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Idiosyncratic Risk, Beta and Stock Performance 2007-2011

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1) Study Purpose

To determine for a select group of UD Flyer Fund stocks, the impact of idiosyncratic risk and beta on stock performance

2) Data Requirements

Monthly returns for 20 stocks, 2007-2010
 Monthly returns for S&P 500, 2007-2010

3) Model Specification (Idiosyncratic Risk)

$$IR_i = \sqrt{\sum_{K=1}^n \frac{(e_K - \bar{e}_i)^2}{n}}$$

Where:
 IR_i = Idiosyncratic Risk for stock
 e_K = error term for K^{th} observation
 \bar{e}_i = mean error term for stock
 n = number of observations

4) Model Specification (Beta)

$$R_i = a + b(R_m + e_i)$$

Where:
 R_i = return of the stock
 a = intercept
 b = regression coefficient (Beta)
 R_m = return to market (S&P 500)
 e_i = error terms

5) Estimating Equations

$$R_i = a + b(IR_i)$$

$$R_i = a + b(Beta_i)$$

Where:
 R_i = return for i^{th} stock
 a, b = regression parameters
 IR_i = Idiosyncratic Risk
 $Beta_i$ = Beta for i^{th} stock

Type of Period	Return Period	Independent Variable	R2	A	B	T-Stat
Up-Swing	(12/31/10 - 4/30/11)	IR	0.22	-0.04	2.20	2.16
Up-Swing	(12/31/10 - 4/30/11)	Beta	0.24	0.01	0.11	2.29
Down-Swing	(4/30/11 - 9/30/11)	IR	0.07	0.06	-2.36	1.16
Down-Swing	(4/30/11 - 9/30/11)	Beta	0.27	0.08	-0.22	2.49
Up-Swing	(9/30/11 - 2/28/12)	IR	0.33	-0.12	4.74	2.93
Up-Swing	(9/30/11 - 2/28/12)	Beta	0.50	-0.05	0.28	4.16

7) Conclusions

- All b coefficients significant on 95% confidence level except (4/30/11 – 9/30/11) period for IR
- During Up-Swing periods in 2011 both IR and Beta have positive b coefficients
- During Down-Swing period in 2011 both IR and Beta have negative b coefficients
- Both IR and Beta have low R²'s in all time periods
- Both IR and Beta despite low R²'s have predictive capabilities

6) Return Periods

- (12/31/10) – (4/30/11)
- (4/30/11) – (9/30/11)
- (9/30/11) – (2/28/12)