April 2014 Investment Publications Highlights

"The Arithmetic of 'All-In' Investment Expenses"

John Bogle, *Financial Analysts Journal* vol 70, no. 1 (January/February 2014): 13-21.

Jack Bogle, the founder of Vanguard, argues that commonly cited expense ratios understate the true, "all-in" cost of investing in actively managed equity mutual funds. He estimates the magnitude of the additional costs and concludes that a typical retirement plan investor can create an extra 65% of wealth at retirement by choosing low-cost, passive funds. The gap is even wider for investors in taxable accounts.

In his 2013 article "The Arithmetic of Investment Expenses," Nobel Prize winner William Sharpe estimates that a person saving for retirement who chooses low-cost investments can enjoy a standard of living in retirement 20% higher than that of a similar investor choosing high-cost investments. The key force at work is the corrosive long-run impact of a high expense ratio compounded over time. And the difference in expense ratios between passive and active funds is not small: the 0.06% expense ratio for the Vanguard Total Stock Market Index Fund, for example, gives it a formidable advantage over the average US large-cap blend fund, which carries an expense ratio of 1.12%.

Jack Bogle endorses Sharpe's analysis enthusiastically in the *Financial Analysts Journal*. But Bogle adds a crucial point: the simple difference between expense ratios understates the "all-in" cost of choosing actively managed funds over passive ones. Active fund investors must pay additional expenses, including transaction costs, foregone returns from holding cash, and sales loads that combine to make the hurdle for active managers even more formidable than it first seems.

The first of the "invisible" fund expenses Bogle describes is the cost of trading. While the brokerage commissions paid by mutual funds have fallen over time, average portfolio turnover has increased from 30% in the 1960s to 140% today. Explicit commissions are only the tip of the iceberg, however. Portfolio managers must often cross bid-ask spreads to trade, and investors buying or selling a large position are likely to impact the market price as they transact. Quantifying the total trading costs paid by mutual funds is a difficult exercise, and estimates for actively managed funds have ranged anywhere from 0.30% (an estimate that excludes market impact) to 1.44% per year. For the purpose of his article, Bogle assumes that trading costs add a 0.50% annual drag to the performance of the average active fund.

Another cost incurred by active equity funds is the drag associated with holding cash. Whereas index funds are normally fully invested in stocks, active funds typically hold about 5% cash in their portfolios. Assuming an equity risk premium of 6%, this cash position produces an additional 0.30% drag on active fund returns. Some funds, however, "equitize" their cash using index futures. To compensate for this activity, Bogle assumes a 0.15% annual drag on active funds from holding cash.

A third set of costs not captured by expense ratios are "loads," or sales charges. These charges were straightforward to calculate when they were levied up front. As the distribution system of US mutual funds has moved increasingly toward applying these fees over time, however, the cost has become less transparent. Bogle suggests that fees paid by investors to brokers and investment advisers in this new environment typically run at about 1% per year. That said, "no-load" funds are also now much more readily available than they once were. Bogle assumes

an average drag of 0.5% across all actively managed funds.

After adding together the "all-in" costs, Bogle argues that an investor in the average actively managed US large-cap fund experiences a "true" expense ratio of 2.27%. This compares unfavorably, to say the least, to the 0.06% drag for investors in the Vanguard Total Stock Market Index fund, which suffers from none of the added costs. To quantify the lifetime impact of this difference, Bogle assumes a hypothetical 30 year old investor who plans to retire in 40 years. This investor earns $30,000 annually, experiences compensation growth of 3% per year, and invests 10% of annual income in a stock market that returns a nominal 7% per year. By the age of 70, this person would have accumulated a total of $524,000 investing in an actively managed fund with the average 2.27% expense ratio Bogle estimates. Had he or she invested in an index fund with an expense ratio of 0.06%, however, the investor would instead have accumulated $927,000: *a 65% enhancement.* Even if the investor had chosen a no-load actively managed fund and thus avoided distribution costs, the gain would still have been 32%.

This wealth gap between passive and active fund investors widens even further in taxable accounts. A fourth cost not captured by expense ratios is the tax inefficiency of active funds. Active funds realize capital gains that their passive counterparts do not. Using Morningstar data, Bogle estimates this cost at 0.40% per annum. While the tax cost—or indeed any of the individual "invisible" costs—may appear modest in the short run, when compounded over time, they are highly destructive to investor wealth in the long run.

"Gimme Shelter: U.S. Residential Market"

BCA Research (April 2014).

The major force behind the US apartment sector's impressive rally since mid-2009 has been the shift of US households from owning their dwellings to renting them. While in many locations the apartment market looks fully priced, BCA sees promising buying opportunities in non-trophy locations and in housing-focused funds.

While the single-family housing and rental property (apartment or multi-residential) markets are closely related, they are not perfect substitutes. After the tech bust, for example, apartment prices and rents dropped while house prices continued their upward rise. The global financial crisis brought a different set of circumstances. As quickly as US homeownership rates skyrocketed in the early 2000s, they plummeted back to trend as the subprime crisis struck. The weak employment environment and rise in foreclosures pushed Americans away from home ownership, creating favorable conditions for the rental market.

The demand for apartments has never been as strong as it is now, BCA writes. At about 5% nationwide, vacancy rates for apartments are below their long-term average and are lower than those of any other commercial real estate sector. This has been fueled partly by the "buyer-to-renter" phenomenon. As ex homebuyers became renters, they bid up rents. Rental income streams became more secure than they were when Americans were more interested in buying their dwellings. Investors, in turn, bid up prices for these more-secure rental income streams.

As a result, finding pockets of value in the apartment sector is becoming increasingly difficult. Trophy markets with reasonable vacancy rates (including DC, Manhattan, and San Francisco) have been priced accordingly, with cap rates in

the sub-5% range. Other major markets, like Chicago and Los Angeles, have slightly higher cap rates (5%–6%), but are near the most expensive end of their historical ranges. Nonetheless, cities like Boston, Dallas, Philadelphia, and San Jose still appear to have room for improvement.

The most promising locations for rental investments are non-trophy locations that are exposed to growing industries and solid office markets. Cities like Atlanta, Austin, Dallas, Denver, and Houston meet these criteria and will continue to attract young professionals and hence continued demand for shelter. Their vacancy rates are enjoying strong downward momentum. These markets will also offer opportunity for single-family home investors. Funds that are focused on purchasing homes in once-distressed markets represent a simple way for investors to gain exposure to this sector without having to delve into purchasing homes directly. ■

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