



# The Alpha\* Impact of Rising Oil Prices, Interest Rates and Market Volatility on Flyer Fund Sector/Stock Returns

Name: Eric Flanigan

Advisor: Dr. Bob Dean

Professor Leslie Douglas

## Study Purpose:

- Determine impact of oil price, interest rate and market volatility increases on Flyer Fund sector/stock returns compared to market return

## Research Approach:

- Develop response functions and betas for Flyer Fund sectors/stocks using Bloomberg market factor model

## Model Specifications:

$$\text{LogP}_{it} = \text{LogA} + B(\text{LogOil}_t)$$

$$\text{LogP}_{it} = \text{LogA} + B(\text{LogInt}_t)$$

$$\text{LogP}_{it} = \text{LogA} + B(\text{LogVix}_t)$$

Where:

- $P_{it}$  = Price of the sector/stock
- A = Intercept
- B = Beta
- Oil = Price of Oil
- Int= Interest Rate
- VIX = Market Volatility
- t = Rolling 60 month Period

## Portfolio and Sector Alphas

|                        | Mix 1 | Mix 2 | Mix 3 |
|------------------------|-------|-------|-------|
| Consumer Discretionary | 0.01  | -0.02 | 0.81  |
| Consumer Staples       | -0.02 | -0.04 | 0.00  |
| Energy                 | 0.01  | 0.03  | -0.34 |
| Financials             | 0.01  | 0.00  | 0.40  |
| Health Care            | 0.15  | 0.30  | 0.98  |
| Industrials            | 0.00  | -0.06 | 1.00  |
| Information Technology | 0.00  | 0.00  | 0.08  |
| Materials              | 0.02  | 0.03  | 0.12  |
| Portfolio              | 0.02  | 0.02  | 0.47  |

## Conclusions from Mix 2:

Flyer Fund outperforms the benchmark with rising oil prices (6%), increased volatility (VIX +15%), and higher interest rates (10 yr Treasury +100bps).

## Sector Alpha Analysis:

- Highest positive alpha – Health Care (0.30)
- Highest negative alpha – Industrials (-0.06)
- Three of eight sectors had positive alpha
- Three of eight sectors had negative alpha
- Two of eight sectors had zero alpha
- Overall portfolio alpha +0.24

## Stock Selection Analysis:

- Held one of the three top performers in Health Care. (Novartis)
- Held none of the three top performers in Industrials
- Stock selection needs to be improved

| Mix 2 |                   |             |                      |        |
|-------|-------------------|-------------|----------------------|--------|
|       | BEST Alpha Sector | Health Care |                      |        |
|       | DCPM              | Return      | Benchmark            | Return |
| 1     | Novartis          | 1.47        | Edwards Lifesciences | 1.49   |
| 2     | Express Scripts   | 1.29        | Intuitive Surgical   | 1.45   |
| 3     | Baxter            | 1.29        | Tenet                | 1.38   |

| Mix 2 |                    |             |            |        |
|-------|--------------------|-------------|------------|--------|
|       | WORST Alpha Sector | Industrials |            |        |
|       | DCPM               | Return      | Benchmark  | Return |
| 1     | Hexcel             | 1.64        | Joy Global | 1.85   |
| 2     | Old Dominion       | 1.51        | ADT        | 1.77   |
| 3     | Union Pacific      | 1.47        | Fastenal   | 1.76   |

\* alpha is the difference between portfolio return and benchmark return.