



A Portfolio Weighting Model for the Communications Services with firm revenue growth the factor weight: An empirical analysis of portfolio returns, 2009-2022.

By: Michael Kondritz & Mike Topp

Davis Center for Portfolio Management

Advisors: Dr. Bob Dean and Dr. Jon Fulkerson

Study Objective:

Hypothesis Tests:

1. Determine if revenue growth factor model outperforms an equal weight model
2. Determine if revenue growth is a priced in risk factor

Portfolio Characteristics:

1. Sector : XLV
2. # of Stocks: 10
3. State Economic Variable: Consumer Spending (PCE)
4. Loading Factor: Revenue Per Share
5. Size: Large Cap
6. Strategies: (1) Buy and Hold
(2) Adjustable Shares
7. Regression Period: 2009-2019
8. Period of Analysis
 - (1) 2009-2019
 - (2) 2009- 2020
 - (3) 2009-2021
 - (4) 2009-2022

Portfolio Weighting Model (RS):

Investment Strategy: Constant Share Model

1st Iteration:

- Step 1. $R_{si}(t) = A_i + B_i(PCE_t)$
- Step 2. $W_{li}(t) = B_i / \sum B_i$
- Step 3. $D_i(t) = W_{li}(t) * 1,000,000$
- Step 4. $SHRS_i(t) = D_{li}(t) / P_i(t)$
- Step 5. $MV_i(t+1) = SHRS_i(t) * P_i(t+1)$
- Step 6. $PV(t+1) = \sum MV_i(t+1)$

2nd Iteration:

- Step 7. $MV_i(t+2) = SHRS_i(t) * P_i(t+2)$
- Step 8. $PV(t+2) = \sum MV_i(t+2)$

Total Iterations: 10

Constant Share Strategy			
Year	Model Cumulative Return	Equal Weight Cumulative Return	Alpha
2009-2019	1556%	1176%	380%
2009-2020	1662%	1285%	376%
2009-2021	1239%	961%	277%
2009-2022	899%	741%	157%

Constant Share Model			
Year	Model Cumulative Return	SPY Cumulative Return	Alpha
2009-2019	1556%	258%	1298%
2009-2020	1662%	315%	1347%
2009-2021	1239%	427%	812%
2009-2022	899%	323%	576%

Adjusted Share Model			
Year	Model Cumulative Return	SPY Cumulative Return	Alpha
2009-2019	3113%	258%	2855%
2009-2020	6452%	315%	6137%
2009-2021	7144%	427%	6718%
2009-2022	2225%	323%	1902%

Findings:

1. Constant Share Model outperforms Equal Weight
2. Constant Share Model Outperforms SPY
3. Adjustable Share Model Outperforms SPY
4. Both Factor Models outperforms Equal Weight