Risk in Risk Arbitrage

by
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Introduction

- Sample size : 4750 stock swap mergers, cash mergers, & cash tender offers between 1963-1998
- Out-of-sample comparison with risk/return of active risk arbitrage hedge funds between 1990-1998

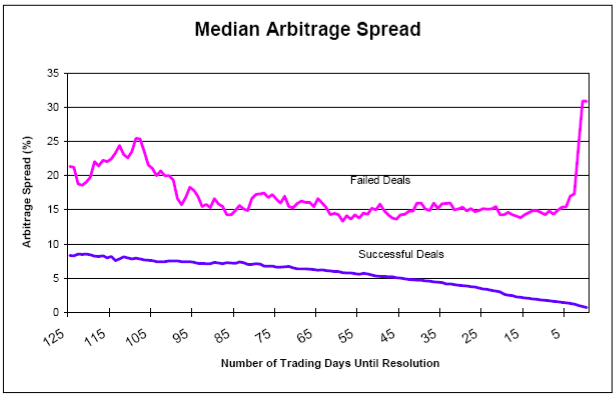

Figure 1: This figure plots the median arbitrage spread versus time until deal resolution. The arbitrage spread is defined to be the offer price minus the target price divided by the target price. For failed deals, the deal resolution date is defined as the date of the merger termination announcement. For successful deals, the resolution date is the consummation date.

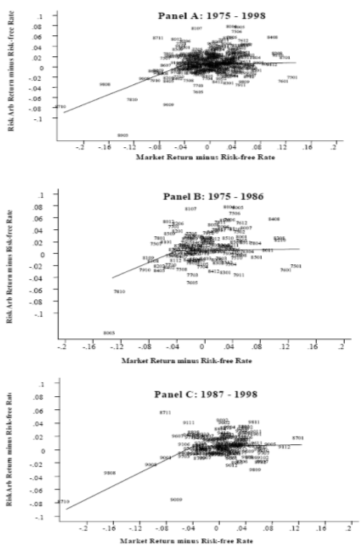

Figure 4: This figure plots risk arbitrage index manager (RAIM) returns against market returns for three subsamples of data. Panel A presents returns during 1975 - 1998, Panel B presents returns from 1975 - 1986, and Panel C presents returns from 1987 - 1998. Data labels correspond to months (i.e. 9808 is August, 1998). Fitted lines from a piecewise linear regression are also shown.

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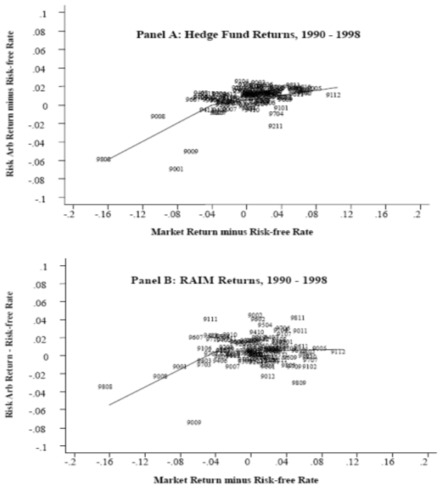

Figure 5: This figure compares RAIM returns and hedge fund returns during 1990 - 1998. Panel A presents hedge fund returns obtained from Hedge Fund Research's merger arbitrage index and Panel B presents RAIM returns. Data labels correspond to months (i.e. 9808 is August, 1998). Fitted lines from a piecewise linear regression are also shown.

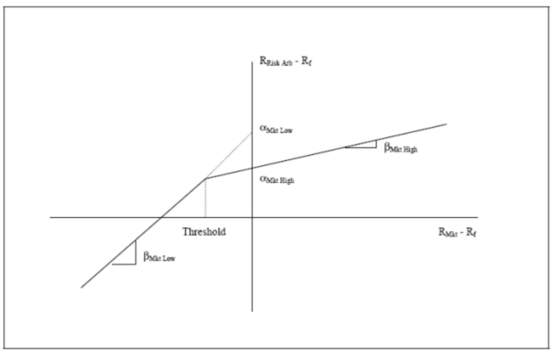

Figure 2: This figure depicts the piecewise linear model specified in equations (2) and (3). The market beta is allowed to vary depending on market returns. $\beta_{Mkt\ Low}$ is the slope coefficient when the difference between the market return and the risk-free rate is less than the threshold. $\beta_{Mkt\ High}$ is the slope coefficient when the difference between the market return and the risk-free rate is greater than the threshold.

Findings

- Risk arbitrage returns are positively correlated with market returns in severely depreciating markets
- Returns uncorrelated with market returns in flat & appreciating markets
- Risk arbitrage returns are similar to returns obtained buy selling uncovered index put options
- After controlling non-linear return profile and transaction costs, risk arbitrage excess returns 4% per year