



# TRADING

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## Trading Costs of Asset Pricing Anomalies

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We examine the trading costs, net-of-cost returns and break-even fund sizes of equity strategies designed to capture several of the main asset pricing anomalies documented in the literature. Using nearly \$1 trillion of live trading data from a large institutional money manager across 19 developed equity markets from 1998 to 2011, we approximate the trading costs of a large arbitrageur.

We find that our trading cost estimates are many times smaller and our fund sizes are more than an order of magnitude larger than those claimed in the literature. These results are driven by two key innovations in our study. First, we use actual trading costs from a real-world arbitrageur to estimate price impact rather than aggregated trade and quote level data used in other studies. Second, we use portfolio optimization techniques to design strategies that further decrease realized trading costs, as a real-world investor would do.

The results and tradeoffs between trading costs and tracking error vary across the different anomalies/styles. Value and momentum benefit the most from trading-cost optimization and face the most favorable tradeoffs. Short-term reversals, however, do not survive trading costs at reasonable size and do not benefit much from portfolio optimization.

Our results indicate that strategies based on size, value and momentum can be deployed at very high asset size and still survive trading costs, while short-term reversals cannot. Hence, the return premia associated with size, value and momentum appear to be robust, sizable and implementable.

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