The Value of Arbitrage*

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Abstract

We study what is the social value of arbitraging price differentials across financial markets. We show that arbitrage gaps (price differentials between markets) are sufficient statistics for the social marginal value of arbitrage. While one would expect that the value of arbitrage is increasing in the size of the arbitrage gap, our analysis shows that the arbitrage gap *exactly* corresponds to the marginal social value of arbitrage. We show that investors in all markets benefit from arbitrage trades and that the arbitrageur sector only gains from an arbitrage trade initially. We then provide an upper bound for the total value of arbitrage, and develop a methodology to approximate such upper bound using only local information. While price information is sufficient to characterize the marginal gain, the size of the trade needed to close the arbitrage gap is required to calculate the total gains from arbitrage. Our approach does not require the specification of preferences and instead uses asset prices and measures of price impact. We show that, for a given arbitrage gap, the total social value of arbitrage is higher in more liquid markets. Using our methodology, we calculate the value of arbitrage in several empirical applications.

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