



# Upside / Downside Capture Ratios and UD Flyer Fund Stock Returns 2007-2012

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## 1) Study Purpose

The purpose of this study is to determine if capture ratios can predict the future returns of Flyer Fund stocks.

## 2) Data Requirements

Monthly returns for 20 Flyer Fund stocks, 2007-2012

Monthly Returns for S&P 500, 2007-2010

## 3) Return Periods

Calculation Period 2007-2010

Forecasting Period 2011-2012

## 4) Model Specification

$$UCR_{i_t} = \frac{R_{i_t}}{R_{m_t}} - 1 \text{ (For } R_{i_t} > 0, R_{m_t} > 0)$$

$$DCR_{i_t} = \frac{R_{i_t}}{R_{m_t}} - 1 \text{ (For } R_{i_t} < 0, R_{m_t} < 0)$$

$$\overline{UCR}_i = \sum_{t=1}^n \frac{(UCR_{i_t})}{n}$$

$$\overline{DCR}_i = \sum_{t=1}^n \frac{(DCR_{i_t})}{n}$$

Where:

- $R_{i_t}$  = Return to  $i^{\text{th}}$  stock
- $R_{m_t}$  = Return to Market
- $UCR$  = Upside Capture Ratio
- $DCR$  = Downside Capture Ratio
- $\overline{UCR}$  = Average Upside Capture Ratio
- $\overline{DCR}$  = Average Downside Capture Ratio

## 5) Estimating Equations

$$R_{i_{t+1}} = a + b \overline{UCR}_i$$

$$R_{i_{t+1}} = a + b \overline{DCR}_i$$

$$R_{i_{t+1}} = a + b \frac{\overline{UCR}_i}{\overline{DCR}_i}$$

Where:

- $t + 1 = 12/31/10 - 04/30/11$  ( $\overline{UCR}$ )
- $t + 1 = 04/30/11 - 09/30/12$  ( $\overline{DCR}$ )
- $t + 1 = 09/30/11 - 02/28/12$  ( $\overline{UCR}$ )
- $t + 1 = 12/31/10 - 02/28/12$  ( $\overline{UCR}/\overline{DCR}$ )
- $a, b$  = Regression Parameters

## 6) Conclusions

- UCR has predictive capability
- UCR  $b$  coefficient has right sign (+)
- DCR  $b$  coefficient has right sign (-)
- DCR  $b$  coefficient is statistically significant at 80% confidence level
- UCR/DCR  $b$  coefficient is not statistically significant

Return Period	Ind. Var.	R2	A	B	tStat
12/31/10 to 4/30/11	UCR	0.001	0.08	0.003	0.04
4/30/11 to 9/30/11	DCR	0.100	0.04	-0.110	-1.27
9/30/11 to 2/28/12	UCR	0.350	-0.15	0.230	2.85
12/31/10 to 2/28/12	UCR/DCR	0.010	0.08	0.003	0.04