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MANAGING PRIVATE UNIVERSITY AND COLLEGE ENDOWMENTS: A CASE FOR A DIFFERENTIATED INVESTMENT APPROACH

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Traditional endowment fund investment strategies inadequately reflect the needs and risks of the endowed institution, their principal focus being on relative return and portfolio value volatility to the exclusion of cash flow predictability and enterprise risk management. This paper presents an alternative investment strategy focused on portfolio cash flow generation, compelling annualized returns, downside protection and enterprise risk management, without materially limiting upside opportunity.

INTRODUCTION AND SUMMARY CONCLUSIONS

While some may desire to make the linkage more complex, the general purpose of a college or university endowment is simple: *To support the institution's mission, however that mission may be defined*. As most colleges and universities are unable to support operations, scholarships, and other current needs solely through net income from operating activities, an endowment provides a supplemental source of annual cash flow to minimize or eliminate this gap, and it provides a funding source to grow net assets in support of institutional expansion.* In this context, endowment cash flow and net asset reinvestment are essential to the institution's success in fulfilling its mission.

Institutional risk should play a significant role in endowment portfolio management. Overall institutional risk can be broadly defined as any occurrence that prevents the institution from fulfilling its mission. While possible events and circumstances that present risk always loom, the institution should be managed in a fashion to minimize the probability of their causing financial damage that is difficult to overcome. With this as an overall risk management

*Certainly, an endowment can and should grow through the contribution of donor restricted and unrestricted gifts, but for the purposes of this paper, those sources of growth are not considered.

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foundation, the endowment should be managed to provide consistent and growing cash flow for distributions for current support while adding sufficiently to net assets to drive future institutional growth, both of which should be clearly defined. This paper suggests more emphasis should be placed on managing the endowment to maximize the probability of achieving these objectives.

ENDOWMENT FUND MANAGEMENT OFTEN MISSES THE MARK

Endowment fund management is often focused primarily on (a) spending policy, (b) investment policy that prescribes broad asset allocation and (c) "beating" a specific market or customized performance benchmark. While useful in certain respects, the development and application of these guidelines do not provide sufficient direction to properly manage overall institutional risk, nor do they provide sufficient direction to structure, manage and monitor endowment assets in a manner consistent with the institution's risk profile.

Typical Spending Policies: It is common for spending policies to provide for annual endowment distributions equal to a certain percentage of average endowment value over rolling two- or three-year periods. Such distributions may or may not be sufficient to effectively support the institution's mission, particularly when the cycle includes poor investment return environments or when spending policies do not permit distributions from "underwater" restricted endowment accounts whose annual earnings are insufficient to meet distribution requirements. In such poor environments, distributions may decline at a time when they are needed the most, and securities may have to be liquidated to support distributions at the least opportune time. Spending policies should be revisited periodically to ensure that they provide a methodology that increases the probability of predictable and growing distributions without sacrificing longer term endowment growth.

Typical Asset Allocation Strategies: Most institutions believe that endowment risk can be effectively defined and managed through a traditional asset allocation policy (e.g., allocation weights among equities, fixed income, and alternative investments). It is commonly believed that such an approach will be sufficient, largely in and of itself, to generate necessary annual distributions while providing longer term growth at an acceptable level of portfolio volatility. While this broad approach has a degree of merit, it does not address *consistency* and *predictability* of cash flow distributions, nor does it define the acceptable level of interim portfolio volatility or otherwise reflect the risk profile of the institution. The investment policy should clearly define and provide specific guidance as to the expected level of cash flow distributions and the maximum acceptable level of portfolio volatility with a focus on downside volatility – all within the context of a more holistic or enterprise risk management approach.

The Endowment Fund and Enterprise Risk Management – In General: Because the endowment portfolio is only one source of cash flow and net asset growth, both of which are inherently unpredictable, the institution must take a more holistic approach to risk management and understand the impact of enterprise risks on the endowment portfolio. Key issues that should be considered in defining the endowment portfolio's acceptable risk profile include:

- The institution's overall enterprise risk management profile. The greater the cumulative uninsured high impact risks or the less sophisticated the enterprise risk management process, the less risk the portfolio should assume.

- The institution's overall operating and balance sheet risk profiles as measured by generally accepted standards and peer reviews. To the extent that financial operating metrics such as operating cash flow, coverage ratios and leverage ratios are weak, the less risk the portfolio should assume.

Traditional investment manager evaluation criteria centering on specific performance benchmarks for equities, fixed income and alternative investments do not focus the investment manager on what should be most important to the institution: Enterprise risk management along with portfolio downside protection and cash flow generation. A manager may receive institutional accolades for consistently outperforming designated benchmarks, but this assumes that the benchmarks represent an acceptable risk profile for the institution, which may be an inappropriate assumption.

A DIFFERENTIATED INVESTMENT STRATEGY

As distinguished from normative strategies, the endowment investment manager should be held accountable based on a set of standards that focuses more on management to customized benchmarks that recognize (a) maximum acceptable downside portfolio volatility, (b) minimum acceptable current cash flow generation, and (c) longer term inflation adjusted portfolio growth, all of which are consistent with enterprise risk management goals. These standards are met, and the institution's mission is supported, through the endowment investment strategy that forms the thesis of this paper; namely, an equity strategy designed to generate:

- Compelling annualized returns;
- A stable cash flow component; and
- Low portfolio downside volatility.

Under this strategy, cash flow yield is achieved by investing in the stocks of high quality companies with an above-average dividend yield and a high probability of future dividend growth. Portfolio cash flow is enhanced, and portfolio volatility is reduced, by selling "out-of-the-money" covered call options against portfolio holdings. The combination of (i) a substantial allocation of the endowment portfolio to this strategy, (ii) expected lower portfolio volatility, and (iii) higher annual cash flow from dividends and covered call options presents a transparent and relatively simple strategy that should go far in supporting the endowed institution's mission and improving enterprise risk management.

COMBINING THE INSTITUTION'S RISK PROFILE WITH THE ENDOWMENT FUND'S RISK PROFILE

The endowment portfolio should be designed and managed with more than a passing awareness of the institution's operating and financial risks. To reiterate: *Risk may be defined as any occurrence that prevents the institution from fulfilling its mission.* As with most organizations, internally generated cash flow growth, net asset growth, and access to capital markets at a reasonable cost are fundamental to an institution's financial health and fulfillment of its mission. There are always external headwinds at work that increase risk, derail growth, and interfere with dependable access to capital:[1]

- Competition from other not-for-profit institutions, from for-profit institutions (particularly from the growing popularity of on-line educational programs), and from state-sponsored institutions with ample funding sources to support operations and growth
- The distinct and possible growing price advantage (tuition) public colleges enjoy over their not-for-profit counterparts
- Uncertainties in federal and state funding (e.g., Title IV, Hope, Stafford, and Pell grants)
- Uncertainties associated with donor giving for annual and capital needs
- Financial market volatility
- The viability of business models in a rapidly changing environment
- Key leadership and faculty retention,

… to name a few.

Those institutions with a strong, proven external development culture, superior financial health, a diverse revenue stream, and growing enrollment, will be in a stronger competitive position, and *vice versa*. Accordingly, institutions must address all of these risk factors in their strategic planning and annual operating budgets, choosing very carefully those areas in which risk is assumed (individually and in the aggregate), minimized, and avoided.

CONNECTING THE ENDOWMENT PORTFOLIO TO ENTERPRISE RISK MANAGEMENT

The endowment portfolio is usually a critical piece of the risk management puzzle. The portfolio is called upon to generate supplemental cash flow sufficient to meet the distribution requirements under the spending policy (the short-term objective) while maintaining a sufficient net asset reinvestment rate to support the institution's growth (the long-term objective), all the while being sensitive to the inevitable interim volatility. Frequently, the short-term objective and the need to supplement cash flow from operations are in conflict with the longer term objective. This conflict is common when the endowment is smaller relative to the institution's operating budget. In such circumstances, the impact of interim portfolio volatility is not fully understood and is overshadowed by the pursuit of longer term growth. In a good economic environment the potential conflict can become less topical because (i) the

investment portfolio grows, (ii) donor support and enrollment are strong and perhaps growing, (iii) tuition discounts are lower, and (iv) there are sufficient funds to invest in the institution's mission (e.g., facilities, faculty, staff, and academic programs). Management thus becomes "comfortable" in such an environment and fails to continually challenge the "what ifs" often presented in a less favorable environment.

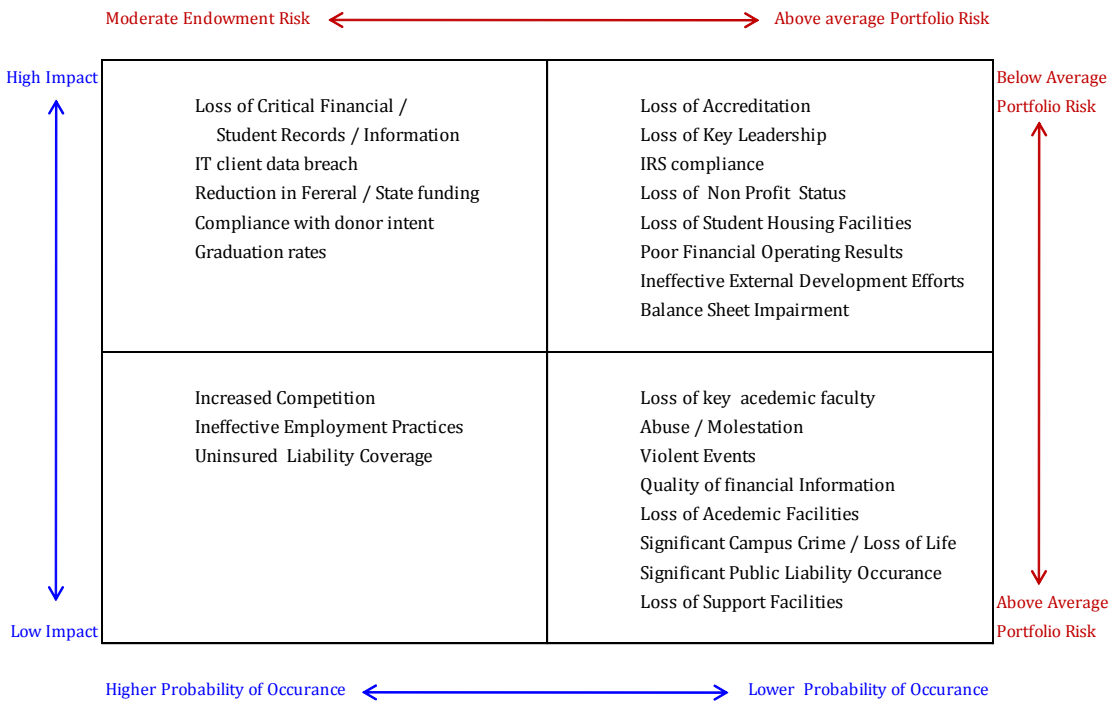
An essential element of risk management is considering unfavorable operating and market environments and evaluating a range of possible outcomes in such environments – not just to the endowment, but to the enterprise as a whole. In the inevitable poor economic environment, many institutions face:

- Lower or flat enrollment perhaps coupled with deeper tuition discounts to maintain enrollment, all resulting in revenue pressures
- Flat or lower annual endowment contributions to support operating budgets and scholarships
- Flat or lower restricted and unrestricted donations
- Impaired endowment portfolio value as either stock or bond market values deteriorate, potentially resulting in underwater donor-restricted funds and reduced operating or scholarship funding (depending on the institution's internal policies as to underwater donor restricted funding)
- The combination of the above resulting in the necessity to cut expenses with less flexibility to invest in the future and impairment of the institution's ability to fulfill its longer term mission
- In a worst case scenario, the balance sheet becomes "impaired", the institution is unable to meet accreditation or federal guidelines for financial safety, and its reputation is at risk.

Until a few years ago, the scenario outlined above might have been considered highly improbable – a high impact/low probability event – undeserving of serious consideration. The tendency is to look at the recent turbulent history as a once-in-thirty-years occurrence that one need not be concerned with for another thirty years. Such dismissal of outliers is the antithesis of risk management where one must prepare for high impact/low probability events. It is important for management to consider the correlation between such events, understand the consequences, and be willing and able to accept the consequences, or, if not, appropriately make adjustments to ensure continuity and competitiveness, even in the worst environments. Management's evaluation of risks to the fulfillment of the institution's mission must be considered, anticipated, and reasonably quantified within the umbrella of an effective overall enterprise risk management process – moving from a reactionary to a proactive approach.

Enterprise risks may be categorized in an impact/probability matrix. For example, the Association of Governing Boards of Universities and Colleges identifies 110 risk events (some of which are noted below) that should be measured and monitored:[2]

IMPACT / PROBABILITY RISK MATRIX - SAMPLE INSTITUTION (Not all Inclusive)



Risk should be evaluated not only in the context of the downside, but also in terms of foregone opportunities. Risk management is not simply about focusing on what might go wrong. Risk management also involves taking too little risk, being too defensive, and incurring the cost of foregone opportunities.

Many institutions may not have a workable enterprise risk management process, may have a process in its infancy, or may have an effective process with a high degree of self-insurance. A 2009 study by the Association of Governing Boards of Universities and Colleges cites that "sixty percent of respondents said their institutions do not use comprehensive, strategic risk assessment to identify major risks to mission success and only five percent of respondents said their institutions have exemplary practices for management of major risks to mission success."[3] A higher enterprise risk profile, or an ineffective or incomplete enterprise risk management process, should be cushioned by a lower risk endowment fund profile.

Once risks are identified and quantified, they should be effectively managed. The institution should determine how much risk to assume and where the "risk bets" should be appropriately placed. The degree to which risks are insured versus self-insured can have a significant impact on enterprise risks and therefore on endowment fund construction. Moreover, it is not just a matter of considering risks one-at-a-time, their covariance and cumulative impact must be considered. Along the way, management should assess the effectiveness of the institution's preparedness and critical action response.

FINANCIAL AND OPERATING RISKS IN MORE DETAIL

Effective management of financial and operating risks is obviously central to the fulfillment of the institution's mission. Therefore, the institution's financial health is an important factor in determining the appropriate risk profile for its endowment portfolio. There is a multitude of recognized financial health benchmarks designed to assess the financial health of an endowed institution, the following being a few of the more important ones:

- **Primary Reserve Ratio**: Expendable net assets (not permanently restricted) / total expenses; or how long the institution could operate using expendable reserves without relying on additional net assets generated by operations. It is a margin of protection against adversity. A reasonable threshold for this ratio should be 0.40 or approximately 5 months.

- **The Physical Net Asset Ratio:** Physical net assets / net assets; has a major influence on the primary reserve ratio and the secondary reserve ratio (non-expendable net assets / total expenses) and further indicates the significance of the physical plant to operating expenses. A lower primary reserve ratio might suggest that less volatility risk in the endowment portfolio is appropriate.

- **Viability Ratio**: Availability of expendable net assets to cover debt should the institution need to settle its obligations as of the balance sheet date. A reasonable level for this ratio should be 1.25 to 2.00. A lower ratio may prevent the institution from borrowing to fund new initiatives, potentially jeopardizing the institution's mission. The combination of poor primary reserve and viability ratios (both expendable net asset driven) may be particularly troublesome with important implications to the risk profile of the endowment, necessitating a greater focus on a reduction in downside volatility relative to the market.

- **Return on Net Assets Ratio**: Change in total net assets / total net assets at the beginning of the year. Assuming an anticipated longer term inflation rate of 3%, a return on assets of 6% would provide real (i.e., inflation-adjusted) longer term growth of 3%. Such things as investment in plant and equipment, investment returns, and development efforts can potentially result in a great deal of annual variability in this ratio, but the trend should be consistently positive and sufficient. A poor or deteriorating trend would suggest a reduction in the negative volatility of net assets, which can be partially accomplished through a reduction in downside volatility of the endowment portfolio.

- **Net Operating Revenues Ratio**: Operating income / revenue; similar to an operating margin and a gauge as to whether there was an operating surplus and, if so, the extent of that surplus. Various authors seem to define this ratio differently (change in unrestricted net assets / total unrestricted revenue).

However, this definition appears to be more aligned with the net income ratio than the net operating revenues ratio. It is important to note that annual, unrestricted private gifts and institutional grants, as well as distributions from the endowment in accordance with the spending policy, are included in operating revenues and can represent a significant percentage of operating revenue (15%+). Consequently, a good margin that is supported by a robust gift/distribution level may provide a false sense of security; or if the surplus was the result of "under-spending" in mission critical areas, the sustainability of the margin should be questioned. In any event, a more stable and predictable source of funding from the endowment (a) provides an important stability factor to the operating margin, (b) reduces margin risk if development risk is higher than desired (either from a poor economic environment and / or from shortfalls in internal capabilities), and (c) provides for a more solid planning environment.

- **Net Tuition Coverage Ratio**: Net tuition and fees / total expenses; measures the extent to which tuition and fees (net of financial aid) contributes to covering total institutional expenses. The lower the ratio or a declining trend in the ratio suggests that the institution may be diversifying its funding sources or perhaps is relying more heavily on annual fund contributions and endowment income to support operations. The latter might suggest that more consistent and reliable funding from the endowment is particularly important.

- **(Private Gifts and Grants + Endowment Revenue) / Total Revenue**: Not a standard financial metric and something of a complement to the net tuition coverage ratio and net operating revenues ratio. It is important for the institution to fully understand the sensitivity of net tuition and fees to total revenue, the impact of a potential enrollment decline (given competitive and economic factors) to operating revenues and other support, the potential compounded impact should private gifts and grants decline concurrently, and the ability to respond through expense management without a meaningful impact to the institution's mission.

- **Leverage Ratio**: Unrestricted and temporarily restricted net assets / debt outstanding. Net assets / total assets are another way of looking at leverage / capitalization. Both ratios indicate the flexibility the institution has to respond to needs over a period of time or the ability of the institution to respond to actual or unforeseen financial events. As with the viability ratio, higher leverage has implications to the risk profile of the endowment, possibly necessitating a greater focus on a reduction in downside volatility relative to the market.

- **Department of Education (DOE) Composite Score**: The composite score (using the primary reserve, net operating revenue and the equity ratios) is important, as the DOE uses it as a gauge of institutional financial health. Institutions

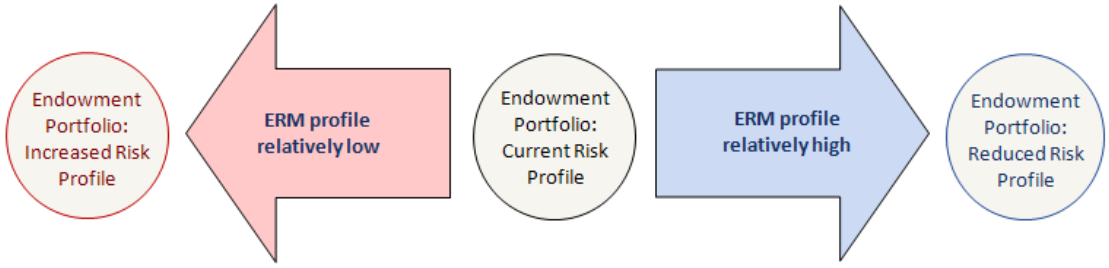
consistently below a DOE Composite Score of 1.5 may be subject to the elimination of Title IV federal funding, an event which could severely impact the institutions longer term viability.

The measurements described above should be viewed absolutely, on a four- to five-year trend, relative to the institution's peers and relative to the institution's mission. To the extent that the institution's financial health is weak and not up to expectations in supporting the institution's core mission, a lower risk endowment fund profile is indicated.

PORTFOLIO CONSTRUCTION REFLECTIVE OF ENTERPRISE RISK MANAGEMENT

Institutions with a robust enterprise risk management (ERM) process, where all risks are identified, quantified (to the extent possible), monitored and managed, are positioned to evaluate and employ a wide range of endowment portfolio risk/reward profiles and strategies. Those institutions *without* an effective ERM process, or with a relatively high risk profile, should, by default, migrate to a relatively conservative endowment fund posture with a primary focus on lower volatility, loss mitigation, and cash flow sufficiency and stability (this paper suggests many institutions are in this category).

Relative Enterprise Risk Management Profile



Enterprise and financial risks assumed by many institutions in today's uncertain world are of such magnitude that the endowment portfolio should be managed to provide greater stability and predictability (especially with cash flows) than is typically the case. Instead, many endowment funds are managed primarily to provide maximum appreciation, perhaps in an attempt to recover from the 2008 – 2009 bear market. By definition, lower volatility and greater cash flow certainty require a more "conservative" portfolio profile, and such a profile may seem inconsistent with the traditional and widely accepted focus on growth. Instead of adhering to what almost has become the "industry standard" approach – multi-asset class, multi-manager portfolio construction – the endowment portfolio should be tailored to the institution's unique mission and enterprise risk management profile. By examining the endowment spending policy, asset allocation model, portfolio performance benchmarks, and investment manager performance benchmarks, we develop an improved, more risk-tailored portfolio design.

THE SPENDING POLICY

Most spending policies call for distributions equal to a percentage of the average annual portfolio value over a two- or three-year time frame. A better method is needed to provide sufficient and predictable cash flow tailored to the institution's needs. For example, the spending policy might be revised with a focus on a target distribution rate as a percentage of operating expenses or some other standard uniquely important to the institution. The Uniform Prudent Management of Institutional Funds Act (UPMIFA) does not preclude such an approach, provided the institution operates within the rules of prudence and guidelines established under UPMIFA (this applies only to states that have adopted UPMIFA, such as Georgia).[4]

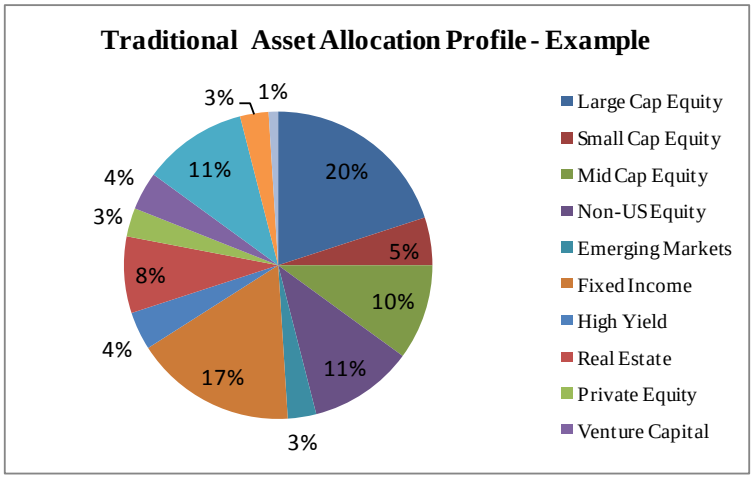
A spending policy that focuses on cash flow and operating needs is a significant divergence from the conventional practice which suggests that "…spending should conform to and be determined by investment results, not the other way around. Trustees should never let spending wishes or 'needs' influence – let alone determine – investment objectives."[5] That viewpoint is certainly imbedded in most spending policies that typically call for distributions equal to a percent of the average portfolio value over a two- or three-year time frame. Unfortunately, such an approach to spending does not necessarily support the institution's needs, particularly in a volatile or low interest rate investment environment. Neither does the spending policy strategy ensure a "recovery" in a volatile market environment.

Year	Equity Perf	Beg Equity Value	Beg Fixed Inc Bal	4.00% Dist.	Tot Port Value
Beginning Values >>		$32,500	$17,500		**$50,000**
1	7.00%	$32,775	$17,500	**$2,000**	$50,275
2	-10.00%	$27,492	$17,500	$2,006	$44,992
3	4.00%	$26,655	$17,500	$1,937	$44,155
4	6.00%	$26,395	$17,500	$1,859	$43,895
5	8.00%	$26,733	$17,500	$1,774	$44,233
6	-9.00%	$22,563	$17,500	$1,764	$40,063
7	11.00%	$23,336	$17,500	$1,709	$40,836
8	7.00%	$23,301	$17,500	$1,668	$40,801
9	4.00%	$22,610	$17,500	**$1,623**	**$40,110**

In this simple example that assumes a $50 million portfolio invested 65% in equities and 35% in fixed income, the spending rate (Dist) is set at 4% of the previous three-year average ending portfolio balance (in Year 2, an average of two years), the equity market is subject to the volatility shown, and the fixed income portfolio shows no appreciation, which is reasonable in the current low interest rate environment. Income is not reinvested, as all income is distributed as part of the spending policy requirement. Note the impact of a 10% decline in the stock market in Year 2. The equity portfolio balance declines by $5,283, the result of $3,283 in capital depreciation plus the $2,000 distribution (the annual spending policy distribution). Even though the market recovers over the next three years, the portfolio does not and overall distributions continue to decline. The result: The endowment fund is significantly impaired, which in turn significantly reduces the level of annual distributions, which of course are needed to support the institution's mission. It should be noted that a spending policy simply based on another non-traditional standard likely would not solve this problem. Taken alone, that would be a valid observation. However, when a revised spending policy is *combined with an alternative portfolio design* that generates above-average cash flow

and minimizes volatility, a viable and perhaps preferred alternative emerges. Such an alternative portfolio design is described below on page 19.

THE ASSET ALLOCATION MODEL



The traditional endowment fund asset allocation model focuses on longer term growth and assumes that an "ideal" asset allocation between equities, fixed income and other asset classes, along with an "optimal" allocation among sectors, market capitalization and domestic versus foreign companies, will effectively manage risk. This approach adopts the *Portfolio Optimization Theory* and seeks to position the endowment fund at the appropriate point on the so-called *Efficient Frontier* curve.[6] Importantly, this approach relies on the continuation of historical return and volatility relationships (e.g., low correlation between asset classes) as the primary means to manage risk, and risk is essentially considered to be primarily, if not only, about portfolio value volatility. Such a definition of risk is incomplete (e.g., it excludes enterprise risk management factors).

With the financial press and investment seminars showcasing the aggressive use of unconventional asset classes and extraordinary weighting of illiquid assets such as timber, private equity and hedge funds – the so-called *Yale/Harvard Model* – endowments of all shapes and sizes seemingly decided that was the model to adopt. In many cases there was an incomplete understanding of the risks and illiquidity associated with these alternative investment strategies, not to mention a lack of awareness of their underlying leverage. Therefore, many investment committees were not in a position to properly evaluate the suitability of the Yale/Harvard Model for their institutions. Nonetheless, as alternative strategies and multi-asset class diversification became the norm, such strategies were increasingly implemented.

The 2008 – 2009 experience has resoundingly called into question the efficacy of the asset allocation models described above. The assumed negative correlation that was looked to for risk management largely collapsed, resulting in far less portfolio value protection than expected. In addition, many institutions' liquidity was strained further by hedge fund and private equity fund lockouts or capital calls. Consequently, many institutions have rethought the effectiveness of both alternative investments and the above traditional asset allocation model illustrated above (Query: Perhaps the institutions are not staying invested long enough for the strategy to be effective; that, too, is a common problem.). A 2009 study by NACUBO suggests that many endowments are now taking a different approach to asset allocation, with a

focus on risk, inflation hedges, deflation hedges, and diversification rather than the traditional asset class approach [7]

The new approaches referenced in the NACUBO study are not time-tested, nor were the asset allocation models referenced above. While the most recent bear market environment is not, in and of itself, a reason for a wholesale change in asset allocation strategy, it does provide an opportunity to re-think the efficacy of portfolio design. The experience of the last few years brings to the forefront the potential tradeoff between longer term growth and interim volatility, the latter of which is becoming far more important in the overall risk management process and is not adequately addressed in the traditional asset allocation models. The asset allocation model most foundations employ focuses primarily on one type of risk: portfolio value volatility and the portfolio strategies employed attempt to suppress volatility. Other critical risks, including cash flow generation to support the spending policy, and the institution's financial risk, are often ignored.

Two recent articles in the *Journal of Portfolio Management* focus on the sustainability of endowment spending levels and the need to focus more on ten-year investment manager performance records (the article cites the common practice of firing managers after only three-to-five years as a cause of poor long-term portfolio results). Because of the math of compounding, for institutions that are highly-dependent on the endowment fund's spending distributions, it is especially important for the portfolio to have a basis to believe volatility containment and downside protection are a substantial part of the portfolio's design, and of the investment manager's skill set. For this reason, the *Journal of Portfolio Management* articles that argue for higher Sharpe Ratios (i.e., higher risk-adjusted returns) over ten-year periods take on added significance *because risk and volatility management statistics over periods longer than the traditional three-to-five years are far more meaningful and useful*. [8]

For example, a 25% portfolio loss in year one would require a 33% gain the succeeding year simply to maintain the previous year's beginning corpus. Should the institution's spending policy call for a 5% distribution in year one, the portfolio would have to increase 43% in year two to maintain the original corpus (and the original spending level). Such an environment can be very real as was experienced in 2008 – 2009 where flat to declining enrollment and a decline in annual gifts pressured operating margins, particularly for those institutions with little expense management flexibility. This period also witnessed an almost unprecedented drawdown in endowments, further exacerbating the problem – thus, the tension between spending and longer term growth objectives. A decision to increase spending could very possibly result in substantial impairment of the portfolio and the institution's mission while a decision to reduce spending to preserve the corpus might result in an operating shortfall of such magnitude as to impair the institution's ongoing operations.

One may believe that the most recent experience is a once-in-thirty-years event that need not be given significant risk management planning consideration. However, history does not support this contention; neither does the equity market as determined by the standard deviation of returns of the S&P 500 which suggest that there is a high probability of a 20%

drawdown within a given ten-year period.[9] There is also a meaningful probability that future equity market volatility may be higher than history suggests. Therefore, it is important to manage not just portfolio volatility, but also volatility from a comprehensive institutional perspective (e.g., volatility in annual gifting, endowment gifting, enrollment, and federal/state student financial aid).

Asset allocation models should reflect the enterprise *risk management profile of the entire institution* and be tailored to optimize the institution's appetite for interim volatility, the need for predictable cash flow, and the longer term need for preservation of purchasing power – a priority scale quite different from the traditional asset allocation approach centered on asset class co-variance and beating an index over rolling three and five year periods.

PORTFOLIO PERFORMANCE BENCHMARKS

Typical portfolio performance benchmarks focus on three- and five-year performance relative to equity and fixed income indices or customized benchmarks, with success being determined by how the portfolio performed relative to those benchmarks. Portfolio management and manager performance should address more than "beating" the market or selected indices. Instead, a much greater focus should be on evaluating whether the portfolio (a) complements the institution's overall risk management profile, (b) provides a predictable and consistent source of annual distributions, (c) provides appropriate portfolio growth through reinvestment to support institutional expansion, and (d) manages downside portfolio volatility within the needs of the institution. It is worth repeating that the traditional benchmark approach that most institutions employ focuses far too much on "beating the S&P 500" than on these more important and enduring objectives.

The investment policy that guides the management of the endowment fund, and that guides the investment committee's monitoring process, should focus more on:

- Ten-year performance data (and less on three- and five-year data) [10]
- Growth in the endowment fund's value (excluding new contributions but including distributions) versus inflation (including Higher Education Price Index [HEPI]) and versus its ability to recover from market declines
- Maintaining and growing cash flow yield and cash flow consistent with the institution's spending policy
- Volatility containment:
    - A portfolio downside regression beta not to exceed X
    - Loss mitigation – maximum portfolio drawdown of X%

Each of these metrics should be customized to the institution's risk profile.

INVESTMENT MANAGER BENCHMARKS

Many institutions use multiple investment managers. When multiple managers are used, it is important to distinguish between the performance of the overall endowment fund portfolio and the performance of individual managers. The risk-adjusted performance of the endowment portfolio, and how well its performance reflects the enterprise risk management principles discussed herein, are easily overlooked when the discussion is largely about how well an individual manager's slice of the portfolio performed versus a benchmark(s) over three- and five-year periods. The focus on individual managers "beating" a benchmark or peer group can obfuscate the overall portfolio's cohesion with enterprise risk management.

While a manager's absolute performance versus traditional benchmarks (e.g., the S&P 500) is important, the benchmark should be modified and expanded to include performance relative to preservation of purchasing power, volatility metrics, and cash flow generation. One modification that could increase the effectiveness of endowment portfolios is a greater focus on rolling ten-year *Sharpe Ratios* that measure risk-adjusted returns.[11] It should be less than satisfactory for a manager to beat the S&P 500, for example, while exposing the institution to more risk than appropriate or more risk than the institution is willing to assume. Even if the focus remains on absolute returns versus the preferred risk-adjusted returns, a longer time horizon than the standard three and five years should be used to recognize the fact that many of the best performing managers often have under-performing three- and five- year records (but top quartile ten-year records).[12] When proper emphasis is placed on portfolio risk management, only those managers who have audited performance records of at least ten years with demonstrated risk-management skill, and who can provide appropriate counsel to the institution with respect to a wide variety of enterprise risk management issues, should be considered.[13]

AN ALTERNATIVE ENDOWMENT PORTFOLIO DESIGN

Is it possible to concurrently achieve managed downside volatility, above-average cash flow generation, and preservation of purchasing power? Conventional wisdom would suggest that these objectives are, in whole or in part, mutually exclusive. While there are no silver bullets, there are solutions that better meet institutional goals than the traditional approach outlined above. The following set of examples provides one approach that accomplishes these objectives and can be tailored to an institution's unique risk management profile.

Table 1 illustrates a $50 million portfolio in a low volatility equity environment where the equity portfolio provides a consistent 6% annual capital appreciation and a 2% dividend return (based on beginning equity portfolio balance). Some may argue for a higher than 8% total return assumption, but a higher assumption may lead to a false sense of security and would be inconsistent with an overall risk management philosophy. The fixed income cash flow return is set at 3.00% of the beginning fixed income portfolio balance, and no fixed income appreciation is assumed given the low current yield-to-maturity (YTM) opportunities and expectation of higher inflation and higher rates (lower bond values) over the next five years. The likelihood of

capital *depreciation* in the fixed income portfolio over the illustrated time horizon is real due to the probability of higher inflation, but fixed income depreciation is not assumed. The initial asset allocation is 65% equities/35% fixed income, and the portfolio is rebalanced each year after Year 1 to maintain this allocation. Total portfolio distributions are "set" at 4.00% of anticipated operating expense (a revised spending policy focused on supporting the institution's mission); the Year 1 distribution is $2,080,000. Inflation, based on HEPI, is pegged at 3% and the annual distribution is increased by that amount each year. Income is not reinvested, as the annual spending policy distribution exceeds the portfolio's annual income.

Table 1 [14]

Beginning Portfolio Value (mills): $50

Target Allocation: Equities 65.00% Fixed Income 35.00%

Year	Beginning **Equity** Balance (000'$)	Equity Mkt Perf.	Equity Portfolio Perf @ a 1.00 Beta	Equity Portfolio Apprec Only Return	**Equity Portfolio Apprec Only Return**	Total Portfolio Cash Flow Divs + Int	"Required" Distributions	Cash Flow "Shortfall"	Dist as a % of Beg. Port Bal.	Ending **Equity** Portfolio Balance	Ending Fixed Income Port Bal	Ending **Total** Portfolio Balance	Reinvestment Rate	Ending Portfolio Bal as a % of Operating Expense
Beg	$32,500										$17,500			
1	$32,500	6.00%	6.00%	6.00%	$1,950	$1,175	-$2,080	-$905	4.18%	$33,748	$17,297	$51,045		98.16%
2	$33,179	6.00%	6.00%	6.00%	$1,991	$1,193	-$2,163	-$970	4.24%	$34,428	$17,645	$52,072	2.01%	96.29%
3	$33,847	6.00%	6.00%	6.00%	$2,031	$1,206	-$2,250	-$1,043	4.32%	$35,092	$17,985	$53,077	1.93%	94.37%
4	$34,500	6.00%	6.00%	6.00%	$2,070	$1,219	-$2,340	-$1,120	4.41%	$35,739	$18,315	$54,054	1.84%	92.41%
5	$35,135	6.00%	6.00%	6.00%	$2,108	$1,232	-$2,433	-$1,201	4.50%	$36,365	$18,635	$55,000	1.75%	90.41%
6	$35,750	6.00%	6.00%	6.00%	$2,145	$1,244	-$2,531	-$1,286	4.60%	$36,965	$18,942	$55,906	1.65%	88.37%
7	$36,339	6.00%	6.00%	6.00%	$2,180	$1,256	-$2,632	-$1,376	4.71%	$37,536	$19,233	$56,769	1.54%	86.28%
8	$36,900	6.00%	6.00%	6.00%	$2,214	$1,267	-$2,737	-$1,470	4.82%	$38,072	$19,507	$57,580	1.43%	84.15%
9	$37,427	6.00%	6.00%	6.00%	$2,246	$1,278	-$2,847	-$1,569	4.94%	$38,571	$19,761	$58,332	1.31%	81.97%
10	$37,916	6.00%	6.00%	6.00%	$2,275	$1,288	-$2,960	-$1,673	5.08%	$39,025	$19,992	**$59,017**	1.17%	79.74%
				Ten years	$21,210	$12,359	-$24,973	-$12,614	4.58%	1.85%	1.34%	**1.67%**		

Portfolio cash flow is insufficient to cover distributions

10 year annualized growth rates

Assumptions:

Each year, after year one, the portfolio is rebalanced to equal the target equity / fixed income allocation

Dividend yield is held at 2.00% of the equity portfolio's beginning of year balance

Bond yield to maturity is 3.00% which is also the cash yield and based on beginning of year value.

Cash flow from dividends (2% yield) and interest (3% yield) is not sufficient to "cover" required distributions as illustrated in the "Cash Flow Shortfall" column, resulting in the sale of securities over time to make up the difference. The portfolio's ten-year compounded growth rate of 1.67**%** is insufficient to protect purchasing power. This insufficient growth rate is primarily attributed to inadequate cash flow to reinvest and the low return from the fixed income component. Distributions as a percentage of the beginning portfolio balance grow to a harmful level while the portfolio balance as a percentage of operating expenses falls materially. This strategy fails to meet the institution's objectives.

The institution could take a more aggressive stance in asset allocation to enhance expected results by increasing the portfolio allocation to equities from 65% to 80%, the results shown in Table 2 below.

Table 2

Beginning Portfolio Value (mills): $50

Target Allocation: Equities 80.00% Fixed Income 20.00%

Year	Beginning **Equity** Balance (000'$)	Equity Mkt Perf.	Equity Portfolio Perf @ a 1.00 Beta	Equity Portfolio Apprec Only Return	**Equity Portfolio Apprec Only Return**	Total Portfolio Cash Flow Divs + Int	"Required" Distributions	Cash Flow "Shortfall"	Dist as a % of Beg. Port Bal.	Ending **Equity** Portfolio Balance	Ending Fixed Income Port Bal	Ending **Total** Portfolio Balance	Reinvestment Rate	Ending Portfolio Bal as a % of Operating Expense
Beg	$40,000										$10,000			
1	$40,000	6.00%	6.00%	6.00%	$2,400	$1,100	-$2,080	-$980	4.17%	$41,536	$9,884	$51,420		98.88%
2	$41,136	6.00%	6.00%	6.00%	$2,468	$1,128	-$2,163	-$1,036	4.21%	$42,696	$10,160	$52,856	2.79%	97.74%
3	$42,285	6.00%	6.00%	6.00%	$2,537	$1,150	-$2,250	-$1,099	4.26%	$43,868	$10,438	$54,306	2.74%	96.56%
4	$43,445	6.00%	6.00%	6.00%	$2,607	$1,174	-$2,340	-$1,166	4.31%	$45,049	$10,719	$55,768	2.69%	95.34%
5	$44,615	6.00%	6.00%	6.00%	$2,677	$1,197	-$2,433	-$1,236	4.36%	$46,237	$11,002	$57,239	2.64%	94.09%
6	$45,791	6.00%	6.00%	6.00%	$2,747	$1,221	-$2,531	-$1,310	4.42%	$47,430	$11,285	$58,715	2.58%	92.81%
7	$46,972	6.00%	6.00%	6.00%	$2,818	$1,244	-$2,632	-$1,388	4.48%	$48,624	$11,569	$60,193	2.52%	91.48%
8	$48,154	6.00%	6.00%	6.00%	$2,889	$1,268	-$2,737	-$1,469	4.55%	$49,817	$11,852	$61,669	2.45%	90.12%
9	$49,335	6.00%	6.00%	6.00%	$2,960	$1,292	-$2,847	-$1,555	4.62%	$51,005	$12,135	$63,139	2.38%	88.72%
10	$50,512	6.00%	6.00%	6.00%	$3,031	$1,315	-$2,960	-$1,645	4.69%	$52,184	$12,415	**$64,599**	2.31%	87.28%
				Ten years	$27,135	$12,088	-$24,973	-$12,885	4.41%	2.69%	2.19%	**2.59%**		

Portfolio cash flow is insufficient to cover distributions

10 year annualized growth rates

Assumptions:

Each year, after year one, the portfolio is rebalanced to equal the target equity / fixed income allocation

Dividend yield is held at 2.00% of the equity portfolio's beginning of year balance

Bond yield to maturity is 3.00% which is also the cash yield and based on beginning of year value.

This allocation strategy still results in a cash flow shortfall each year. Purchasing power is modestly well protected (note the 2.59% annualized return). While this strategy could be a marginally acceptable solution, we know from history the assumed consistency of equity appreciation (6% every year) is unrealistic. What the future brings, no one knows. *Expert* economists are as wrong as often as they are right, and the equity and bond markets do not always reflect what is happening in the economy – adding even greater uncertainty.

Table 3 uses the previous example as a base but introduces market volatility in the equity portfolio and assumes the endowment fund's equity component performance mirrors that of the market (note column "Equity Port Perf @ a 1.00 Beta). While one could certainly argue over the degree and timing of market volatility (e.g., as provided with Monte Carlo analysis), such does not alter the final conclusion.

Table 3

Beginning Portfolio Value (mills): $50

Target Allocation: Equities 80.00% Fixed Income 20.00%

Year	Beginning **Equity** Balance (000'$)	Equity Mkt Perf.	Equity Portfolio Perf @ a 1.00 Beta	Equity Portfolio Apprec Only Return	**Equity Portfolio Apprec Only Return**	Total Portfolio Cash Flow Divs + Int	"Required" Distributions	Cash Flow "Shortfall"	Dist as a % of Beg. Port Bal.	Ending **Equity** Portfolio Balance	Ending Fixed Income Port Bal	Ending **Total** Portfolio Balance	Reinvestment Rate	Ending Portfolio Bal as a % of Operating Expense
Beg	$40,000										$10,000			
1	$40,000	8.00%	8.00%	8.00%	$3,200	$1,100	-$2,080	-$980	4.17%	$42,336	$9,884	$52,220		100.42%
2	$41,776	7.00%	7.00%	7.00%	$2,924	$1,145	-$2,163	-$1,018	4.14%	$43,805	$10,325	$54,130	3.66%	100.09%
3	$43,304	-9.00%	-9.00%	-9.00%	-$3,897	$1,176	-$2,250	-$1,074	4.16%	$38,473	$10,701	$49,174	-9.16%	87.43%
4	$39,339	4.00%	4.00%	4.00%	$1,574	$1,097	-$2,340	-$1,243	4.76%	$39,828	$9,662	$49,489	0.64%	84.61%
5	$39,592	6.00%	6.00%	6.00%	$2,375	$1,102	-$2,433	-$1,332	4.92%	$40,812	$9,708	$50,520	2.08%	83.05%
6	$40,416	8.00%	8.00%	8.00%	$3,233	$1,118	-$2,531	-$1,413	5.01%	$42,433	$9,901	$52,334	3.59%	82.72%
7	$41,868	-9.00%	-9.00%	-9.00%	-$3,768	$1,147	-$2,632	-$1,485	5.03%	$36,831	$10,255	$47,086	-10.03%	71.56%
8	$37,669	11.00%	11.00%	11.00%	$4,144	$1,063	-$2,737	-$1,674	5.81%	$40,376	$9,152	$49,528	5.19%	72.38%
9	$39,623	7.00%	7.00%	7.00%	$2,774	$1,102	-$2,847	-$1,744	5.75%	$40,911	$9,633	$50,545	2.05%	71.02%
10	$40,436	4.00%	4.00%	4.00%	$1,617	$1,118	-$2,960	-$1,842	5.86%	$40,494	$9,820	**$50,314**	-0.46%	67.98%
				Ten years	$14,176	$11,168	-$24,973	-$13,805	4.96%	0.12%	-0.18%	**0.06%**		

Portfolio cash flow is insufficient to cover distributions

10 year annualized growth rates

Assumptions:

Each year, after year one, the portfolio is rebalanced to equal the target equity / fixed income allocation

Dividend yield is held at 2.00% of the equity portfolio's beginning of year balance

Bond yield to maturity is 3.00% which is also the cash yield and based on beginning of year value.

Bottom line: The introduction of volatility materially impacts results compared to Table 2. Due to the power of negative compounding, combined with a consistent level of required distributions, the ending portfolio balance is essentially unchanged over the ten-year period, and portfolio cash flow from dividends and interest still falls far short of required distributions. This strategy is not consistent with the institution's objectives. Additionally, the introduction of volatility impacts interim net asset results, which might be particularly troublesome if net expendable assets are low relative to the primary reserve and viability ratios (note, the portfolio's equity performance is assumed to mirror the market, i.e., a beta of 1.00). This is an unacceptable outcome. A key point is to recognize that portfolio value volatility, and its connection to the enterprise's risk profile, has a critical bearing on the endowment fund's impact on the institution's financial well being.

The challenge then becomes what portfolio strategy, if any, can be deployed to generate required distributions, dampen volatility, and grow the portfolio? Of course, dampening volatility could be accomplished by increasing the fixed income allocation from 20% back to the initial 35%, but doing so would further exacerbate the cash flow shortfall.

Table 4 provides a desirable alternative. In this example, the portfolio is structured to provide a beginning current dividend yield of 4% (a higher dividend yield than the S&P 500 yield). It is assumed that volatility is dampened by investing in securities with a downside beta of 0.70 and an upside beta of 0.85, attainable in today's market, thus dampening portfolio volatility. [15] The outcome assuming the same volatility and market performance as in Table 3:

Table 4

Beginning Portfolio Value (mills): $50

Target Allocation: Equities 80.00% Fixed Income 20.00%

Year	Beginning **Equity** Balance (000'$)	Equity Mkt Perf.	Equity Portfolio Perf @ Below Beta	Equity Portfolio Apprec Only Return	**Equity Portfolio Apprec Only Return**	Total Portfolio Cash Flow Divs + Int	"Required" Distributions	Cash Flow "Shortfall"	Dist as a % of Beg. Port Bal.	Ending **Equity** Portfolio Balance	Ending Fixed Income Port Bal	Ending **Total** Portfolio Balance	Reinvest ment Rate	Ending Portfolio Bal as a % of Operating Expense
Beg	$40,000										$10,000			
1	$40,000	8.00%	6.00%	5.10%	$2,040	$1,900	-$2,080	-$180	4.17%	$41,976	$9,884	$51,860		99.73%
2	$41,488	7.00%	5.00%	4.25%	$1,763	$1,967	-$2,163	-$196	4.17%	$43,180	$10,251	$53,431	3.03%	98.80%
3	$42,745	-9.00%	-7.00%	-4.90%	-$2,094	$2,017	-$2,250	-$232	4.21%	$40,560	$10,557	$51,117	-4.33%	90.89%
4	$40,894	4.00%	2.00%	1.70%	$695	$1,943	-$2,340	-$396	4.58%	$41,353	$10,062	$51,415	0.58%	87.90%
5	$41,132	6.00%	4.00%	3.40%	$1,398	$1,953	-$2,433	-$481	4.73%	$42,229	$10,105	$52,334	1.79%	86.03%
6	$41,867	8.00%	6.00%	5.10%	$2,135	$1,982	-$2,531	-$548	4.84%	$43,652	$10,275	$53,927	3.04%	85.24%
7	$43,142	-9.00%	-7.00%	-4.90%	-$2,114	$2,033	-$2,632	-$599	4.88%	$40,648	$10,583	$51,230	-5.00%	77.86%
8	$40,984	11.00%	9.00%	7.65%	$3,135	$1,947	-$2,737	-$790	5.34%	$43,569	$10,006	$53,575	4.58%	78.29%
9	$42,860	7.00%	5.00%	4.25%	$1,822	$2,022	-$2,847	-$825	5.31%	$44,119	$10,467	$54,586	1.89%	76.70%
10	$43,669	4.00%	2.00%	1.70%	$742	$2,054	-$2,960	-$906	5.42%	$43,790	$10,653	**$54,442**	-0.26%	73.56%
				Ten years	$9,523	$19,819	-$24,973	-$5,154	4.77%	0.91%	0.63%	**0.85%**		

Portfolio cash flow is insufficient to cover distributions

10 year annualized growth rates

Assumptions:

Each year, after year one, the portfolio is rebalanced to equal the target equity / fixed income allocation

Dividend yield is held at 4.00% of the equity portfolio's beginning of year balance

Bond yield to maturity is 3.00% which is also the cash yield and based on beginning of year value.

Downside beta of 0.70 and upside beta of 0.85. And, equity appreciation also reduced by 200 bps to reflect option premium cash flow return.

Here, the "Cash Flow Shortfall" column illustrates the portfolio cash flow return is much closer to required distributions, providing the institution with greater predictability under the revised spending policy. Portfolio volatility is cushioned by the beta profile (0.70) of the securities selected. While the portfolio has a positive ten-year growth rate (0.85%), this growth rate is still less than anticipated inflation. Given the institution's appetite for less risk, this is a far more suitable strategy even though all of the portfolio objectives still have not been attained.

Table 5 adds one more dynamic: the addition of a written covered call option strategy against each of the same portfolio holdings as are held in the Table 4 portfolio. The addition of this strategy further reduces the overall downside beta from 0.70 to 0.60 (meaning equity returns should decline less than the broad market) but also lowers the upside beta from 0.85 to 0.80 (equity returns in a positive market environment will likely lag the market). The strategy anticipates additional current income of 3.50% (annualized) from call option premiums

received, a realistic assumption in today's market and a realistic longer term assumption. The outcome:

Table 5

Beginning Portfolio Value (mills): $50

Target Allocation:	Equities	80.00%	Fixed Income	20.00%

Year	Beginning **Equity** Balance (000'$)	Equity Mkt Perf.	Equity Portfolio Perf @ Below Beta	Equity Portfolio Apprec Only Return	**Equity Portfolio Apprec Only Return**	Total Portfolio Cash Flow Divs + Int	"Required" Distributions	Cash Flow "Shortfall"	Dist as a % of Beg. Port Bal.	Ending **Equity** Portfolio Balance	Ending Fixed Income Port Bal	Ending **Total** Portfolio Balance	Reinvest ment Rate	Ending Portfolio Bal as a % of Operating Expense
Beg	$40,000										$10,000			
1	$40,000	8.00%	6.00%	4.80%	$1,920	$3,300	-$2,080	$1,220	4.17%	$43,256	$9,884	$53,140		102.19%
2	$42,512	7.00%	5.00%	4.00%	$1,700	$3,504	-$2,163	$1,341	4.07%	$45,670	$10,514	$56,185	5.73%	103.89%
3	$44,948	-9.00%	-7.00%	-4.20%	-$1,888	$3,686	-$2,250	$1,437	4.00%	$44,631	$11,124	$55,755	-0.76%	99.13%
4	$44,604	4.00%	2.00%	1.60%	$714	$3,661	-$2,340	$1,321	4.20%	$46,791	$11,018	$57,809	3.68%	98.83%
5	$46,247	6.00%	4.00%	3.20%	$1,480	$3,784	-$2,433	$1,351	4.21%	$49,249	$11,422	$60,671	4.95%	99.73%
6	$48,537	8.00%	6.00%	4.80%	$2,330	$3,956	-$2,531	$1,425	4.17%	$52,482	$11,992	$64,474	6.27%	101.91%
7	$51,579	-9.00%	-7.00%	-4.20%	-$2,166	$4,184	-$2,632	$1,552	4.08%	$51,176	$12,755	$63,931	-0.84%	97.17%
8	$51,145	11.00%	9.00%	7.20%	$3,682	$4,151	-$2,737	$1,414	4.28%	$56,474	$12,622	$69,096	8.08%	100.98%
9	$55,277	7.00%	5.00%	4.00%	$2,211	$4,461	-$2,847	$1,615	4.12%	$59,357	$13,665	$73,021	5.68%	102.61%
10	$58,417	4.00%	2.00%	1.60%	$935	$4,697	-$2,960	$1,736	4.05%	$61,364	$14,450	**$75,815**	3.83%	102.44%
				Ten years	$10,918	$39,384	-$24,973	$14,411	4.14%	4.37%	3.75%	**4.25%**		
										10 year annualized growth rates				

Assumptions:
Each year, after year one, the portfolio is rebalanced to equal the target equity / fixed income allocation
Dividend yield is held at 4.00% of the equity portfolio's beginning of year balance
Bond yield to maturity is 3.00% which is also the cash yield and based on beginning of year value.
Downside beta of 0.60 and upside beta of 0.80. And, equity appreciation also reduced by 200 bps to reflect option premium cash flow return.

Portfolio cash flow is significantly enhanced. The annual excess cash flow (that which is not needed for distributions) is reinvested. Compared to the preceding four strategies, this is the only strategy that generates more than sufficient cash flow to cover the annual spending policy distribution (note positive numbers in "Cash Flow Shortfall" column), thus providing excess cash flow to reinvest. This reinvestment, combined with the dampened downside volatility (lower level of negative compounding in down markets largely due to the portfolio's low beta securities), provides for an acceptable level of portfolio growth, a level in excess of the anticipated rate of inflation with far greater certainty in results. Therefore, the institution's objectives are attained:

- Growing and predictable annual cash flow with a sufficient cushion for reinvestment;
- Longer term portfolio growth consistent with the institution's mission and expansion expectations; and
- Portfolio volatility significantly less than the market with a downside exposure more supportive of the institution's current balance sheet leverage, primary reserve, and enterprise management risk profiles.

Summary of Alternative Strategy: The combination of (i) a higher equity allocation (80%), (ii) expected lower volatility (low beta), and (iii) higher annual cash flow from dividends and covered call options is an easy-to-understand strategy (thus enhancing risk management) that for many institutions should better reflect enterprise risk management. Nonetheless, a silver bullet does not exist and any investment strategy necessarily involves trade-offs. Some of the potential trade-offs and arguments against this alternative strategy, with summary responses, follow**:**

- A portfolio comprised only of 20% fixed income is simply too risky. We are at a unique place today in the fixed income arena with current yield-to-maturity returns at historic lows and bond price depreciation risk significantly above average. With higher long-term inflation a distinct probability, the risk of capital depreciation in the fixed income portfolio is significant. Bonds may not provide their traditional low-risk, anchor position in endowment portfolios. Combined with current returns of 3% or less for moderate duration positions, the fixed income portfolio falls woefully short of providing an acceptable cash flow return and preservation of purchasing power. Meanwhile, there is a reasonable probability that equities can provide a longer term compounded return of 8%, with, of course, a higher level of volatility and lower level of confidence in the ultimate outcome. Increasing the equity allocation to 80% while reducing the inherent downside volatility (via low downside beta), and providing for consistent and predictable cash flow, provides an acceptable risk- adjusted alternative.

- Fixed income cash flows are "assured" while dividends are uncertain and subject to reduction / elimination. A valid observation. However, the securities in the strategy are those of companies with a long-term record of dividend stability and growth backed by financial strength and business models supported by essential products and services. While there can be no guarantees, there is a high probability of dividend sustainability and growth. Dividend growth provides an inflationary hedge.

- Derivatives are prohibited by the investment policy as too risky. In most situations, derivatives are riskier and should be excluded. However, covered call options are perhaps the most conservative derivatives when properly deployed. The investment policy can be changed to allow for covered call options.

- This is a hedge fund. This is not a hedge fund. While many hedge funds do use short call options, this strategy does not utilize naked call options, short or long put options, or any form of leverage and, as such, is very conservatively positioned. This is a downside mitigation strategy that seeks to hedge (protect on the downside) and uses long/short strategies to do so.

- An equity portfolio comprised primarily of higher dividend-yielding stocks does not have the appreciation potential of a more diversified portfolio of growth oriented U.S. and non-U.S. equities. Generally, this is true. However, historical studies suggests that, over the longer term, above average dividend-yielding securities have provided competitive,

if not superior, total return potential at a significantly lower level of risk. Additionally, such a portfolio structure contributes meaningfully to the objective of consistent, predictable and growing cash flows. [16] This strategy does include exposure to non-U.S. companies through multi-national and non-U.S. domiciled companies.

- Changes in tax rates might materially impact dividend stock appeal. The risk of dividend tax rates increasing is real, but even in such an environment, the relative advantage prevails. While endowment funds are tax-exempt, a change in the taxation of dividends could change corporation's dividend policies and capital allocation decisions.

- The strategy in essence involves only two asset classes and does not provide the diversification and volatility risk management profile provided by multiple asset classes with low correlations. In theory, this may be correct. However, low or negative correlation between asset classes tends to collapse in down market cycles, resulting in far more downside volatility than expected. [17] Within the higher yield equity portfolio, sectors are diversified appropriately and policy dictates that sector weights do not vary too far from the market weight.

- A more diversified approach using alternative investments provides greater long-term growth opportunity and lower volatility. In theory, this may be correct. However, over the last ten years a typical asset allocation of multi-style, multi-cap and international equities did not meaningfully out-perform the Wilshire 5000 on an absolute or risk-adjusted basis. [18] Even if there is some validity to this argument, the approach fails to address the unique nature of the institution's risk management profile and, in particular, the degree if interim volatility the institution is willing and able to assume.

- While providing an element of downside protection and reduced portfolio volatility, covered call options limit portfolio appreciation in a positive market environment. In market environments where the market increases more than 10-15%, this portfolio will indeed increase less than the market. However, an option portfolio initially written 10% out-of-the-money (i.e., where the current stock price is 10% less than the price at which the call option is exercisable) provides for an appropriate level of upside potential when combined with a dividend yield of ~4% and an annualized option premium return of ~2.00-3.00% -- all such returns and yields of course depending on market conditions. Should the stock market move up 15% or more during a six-month period (the average option expiry, or the average period during which the portfolio options can be exercised), much of the portfolio will be *capped* in value under the presumption that call options will be exercised. However, that scenario still provides a compelling six-month return, attains portfolio purchasing power, and represents loss mitigation.

- The strategy assumes, on average, an annualized option premium return of 350 basis points (bps), which may be an unrealistic assumption. Premium returns are a function of overall market volatility and the opportunities represented by the underlying stocks.

Annualized option premium return opportunities will certainly vary over market cycles – at times less than 3.50% and at times greater than 3.50% – but, on average, 2.00 – 3.00% +/- is a reasonable option premium return assumption.

- A fundamental characteristic of the strategy is a lower beta portfolio. Betas have a tendency to change over time – perhaps even more acutely in declining markets – often resulting in performance significantly different than expectations. A valid observation. The volatility of lower beta equities may significantly increase in down markets. There is no precise and conclusive answer to eliminate this concern. However, the strategy dissects raw historical betas by evaluating beta performance in down and up market cycles over varying periods of time and looks at the standard deviation of such betas, particularly historic down betas to better gauge performance expectations. Also, beta is one of two important facets of downside volatility management, the other being the delta adjusted portfolio exposure.

Endowment portfolios should be designed and managed in a more cohesive manner that reflects the risk profile of the institution. Greater emphasis on cash flow generation and downside protection (not just the historical co-variance of asset classes), and lesser emphasis on multi-asset class / multi-manager strategies that are often too focused on beating an index over rolling three- and five-year periods, would be a meaningful improvement in endowment fund portfolio management.

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Please refer to the following page for Endnotes and Important Regulatory Disclosures.

Endnotes

[1] *The Not-For-Profit Higher Education Sector's Outlook Remains Mixed Despite A Gradual Recovery*, Standard & Poors, February 14,2011, http://www2.standardandpoors.com/spf/pdf/events/PFTcon22211HE.pdf

[2] *The State of Enterprise Risk Management at Colleges and Universities Today*, Association of Governing Boards of Universities and Colleges, 2009, http://agb.org/sites/agb.org/files/u3/AGBUE_FINAL.pdf.

[3] http://agb.org/sites/agb.org/files/u3/AGBUE_FINAL.pdf.

[4] William Jarvis, *Proposed Policy / Procedure / Process for Handling Underwater Funds*, Association of Governing Boards of Universities and Colleges,

[5] Charles D. Ellis, *Best Practice Investment Committees*, The Journal of Portfolio Management, Winter 2011

[6] According to Modern Portfolio Theory, in a risk-reward graph in which the X axis represents risk (as measured by standard deviation) and the Y axis represents investment return, the *Efficient Frontier* represents the optimal portfolios, plotted along a curve, that have the highest expected return possible for the given amount of risk.

[7] Viewpoint. Asking About Asset Allocation . 2009 NACUBO – Commonfund Study of Endowments. The study concluded that 39% of the institutions surveyed had or were anticipating making changes to the asset allocation policy and of those the most frequently cited was risk reduction and inflation protection. http://www.google.com/search?hl=en&biw=1899&bih=906&q=nacubo+asking+about+asset+allocation&btnG=Search&aq=f&aqi=&aql=&oq=

[8] Gregory P. Ho, Haim A. Mozies, and Pavel Greenfield, *The Sustainability of Endowment Spending Levels: A Wake-up Call for University Endowments*, The Journal of Portfolio Management, Fall 2010; David L. Donoho, Robert A. Crenian, and Matthew H. Scanlan, *Is Patience a Virtue? The Unsentimental Case for the Long View in Evaluating Returns*, The Journal of Portfolio Management, Fall 2010; Ellis op. cit.

[9] Ho, op. cit.

[10] Ellis, op. cit.

[11] *Perception and Practice in Manager Selection*, The Brandes Institute; *Death, Taxes, and Short-Term Underperformance: Update on U.S. Equity Funds,* The Brandes Institute

[12] Donoho, op, cit.

[13] Ellis, op. cit.; Ho, op. cit; Donoho, op. cit.

[14] Tables 1 through 5 assume rebalancing on the first of the year back to the target equity/fixed income allocation; the indicated dividend and fixed income yields are held constant throughout the ten year period; given bond yields are assumed to remain static, there is no bond price appreciation or depreciation; except as noted otherwise, dividends and interest are not reinvested (all such income is used for distributions); and no transaction costs or management fees are applied. These tables are for illustrative purposes only and are not actual results of Willis Investment Counsel.

[15] Beta refers to the volatility of the portfolio relative to the broad market. Generally, a beta of 1.00 suggests the stock portfolio will likely move up and down approximately with the market. A beta less than 1.00 suggests the stock portfolio will likely move down less than the market in down cycles and move up less than the market in up cycles. For example, a downside beta of 0.70 suggests in down markets the stock portfolio may decline only 70% as much as the market; an upside beta of 0.85 suggests in an up market the stock portfolio may increase only 85% as much as the market.

[16] *The High Dividend Yield Advantage: An Examination of Empirical Data Associating Investment in High Dividend Yield Securities with Attractive Returns Over Long Measurement Periods*, Tweedy, Browne

[17] F. Denmark, *Institutional Investor*, April 2011

[18] During the ten years ended December 31, 2010, an asset allocation of 35% large cap value / 35% large cap growth / 15% small cap / 15% international, using industry standard indices, did not materially outperform the Wilshire 5000. The effectiveness of such traditional asset allocation strategies is inconclusive.

Please visit Willis Investment Counsel's website at www.wicinvest.com for important regulatory disclosures.