

Innovation Fascination

We know great innovation when we see it. It creates the sensation of the never-before-conceivable, a new idea that seems inevitable once it's revealed but was almost unimaginable prior to its creation. Innovation, a word first used in the 15th century, refers to the act or process of introducing new ideas, devices, or methods, but we know it as an intention to not just improve the prior generation of products or services, but revolutionize its usage. For an example of true innovation, look no further than the palm of your hand. The smartphone is a truly world-changing device, one that has seen penetration happen so quickly and so disruptively as to fundamentally change the utility of a variety of single-use products formerly purchased separately. The smartphone is not just a phone, it's also a camera, and a television, and a video recorder, and a game player, and a map, and a whole host of other ancillary things depending on the user's needs.

But even with all of those additional features, the smartphone fundamentally remains first and foremost a communication device, which means it still retains the core characteristics of the same product that Alexander Graham Bell invented 140 years ago (or Elisha Gray, depending on whose version of events you believe). In fact, this quality is common among great innovations, where elegance, efficiency, and usefulness combine to move the product or idea in a new direction. This lies in contrast to the imitators, who aim to copy, and the obfuscators, who aim to confuse. In the world of technology these other players are common, and they're common in the world of finance as well. During a discussion about the financial crisis with Charlie Rose in October of 2008, Warren Buffet discussed the natural progression of how good new ideas go wrong, describing it as the three T's. "First come the innovators, who see opportunities and create genuine value. Then come the imitators, who copy what the innovators have done. Sometimes they improve on the original idea; often they tarnish it. Last come the idiots, whose avarice undermines the innovations they are trying to exploit."

Buffett, of course, was discussing the mortgage market, where the innovation of the mortgage-backed security was undermined by the ruinous complexity of structured products created primarily by banks and supported by ratings agencies that served little purpose other than to increase the coffers of their supporters. (One need look no further than the CDO-squared – a collateralized debt obligation where the underlying portfolio comprises tranches of other collateralized debt obligations – for an example of idiocy disguised as innovation.) But the search for innovation occurs in the endowment world as well, as academics, investors, and advisers all seek better ways to generate higher long-term returns at a level of risk unlikely to permanently impair capital and leave an institution incapable of meeting its financial obligations.

Over the years, the model for investing the kind of perpetual capital common to large institutions like endowments and foundations has evolved considerably, mostly for the better. But investors need to be aware that complexity in the form of high fees, low transparency, and low volatility is hardly innovation, and has far more potential to be destructive to portfolios than additive. The fact remains that financial innovation is rare and elusive, and just because a new model hasn't emerged in a long time doesn't mean the old model needs to be replaced, or that the old innovations that formed the basis of the model should be forgotten.

Innovation in Academia: The Nobel Trifecta

Starting in the 1950s, academic researchers applying the tools of economics and statistics challenged conventional wisdom with their work involving Modern Portfolio Theory (MPT), the Capital Asset Pricing Model (CAPM), and the Efficient Market Hypothesis (EMH). These concepts were integral in the work that was to follow, forming the basis for how modern endowment investing occurs.

MPT was developed by Harry Markowitz in the 1950s, and established that a portfolio could achieve a higher level of return for a given level of variance (or risk). The key was to consider the impact of the correlations of securities to each other, which in turn introduced the idea that some risk could be controlled through diversification. In other words, an asset's risk and return should not be assessed in isolation, but rather by how those factors contribute to a portfolio's total risk and return. It's an intuitive concept to investors today, but at the time, this represented a seismic shift in how portfolios were constructed, which is why Markowitz went on to win the Nobel Prize in economics for his work on MPT.

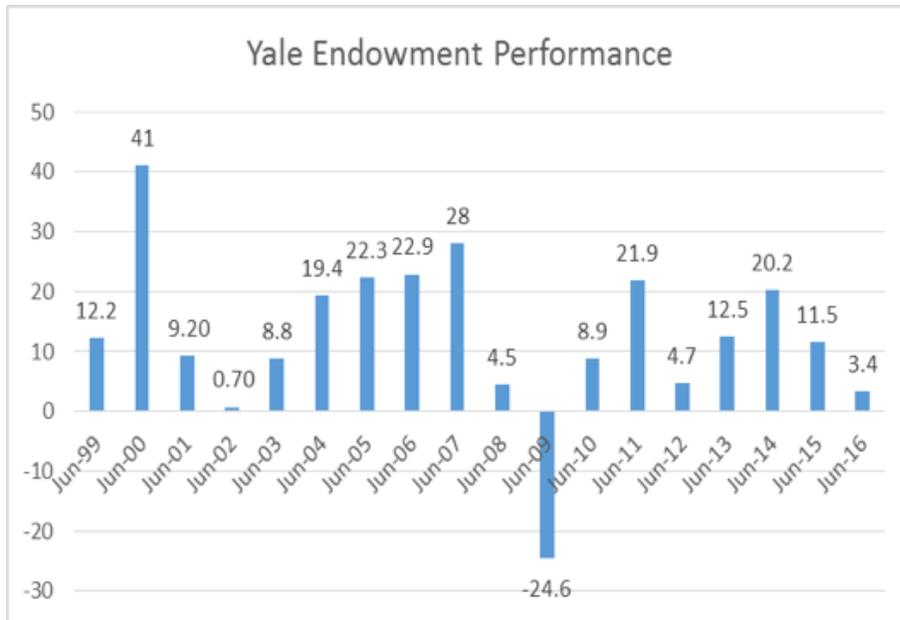
The CAPM, whose contributors include William Sharpe, Jack Treynor, John Lintner, and Jan Mossin, is a model for pricing an individual security or portfolio. It built on Markowitz's work by taking into account the expected return of the market, an asset's sensitivity to the market (known as systematic risk), and the risk-free rate. While not without its critics today, the CAPM was a sizable leap forward in understanding the drivers of risk and return, and Sharpe's contributions in particular were recognized later when he too was rewarded a Nobel Prize.

The EMH is certainly one of the more controversial ideas to develop within the investment community, but no less innovative in its conceptual framework. EMH essentially states that an asset's price reflects all available information, with the implied notion that beating the market on a risk-adjusted basis is impossible over the long term. Eugene Fama, who developed the theory, set the stage for the proliferation of passive investment products that have gained increasing popularity over the years, but his theory is also not without its critics. Fama's ideas assume a level of rational behavior inconsistent with the observations of behavioral finance adherents, not to mention investors who have spent their career profitably taking advantage of discrepancies between value and price. But regardless of one's beliefs in EFH, few can contest the innovative nature of its foundation, a fact the Nobel Committee undoubtedly considered in awarding Fama for his efforts.

Each of those individuals made significant academic contributions to the world of finance, and regardless of the criticisms, it's hard to question the innovative impact these concepts had when they were introduced. But investors are less concerned with academic innovations than they are with investment innovations that incorporate these ideas, and one institution in particular has embodied that like none other, setting the innovation bar that to this day others are consistently trying to clear.

Innovation in Practice: The Yale Model

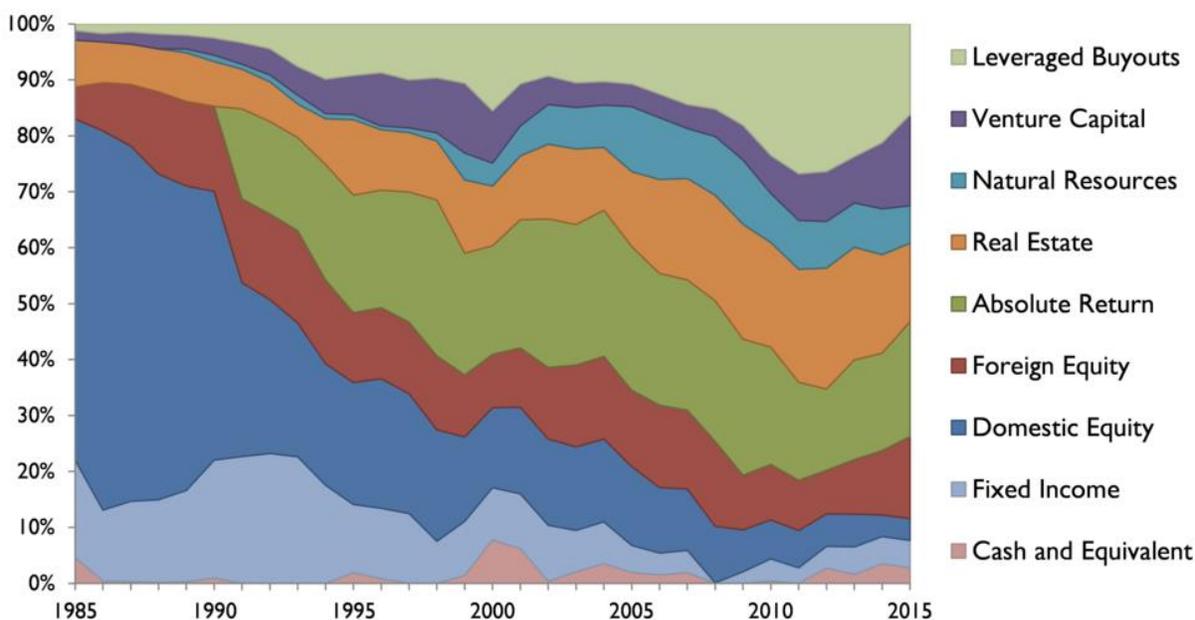
In 1985, at the age of 31, David Swensen left his job as a senior vice president at Lehman Brothers to become chief investment officer of Yale, where he had received his PhD in economics. Fast forward 30 years and Yale’s endowment has grown from just under \$1 billion to over \$25 billion in assets, with Swensen and his staff registering annualized returns of 13.8% (through 6/30/16):



Source: The Yale Endowment Annual Report

Innovation comes from addressing old problems with new approaches, and if there was an old problem in the way that endowments were managed, Yale (along with its Ivy League brethren) epitomized it back in 1985. The portfolio was dominated by large allocations to domestic equity and fixed income, with only minimal exposure to international equities, private equity, and real assets. There was no absolute return exposure at all, although to be fair, the universe of absolute return managers was miniscule compared to its size and scope today. As the following graph covering the period from 1985 to 2015 illustrates, much has changed since then, as private equity (as represented by leveraged buyouts and venture capital) and absolute return assets are now the largest allocations in the portfolio, while domestic equity and fixed income have become the smallest.

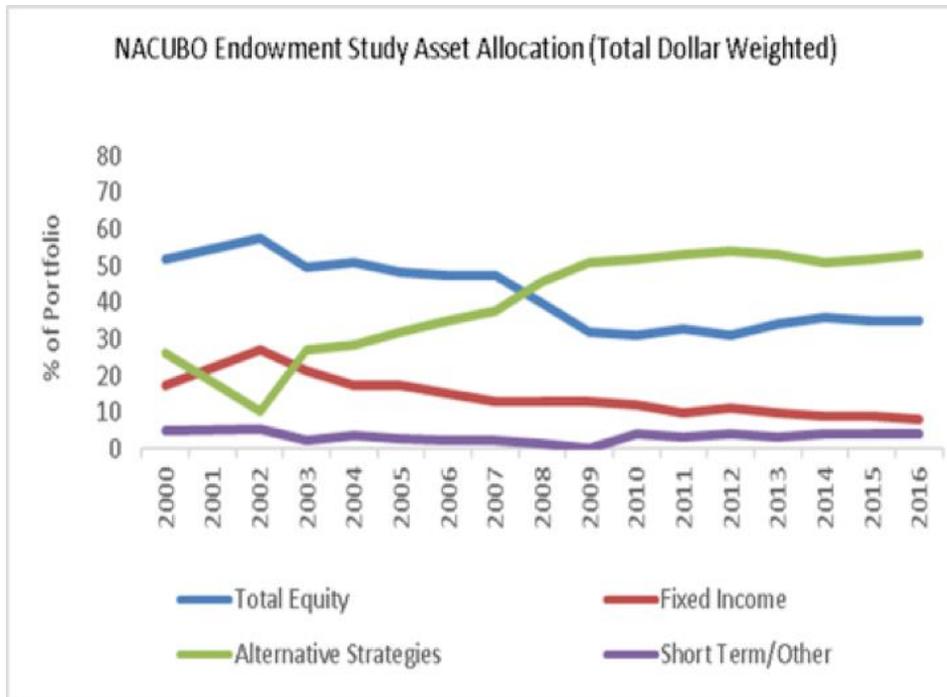
Quarterly Commentary



Source: *The Yale Endowment Annual Report*

The so-called Yale Model, which Swensen developed with assistance from his longtime consigliere Dean Takahashi and wrote about in his book “Pioneering Portfolio Management,” was predicated on a few core disciplines, including something that was long considered toxic to an endowment’s portfolio – illiquidity. One of Swensen’s key innovative insights was an understanding that institutions designed to exist in perpetuity, like endowments, had the advantage of time on their side. Time allows for illiquidity, and illiquidity presents opportunities with much higher return profiles than liquid investments. As long-term investors, endowments should also embrace the volatility associated with a strong overall equity bias, but rigorously rebalance back to strategic targets so as not to fall prey to market timing. Investing with an infinite time horizon, as most endowments are afforded, should allow them to accept near-term uncertainty in exchange for long-term returns, and in times of crisis, when other investors may be looking to acquire liquidity at any price, endowments, by their very nature, can be advantageous providers.

This level of innovative thinking hardly looks revolutionary today, but at the time, it was groundbreaking. As an innovator in the process, it gave Yale an unprecedented advantage, especially in terms of the private equity and venture capital funds it was able to access, an advantage it continues to enjoy today even as other institutions attempt to replicate Yale’s performance. The chart below illustrates this, showing the total dollar-weighted NACUBO Endowment Study Asset Allocations since 2000, and the asset allocation weighting shifts that echo those of Yale. As can be observed, alternative strategies have experienced significant gains at the expense of traditional equities and fixed income.



The results over the last ten years, however, have not quite measured up, as Yale has annualized at over 8.1%, outperforming its NACUBO peers by over 270 bps.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
NACUBO Endowment Study Annual Returns (Total Dollar Weighted)	21.5%	-0.3%	-18.7%	11.9%	19.2%	-0.3%	11.7%	15.5%	2.4%	-1.9%
Yale Endowment	28.0%	4.5%	-24.6%	8.9%	21.9%	4.7%	12.5%	20.2%	11.5%	3.4%

The imitators are certainly not tarnishing the model, but they're realizing that the innovator is not so easily imitated.

And The Next Great Innovation Is...

The innovation thread that weaved its way from Markowitz to Sharpe to Fama to Swensen has helped reshape how endowments are managed, to the great benefit of an untold number of constituents. And so what's the next great innovation? It's impossible to say what it is, of course, but we can certainly say with confidence what it isn't. It's not portfolio overlays, or volatility dampeners, or leveraged income-producing assets, or anything that carries a high level of complexity and fees while offering a low level of transparency. The surface-level comfort that the marketing of these types of products as innovative may provide is starkly at odds with the notion that endowments will be rewarded over the long term by following the time-tested tenets of smart diversification, rebalancing, exceptional manager selection, and operating under the notion of perpetuity. We of course understand that investing doesn't happen in a bubble – endowments and foundations need to spend money, and fluctuations in asset size have an impact on the ability to spend – but we also believe that the rewards will be greatest for those who maintain a longer-term focus.

Ever since Apple released the first smartphone, the product has improved dramatically, with faster processors, sharper screens, sleeker designs, and better software. However, these are improvements, not innovations. They make the product more useful, but don't alter the core functionality. The endowment model doesn't close off the ability for investors to make improvements either, or prevent them from tailoring it to their return and risk parameters, and it doesn't require wholesale changes to be adaptable to all investors. Could a new innovation emerge in a year, or five, or ten? In the same way it's possible that smartphones will be supplanted by a device unimaginable today, it's possible that there will come a currently unimaginable investment model for endowments that will promise even higher returns and lower volatility than the current one. But after watching this one work pretty well for the last 30 years, we'll believe that when we see it.

Colonial Consulting

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