

Does Portfolio Emulation Outperform Its Target Fund?

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An emulation fund collects trade signals from a sponsor's multi-manager portfolio (e.g. a superannuation fund that hires a number of underlying active managers to make trading decisions) and rebalances on a lagged basis to match its holdings. In this new research we test the effectiveness of an emulation portfolio relative to the fund of funds it is tracking, and identify where the costs and benefits arise. This study suggests that investment funds have short-term timing skill when executing trades - hence, from a purely pre-tax, trading returns perspective, the emulation portfolio incurs a small but economically significant opportunity cost. However, this may be compensated for by reductions in active management fees and tax savings, which vary from fund to fund.

Emulation strategies are appealing as they have reduced turnover (offsetting signals can be internally offset against one another) and hence lower transaction costs. However, there is little academic research to investigate the effectiveness of altered trade timing - taking away the timing discretion of a target fund manager may be costly. Our study quantifies the transaction cost savings and any related potential costs associated with trade delay. We are able to do this because of the highly detailed data provided by a large Australian pension fund.

This study is the first academic paper to look at the efficacy of emulation funds, and simulates the outcomes of an emulation strategy using the transactions data of a large Australian pension sponsor. Emulation funds have gained significant traction in the past decade. Since MLC launched the first emulation fund in 2005 as part of a joint venture with Vanguard Investments, a number of other asset managers, such as Russell Investments, State Street Global Advisors and NAB Custodian Services, have followed suit.

Overall, these results show there is little evidence that a straightforward emulation strategy will improve performance before fees and taxes. While some gains may be made through the reduction of implicit and explicit transaction costs, the delay in trade timing has a negative and significant impact on fund performance, which outweighs any of the formerly mentioned benefits. A secondary outcome of this study suggests that active fund managers have some skill in the inter-day timing of their trades. We note however that both fees and taxes (from realised gains) may be substantial, and emulation funds may in fact generate positive incremental cash flows on an after-fees basis compared to their funds.

The results do suggest that using a more sophisticated approach to lagging trade signals may lead to greater profitability in the emulation portfolio. The Capital Markets CRC is currently using this and other research to develop technologies that enable multi-fund managers to track inefficient trading patterns by their constituent funds, as well as designing emulation investment structures that significantly boost excess returns by reducing costly, non-performing trades.