Peter Lynch Systematic Strategy

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Investment Thesis

"Insiders might sell their shares for any number of reasons,
but they buy them for only one: they think the price will rise."
-    Peter Lynch
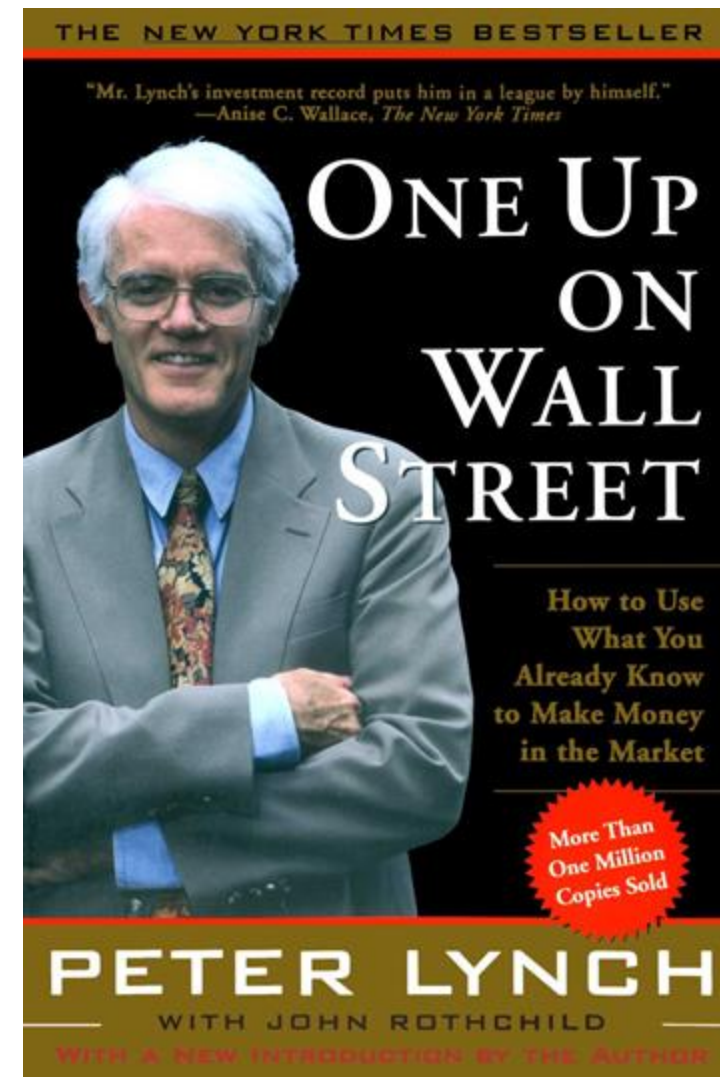
- Father of the PEG Ratio (Price/Earnings to Growth)

$$P/E = \frac{\text{Market Price per Share}}{\text{Earnings per Share (EPS)}} \quad \Longrightarrow \quad PEG = \frac{P/E \text{ Ratio}}{\text{Earnings Growth Rate}}$$

- ROIC (Return on Invested Capital)

$$ROIC = \frac{\text{Net Operating Profit After Tax (NOPAT)}}{\text{Invested Capital}}$$

$$\text{Invested Capital} = \text{Equity} + \text{Debt} - \text{Cash} \qquad NOPAT = \text{Operating Income} \times (1 - \text{Tax Rate})$$

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Summary

Idea – Use Peter Lynch's Investment philosophy in a Systematic Strategy

Strategy – Management Buys, PEG ratio, ROIC

Historical 10 Year Performance – 381.14% Return, 0.88 Sharpe, 0.83 Beta

Recommendation – Buy $80k, In Millner Fund

What to Sell – Cash (Milner Currently has 210k in cash)

Effect on Portfolio – Total fund beta from 0.68 to 0.73, Sharpe from 1.41 to 1.40

Strategy Details

Specifics of strategy

Backtesting Method: Bloomberg

Exchange included: US Equities; Russell 1000

Rebalance frequency: Annually

Average Number of positions (10 year): 6

Proposed number of positions for upcoming holding period: 11

Number of years backtested: 10, 5, 3, and 1

Minimum stock market cap: 400M

Weighting: Equal

Backtesting Screen Details

1. Use Russell 1000
2. Management Buying >$100,000 (value traded) in the last 6 Months
   a. "When insiders are buying like crazy, you can be certain that, at a minimum, the company will not go bankrupt in the next 6 months" - Peter Lynch
3. PEG Ratio between 0 - 1.8
   a. <0 that means it is negative (bad)
   b. 0-1 is considered undervalued
   c. 1-2 is considered to have strong growth relative to valuation (power band)
   d. >2 is considered overvalued
4. PE Ratio > 0
   a. Because if you have a negative PE ratio and negative growth rate it will give you a positive PEG ratio, that's even worse than (3a.), 8th grade algebra for the win!!
   b. This ensures that both the PE ratio and growth rate is positive
5. ROIC >10%
   a. Industry standard in to have above 6-10% (measure of efficiency & productivity)

Rebalanced Annually

Backtesting Screen

	Selected Screening Criteria	Matches
	Security Universe	1656724
51)	Trading Status: Active	551464
52)	Indices: Russell 1000 Index	1006
53)	Mgmt Buys 6 Months [USD] > 100000	116
54)	0 <= Current FY BEst PEG Ratio <= 1.8	31
55)	Current Price Earnings Ratio (P/E) > 0	29
56)	LF Return on Invested Capital > 10	11
	Display Only Fields	11
57)	Ticker	11
58)	Price 1 Day ago [USD]	11
59)	Current Price Earnings Ratio (P/E)	11
60)	Mgmt Buys (Value Traded)	11
61)	Insider Buys (Value Traded)	11
62)	Insider Sells (Value Traded)	11
63)	1 Year Beta [USD]	11
64)	Monthly 5 Year Beta [USD]	11
65)	Add screening criteria	

Backtesting Results (10 Year) - Performance

* Calculated for all positions during the period they were invested into *
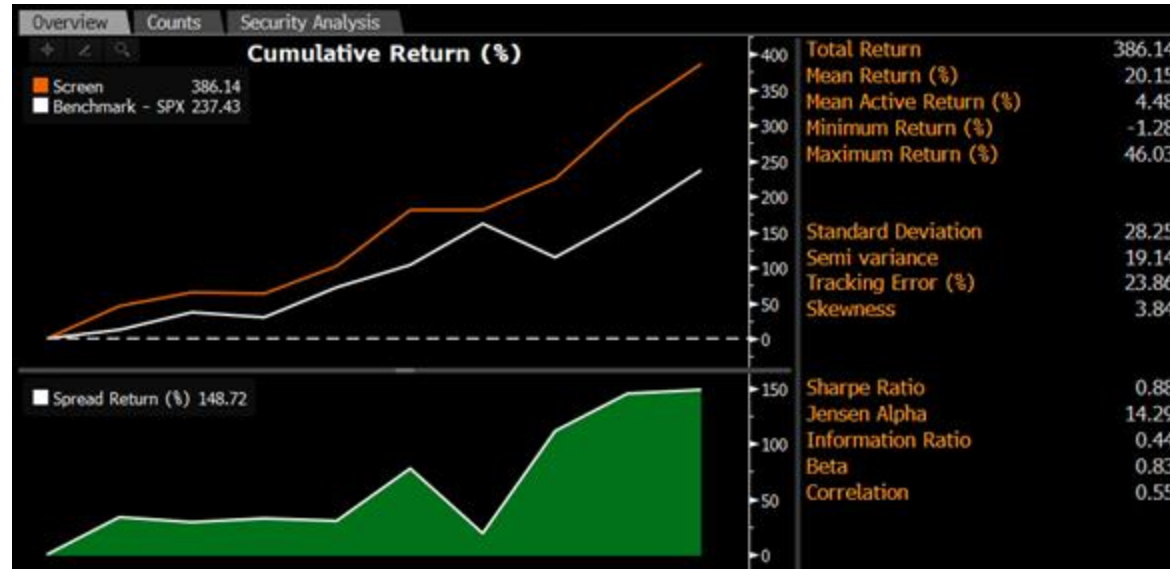
| 10-Year Analysis	Mean	Min	25%	Median	75%	Max
Market Cap ($Millions)*	$ 40,835	$ 400	$ 6,170	$ 15,670	$ 42,270	$ 522,560
P/E Ratio*	16.77	4.82	11.87	15.73	20.38	40.96
Monthly Trading Volume* ($Millions)	$ 3,372	$ 231	$ 926	$ 1,600	$ 3,400	$ 522,560
Share Price*	117.61	19.82	42.37	73.00	108.53	1,116.25

Backtesting Results (5 Year) - Performance
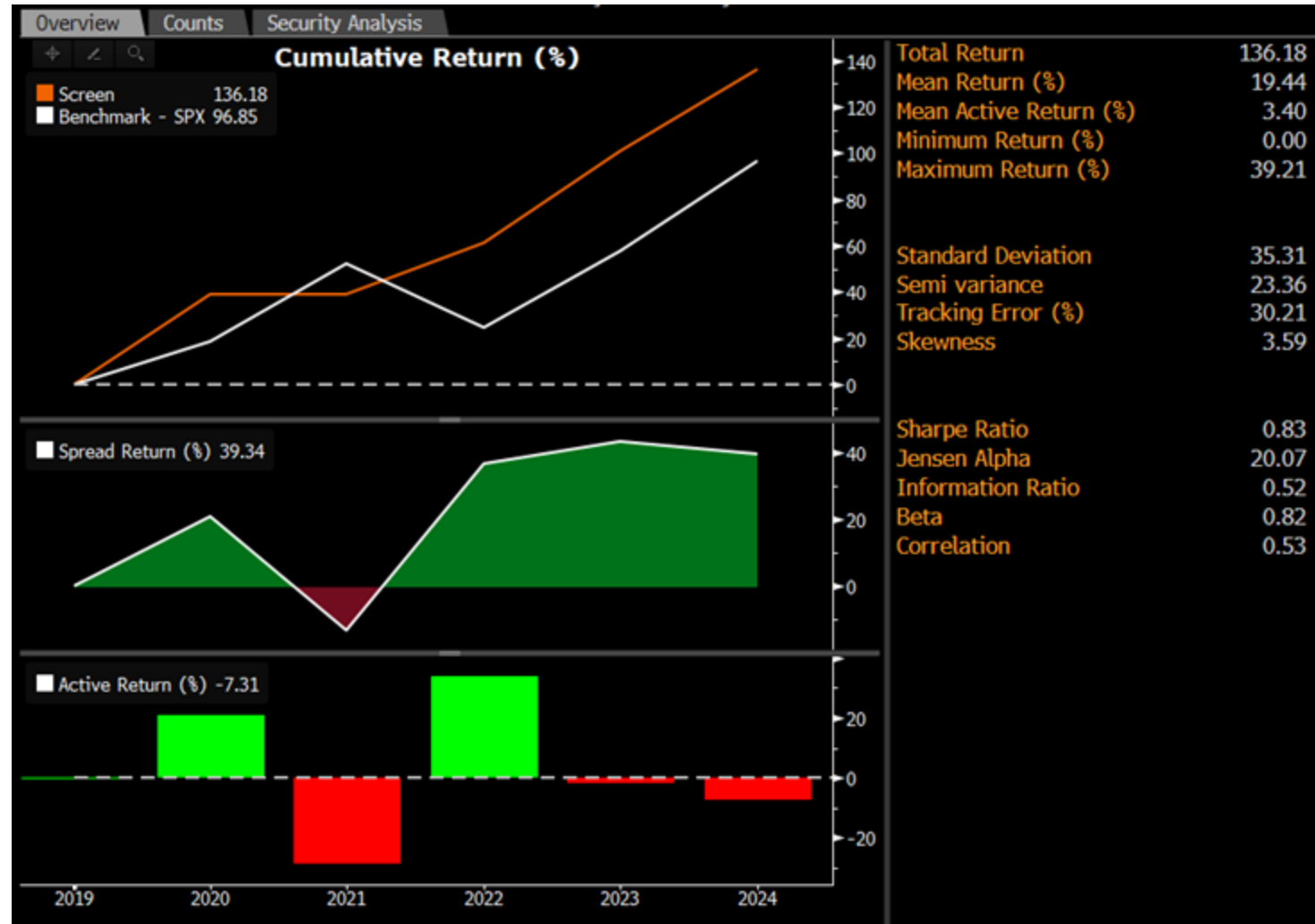
Backtesting Results (3 Year) - Performance
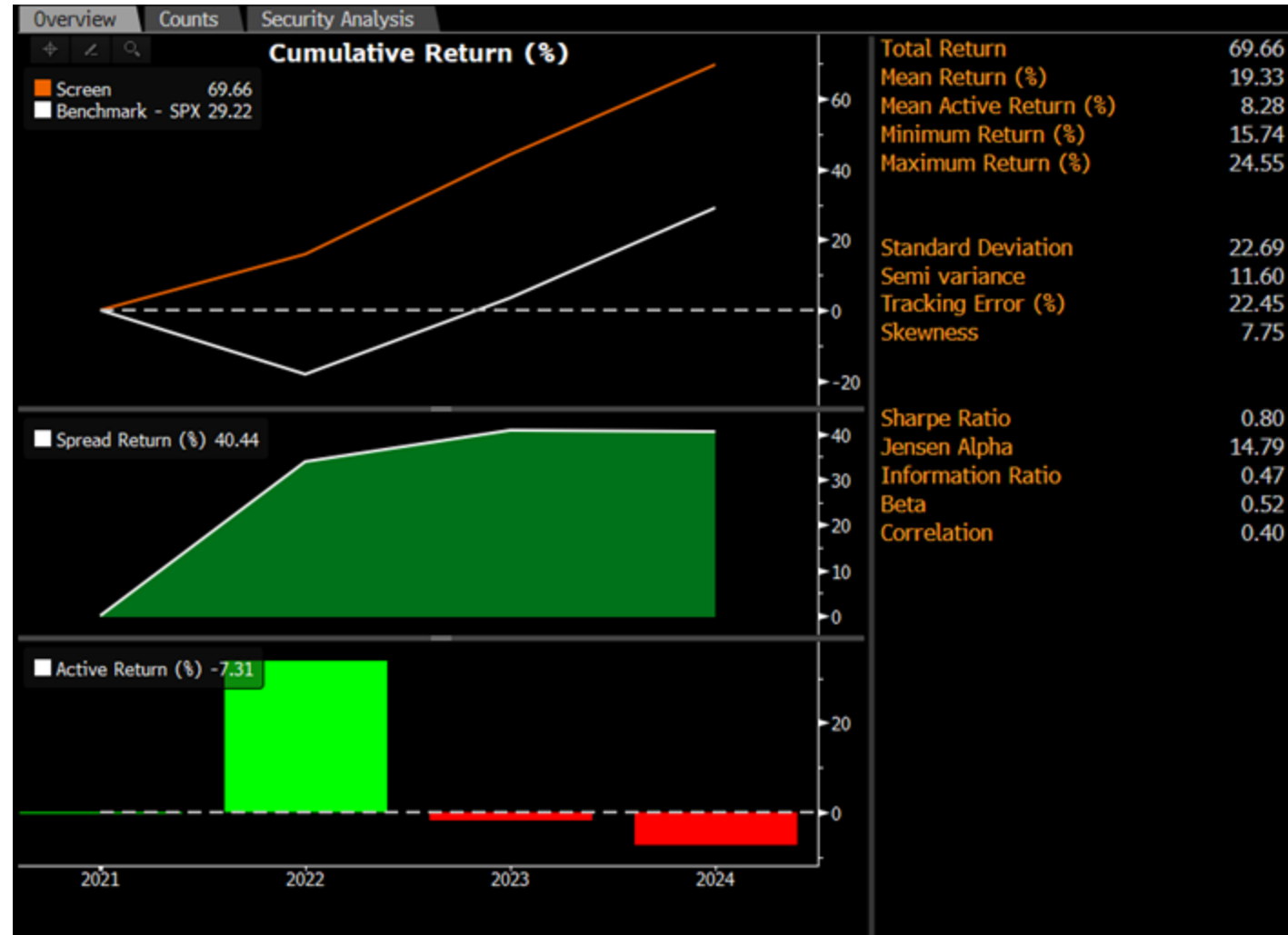
Backtesting Results (1 Year) - Performance
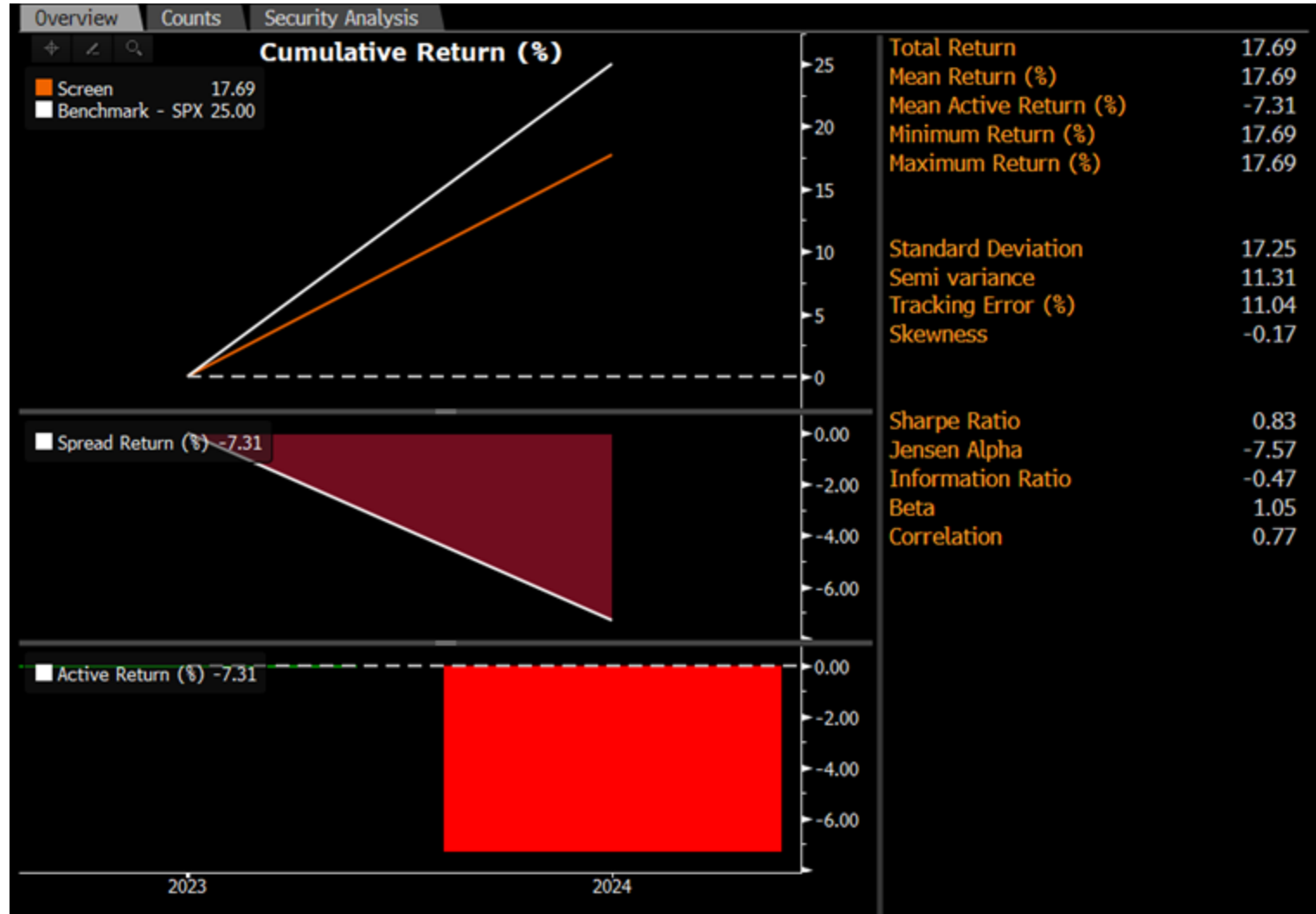
Backtesting Results (Comparisons) - Performance

Annualized	Return	α	β	σ	Sharpe	Treynor*	Max DD	Info Ratio
10 Year	386.14%	14.29%	0.83	28.25%	0.88	0.22	-1.3%	0.44
10 Year SPY	242.1%	n/a	1	15.32%	0.66	0.12	~-33%	n/a
5 Year	136.18%	20.07%	0.82	35.31%	0.83	1.63	0.00%	0.52
5 Year SPY	96.9%	n/a	1	18.17%	0.56	0.12	~-33%	n/a
3 Year	69.66%	14.79%	0.52	22.69%	0.80	1.27	+15.74%	0.47
3 Year SPY	29.2%	n/a	1	17.37%	0.45	0.08	~-20%	n/a
1 Year	17.69%	-7.57%	1.05	17.25%	0.83	0.20	+17.69%	-0.47
1 Year SPY	25.0%	n/a	1	10.66%	1.82	0.25	~-12%	n/a

* Risk free rate calculated as the average 10
  year treasury yield over the time period *

Companies to Buy

# OF STOCKS	11
RECOMMENDED INVESTMENT	$80,000 from Milner Fund
INVESTMENT PER STOCK	~ $7,272.73 per stock
WEIGHTING SCHEME	Equal
REBALANCING FREQUENCY	Annually
PEG RATIO	0 < x <= 1.8
MIN ROIC	10%
TIME FRAME	10 Year
CURRENCY	USD

Companies to Buy (~ $7,272.73 Each)

Name	Ticker	P/E Ratio	PEG	ROIC	Beta (Y-1)	Beta (Y-5)	Share Price	# of Shares	Total Value
Adobe	ADBE	30.61	1.59	24.59%	1.1	1.31	440.23	17	$ 7,362.19
Apollo	APO	20.22	1.3	15.89%	1.36	1.38	162.59	44	$ 7,191.80
APTIV	APTV	11.31	0.72	12.02%	1.02	1.53	61.4	113	$ 7,243.30
Bath & Body	BBWI	11.84	1.04	31.13%	1.01	1.74	38.79	203	$ 7,285.67
Booz Allen	BAH	18.43	1.49	21.89%	0.64	0.6	131.97	57	$ 7,292.58
Crocs	CROX	7.5	1.68	29.29%	1.11	1.98	97.28	78	$ 7,282.58
Eaton Corp	ETN	30.93	1.69	13.45%	1.45	1.11	314.7	23	$ 7,200.15
Everest Group	EG	19.1	0.42	14.56%	0.72	0.71	341.72	22	$7,436.66
Fox Corp	FOXA	10.71	1.34	10.47%	0.53	0.83	54.64	138	$ 7,285.02
Hubbell	HUBB	27.25	1.26	16.69%	1.36	0.99	400.91	18	$ 7,216.74
Valvoline	VVV	34.37	0.78	15.13%	0.97	1.21	36.63	188	$ 7,275.60

Effect on the Portfolio

	Existing Portfolio	New Portfolio
Beta	0.68	0.73
Sharpe	1.41	1.40

Effect on portfolio

Old Milner

- Cash
- NVDA
- COST
- INTU
- QQQ
- NFLX
- CRM
- PGR

29.8%, 15.5%, 8.9%, 8.2%, 6.9%

- Technology
- Cash
- Industrials
- Cons. Staples
- Comm. Servi...
- Financials
- Health Care
- Consumer St...

35.9%, 31.7%, 7.9%
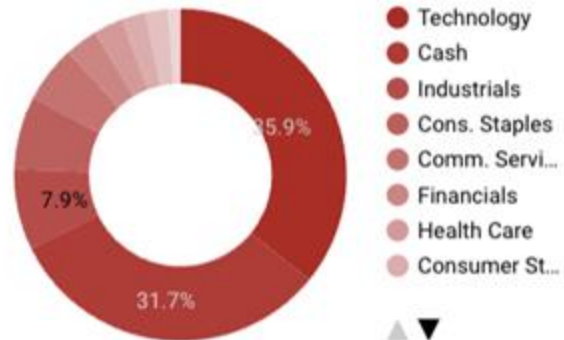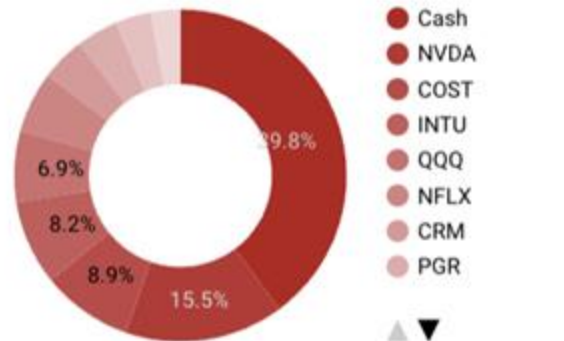
Milner Beta
0.80

New Milner

- Cash
- NVDA
- COST
- INTU
- QQQ
- NFLX
- CRM
- PGR

28.7%, 18%, 10.3%, 9.6%, 8.1%, 6.9%

- Technology
- Cash
- Industrials
- Cons. Staples
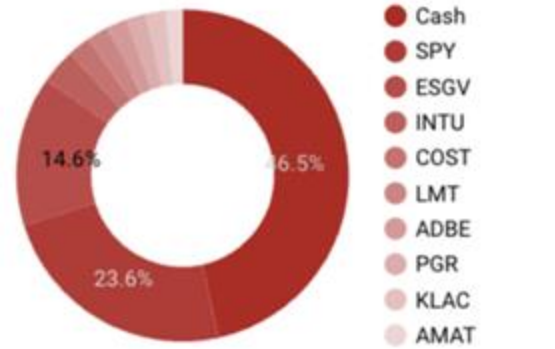- Comm. Servi...
- Financials
- Industrials
- Health Care

38.9%, 21.3%, 8.6%, 7.7%, 6%
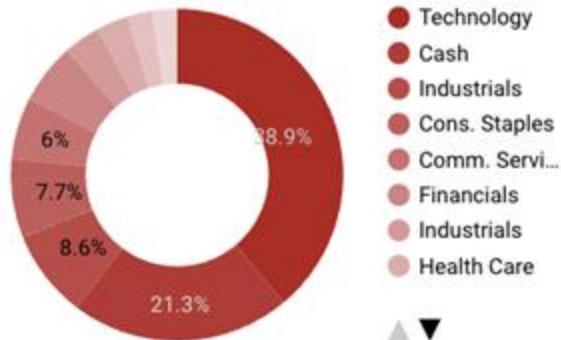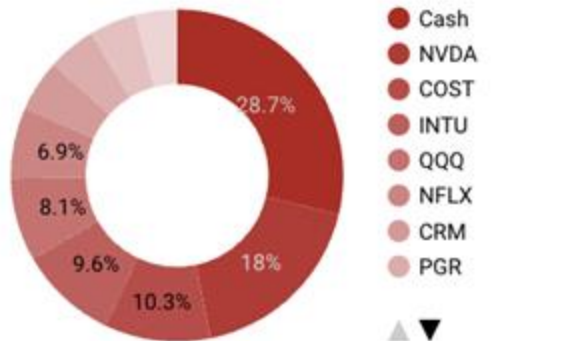
New Milner Beta
0.95

Old Total Portfolio

- Cash
- SPY
- ESGV
- INTU
- COST
- LMT
- ADBE
- PGR
- KLAC
- AMAT

46.5%, 23.6%, 14.6%
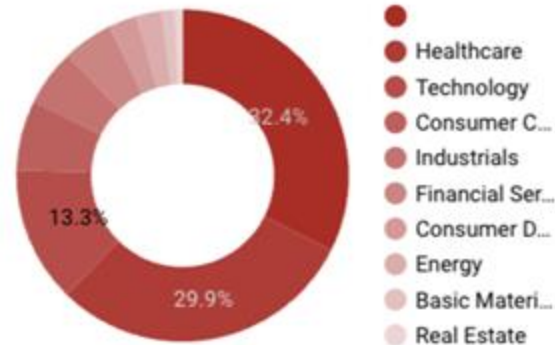
- Technology
- Healthcare
- Technology
- Consumer C...
- Industrials
- Financial Ser...
- Consumer D...
- Energy
- Basic Materi...
- Real Estate

32.4%, 29.9%, 13.3%

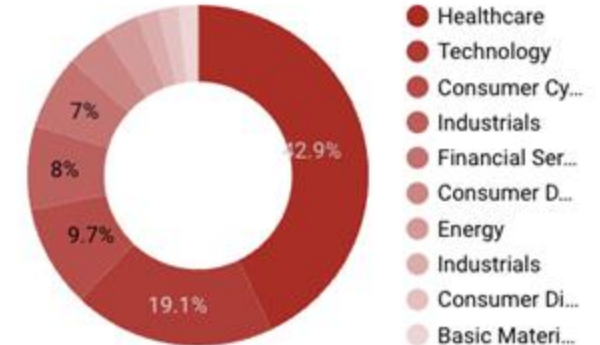Portfolio Beta
0.68

New Total Portfolio
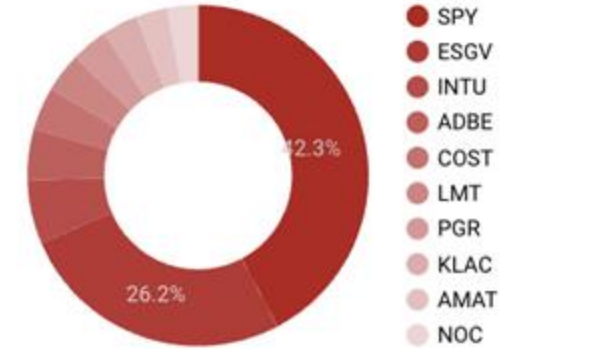
- SPY
- ESGV
- INTU
- ADBE
- COST
- LMT
- PGR
- KLAC
- AMAT
- NOC

42.3%, 26.2%

- Healthcare
- Technology
- Consumer Cy...
- Industrials
- Financial Ser...
- Consumer D...
- Energy
- Industrials
- Consumer Di...
- Basic Materi...

42.9%, 19.1%, 9.7%, 8%, 7%

New Portfolio Beta
0.73

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Recap

Idea – Use Peter Lynch's Investment philosophy in a Systematic Strategy

Strategy – Management Buys, PEG ratio, ROIC

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EXHIBITS

EXHIBITS

TICKER	PE	Price	Volume	MRKT CAP
CYT	14.78	$ 46.17	599,210.00	$ 3,320,000,000.00
BEAV	12.35	$ 42.37	824,050.00	$ 4,430,000,000.00
ENH	8.79	$ 63.99	231,060.00	$ 4,260,000,000.00
1856613D	23.12	$ 105.21	2,850,000.00	$ 46,130,000,000.00
ESRX	14.39	$ 74.64	4,430,000.00	$ 42,270,000,000.00
VSM	19.82	$ 19.82	602,350.00	$ 4,120,000,000.00
1981718D	16.19	$ 48.96	2,290,000.00	$ 27,470,000,000.00
CDK	14.43	$ 47.88	1,260,000.00	$ 6,170,000,000.00
CXO	25.47	$ 102.79	2,200,000.00	$ 20,580,000,000.00
2336307D	11.17	$ 35.18	1,380,000.00	$ 4,110,000,000.00
HDS	15.73	$ 37.52	2,460,000.00	$ 6,680,000,000.00
VSM	11.87	$ 27.72	975,780.00	$ 3,020,000,000.00
HDS	14.1	$ 40.22	1,190,000.00	$ 6,520,000,000.00
ATVI	19.18	$ 66.53	10,780,000.00	$ 51,820,000,000.00
WMS	14.85	$ 81.97	735,620.00	$ 6,790,000,000.00
BX	20.45	$ 74.19	7,220,000.00	$ 91,030,000,000.00
GNTX	20.32	$ 27.27	926,790.00	$ 6,400,000,000.96
LPLA	26.33	$ 216.17	815,920.00	$ 17,210,000,000.00
PXD	7.83	$ 228.39	2,210,000.00	$ 54,270,000,000.00
UNP	18.53	$ 207.07	2,680,000.00	$ 127,310,000,000.00
UNVR	8.61	$ 31.80	1,700,000.00	$ 5,190,000,000.00
WRB	18.29	$ 72.57	1,190,000.00	$ 19,270,000,000.00
ALB	5.18	$ 144.48	3,380,000.00	$ 16,960,000,000.00
AXP	17.57	$ 187.34	3,400,000.00	$ 136,520,000,000.00
BMY	11.97	$ 51.31	15,830,000.00	$ 104,520,000,000.00
AVGO	33.01	$1,116.25	4,640,000.00	$ 104,400,000,000.00
CINF	20.54	$ 103.46	681,510.00	$ 522,560,000,000.00
CROX	8	$ 93.41	1,290,000.00	$ 16,230,000,000.00
DAL	7.5	$ 40.23	9,150,000.00	$ 5,660,000,000.00
DKS	12.35	$ 146.95	1,290,000.00	$ 25,890,000,000.00
ENPH	33.1	$ 132.14	5,890,000.00	$ 12,010,000,000.00
XOM	9.59	$ 99.98	23,010,000.00	$ 18,040,000,000.00
DINO	4.82	$ 55.57	2,550,000.00	$ 400,530,000.00
HUBB	24.63	$ 328.93	366,140.00	$ 11,110,000,000.00
INGR	11.96	$ 108.53	314,670.00	$ 17,640,000,000.00
LW	20.38	$ 108.09	1,390,000.00	$ 7,080,000,000.00
MTCH	17.63	$ 36.50	6,120,000.00	$ 15,670,000,000.00
PLNT	40.96	$ 73.00	1,080,000.00	$ 9,920,000,000.00
SKX	18.28	$ 62.34	1,600,000.00	$ 9,600,000,000.00

10-BASKTESTING RESULTS	MEAN	MIN	25%	MEDIAN	75%	MAX
MRKT CAP	$ 40,835,398,205.13	$ 400,530,000.00	$ 6,170,000,000.00	$ 15,670,000,000.00	$ 42,270,000,000.00	$ 522,560,000,000.00
PE	16.77	4.82	11.87	15.73	20.38	40.96
Volume	$ 3,372,643.59	$ 231,060.00	$ 926,790.00	$ 1,600,000.00	$ 3,400,000.00	$ 522,560,000,000.00
Price	$ 117.61	$ 19.82	$ 42.37	$ 73.00	$ 108.53	$ 1,116.25