Passively Active Investing – The Case of the University Endowment

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The Asian Conference on the Social Sciences 2019
Official Conference Proceedings

Abstract
There is a longstanding debate in investing circles about whether passive investing can outperform active investing. Passive investing has been based on the use of an index or combination of indices. With the growth of the ETF industry, there is now an additional investment alternative that combines the low-cost of an index with the liquidity of a stock. This paper takes the average university endowment portfolio and replaces the managers with ETFs that invest in the same strategies. For the year ended June 30, 2017 the ETF replacement portfolio outperformed the average university portfolio (12.86% to 12.20%) and was very close to the average return for university portfolios over $1 billion (12.86% versus 12.90%). The ETF replacement portfolio slightly outperformed the $101 million to $500 million university portfolio as well as the $501 million to $1 billion university portfolio.

Keywords: ETF, passive investing, active investing, university endowment

Introduction

One of the longstanding debates in investing circles is whether active management can outperform passive investing, net of fees. Passive used to be another way of saying "index." One of the desirable attributes of an index is its low cost. Since manager skill plays no role in an index the manager does not have to be compensated as they would in an active fund. The advent of the ETF structure has allowed a new framework to be developed in investing.

An ETF can be considered another type of structure for investing. There can be active management in the ETF structure as well as passive management, there can be high cost ETFs and low cost ETFs. Various institutional investor groups publish surveys of the average portfolio return of their reporting members, as well as the average asset allocation to strategies and sub-strategies. Two of the more active groups are the Council on Foundations (COF) and the National Association of College and University Business Officers (NACUBO). They each publish an annual investment survey (in collaboration with Commonfund) based on the results of the constituencies (foundations in conjunction with COF and university endowments in conjunction with NACUBO).

ETFs have grown in popularity because they are very liquid structures (traded on major exchanges), operate across all investment strategies and can be very low cost. This paper takes an average University endowment and replaces the managers with ETFs that have the same investing strategy as the manager they replace.

Procedure

The NACUBO-Commonfund Study of Endowments 2017 (NCSE 2017) will be used to gather the average portfolio composition. The E-trade platform will be utilized to generate an initial list of ETFs, supplemented by an internet search when ETFs cannot be found through E-trade.

The maximum threshold for the expense ratio for the ETFs is 20 basis points, except for alternative investments, where the maximum expense ratio is 80 basis points. Where multiple ETFs are available, the low cost ETF will be chosen.

No single ETF can represent more than 5% of the portfolio, so where an allocation to a strategy exceeds 5% of the portfolio, multiple ETFs will be chosen for that strategy.

Average Asset Allocation

NCSE 2017 has 7 stratifications of asset allocation, by size:

Size		
From	To	N
Under	$25 million	85
$25 million	$50 million	113
$51 million	$100 million	157
$101 million	$500 million	275
$501 million	$1 billion	82
Over	$ 1 billion	97
All		809

Figure 1: Asset Allocation Size Stratification

The asset allocation for the average of the 809 endowments was chosen.

The average asset allocation is shown in Figure 2 below.

	Allocation
US equities	16%
Fixed income	8%
Non-US equities	20%
Alternatives	52%
Short-term securities, cash, other	4%
Total	100%

Figure 2: Average Asset Allocation

There are more granular allocations, which show the relative percentages of the allocation percentage in Figure 2 to the sub-strategies is shown in Figure 3 below.

US equities	
Active	73%
Indexed	27%
Fixed income	
US investment grade - active	60%
US investment grade - passive	14%
US non-investment grade	14%
Non-US investment grade	9%
Emerging markets	3%
Alternatives	
Private equity	21%
Marketable alternatives	40%
Venture capital	12%
Private equity real estate	11%
Energy and natural resources	12%
Commodities and managed futures	1%
Distressed debt	3%

Figure 3: Granular Asset Allocation

The next step is to assume an endowment value. This paper chooses to use $500 million. It doesn't really matter what value is chosen, the results would be the same. The asset allocations are then made using the percentages from Figures 2 and 3 and multiplying by the $500 million assumed endowment value. This is shown in Figure 4.

US equities	Active	11.68%	58,400,000
	Indexed	4.32%	21,600,000
Fixed	US investment - grade	4.80%	24,000,000
	US investment - passive	1.12%	5,600,000
	US non-investment grade	1.12%	5,600,000
	Non-US investment grade	0.72%	3,600,000
	Emerging markets	0.24%	1,200,000
Non-US equities		20.00%	100,000,000
Alternatives	Private equity	10.92%	54,600,000
	Marketable alternatives	20.80%	104,000,000
	Venture capital	6.24%	31,200,000
	Private equity real estate	5.72%	28,600,000
	Energy and natural resources	6.24%	31,200,000
	Commodities and managed futures	0.52%	2,600,000
	Distressed debt	1.56%	7,800,000
Short-term, cash		4.00%	20,000,000
			500,000,000

Figure 4: Dollar amounts allocated to each strategy

The last step is to calculate how many ETFs are required for each strategy (which is based on $500,000,000 times a maximum allocation of 5%, which equals a maximum per ETF of $25,000,000). This is shown in Figure 5 below.

		Allocation	# ETFs
US equities	Active	58,400,000	3
	Indexed	21,600,000	1
Fixed	US investment - grade	24,000,000	1
	US investment - passive	5,600,000	1
	US non-investment grade	5,600,000	1
	Non-US investment grade	3,600,000	1
	Emerging markets	1,200,000	1
Non-US equities		100,000,000	4
Alternatives	Private equity	54,600,000	3
	Marketable alternatives	104,000,000	5
	Venture capital	31,200,000	2
	Private equity real estate	28,600,000	2
	Energy and natural resources	31,200,000	2
	Commodities and managed futures	2,600,000	1
	Distressed debt	7,800,000	1
Short-term, cash		20,000,000	1
		500,000,000	

Figure 5: Number of ETFs needed for each strategy

Assigning ETFs

After going through the selection process, the following ETFs were chosen for each of the strategies, as shown in Figure 6 below.

				Ticker	Exp Ratio
US equities	Active	Large Cap Val	19,466,667	VONV	0.12%
	Active	Large Cap Growth	19,466,667	SCHG	0.04%
	Active	Mid Cap Growth	19,466,667	VOT	0.07%
	Indexed	S&P 500	21,600,000	SPY	0.09%
Fixed	US investment - grade	AAA rated corp bonds	24,000,000	QLTA	0.15%
	US investment - passive	Intermediate MBS	5,600,000	VMBS	0.07%
	US non-investment grade	0-5 year high yield corp	5,600,000	SHYG	0.30%
	Non-US investment grade	Total Int'l bond	3,600,000	BNDX	0.09%
	Emerging markets	Emerging markets govt	1,200,000	VWOB	0.30%
Non-US equities	Active	Large Cap Val	25,000,000	HDAW	0.02%
	Active	Large Cap Growth	25,000,000	IDHQ	0.29%
	Active	Large Cap Blend	25,000,000	IXUS	0.10%
	Active	Small/Mid Blend	25,000,000	VSS	0.12%
Alternatives	Private equity		18,200,000	BDCL	0.85%
	Private equity		18,200,000	PSP	0.64%
	Private equity		18,200,000	PEX	0.06%
	Marketable alternatives	Infrastructure	20,800,000	GII	0.40%
	Marketable alternatives	Long-short Equity	20,800,000	PHDG	0.39%
	Marketable alternatives	Option writing	20,800,000	PUTW	0.38%
	Marketable alternatives	Multi-strategy	20,800,000	QAI	0.79%
	Marketable alternatives		20,800,000	DYLS	0.48%
	Venture capital		15,600,000	IPO	0.60%
	Venture capital		15,600,000	ARKK	0.75%

	Private equity real estate	14,300,000	VNQI	0.12%
	Private equity real estate	14,300,000	XLRE	0.13%
	Energy and natural resources	15,600,000	SYLD	0.10%
	Energy and natural resources	15,600,000	XLB	0.13%
	Commodities and managed futures	2,600,000	XME	0.35%
	Distressed debt	7,800,000	ANGL	0.35%
Short-term, cash		20,000,000	SHV	0.15%
		500,000,000		

Figure 6: ETFs assigned to strategies

Calculating returns

Once the ETFs are assigned to strategies and allocated a portion of the portfolio a return for the year ended June 30, 2017 can be calculated for each. This is shown in Figure 7 below.

Strategy	Sub-strategy	Ticker	FY 2017 Return
US equities	Active	VONV	12.47%
	Active	SCHG	20.54%
	Active	VOT	15.58%
	Indexed	SPY	15.42%
Fixed	US investment - grade	QLTA	-2.38%
	US investment - passive	VMBS	-2.19%
	US non-investment grade	SHYG	3.80%
	Non-US investment grade	BNDX	-2.18%
	Emerging markets	VWOB	-0.21%
Non-US equities	Active	HDAW	13.38%
	Active	IDHQ	13.25%
	Active	IXUS	17.25%
	Active	VSS	15.85%
Alternatives	Private equity	BDCL	17.66%
	Private equity	PSP	23.47%
	Private equity	PEX	16.49%
	Marketable alternatives	GII	7.11%
	Marketable alternatives	PHDG	7.42%
	Marketable alternatives	PUTW	9.18%
	Marketable alternatives	QAI	1.00%
	Marketable alternatives	DYLS	12.72%
	Venture capital	IPO	28.99%
	Venture capital	ARKK	48.84%
	Private equity real estate	VNQI	3.78%
	Private equity real estate	XLRE	-4.82%
	Energy and natural resources	SYLD	20.36%
	Energy and natural resources	XLB	16.12%
	Commodities and managed futures	XME	22.78%
	Distressed debt	ANGL	7.43%
Short-term, cash		SHV	-0.05%
			12.86%

Figure 7: Returns for each ETF

Conclusion

Having calculated the return for each ETF for the year ended June 30, 2017 and also calculated a portfolio return (12.86%) this can be compared to the returns reported by the University endowments. This is done in Figure 8 below.

Strategy	ETFs	All	Over $1 billion	$501 million to $1 billion	$101 million $500 million
US equities	15.99%	17.60%	19.10%	19.10%	17.80%
Fixed	-1.41%	2.40%	3.00%	1.50%	2.20%
Non-US equities	14.93%	20.20%	21.60%	22.10%	19.70%
Alternatives	14.28%	7.80%	9.80%	10.10%	8.30%
Short-term, cash	-0.05%	1.40%	1.80%	1.10%	1.70%
Total	12.86%	12.20%	12.90%	12.70%	12.50%

Figure 8: Return comparison

The ETF portfolio slightly outperformed the average return of each size range, except for the largest portfolios (over $1 billion), which it almost matched. Based on this one year, the replacement of active managers with ETFs should not produce reduced returns. Advantages include low cost and high liquidity, even for the alternative investments. ETFs are traded like stocks, so there is a ready market for selling and buying ETFs.

What is particularly interesting and an area for future research is the strategy where ETFs outperformed. In comparison to every size stratification the ETFs underperformed except for alternative investments. This is precisely opposite what one would expect. Alternative investments (comprised of hedge funds, private equity, venture capital, real estate, managed futures, commodities and the like) are thought to be the asset class where “alpha” or management skill, is most prevalent. That the alternative ETFs almost doubled the return of the average active manager for the largest portfolios is surprising.

Reference

2017 NACUBO-Commonfund Study of Endowments, 2018