

Why Do We Feel So Poor?

How the Overspending of the '90s Has Created a Crisis in Higher Education

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Publisher's Note - December 2003

Since the publication of this whitepaper in April of this year, the investment markets have continued their modest rebound. The underlying spending policy issues posited and discussed continue to be enormously significant. In the interim, Commonfund has rolled out the latest version of its proprietary Allocation Planning Model (APM). The paper you are reading has been revised to reflect an updated model based on the starting yield curve and return series as of June 30, 2003. For additional information on Commonfund's APM, please refer to the just-published "*How Efficient is Your Frontier?*" whitepaper that is available through Commonfund.

Executive Summary

The bear market has revealed flaws in popular thinking regarding educational institutions' spending policies. The widely used approach of spending 5% of a rolling-three year average of endowment value produced windfalls in educational institutions' spending, but the ability to spend liberally was the product of a remarkable one-time confluence of favorable circumstances, including, of course, the powerful bull market of the mid- and latter 1990s. Had spending started at 5% and annual increases been based on price inflation — either the Consumer Price Index or the Higher Education Price Index — instead of inflated asset values, the spending would have been more sustainable. Now, however, it is becoming increasingly clear that the 5% three-year policy based on asset values led to overspending and, hence, it has created a threat to the concept of intergenerational equity. Many educational institutions are already feeling pinched — and are confronting declining real spending — despite many years of strong stock market returns. Thus, organizations must address head-on the stresses that the current environment has produced in order to deal effectively with the future.

In this paper we will focus on several questions critical to educational institutions:

1. Is the use of the rolling average method of determining spending effective for the long term?
2. Is five percent an appropriate level of spending?
3. Does it make sense to have a method based on inflation rates?
4. How should we think about intergenerational equity?
5. What steps may be taken to address the spending challenges that education faces in the next decade?

While a paper of this length can only begin to touch on these issues, we hope that it will stimulate a deeper examination of your institution's spending policy.

The difference between those institutions that will prosper over the long term and those that will not is contingent on how current challenges are addressed. Bearing in mind that two of the most important determinants of long-term return are asset allocation and spending rates, there are several steps that must be taken immediately. A comprehensive evaluation of the current spending policy is necessary to determine what an appropriate spending policy should be, as well as establishing an adequate long-term spending rate. It will take creativity, discipline and decisiveness to work through these issues, but higher education has faced major challenges before and has effectively marshaled the resources to work through issues and resolve them.

Overview

Many of our educational institutions, some of which are now facing a potential third consecutive year of negative returns, have difficulty realizing that the last decade has been a truly historic time in our marketplace. We must recognize, however, that a nearly perfect confluence of outstanding investment returns, low inflation, high levels of giving and increasing demand for educational services propelled many institutions to places never contemplated 10 years ago. In fact, during the 10 years ended June 30, 2002, the average endowment experienced investment returns of around 10% with the Consumer Price Index (CPI) increasing on average 2.5% annually. This implied real return of 7.5% far exceeds the 5 to 6% return that almost any asset allocation model would project as a median return expectation given tolerable risk levels. It is unlikely that, back in the early 1990s, anyone sitting on an investment committee would have predicted a 10 year run of real returns above 7%, and yet, despite the recent negative years in the markets, that's exactly what many institutions achieved over the previous decade. With so much going for us in terms of historical returns and high levels of demand for our "product," why do we all feel so poor?

The two most critical issues that investment committee trustees of educational institutions face today are asset allocation and spending policy. While substantial time and effort have been spent on asset allocation, the spending rate issue has not received as much airtime until recently. It is our belief that a large part of the answer to the question of why we're feeling so poor lies with the spending policies created and adopted by our industry during the last decade. We believe that the education industry must critically examine and understand its spending policies as well as the impact they have on endowments' growth prospects. Organizations must address head-on the stresses that the current environment has produced to deal effectively with the future.

Philosophical Purpose

Spending policies, which have a different yet equally important role in overall investment policy as asset allocation, are focused on the concept of providing for intergenerational equity; that is, current students should be neither advantaged nor disadvantaged relative to future students. In order to maintain this intergenerational equity, the endowment must in real terms (i.e., adjusted for inflation) maintain its value over a period of time. Thinking of it in another way, the endowment at a minimum should cover an institution's spending and then grow by at least the rate of inflation.

A corollary to this theory is that the annual contribution of endowment spending to the operating budget should be roughly the same percentage each year after adjusting for new initiatives not funded by new gifts to the endowment. This very important concept embedded in the theory of intergenerational equity revolves around inflation. Inflation means different things to different people. For most of the country inflation is synonymous with the CPI. However, in the educational setting, CPI may not adequately represent the underlying growth of costs since educational organizations are very labor intensive and have a very different mix of costs than the basket of products related to the consumer. In the university arena, many institutions believe that the Higher Education Price Index (HEPI) is a more accurate measure of inflation. This index takes into account the basket of products consumed by "typical" educational institutions, such as salaries of professors, energy costs, healthcare costs, etc. Not surprisingly, the HEPI historically has been on average higher than the CPI by an average of about 1% per year and has very seldom been less than the CPI in any given year. The other inflation measure that some look at is the localized inflation indexes represented by urban indexes. These obviously reflect what's going on in the local economies, which can drive costs at local institutions. As we all know, price changes can be strongly correlated with the strength of the local economy. Whatever measure of inflation is used, increases in the basic cost structure of educational institutions prior to new initiatives is the key component of the evolution of the concept of intergenerational equity.

Spending Policy Mechanics

If we all agree on the importance of adopting spending policies that preserve intergenerational equity among the intended beneficiaries, then the next logical question is how do we structure a policy that best (and therefore most equitably) addresses all of these needs? If you ask your colleagues at other institutions about their spending policies, you are likely to get an explanation of a policy that has been largely relegated to following a formulaic approach that resembles the autopilot mechanism of a large airliner. In other words, set the coordinates and sit back until the flight's final destination. Our research suggests that the majority of institutions use such a mechanism. The 2003 Commonfund Benchmarks Study[®] indicates that 78% of all participants use a spending formula based on asset values of the fund, with 87% of those using a three-year/12-quarter rolling average. In addition, the rate most often used is 5%. The use of formulaic spending makes life relatively easy; set the coordinates and activate the autopilot. Judgments about this vitally important revenue source are not often subject to the very real short-term pressures that are involved in dealing with operating budget issues. The problem, however, is that preconfigured long-term spending formulas all contain the seeds of their own failure. Reliance on a spending rate that assumes asset returns are linked to inflation over various periods of time will create disequilibria in an educational institution's finances.

The reliance on a spending rate that assumes asset returns are linked to inflation over various periods of time has created a crisis in educational institutions' finances.

The predetermined, rolling three-year, 5% spending method seemed to work during the 1990s because it generated increases in spending amounts that far outstripped the rate of any measure of inflation. Trustees felt that intergenerational equity was being achieved, while at the same time the endowment was also contributing a special dividend to a school's operation. The "peace dividend" that we all spoke about in the early '90s, after the fall of the Berlin Wall came to pass and is reflected in university campuses across the country. Our travels across many campuses nationwide have confirmed that the collective physical plant of academia has never been in better shape. The ability of institutions to build and maintain these facilities was brought about by a spending formula that was based on the outsized dividend of great endowment performance relative to inflation and higher levels of giving brought about by the wealth creation of the market of the nineties.

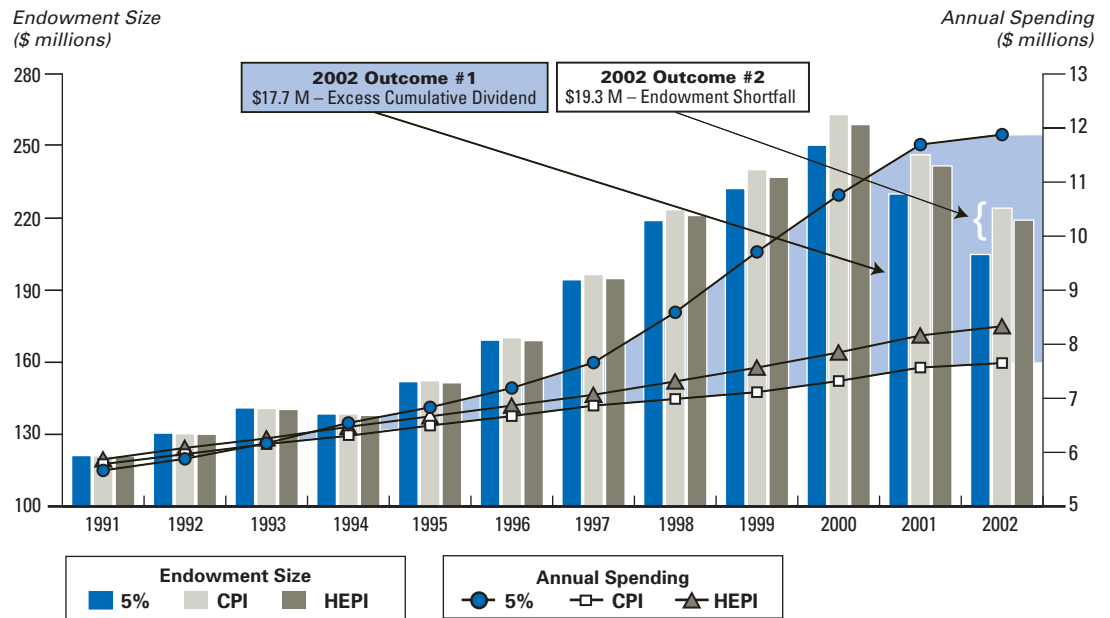
Issues with Spending Policies

One only has to look at our current situation, however, to see that spending rates linked to declining market values create a disconnect with the very real short-term pressures of increasing budgets. The reliance on a spending rate that assumes asset returns are linked to inflation over various periods of time has created a crisis in educational institutions' finances. Inflation causes operating costs to increase, yet a fixed 5% of a declining market value will result in fewer actual dollars to pay those increasing costs. The same policies that generated significant real increases in spending in the nineties, however, fail to account adequately for issues related to inflation, and often are based on a false assumption that over short periods of time investment returns mirror the rate of inflation, a relationship that does not always exist.

The following figure displays the impact of a 5%, three-year rolling average policy, assuming the endowment started with \$100 million in 1988. Average returns are based on the National Association of College and University Business Officers (NACUBO) Endowment Survey. The total amount of spending using the standard method substantially exceeds the total that would have been spent had spending been based starting at 5% and increasing the payment at either the CPI or HEPI; this differential represents the peace dividend.

Impact of 5% Rolling Three-Year Spending Method (1988-2002)

Figure 1



Assumptions: \$100 million endowment, 1988 start date, 3 year smoothing as of 1991
 Source: NACUBO Endowment Study average rate of return

The excess dividend caused by the 5%, three-year method resulted in an extra payout of \$17.7 million from our hypothetical endowment relative to CPI and \$14.1 million relative to HEPI. This extra payout undoubtedly went to fund the myriad of projects that all schools develop, such as new academic programs, higher financial aid and state-of-the-art campuses, especially sports facilities. To the extent, however, that this excess dividend was invested in the operating side of the university balance sheet, these monies have not been reinvested in the capital markets to improve absolute dollar payouts when the markets finally rebound. The system appeared to work because it resulted in an excess dividend while also creating the false comfort that intergenerational equity would be achieved in the long run. The outsized spending increase, however, has created an array of fixed costs and higher expectations that will make it difficult to make ends meet in the future. These include expansion and enhancement of facilities, higher faculty salaries and elevated levels of financial aid.

The physical plant expansion on American campuses, some of which has been financed by debt, has created an indefinite and ever-increasing annual liability stream that will have to be funded year after year. As financial officers of educational institutions know, a building is not an asset but a liability because of the long odds against it ever being sold. The maintenance cost, moreover, associated with any building increases at a rate greater than inflation as the building ages. The peace dividend, despite all its evident positive contributions discussed earlier, has effectively spawned a new series of liabilities that will have to be confronted for years to come.

Additionally, the overall university debt picture has changed over the last several years as campuses have continued to borrow to enhance facilities. *Moody's Investors Services* "Higher Education Sector: 2003 Industry Outlook," dated February 2003, reports that "over the last three years there has been a consistent increase in higher education borrowings, reaching 277 university ratings assigned on \$14 billion of debt in 2002." This includes 29 newly rated, unenhanced higher education borrowings up from 15 in 2000. In 2002 there were roughly the same number of upgrades and downgrades. Moody's outlook for A3 and higher-rated debt is stable but is negative for Baa or lower rated institutions. Not surprisingly, these institutions tend to be the thinly endowed, less-selective institutions.

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While facility upgrades have resulted in higher debt loads, the financial aid wars have also created additional pressures on the revenue stream. These "financial aid wars," which are in essence a battle to attract the highest caliber students, were started by colleges trying to upgrade their student bodies but have expanded to all academic organizations including even the most selective institutions. To modify these behaviors, universities will have to start to back away from this type of competition. These issues will be compounded by other cost increases like health insurance and the difficulty in dealing with the fundamental cost structures of a tenured faculty and aging facilities. In addition, gift flow is likely to decline in the future as significant wealth (estimated to be \$7.9 trillion on the Wilshire 5000) has been destroyed by the equity market over the last three years. The Commonfund Benchmarks Study[®] for 2003 indicates that one-third of the respondents experienced decreased giving versus the prior year. This percentage is likely to increase as commitments made in the boom years burn off.

Is 5% the magic number?

While we believe the rolling payout method is flawed, we must also consider whether 5% is the right spending amount over multiple economic cycles. Although 5% has become generally accepted in the industry and seemed conservative in the nineties, it needs to be reexamined. Again, examining the 2003 Commonfund Benchmarks Study[®], the average respondent has a 5.1% spending rate, up from 4.8% last year, with some institutions spending as high as 7.5% or more of their endowments. The original justification for the 5% spending rate derives at least in part from the IRS statutory rate used for foundations. The objective of this rate, at least from a public policy standpoint, is to assure that large pools of tax-exempt wealth are in fact used for the public good and not hoarded. A higher payout ratio by charitable foundations can be said to be in the public's interest and in fact the rate was formerly 6% before intensive lobbying by foundations resulted in a lower, more realistic 5% level. The use of 5% does not de facto mean that intergenerational equity has been achieved; it only means that it was the rate that foundations were able to negotiate with the government.

To try and gain a better understanding of the effect of a 5% payout rate, we have modeled the performance of the overall portfolio under various assumptions of future market returns. Stepping back for a moment, we should discuss briefly how we model portfolios and their performance at Commonfund.

Using standard mean variance work and efficient frontiers, it is difficult to obtain a clear picture of the total range of possible outcomes with a given asset allocation and spending policy. While an analysis using the mean variance method does provide an estimate, it assumes a normal distribution of returns. A more robust way to examine future returns is to use a Monte Carlo simulation. This technique will yield a number of views of the future scenarios to give a complete range of outcomes, including examination of the scenarios in the “tails.” The use of Monte Carlo analysis does not assume normality. Commonfund Allocation Planning Model™ (Commonfund APM) uses Monte Carlo simulations to examine 1000 different possible future outcomes using estimated returns based on the term structure of interest rates. With this tool, we have the ability to ask the following question: “Given a specific asset allocation and spending rate, what is the probability of not achieving intergenerational equity over a defined period of time?” We defined intergenerational equity as the condition in which the nominal market value (after spending) is equal to or greater than the inflation adjusted market value (grown at CPI only).

Commonfund APM allowed us to determine how often this occurred in a random model. The analysis examines the probability of failing to achieve intergenerational equity for a hypothetical \$100 million endowment at various spending levels for 5, 10, 15 and 20 years; it also displays the median spending amounts and real values. This model uses the weighted average asset allocation of endowments with over \$1 billion in assets from the 2003 Commonfund Benchmarks Study® that represents a fairly diversified, “sophisticated” portfolio with an equity/fixed income ratio of 68/32. (This asset allocation includes a high percentage of alternatives.) Figure 2 shows the asset allocation used in the model.

Asset Allocation Assumptions for Spending Rate Model

Figure 2

Portfolios Greater than \$1 Billion

Equities

Large Cap	16.56%
Mid Cap	3.12%
Small Cap	4.32%
International Equity	10.78%
Emerging Markets	3.22%

Alternatives

Private Capital	10.75%
Hedge Funds	17.63%
Distressed Debt	2.15%
Energy & Natural Resources	3.44%

Real Estate

Private	9.03%
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Fixed Income

Cash	1.00%
Core	17.46%
Global	0.54%

Based on data reported by institutions with portfolios greater than \$1 billion surveyed in the 2003 Commonfund Benchmarks Study®.

Commonfund APM runs 1000 different return scenarios for a specific asset allocation based on an array of returns of each asset class, the correlation of the asset classes to one another and the correlation of the asset classes to inflation. It should be noted that the median results of Commonfund APM are fairly consistent with long-term returns. For instance, the median return produced by Commonfund APM for large capitalization stocks is 8.0% per year over 20 years. The result of the output is 1,000, 20-year scenarios broken up into streams of annual returns. For the purpose of this exercise, we used both fixed and inflation-adjusted spending rates applied to the theoretical market value of each scenario for each year (no smoothing was used). The model produced 20,000 annual returns and inflation (1,000, 20-year streams) to determine the real return starting at year one. We calculated the value to which the portfolio (after spending) would have had to grow in order to achieve intergenerational equity on a compounded basis. Because of the design of Commonfund APM, the model also has the ability to look at many different future scenarios including high inflation, low inflation, high returns and low returns. It should be noted that this analysis uses CPI as the measure of inflation, which as discussed earlier, is perhaps an understated measure of an educational institution's cost increases.

Figure 3 depicts the percentage of the 1,000 scenarios that fail to achieve intergenerational equity as defined above at the end of the 5, 10, 15 and 20 years using varying spending rates and methodologies, as well as the median real value and median spending for each scenario for each time frame.

Spending Rate Output **Figure 3**

	5 Years			10 Years			15 Years			20 Years		
	Probability of Success	Median Spending	Median Value	Probability of Success	Median Spending	Median Value	Probability of Success	Median Spending	Median Value	Probability of Success	Median Spending	Median Value
0%	91.2%	-	\$38.5	96.3%	-	\$113.7	98.5%	-	\$252.0	99.1%	-	\$503.8
3%	74.2%	\$18.4	\$16.9	82.7%	\$43.8	\$48.3	86.0%	\$79.9	\$101.1	88.8%	\$130.4	\$191.6
4%	66.0%	\$24.1	\$9.9	72.7%	\$55.5	\$29.2	77.1%	\$98.0	\$62.8	79.4%	\$154.4	\$119.8
5%	56.8%	\$29.4	\$3.6	60.8%	\$65.9	\$12.8	64.7%	\$112.5	\$31.1	68.8%	\$171.9	\$61.8
6%	46.3%	\$34.5	\$(2.5)	48.8%	\$75.1	\$(2.5)	52.7%	\$124.3	\$4.0	55.7%	\$183.6	\$17.1
7%	37.8%	\$39.4	\$(8.3)	37.7%	\$83.3	\$(15.4)	39.7%	\$134.0	\$(19.9)	42.1%	\$191.6	\$(19.2)
Inflation	67.3%	\$21.9	\$12.8	74.3%	\$47.3	\$40.0	78.0%	\$76.8	\$90.3	80.1%	\$112.0	\$189.9
Banded Inflation	67.3%	\$22.2	\$12.8	74.3%	\$50.4	\$38.8	78.0%	\$87.6	\$83.9	80.0%	\$139.3	\$159.6

Source: Commonfund Allocation Planning Model™ — See note on page 17.

For the purpose of this analysis we used one asset allocation. We find that with this asset mix and using a 5% spending rate, the probability of achieving intergenerational equity is 64.7% over a 15-year period. For the same period, the median cumulative spending is projected at \$112.5 million. As you may suspect, the probability increases as the time period is extended. Over a 20-year period, the probability increases to 68.8% and total spending increases to \$171.9 million. The probability for all periods using a fixed spending rate increases as the spending rate drops, but the total amount of spending also drops. Using this model, the probability of not achieving intergenerational equity increases substantially when moving from a 4% spending rate to a 5% spending rate over the four time periods. However, even at 0% spending, the probability of achieving intergenerational equity is not guaranteed. The probability of success and total spending will vary based on asset allocation. If, instead of using the diversified portfolio previously described, we used a straight 65/35 traditional (no alternatives) equity/fixed income mix the probability of success for a 5% spending rate drops from 68.8% to 32.2% in the 20-year period.

When setting the spending rate, an institution must question the appropriateness of using a spending method in which intergenerational equity will not be achieved in 31% of the scenarios. While a 3% rate is probably too low to be sustainable, that rate increases the odds of success to 88.8% over the 20-year period. While a lowered spending rate is beneficial for raising the probability of intergenerational equity, it may have an adverse effect on giving. Certain donors may object to too low a spending rate. Donors like to feel that the impact of their gift will be more substantial than a paltry 3-4% payout. It is also difficult to stand fast against the infinite number of worthwhile projects that every educational institution faces. However, not achieving the ultimate goal of the endowment in about 31% of the scenarios makes the 5% fixed rate too risky. This analysis also uses CPI as the measure of inflation, which, as has been previously discussed, is lower than the rate of price increases that has been historically experienced by educational organizations.

Spending Tied to Inflation

Another way of looking at a spending policy is to consider inflation in the equation. In addition to the static percentage of market value approach, we used the APM to examine the impact of spending tied to inflation. The last two simulations on Figure 3 examine the impact of using inflation (CPI) as a basis for determining spending. These analyses start with a 4% spending rate and increase spending at the rate of inflation as determined by the specific CPI amount. The model using inflation looks only at changes in inflation. The model using “banded inflation” adjusts spending for changes in CPI but with a band that requires at least a 3% payout based on market value and caps the annual payout at 6% of market value.

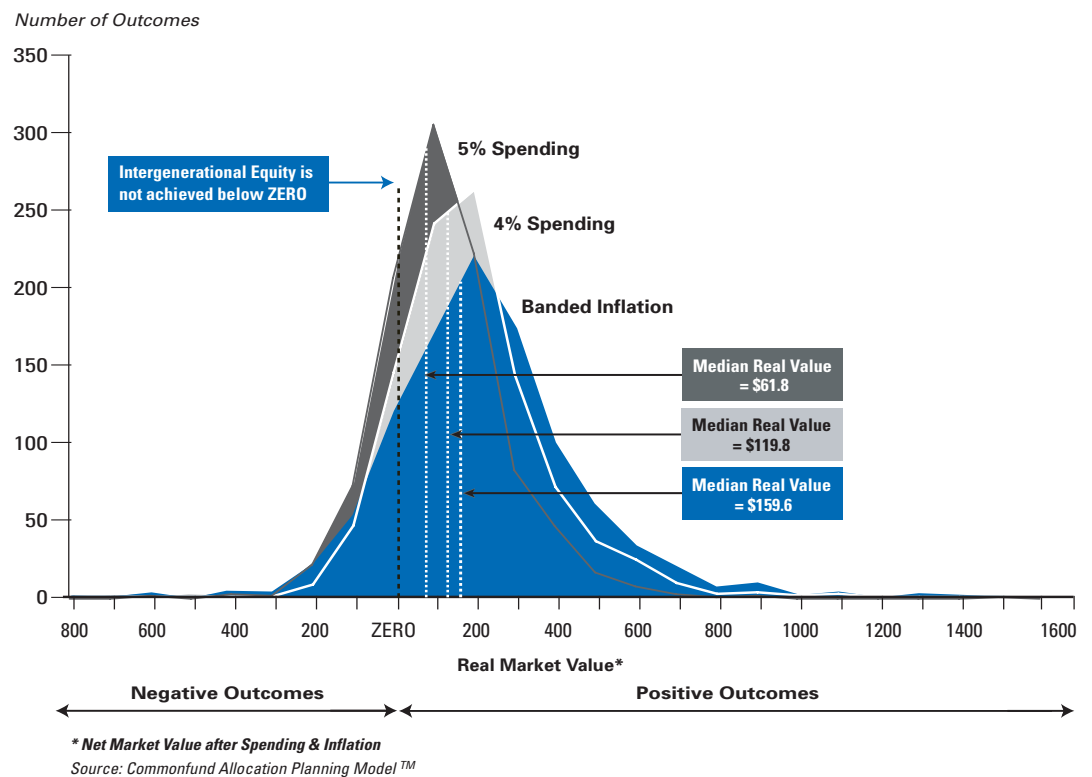
As you would expect, the results of using CPI as the escalator for spending results in substantially less median spending over all periods than the 4% of asset value. This is because inflation is expected to grow at a far lower rate than market returns. There are a couple of interesting points here. The risk of failing to achieve intergenerational equity is roughly the same as in the 4% spending scenario, while the median spending is much lower. Spending based on inflation results holds roughly the same risk of failure but offers substantially greater upside values. The institution spending with bands at 3% and 6% gets a slightly higher probability of achieving the goal over shorter time frames than the 4% fixed spending method, with roughly the same probability of achieving intergenerational equity over 20 years. Here again we get a flat distribution of returns with higher median and slightly less overall spending than the 4%.

There are several interesting points that result from this analysis. First, the bands act to limit minimum and maximum increases in a large number of cases. The 3% band was triggered in 44.9% of the 20,000 annual returns examined over the 20-year period and 4.0% of cases for the 6% band. Second, this method results in very few cases in which spending dropped from year to year. This is in contrast to the 4% of market value case that produced 24% of the annual returns in which a decrease in spending occurs. If we run the scenarios at a 4% spending rate while never reducing the spending from year to year, the probability of achieving intergenerational equity over 20 years drops slightly from 79.4% to 77.7%.

The other very important issue to consider, besides the probability of achieving intergenerational equity and median values, is the distribution of returns. This is the most powerful insight derived from using a Monte Carlo simulation. As described above, the probability of achieving intergenerational equity in the 4% spending rate and the banded inflation is about equal. However, the distributions of outcomes of the two are significantly different. Figure 4 examines the number of instances of the outcomes of real asset value that fall into the various buckets at the end of 20 years for a 4% and 5% spending rates and the banded inflation method.

Distribution of Real Values Using Various Spending Methods (20 Years)

Figure 4



While the banded inflation (3% spending floor, 6% spending cap) and the 4% spending model have about the same probability of achieving intergenerational equity, the banded inflation has a significant right skew (the number of greater-than-median events are significantly larger than you would expect in a normal distribution). This is a more favorable distribution pattern when all other factors are equal.

It seems clear, at least from this analysis, that an inflation linkage in the spending formula does have some positive benefits relative to no linkage.

Conclusions

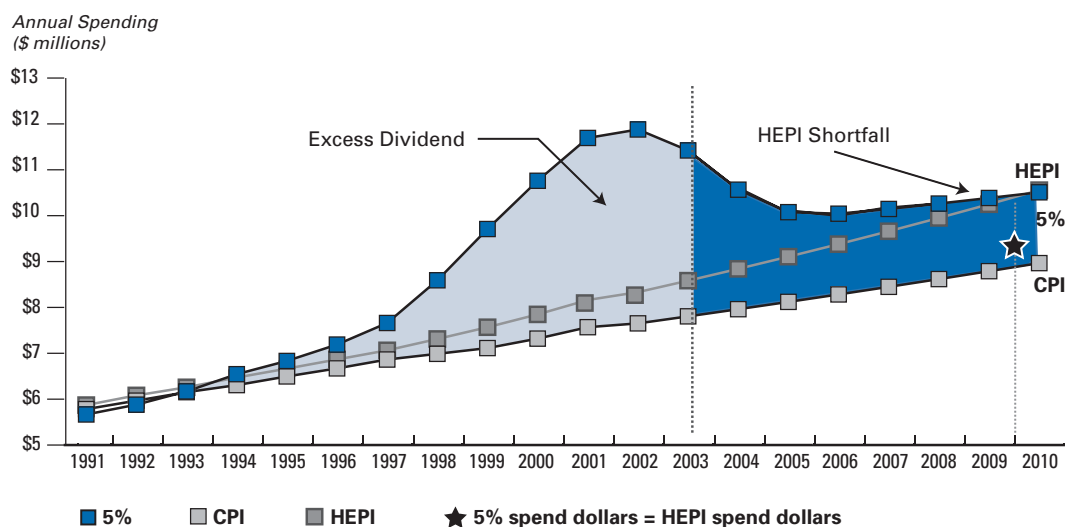
The rolling three-year, 5% spending method is now facing its day of reckoning as we have a significant loss in value over a three-year period. Sticking to the spending formula will, with steadily decreasing asset values, result in a drop in the absolute dollar value of dividends supported by the endowment. Below is an expansion of a previous figure for the next 10 years; it uses the Commonfund Benchmarks Study[®] preliminary returns for the year ended June 30, 2003 and looking forward assuming relatively low levels of investment returns and a 65/35 equity/fixed income mix.

The rolling three-year, 5% spending method is now facing its day of reckoning as we have entered the third year of a three-year market downturn.

While it is difficult, if not impossible, to accurately predict market returns with any accuracy, the general consensus for a best-case scenario is that we will be in a low-return environment for the next several years. Certainly with the 10-year Treasury bond yield below 4.5%, we can reasonably safely predict bond returns and assume a lower-than-historical level of returns for the equity markets at 7.5% (inflation plus 5.5%). We have also assumed a 2% CPI and a 3% HEPI.

Asset Allocation Assumptions for Spending Rate Model

Figure 5



Assumptions: Total rate of return from 2004 forward for hypothetical portfolio = 6.45%, CPI 2%, HEPI 3%

Sources: Commonfund Benchmarks Study[®] – Educational Endowment Report, NACUBO Endowment Study for equities, Bloomberg for CPI and HEPI

This outlook suggests that we will not get to the levels of absolute spending achieved in 2002 on our theoretical endowment during the next decade, with a loss of intergenerational equity relative to HEPI. This will create substantial hardship at universities for the foreseeable future.

In the face of declining endowment values and increasing costs, it is important not to lose sight of another critical issue for institutions: the ability to raise tuition. Over the course of the last several months we have been hit squarely with the news of significant tuition increases, particularly from state-supported institutions as state governments have attempted to address their own fiscal issues. The market can clearly support increases in tuition above the inflation rate and has for many years. Of course, political pressure and competition will continue to hold back potential tuition increases high enough to absorb excess market demand. This demand will continue to increase until the close of the decade, as the baby boom echo advances toward secondary and higher education. The U.S. Department of Education, in its October 2002 report, projects that the number of graduating high school seniors will be approximately 2.9 million in 2003. The number will consistently increase to 3.2 million in 2009 before dropping back by 3.4% in 2012. The number of total students in grades 9-12 peaks in 2007. There is also a significant dispersion between regions and states that will affect colleges that draw students locally. However, the efforts of many schools to compete for the best and brightest based on heavy financial support may also need to be scaled back. When the baby boom echo ends, the ability to raise prices above inflation may diminish or disappear.

Courses of Action

So the focus returns to why we feel so impoverished after what could have been a once-in-a-generation bull market and, even more important, what do we do about it? The difference between those institutions that will prosper over the long term and those that will not depends on how these current challenges are addressed. How institutions adjust or adapt to these difficult times will require hard work and difficult decisions. It might even necessitate rethinking current spending policies.

How institutions adjust or adapt to these difficult times will require hard work and difficult decisions. It might even necessitate rethinking current spending policies.

One such “alternative” view that educational organizations may take toward endowment spending policies is that they should seek to smooth evident variants in the institution’s finances. Using endowments for this purpose will result in significant changes in the percentage endowments contribute to the revenues and the changes in spending rates over time. For instance, at Harvard during the period from 1974 to 1984, the percentage of the university’s operating revenue represented by endowment income dropped from 19.1% to 14.6% while the spending rate hit 6.0%. This was a time of high inflation and low investment returns; therefore the endowment was not able to come close to keeping up with the high inflation cost structure. This trend was reversed during the bull market of the late ’80s and ’90s, when the spending rate returned to less than 4% and the percentage of revenue contribution increased to over 30%. Harvard used the endowment to some extent to smooth the impact of high inflation although real spending dropped significantly; the endowment and the operation was repaid in real terms over the succeeding 15-year period. If a hardwired spending rate based either on inflation or endowment return had been used, the outcome would have been considerably different.

Remembering that the two most important factors of long-term returns are asset allocation and spending rates, the following are suggested actions that should be taken promptly to address the challenges and issues discussed above:

A full reevaluation of the spending policy should be undertaken to determine what the appropriate spending policy should be and what is the right long-term spending rate.

The rolling three-year spending method appears not to be the best method of creating discipline in the spending process. It will tend to create large excess dividends during periods of high returns, as we have recently experienced, with a significant potential for the loss of inflation-adjusted principal. Clearly, the 5% of asset value appears to be too high for long periods of time. While it certainly worked very well during the late '80s and '90s with very high market returns based on the analysis outlined above, 5% may be too high given that success in achieving intergenerational equity only reached 65% of the time over 20 years and substantially less over shorter periods of time. As part of the examination, inflation-based methods should be evaluated.

Once the method is determined, it should be stress tested under various scenarios of future returns while looking at asset mixes, including environments of high inflation and low investment returns. In these worst-case scenarios a resolution must be established to delineate how the institution will make ends meet.

Additionally, trustees need to determine the method of rate setting, who should develop the approach, and, in the case of a discretionary policy, what group should make the annual spending determination? Should the full board, the finance committee, the investment committee or a separate spending sub-committee be ultimately responsible for making these determinations? Remember, someone at the table must be assigned to represent the generations yet unborn.

In the evaluation of the spending rate and the method, a few important facts should be considered. These include expectations for endowment giving that will go into the endowment over the time frame being evaluated. Gifts for endowment should be differentiated between those that will be used to support new initiatives and those that will not. If the expectation for gift flow is high, the ability to spend a higher level of endowment is in fact increased. Next, institutions need to consider the implicit rate of expense growth over CPI. As discussed earlier, the HEPI has historically outstripped CPI by almost 1%. Third, universities need to consider whether any of their endowment funds are “underwater”¹ and thus face any legal spending constraints. The total number and value of funds in this condition will either reduce the overall spending rate or result in increased payout from unrestricted funds to make up for the shortfall in spending from the “underwater funds.” Finally, if there is any anticipated endowment decapitalization (i.e., intentional short-term spending over and above the long-term spending rate), this must be taken into account. Obviously, reductions in endowments for building support, debt service and other projects need to be considered in determining how intergenerational equity will be maintained.

¹ “Underwater” funds are restricted endowment funds in which their current market value has fallen below their historic dollar value as defined in the Uniform Management of Institutional Funds Act that has been adopted in most states.

Once the long-term spending rate and methodology have been determined, long-term asset allocation has been decided and these factors have been stress tested, a plan needs to be developed to guide the transition from the current spending rate to the appropriate long-term rate.

One approach would be to consider the previously described peace dividend as a loan from the endowment to the operating budget. This loan needs to be repaid in some fashion over a specified period of time through a reduction of spending in future years until the overpayment amount has been recaptured.

Another avenue that should be considered is an examination of the overall capital structure of the institution. Some universities continue to have capacity to take on debt as part of the permanent capital structure. This debt could be used to fund projects that may have otherwise been funded through operating surplus or gifts. The new borrowings could be viewed as a way to smooth the transition of spending methods and rate over a period of years without making cuts that might have a critical impact on the mission of the university. The amount of the loan is in effect recapitalizing the endowment for the excess spending, thereby turning a loan from the endowment into a debt financing from a third party. The loan would be repaid from operating surplus or gift flow while effectively decreasing the spending rate. All institutions should perform a review of their debt capacity to ensure they are fully optimizing their capital structure and assets. It is particularly appropriate now, in light of historically low interest rates, especially at the short end of the yield curve. Currently three-month tax-exempt rates are hovering around 1.5%. Examining debt capacity is a complicated exercise but should be undertaken.

Reduction in spending will be the mantra for at least the next five years — institutions need to examine their methodologies for dealing with these challenges.

One method is using the institution's governing board to assist the administration in tackling the very difficult issues of cutting programs and expenses. It makes sense to establish a trustee committee to prioritize and examine the relative merits of each program and determine where cuts need to be made. A committee of this type can help senior management by providing unbiased opinions and deflecting some of the internal pressures that administrations will experience in navigating these difficult times.

Institutions need to concentrate on tuition policy and the evolution of the student body composition.

Universities are currently in the very enviable position of being able to look out five years and see increasing demand for their product, as the number of graduating high school seniors continues to grow. While the numbers vary by region and state, overall they will increase, giving institutions some pricing flexibility. This is particularly true of the state schools that still have relatively low tuition rates. Over the past 10 years, many colleges have looked at the beneficial demographics as a way to improve the overall quality of the student body. They have done this by investing heavily in campus facilities and providing a higher level of financial aid to compete for the very best students, producing the previously discussed “financial aid wars.” Institutions should question whether they have the financial ability to continue to invest in an upgraded student body or whether they should focus on attempting to ride the demographic wave of the baby boom echo. Colleges that are not able to forecast positive demographics must invest in methods to attract students from outside the region or the country. Universities also need to consider the fact that starting in 2010, demographic trends will begin to reverse in a very meaningful way. When that happens, institutions that have the ability to attract students from outside the United States will have a strong competitive advantage.

The decline in the capital markets over the last three years has truly been a monumental event in the higher-education industry and calls attention to several critical issues that need to be addressed head-on. How these situations are handled will determine the long-term fate of many of our institutions. The first challenge is to spell out all concerns with the senior administration and trustees. This will demand creativity, discipline and decisiveness. The rapidity and direction with which boards and administrations deal with these issues will have an impact that spans our lifetimes. Solving major challenges is the nature of higher education and we have confidence that the brainpower to resolve the issues exists as long as the problems are fully articulated and the appropriate resources applied.

Important Notes

The Commonfund Allocation Planning Model is an asset allocation tool provided by Commonfund to its clients to assist them in developing and improving long-term investment and spending policies for their Plans. Please note the following:

- The simulations are based on assumptions about performance and risk characteristics of investments in various asset classes. Those assumptions are based on historical data that are believed to be accurate and on which the APM relies. The utility of the APM depends greatly on the accuracy of that historical data and its meaningfulness in forecasting future events. Commonfund cannot guarantee the accuracy of the data nor does it represent that the data will necessarily represent market conditions in the future.
- The model simulates the range of probable outcomes over a twenty-year time horizon on varying combinations of asset allocations, inflation expectations, spending policies, capital gifts and rebalancing rules. The reasonableness of the input assumptions made by the user will affect the reasonableness of the simulations. In all cases, the statistical confidence in the predictions declines as the forecast period gets shorter.
- Because the model uses asset class returns, it should not be used to evaluate or simulate the results of any specific investment program.
- No Allocation Planning Model simulation can replicate the exact experience of an institution. As such, the results of the APM should only be used as a general guide. In no way should the APM be a substitute for the important policy choices that an institution must make in developing its investment strategy.

Notes:

About Commonfund Institute

Commonfund Institute is dedicated to the advancement of investment knowledge in the nonprofit community and the promotion of best financial-management practices among nonprofit organizations.

The Institute's programs and services are designed to serve financial practitioners, fiduciaries, and scholars. Its programs include seminars and roundtables on such topics as endowment and treasury management, proprietary and third party

research, publications, and special events such as the annual Commonfund Forum and the Commonfund Prize for the best contribution to endowment investment research.

The Institute was established by Commonfund in 2000 to serve as the center for its research and education initiatives with John S. Griswold Jr., Senior Vice President of Commonfund Group, as its Executive Director.

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