

The VIEW from BURGUNDY

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INDEXERS, ARBITRAGEURS AND ORGAN DONORS

THE INVESTMENT STRATEGY THAT HAS BEEN THE BIGGEST WINNER with clients in the last quarter century is neither a growth strategy nor a value strategy. It is index investing, known in the trade as “indexing.” From a standing start in 1976, there are now more than \$1 trillion in funds indexed to the Standard & Poor’s 500 Index. And Sanford Bernstein, the U.S. broker and money manager, estimates that 40% of U.S. pension equities are more or less closely tied to various indexes. At Burgundy, we look for the strengths and weaknesses in a given approach and try to integrate the strengths into our own methods. So in this issue of *The View from Burgundy*, we are going to take a look at the evolution of indexing from its theoretical and historical roots. We will then look at the S&P 500 Index to assess its specific strengths and weaknesses. After that, we will discuss how some investors have differentiated themselves from index funds, and what strategies hold out the best prospects for success in “beating the market.”

What Is Indexing?

Indexing is the construction of a portfolio that mirrors the precise weightings of a popular benchmark like the TSE 300, the S&P 500 or the Nikkei 225. These indexes are chosen from representative companies trading on a stock market in order to give an objective measure of how that broad stock market is performing. Since the weights of these companies in relation to one another are known, it is possible to construct an index portfolio that will closely track the performance of that index. The goal of indexing, by and large, is to minimize the difference between the return on the index portfolio and that of the actual index. That difference would be called the “underperformance” or “outperformance” in

the falsely dynamic terminology of active management; indexers, who affect an Olympian objectivity, call it “tracking error.”

The intellectual basis of indexing lies in a theory called the efficient markets hypothesis.

The Efficient Markets Hypothesis

The stock market has long fascinated academics. By the 1950s they had begun to study an apparent anomaly: most active managers seemed to underperform broad market proxies in any given year. Starting in 1952 with Harry Markowitz’s seminal article in the *Journal of Finance*, Modern Portfolio Theory began to emerge. William Sharpe and other quantitative pioneers followed up and fleshed out the theory, which was popularized by Burton Malkiel in his 1973 classic, *A Random Walk Down Wall Street*. Both this intellectually ambitious theory of finance, and its refinement, which is known as Arbitrage Pricing Theory, are based on the efficient markets hypothesis.

An efficient market is made up of a large number of investors who are all seeking to maximize their returns. They use all available sources of information and approach their task in a rational manner. While individual investors may be able to use unique insights to outperform the market for short periods of time, such occurrences are essentially random because all relevant information is processed by the markets. Therefore, long-term systematic outperformance of the broad markets is impossible, according to this hypothesis.

Such a sweeping indictment of active management required corroboration, which unfortunately was forthcoming in abundance. A glance at a recent survey

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of Canadian managers shows what we all know to be true – active managers tend to underperform their benchmarks. For example, using the William M. Mercer Limited Investment Performance Survey at September 30, 2000, the five-year return on the S&P 500 Index was slightly above the first quartile break for the managers in the survey (i.e., it had outperformed more than 75% of U.S. equity managers over the past five years). That has been a fairly consistent result for the past decade or more. For Canadian equities, the result is less dramatic, with the TSE 300 Total Return Index edging out the median manager's five-year return by 30 basis points (0.3%).

So active managers have a lot of trouble consistently beating the index averages. Why would that be?

Let's start with a simple observation. The average manager will never beat the index in the long run because the index does not exist in nature – real portfolios bear real costs that do not show up in the calculations of index averages. And any random aggregation of managers accounting for more than about 10% of the market will approximate the market portfolio, so differentiation based on portfolio composition disappears quite quickly. By definition, the average money manager should underperform to the extent of his management fees and related costs.

Those costs are what might be called the structural disadvantage of active managers relative to indexes. While significant, they do not account for the entire performance shortfall. What accounts for the remainder? We think that there are two reasons: first, the dysfunctional investment methods that most money managers use, and second, some inherent advantages of index investing.

The Inefficient Manager Hypothesis

In January 1965, Warren Buffett wrote a letter to his limited partners on the subject of the ineffectiveness of money managers. He attributed the problems of active managers to five factors: group decision-making; desire

to conform to peer organizations' policies and portfolios; an institutional framework where rewards for independent action are far outweighed by the risks of such action; adherence to irrational diversification practices; and inertia. As usual, Buffett's opinions met with no interest from the academic world, probably because they were just common sense and were expressed in plain English.

His diagnosis is immediately recognizable to anyone who has studied a mature money management organization. At some point in their life cycles, investment counsellors begin to play defence and to look to successful peers for a model. Overly large investment departments give rise to "teams" where blame can be equally borne for the inevitable disappointments and mistakes. The extreme benchmark orientation of clients leads to a tendency to increasingly mimic the benchmark. Mistakes are remembered and savoured; victories are attributed to luck or forgotten. The portfolio managers are never wrong; they are just underweighted or overweighted. So the rational pursuit of maximized returns is not the goal of these organizations; mediocrity is – the magic 49th percentile position. And the way to get there is to mirror the index as closely as possible without having the client catch on, a process known as "closet indexing."

So institutional investors do not fit the model of an efficient market based on rational, return-maximizing investors. Do individual investors fit the model? In the 1980s and 1990s, with the proliferation of individual investor involvement in the capital markets through mutual funds and direct investment, academic research on retail investor behaviour became possible. A branch of economics called behavioural finance arose, and discovered what anyone who has ever bought a stock in the market knows already – that people who invest for their own accounts are not coolly rational; in fact, they are often scarcely sane.

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What the behavioural finance theorists found was that most people invest in order to minimize anticipated regret. They are always asking themselves how stupid they will feel if they screw up. Regret usually results from doing something different from others, or not doing something that others have done. (Remember the ugly fate of that small town in Alberta where half the population bought Bre-X stock and the other half didn't? It should have been renamed Regretsville – for both halves.) The implication is that most investors would rather be wrong in a group than right all by themselves. “You have only yourself to blame” is the phrase most feared by the investing public, just as it is by portfolio managers in large institutions.

Given this entirely human fear, it is no wonder that indexing taps deep psychological roots. After all, the index return is what everybody gets – it's impossible to get left out or to miss a move. If you do badly in absolute terms, so will almost everybody else. And you'll rarely do too badly in relative terms. The margin of safety here is a psychological one, not a financial one.

So investors, both individual and institutional, are not exactly primed to compete against a tough benchmark. Let's look at perhaps the toughest benchmark of all – that 500 stock gorilla, the Standard & Poor's 500.

The S&P 500 – An Elite Index

Like the quality performers in any field, the S&P 500 Index does not boast in its self-description. The S&P website proclaims simply that “this popular index includes a representative sample of leading companies in leading industries.”¹ For those needing more information, another page states that the Index “consists of 500 stocks chosen for market size, liquidity, and industry group representation...with each stock's weight in the Index proportionate to its market value.”²

The Index has traditionally been chosen (in profound secrecy, by an Index Committee of Standard & Poor's employees) from among America's finest and largest companies. It is quality-biased and liquidity-biased. Industrials constitute about 75% of the Index (though in this context, “industrials” simply means non-regulated businesses), utilities are about 8%, financials are 15% and transportation companies are 2%. Currently, 432 of the companies are NYSE listed, 66 are on NASDAQ, and two are on Amex.

And it is a ferocious beast to compete against. When you think about it, it's easy to see why. The kinds of companies included in the Index have been just the kinds of companies that are best known to investors and whose information is most readily available. The very high liquidity of the stocks means that there are minimal barriers to entry or exit. And the broad diversification means that, in Buffett's phrase, you have substantial protection against lack of knowledge. In terms of efficient markets theory, you have liquidity and readily available information, the two main prerequisites for an efficient market.

But we believe there are three other crucial factors in the success of the S&P Index and the funds that mimic it. First is the quality bias. There is a great deal to be said for buying only leaders in their field, and that is what the S&P 500 Index does systematically. Industry leaders tend to have competitive advantages, and usually the best financial results in an industry, so the S&P system has traditionally selected the cream of the crop, using Jack Welch's approach to business.

Second, the index fund is the ultimate long-term investor. While there are changes due to mergers, takeovers and bankruptcies, most core stocks in the S&P 500 have remained unchanged for decades. Turnover has been a fraction of that in the average manager's portfolio.

The last advantage is related to the low turnover. Because they must minimize “tracking error” in order

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to replicate the Index performance (remember, the Index itself bears no costs), Index fund managers are obsessive about costs of all kinds. They avoid trading costs through passivity, as we have seen, and through attempting to minimize the market impact of all trades. And management fees and custody fees, two other major expenses, decline rapidly in percentage terms as size increases. In fact, index funds get better and better at what they do as size increases, an accusation rarely levelled against active managers.

So S&P 500 Index funds are diversified, quality-biased, liquidity-biased, long-term buy-and-hold investors who minimize activity as a means of reducing costs. It is undeniable that this has proven to be a reliable way to invest for good returns over the past quarter century. But are there potential weaknesses in the index approach?

A couple of potential problems do suggest themselves. First, the concern with liquidity can lead to some peculiar results. For any investor, liquidity is a weak reed to lean upon; as David Swensen, Yale's brilliant Chief Investment Officer puts it, when you really need liquidity, it isn't there. What he means is that liquidity is not a constant – it comes and goes in an unpredictable way, and dries up completely in tough times. And one odd by-product of the Index Committee's liquidity obsession is that Berkshire Hathaway, one of the most successful companies in history, with a \$100 billion market capitalization, is not included in the S&P 500 Index because its shareholders insist on holding it rather than trading it actively.

The other problem that could arise is with the brief of the S&P Index Committee. They are supposed to make the Index roughly reflect the make-up of the U.S. economy. But in putting that brief into effect, they may find themselves influenced by market manias. For example, in 2000 so far, there have been 41 deletions from the S&P 500 Index, a vastly higher level of turnover than at any time in history. The additions

came overwhelmingly from the very expensive companies representing the "new economy." The Committee did not fall for the "tech boom" hook, line and sinker; they continued to emphasize profitability and strong financial position in their selections. On inclusion, these stocks were, no doubt, very liquid and had large market capitalizations. The size of their businesses is somewhat more open to question.

For example, seven technology stocks that were included in the Index were Broadvision, Palm, Broadcom, Mercury Interactive, Maxim Integrated Products, Siebel Systems and Linear Technology. Their average P/E ratio is 155.7 times trailing earnings, and they sell at a rather lofty average of 22.9 times sales. As an index investor, you must invest in these companies whether you think it is a good idea or not. You have subcontracted your stock selection to the S&P Index Committee, and you have no say in the matter. But including \$139 billion in market capitalization on a base of \$6 billion in gross revenues and \$890 million in net income is not something we would encourage; it just doesn't sound like a blue chip stock valuation to us. And we are saying nothing about the AOL/Time Warners, Yahoos, Oracles and Ciscos that are the real heavyweights of the Index. They are fine companies and deserve to be there, but their Index weights and valuations are scary, even after the brutal shellacking they have taken in the last seven months. But maybe these are only the musings of someone who lacks total confidence in market efficiency.

Beating the Index

What strategies have managers developed to beat index averages? Generally, they all have something in common: they try to go where the market is least efficient, and own something outside the benchmark. For example, John Templeton was a pioneer in international investing because foreign markets have always been much less efficient than American ones. Investors like Peter Lynch and John Neff had a

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preference for smaller capitalization companies where both liquidity and information flow were inferior to S&P 500 stocks.

Warren Buffett is an interesting study for investors thinking about market efficiency. Like the Index, he uses an almost infinite holding period. And his public investments have almost always been stocks that were included in the S&P 500 Index. But instead of diversification, he seeks concentration. Instead of good businesses, he seeks great ones. If you can identify a company that can grow reliably at an even slightly faster rate than the market as a whole, and you hold that investment for a very long time, then that seemingly small difference in growth rates will lead to a dramatically higher value for your investment in the long term. If that difference is more like three or four percentage points, then the result is dramatic. A \$1,000 investment in a common stock that grows at 11% for 30 years would be worth \$22,892 at the end of the holding period. One that grows at 15% would be worth \$66,212! Buffett has compounded his money and that of his shareholders at more than 20% for his entire career, dating back to the early 1960s. His career is proof that performance does not necessarily revert to the mean in the long run, as efficient markets theory would suggest. But looking at his performance over decades, he has often underperformed the S&P Index, sometimes substantially, on a calendar year basis. That reveals a vital truth of buy-and-hold investing: you must often underperform an index in the short term in order to outperform it in the long term. Client demands for “consistent” performance relative to a benchmark lead only to closet indexing.

Buffett also has a profound anti-activity bias. With his usual knack for the revealing example, he has put forth the idea that everyone would be a better investor if they were restricted to 20 investment decisions in a lifetime – he refers to it as having a “20 punch lifetime bus ticket” for investments.

Unfortunately, most investors succumb to the lure of activity for activity’s sake.

Buffett has been one of the very few investors with the perspicacity to pick outstandingly reliable businesses and the patience to hold them forever. He has spawned many imitators, especially in the last 10 years, but very few of them have either his stock-picking ability or his patience. But we think he beats the heck out of the S&P Index Committee as an exemplar, and we say that with a great deal of respect for the Committee.

Our conclusion? A concentrated buy-and-hold portfolio of great companies that grow faster and use capital more efficiently than the average company is probably the best way to beat the S&P 500 using the stocks in the Index. More active strategies would have the best chance of beating this tough benchmark if they owned stocks that are not included in the Index (for example, small capitalization stocks). There is also evidence that the ability to short stocks could be a value-added strategy, since most market participants are not allowed to sell short.

Market Efficiency – An Ideal

Many active managers scoff at the idea of market efficiency, despite the strong evidence for some form of it. We have a little different take on it: we view it as an ideal rather than a reality. A market where all investors are rational, where information is seamlessly processed into stock prices with ample liquidity and where information is simultaneously available to all investors – that would be a stock market that was really doing its job.

That isn’t how the stock market appears to us. Investors look like a pretty irrational bunch who are very prone to manias and phobias. They were frantic to buy Japanese equities in 1989 and technology and Internet stocks in 1999-2000. Most people would today recommend Japanese stocks only to their very worst enemies despite their compelling valuations. If

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current trends persist, technology issues will command similar affection before too long. However these investments were rationalized by the people involved, they were never rational at the time of the mania, nor will they be during the phobic stage that follows. The assumption that information is immediately available to be assimilated by the market is truer all the time, but remains a goal rather than a reality, even given the Herculean efforts of Chairman Arthur Levitt's SEC. And liquidity is ephemeral – it will come and go, so you had better be sure of the business. We suppose one could say that during normal times the stock market is quite efficient. Perhaps it's just that our partners have never experienced normal times.

Conclusion

Last spring, we wrote in a client report that we thought the next two to three years would be the best in history for value managers. With a buy-and-hold, quality-biased philosophy, the right exemplars and the still-massive distortion of the indexes by the technology mania, we really like the position of value managers against the benchmarks for a long time to come.

So we'll continue to look for value anomalies among the companies we follow and exploit them for our clients. Efficient market theorists no doubt look on investors like us with the same benevolent condescension that Plato's philosophers had for the believers in the Golden Legend. At least they think we're socially useful, an essential part of the great arbitrage mechanism that is the stock market.

As for the social usefulness of closet indexers, there's this little organ donor card that comes with your driver's licence...

Endnotes

1. Standard & Poor's website.
www2.standardandpoors.com
2. Voltaire. *Candide*. Translated by John Butt. New York: Penguin, 1950.

BURGUNDY™

ASSET MANAGEMENT LTD.

Bay Wellington Tower, Brookfield Place
181 Bay Street, Suite 4510, PO Box 778
Toronto, ON M5J 2T3
Main: (416) 869-3222
Toll Free: 1 (888) 480-1790
Fax: (416) 869-1700

1501 McGill College Avenue
Suite 2090, Montreal, QC H3A 3M8
Main: (514) 844-8091
Toll Free: 1 (877) 844-8091
Fax: (514) 844-7797

info@burgundyasset.com
www.burgundyasset.com