Thoughts on Endowment Investing in the 21st Century

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Endowments possess certain characteristics, such as a long time horizon and undefined liabilities, that foster innovation in determining investment options. On the surface, this flexibility seems to hold a performance advantage over other institutional investors, such as pension funds, that must address only one defined liability. However, it also presents challenges, given each individual endowment’s requirement to develop its own unique objectives within the confines of its specific constraints.

Endowments employ numerous techniques to achieve their objectives. An endowment’s primary objective is to maintain the corpus in perpetuity, with a secondary objective of growing the corpus at a rate equal to or faster than the rate of inflation. If the rate of return exceeds the rate of inflation, the endowment is then able to distribute the excess return to the institution in support of its mission. Thus, endowments must be concerned with the intergenerational equity of maintaining the endowment for future generations—at the very least—on a level equal to that of the current generation. To do so, endowments attempt to minimize volatility and hedge against inflation while meeting spending policy requirements and maintaining adequate liquidity.

Trustees, investment staff, and advisors/consultants seem to be stuck in the mindset of the last century when it comes to managing endowment assets. To manage an endowment portfolio effectively in the 21st century requires fiduciaries and their advisors to accept the following assumptions:

- Investors cannot separate liability risks from investment risks.
- The endowment model (including the Yale model) is a process of investing, not an asset allocation model.
- Classical asset allocation models such as mean-variance optimization (MVO) and the capital asset pricing model (CAPM) provide a limited view of asset pricing based on a mean-variance correlation framework.
- Governance, especially as it relates to the principal-agent relationship, is an important consideration in managing an endowment portfolio.

Rethinking Modern Portfolio Theory and Strategic Asset Allocation

From an investment perspective, endowments employ three methods of allocation to satisfy their objectives: strategic allocation, tactical allocation, and security/manager allocation. The classical asset allocation paradigm attributes more than 90 percent of variations in portfolio performance to strategic asset allocation. This 20th-century approach follows a four-step process: (1) begin with a multi-asset class portfolio that reflects real world consensus, (2) estimate risks and cross correlations, (3) determine the return expectations necessary to hold such an efficient portfolio, and (4) calculate the entire set of efficient portfolios using the implied expected returns.

In this classical approach to asset allocation, the primary goal of strategic asset allocation is to create an asset mix that provides the optimal balance between expected risk and return for a long-term investment horizon. However, does this classical conceptual framework fit into the ever-changing world of endowment investing in the 21st century? Perhaps not.

Muralidhar and Shin (2013) argue that because MVO and CAPM were derived from a theoretical concept rather than reality, they represent a specialized case of a more general theory:

We suggest a theory based on the liability to be serviced by an investment portfolio that is managed by a delegated decision maker. From this perspective, all decisions are relative; hence we present a...
relative asset pricing model (RAPM) as the true starting point for asset pricing theory. RAPM accommodates the fact that real investors are concerned about the relative return of their portfolios (relative mean) and the relative risk of their portfolios (composed of two independent variables—relative variance and correlation). Moreover, investors are concerned about their agents’ skill to generate alpha. Turning off these features gives CAPM; hence our claim that CAPM is a stylized model of a more general theory (Muralidhar and Shin 2013, 17).

Dynamic Asset Allocation in Endowment Portfolios

Very little has been written concerning endowments using a dynamic beta approach, although the author is anecdotally aware of many endowment funds of various sizes using this method. Dynamic beta is a program that dynamically allocates to beta assets based on formal rules. Those that advocate dynamic beta strategies argue that the approach is superior to standard mean-variance optimization and risk-parity approaches, which are static. Dynamic beta (most often part of the strategic allocation process) allows investors to manage the primary beta risk in the portfolio, i.e., dynamically allocate to beta assets based on formal rules. Dynamic beta (or smart beta) includes rebalancing (beta engine), tactical beta, and dynamic rebalancing. Dynamic beta offers the potential to lower the overall risk of the fund—where risk includes volatility of returns plus drawdown—while earning a positive return.

It is important to note that dynamic beta is not the tactical asset allocation (TAA) of the 20th century. Table 1 outlines the critical differences between dynamic beta and TAA (Muralidhar 2006).

One notable example of a fund employing a dynamic beta strategy in the pension world is the investment team of San Bernardino County Employees Retirement Association (SBCERA) (Barrett et al. 2011). The SBCERA investment staff began with the basic assumption that volatility in the markets has increased—and will continue to increase. In staff’s words, ”static strategic portfolio allocations in dynamic markets are a prescription for trouble” (Barrett et al. 2011, 69). Drawing on academic research and input from the fund’s advisors, investment staff set to work devising a set of rules for their dynamic beta program. Before implementing the program, SBCERA investment staff presented its set of investment rules to the fund’s pension consultant. After careful consideration, the SBCERA board approved the program, allowing staff the latitude and flexibility to implement it within predetermined limits and guidelines.

The primary objective of the SBCERA program was to manage the beta exposures, because beta is the biggest contributor to risk and return. A secondary objective of the program was to manage the tails in a less expensive manner than traditional methods.5 (Investment staff believed that they could accomplish tail-risk management less expensively through the dynamic beta program.) SBCERA’s dynamic beta program allowed the investment team to manage primary beta risk and lower the volatility of the portfolio while reducing the drawdown of the reference portfolio.

Governance in the 21st Century

With few exceptions,6 discussions surrounding endowment portfolios focus primarily on investment considerations, specifically the asset allocation decision (e.g., Mladina and Cole 2010; Schena and Kalter 2012). Determining the appropriate governance structure is a second important aspect of effectively managing endowment portfolios.

In theory, CAPM assumes that households invest directly in securities, not institutions. This may have been true in the 20th century, but it certainly is not the case in the 21st century. In fact, the proportion of U.S. public equities managed by institutions has risen steadily over the past 60 years, from approximately 8 percent of market capitalization in 1950 to approximately 67 percent in 2010 (Blume and Keim 2012). Thus the role of agents in managing institutional assets has grown dramatically.

Unfortunately, CAPM theory does not address this delegation of decision-making in determining asset prices (Muralidhar and Shin 2013, 20). In practice, investors face the dilemma of the principal-agent problem in that asset owners (principals) delegate investment duties to advisors/consultants and fund managers. Delegation potentially becomes a problem because agents have better information and different objectives than the principals. In the real world, principals have difficulty determining if agents are exercising skill or are the fortunate recipients of luck—a classic case of asymmetric information.

Within the context of the principal-agent dilemma, Wooley and Vayanos (2012) argue that academics/practitioners need to develop new theories of markets and asset pricing for market participants:

Like regulators, funds have been following procedures based on the discredited theory of perfect markets. They are using an instruction manual predicated on the efficiency of markets to invest in an

| Table 1: Dynamic Beta is Not Tactical Asset Allocation |
|---------------------------------|---------------------------------|
| **Dynamic Beta**                | **Tactical Asset Allocation**   |
| Focuses only on assets in SAA   | Can use any assets              |
| Limited by rebalancing policy   | Usually unconstrained           |
| Implemented through endowment cash flows | Usually implemented through futures |
| Designed relative to spending benchmark | Designed to have the highest return/risk |
| Each client creates unique strategies | Products usually standardized |
| Designed for low turnover       | Turnover can be very high       |
| Implemented by investment staff | Implemented by staff or investment company |

Source: Muralidhar (2006)
The CERN experience shows that greater flexibility and autonomy for investment officers can be a good thing. Perhaps contributing to the successes of the investment program at Yale (and at Harvard) is the autonomy given to the chief investment officer and his/her team to execute within a governance framework that provides strong incentives with effective oversight.

Conclusion
Given the dynamic nature of the capital markets and the dismal experience of many investors in the aftermath of the 2008 market decline, it is imperative that institutional investors move into the 21st century when it comes to investing endowment assets. Strategic asset allocation—the most important decision in the investment process—requires investors to incorporate the notion of fund liabilities (or spending for endowments) and the actions of agents into the investment process. Finally, a governance structure that promotes accountability and is coupled with flexibility offers the potential to enhance endowment fund performance and fulfill the fiduciary requirement to manage fund assets.

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Endnotes
1. For an excellent discussion of foundations and endowments investment strategy from the trustee’s perspective, see Russell (2006).
2. Do not confuse allocation of assets with location of assets. Allocation of assets, whether strategic, tactical, or manager, is an investment decision. Location of assets is an execution decision, i.e., determining the appropriate investment vehicle. At this point in the investment process, an investor is location/vehicle agnostic. In this regard, the author views alternative investments, such as hedge funds and private equity (and excluding commodities), not as an asset class but as an investment allocation.
3. Barber and Wang (2013) argue that the evidence of superior returns among the top performing and elite institutions is completely explained by the institutions’ asset allocation decisions. Others argue that the endowment model is a manager selection story, e.g., Lim (2014).

References