



Recommended Asset Allocation

ghoozie — 11/20/2020

FRONTIER CURVE OPTIMAL PORTFOLIO ANALYSIS

MONTE CARLO SIMULATION OF RETURNS

CORRELATION MATRIX

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1 Statistical Terminology & Asset Class Descriptions

Expected Return - Of an investing strategy is the amount of money you are expected to get back from your investment. For example, if 90 dollars is invested for 1 year with an expected return of 100 dollars, then in the average case the investment will yield back 100 dollars.

Risk - Or standard deviation of an investing strategy is a measure of how much the return of an investment strategy will vary from it's expected return. For example, an investment strategy with an expected return of 20% and a risk of 8% will yield 112% to 128% return with a probability of 68.2% , and 104% to 136% return with a probability of 94.4%

The 18 Asset Classes :

Asset Class	Index	Description
Large Cap Growth	VIGRX	Fastly growing stocks from big companies.
Large Cap Value	JKD	Undervalued stocks from big companies.
Small Cap Growth	^RUT	Fastly growing stocks from small companies.
Small Cap Value	VISVX	Undervalued stocks from small companies.
Mid Cap	MDY	Stocks from mid sized companies.
International	VTIAX	Stocks not traded in U.S.A. exchanges.
Emerging Mkt.	VEMAX	Stocks from emerging Mkt. countries.
Real Estate	IYR	Land and buildings.
Venture Capital	LDVIX	New and innovative companies.
Inter. Govt. Bonds	GVI	Govt. bonds that mature in 5-10 years.
Long Govt. Bonds	ILTB	Govt. bonds mature in more than 10 years.
Corporate Bonds	CBFSX	Bonds issued by a corporation.
High Yield Bond	HYG	Lower credit rating higher return bonds.
Municipal Bond	MUB	Bonds Issued by local government.
Foreign Bonds	BNDX	Bonds issued in other countries.
Emerging Mkt. Debt	JEDAX	Bonds issued by emerging countries.
Commodities	USCI	Basic goods used in commerce.
Cash	BIL	Currencies, Foreign Currencies.

2 Investment Profile — Prescribed Allocation Changes

Investment Profile:

Name : ghoozie

Birthday : 06/22/1993

Time Frame : 7

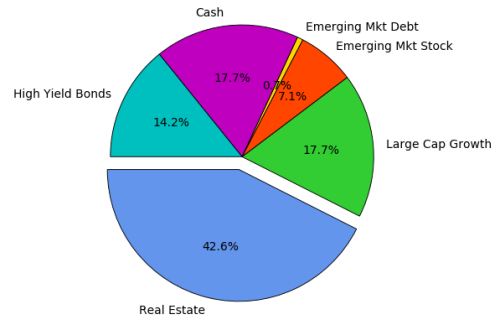
Available Funds : \$1,232,683.45

Preferred Risk : ($\pm 18.82\%$ Yearly)

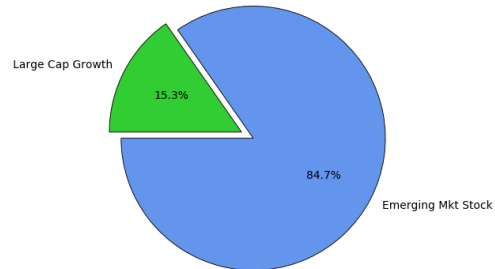
Preferred Asset Classes:

- Emerging Mkt Stock
- Large Cap Growth

(a) Current Portfolio



(b) New Portfolio



Prescribed Allocation Changes

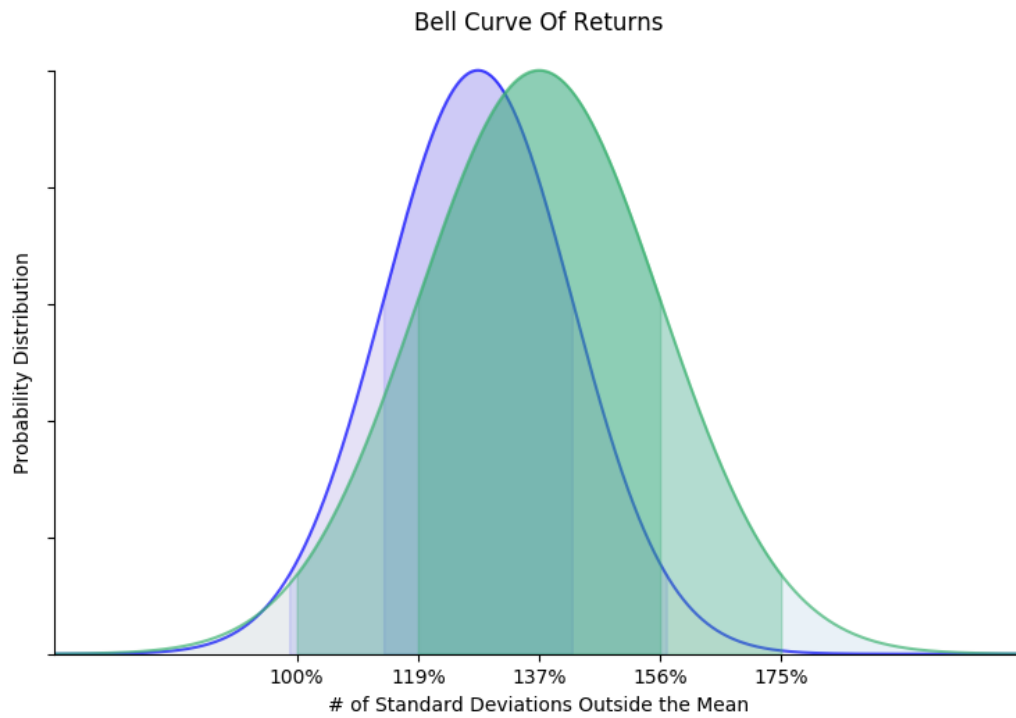
Asset Class	Current	Suggested	Change
Cash	\$500	\$500	\$500
Emerging Mkt Debt	\$20	\$20	\$20
Emerging Mkt Stock	\$200	\$200	\$200
High Yield Bonds	\$400	\$400	\$400
Large Cap Growth	\$500	\$500	\$500
Real Estate	\$1200	\$1200	\$1200

3 Performance Improvements Of Prescribed Portfolio

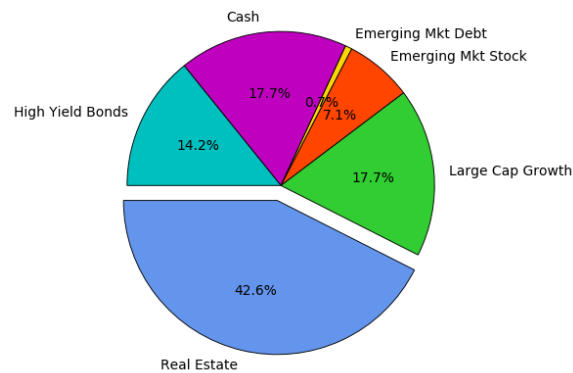
Below are 7 year simulation results of your current investing strategy versus the investment strategy prescribed in this report.

Change In Expected Return : \$124,432.23

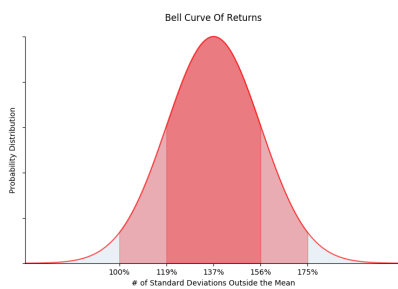
Change in Risk : (-3%)



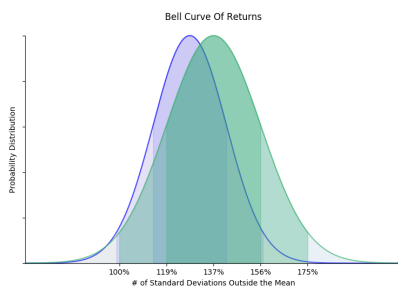
4 Current Portfolio Overview - Statistical Analysis



Portfolio Breakdown



Current Portfolio 1 Year Projections



Current Portfolio 7 Year Projections

1 Year Expected Return (\$) : \$343,203.20 (33.3%)

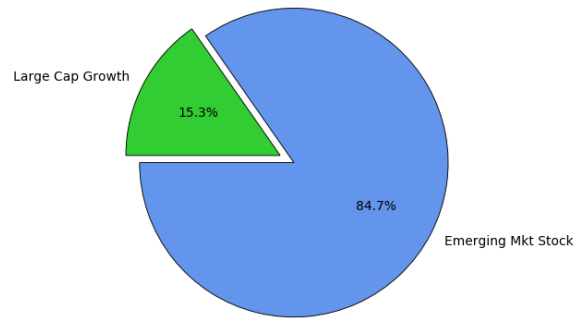
1 Year Risk (Standard Deviation %) : $\pm 3.54\%$

7 Year Expected Return (\$) : \$343,203.20 (33.3%)

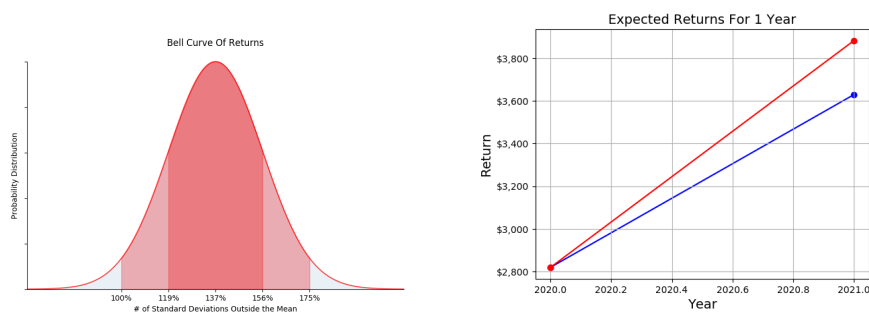
7 Year Risk (Standard Deviation %) : $\pm 3.54\%$

Sharpe Ratio : .37

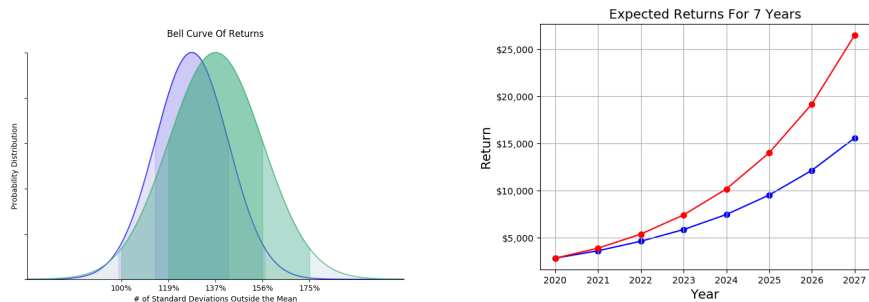
5 Prescribed Portfolio Overview - Statistical Analysis



Portfolio Breakdown



Prescribed Portfolio 1 Year Projections



Prescribed Portfolio 7 Year Projections

1 Year Expected Return (\$) : \$343,203.20 (33.3%)

1 Year Risk (Standard Deviation %) : $\pm 3.54\%$

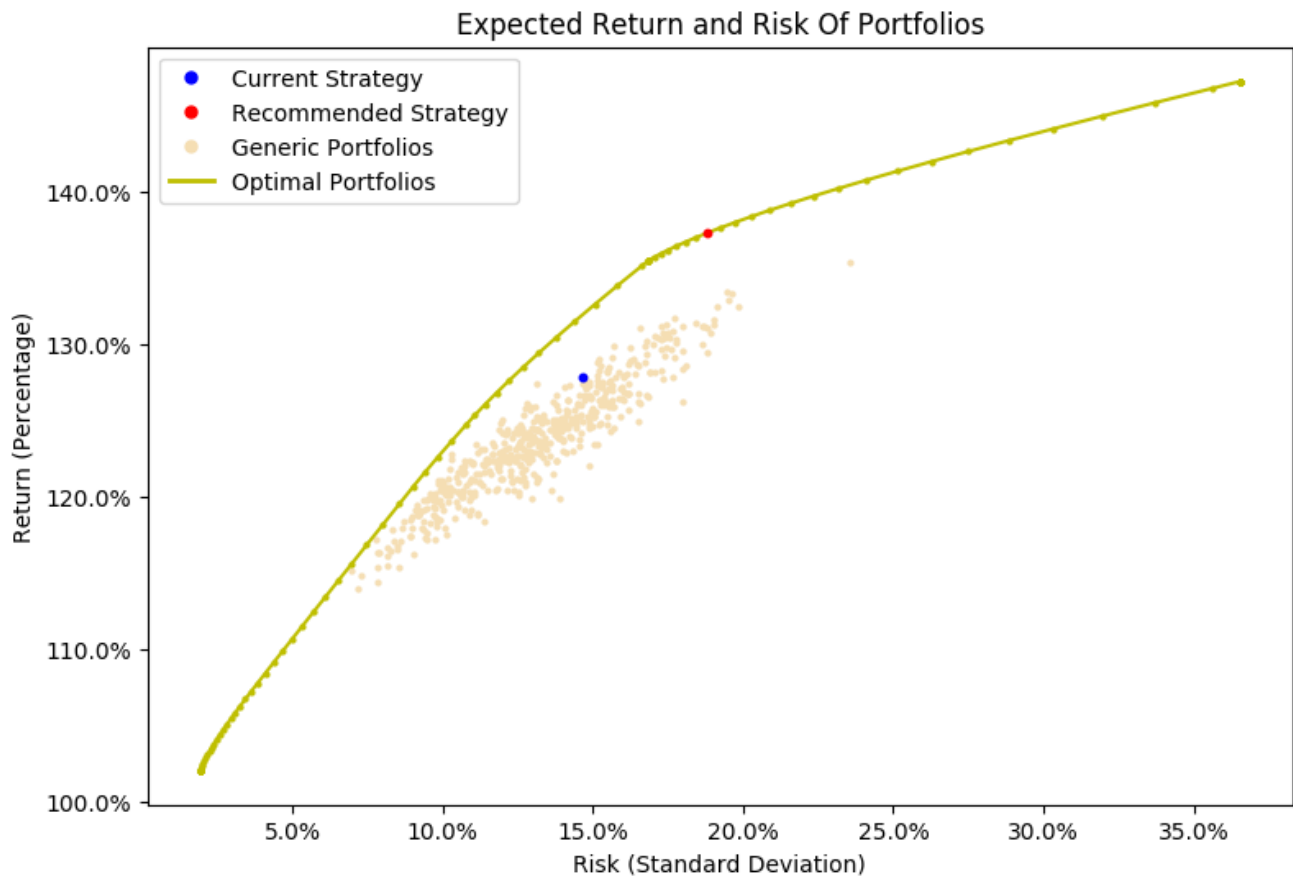
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6 Frontier Curve

In 1990, Harry Markowitz won a nobel prize for his contributions to portfolio balancing theory. Markowitz discovered that given assets to buy from and funds to buy with, all of the optimal portfolios formed on a curved line called the "Frontier Curve."



Risk (Std. Deviation) : $\pm 18.82 \%$

Expected Return (%): $+ 1.4 \%$

Adjustment of Risk (%): $+ 0.04 \%$

Improvement in Return (%): $+ 0.1 \%$

7 Correlation Matrices

```

0 0.000373 1 0.001535 2 0.001939 3 0.000980 4 0.001741 5 0.006367 Name: 0, dtype: float64
0 0.001535 1 0.008991 2 0.010930 3 0.006474 4 0.013432 5 0.031036 Name: 1, dtype: float64
0 0.001939 1 0.010930 2 0.017072 3 0.008476 4 0.014026 5 0.034588 Name: 2, dtype: float64
0 0.000980 1 0.006474 2 0.008476 3 0.005509 4 0.010658 5 0.021335 Name: 3, dtype: float64
0 0.001741 1 0.013432 2 0.014026 3 0.010658 4 0.028445 5 0.045817 Name: 4, dtype: float64
0 0.006367 1 0.031036 2 0.034588 3 0.021335 4 0.045817 5 0.133486 Name: 5, dtype: float64

```

Above is the Semantic Correlation Matrix of the selected Asset Classes. It shows how each asset class is correlated to one another

Return	MSFT	NTFX	HULU	RUS	BP	TR	SOCK
1	16.128	+8.872	16.128	1.402	1.373	-146.6	-137.6
2	3.442	-2.509	3.442	0.299	0.343	133.2	152.4

Above is the ranking of the selected asset classes by risk

Risk	MSFT	NTFX	HULU	RUS	BP	TR	SOCK
1	16.128	+8.872	16.128	1.402	1.373	-146.6	-137.6
2	3.442	-2.509	3.442	0.299	0.343	133.2	152.4

Above is the ranking of the selected asset classes by return