Wilshire

Wilshire 5000®: Myths and Misconceptions

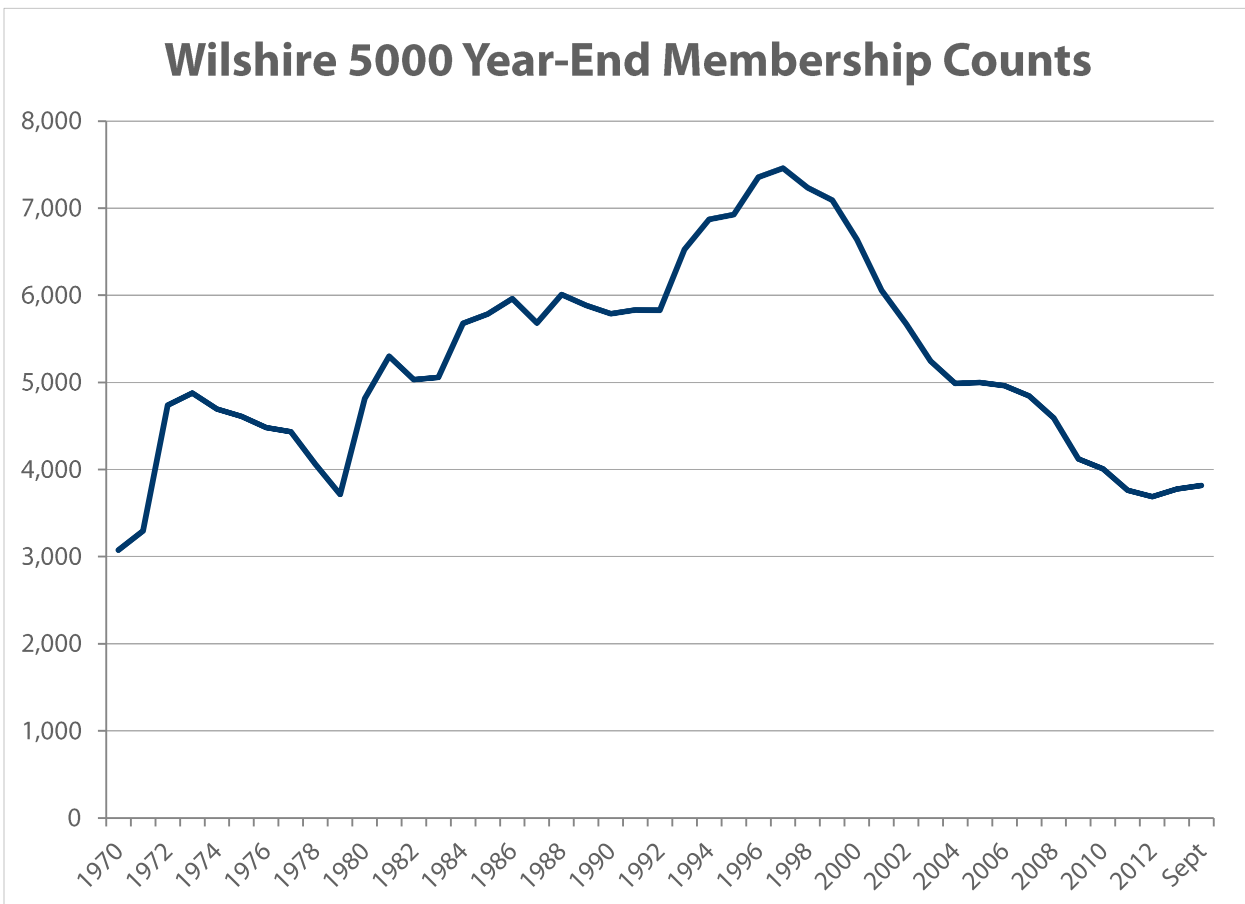
Robert J. Waid, Managing Director
November 2014

The Wilshire 5000 Total Market Index℠ (Wilshire 5000®) is defined as a U.S. equity index that measures the performance of all U.S. equity securities with readily available prices. This straightforward definition has served the index well since it was launched as the first total market index in 1974. Nonetheless, most stock indexes with a deep history develop a number of myths about them.[1] This paper debunks some myths about the Wilshire 5000.

Myth 1: The Wilshire 5000 Has Exactly 5,000 Stocks

This myth made our "Ten Stock Index Myths"[2] list. The above index definition as well as the extended name "Total Market Index" confirms that the Wilshire 5000 cannot have a fixed limit or count such as 5,000 and be true to either. Like many indexes with a security count in their name, the actual security count changes based on additions and deletions driven by mergers, bankruptcies, IPOs, etc. Since its inception, the Wilshire 5000 was designed to measure the performance of the total U.S. equity market; therefore, there are no arbitrary, maximum limits to its membership. Developed in the summer of 1974, the yet to be named Wilshire 5000 Equity Index[3] had just shy of 5,000 issues—thus the number 5,000 was made part of the name to convey the breadth of the index's coverage. The Wilshire 5000 membership count has ranged from 3,069 on February 28, 1971 to 7,562 on July 31, 1998. Since then, the count has steadily fallen to 3,776 on December 31, 2013 before climbing to 3,818 as of September 30, 2014. The last time the Wilshire 5000 had 5,000 or more companies was December 29, 2005.

Table 1



Source: Wilshire 5000

[1] Waid, R., Ten Stock Index Myths, *Journal of Indexes*, July/August 2010.

[2] Ibid.

[3] The Wilshire 5000 was originally named the Wilshire 5000 Equity Index.

Myth 2: The Wilshire 5000 Includes Stocks That Lack Liquidity

Most index providers have inclusion rules to ensure liquidity and Wilshire is no exception. This helps to achieve the "good benchmark"[4] goal of being investable. Some providers approach liquidity indirectly by setting minimum market value or minimum price rules. Because of the subjective, indirect nature of such rules, securities with no liquidity concerns can be inadvertently removed from an index. In "What happened to Fannie, Freddie and Sirius?"[5] we provide three real-world examples of the unintentional consequence of having an indirect liquidity rule like minimum price.

A more direct approach on liquidity is achieved by adjusting for available shares or "float." Float-adjusting the number of shares outstanding better describes the investment opportunity set. This is one reason every major equity benchmark index provider, including Wilshire, float adjusts its market capitalization–weighted indexes.

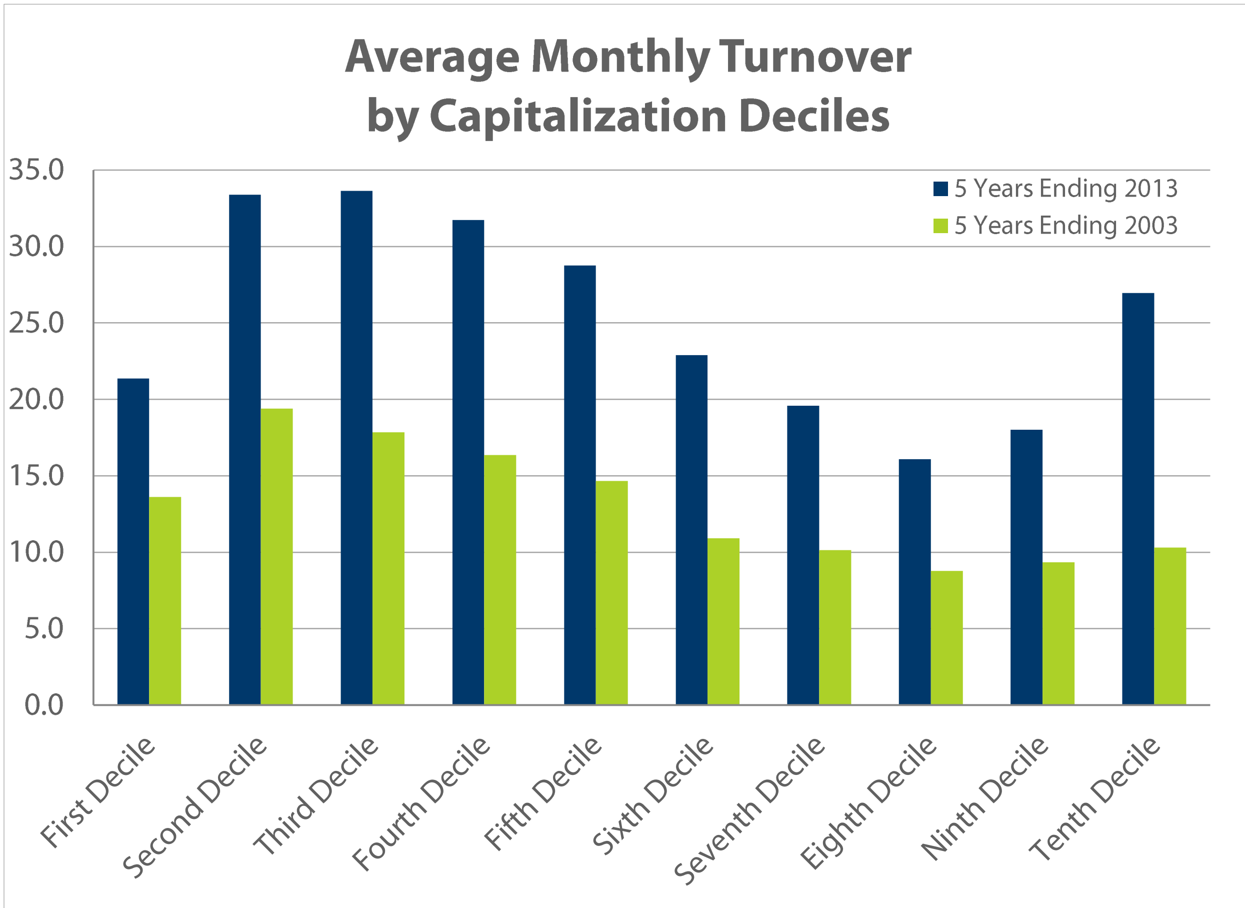
The most direct liquidity measures use volume (and related dollar volume) or trading frequency. Volume is an attempt to imply the size of the market being made in a security and trades confirm that a market is being made. Unfortunately, most of the liquidity rules that rely on volume make assumptions about the "required" liquidity and are susceptible to volume spikes[6] which may not be repeatable. Per the definition of the index, the Wilshire 5000 includes equities with "readily available prices," and Wilshire uses trading frequency rules such that the expectation is that every constituent stock trades every trading day.

The liquidity myth about the smaller market cap stocks in the Wilshire 5000 has been debunked with previously published empirical evidence.[7] Figure 2 shows an updated version of a chart last published in 2010,[8] displaying capitalization-weighted average monthly trading volume as a fraction of float-adjusted shares outstanding for the Wilshire 5000, grouped by market capitalization–weighted deciles averaged over the 5-year periods ending December 2003 and December 2013. These results are consistent with prior evaluations. Volume turnover increases from the largest company decile with 21.4 percent, peaking with the second or third deciles with 33.4 percent and 33.6 percent respectively, followed by a gradual decline to a low with the eighth decile of 16.1 percent before rising again with the smallest company decile turnover rate of 27.0 percent. The second through fifth deciles, as well as the tenth decile, consistently have higher stock turnover rates than the largest decile companies.

---

[4] CFA Institute, Benchmarks and Performance Attribution Subcommittee Report.
[5] Waid, Robert, What happened to Fannie, Freddie and Sirius, *Wilshire White Paper*, March 2010.
[6] Many thinly traded issues have volume spikes around news events, especially the release of quarterly financials.
[7] Bonafede, J., The Wilshire 5000 Total Market Index: The Logistics Behind Managing the U.S. Stock Market, *Journal of Indexes*, 3rd Quarter 2003; Kuberek, R., The Dow Jones Wilshire 5000: A Total Market Index*, Wilshire White Paper*, June 2005; The Wilshire 5000SM: A Total Market Index, *Wilshire White Paper*, June 2010.
[8] Ibid.

Table 2



Source: Wilshire 5000

Liquidity was a non-issue for investability in 2003 and earlier. Ten years later, due largely to increased availability of data and trading, every decile grouping except the two largest deciles nearly doubled their stock turnover rates making liquidity even less of a potential issue today especially in the smallest market capitalization deciles.

Myth 3: The Wilshire 5000 Includes Stocks That are Too Small for Large Managers

The definition of "too small to invest in" should be left up to individual money managers and not be dictated by the index provider. This is the beauty of including everything that trades in an index. Research on the Wilshire Trust Universe Comparison Service® (TUCS®)[9] database of institutional active managers confirms that institutional investors not only buy small-cap stocks, they buy micro-cap stocks.[10] It was no surprise to find that the active managers' aggregate size exposure in Wilshire TUCS is in proportion to the Wilshire 5000 size indices.[11] Passive managers should buy and sell stocks that affect their targeted tracking error, not because the stock has passed some magical size threshold based on an index provider's definition. Size rules effectively force passive managers to buy and sell in concert with each other.

[9] TUCS is a cooperative effort between Wilshire Analytics, the investment technology unit of Wilshire Associates Incorporated and various custodial organizations. It is one of the most widely accepted benchmarks for the performance and allocation of institutional assets and includes approximately 1,700 plans representing in excess of $3.5 trillion in assets.
[10] Waid, R., Managers: In Sync with Their Style?, *Wilshire White Paper*, February 2006
[11] The Wilshire US Large-Cap Index, Wilshire US Small-Cap Index and Wilshire US Micro-Cap Index constituents and weights combine to equal the Wilshire 5000 without gaps and overlaps.

Some perpetuators of the "Too Small" myth say a passive manager who invests $20 million in each constituent of a 5,000-stock index would be a major shareholder in many of the smaller market-cap companies. While theoretically correct, this would only be a problem for a $100 billion manager passively tracking an equal-weighted version of the Wilshire 5000. The same could be said for a manager investing $100 billion in an equal-weighted S&P 500. Fortunately, the Wilshire 5000 is a float-adjusted, capitalization-weighted index so assuming the manager intends to fully replicate the index, a $100 billion manager would be dividing less than $200 million of the passive investment among the bottom 800 stocks.[12] Equally distributed this is less than $250k per stock.

Myth 4: The Market Value of the Wilshire 5000 is the Market Value of the Total Market

The Wilshire 5000 is designed to be the best representation of the performance of the total U.S. equity market. This does not mean that the index's market value is the market value of the total U.S. equity market. Beyond the subtle definition issues of what is a U.S. equity, which include headquarters, incorporation, exchange listing, economic interest, majority volume, shareholders, etc., there are entire categories of equities that are not included in the index. Many of these are excluded by the "readily available prices" term, such as private equity, closely held public stock, thinly traded stocks, pink sheets, regionally listed and the like. This is why Wilshire does not claim that the index covers an impressive sounding percentage (e.g., 98 percent) of the market. Ironically, this does not prevent other index providers from starting with the general assumption that the Wilshire 5000 is a starting point for 100 percent market coverage when announcing their coverage target.

Myth 5: The Wilshire 5000 Index Level is the Index's Market Value

The beginning level or base value for an index is usually a nice round number, such as 10.0 or 100.0. The standard index disclaimer states, you cannot invest directly in an index. This means that a single index level or price generally has no intrinsic value; the value is derived by the change in index levels over time or returns. When the Wilshire 5000 was introduced in 1974, instead of choosing a random base value it was decided that the beginning December 31, 1970 index value would be set equal to the market value of the index on that date, in billions of dollars. This enabled the index to be an excellent approximation of dollar changes in the U.S. equity market in billions of dollars. For instance, index values of 2157.146 on December 30, 1985 and 2164.690 on December 31, 1985 represent an approximate increase of $7.5 billion. Over time, the index and market value would track away from this near one-to-one billion relationship because of additions and deletions. The idea was that as long as additions were relatively close to deletions, this "one point equals approximately one billion dollars" relationship would hold. In order to reestablish this relationship, the original index rules scheduled a rebasing of the index every ten years. On December 31, 1980, the Wilshire 5000 was rebased to its capitalization of $1,404.596 billion and the full history was restated. The returns remained the same; only the absolute index levels changed. As the date of the 1990 rebase date approached this rule was suspended in response to concerns about the potential confusion a restatement might cause. This decision was bolstered by the fact that the "one point to one billion dollars" relationship still held. By June 1996, an index point represented about $1.1 billion in index market value. By June of 2004, this "multiplier" grew to 1.25. Since then, the "multiplier" has shrunk—as of December 2013, a single point in the Wilshire 5000 represents about $1.15 billion in index market value.

Problems with Index Myths

Too often articles are written and investment decisions are made where index myths are treated as accepted facts. Like most indexes with deep histories, myths about the Wilshire 5000 sometimes lead to either incorrect usage or to decisions not to use the index at all, even when it may be the best index for the job. Separating fact from fiction improves analysis and leads to better decision making.

---

[12] As of September 30, 2014 the bottom 823 securities accounted for 0.20 percent of the Wilshire 5000.

About Wilshire
Wilshire Associates Incorporated, a leading global independent investment consulting and services firm, provides consulting services, analytics solutions and customized investment products to plan sponsors, investment managers and financial intermediaries. Its business units include Wilshire Analytics, Wilshire Consulting, Wilshire Funds Management and Wilshire Private Markets. Based in Santa Monica, California, Wilshire provides services to clients in more than 20 countries representing more than 500 organizations. With ten offices on four continents, Wilshire Associates and its affliates are dedicated to providing clients with the highest quality counsel, products and services. **For more information please visit www.wilshire.com.**