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PERSPECTIVES

The British Origins of the US Endowment Model

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The US endowment model is an approach to investing popularized by Yale University that emphasizes diversification and active management of equity-oriented, illiquid assets. The writings of the British economist John Maynard Keynes were a considerable influence on the investment philosophy of Yale's chief investment officer, David Swensen. How did Keynes gain these insights? We track Keynes's experiences managing the King's College, Cambridge, endowment and show how some of the lessons he learned remain relevant to endowments and foundations today.

In recent years, much attention has been paid to the so-called Yale model, an approach to investing practiced by the Yale University Investments Office in managing its US$24 billion endowment. The core of this model is an emphasis on diversification and on active management of equity-oriented, illiquid assets (Yale University 2014). Yale has generated annual returns of 13.9% per annum over the last 20 years—well in excess of the 9.2% average return of US college and university endowments. Leading US university endowments have followed this model (Lerner, Schoar, and Wang 2008); other types of investors have considered adopting it, either in part or in whole.

It is clear that the writings of British economist John Maynard Keynes were a considerable influence on the investment philosophy of David Swensen, Yale's chief investment officer. The central ideas that Swensen takes from Keynes are cited in his 2009 book *Pioneering Portfolio Management*: the importance of a long-term focus (p. 297); the benefits of an equity bias (p. 64); the futility of market timing (p. 64); the case for value investing (p. 89); the attractions of contrarianism (p. 92); the process of bottom-up security selection (p. 188); the excessive preoccupation with liquidity (p. 88); the challenges of active management (p. 246); and the difficulties inherent in group decision making, which push investment organizations toward a situation in which, in Keynes's own words, "it is better for reputation to fail conventionally than to succeed unconventionally" (p. 298).

A natural question to consider is, from where did Keynes gain these insights? A study by Chambers, Dimson, and Foo (2015) of Keynes's experiences managing an endowment sheds light on how some of the lessons he learned are still relevant to endowments and foundations today.

Keynes managed the endowment of King's College, Cambridge, from 1921 until his death in 1946, and his appreciation of the attraction of equities to long-horizon investors proved to be his great investment innovation (Chambers and Dimson 2013). Each Cambridge college has its own endowment, independent from that of the University of Cambridge. Among them, together with the oldest Oxford colleges, are some of the world's longest-lived endowments. The oldest Cambridge college, Peterhouse, was endowed in the late 13th century; King's, in the mid-15th century. The King's endowment had been almost entirely invested in real estate from its origins, with only a modest diversification into fixed-income securities in the late 19th century. As soon as Keynes took over its management in 1921, he exerted his influence most decisively by selling off a substantial portion of the real estate investments and then allocating the proceeds to a "Discretionary Portfolio." The latter move gave him complete flexibility in the choice of investments and the opportunity to switch to equities. As a result, Keynes's allocation to common stocks within this portfolio averaged 75% in the 1920s, 57% during the 1930s, and 73% during the 1940s until his death in 1946.

No other Oxford or Cambridge college endowment followed Keynes's lead. Furthermore, the Ivy League endowments—far less restricted by statute as to the choice of investments—were slower to

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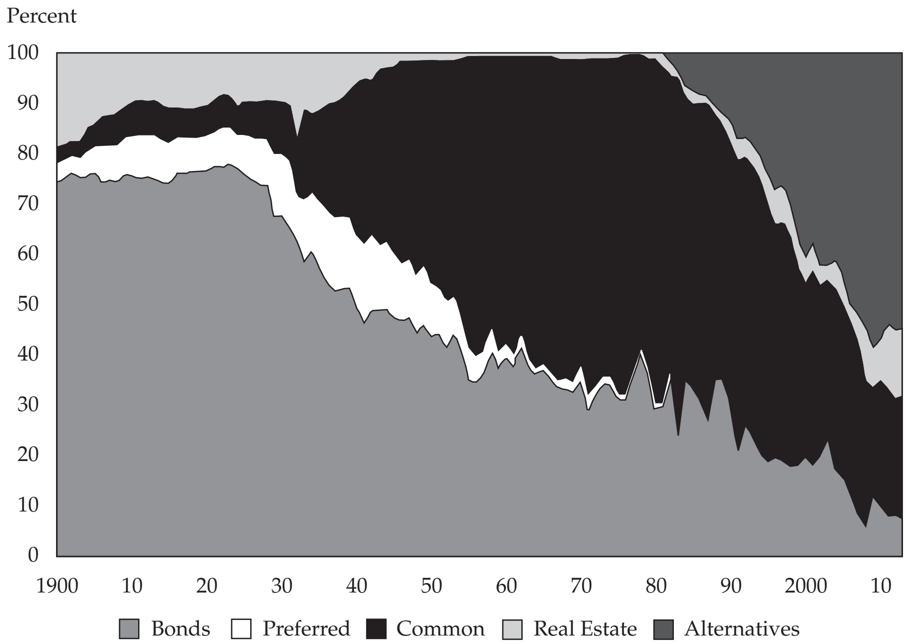
make a similar move (Goetzmann, Griswold, and Tseng 2010). **Figure 1** plots each year's allocation to the major asset classes averaged across the Harvard University, Princeton University, and Yale University endowments from 1900 to 2013. The figure shows the proportion held in bonds, preferred and common stocks, alternative investments, and other assets (primarily real estate and mortgages). There are two major shifts in asset allocation that stand out very clearly: from bonds to common stocks in the middle of the 20th century and from stocks to alternative assets at the end of the century. This shift to common stocks occurred considerably later than that instigated by Keynes at King's College, Cambridge. The Harvard–Princeton–Yale common stock weighting did not rise above 10% until 1931 and reached only 30% in 1940, after which the weighting rose steadily to almost 70% in the 1970s. Hence, Keynes's early enthusiasm for equities anticipated the general move by the leading US university endowments in the mid-20th century.

King's was well rewarded by Keynes's shift to common stocks. Over the 25 years Keynes managed the King's endowment until his death in 1946, we estimated (in Chambers, Dimson, and Foo forthcoming) that the Discretionary Portfolio generated an impressive alpha of 7.7% and a Sharpe ratio of 0.73. In comparison, equities had a 0.49 Sharpe ratio, based on the DMS UK equity index (Dimson, Marsh, and Staunton 2002). However, these performance statistics conceal the full story of Keynes's investment experiences. Our analysis of the performance, portfolio turnover, stock characteristics, and stock transactions of the Discretionary Portfolio both reveals this story and substantiates Keynes's own writings on the subject, as cited before by Swensen. In particular, by investing in equities for the long term, Keynes came to appreciate the futility of market timing when he failed to profit from such tactics during the stock market crash of 1929. In later years, he attributed his disappointing performance in the 1920s to his market-timing approach causing excessive and costly trading (Moggridge 1982, vol. XII, pp. 100, 106). Furthermore, his investment experiences during the Great Depression are relevant to modern-day investors who have experienced the recent Great Recession.

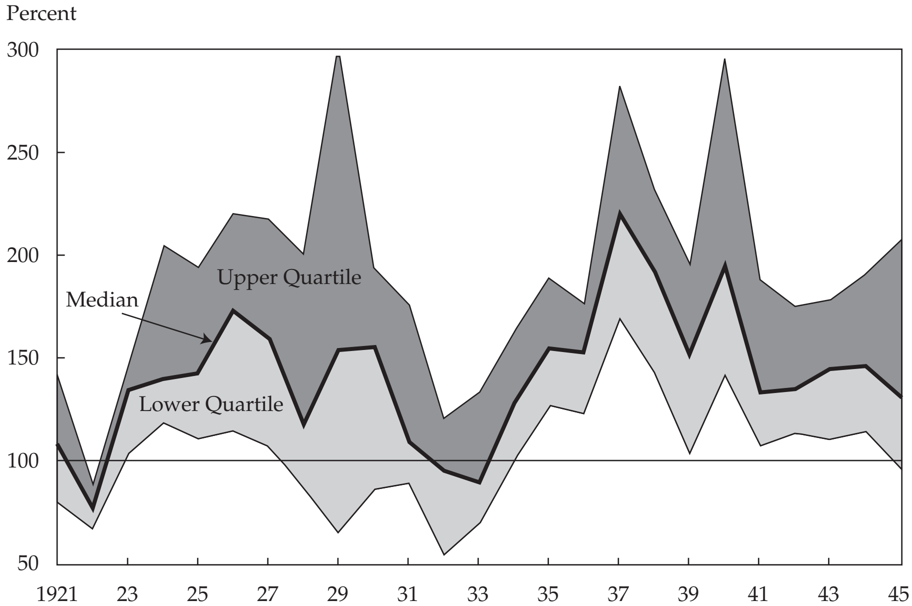
Our analysis of Keynes's security holdings reveals a pronounced tilt toward value stocks, where value is measured by dividend yield as a proxy for book-to-market ratios, which are unavailable for UK stocks for this period (see **Figure 2**). For each dividend-paying stock held in the Discretionary Portfolio at each calendar year-end over 1921–1945, we express the dividend yield as a percentage of the dividend yield of the DMS 100-share equity index. We plot the 25th percentile, median, and 75th percentile of this relative dividend yield measure. The inter-quartile range is shown by dark gray and light gray, the median dividend yield of

Figure 1. US University Endowments' Asset Allocation, 1900–2013



Notes: The figure shows the proportion held, in aggregate, by the Harvard, Princeton, and Yale endowments in bonds, preferred stock, common stock, real estate, and alternative assets. The chart omits "other" assets, which averaged 0.5% of total assets. The data were hand collected by Justin Foo from the three universities' annual reports.
Source: Authors' computations.

Figure 2. Yield Distribution of Discretionary Portfolio UK Holdings, 1921–1945



Notes: For each calendar year-end from 1921 to 1945, the dividend yield of each dividend-paying company in the Discretionary Portfolio is expressed as a percentage of the dividend yield of the DMS 100-share equity index. We plot the 25th percentile, median, and 75th percentile of this measure of relative dividend yield. The inter-quartile range is shown by dark gray and light gray, the median dividend yield of an equity holding is shown as a thick black line, and the thin horizontal line represents the dividend yield of the index. In most years, three-quarters of holdings are companies that had a dividend yield higher than that of the index.
Source: Chambers and Dimson (2013).

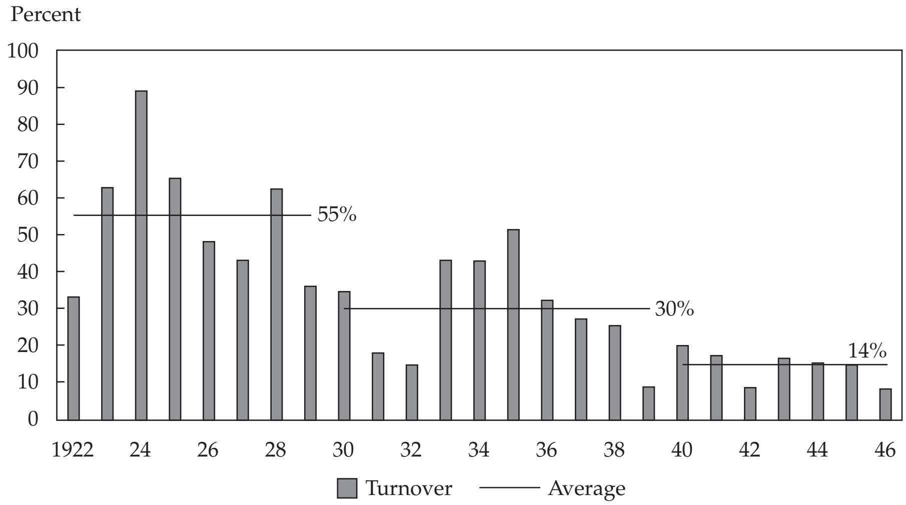
an equity holding is shown as a thick black line, and the thin horizontal line represents the dividend yield of the index. In the majority of the years during which Keynes managed the portfolio, three-quarters of his holdings were in companies with a dividend yield higher than that of the index of the largest 100 UK firms.

Interestingly, Keynes's value-oriented approach is reminiscent of the framework favored by Graham and Dodd and by Graham's most famous student, Warren Buffett. Carlen (2012, pp. 142–143) reported that Graham first applied his approach in 1923; however, Keynes's own focus on value evolved independently (Woods 2013). Our own searches in the King's College archives revealed no indication of any contact with Graham on this subject. The similarities in approach are most apparent in Keynes's focus on the *concept of intrinsic value* in common stock investing, the subject of the opening chapter of Graham and Dodd's influential book, *Security Analysis*, first published in 1934. In his 1938 postmortem on investment policy, Keynes declared that successful investment depended on "a careful selection of a few investments having regard to…intrinsic value over a period of years ahead" (Moggridge 1982, vol. XII, pp. 106–107). In June 1934, Keynes outlined the key reasons for holding one of his core stocks, Union Corporation. At the top of his list was the fact that the share price traded at a 30% discount to his conservatively estimated breakup value (Moggridge 1982, vol. XII, pp. 54–57).

Keynes's contrarian style emerged as his investment experience accumulated. His switch to a more careful buy-and-hold stock-picking approach in the early 1930s allowed him—in contrast to the period immediately following 1929—to maintain his commitment to equities when the market fell sharply once more in 1937–1938. His management of the college endowment provides an excellent example of the natural advantages that accrue to such long-horizon investors as university endowments. He learned to behave in a contrarian manner during economic and financial market downturns.

The switch in Keynes's approach from top-down market timing to bottom-up stock picking is apparent in the steady decline in his UK stock portfolio turnover, defined as the average of purchases and sales in a given financial year divided by the average UK equity portfolio value over that year. As **Figure 3** reveals, the turnover of the Discretionary Portfolio shows a downward trend, averaging 55% for 1922–1929, 30% for 1930–1939, and 14% for 1940–1946. By the 1940s, the portfolio comprised selected companies that were held for the very long term.

Figure 3. Discretionary Portfolio UK Equity Turnover, 1922–1946



Notes: Turnover is defined as the average of purchases and sales divided by the average value of the UK equities, both ordinary and preference shares, held at the start and end of the financial year in the Discretionary Portfolio. The subperiod averages for the financial years 1922–1929, 1930–1939, and 1940–1946 were 55%, 30%, and 14%, respectively.
Source: Chambers et al. (2015).

Keynes's enthusiasm for equities is to be contrasted with his concerns about his endowment's substantial allocation to real estate—the illiquid asset class of his day. A large allocation to illiquid assets, underpinned by the promise of superior returns to active management, has been one of the main characteristics of the Yale model. Keynes, however, was more circumspect about such assets in his day and cautioned about the need to understand their true nature:

> Some Bursars will buy without a tremor unquoted and unmarketable investments in real estate which, if they had a selling quotation for immediate cash available at each Audit, would turn their hair grey. The fact that you do not [know] how much its ready money quotation fluctuates does not, as is commonly supposed, make an investment a safe one. (1938, p. 108)

Keynes was alerting his peers to the fact that the apparent low volatility of real estate returns was not a true reflection of underlying returns when a genuine attempt was made to mark these investments to market. His advice is as relevant to private investments today as it was to real estate in his day. Investors need to receive adequate compensation for the illiquidity risk they take on. Hence, even long-horizon investors should be wary of an overallocation to such illiquid assets and avoid compromising any shorter-term liquidity requirements (Siegel 2008; Ang 2011; Ang, Papanikolaou, and Westerfield 2014). One of Yale's closest competitors, Harvard, failed to heed this advice during the 2008 financial crisis (Munk 2009).

Our research shows that Keynes was an active investor who constructed equity portfolios that required his taking substantial active risk compared with the UK market. His tracking error was 13.9% over the whole period. Such a figure also indicates a very substantial active risk compared with modern endowment portfolios. According to Brown, Dimmock, Kang, and Weisbenner (2014), rarely (i.e., in only 5% of cases) do modern endowments have a tracking error in excess of 6.3%. Consequently, we are not surprised that Keynes wrote the following:

> [My] theory of risk is that it is better to take a substantial holding of what one believes in than scatter holdings in fields where he has not the same assurance. But perhaps that is based on the delusion of possessing a worthwhile opinion on the matter. (1945)

Keynes's advice is consistent with recent findings that mutual fund managers who adopt the largest over- or underweights in individual stocks relative to the benchmark are most likely to outperform and that any tendency toward closet indexing is to be avoided (Petajisto 2013). Keynes acknowledged, however, the likelihood that a fully diversified approach may be more suitable for investors who do not possess the requisite skill in equity investing:

> The theory of scattering one's investments over as many fields as possible might be the wisest plan on the assumption of comprehensive ignorance. Very likely that would be the safer assumption to make. (1945)

This is perhaps the most relevant piece of advice that Keynes had for those endowments and foundations with limited time and resources to devote to asset management. It may be possible to identify superior active managers *ex ante* (Jones and Wermers 2011); however, doing so requires considerable time, effort, and resources that investors such as the Yale University Investments Office possess but the vast majority do not. Hence, the alternative to an active investment approach is to focus on minimizing management costs and to move toward a passive approach. Here, again, we find Yale's chief investment officer drawing inspiration from Keynes, in that Swensen's (2005) book on asset management, aimed at the general investor, extols the virtues of a passive approach to investing. This approach is also recommended in a recent review of the failings of active management (Ellis 2014).

In his 2005 book, Swensen emphasized diversified, equity-oriented portfolios. He advocated investing through passive vehicles—low-cost, tax-efficient index trackers, as well as exchange-traded funds—and avoidance of costly mutual funds. Swensen warned against procyclical behavior, such as selling losers and buying winners, and he urged investors to make thoughtful—but contrarian—investment decisions. The introduction to Swensen's (2005) book opens with a quotation from none other than John Maynard Keynes—an investor whose considered reflections on asset management remain relevant for practitioners today.

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This article qualifies for 0.5 CE credit.

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