



A Portfolio Weighting Model for the Informational Technology Sector with Firm Revenue Growth the Factor Weight: An empirical analysis of portfolio returns, 2009-2022.

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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 : XLK
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. $SHR_{Si}(t) = D_{li}(t) / P_i(t)$

Step 5. $MV_i(t+1) = SHR_{Si}(t) * P_i(t+1)$

Step 6. $PV(t+1) = \sum MV_i(t+1)$

2nd Iteration

Step 7. $MV_i(t+2) = SHR_{Si}(t) * P_i(t+2)$

Step 8. $PV(t+2) = \sum MV_i(t+2)$

Total Iterations: 11

Constant Share Strategy			
Years	Model Cumulative Return	Equal Weight Cumulative Return	Alpha
2009-2019	699%	1365%	-666%
2009-2020	1090%	2168%	-1078%
2009-2021	1584%	3366%	-1782%
2009-2022	971%	2022%	-1051%

Constant Share Strategy			
Years	Model Cumulative Return	SPY Cumulative Return	Alpha
2009-2019	699%	258%	442%
2009-2020	1090%	315%	775%
2009-2021	1584%	427%	1158%
2009-2022	971%	325%	646%

Adjustable Share Strategy			
Years	Model Cumulative Return	SPY Cumulative Return	Alpha
2009-2019	977%	258%	720%
2009-2020	1705%	315%	1390%
2009-2021	3568%	427%	3142%
2009-2022	2181%	325%	1856%

Findings:

1. Equal weight model outperforms constant share model.
2. Constant share model outperforms SPY
3. Adjustable shares model outperforms SPY
4. Adjustable shares model outperforms equal weight model through 2021 and 2022