choices to less than 50 percent of available investment opportunities. Because more opportunities broaden your range of risk-return choices, it makes sense to evaluate foreign securities when selecting investments and building a portfolio."

[42] An asset class is a building block of a portfolio. Each asset class consists of secu-

rities that exhibit common statistical, economic, or accounting characteristics. Asset classes are expected to exhibit differing risk/reward responses to changes in economic conditions.

[43] Each of the listed asset classes is available to institutional investors through product manufacturers such as State Street Bank, Vanguard Mutual Fund group, DFA Investment Advisors (Dimensional Funds), Barclays Global Investors, and so forth. Not all institutional money managers offered products replicating all asset classes.

[44] As measured by index mutual fund holdings calculated by Morningstar Principia Database as of 1/31/2004; the Dimensional Funds website (www.dfaus.com) as of May 23, 2004; Barclays Global Investors website (www.ishares.com) as of May 23, 2004. This list corresponds closely with the "feasible Set" of Asset Classes listed in Moses, Edward A., Singleton, J. Clay & Marshall, Stewart A., "The Appropriate Withdrawal Rate: Comparing a Total Return Trust to a Principal and Income Trust," *ACTEC Journal* (2005), p. 120.

[45] Traditional CAPM equilibrium theory suggests that securities are priced in a market context, and that any strategy designed to truncate the number of securities held in the portfolio results in "overpayment" for the selected securities. For example, owning Airline stocks without owning Petroleum stocks means that the investor takes unwarranted risk (fails to purchase the hedge position offered by the market — if the price of jet fuel changes, one stock group benefits while the other suffers). However, the market price of Airline stocks assumes that rational investors also own the Petroleum stocks. The market therefore gives investors only the return based on the hedged investment position. Unhedged risk yielding only hedged return is the source of the "overpayment." Owning only a few market sectors (or, overweighting sectors in the hope of beating the market) is, according to this viewpoint, a risky asset management strategy relative to indexing and, therefore, requires the trustee to demonstrate the prudence of a focused stock portfolio. However, more recent extensions of equilibrium theory consider that the market portfolio reflects the demand for risk hedging by investors consciously electing to "tilt" their portfolio in a pre-specified manner. Thus, for example, utility-maximizing investors may not purchase securities highly correlated to their labor income — i.e., may not purchase every security within the index. See, Cochrane, John H., "Portfolio Advice for a Multifactor World," *Economic Perspectives: Federal Reserve Bank of Chicago* (3rd Quarter, 1999), p. 60: "The stock market is a way of transferring risks; those exposed to risks can hedge them by proper investments, and those who are not exposed to risks can earn a premium by taking on risks that others do not wish to shoulder."

[46] Accuracy (and the persistency thereof) in macro-economic forecasting is an extremely elusive quality. *See*, for example, McNees, Stephen K, "The Accuracy of

Macroeconomic Forecasts," *Improving the Investment Decision Process* (AIMR, 1991), pp. 15-23. *See also*, Cohen, Abby Joseph, "Aristotle on Investment Decision Making," *Financial Analysts Journal* (July/August, 2005) for a review of recent inaccuracy and imprecision in macro-economic forecasting.

An interesting study of the semiannual forecasts of long-term U.S. Treasury bond yields offered by experts and published in the Wall Street Journal over the period 1982 through 2003 concludes: "over the sample period, 65.0 percent of the time (28 of 43 forecasts) the consensus estimate is wrong in predicting the direction of the change. If you had randomly flipped a coin to guess the direction of the actual yield change for each of the past 43 forecast periods, you would have had a 96.7 percent change of outperforming the consensus forecast…." In the January 2003 forecast, not a single economist correctly predicted a decline in interest rates. The authors conclude: "The consensus estimate is beneficial only from a contrarian viewpoint." Brooks, Robert & Gray, J. Brian, "History of the Forecasters," *The Journal of Portfolio Management* (Fall, 2004), pp. 113-117.

[47] A capital market is, in general, a collection of stocks from various industries or "sectors." Thus, the single capital market of U.S. large stocks contains the stocks of companies in sectors like technology, communication, health, utilities, transportation, and so forth.

[48] By extension, a rational asset management strategy might entail broad-scope diversification in the capital market(s) for which the portfolio manager lacks forecasting skill, and concentration within the capital markets where such skill exists. In general, it is neither rational nor prudent to truncate the opportunity set arbitrarily merely because a skill-set is limited to a particular market — unless, of course, it is abundantly clear that you are offering limited-capacity professional money management services only within a narrowly defined investment universe.

[49] Herold, Ulf, "Portfolio Construction with Qualitative Forecasts," *The Journal of Portfolio Management* (Fall, 2003), pp. 61-72. The process of creating an "approved list" derived from security analysts' assessments begs the question of the responsibility for developing a portfolio of investments suitable to the specific needs of the trust beneficiaries and goals of the settlor. *See*, for example, Hartog, John A. & Sanderson, Paul, "Delegation of Fiduciary Power Under the California Prudent Investor Act," (www.calteclaw.com): "In the world of institutional trusts, the portfolio manager does not have the responsibility of developing a comprehensive, in-depth, need based investment strategy customized for the trustee. The primary business of portfolio or fund managers is to make decisions about individual securities, and the particular portfolio under their aegis, in a manner consistent with their firm's stated investment philosophy and process" p. 3.

[50] "…diagnostic tools are an essential part of the portfolio construction

approach…. If the [macro-economic] views are strongly positively correlated, this indicates that the views are consistent with each other and that the same view of the world (e.g., the same macroeconomic scenario) is used in several ways. Of course, this also means that the diversification potential is limited. If the macroeconomic scenario pays off, then several views will contribute to outperforming the benchmark. If not, they probably contribute to strong underperformance." Herold, *supra* at 64.

Martin Leiobowitz, a managing director at Morgan Stanley, pointing out the folly of relying on past track record as a guide to future results, stresses the need for internal diagnostics as a necessary condition for prudent investment management. Leibowitz suggests rephrasing the prospectus warning on past performance: "A more ominous rephrasing would be, 'Past performance is not even a good guide to the *quality of the decisions* that went into that past performance.' Yet, the ultimate issue is the soundness of the decision process itself: Was all knowable information incorporated? Was the reasoning thorough and sound? Were alternative scenarios considered and contrary views sought? Was a well-planned implementation and monitoring program established — and then followed? Was there a routine postmortem analysis of lessons learned?" Leibowitz, Martin L., "Alpha Hunters and Beta Grazers," *Financial Analysts Journal* (September/October, 2005), p. 34.

[51] Parenthetically, diagnostics are also critical for identifying analysts that are systematically optimistic or pessimistic so that the portfolio manager may adjust for individual staff tendencies. The important point is that the diagnostics are ubiquitous in the professional money management industry. Diagnostics are appropriate with respect to both price change predictions as well as risk predictions. *See*, Bacon, *supra* at 83: "…for effective risk control it is essential to compare the predictive risk calculated by internal systems with the actual realized risk of portfolios."

[52] An analyst with perfect forecasting ability has an information coefficient of +1; an analyst with no forecasting ability has an information coefficient equal to zero; an analyst who always forecasts price movements that are opposite of those that actually occur has an information coefficient of –1.

[53] Goodwin, Thomas H., "The Information Ratio," *Financial Analysts Journal* (July/August 1998), pp. 34. Needless to say, a positive information ratio is a good thing — indicating the amount of value added relative to the amount of unique risk assumed by the manager. A negative information ratio suggests that the manager may be systematically subtracting value. The use of the information ratio as a performance evaluation tool is widespread in the money management industry. *See*, for example, Bacon, *supra* at 71-73; and Feibel. Bruce J., *Investment Performance Measurement* (John Wiley & Sons, 2003), pp. 200-210. Feibel defines the Information Ratio (p. 202) as a way to determine if a manager has "some special

information not already priced into the market." An information ratio, according to Feibel, "…above one, using a long enough series of observations, is commonly interpreted as an indication of skill on behalf of the investment manager." Although beyond the scope of this essay, the interrelationship between the value of a manager's information ratio and the percentage of successful forecasts provides additional information regarding ranking of managers according to the investor's risk/return preferences. Briefly, two points are worth noting: (1) managers exhibiting the same information ratio value can differ greatly with respect to the probability of incurring significant losses when the distribution of returns is not normal [Constable, Neil & Armitage, Jeremy, "Information Ratios and Batting Averages," *Financial Analysts Journal* (May/June, 2006), pp. 24-31]; and, (2) the information ratio contains important data concerning the extent to which the manager deviated from the benchmark. This provides the investor with a useful ex ante measure of shortfall risk relative to an index [Wander, Brett H., "The Volatility of Relative Performance as a Measure of Risk," *The Journal of Investing* (Summer, 2000), pp. 39-44].

The comparative benchmark may be as plain vanilla as the S&P 500 index of U.S. stocks or may be customized to the trust. Simplistically, a trustee requiring "growth" with a "yield-tilt" may customize a benchmark by combining the S&P 500 with an index of U.S. Utility stocks and an aggregate bond index. Investment products geared to the customized benchmark are readily available at low cost; and, therefore, it is prudent for the trustee to document how their investment strategy adds value after fees, taxes and other costs.

[54] Grinold, Richard C., "The Fundamental Law of Active Management," *Journal of Portfolio Management* (Spring, 1989), pp. 30-37. Grinold defined the quantity "n" (n = # of securities) as the number of active bets made by the investment manager. Clarke, Roger, de Silva, Harindra & Thorley, Steven, "Portfolio Constraints and the Fundamental Law of Active Management," *Financial Analysts Journal* (September/October, 2002), pp. 48-66, generalize the quantity "n" to include all securities within the manager's "choice set." Constable & Armitage, *supra*, extend the concept of "n" to include the frequency of investment transactions.

[55] This observation is a general principal that encompasses physics as well as financial economics. *See*, for example, the analysis of Bouchaud, Jean-Philippe, Potters, Marc & Aguilar, Jean-Pierre, "Missing Information and Asset Allocation," S*ciences & Finance Working Paper #500045* (June, 1997), p. 2: "A strongly concentrated portfolio corresponds to a large information content, while equal weights to all assets corresponds to a minimal information content….This intuitively makes sense: suppose that the average returns and covariances are perfectly known and that one accepts the risk/return framework. The choice of an optimal portfolio on the efficient border is then totally justified, even if the weight of a single asset was 100 per-

cent. The problem is that one usually has only partial information: past data have a finite length, therefore the determination of statistical parameters is imperfect; predictions of future volatilities and returns are obviously not entirely trustworthy — this is why the optimal portfolio must reflect this lack of information and keep a minimal degree of diversification." The authors compare portfolio construction under perfect information to the thermodynamics principal that, at zero temperature, one must minimize energy. Zero temperature is equivalent to the absence of uncertainty which has its analogue in finance when the variance of a portfolio is zero (the risk-free asset).

[56] Tracking error, which forms the basis for calculation of the Information Ratio, is also a basis for creation of a forward looking (*ex ante*) multifactor risk model the purpose of which is not the appraisal of past forecasting results but the control of future portfolio risk exposures. *See*, for example, Focardi & Fabozzi, Op. Cit., p. 556: "The manager can immediately see the likely effect on tracking error of any intended change in the portfolio. Thus, scenario analysis can be performed by a portfolio manager to assess proposed portfolio strategies and eliminate those that would result in tracking error beyond a specified tolerance for risk."

[57] For a more complete description of this method *see* Elton, E.J. & Gruber, M. J. *Modern Portfolio Theory and Investment Analysis* Fifth Edition (John Wiley & Sons, 1995), pp. 684-685.

[58] This case is subject to confidentiality agreements.

[59] Much academic research further suggests that assuming extreme asset concentration is a sub-optimal portfolio strategy even in the face of demonstrable forecasting skill. The thinking behind this argument rests, in part, on the observation that exogenous shocks (surprises) are an important determinant of future price change. By definition these surprises cannot be predicted; and, with only a few stocks held in the portfolio, it is possible to realize catastrophic losses from which the portfolio may never recover. Examples of events that could not be forecasted include the placement of arsenic in bottles of Tylenol (Johnson & Johnson), the destruction of the city of Bhopal, India (Union Carbide), the accounting fraud on corporate financials (Enron), the meltdown of the Three Mile Island reactor (General Public Utilities), and so forth. It is easy to reach the conclusion that unpredictable surprises are, in fact, the norm.

[60] For an interesting example of a 17 stock portfolio that could be deemed prudent, see, "Cantaluppi, Laurent & Hug, Ruedi, "Efficiency Ratio: A New Methodology for Performance Measurement," *The Journal of Investing* (Summer, 2000), pp. 19-25. As the authors' point out, however, the prudence of constructing such a truncated portfolio is a function of stock forecasting skill: "Assume that a portfolio manager has ex ante-perfect foresight of returns, risks, and correlations over the perfor-

mance interval and is invested in a mean-variance optimal portfolio. The ex ante and the ex post efficient frontiers being identical, the portfolio of our clairvoyant portfolio manager, as expressed by its risk and return, also lies on the ex post efficient frontier. Such a portfolio earns the best possible performance score, since it is not possible to perform better. Portfolios under the efficient frontier do not attain the full return potential and therefore obtain a lower mark. The efficiency ratio builds on this consideration, i.e., the distance to the ex post efficient frontier." The reporter's comments to Restatement Third § 227 provide several examples of prudent and imprudent portfolios. In Illustration 12 [*Restatement (Third) of Trusts: Prudent Investor Rule, supra* at 23.], a three stock portfolio is deemed imprudent. However, in illustration 14 *[Restatement (Third) of Trusts: Prudent Investor Rule, supra* at 31-32.], a 20 stock portfolio is deemed prudent. *See, also,* illustration 2 for §228 discussing a concentration of 40 percent of trust assets in the stock of two companies.

A recent monograph, Bennyhoff, Donald G., *Preserving a Portfolio's Real Value: Is There an Optimal Strategy?* Vanguard Investment Counseling & Research, Valley Forge, PA (April, 2005), p. 18, discusses asset allocation in an asset/liability matching context and opines that an all short-term government security portfolio may be prudent and suitable: "If the goal is to maintain long-term purchasing power and the liability stream is expected to grow at a rate similar to CPI-U [Urban Cost of Living Index], then investing the portfolio entirely in TIPS [Treasury Inflation Protected Securities] or T-bills may be appropriate….If the inflation-adjusted value and timing of a liability are known, the real return from investments such as money market funds, short-term bonds, and inflation-indexed securities should be sufficient to maintain or modestly build the portfolio's purchasing power."

[61] Outside evaluators may also form opinions regarding the prudence of the fiduciary's investment management activities by using "style based" tests. The basis for these tests is the Sharpe Selection Ratio (which differs from the classic MPT Sharpe Reward to Risk Ratio) calculated through a constrained regression analysis. A positive Sharpe Selection Ratio is a preliminary indication of investment skill. Fiduciaries continuing to employ investment strategies that generate significant and persistently negative ratios may be vulnerable to fiduciary breach allegations for imprudent investment management and bad faith. Style based analysis is useful when the evaluator of portfolio performance is unable "to look under the hood" — i.e., cannot access detailed information regarding day-to-day trading decisions and dynamics. Mutual funds, for example, are often evaluated by using style-based analysis because the funds reveal their investment holdings only semi-annually.

[62] Spaulding, David, *Measuring Investment Performance* (McGraw-Hill, 1997), pp. 63-72.

[63] Fama, Eugene, "Components of Investment Performance," *Journal of Finance* (June, 1972), pp. 551-567 developed a more precise form of attribution analysis, known as "net selectivity" analysis.

[64] There is an additional cross-product term representing the interactions between a manager's asset allocation and security selection decisions. A variation on attribution tests for verification of skill in security selection is the "Portfolio Opportunity Distributions" approach developed by Ronald Surz. Surz constructs the universe of securities that match the decision rules followed by the active investment manager. Random portfolios comparable to the manager's actual portfolio are then formed from the securities within this universe. If the actual portfolio attains results uniformly superior to the randomly formed portfolios, this is taken as a sign that the manager is adding value. Surz, R. J., "Portfolio Opportunity Distributions: A Solution to the Problems with Benchmarks and Peer Groups," *Journal of Performance Measurement* (Winter, 1996). The reader may recognize this as a variation of the "efficiency ratio" test discussed above (*supra*, Cantaluppi & Hug). The Surz testing method is based on simulation technology; whereas the Cantaluppi/Hug testing method is based on historical mean-variance optimization over the applicable performance measurement period. The critical point is not that there is only a single superior method to verify manager skill; but that one or more appropriate tests should be done to determine the prudence of portfolio management strategies prior to their implementation.

Although an in-depth discussion of performance analysis is beyond the scope of this paper, it is worth noting that benchmark-oriented performance measures often provide different rankings to a given managed funds. Thus, the choice of performance measure often determines the ranking outcomes. This is especially the case for performance measures based on MPT asset pricing models (e.g., Jensen's Differential Alpha Test) where the ranking of a fund is a function of the implied discount rate in the asset pricing model. The gist of this essay is to explore the prudence of commercial fiduciary's investment decision making process. Although this topic is related to the topic of testing for ex post evidence of manager skill, it is not identical. Interested readers can find a valuable discussion of the theory of performance measurement in Chen, Zhiwu & Knez, Peter J., "Portfolio Performance Measurement: Theory and Applications," *The Review of Financial Studies*, (Summer, 1996), pp. 511-555.

[65] It is interesting to note that this policy parallels the minimum diversification requirement for mutual funds under the 1940 Investment Advisor Act. However, there are many mutual fund portfolios containing 20 to 30 stocks that are, in fact, highly concentrated sector funds.

[66] By extension, these observations also bear on issues surrounding a commercial

fiduciary's use of its proprietary mutual funds. One commentator advances a three-fold test of prudence with respect to such funds: (1) the investment objective(s) of the fund(s) must be consistent with the needs of the trust account; (2) there must not be alternative investments that are greatly superior to the fund(s); and, (3) assets must not remain in funds while their values deteriorate significantly and while the retail investors leave the fund(s). Proprietary funds, even when authorized by state statute, may place trustees in conflict of interest situations; and, therefore, it is of great importance that the trustee be able to defend their use with a credible analysis. Miller, Dean, "What Is the Duty of a Bank Trustee Regarding Investments in Its Proprietary Mutual Fund?" *The Banking Law Journal* (July, 2005), pp. 704-710.

[67] Cohen, *supra* at 29.

[68] Larry Harris, chief economist for the U.S. Securities and Exchange Commission, explains the issue as follows: "Traders who estimate values from the same information, using the same methods, tend to estimate the same values. Their estimates are highly correlated. They must compete with each other to profit from their insights. Traders whose estimates are not closely correlated with the estimates of other traders have orthogonal estimates (Orthogonal comes from a Greek word that means "at right angles.") Traders obtain orthogonal estimates of value when they base their estimates on information that other traders do not use or when they analyze data using different methods than other traders use. The most profitable traders have very accurate estimates of value that are uncorrelated with the value estimates made by other traders." Harris, Larry, *Trading and Exchanges: Market Microstructure for Practitioners*, (Oxford Univ. Press, 2003), p. 237. Thus, a professional money manager can expect to beat the market only if he or she possesses high forecasting accuracy *and* the manager's forecasts deviate from the consensus forecasts of other market participants. It is hard to beat the market; and an organization should not claim that it is likely to do so prior to confirming such abilities.

[69] Harris explains the concept of comparative advantage as follows: "To win a game, you must not just play it well. You must play it better than your opponents." *Id.* at 476.

[70] Portfolio risk can be controlled through a number of strategies. Investment oriented strategies emphasize broad-scope diversification (reduced asset concentration risk); insurance oriented approaches emphasize the payment of premiums for portfolio insurance (e.g., purchase of protective puts); financial engineering approaches emphasize dynamic hedging techniques (e.g. purchase and sale of futures contracts). The critical observation is that a professional money manager wishing to pursue extreme asset concentration under the belief that he or she has sufficient skill to justify the investment program may also find it prudent to utilize a combination of risk-control strategies designed to prevent catastrophic losses in the event that the

portfolio manager's bets prove wrong.

[71] The extent of portfolio diversification is, of course, also a function of the risk tolerance and required return of the investor. CAPM equilibrium theory's simplifying assumptions leads directly to the two-fund separation theorem which states that the portfolio investment decision is separate from the portfolio financing decision. The investment decision maximizes utility through ownership of the portfolio with the highest expected Sharpe ratio (the market portfolio); the financing decision demands that conservative investors "de-leverage" the portfolio by adding a second fund of risk-free government bonds and that aggressive investors leverage the portfolio by borrowing at the risk-free rate to leverage the portfolio's expected returns. More recent MPT research, however, provides a possible justification for undiversified portfolios when investors have a high risk tolerance and a need to earn high rates of return: "…when borrowing is limited and short sales are prohibited or subject to real-world constraints, the composition of the portfolio of risky securities changes radically from one end to the other of the efficient frontier. At the high end, it contains few securities, usually with a predominance of those with high expected return. At the low end, it tends to be more diversified, with a more-than-proportional presence of the less volatile securities." Markowitz, *supra* at 28.

[72] Siegel, Op. Cit., for example, stresses that one danger of focused portfolios lies in the fact that active management offers only a "conditional expectation" in that return is conditioned on the portfolio manager's forecasting abilities and trading skills. Indexed or asset-class investing, however, offers "unconditional" return expectations because the investor has a positive and unconditional expectation that he or she will earn a risk-premium within the capital market. The investor does not always attain the expected premium but lacking a positive expectation for reward, only risk-free investments would remain in the marketplace. Thus, a well-constructed strategic asset allocation that aligns with the risk/return requirements of the trust and which is linked to broadly diversified market investments like index funds is a portfolio that avoids active or conditional investment risk. In the context of this discussion, two of Siegel's points are of interest:

1. The focused portfolio school of thought argues that implementing a benchmarked portfolio (benchmarked to liabilities or to an asset-side allocation only) is the risky gamble. Indexes, in this view, are capitalization-weighted vehicles that force investors to buy large portions of highly priced stocks and small portions of stocks that may represent potential bargains. Risk is avoided by deviating from the benchmarks (i.e., making active manager decisions) so that you stand a better chance of making money; and,
2. Statistical tests demonstrating that the active manager adds positive risk-adjusted value for the benefit of the investor may not be sufficient to justify placing wealth

in the hands of the manager. This is because, the investor could have achieved an unconditional return without active manager risk and; therefore, to justify assuming the extra risks and costs the investor requires some amount of positive alpha merely for taking "benchmark" risk. A second level of testing is required to determine, given the investor' risk aversion, whether the amount of positive value added by the manager is sufficient to justify the extra risks.

[73] Often, under the treasure-hunting approach, there is only cursory attention paid to the trust's risk tolerance. Rather, an imprudent fiduciary operates solely under the implied utility assumption that more money is always better than less. However, this may be only a short step away from creating a financial debacle by trying to maximize period-to-period return without appropriate risk measurement or management. Although beyond the scope of this essay, the prudent trustee should be aware of an important body of literature discussing the importance of quantifying risk tolerance through a variety of methods including questionnaires, certainty-equivalent choices, mathematical derivations, and so forth. The key point is that characterizing risk tolerance via a subjective label (the settlor wanted "growth," or "safety") is wholly inadequate to document prudence and ludicrously inappropriate to the task of efficient asset management. If commercial trustees are paid a fee for skilled asset management, there is the expectation that they will know how to operationalize these subjective labels so that trusts are subject to effective oversight under future economic conditions. Indeed, this is an area that distinguishes the professional investor from the amateur; and the fiduciary steward of wealth from the stockbroker selling retail clients under NASD "suitability" criteria.

[74] Schanzenbach & Sitkoff, *supra* at 12: "The Restatement and UPIA … consolidated the duty to diversify into the definition of prudence."

[75] ERISA mandates diversification to eliminate the risk of large losses. MPT as narrowly characterized by the history of asset pricing model construction, defines diversification as elimination of unsystematic risk. In a more broad sense, however, MPT also defines diversification as the mitigation of uncertainty in the process of generating dollar wealth. This is a definition of special importance to beneficiaries because they spend dollars not rates of return. Thus, considering diversification from an econometric perspective, diversification is favored to the extent that it reduces the error term (variance of dollar wealth), but it is not favored to the extent that it constrains the manager's ability to add alpha. Full-scale diversification is favored where there is no forecasting ability (expected value of alpha equals zero); but may not be favored in the presence of forecasting ability. Even Eugene Fama, developer of an early expression of the efficient market hypothesis based on martingale mathematics / random walk models, states that forecasting ability — i.e., identification of economic conditions (state variables) which provide informational con-

tent — will effect the portfolio selection decision.

[76] There is a long history of academic research and testing in this area. Examples of published studies include: Fisher, Lawrence & Lorie, James, "Some Studies of Variability of Returns on Investments in Common Stocks," *Journal of Business* (April, 1970); Bloomfield, T., Leftwich, R. & Long, J., "Portfolio Strategies and Performance," *Journal of Financial Economics* (1977); Statman, M., "How Many Stocks Make a Diversified Portfolio?" *Journal of Financial & Quantitative Analysis* (1987); and Domian, D., Louton, D., & Racine, M. D., "Portfolio Diversification for Long Holding Periods: How Many Stocks Do Investors Need?" *Studies in Economics & Finance* (Autumn, 2003). The Domian-Louton-Racine study compares randomly selected portfolios to the S&P 100 U.S. stock index and concludes, "more than 60 stocks are needed to reduce the shortfall amount to less than 10 percent of ending wealth from the 100-stock portfolio" (p. 46).

[77] Technically, random sampling without replacement.

[78] Surz, Ronald & Price, Mitchell, "The Truth About Diversification by the Numbers," *The Journal of Investing* (Winter, 2000). A study of stocks over the period 1986 through 1997 [Campbell, J.Y., Lettau, M., Malkiel, B. G. & Xu, Y., "Have Individual Stocks Become More Volatile? An Empirical Exploration of Idiosyncratic Risk," *The Journal of Finance* (February, 2001), pp. 1-43] concludes that during this period, it required a randomly selected portfolio of 50 stocks to achieve the same average diversification benefits of a portfolio of 20 stocks randomly selected in earlier periods. The authors caution that the number of securities held in periods of economic downturn must increase even further: "Because market volatility is substantially higher in recessions, even a well-diversified portfolio is exposed to more volatility when the economy turns down. The increase in volatility is stronger for an undiversified portfolio, because industry and firm-level volatility also increase in economic downturns. Thus diversification is more important, and requires more individual stock holdings to achieve, when the economy turns down."

[79] *See*, for example, Lorie, James, H., "Diversification: Old and New," *The Journal of Portfolio Management* (Winter, 1975), pp. 25-28. Market risk in the CAPM represents a single common risk factor influencing the returns of all stocks. This single factor can be proxied by the returns on the market. Later extensions of CAPM consider multifactor risk models consisting of both observed factors (the market and macro-economic variables) and unobserved factors (fundamental security attributes and statistical factors based on matrix eigensystems). Idiosyncratic risk, however, keeps its general meaning — i.e., the returns to a specific security that cannot be explained by the security's exposure to one or more pricing factors.

[80] Trivially, an investor could readily build the engine of his own destruction with a portfolio that, although consisting of only a few stocks, nevertheless, evidenced

broad-scope sector diversification within the U.S. large company asset class category. Technology is represented, in this portfolio, by an investment in Lucent Technologies; Airlines, by an investment in Pan Am; Energy, by an investment in Enron; Communication, by an investment in WorldCom; Retailing, by an investment in K-mart; etc.

[81] The Reporter to Restatement Third explains: "The goal of diminishing uncompensated risk through diversification should be a pervasive consideration in prudent investment management and ordinarily applies even within specialized programs (e.g. those limited to assets of a particular type or having special characteristics such as real estate, venture capital and foreign stocks) that may be incorporated into [the portfolio]." Halbach, Edward C., "Trust Investment Law In The Third Restatement," *Real Property, Probate and Trust Journal* (Fall, 1992).

[82] Milligan, Jack, "Money Managers Remain Divided on Market Efficiency," *CFA Magazine* (November/December, 2003), pp. 44-45.

[83] Reilly & Brown, *supra*, at 76.

[84] Malkiel, Burton G., "How Much Diversification is Enough?" *Equity Portfolio Construction* (AIMR, 2002), p. 26. A study by Vardharaj, Raman, Fabozzi, Frank J. & Jones, Frank J, "Determinants of Tracking Error for Equity Portfolios," *Journal of Investing* (Vol. 13, 2004), pp. 37-47 suggests that more than 300 securities are needed to provide a level of diversification sufficient to avoid substantial tracking error risk vis-à-vis a comparative benchmark.

[85] Note that none of the above-listed arguments in favor of international diversification rely on the assumption that foreign securities are bargains — i.e., have a higher expected return than domestic investments. "Performance driven" portfolio management is not a recipe for prudent portfolio construction although it often forms the basis for a compelling sales pitch.

[86] For a discussion of prudent passive investment management see, Collins, Patrick J., "Monitoring Passively Managed Mutual Funds," *The Journal of Investing* (Winter, 1999), pp. 49-61. An excellent description of the tools and techniques of portfolio management from the practitioner's viewpoint is Alford, Andrew, Jones, Robert & Lim, Terence, "Equity Portfolio Management," *Modern Investment Management* (John Wiley & Sons, 2003), pp. 416-434. The authors, employees of the Goldman Sachs Asset Management Group, discuss the promises and pitfalls of various types of investment approaches: "Testing an investment process is important because it helps to distinguish factors that are reflected in stock prices from those that are not. Only factors that are not yet impounded in stock prices can be used to identify profitable trading opportunities….most quantitative managers like to spread their bets across many names so that the success of any one position will not make or break the strategy. Traditional managers, conversely, prefer to take fewer, larger bets given

their detailed hands-on-knowledge of the companies and the high cost of analysis…. Developing good forecasts is the first and perhaps most critical step in the investment process. Without good forecasts, the difficult task of forming superior portfolios becomes nearly impossible" pp. 418-419.

[87] A vast amount of literature explores the accuracy of analyst forecasts, the extent to which forecasts may be biased, and the impact of the recent SEC disclosure obligations (Regulation FD's requirement for corporations to disclose material information publicly and uniformly). Dreman, David N. & Berry, Michael A, "Analyst Forecasting Errors and Their Implications for Security Analysis," *Financial Analysts Journal* (May/June, 1995), pp. 30-41 provides a good historical survey of the research. A comprehensive update is found in Francis, Jennifer, Chen, Qi, Willis, Richard H. & Philbrick, Donna R., *Security Analyst Independence* (Research Foundation of CFA Institute, 2004). Some investment management firms claim that onsite visits and personal interviews with corporate management provide special insights useful for forming opinions on security valuation issues. This claim, however, is doubtful: "Looking at what managers say is close to useless since almost every one of them claims to have the best interests of stockholders at heart." Aswath, Damodaran, "In Search of Excellence! Are Good Companies Good Investments?" (New York University Web site, 2005), p. 131.

[88] Schwartz, Robert A. & Wood, Robert A., "Best Execution," *The Journal of Portfolio Management* (Summer, 2003), pp. 37-48. The CFA Institute publication Trade Management Guidelines makes explicit the linkage between prudence and best execution: "The concept of "Best Execution" is similar to that of "prudence" in intent and practice. Although prudence and Best Execution may be difficult to define or quantify, a general determination can be made as to whether they have been met. In making this determination, one would examine whether the assets were exposed to extraordinary hazards and whether the practice deviated from what other experts would commonly do. Prudence addresses the appropriateness of holding certain securities, while Best Execution addresses the appropriateness of the methods by which securities are acquired or disposed. Security selection seeks to add value to client portfolios by evaluating future prospects; Best Execution seeks to add value by reducing frictional trading costs. These two activities go hand in hand in achieving better investment performance and in meeting standards of prudent fiduciary behavior." www.cfainstitute.org/centre/ethics/tmg/pdf.

[89] John Bogle provides a well-articulated summary of how investment costs in the mutual fund industry have confiscated nearly one-half of the historical real rate of return on equities: "the mathematical expectation of the long-term investor is a shortfall to the stock market's return precisely equal to the costs of our system of financial intermediation — the sum total of all those advisory fees, marketing

expenditures, sales loads, brokerage commissions, transaction costs, custody and legal fees, and securities processing expenses." Bogle, John C., "Whether Markets Are More Efficient or Less Efficient, Costs Matter," *CFA Magazine* (November/December, 2003), pp. 6-7.

[90] Perold, Andre F., "The Implementation Shortfall: Paper Versus Reality," *Journal of Portfolio Management* (1998), pp. 4-9. The leakage of value from poor portfolio implementation and investment cost control may negate the beneficial affects of manager skill: "…having superior information per se does not automatically lead to superior performance, depending on how the manager uses the information. If the manager takes advantage of the information in the right direction, he will typically produce a portfolio outside of the linear span of reference portfolios" Chen & Knez, *supra* at p. 515. It is interesting to note that Chen and Knez define superior performance in terms of a manager's ability to expand the opportunity set beyond that available to the uninformed investor. The fair price of manager skill ["equilibrium management fee"] is further defined as the intertemporal marginal rate of substitution between the manager's portfolio and the reference portfolio (e.g., index fund). This is the rate at which the uninformed investor's marginal utility increases when he sells short one dollar from the reference portfolio and purchases an additional dollar's worth of the manager's portfolio.

[91] For example, capital market theory suggests "…in the presence of positive skew, investors may be willing to accept a negative expected return." Fabozzi, Focardi & Kolm, *supra* at 131.

[92] The reader will recognize that private family trusts often define their liabilities in terms of the income distributions required by trust beneficiaries. *See*, for example, *Restatement (Third) of Trusts: Prudent Investor Rule*, General Comment e., *supra* at 19: "…various distribution requirements facing the trustee effectively serve to define the consequences of the volatility risk with respect to a particular trust."

[93] Quantitative risk measures are reviewed by Amenc, Noel & Le Sourd, Veronique, *Portfolio Theory and Performance Analysis* (Wiley, 2003), pp. 52-54 and 118.

[94] Sykes Wilford, D., "Risk Measurement versus Risk Management," *Improving the Investment Process through Risk Management*, (Association for Investment Management and Research, 2003), p. 17.

[95] There is an informative and rich set of literature dealing with mathematical concepts of prudence and investor utility. *See*, for example, Kimball, Miles S., "Precautionary Saving in the Small and in the Large," *Econometrica* (January, 1990), where prudence is defined as "…the propensity to prepare and forearm oneself in the face of uncertainty, in contrast to 'risk aversion,' which is how much one dislikes uncertainty and would turn away from uncertainty if possible." Kimball explores "prudence" in terms of the optimal response of decision variables to risk. In the con-

text of the consumption/savings decision under uncertainty, prudence represents "the intensity of the precautionary saving motive."

[96] *Restatement (Third) of Trusts: Prudent Investor Rule*, General Comment d. *supra* at 14: "The trustee must give reasonably careful consideration to both the formulation and the implementation of an appropriate investment strategy…."

[97] Abbey Joseph Cohen, chief U.S. investment strategist at Goldman, Sachs & Co., for example, provides a practitioner's viewpoint: "…if investors are not using the right model at the right time, they will get an answer that makes little sense. In addition, investors must take care that they are using reliable data and must formally recognize the inherent lack of precision in many of their observations and measurements. Cohen, *supra* at 29. The practitioner point of view comfortably co-exists with modern investment theory as expressed from the academic point of view: "As a general rule deriving from modern portfolio theory, the more the fiduciary chooses to vary from the passive portfolio strategy, the more evidence is needed of ability and economic rationale." Elton, Edwin & Gruber, *supra* at 187.

[98] Amenc & Le Sourd, *supra* at 10: [Performance evaluation]… "allows the aspects of the process that have been productive to be strengthened and the aspects that have failed to reach the overall objective to be eliminated."

[99] The argument here is that a fiduciary's failure to assess critically the efficacy of investment tools and techniques is evidence of a breach of duty. Specifically, the absence of ongoing monitoring and evaluation systems constitutes negligence in that it is a failure to employ the requisite care skill and caution in the wealth management process. *See*, for example, *In re Rowe*, 712 N.Y.S.2d 662 (N.Y. App. Div., August 10, 2000) where the court stated a fiduciary "can be found to have been imprudent for losses resulting from negligent inattentiveness, inaction or indifference."

[100] By extension, the request for a thorough description of the money manager's internal evaluations should receive a more prominent place in the request for proposal process (RFP) that is ubiquitous in the qualified trust community. Although many RFPs ask for details regarding the "decision making process," little attention is paid to how the organization measures, monitors and evaluates its internal decision making process. See, for example, Olson, Russell L., *The Independent Fiduciary* (John Wiley & Sons, 1999), especially Appendix A: "Typical Questionnaire for a Prospective Equity Manager," pp. 117-120. Elton & Gruber, *supra* at 187-188 elaborate on this point: "…the fund sponsor should require evidence that the manager hired can outperform random selection. In this case, the evidence should first take the form of examining the process used by the manager to select stocks. What special skills does the manager profess to have that allows the manager to pick winners? Is it superior technological knowledge of the industries and the process involved,

superior knowledge of the market place for new products, or something else? The fiduciary should then attempt to see if the manager actually has these special skills…." The rule of thumb for many RFPs is that the evaluator should prefer investment managers with a "disciplined" process. They should be able to articulate their philosophy of stock valuation as well as their discipline for buying and selling securities. Understanding a manager's process, according to conventional wisdom, gives the investor greater confidence during down market cycles. This essay argues that such nostrums should take a back seat to an examination of the money manager's internal diagnostic and quality control systems, for it is in the results of these self-evaluations that the real evidence of skill may be found. Unfortunately, because most self-evaluative tests are proprietary non-public information, results are likely to be disclosed only within the litigation context. Failure to perform such tests or continuation of asset management strategies in the face of poor test results may provide powerful arguments to plaintiff's counsel.

[101] *See*, for example, Moses, Edward A., Singleton, J. Clay & Marshall, Stewart A, "Modern Portfolio Theory and the Prudent Investor Act," *ACTEC Journal* (2004), p. 30: "The fiduciary, however, may decide the efficient portfolio is inappropriate after considering conditions of the trust that go beyond risk and return characteristics of the efficient portfolio."

[102] To a certain extent, it appears that courts are acting as a counterforce to certain opportunistic behaviors by institutional trustees. There is a necessary balancing act between common law fiduciary standards and bright-line industry practices. This balancing act may become especially difficult for institutions wishing to sell their proprietary investment funds. Schanzenbach & Sitkoff, quoting John Langbein, are representative of a "contractarian" point of view that sees prudence as a primarily relational standard: "…like the reasonable person standard in tort law, the understanding of prudence in trust law is informed by 'industry practice — what other trustees similarly situated [are] doing.'" On the other hand, Melanie Leslie argues that information asymmetries between trust settlors and providers of institutional trust services make it imperative that fiduciary duties should not be a function of market forces or banking practices: "…law is a public good, and erosion of fiduciary standards would reduce the value of that public good." Leslie, Melanie, B., "Trusting Trustees: Fiduciary Duties and the Limits of Default Rules," *Benjamin Cardozo School of Law Working Paper No. 111* (2005), p. 18. According to Leslie, standards of practice may not be the sole (or, even ideal) benchmark with which to measure an institutional trustee's prudence. Unlike the contractarian view that stresses the analogies between trust law and business fiduciary standards, Leslie asks: "Why has trust law not developed a version of the business judgment rule? First, there are relatively fewer market pressures to induce trustees to exercise reasonable

care. Trustees need not worry about raising money, maintaining or increasing stock prices, or threat of hostile takeovers. There is no 'share price' or secondary information market that informs other potential customers of a trustee's negligent acts; in fact, negligence is often hard for a beneficiary to detect. Beneficiaries who discover that a trustee is performing poorly will be unlikely to communicate this to the trustee's other clients, who remain unknown to them…. Thus, there is little 'ex post settling up in markets' when a trustee acts negligently with respect to any particular trust account; as long a trustees do not run afoul of regulators, there are few market pressures that encourage them to exercise reasonable care" (p. 26).

[103] The emergence of institutions granting degrees or certificates as accredited fiduciary auditors, certified fiduciary advisors, and the like, is a sign that the discourse is in danger of getting on the wrong track — soon we will be inflicted with debates advocating various "schools of prudence" the doctrines of which will be enforced by the prudence police. Unfortunately, there is a propensity for some institutional trust departments to implement a set of "financial planning rules," which can be followed without the necessity for independent thought. Compliance with the rules can be easily documented, thus giving the veneer of comprehensive investment planning occurring within a prudent administrative framework. Knowledge and competence may take a back seat to proceduralism put to the service of the institution's profit objectives. However, as one commentary remarks: "…the definition of prudence is often subjective, based upon the particular goals of a given investor, and evolving, based upon practice that is shifting to respond to changing market conditions and opportunities. Therefore, determinations of materiality (i.e. — the facts that a prudent investor needs to make an informed and reasonable decision) must be driven by what the individual prudent investor *needs to know*" [emphasis added], Emerson, Jed & Little, Tim, "The Prudent Trustee: The Evolution of the Long-Term Investor," *Report of The Rose Foundation for Communities and the Environment*, Oakland, CA (September, 2005), p. 4.

[104] *See*, for example, Fama, Eugene F. & French, Kenneth R., "Disagreement, Tastes, and Asset Prices," *Working Paper*, University of Chicago (February, 2004); and Cochrane, John H., "Financial Markets and the Real Economy," *Working Paper*, University of Chicago (September, 2005).

[105] *Restatement (Third) of Trusts: Prudent Investor Rule*, Comment d., *supra* at 16.