backtest

train and test data:

2 years ago till last week including all the regions in the world

Type of Transaction : Completed and Cancelled

Feasures:

Transaction Value ( > 100)

ttwweewq

EPS Target

Current Proportion of Long Term Debt Target

TIC(TotalInvestedCapital)/Revenue Acuqirer

Acquirer Attitude

Target Management Attitude

Ownership Type

3713 transactions in total

不同country complete的数量965/1098

相同country complete的数量1826/1996

private: 1460/1536=95.052%

public: 562/710=79.155%

subsidiary: 1309/1402=93.367%

BSB：19.1.30 stock strategic 27 Nov '18 offer price: 32.42

1 day premium: 20.7% 11.27 close price: 30.98 (32.42 - 30.98) / 30.98 / 2 = 2.324%

target (BLMT-US)

acquirer (PBCT-US)

Dominion Energy Midstream Partners LP (DM-US): **Announce Date:** 26 Nov '18 Expected 31 Mar '19

**Offer Price/Share:** $18.22 **Method of Payment:** Stock **Purpose:** Strategic **1 Day Premium:** 0.5% close price: 18.39

target (DM-US)

acquirer (D-US)

Grivalia Properties Real Estate Investment Co. (GRIV-GR): **Announce Date:** 26 Nov '18Expected 24 Apr '19 **Offer Price/Share:** $8.43 **Method of Payment:** Stock **Purpose:** Strategic **1 Day Premium:** 3.1% close price: 7.67欧元 (8.69 美元)

target (GRIV-GR)

acquirer (EUROB-GR)

National Commerce Corp. (Alabama) (NCOM-US): **Announce Date:** 26 Nov '18Expected 30 Jun '19 **Offer Price/Share:** $40.01 **Method of Payment:** Stock **Purpose:** Strategic **1 Day Premium:** 5.1% close price: 40.05

target (NCOM-US)

(CSFL-US)

Stendörren Fastigheter AB (STEF.B-SE): **Announce Date:** 27 Nov '18Expected 19 Dec '18 **Offer Price/Share:** $11.03 **Method of Payment:** Cash **Purpose:** Financial **1 Day Premium:** 3.8% close price: 101.5 KR 11.18

target (STEF.B-SE)

acquirer EQT Partners AB - Subsidiary

Fin 608 Project 3: Merger Arbitrage

Group 2

In this project, we aim to identify a merger and acquisition candidate with a transaction value of more than $100 million, that provides an opportunity for a merger arbitrage trade.

During the week of November 26, there are 33 pending transactions; we imposed the following filters and their specific reasons to cut down the sample size:

1. Target & Acquirer Location : Located in the same country.

Reason: When target and acquire companies are in different countries, the acquisition may have to follow different sets of laws and face shareholders of different cultures, which may create potential conflicts that lead to a cancelled acquisition.

1. Target & Acquirer Ownership : Public company.

Reason: For non-public companies, a merger arbitrage trade is hard to execute due to difficulties in buying and selling shares. Also this may create extra obstacles in examining the company data.

1. Target & Acquirer Industry : Not in the same industry.

Reason: Acquisition in the same industry may encounter extra restrictions, for example antitrust regulations, which may create potential negative effects with respect to the completion of acquisition.

Based on the above filters (word加一个下标，说明1已经通过了t检验), we not only reduced the candidate number to 5 companies, but also reduced potential transaction risk. Next we proceed with detailed analysis of each company, trying to examine the expected gains.

For the remaining 5 candidates, the related target and acquirer are (BLMT-US, PBCT-US), (DM-US, D-US), (GRIV-GR,EUROB-GR), (NCOM-US,CSFL-US) and (STEF.B-SE, EQT Partners AB - Subsidiary). Based on the offer price and close price after the announcement, we observed that only (BLMT-US, PBCT-US) showed a positive difference between offer price and close price, which is 1.44, or equivalently a 4.648% return for a two-month expected period.

Appendix:

1. t-test for equality of population means when the populations are normally distributed and have variances that are unknown and assumed to be unequal.

Since for each sample, the outcome follows a Bernoulli distribution (1 stands for complete and 0 stands for cancel), the estimated probability of merger completion is just the mean for the sum of all samples. Based on central limit theorem, we can assume that the populations are normally distributed. However, there is no evidence for their variance to be same, hence the above test is used.

The t-statistic is computed as follows:

where