Passively Active Investing – A Five Year Test

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This paper took five years of the Council on Foundations-Commonfund study of Foundations and using the average asset allocation replaced the active managers with ETFs. The ETFs comprised the "replacement portfolio." Over the five years the active portfolio outperformed the replacement portfolio in four of the five years. The five-year return of the actively managed portfolio was 8.1% versus 4.8% for the replacement portfolio. The ETFs chosen that replaced the managers were similar strategies and chosen based on having a low expense ratio. No review of past performance was done. During the five years poorly performing ETFs were not replaced.

Keywords: passive investing, active investing, ETF, passive vs active investing

INTRODUCTION

In investment circles one of the longest running debates is whether active management can outperform (net of fees) passive investing. The literature contains ample evidence of the persistence of this argument. Both the academic and professional literature has countless examples of papers written on the subject. The papers usually take a focus that follow one of a few paths:

A. Whether active management outperforms passive on an annual basis (Haber, Vol 4, Iss 1)
B. Whether active management outperforms passive on a cumulative return basis (Haber, 2013)
C. Whether a passive index is still attractive when subjected to the diligence that an active manager would be subject to (Haber, 2015)

This paper looks at the debate in a different way. The Council on Foundations and the Commonfund produce an annual report that compiles the investment allocations and returns from a number of foundations. This paper uses the five years 2013 – 2017. The 2013 report included just private foundations, whereas starting in 2014 the report included private and community foundations. This paper takes the average asset allocation reported for the large ($500 million and over in assets under management) private foundation and uses exchange-traded-funds (ETFs) to populate the asset allocations. ETFs were chosen over indices because not all indices are investable, and most reported indices are gross of fees. To use investable indices (even if imputing a reasonable management fee) would require also filling some asset allocations with a different type of security where no index exists for that allocation. Using only ETFs provides a homogenous security type for replacing the managers in the average portfolio.

PROCEDURE

A replacement portfolio will be developed comprised of ETFs that are intended to mirror the asset allocation of the average, large ($500 million and above) private foundation. Each year the replacement portfolio will be rebalanced to the new average asset allocation. The initial $500 million replacement portfolio will use the asset allocation reported in the 2013 Study. The ending balance of the replacement portfolio at December 31, 2013 will be used in the asset allocation for 2014, using the asset allocation reported in the 2014 Study, and so on for each of the years.

To select the ETFs that will replace managers in the portfolio the e-Trade website was used. In order to try and select passive ETFs, rather than active investment management provided in an ETF framework, a maximum expense ratio of 20 basis points was initially chosen. Additionally, since the initial portfolio is set beginning on January 1, 2013, the ETF must have a history going back at least that far.

For some broad groupings there were unspecified allocations, using the term “other.” This happened with alternatives and cash. For cash, the allocation to “other” was simply added to the allocation of cash. For alternatives, the allocation to “other” was reallocated to the specified alternative allocations within the alternative grouping on a pro-rata basis.

Following sound asset allocation principles, generally no individual allocation could be greater than 5% of the portfolio balance. In searching for ETFs to fill some allocations it became apparent that it would be difficult to find ETFs to replicate certain strategies for 20 basis points. Therefore the cap was raised to 80 basis points for those allocations (with a priority on using lower cost ETFs where they existed). The ETFs utilized were:

TABLE 1
ETFs UTILIZED

Asset Class	ETF	Name	Expense Ratio
US equities			
Active	MGK	Vanguard Mega Cap Growth Index	0.07%
Active	VYM	Vanguard High Dividend Yield	0.08%
Active	VOE	Vanguard Mid-Cap Value	0.07%
Active	VOT	Vanguard Mid-Cap Growth	0.07%
Passive	VOO	Vanguard S&P 500	0.04%
Fixed income			
US investment grade (active)	VCIT	Vanguard Intermediate Term Corporate Bond	0.07%
US investment grade (passive)	BIV	Vanguard Intermediate Term Bond	0.07%
US non-investment grade	VMBS	Vanguard Mortgage-Backed Securities	0.07%
Non-US investment grade	BWX	SPDR Int'l Treasury Bond	0.35%
Emerging markets	EMAG	VanEck Emerging Markets Aggregate Bond	0.35%
Non-US equities			
Active MSCI, EAFE	IEFA	iShares Core MSCI EAFE	0.08%
Active MSCI, EAFE	IXUS	iShares Core MSCI Total International Stock	0.10%
Active MSCI, EAFE	VEU	Vanguard Int'l Equity Ind FD FTSE All World ex US	0.11%
Passive index MSCI, EAFE	VXUS	Vanguard Total Int'l Stock Index	0.11%

Emerging markets	VWO	Vanguard Emerging Markets FTSE	0.14%
Emerging markets	IEMG	iShares Core MSCI Emerging Markets	0.14%
Alternative investments			
Private equity	BDCS	UBS Securities Linked Wells Fargo Business	0.85%
Private equity	BDCL	UBS 2x Leveraged Long Linked Wells	0.85%
Private equity	QAI	IndexIQ Hedge Multi-Strategy Tracker	0.79%
Marketable alternatives	MNA	IndexIQ Merger Arbitrage	0.78%
Marketable alternatives	HDG	ProShares Hedge Replication	0.95%
Marketable alternatives	PBP	Invesco S&P 500 Buy Write	0.49%
Marketable alternatives	MRGR	ProShares Merger	0.75%
Venture capital	IWC	iShares Micro Cap	0.60%
Venture capital	IPO	Renaissance IPO	0.60%
Private real estate	USRT	iShares Core US REIT	0.08%
Energy, natural resources	VAW	Vanguard Materials	0.10%
Commodities and managed futures	GSP	Barclays Traded Notes Linked to GSCI	0.75%
Distressed debt	ANGL	VanEck Fallen Angel High Yield	0.35%
Cash, short-term	VGSH	Vanguard Short Term Treasury	0.07%

Where multiple ETFs were available to fill allocations the selection criteria were to use the Morningstar rating and/or whether the ETF was classified as an "all-star." No information about returns was used (prior or future). And once an ETF was selected it remained in the portfolio unless an allocation change required that it be dropped. Where an allocation decreased and there were multiple ETFs covering that mandate, the last ETF in the list was dropped, regardless of the prior reported returns.

Private foundations have a distribution requirement, but since the ETFs are all liquid, any distribution could be done pro-rata across all allocations, thereby not affecting the reported returns. The study uses a minimum of assets under management of $500 million to define the "large" foundation class, so it is probable that the average large foundation in the study had an endowment that was greater than $500 million. Given how the comparative portfolio is developed it would not matter how large the assumed beginning portfolio balance was.

The average asset allocation for each of the five years is shown in Table 2.

TABLE 2
ASSET ALLOCATION PERCENTAGES

	Asset Allocation Percentages				
	2013	2014	2015	2016	2017
Domestic equities	*22*	*23*	*23*	*22*	*22*
Active	19	18	18	17	18
Indexed	3	5	5	5	4
Fixed income	*7*	*8*	*8*	*6*	*7*
Domestic investment grade - active	3	5	5	4	5
Domestic investment grade - passive	1	2	3	1	2
Domestic non-investment grade	1	0	0	1	0
International bonds	1	1	0	0	0
Emerging markets	1	0	0	0	0
International equities	*20*	*18*	*17*	*20*	*21*
Active MSCI EAFE	11	8	10	9	14
Passive/index MSCI/EAFE	2	4	2	5	2
Emerging markets	7	6	5	6	5
Alternative strategies	*46*	*47*	*48*	*49*	*48*
Private equity	10	10	9	9	9
Marketable alternative strategies	17	18	20	19	18
Venture capital	5	6	7	9	8
Private equity real estate	5	5	5	4	4
Energy and natural resources	5	5	3	4	4
Commodities and managed futures	0	0	1	0	1
Distressed debt	4	3	3	4	4
Short-term securities, cash, other	*5*	*4*	*4*	*3*	*2*

Using the 2013 asset allocation and a $500 million starting balance the 2013 portfolio is shown in Table 3.

TABLE 3
2013 ENDING BALANCE AND RETURNS

	ETF	Beginning Balance	Return	Ending Balance
Domestic equities				
Active	MGK	23,750,000	27.99%	30,397,316
Active	VYM	23,750,000	23.50%	29,332,144
Active	VOE	23,750,000	32.59%	31,490,361
Active	VOT	23,750,000	28.62%	30,546,352
Indexed	VOO	15,000,000	27.24%	19,085,678
Subtotal		*110,000,000*	*28.05%*	*140,851,850*
Fixed income				
Domestic investment grade – active	VCIT	15,000,000	-6.05%	14,091,787
Domestic investment grade – passive	BIV	5,000,000	-7.31%	4,634,672
Domestic non-investment grade	VMBS	5,000,000	-2.43%	4,878,585
International bonds	BWX	5,000,000	-5.38%	4,731,236
Emerging markets	EMAG	5,000,000	-11.24%	4,437,970
Subtotal		*35,000,000*	*-19.04%*	*28,336,280*
International equities				
Active MSCI EAFE	IEFA	18,333,334	17.63%	21,566,332
Active MSCI EAFE	IXUS	18,333,333	10.59%	20,274,634
Active MSCI EAFE	VEU	18,333,333	9.38%	20,053,000
Passive/index MSCI/EAFE	VXUS	10,000,000	9.31%	10,931,000
Emerging markets	VWO	17,500,000	-8.84%	15,953,000
Emerging markets	IEMG	17,500,000	-5.86%	16,474,500
Subtotal		*100,000,000*	*5.25%*	*105,252,465*
Alternative strategies				
Private equity	BDCS	25,000,000	6.15%	26,536,643
Private equity	BDCL	25,000,000	10.95%	27,736,411
Marketable alternative strategies	MNA	21,250,000	6.08%	22,540,967
Marketable alternative strategies	HDG	21,250,000	2.63%	21,809,348
Marketable alternative strategies	PBP	21,250,000	4.69%	22,247,099
Marketable alternative strategies	MRGR	21,250,000	-6.69%	19,828,067
Venture capital	IWC	25,000,000	38.06%	34,515,714
Private real estate	USRT	25,000,000	-5.99%	23,503,586
Energy and natural resources	VAW	25,000,000	19.78%	29,944,896
Distressed debt	ANGL	20,000,000	0.15%	20,029,630
Subtotal		*230,000,000*	*8.13%*	*248,692,361*

Short-term securities, cash, other				
Short-term securities, cash	VGSH	25,000,000	0.05%	25,012,325
Total		***500,000,000***	***9.63%***	***548,145,281***

The next step was to take the ending balance from 2013 and using it as the beginning balance in 2014, then apply the average asset allocation to the beginning balance and apply the annual return for each ETF. For example, the portfolio ended 2013 with a total value of $548,145,281. This became the beginning portfolio value for 2014. The average allocation to Domestic equities – Active for 2014 was 18%. Taking 18% of the 2013 ending portfolio balance produced a total allocation of $98,666,151 to Domestic equities – active at the beginning of 2014, and dividing by 4 (since no EFT could be greater than 5% times $548,145,281 or $27,407,264) produced an allocation of $24,666,538 to each of the 4 ETFs that classified as Domestic equities – Active. This was repeated for all the allocations and produced the allocations shown in the Beginning Balance column on Table 4. The annual return for 2014 for each of the ETFs was applied to the beginning balance and the resultant ending balance shown below on Table 4.

TABLE 4
2014 ENDING BALANCE AND RETURNS

	ETF	Beginning Balance	Return	Ending Balance
Domestic equities				
Active	MGK	24,666,538	12.50%	27,749,855
Active	VYM	24,666,538	10.66%	27,294,777
Active	VOE	24,666,538	12.41%	27,726,602
Active	VOT	24,666,538	12.91%	27,851,616
Indexed	VOO	27,407,264	11.79%	30,638,631
Subtotal		*126,073,415*	*12.05%*	*141,261,481*
Fixed income				
Domestic investment grade - active	VCIT	27,407,264	4.04%	28,513,357
Domestic investment grade - passive	BIV	10,962,906	3.57%	11,354,438
International bonds	BWX	5,481,453	-3.66%	5,281,052
Subtotal		*43,851,623*	*2.96%*	*45,148,847*
International equities				
Active MSCI EAFE	IEFA	21,925,811	-7.89%	20,195,403
Active MSCI EAFE	IXUS	21,925,811	-6.63%	20,473,058
Passive/index MSCI/EAFE	VXUS	21,925,811	-6.73%	20,449,425
Emerging markets	VWO	16,444,358	-1.21%	16,245,451
Emerging markets	IEMG	16,444,358	-3.90%	15,803,028
Subtotal		*98,666,151*	*-5.57%*	*93,166,366*
Alternative strategies				
Private equity	BDCS	27,407,264	-15.20%	23,240,791
Private equity	BDCL	27,407,264	-28.21%	19,676,304

Marketable alternative strategies	MNA	24,666,538	5.72%	26,077,389
Marketable alternative strategies	HDG	24,666,538	1.83%	25,117,936
Marketable alternative strategies	PBP	24,666,538	0.14%	24,702,286
Marketable alternative strategies	MRGR	24,666,538	-2.08%	24,154,315
Venture capital	IWC	16,444,358	2.52%	16,858,260
Venture capital	IPO	16,444,358	4.20%	17,135,021
Private real estate	USRT	27,407,264	25.12%	34,291,725
Energy and natural resources	VAW	27,407,264	4.15%	28,544,914
Distressed debt	ANGL	16,444,358	-3.59%	15,853,798
Subtotal		*257,628,282*	*-0.77%*	*255,652,739*
Short-term securities, cash, other				
Short-term securities, cash	VGSH	21,925,811	0.02%	21,929,413
Total		***548,145,281***	***1.64%***	***557,158,845***

This is repeated for 2015 and shown on Table 5.

TABLE 5
2015 ENDING BALANCE AND RETURNS

	EFT	Beginning Balance	Return	Ending Balance
Domestic equities				
Active	MGK	25,072,148	1.68%	25,492,729
Active	VYM	25,072,148	-3.36%	24,229,997
Active	VOE	25,072,148	-4.49%	23,946,562
Active	VOT	25,072,148	-2.31%	24,492,445
Indexed	VOO	27,857,942	-1.25%	27,510,619
Subtotal		*128,146,534*	*-1.93%*	*125,672,352*
Fixed income				
Domestic investment grade - active	VCIT	27,857,942	-2.47%	27,169,733
Domestic investment grade - passive	BIV	16,714,765	-1.91%	16,394,998
Subtotal		*44,572,708*	*-2.26%*	*43,564,731*
International equities				
Active MSCI EAFE	IEFA	27,857,942	-2.16%	27,256,475
Active MSCI EAFE	IXUS	27,857,942	-7.38%	25,803,276
Passive/index MSCI/EAFE	VXUS	11,143,177	-6.68%	10,398,608
Emerging markets	VWO	27,857,942	-18.12%	22,810,083
Subtotal		*94,717,004*	*-8.92%*	*86,268,442*

Alternative strategies				
Private equity	BDCS	25,072,148	-11.44%	22,203,632
Private equity	BDCL	25,072,148	-26.49%	18,429,297
Marketable alternative strategies	MNA	27,857,942	-0.04%	27,848,021
Marketable alternative strategies	HDG	27,857,942	-0.05%	27,844,711
Marketable alternative strategies	PBP	27,857,942	-0.82%	27,628,936
Marketable alternative strategies	MRGR	27,857,942	-0.55%	27,705,713
Venture capital	IWC	19,500,560	-6.64%	18,205,236
Venture capital	IPO	19,500,560	-0.21%	19,459,445
Private real estate	USRT	27,857,942	-12.54%	24,363,413
Energy and natural resources	VAW	16,714,765	-37.33%	10,474,908
Commodities and managed futures	GSP	5,571,588	-37.33%	3,491,714
Distressed debt	ANGL	16,714,765	-6.31%	15,660,064
Subtotal		*267,436,246*	*-9.02%*	*243,315,091*
Short-term securities, cash, other				
Short-term securities, cash	VGSH	22,286,354	-0.23%	22,235,121
Total		***557,158,845***	***-6.48%***	***521,055,737***

This is repeated for 2016 and shown on Table 6.

TABLE 6
2016 ENDING BALANCE AND RETURNS

	EFT	Beginning Balance	Return	Ending Balance
Domestic equities				
Active	MGK	22,144,869	6.80%	23,651,784
Active	VYM	22,144,869	15.20%	25,511,885
Active	VOE	22,144,869	14.68%	25,395,396
Active	VOT	22,144,869	7.64%	23,836,694
Indexed	VOO	26,052,787	11.72%	29,106,479
Subtotal		*114,632,262*	*11.23%*	*127,502,239*
Fixed income				
Domestic investment grade - active	VCIT	20,842,229	1.91%	21,241,278
Domestic investment grade - passive	BIV	5,210,557	-0.18%	5,201,166
Domestic non-investment grade	VMBS	5,210,557	-0.98%	5,159,494
Subtotal		*31,263,344*	*1.08%*	*31,601,937*

International equities				
Active MSCI EAFE	IEFA	23,447,508	0.30%	23,517,671
Active MSCI EAFE	IXUS	23,447,508	4.21%	24,434,772
Passive/index MSCI/EAFE	VXUS	26,052,787	3.15%	26,872,794
Emerging markets	VWO	15,631,672	12.37%	17,565,993
Emerging markets	IEMG	15,631,672	10.49%	17,271,434
Subtotal		*104,211,147*	*5.23%*	*109,662,664*
Alternative strategies				
Private equity	BDCS	23,447,508	13.85%	26,694,629
Private equity	BDCL	23,447,508	25.48%	29,421,396
Marketable alternative strategies	MNA	24,750,147	4.98%	25,982,778
Marketable alternative strategies	HDG	24,750,147	2.70%	25,419,230
Marketable alternative strategies	PBP	24,750,147	4.62%	25,894,522
Marketable alternative strategies	MRGR	24,750,147	-2.38%	24,160,536
Venture capital	IWC	23,447,508	20.73%	28,308,496
Venture capital	IPO	23,447,508	0.34%	23,527,184
Private real estate	USRT	20,842,229	4.63%	21,808,100
Energy and natural resources	VAW	20,842,229	21.20%	25,261,402
Distressed debt	ANGL	20,842,229	18.44%	24,684,747
Subtotal		*255,317,311*	*10.12%*	*281,163,021*
Short-term securities, cash, other				
Short-term securities, cash	VGSH	15,631,672	0.21%	15,665,101
Total		***521,055,737***	***8.55%***	***565,594,962***

This is then repeated for the final year, 2017, and shown on Table 7.

TABLE 7
2017 ENDING BALANCE AND RETURNS

	EFT	Beginning Balance	Return	Ending Balance
Domestic equities				
Active	MGK	25,451,773	27.15%	32,361,191
Active	VYM	25,451,773	12.33%	28,590,258
Active	VOE	25,451,773	13.73%	28,946,527
Active	VOT	25,451,773	19.92%	30,523,009
Indexed	VOO	22,623,798	18.68%	26,850,162
Subtotal		*124,430,892*	*18.36%*	*147,271,148*
Fixed income				
Domestic investment grade - active	VCIT	28,279,748	2.27%	28,921,793
Domestic investment grade - passive	BIV	11,311,899	1.23%	11,451,232
Subtotal		*39,591,647*	*1.97%*	*40,373,025*
International equities				
Active MSCI EAFE	IEFA	26,394,432	22.71%	32,387,820
Active MSCI EAFE	IXUS	26,394,432	24.34%	32,820,042
Active MSCI EAFE	VEU	26,394,432	23.05%	32,478,149
Passive/index MSCI/EAFE	VXUS	11,311,899	23.10%	13,924,789
Emerging markets	VWO	28,279,748	26.89%	35,885,109
Subtotal		*118,774,942*	*24.18%*	*147,495,909*
Alternative strategies				
Private equity	BDCS	25,451,773	-8.79%	23,215,238
Private equity	BDCL	25,451,773	-16.50%	21,252,877
Marketable alternative strategies	MNA	25,451,773	5.65%	26,889,335
Marketable alternative strategies	HDG	25,451,773	5.15%	26,762,442
Marketable alternative strategies	PBP	25,451,773	0.56%	25,594,962
Marketable alternative strategies	MRGR	25,451,773	1.71%	25,887,273
Venture capital	IWC	22,623,798	10.19%	24,928,894
Venture capital	IPO	22,623,798	35.49%	30,654,052
Private real estate	USRT	22,623,798	1.99%	23,074,972
Energy and natural resources	VAW	22,623,798	20.90%	27,351,846
Commodities and managed futures	GSP	5,655,950	5.79%	5,983,217
Distressed debt	ANGL	22,623,798	3.85%	23,494,548
Subtotal		*271,485,582*	*5.01%*	*285,089,656*
Short-term securities, cash, other				
Short-term securities, cash	VGSH	11,311,899	-0.63%	11,241,037
Total		***565,594,962***	***11.65%***	***631,470,774***

ANALYSIS

The annual returns from the Studies versus the returns from the replacement portfolio are shown on Table 8.

TABLE 8
COMPARISON OF ANNUAL RETURNS

Year	Study	Replacement Portfolio
2013	11.9%	9.6%
2014	7.1%	1.6%
2015	1.1%	-6.5%
2016	6.7%	8.6%
2017	14.3%	11.7%
5-year return	8.1%	4.8%

The actively managed portfolios from the various Studies outperformed the replacement portfolio in four of the five years, and the cumulative recalculated 5-year return was also superior.

The returns can also be compared based on the asset class allocation. These comparisons are shown on Tables 9-13.

TABLE 9
RETURN COMPARISON FOR US EQUITIES

	US Equities	
Year	Study	Replacement Portfolio
2013	31.8%	28.1%
2014	9.9%	12.2%
2015	-1.3%	-1.9%
2016	10.2%	11.2%
2017	21.5%	18.4%
5- year	*13.9%*	*13.1%*

TABLE 10
RETURN COMPARISON FOR FIXED INCOME

Fixed Income		
Year	Study	Replacement Portfolio
2013	-0.7%	-19.0%
2014	4.2%	3.0%
2015	0.1%	-2.3%
2016	2.9%	1.1%
2017	3.8%	2.0%
5- year	*2.0%*	*-3.4%*

TABLE 11
RETURN COMPARISON FOR NON-US EQUITIES

Non-US Equities		
Year	Study	Replacement Portfolio
2013	15.9%	5.3%
2014	0.2%	-5.6%
2015	-5.0%	-8.9%
2016	4.6%	5.2%
2017	28.2%	24.2%
5- year	*8.1%*	*3.4%*

TABLE 12
RETURN COMPARISON FOR ALTERNATIVE STRATEGIES

Alternative Strategies		
Year	Study	Replacement Portfolio
2013	7.3%	8.1%
2014	14.2%	-0.8%
2015	-2.1%	-9.0%
2016	7.1%	10.1%
2017	9.8%	5.0%
5- year	*7.1%*	*2.5%*

TABLE 13
RETURN COMPARISON FOR SHORT-TERM SECURITIES/CASH

	Short-term Securities/Cash	
Year	Study	Replacement Portfolio
2013	0.1%	0.5%
2014	0.4%	0.2%
2015	0.1%	-0.2%
2016	1.2%	0.2%
2017	0.8%	-0.6%
5- year	*0.5%*	*0.0%*

The returns in US Equities and Short-term Securities/Cash was close. The larger differentials were in Fixed Income (5.4%), Non-US Equities (4.7%) and Alternative Strategies (4.6%). It should not be overlooked that the replacement portfolio was an entirely naïve portfolio – all ETFs selected for the portfolio were done without reference to past returns, and once selected the ETF remained in the portfolio unless a future asset allocation required the removal of an ETF in a particular allocation. The ETF to be removed was the last one listed, not the worst performer. It should also be pointed out the ETFs that were selected were based on a higher Morningstar rating and/or being designated an "all-star," so the extent to which this represents a better performing ETF then the replacement portfolio may not have been so naïve.

The take-away is that from the data in this study, passive investing produces comparable returns to active investing for allocations to US Equities and Short-term Securities/Cash, and active investing outperforms passive for allocations to Fixed Income, Non-US Equities and Alternative Strategies.

CONCLUSION

The actively managed portfolio produced superior returns to the ETF replacement portfolio in four of the five years. The actively managed portfolio also produced superior returns across all asset classes (though marginally in some). This is not surprising for a couple of reasons. First, the replacement portfolio was not based on selecting the ETF with the best past performance. The portfolio was largely driven by expense ratio. Second, once an ETF was selected it was not removed unless an annual rebalancing dictated that an ETF in a strategy be removed, and then the last ETF (which was the highest expense ETF) was removed, regardless of performance. The ordinary process of selecting a manager, as well as an ETF, is to perform due diligence on the investment. Controls, succession planning, ability to attract and retain talent, cost structure, fees and charges, are all elements of the decision process in selection. None of that was done in this case. Future research will need to be done to look at a comparison using available information and not just the expense ratio.

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