WHEN MORE IS LESS

Investment Lessons from U.S. Endowments

PWL

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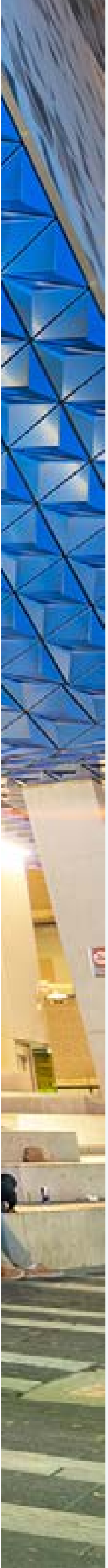

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Introduction

Endowments are pools of capital administered by non-profit institutions such as universities, arts institutions, religious organizations and hospitals. They typically **seek to preserve their capital for future generations** while using investment returns to fund current missions. To achieve their objectives, endowments must prudently **invest their assets with a long-term perspective,** attempting to maximize returns while controlling for risk in an uncertain world.

The **most famous endowment is the $30-billion Yale Endowment,** led by renowned manager David Swensen. It is **Yale's largest source of revenue,** supporting faculty salaries, student scholarships and other expenses. Swensen is credited with developing what's become known as the endowment style of investing in the mid-1980s.

When he came to Yale in 1985, Swensen added alternative investment strategies to a portfolio that was dominated by U.S. stocks and bonds. The addition of asset classes that were not well correlated with the stock market allowed the Yale endowment to decrease overall portfolio volatility while reducing its reliance of bonds as a defensive holding.

The result has been remarkable performance. Yale's endowment returned 11.8% a year over the 20 years ended June 30, 2018, compared to a 6.8% average return for U.S. college and university endowments, the Yale Investment Office reports. Over the last 10 years, **Yale has returned 7.4%, compared to a peer average of 5.8%.**[1]

The Yale style of investing has been widely emulated not only by other endowments, but also by other institutional investors. Yet, despite the sterling reputation of the Yale endowment and other high-profile institutions, **research indicates that U.S. endowments,** including the largest ones, **have fallen well short of their return objectives over the last decade.** Moreover, even with access to large amounts of capital, experienced money managers and the latest technologies, **U.S. endowments have struggled to even match market returns.**

This paper explores research on the investment performance of U.S. endowments. It offers important insights for all investors, including those entrusted with responsibility of managing foundations, trusts and private wealth.

[1] https://news.yale.edu/2018/10/01/investment-return-123-brings-yale-endowment-value-294-billion

How U.S. endowments invest

One of the most extensive studies of endowments is the NACUBO-TIAA Study of Endowments, an annual survey of U.S. endowments for institutions of higher learning.

The 2018 NACUBO report surveyed 802 institutions, representing $616.5 billion in endowment assets. The institutions were broken down by size into seven categories of assets under management from under $25 million to over $1 billion.[2]

Endowments invest in a mix of publicly traded equities and fixed income securities as well as what are collectively known as alternative strategies. The latter category includes hedge funds, private equity, venture capital, real estate and natural resources.

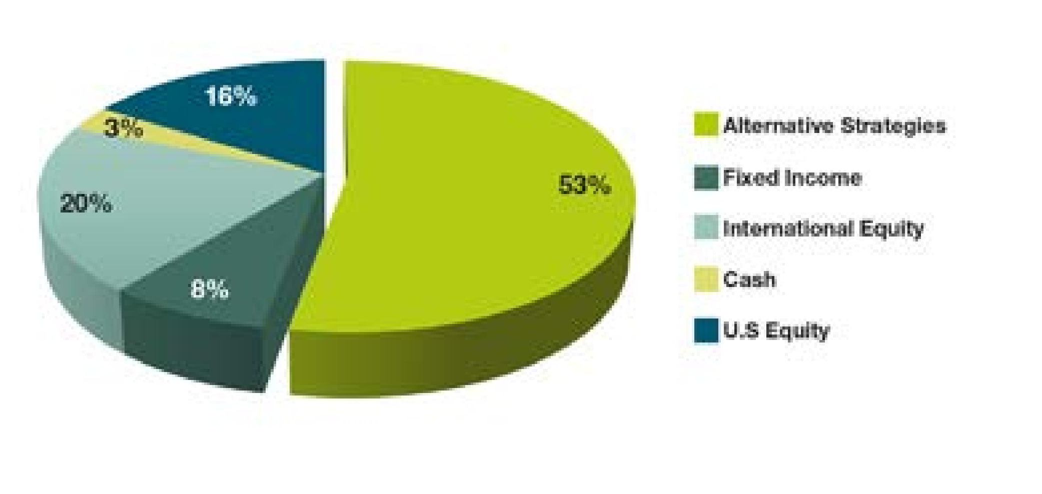
In 2018, the NACUBO study found that, in aggregate, endowments were invested 16% in U.S. equities, 20% in international equities, 8% in fixed income and 53% in alternative strategies (Chart 1).[3]

[2] Based on net returns in the 10-year period to June 30, 2018.

[3] It's important to note that the largest endowments, those with over $1 billion in assets, accounted for 13% of the total number of endowments in the NACUBO study but 77% of the total assets. As a result, a small number of large institutions weigh heavily in the aggregate asset mix.

U.S. endowment asset mix

Chart 1

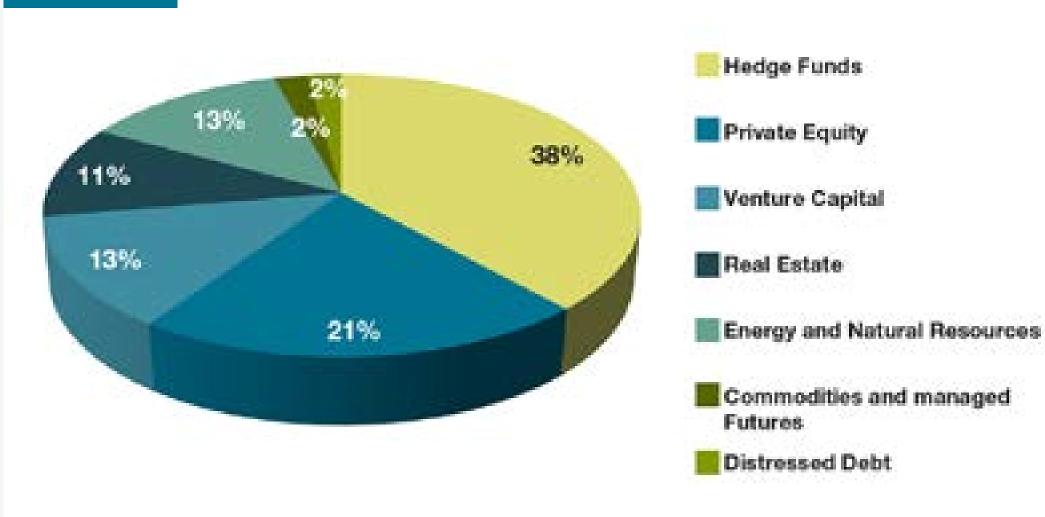


Source: NACUBO report 2018, p.6

The report also provides a breakdown of the alternative strategies used by endowments, which rely heavily on hedge funds and private equity (Chart 2).[4]

Alternative strategies breakdown

Chart 2



Source: NACUBO report 2018, p.6

[4] Charts 1 and 2 display asset-weighted figures.

The largest endowments, those with over $1 billion in assets, were much more heavily invested in alternative strategies than their smaller counterparts, with their portfolio percentage devoted to this asset class reaching 58% compared to just 11% for the smallest endowments. As a result, large endowments had far less exposure to the U.S. stock market—just 13% of assets compared to 45% for the smallest endowments. However, the NACUBO study notes that combined U.S. public and private equity exposure is similar across all size cohorts (except the smallest), ranging from 40% to 45%.

The study observes that: **"Similar direct equity exposure across cohorts, however, does not necessarily translate into similar portfolio risk profiles. The largest cohorts have much larger allocations to marketable alternative strategies, and much smaller allocations to fixed income, suggesting that the larger cohorts are running higher risk profile portfolios."** (NACUBO Report 2018, p. 17)

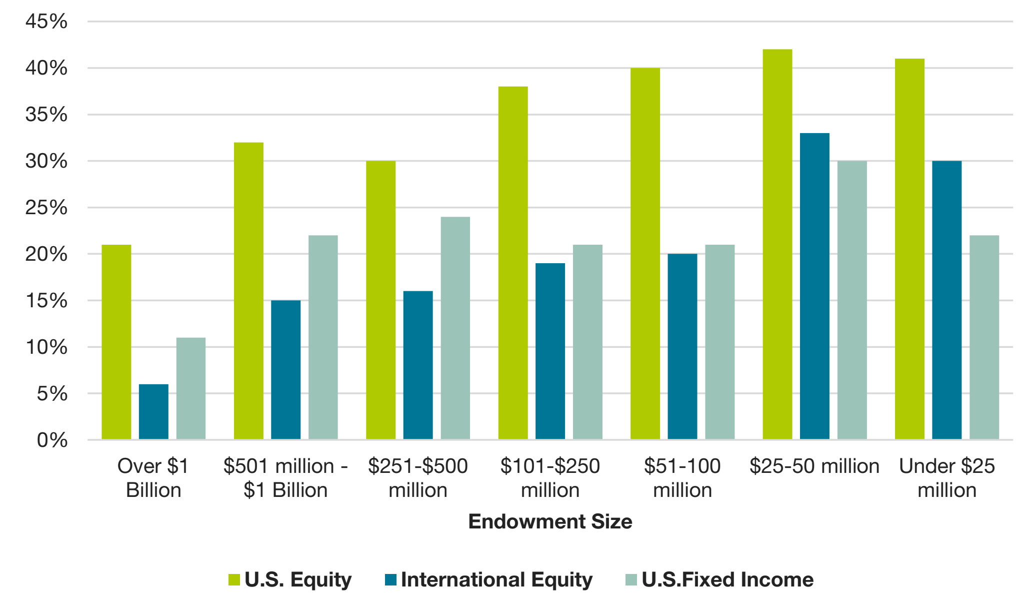
Failure to adopt passive investment strategies

When it comes to management style, endowments haven't followed the movement toward passive equity investments seen among retail investors. In aggregate, endowments exposure to passive U.S. equity investments has remained relatively steady at 27%, all but unchanged from five years earlier (Chart 3). Passive exposure to international equity markets actually decreased to 9% from 12% five years earlier. In fixed income, a long-term trend among endowments toward using more passive strategies continued in 2018. In aggregate, the percentage of fixed income increased to 16% from 14% a year earlier.

The largest endowments were less committed to passive management than the aggregate, investing just 21% of their equity assets in passively managed equity funds, compared to 41% for the smallest organizations. Chart 3 illustrates the tendency of smaller endowments to rely on passive investments.

Percentage of passive investments for various endowment size cohorts

Chart 3



Source: NACUBO report 2018, p. 19

This contrasts with the behaviour of U.S. retail investors, who have embraced passively managed investments enthusiastically in recent years, sending their share of all investment funds soaring. In 2018, passive index funds hit 37% market share, more than double the 16% in 2006.[5] During this 13-year period, U.S. passive funds brought in net inflows of $3.8 trillion, compared to only $583 billion for active funds. Moody's Investors Service expects passive funds to overtake actively managed ones by 2024.[6]

[5] Kerzérho, Raymond, The Passive Vs. Active Fund Monitor 2019, PWL Capital Inc. Retrieved from https://www.pwlcapital.com/wp-content/uploads/2019/03/PWL-WP-May-Kerzerho-Passive-Active-Fund-Monitor-2019.pdf

[6] https://www.moodys.com/research/Moodys-Passive-investing-to-overtake-active-in-just-four-to--PR_361541

The arithmetic of passive investing

Passive investors hold all the securities in a market, earning the market return, less costs. Active investors attempt to achieve better than market returns, after costs, by selecting "winning" securities.

In a seminal 1991 article, Nobel Prize winning economist William Sharpe observed that since the market consists of active and passive investors, in aggregate, both earn market returns, less costs. Since actively managed investments carry much higher costs, they must return less, in aggregate, than low-cost passively managed index funds.

Sharpe explained the idea eloquently. **"Each passive manager will obtain precisely the market return, before costs,"** he says in the article, entitled The Arithmetic of Active Investing.[7] **"From this, it follows (as the night from the day) that the return on the average actively managed dollar must equal the market return. Why? Because the market return must equal a weighted average of the returns on the passive and active segments of the market. If the first two returns are the same, the third must be also."**

[7] Sharpe, William F., 1991, The Arithmetic of Active Management, Financial Analysts Journal, 47:1, 7-9. Retrieved from https://tandfonline.com/doi/abs/10.2469/faj.v47.n1.7

In the real world, we see that actively managed investment funds consistently underperform low-cost passive index funds by a wide margin. For example, Standard and Poor's finds in a 2018 report that 87% of all U.S. domestic equity funds underperformed the S&P 1500 composite in the last decade.[8]

> This does not mean that all active investors will fail to beat the index, as Sharpe pointed out. **"It is perfectly possible for some active managers to beat their passive brethren, even after costs,"** he says. **"It is also possible for an investor (such as a pension fund) to choose a set of active managers that, collectively, provides a total return better than that of a passive alternative, even after costs."**

The difficulty is finding the small minority of managers that are skilled enough to consistently beat the market, especially because, as the mutual fund advertising warns, past performance is no guarantee of future results. There is no evidence that past outperformers can repeat their feat.

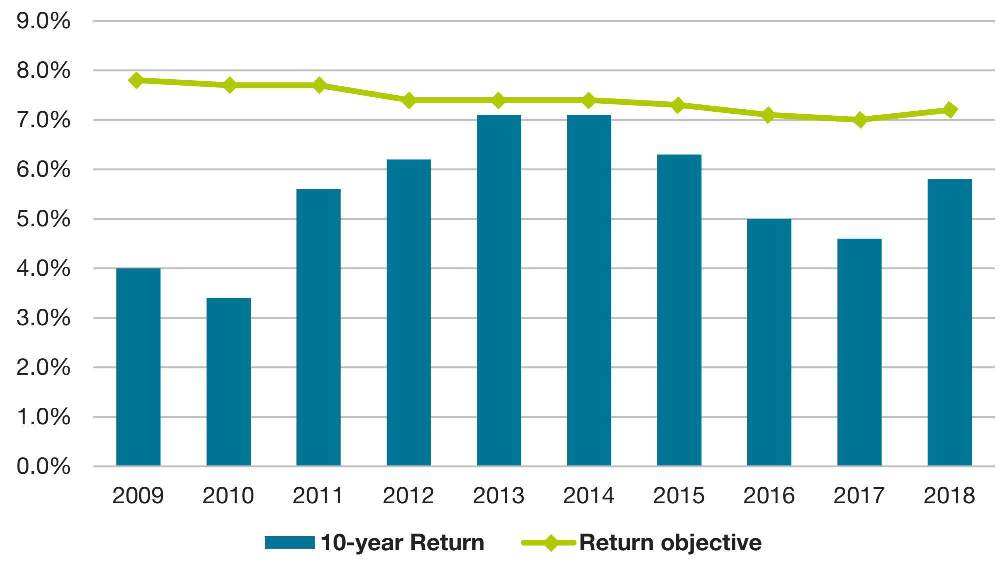
[8] https://ca.spindices.com/documents/spiva/research-spiva-institutional

Investment returns of U.S. endowments

The NACUBO study reports that, in aggregate, endowments failed to achieve their return objectives by a wide margin (Chart 4). Indeed, the study notes that aggregate average returns were below the 10-year objective in every one of the last 10 years. (NACUBO Report 2018, p. 12)

Endowment 10-year returns versus objective 2009-2018

Chart 4

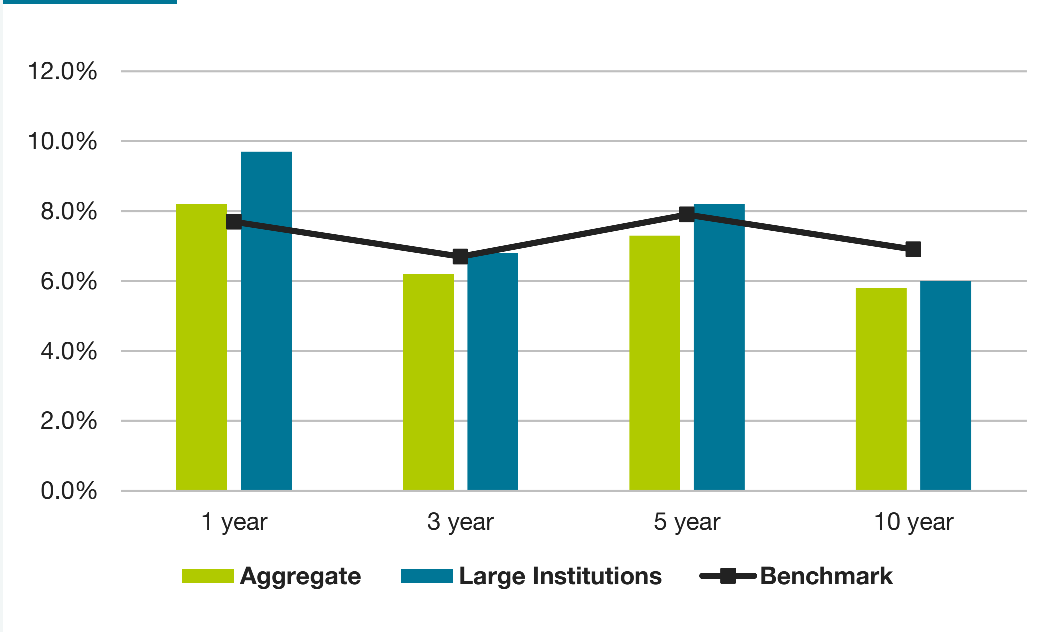


Source: NACUBO report 2018, p. 12

What's more, endowments, in aggregate, **failed to achieve the annual returns of an equity/bond index benchmark over three-, five- and 10-year periods (Chart 5).** They underperformed the benchmark by more than a full percentage point annually over 10 years.

Endowment returns versus benchmark[9]

Chart 5



Source: NACUBO report 2018, PWL Capital

The largest endowments performed better than smaller endowments and beat the benchmark by slim margins over one, three and five years. However, even they failed to beat it over 10 years. Thus, the NACUBO study indicates that the **traditional return advantage enjoyed by the largest endowments over the others has been converging to zero since 2009.**

[9] The benchmark consists of 41% Russell 3000 Index/ 21% EAFE&EM Index/38% Bloomberg Barclays U.S. Bond Aggregate, as suggested by Barber & Wang (2013). All return numbers are computed as of June 30, 2018.

Elsewhere, there is even more striking evidence of the struggles that endowments have had in matching index returns. A 2019 paper by Sandeep Dahiya and David Yermack was based on a much larger sample of non-profit endowments than the NACUBO survey. It looked at close to 30,000 endowments drawn from 2009-2017 U.S. Internal Revenue Service filings. The endowments were from all sectors of activity, not just educational institutions.

This study found endowments had badly underperformed market benchmarks with **median annual returns that were a whopping 4.46% below a simple 60/40 U.S. equity/U.S. Treasury bond benchmark.** Indeed, aggregate returns were just 70 basis points above the 10-Year U.S. Treasury bond return.

> **"In other words, the typical endowment fund would have earned almost identical returns if its trustees had followed a simplistic investment strategy of holding 100% Treasury bonds and taken no equity market risk whatsoever,"** the study says. (Dahiya & Yermack 2019, p. 11)

While this performance is remarkably poor, it's important to note that the study's sample included many small endowments, with the median holding less than $10 million in assets. While all sizes of endowments failed to beat the 60/40 benchmark, the larger the endowment, the smaller the under-performance. The largest (over $100 million) underperformed the 60/40 benchmark by 0.26% annually. **However, the study also found that on a risk-adjusted basis, the larger the portfolio, the worse it performed.**

A third study of endowment returns, this one published in 2013 by Brad Barber and Guojun Wang, examined NACUBO data from 1991-2011. The study found that 99% of the returns of the average endowment reflected the performance of a simple portfolio consisting of 41% U.S. stocks/21% international stocks/38% bonds. However, the endowments of elite institutions[10] were able to reliably outperform a simple mix of stock/bond indexes, adding excess returns of 2% to 4% per year.

These excess returns were explained by the endowments' large weightings in alternative investments. While hedge funds and private equity did add value for elite institutions, even these endowments showed no sign of special skill in extracting excess value from public stock and bond markets.

The authors found no evidence that manager selection, market timing or tactical asset allocation are able to generate excess returns for educational endowments.

> **"Although managers appear to earn sufficient returns to cover their fees, there is no evidence that endowments—even the endowments of elite institutions—are able to beat benchmark returns."**
> (Barber & Wang 2013, p. 42)

[10] Elite institutions were defined as Ivy League universities and 30 non-Ivy League institutions with the highest average SAT math scores for incoming freshmen.

Do alternative strategies generate excess returns?

The use of alternative investments by institutional investors has grown continuously in recent years as bond yields have fallen to historic lows and stock markets have become increasingly expensive. PwC expects assets under management in alternative strategies to almost double between 2017 and 2025, reaching over $21 trillion.[11]

Endowments use alternative strategies to diversify portfolios and increase returns. However, over the last decade, private equity and venture capital funds have respectively underperformed and slightly outperformed the U.S. stock market while hedge funds have underperformed both U.S. equity and fixed income markets (NACUBO report 2018, pp. 11-12).

The report concludes: **"...the strong performance of the public equity and fixed income markets over the past 10 years, relative to hedge funds, created a headwind for endowments with large allocations to marketable alternative strategies, and contributed to their lower absolute level of returns over this period."**

Studies have found mixed evidence regarding the ability of alternative investment managers to generate excess returns, net of fees. A study by Vanguard, for example, found that a growing allocation to alternatives helped the largest U.S. endowments—representing just 10% of all endowments—to generate strong returns

[11] PwC, Rediscovering alternative assets in changing times, 2018. Retrieved from https://www.pwc.com/gx/en/industries/private-equity/rediscovering-alternative-assets-in-changing-times.html

in the 25 years to June 2013.[12] However, the study observes that most of the strong returns from alternative investments came in the early to mid-2000s.

> **As investors increased their exposure to alternatives, "positive excess returns have not been forthcoming"**
> (Vanguard 2014, pp. 4-5).

The Barber and Wang study (2013) found that alternative investments were a source of excess returns for only a small group of elite endowments.

Endowments must contend with a number of challenges in attempting to generate excess returns from alternative investments. First, they must be able to identify and get access to skilled managers who are capable of consistently providing high returns, over and above the fees they charge. (Typically, alternative managers charge a 1% to 2% management fee, plus a 20% of profits over a certain threshold.)

Second, they must contend with the difficulty of valuing and accurately judging the riskiness of illiquid and often highly leveraged investments. The holdings of hedge funds and other alternative investments are frequently opaque and may be far riskier than investors realize.

Among other things, fund managers may be using strategies that are the equivalent of selling earthquake insurance, as pointed out in a study by Stulz (2007). Most of the time, the insurance company earns nice profits, but when disaster strikes, it suffers losses that are far greater than the profits earned in good times.

[12] Wallick, Daniel W., Wimmer, Brian R. and Balsamo, James J., 2014, Assessing endowment performance: The enduring role of low-cost investing. Vanguard Research. Retrieved from https://pressroom.vanguard.com/nonindexed/Assessing_endowment_performance_10.14.2014.pdf

Conclusion

In reviewing research on U.S. endowments, we have found that large endowments have historically outperformed their smaller counterparts, thanks to their heavy exposure to alternative investments. However, this advantage has been shrinking in recent years and even the **largest endowments have struggled to match the returns of an equity/bond index benchmark.**

Large U.S. endowments are among the most sophisticated investors in the world with huge internal management teams, the latest technology, and access to external consultants and the best money managers. Even with all these resources, they have struggled to match the returns of simple index benchmarks. Yet, they **are not increasing their reliance on low-cost passive investment strategies that would guarantee they obtain market returns.**

In the past, the big endowments made their reputation by using their prowess in managing private investments and hedge funds to generate excess value. With the huge growth of alternative investments, private asset prices have been driven up, reducing future expected returns. A similar story is playing out in public capital markets where low inflation, **low interest rates and sluggish economic growth are also reducing future expected returns.** PWL Capital's research estimates that a balanced portfolio of stocks and bonds is likely to provide a long-term return of just 5% a year in the future versus a return over the last thirty years of about 8%.

In a world of low expected returns, capturing every available cost saving is more vital than ever. In our judgment, this is why low-cost, passively managed funds should be an important part of portfolios. Passive funds offer better diversification because of the larger number of securities held. The low turnover associated with passive investments also results in lower transaction costs and better tax-efficiency.

Passive investments offer a simpler, more efficient way to capture market returns.

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