

THE JOURNAL OF  
**INVESTMENT  
CONSULTING**

*A reprinted article from Volume 19, Number 1, 2019*

**ARTICLE REVIEW**

‘Do Stocks Outperform Treasury Bills?’

BY HENDRIK BESSEMBINDER

*Reviewed by James E. McWhinney*



**INVESTMENTS & WEALTH INSTITUTE**  
formerly **IMCA**

## ARTICLE REVIEW

## ‘Do Stocks Outperform Treasury Bills?’

BY HENDRIK BESSEMBINDER

*Reviewed by James E. McWhinney*

The belief that stocks outperform bonds over the long term is accepted widely as fact. Researcher Hendrik Bessembinder (2018) notes that such outperformance “has been extensively documented, for the US stock market as well as for many other countries.” He also notes, “The evidence that stock market returns exceed returns to government obligations in the long run is based on broadly diversified stock market portfolios.” By contrast, he argues that looking at the returns of individual common stocks shows “most individual US common stocks provide buy-and-hold returns that fall short of those earned by one-month US Treasury bills over the same horizons, implying that the positive mean excess returns observed for broad equity portfolios are attributable to relatively few stocks.”

He supports this assertion through analysis of “the Center for Research in Securities Prices (CRSP) monthly stock return database, which contains all common stocks listed on the NYSE, Amex, and Nasdaq exchanges.” Looking at monthly common stock returns over a ninety-year time span (July 1926 to December 2016) shows that “only 47.8% are larger than the one-month Treasury rate in the same month” and that fewer than half were positive. Looking at longer-term results reveals a similar outcome: “When focusing on stocks’ full lifetimes ... just 42.6% of common stocks, slightly less than three out of seven, have a buy-and-hold return (inclusive of reinvested dividends) that exceeds the return to holding one-month Treasury bills over the matched horizon.” More than half of the 25,300 common stocks that appeared in the CRSP database delivered negative lifetime returns. Furthermore, he notes, “It can be observed that the top five firms account for 10.07% of net stock market wealth creation, while the top 50 firms account for 39.29% of the net wealth creation.” He defines wealth creation as “the accumulation of market value in excess of the value that would have been obtained if the invested capital had earned one-month Treasury bill interest rates.”

In light of the narrow breadth of stocks with positive performance, he attributes the positive returns of the overall long-term stock market performance to the positive skewness in

stock returns. He states: “Simply put, large positive returns to a few stocks offset the modest or negative returns to more typical stocks. The positive skewness in long horizon returns is attributable both to skewness in the distribution of monthly individual stock returns and to the fact that the compounding of random returns introduces skewness.” Bessembinder cites Simkowitz and Beedles (1978) for their recognition that “individual stock returns are positively skewed” while explaining that they, and other researchers, have focused on “skewness in short horizon returns” and have not “emphasized either the magnitude or consequences of skewness in longer horizon returns.”

He goes on to point out that the positive skewness of stock returns “increases with the time horizon over which returns are measured due to the effects of compounding.” He supports this assertion with an evaluation of monthly, annual, decade, and lifetime returns for the CRSP common shares dataset in which he identifies positive skewness in all three periods. Bessembinder argues that the results of his work “challenge the notion that most individual stocks generate a positive time series excess return and highlight the practical importance of positive skewness in the distribution of individual stock returns.”

In addition, he states: “For those who are inclined to focus on the mean and variance of portfolio returns, the results presented here reinforce the importance of portfolio diversification. Not only does diversification reduce the variance of portfolio returns, but also non-diversified stock portfolios are subject to the risk that they will fail to include the relatively few stocks that, ex post, generate large cumulative returns. Indeed, as noted by Ikenberry et al. (1988) and Heaton et al. (2017), positive skewness in returns helps to explain why active strategies, which tend to be poorly diversified, underperform relative to market-wide benchmarks more than half of the time.”

Bessembinder identifies a number of potential avenues for additional research. These include evaluation of the degree to which “existing industrial organization models

are consistent with the degree of concentration in wealth creation ... reassessment of standard methods of evaluating investment performance such as the Sharpe ratio and Jensen's alpha ... [a]ssessing the reasons that long horizon returns display less skewness than would be anticipated if multi-period returns were generated from a normal distribution with constant parameters," and consideration of skewness in the construction of "optimal individual stock portfolios over a variety of possible investment horizons." ●

## THE SURPRISING ALPHA . . .

*Continued from page 66*

Paradoxically, the upside-down strategies generally performed better than the sensible right-side-up strategies, achieving higher returns as well as higher Sharpe ratios, information ratios, and capital asset pricing model alphas.

To explain these results, Arnott et al. (2013) conduct performance attribution analyses of the original and inverted portfolios using the Fama-French four-factor model (FF4). The factors are market beta, size, value, and momentum. In all but one of the portfolio sets, the analysis reveals meaningful value and/or small-cap tilts with no statistically significant net FF4 alpha. The exception was that a few of the inverted fundamentals-based strategies delivered statistically significant alpha, net of the factor effects. The significant alphas in these cases may be outliers, or they could reflect a risk factor that is missing from the FF4 model.

Using the Worldscope and Datastream databases, the authors extend their research to global developed markets for the period 1991-2012. With only one exception (market beta-

*James E. McWhinney is owner of J. McWhinney Communications. Contact him at x6011@hotmail.com.*

## REFERENCES

- Bessembinder, H. 2018. Do Stocks Outperform Treasury Bills? *Journal of Financial Economics* 129: 440-457.
- Ikenberry, D., R. Shockley, and K. Womack. 1998. Why Active Fund Managers Often Underperform the S&P 500: The Impact of Size and Skewness. *Journal of Private Portfolio Management* 1 (spring): 13-26.
- Heaton, J., N. Poulson, and J. Witte. 2017. Why Indexing Works. *Applied Stochastic Models in Business and Industry* 33, no. 6: 690-693.
- Simkowitz, M., and W. Beedles. 1978. Diversification in a Three-Moment World. *Journal of Financial and Quantitative Analysis* 13, no. 5 (December). 927-941.

weighted), all the original strategies added value; and again, with just one exception (inverse-ratio earnings growth-weighted), the upside-down strategies also added value. Of the twenty-two inverted portfolios, eighteen outperformed the underlying originals.

In view of the compelling U.S. and global evidence that both sensible and nonsensical strategies outperform for the same reasons (value and small-cap biases), the authors conclude that potential investors would do well to base strategy selections largely on a comparison of explicit and implicit implementation costs due to portfolio turnover. ●

*Now retired, Philip Lawton, CFA®, was formerly vice president, marketing, at Research Affiliates, LLC.*

## REFERENCES

- Arnott, R. D., J. Hsu, V. Kalesnik, and P. Tindall. 2013. The Surprising Alpha from Malkiel's Monkey and Upside-Down Strategies. *Journal of Portfolio Management* 39, no. 4 (summer): 91-105.
- Arnott, R. D., J. Hsu, and P. Moore. 2005. Fundamental Indexation. *Financial Analysts Journal* 61, no. 2 (March/April): 83-99.
- Malkiel, B. 1973. *A Random Walk Down Wall Street*. New York: Norton.



**INVESTMENTS & WEALTH INSTITUTE®**  
formerly **IMCA**

5619 DTC Parkway, Suite 500  
Greenwood Village, CO 80111  
Phone: +1 303-770-3377  
Fax: +1 303-770-1812  
[www.investmentsandwealth.org](http://www.investmentsandwealth.org)

© 2019 Investments & Wealth Institute®, formerly IMCA. Reprinted with permission. All rights reserved.

INVESTMENTS & WEALTH INSTITUTE® is a registered mark of Investment Management Consultants Association Inc. doing business as Investments & Wealth Institute. CIMA®, CERTIFIED INVESTMENT MANAGEMENT ANALYST®, CIMC®, CPWA®, CERTIFIED PRIVATE WEALTH ADVISOR®, RMA®, and RETIREMENT MANAGEMENT ADVISOR® are registered certification marks of Investment Management Consultants Association Inc. doing business as Investments & Wealth Institute.