

Achieving Greater Long-Term Wealth Through Index Funds

An Interview With John Bogle

Article Highlights

- In aggregate, active investors underperform index investors because of the extra costs incurred.
- Due to the powerful force that is reversion to the mean, actively managed funds will realize average returns, minus cost.
- The return on equities is almost certain to be mathematically higher than that of bonds over the long term, but bonds offer stability.

John “Jack” Bogle founded the Vanguard Group of mutual funds. In this first of two excerpts of our conversation, we spoke about why he favors broad market index funds, as well as his thoughts about exchange-traded funds and portfolio allocations.



—Charles Rotblut, CFA

Charles Rotblut (CR): Since you founded Vanguard, would you explain why you think investors should use index funds?

John Bogle (JB): Let's start off with the obvious. Imagine a circle representing 100% of the U.S. stock market, with each stock in there by its market weight. Then take out 30% of that circle. Those stocks are owned by people who index directly through index funds. The remaining 70% are owned by people who index collectively. By definition, they own the exact same portfolio as the indexers do in aggregate, so they will capture the same gross return as the direct indexers. But by trading back and forth, trying to beat one another, they will inevitably lose by the amount of their transaction costs, the amount of the advisory fees they pay, and the amount of all those mutual fund management costs they incur: marketing costs, processing, technology investments, everything. When we look at the big picture of the costs of investing, including sales loads as well as expense ratios and cash drag, it is a foregone conclusion that active investors, in aggregate, will underperform index investors. It's the mathematics.

Borrowing a phrase from Louis Brandeis: It's the relentless rules of humble arithmetic. The 30% of investors who own index funds capture almost all of the market's return.

In a 7% return market, indexing should deliver approximately 6.95% to investors. (A typical Vanguard all-market index fund charges 0.05%.) The remainder—those who are trading back and forth, hiring managers, and

all that kind of thing—will incur costs, in round numbers, of about 2% per year. So, the indexers are going to capture pretty close to a 7% return in a 7% market, while the active investors, who also collectively own the index, are getting the same 7% gross return minus about 2% for all those fees and costs, a net return of 5%. It is definitional tautology that the indexers win and the traders lose.

CR: So you're really focused on costs and not so much on the argument of whether the market is efficient or follows a random walk?

JB: It does not matter. All investors together capture the market return whether it's efficient or inefficient—and I think everybody would agree pretty quickly that the market is sometimes reasonably efficient and sometimes it is not. Sometimes it is macro-efficient—meaning that stocks are fairly priced relative to, say, bonds—and sometimes it's inefficient or deficient in micro-efficiency, which is how stocks are priced relative to one another.

Those things have been known to get out of line. During the tech-stock bubble of the late 1990s to early 2000s, the market was just overlooking the fact that while the Internet was going to be a great business opportunity, only something like 5% of the individual companies were going to be successful in the long run, and 95% were not. That's the way that

entrepreneurial new businesses work.

Whether the market is efficient or inefficient doesn't matter as long as you get costs out of the way, invest for the long term, and pay no attention to the foolishness that goes on in the short term in the stock market. In one of the better sentences I've written, it was in "The Little Book of Common Sense Investing" (John Wiley, 2007), I said, "The stock market is a giant distraction to the business of investing."

Of course it is! Think about this: The stock market is a derivative of the value of corporate America. The intrinsic value of a corporation can be estimated by the dividend yield when you purchase the stock and the subsequent earnings growth. It is corporate America that creates value; the stock market itself creates none. In fact, the stock market subtracts value, due to all the costs we pay to play the game. It's a little bit like the casino, one might say. And I say that advisedly.

CR: *What about the smart beta funds and the equally weighted funds that are trying to follow an index type of strategy, but look for various anomalies? What are your thoughts about them?*

JB: Who's kidding who here? Maybe some of the so-called smart beta funds will win, but since they're in the 70%, others will obviously lose. It's very difficult to know which is which in advance. In the market-cap-weighted index fund, you know you will capture your fair share of the market's return, the return shared by all other investors. If you look at the market as the aggregate investment position, and of all investors as a group, you know perfectly well that you're guaranteed to capture that return in an index fund. If you do something else, you may do a little better, but the odds are against it because of the additional costs.

There's another important effect for your readers to understand here: If you're going to pick an actively managed fund, how do you do that? The answer, too often, is to buy the fund with the best performance. How do you determine which fund has the best performance?

You look at the historical returns, and you forget about reversion to the mean.

The first rule investors should understand is that what goes up must come down, and what comes down must go up. We see this constant merry-go-round of mutual funds that outperform the market go on to reverse course and underperform. Reversion to the mean is everywhere, and it's a very powerful force. I have charts showing this from probably the eight or 10 most successful funds of the modern era—Fidelity Magellan, Legg Mason Value, T. Rowe Price Growth, Vanguard Windsor, etc.—and they've all reverted to the mean. It's pretty even-handed and always will be.

Think about this for a minute: When you begin investing in the market, say you're a young person starting your first 401(k) plan and you're going to invest for a lifetime, today that lifetime is going to be something like 70 years if you'll live into your 90s. You can own an index fund, never have a manager, and capture the stock market return over 70 years. Alternatively, you could own three or four actively managed equity funds. Historically, their managers have changed about every seven years: The new manager comes in and the new broom sweeps the old portfolio clean. Then, for better or worse, about half the mutual funds in business today will be gone in about 10 years, if past experience is any indication. This is a 50% failure rate. When you're picking active managers, very few of whom will be around for the entire 70-year investment lifetime. I think I can guarantee you that you're just making a whole multiplicity of bets. Ignoring the reality of reversion to the mean, these bets will turn out to be more or less or average, minus cost. Over a lifetime, these costs can be an enormous drag on your returns.

I'll just use 50 years in this example. If you earn a 7% return on the stock market, which is not an unreasonable expectation for the long run today, given today's dividend yields, a dollar will grow to about \$30. If you earn the same 7% minus two percentage points of cost, your wealth will be about \$10. So, you put up 100% of the capital and

take 100% of the risk, your most likely outcome is that you will get 30% of the return. You deserve better. So only do it with your funny-money account.

We all are tempted to gamble. We tend to think "this time is different" and that good performance will persist forever. It's okay to try it. But I would that say if you do, take a look at it after five years. And if it worked, try it for another five years. My guess is that if it worked for the first five years it'll fail for the second, because of reversion to the mean.

The index fund is a trip from the unknown to the known. The capturing of the market return through long-term investment is easy. The speculation that a smart beta strategy that some marketer made up—actually a version of active management—will win has no basis but speculation. Yet, the smart beta strategies are put forth in the guise of an index fund, or even worse, an exchange-traded fund (ETF).

What's the matter with an ETF? Well, it's just an index fund that you can "trade all day long, in real time," as an early ETF advertising campaign boasted. I have absolutely no idea why anybody would want to do that. None. But that was the original selling proposition for the S&P 500 SPDR (SPY), the original ETF. It's now the most widely traded stock in the entire world. Every single day, it trades about \$15 billion to \$25 billion dollars. This is a fund that's probably \$150 billion (give or take) at the moment, so that's 10% to 16% turnover per day. Per day! And that comes out to about 5,000% a year. Before using an ETF with that kind of turnover, individual investors should look at all of the academic research that clearly and universally concludes that the more you trade, the less you make. So why do it? You think you're a member of the royal priesthood, but the reality is there is a great big average that owns the index collectively and trades stocks or strategies, with each speculator thinking they can beat the other. But believe me, one doesn't beat the other. We're not in Lake Wobegon, where all the investors are above average. It's simply

not possible. As a group, these investors achieve below-average returns because of their costs.

That's the certainty of investing. So use the index fund. Of course, it is boring. Just capture the market return year after year. Boring! But we have this epic view that trading is what the market is all about. Trading in the stock market has never been higher than it is today; it's now around \$56 trillion dollars annually. That's just crazy.

CR: *I think your position on ETFs is a little misunderstood. You don't mind ETFs, you object to how frequently they are traded, correct?*

JB: You're certainly on the right track. If you want to make a lump-sum investment in an all-market ETF, an S&P 500 ETF, a total stock market ETF, a total bond market ETF, a total international ETF perhaps, or an emerging markets ETF, owning the ETF structure is not a big mistake. The economics say that owning the ETF shares is the same as owning the underlying fund. But if you're putting money away, for example, for a child's college education, do it with a regular S&P 500 index mutual fund, not an ETF, because you can't conveniently invest \$100 per month for your child. Plus, you won't save anything because the costs are the same. Do the simple thing that's in your own interest. But for broad-market ETFs in general, don't trade them, as you'll start to pay brokerage charges. You won't have any transaction charges if you buy no-load funds, like the Vanguard Balanced Index fund (VBINX), which is what I would call a traditional index fund, or TIF. It's really indifferent at that level.

Those kinds of funds—broad-market funds—are probably 5% of all ETFs. I think there are now about 1,500 ETFs, and there are about a dozen broad U.S. market funds. They probably account for around 20% of the total assets of ETFs.

When you get beyond that, you're dealing with a whole lot of investment ideas that I think are flawed.

One is that you should buy international stock market, rather than the U.S. market, or speculate on specific

countries like Korea, Israel, or Brazil. But you defy the law of diversification if you go into single countries. You'll also defy the value of diversification if you go into a small subsegment of the U.S. market.

I think Vanguard has kept the list of ETF offerings as small as possible, but it's still large. The major industrial segments—health care, technology, energy, etc.—are represented in the ETF world, and that's fine, but some firms offer narrow ETFs where you look at their names and wonder what's going on. For example, there was, at the beginning of the ETF boom, an emerging cancer fund. Well, that's pretty narrow. And now there's a cloud computing fund [First Trust ISE Cloud Computing Index (SKYY)]. The emerging cancer fund lasted about two years, and I think the cloud computing fund will be gone soon. Then you have, for lack of a better expression, the fruit-and-nut-cake funds. The industry tried it with single leverage, and that didn't attract enough speculators. They tried it with double leverage, and that didn't attract enough speculators. So now the typical ETF in this category has triple leverage. I think it would be very unwise for most investors to make those bets.

In this wonderful marketing world of ETFs, you can bet that the market will go up, and then you'll triple it, or you can bet that the market will go down,

and you can triple that. How you know whether the market is going up or down is another question. Those leveraged funds are definitely short-term funds because they seek that multiple of the market's return on a daily basis. If you double the return of the market each day, and some days it's up and some days it's down in a random fashion, you have no way of knowing what the return will look like over a week or a month or a year.

As far as commodity ETFs are concerned, I don't like commodities. Not because I have a distaste for them, but because they are not investments in the traditional sense of the word. Stocks have an internal rate of return: their dividend yield plus earnings growth. Bonds have an internal rate of return too: their coupon, or yield. Yield and maturity support a bond's price, no matter what the market says about it. There is no internal rate of return on commodity funds, including gold funds. You simply hope that someone will pay you more for the fund than you paid for it. In the long run, you have to lose, because there's no underlying rate of return to support you. You may make a good guess here and a good guess there, and I guess I'd say congratulations. But I just don't think that's a sound strategy for the long term. Currency funds are the same thing. It's gambling. Gambling may be an interesting strategy if you're

Table 1. "All-In" Investment Expenses for Retirement Plan Investors

	Actively Managed Funds	Index Fund	Index Advantage
Expense Ratio (%)*	1.12	0.06	1.06
Transaction Costs (%)	0.50	0.00	0.50
Sales Charges/Fees (%)**	0.50	0.00	0.50
Cash Drag (%)	0.15	0.00	0.15
"All-In" Investment Expenses (%)	2.27	0.06	2.21

*Data from "The Arithmetic of Investment Expenses," by William F. Sharpe, *Financial Analysts Journal*, March/April 2013.

**The 0.50% estimate for sales charges/fees is the midpoint of the range between 0% for do-it-yourself investors and (at least) 1% for investors who pay sales loads and fees to brokers and registered investment advisers. I have chosen not to include the "service charges" for loans, withdrawals, etc., often paid by investors in 401(k) retirement plans.

Source: John Bogle, "The Arithmetic of 'All-In' Investment Expenses," *Financial Analysts Journal*, January/February 2014.

in Las Vegas, at the race track, or playing the state lottery, but not with money you will need when you retire.

Bill Sharpe has pointed out, and I pointed out in my recent article in the Financial Analysts Journal ["The Arithmetic of 'All-In' Investment Expenses," January/February 2014], that due to the costs of mutual funds, the only sensible, mathematically correct way to maximize your account is with an index fund (Table 1). So that's why index funds are booming. That's why Warren Buffett is planning to invest in the Vanguard 500 index fund (VFINX) 90% of the portion of his estate that is designated for his wife.

Indexing may be boring, but do me a favor: Never open one of your 401(k) statements from the day you start work to the day you retire, 40 or 50 years later. When you open that last statement, never having looked at it along the way, you are not going to believe how huge it is. You should have a doctor standing by in case you faint or have a heart attack.

CR: *That brings up a good point. How does someone balance limiting transaction costs versus allocation or even rebalancing?*

JB: Let's take rebalancing as a subset of asset allocation. Choosing an asset allocation is the first decision you need to make as an investor, and the most important. What is the proper allocation for an investor?

I subscribe, and have for a long time, to the wisdom of having more safe money when you're older and more risky money when you're younger. The return on equities is almost mathematically certain to be higher than the return on bonds over the long run, but you need the little anchor of stability that bonds offer. How much in bonds? A small amount when you're young and a larger amount when you're old. I leave the precise amount to wiser heads than mine. I've often used this formula: Your [percentage] bond position should be equal to your age, with the remainder in stocks. But that is a very crude rule of thumb, which is I think, in a way, unfortunate, because nothing is that simple.

For example, when you think

about asset allocation, think about *all* of your investments. Social Security, for example, has a capitalized value of around \$300,000 to \$350,000 when you retire, depending on your lifetime earnings. Social Security is a fixed-income position with as much safety as you're going to find in this world. Add the cost-of-living hedge that Social Security provides, and there aren't a lot of things better than Social Security for your retirement, believe me. It may be expensive to get there, but once you get there, it's a big asset.

If you've accumulated \$350,000 of your own savings, you could easily say all of your money should go in stocks, leaving you with perhaps 50% stocks/50% safe rates. I wouldn't actually do that; I'd have a lower stock allocation than that. But I would say, "Here I am with 50% of fixed income with an inflation hedge (e.g., Social Security) and 50% in equities. Do I want more or less than that in equities?" That involves a little mental discipline. The problem with all this is that we look at the equity side, but we don't get an integrated statement that shows your total portfolio, including Social Security, and how it performs when the market goes down, let's say, 50%, as it did a few years ago. You just see that equity fund going down 50%. However, your total holdings, which include the income on your bond position, have gone down maybe 22% because the bonds went up in that period. There are a lot of factors that go into this. It comes down to, "what do I have to do to be able to sleep well?"

It's a behavioral problem more than anything else. I think we all have a high level of confidence that the stock market will do better than the bond market in the long run, but there are these bumps along the way that bring out our worst instincts at exactly the wrong time. If that were not the case, the best advice, obviously, would be to get everybody to buy the S&P 500 and leverage it 3-to-1! If you can get yourself through all the bad times, you're going to have a huge amount of money down the road. But most people are not up to that and too many investors don't have the grit to

stay with stocks when the market falls sharply.

As a mathematical matter, having 100% equities is a good idea and being leveraged to some degree at least is a good theoretical idea. But the reality is that we, as human beings, have to live in the moment. And so, by protecting ourselves against our own foolish behavior, I think we will do better. Right now it's pretty obvious that bond yields are pretty poor relative to history, although curiously enough, not all that bad in real terms. In other words, Treasuries may return 3% and we may have 2% inflation—a 1% real return on a Treasury bond—and that's not too bad historically.

CR: *What about bond funds? A lot of our members are concerned about the direction of interest rates and how an increase in rates will impact bond funds.*

JB: That's a good question and a complicated one.

I don't look at bond funds as a unity. You can hold a short-term bond fund if you're willing to sacrifice income in favor of principal stability. You can hold a long-term bond fund if you want a higher interest rate and therefore a higher long-term return, but you have to be willing to tolerate the higher volatility.

I tend to favor, mostly for behavioral reasons, an intermediate-term maturity, which will only have roughly half the volatility of the stock market. Given the mathematics of all this, if you're a holder of a bond fund, you really want interest rates to go up. Yes, the principal value will drop when rates go up, but the reinvestment rate on those bonds will also rise. If the rate today for a short-term, intermediate-term, long-term combined corporate bond portfolio (leaving aside the government bonds for the moment) is 4%, and yields go up to 6%, your return for the next 10 years will not be 4%. It'll be 4.4% or 4.5%. This is because the reinvestment rate will rise. It does require discipline, and I would not fault someone for saying "it's not worth it to me to get that low return; I'm going to put it all in the stock market." If you can hold that investment in the stock

market through thick and thin, that is likely to be the better strategy.

I used this example once many years ago in a different context. Think about a car that goes 80 mph and a car that goes 60 mph. The car that goes 80 mph will reach its destination first *almost* every time—almost, for it has a higher risk of crashing. The more aggressive investment should do better and it almost certainly will do better, but some

of the strategies will fail you, some of the funds will fail you, and there may even be a long period where the market will fail you—where stocks will not do better than bonds.

We certainly saw from about 1980 through today that bonds outpaced stocks because rates were very high in the beginning. There was no way bonds could not outpace stocks, just because the rates got up to 13% or 14% on

intermediate-term Treasury notes.

All these factors are confounding, and I operate on a rule of simplicity. Yes, this could happen and that could happen, so just take a position somewhere in the middle and hold on. Plan on keeping your strategy not only when things are going badly, but when things are going well. If you can do that, you're going to end up with a good return in the long run. ▲

John C. Bogle is the founder of the Vanguard Group of mutual funds and president of its Bogle Financial Markets Research Center. Find out more at www.aaii.com/authors/john-bogle. Charles Rotblut, CFA, is a vice president at AAI and editor of the AAI Journal. Find out more about Charles at www.aaii.com/authors/charles-rotblut and follow him on Twitter at twitter.com/charlesrotblut.

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probably aren't long for the world. It's likely the adviser will choose to close or merge the fund with another, larger fund in order to lower the expense ratio.

Conclusion

Finding fund managers who make

the grade both quantitatively and qualitatively can take some investment of your time.

These data points can't necessarily be pulled up on a single summary page, and you'll find that you sometimes have to do a bit of digging in order to find them all. But the time spent is well

worth the effort.

Taken individually, not one of these points is necessarily significant. But taken as a group, the results of this due diligence can help an investor further narrow the universe of potential funds to come away with a list of strong choices. ▲

John Deysher is president and portfolio manager of the Pinnacle Value Fund, a diversified SEC-registered mutual fund specializing in the securities of small and micro-cap firms. He is a CFA charterholder and has managed equity portfolios for over 30 years. He lives and works in New York City and may be reached at deysher@pinnaclevaluefund.com. For more information on Deysher, go to www.aaii.com/authors/john-deysher. Michael Walters is an analyst with the Pinnacle Value Fund. He is a CFA charterholder and lives and works in New York City. He may be reached at walters@pinnaclevaluefund.com. For more information on Walters, go to www.aaii.com/authors/michael-walters.