Returns to scale in passive management: Evidence from ETFs*

Bong Ko[†]

Abstract

This article empirically analyzes the nature of returns to scale in passive fund management. Employing the recursive demeaning approach, we first document that fund benchmark-adjusted returns, both before and after fees, increase with lagged fund size. The increasing returns to scale are present in not only S&P 500 ETFs but also the universe of equity ETFs. Economically, one standard deviation increase in fund size is associated with an increase in fund performance by 9.6 basis points (or about 115 bps annually). The size performance relation is more pronounced in funds that are active in trading and funds with high tracking errors, suggesting that these positive scale effects are related to activeness. Moreover, the positive economy of scale is stronger for high-fee and higher-liquidity ETFs. When relating business-cycle variation, returns to scale are greater when the stock market is illiquid and during the recession. In contrast, Morningstar's rating, investor awareness, and sophistication are unlikely to explain the findings. Our newly gained results highlight the importance of sizes in passive funds and elucidate the literature on scale economies, which is still a subject of debate.

Keywords: Returns to scale, ETF, Index fund, Passive management

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[†]Bong Ko, University of California at Irvine. 4293 Pereira Drive, Irvine, CA 92697, United States. Email: bongk1@uci.edu.