



# Passive Investing

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*Since the early 1970's passive investing, or "indexing" has grown from an intriguing academic concept to an investment strategy boasting over \$500 billion in retail investment market value. The impact on institutional investment portfolios has been just as dramatic with the firm Greenwich Associates estimating that approximately 30% of institutional assets are passively invested. Traditional methods of manager selection have produced disappointing results and have reinforced the perception that markets are efficient and active management is incapable of beating buy-and-hold strategies. But the field of Behavioral Finance continues to mount evidence against efficient market theories and recent research indicates that managers with the skill to beat passive indices can be successfully identified.*



## Theoretical Underpinnings

Passive investing, or “indexing,” refers generally to a “buy and hold” strategy on a basket of securities in proportion to their relative weightings in an overall market. Indexing rapidly gained popularity as a result of Modern Portfolio Theory, concepts popularized in the late 60’s and early 70’s by economic researchers like Michael Jensen and Eugene Fama. Using constructs like the Capital Asset Pricing Method (CAPM) and Arbitrage Pricing Theory (APT), these economists challenged traditional perceptions of risk and the rewards investors demand for bearing risk. Their conclusion that neither public nor private information used by active managers could provide any riskless return advantage over passive portfolios became known as the Efficient Market Hypothesis (EMH). Empirical evidence seemed to validate this theory as active managers as a group appeared incapable of surpassing index returns after fees and expenses. Fama [1991], an proponent of the EMH, summarizes the impact it has had on investment management since its introduction:

***“... it is well to point out here that the efficient-markets literature is a premier case where academic research has affected real-world practice. Before the work on efficiency, the presumption was that private information is plentiful among investment managers. The efficiency research put forth the challenge that private information is rare. One result is the rise of passive investment strategies that simply buy and hold diversified portfolios (e.g., the many S&P 500 funds). Professional managers who follow passive strategies (and charge low fees) were unheard of in 1960; they are now an important part of the investment-management industry.***

***The market-efficiency literature also produced a demand for performance evaluation. In 1960, investment managers were free to rest on their***

***claims about performance. Now, performance measurement relative to passive benchmarks is the rule, and there are firms that specialize in evaluating professional managers.”***

In fact, in the decade following its introduction, the EMH became so entrenched that Jensen [1978] declared, “There is no other proposition in economics which has more solid empirical evidence supporting it than the Efficient Markets Hypothesis.” It was not until 1980 that serious challenges to the EMH began to surface. In the past two decades empirical evidence contradicting the EMH has mounted and spawned competing theories. These theories have attempted to explain why equity market prices exhibit “irrational” or “inefficient” behavior and this body of work has become known as Behavioral Finance.

## A Competing Theory Emerges

In light of the empirical evidence against the EMH, Behavioral Finance once again opened the theoretical door to the possibility that active management might consistently beat passive market returns. What allows the debate to continue is the persistent inability of the median domestic equity manager to achieve superior risk-adjusted returns over passive alternatives. With regard to this fact, two key points remain unanswered by academic research:

1. What is the proper way to define risk in the process of calculating “risk-adjusted” returns? In other words, are EMH/indexing proponents unduly mislabeling elements of active portfolios as risk?
2. Should the resulting conclusion be that it is impossible to beat the market, or merely extremely difficult and rare? That is, are consistently superior managers merely statistical anomalies, or evidence against the EMH?

Indeed, the very nature of the EMH defies

repudiation since anyone able to disprove it would be faced with a choice of either publishing their methods for academic fame (and thereby having the method's effectiveness arbitrated away) or keeping it secret and using it to earn copious amounts of money. Trustees and fund managers remain caught in the middle with money to invest while the intellectuals continue to debate, and many have decided to index significant portions of their domestic portfolios.

## Managers Adjust to Investor Expectations

The degree of scrutiny imposed on traditional fund managers by regulators and investment consultants has changed the nature of money management. Indeed, traditional managers wishing to successfully market their investment process must now squeeze themselves in to ever narrower style boxes with custom tailored indices or risk being overlooked by consultants searching for just the right niche manager to complete their client's portfolio. Regarding this trend, Andrei Shleifer writes in his recent book, *Inefficient Markets*:

***“... professional managers may choose portfolios that are excessively close to the benchmark that they are evaluated against, such as the S&P 500 Index, so as to minimize the risk of underperforming this benchmark. They may also herd and select stocks that other managers select, again to avoid falling behind and looking bad (Scharfstein and Stein 1990). They may artificially add to their portfolios stocks that have recently done well, and sell stocks that have recently done poorly, to look good to investors***

***who are getting end-of-year reports on portfolio holdings. There indeed appears to be some evidence of such window-dressing by pension fund managers (Lakonishok et al. 1991). Consistent with the presence of costly investment distortions, pension and mutual fund managers on average underperform passive investment strategies (Ippolito 1989, Lakonishok et al. 1992).”***

Some have seen the recent growth in hedge funds as a logical reaction of skilled traditional managers. With their loose regulatory oversight and limited disclosure, hedge funds provide a vehicle where these managers can implement their processes free from such distractions.

## Theory Meets Practice

In the end, one thing is clear: selecting active fund management that will outperform passive strategies is, at best, very difficult. Investment committees faced with allocating domestic equity portfolios will inevitably be faced with three alternatives:

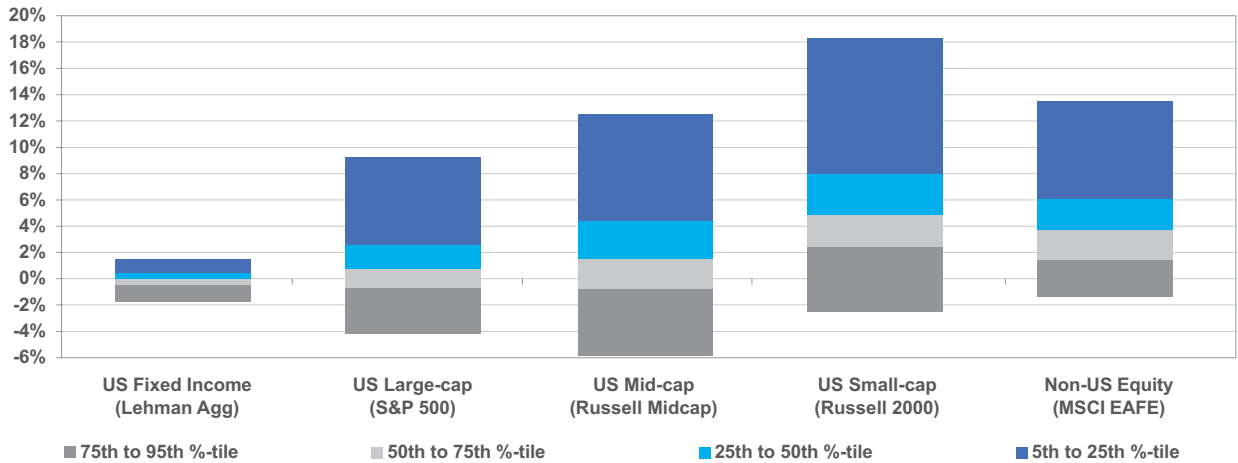
1. Accepting the poor performance of active managers on average as proof of the EMH and pursuing 100% passive strategies for those markets they deem efficient.
2. Rejecting the EMH and pursuing 100% active strategies in the belief that superior managers have been identified.
3. Pursuing a blend of active and passive strategies as a result of the inconclusive evidence and a desire to minimize the “publicity risk” of deviation from index returns.

Table 1 – Median Manager Returns for the Ten Years Ending December 31, 1997

Asset Class	Median Return	Benchmark*	Estimated Fees	Fee Adjusted Gain/(Deficit)
U.S. Fixed Income	9.2%	9.1%	35 bps	(25 bps)
U.S. Equity	18.3%	18.0%	65 bps	(35 bps)
International Equity	11.0%	6.5%	75 bps	<b>375 bps</b>

\* Lehman Brothers Gov't/Corp Bond Index, S&P 500 Index, and MSCI EAFE

Figure 1 - Range of Active Manager Annualized Premiums from later of inception and 1979 to earlier of disappearance or March 31, 2002



### Strategies for Inefficient Markets

The decision to engage in a passive investment strategy for a particular market necessarily rests on the answer to the question, “Is the market too efficient for active management to outperform?” Unlike U.S. large capitalization stocks, the answer for other asset classes is much more clear-cut. For these asset classes, or “markets,” the average active manager outperforms passive investment strategies even after subtracting fees. Such has been the case for international investments as Swensen (2000) observed in his book *Pioneering Portfolio Management* (see Table 1).

Conscious of the fact that its EAFE index has not been a challenge to beat, Morgan Stanley Capital International introduced enhancements to the index in 2001 which became fully effective May 31, 2002. Whether these changes serve to reduce or eliminate the ability of international managers to add value over the index, only time will tell. However, these facts emphasize the inappropriateness of extending passive strategies from one market segment/index to another. In order to justify passive management, one must not only find the EMH compelling, but also be convinced that the particular index being considered does not possess characteristics that make it inferior to active management. Figure 1 shows the range of

active manager premiums over indices for several major asset classes. Annualized premiums were calculated from the latter of 1979 or inception through March 31, 2002 using the Plan Sponsor Network universe of managers and includes managers who ceased reporting in that period. Not only do these numbers validate Swensen’s, they add Mid-cap and Small-cap to the list of potentially inefficient market segments. Clearly one should think twice before indexing assets in either the Russell 2000 or Russell Midcap. Investment committees should be careful to specifically document the rationalization for their passive investment strategies in each asset class, rather than simply mirroring the policy from one market segment/index to another.

### Navigating “Efficient” Markets

But what about markets (or indices) where there is not clear evidence of market inefficiency? Can active managers be identified who consistently outperform passive alternatives? Recent academic research is beginning to shed light on this question. Even as early as 1992 some researchers were finding evidence that skilled active management existed even in the supposedly efficient US large capitalization equity market. In their voluminous 1992 study, Lakonishok and Shleifer reported the

following with regards to active US equity managers:

***“Taken together, our results support the notion that some managers are more skillful than others in achieving superior investment performance. They also suggest that allocating money among money managers in response to past performance might be a worthwhile task for the sponsors. The results also weakly suggest that longer horizon performance evaluations might be preferred.”***

Meanwhile, articles continue to be published analyzing the performance of index funds vs. actively managed funds. Bogle [1998] touted the superiority of index funds across the board, examining Morningstar data by style/size category from 1992 through 1996. His assertions went relatively unchallenged until Minor [2001] repeated Bogle's analysis but shifted the time-period by two years to 1990 through 1994, finding startlingly opposite results with active management soundly beating index funds by even wider margins than Bogle's.

Many studies have pointed out that the level of past absolute returns for a manager seems to provide no indication of future performance. Index fund proponents have rushed to conclude that these studies prove the EMH and the superiority of passive investing. However, these studies merely reveal the inadequacy of absolute investment returns to gauge a manager's skill; not that skilled management is completely nonexistent. There are thousands of managers, and to a large degree their returns are the result of random market processes. Because of this, some managers will inevitably exhibit superior returns simply by chance. In order to separate these “lucky” managers from those that are truly skilled, some researchers have begun to examine statistics that measure the frequency with which managers exceed their stated benchmark. Although these managers may not possess the best absolute returns in any given period, the ability to consistently beat their passive alternatives would indicate the

existence of some element of skill.

Stewart [1998] concluded that focusing on the *consistency* of a manager's outperformance over a relevant market index could be used to identify skilled active management. In addition, he once again observes the inadequacy of absolute investment returns to identify manager skill.

***“These tests suggest that ranking managers on consistency of outperformance over time is an effective method for identifying strong future performers. This result contradicts many earlier studies that rank managers solely on historical performance, suggesting that consistency tests may offer greater power than simple ranking on cumulative returns.”***

***To verify this, we also rank managers and form quintiles solely on the basis of cumulative returns. In contrast to the consistency rankings, the return results provide no clear patterns in either subsequent consistency or return.”***

Gupta [1999] also finds evidence that managers who *consistently* beat their appropriate passive index tend to continue to do so. The statistics and methods of both Stewart and Gupta to a large degree mirror the Compass approach to identifying skilled active management. Our selection process incorporates quantitative tools that reveal the consistency of a manager's outperformance over passive benchmarks and the degree to which we can be confident that their outperformance is the result of actual manager skill. We have over a decade of experience successfully using these tools to create portfolios that outperform their passive alternatives.

There is no method or statistic that will guarantee that an individual selected manager will outperform their benchmark in the future, and even if there were, unforeseeable changes in a manager's personnel, business model, and other circumstances can easily work to undermine the performance of a once skillful

**Table 2 – Additional Taxable Return Needed with 9% State and 35% Federal Income Tax Rates**

		Realized Gain Percentage									
		10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Short Term Gain Percentage	<b>5-Year Holding Period</b>										
	<b>0%</b>	0.04%	0.08%	0.12%	0.16%	0.21%	0.26%	0.32%	0.38%	0.45%	0.52%
	<b>25%</b>	0.08%	0.16%	0.24%	0.34%	0.44%	0.55%	0.67%	0.80%	0.95%	1.10%
	<b>50%</b>	0.12%	0.24%	0.37%	0.52%	0.68%	0.86%	1.05%	1.26%	1.50%	1.76%
	<b>75%</b>	0.15%	0.32%	0.51%	0.71%	0.93%	1.18%	1.45%	1.76%	2.11%	2.50%
	<b>100%</b>	0.19%	0.41%	0.64%	0.90%	1.19%	1.52%	1.89%	2.30%	2.78%	3.33%
	<b>10-Year Holding Period</b>										
	<b>0%</b>	0.08%	0.16%	0.24%	0.34%	0.44%	0.55%	0.66%	0.79%	0.93%	1.07%
	<b>25%</b>	0.12%	0.24%	0.37%	0.52%	0.67%	0.84%	1.03%	1.23%	1.45%	1.69%
	<b>50%</b>	0.15%	0.32%	0.50%	0.70%	0.92%	1.15%	1.41%	1.70%	2.02%	2.38%
	<b>75%</b>	0.19%	0.41%	0.64%	0.89%	1.17%	1.48%	1.83%	2.22%	2.66%	3.16%
<b>100%</b>	0.23%	0.49%	0.78%	1.09%	1.44%	1.84%	2.28%	2.79%	3.37%	4.04%	

investment process. But focusing on the consistency of each manager’s past performance and on the more subjective variables relating to their continuing viability can greatly increase the odds of building an active multi-manager portfolio that outperforms its passive alternative.

### What About Taxes?

Taxable investors have additional motivation to pursue passive management, but the analysis is not as clear-cut as many financial planners make it out to be. Active managers by definition will always suffer a higher average tax rate on capital gains than their passive, buy-and-hold counterparts. The reasons are two-fold:

1. Passive strategies generate a lower proportion of short-term capital gains. Short-term gains are taxed at the taxpayer’s highest marginal tax rate rather than the lower rate enjoyed by long-term capital gains; and
2. The longer average holding periods for securities in passive strategies delay the realization of capital gains and thus defer the payment of taxes allowing greater

accumulation in the interim.

Investment strategies that provide these two features are referred to as “tax-efficient.” *Tax-efficient strategies are not immune to taxes; they merely reduce and delay them.* Active strategies span the range of tax-efficiency. Those processes that generate a higher percentage of realized and short-term gains each year will suffer from higher and more accelerated taxation. These “tax-inefficient” strategies must therefore earn a commensurately higher investment return to be as attractive to a taxable investor as a more tax-efficient strategy. But how much extra return would justify pursuing a less tax-efficient strategy? The answer depends not only on the efficiency of the investment, but also on an investor’s marginal tax rate and holding period.

Table 2 shows the additional return required from investment vehicles with varying degrees of tax-efficiency in order for them to be equivalent to a completely tax-efficient vehicle with an annualized return of 10%. The table assumes the taxpayer is subject to 35% federal and 9% state marginal tax rates and that investments are liquidated at the end

of the holding period and all remaining unrealized gains are then realized and taxed.

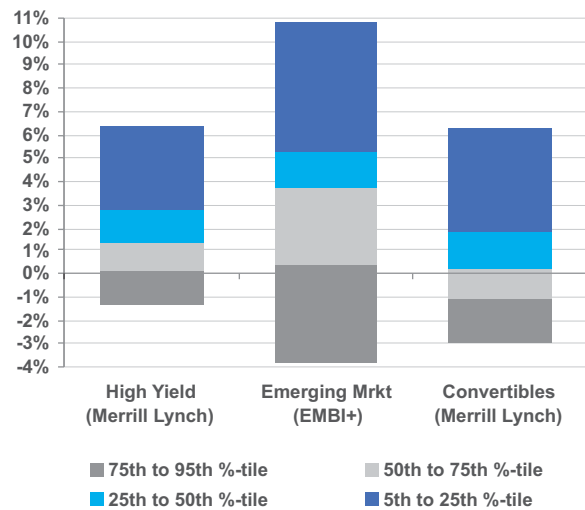
Several things should be noted about the results in Table 2. The first is that no index fund investment is completely tax-efficient. Index constituents change and must be liquidated and the transactions of other fund investors generate taxable gains that must be apportioned to all investors.<sup>1</sup> The second is that long holding periods may not be as easy to achieve as one might expect. Disciplined investors will rebalance their portfolios regularly thereby shortening their holding period. In addition, taxable investors typically have income needs that require periodic liquidation of a portion of portfolio investments and this will diminish average holding periods. Finally, investors whose marginal federal tax rate falls below 35% or whose state tax is less than 9% will be less affected by a strategy's short-term gain percentage than implied by Table 2. For example if an investor's marginal tax rate is equal to the current long-term realized capital gains rate, then the "0%" short-term gain percentage line from Table 2 would apply. Thus, investors in lower tax brackets have much less incentive to pursue indexing or passive investment strategies than those subject to higher state and federal tax rates.

### Fixed Income Management

Up to this point, the majority of the discussion has focused on equity markets, but what about fixed income? In stark contrast to stocks, high-quality fixed income securities by their contractual nature lend themselves readily to quantitative determinations of consensus price levels<sup>2</sup>. This fact along with the size and liquidity of the US fixed income market make it a perfect environment for the realization of EMH assertions. In line with this observation, Figure 1 shows a drastically reduced opportunity set for active management.

Active fixed income managers who seek to add value

Figure 2 - Fixed Income Active Manager Annualized Premiums



over fixed income indices have generally found it necessary to do so through bonds with increased credit risk (high yield), country risk (non-dollar and emerging market debt), or optionality (mortgage backed and convertibles). Since these types of bonds are more dependent on the survival and profitability of the issuer, they introduce equity-like risk into the bond portfolio in exchange for additional return.

However, even if these riskier segments of the bond market present an opportunity to increase a portfolio's risk adjusted returns, clearly there is no justification for paying higher active management fees on an entire portfolio when only a portion is adding value over the index through these riskier investments. Therefore, investors should consider indexing all of their high quality US fixed income allocations while utilizing specialized active management for bond market segments exhibiting favorable risk-adjusted return potential.

<sup>1</sup> Exchange Traded Funds (ETF's) have practically eliminated the apportionment of taxable gains generated by the transactions of other investors. However, the higher fees these vehicles charge must be considered and may offset this benefit for taxable investors.

<sup>2</sup> Using sophisticated discounted cash flow models to value bonds is necessarily much easier than it is for stocks since the majority of a bond's investment value is derived from contractual coupon payments, and specified call conditions. A stock's value, on the other hand, is dependent on variables that are much more subjective and less predictable like future dividends and/or earnings growth.

## Conclusion

The empirical evidence suggests, and we at Compass Advisors believe, that active managers with skill to consistently beat market indices do exist and can be reasonably identified. Aside from taxation issues, the decision whether to invest assets passively or actively should not rest on the validity of the Efficient Market Hypothesis, but on the following relevant considerations:

- Nature of the asset class or market and the quality of available indices
- Willingness to expend the time and resources necessary to identify skilled active managers
- Perceived risk of temporary departures from index returns versus the utility of additional expected returns from active management

To a large degree, an investor's final decision will hinge on the confidence they have in their ability to select skilled active managers. At Compass Advisors, our manager selection process has been helping clients build this confidence for over a decade.

## References

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- Jensen, Michael "The Performance of Mutual Funds in the Period 1945-1964" *Journal of Finance*, 1968 v23 p 389-416
- Fama, Eugene "Efficient Capital Markets: A Review of Theory and Empirical Work" *Journal of Finance*, 1970 v25 p383-417
- Fama, Eugene "Efficient Capital Markets II" *Journal of Finance*, 1991 v46 p 1575-1617
- Jensen, Michael "Some Anomalous Evidence Regarding Market Efficiency" *Journal of Financial Economics*, 1978 v6 p95-101
- Gupta, Francis; Prajogi, Robertus; Stubbs, Eric "The Information Ratio and Performance" *The Journal of Portfolio Management*, Fall 1999 p33-39
- Shleifer, Andrei "Inefficient Markets: An Introduction to Behavioral Finance" Oxford University Press, 2000 p12-13
- Swensen, David F. "Pioneering Portfolio Management" The Free Press, 2000 p79
- Lakonishok, Josef; Shleifer, Andrei "The Structure and Performance of the Money Management Industry" *Brookings Papers on Economic Activity*, 1992 i1 p339-391
- Bogle, John C. "The implications of style analysis for mutual fund performance" *Journal of Portfolio Management*, Summer 1998 v24 n4 p34-43
- Minor, Dylan B. "Beware of Index Fund Fundamentalists" *Journal of Portfolio Management*, Summer 2001 v27 n4 p45-50
- Stewart, Scott D. "Is consistency of performance a good measure of manager skill?" *Journal of Portfolio Management*, Spring 1998 v24 n3 p22-33

## About the Author

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Randall Doser joined Compass Advisors, LLC as Vice President in March of 2001. A Fellow of the Society of Actuaries, an Enrolled Actuary (inactive) and a Member of the American Academy of Actuaries, he has a strong background in the mathematics of finance and extensive experience in the legal and accounting aspects of benefit plan liabilities and assets. Most recently, he was the Manager of Benefit Investments for Freightliner LLC, overseeing the company's \$900 million portfolio of pension, 401 (k) and retiree medical assets since 1998. Before that he spent three years with the consulting firm Watson Wyatt Worldwide in their Portland and Minneapolis offices doing retiree medical and defined benefit retirement plan valuation and design for employers ranging in size from 12 to 60,000+ employees. Prior to 1995 he was an associate consultant with Howard Johnson & Company in Portland, Oregon doing defined contribution and defined benefit retirement plan design, administration and valuation for small to mid size companies. Randall graduated in 1990 Magna Cum Laude from Oregon State University with a B.S. in Mathematical Sciences.

## About Compass Analytics

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