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# Sim Investment Management

Investment Strategy & Policy Portfolio

Investment Strategy
- **Overall Risk Objective**   High
- **Overall Return Objective**   8%
- **Primary Goal**   Growth of Assets
- **Reason**   Retirement Income
- **Constraints (Time Horizon, Taxes, Liquidity, Legal, Unique)**

20 - 30 year time horizon. No need for current liquidity and thus want all funds reinvested. High risk tolerance because of desire for relatively high income during retirement. Secondary goal is to potentially leave some money for charity.

Policy Portfolio Allocation

1%
10%
30%
59%

■ Cash ■ US Equity ■ Intl Equity ■ Bonds ■ Alternatives
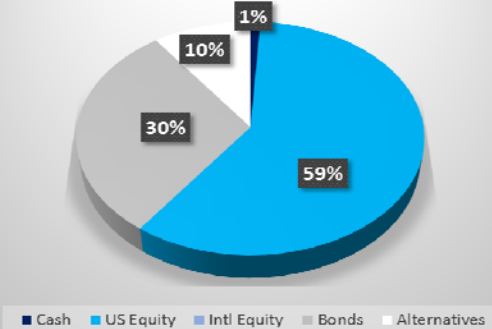
Strategy & Implementation

Due to the long time horizon, no current need for liquidity, and the relatively high 8% target return, a large allocation to US Stocks was planned, with smaller positions to Bonds (for safety) and Real Estate (for higher returns and diversification). However, the historical efficient frontier tangency portfolio had a larger allocation to bonds than expected. So, I increased the Policy Portfolio's allocation to bonds to 30%.

## Tactical Shifts / Macro Environment & Current Portfolio

Tactical Shifts

Sold 10% of Fixed Income (AGG) and bought 10% Eurozone Stocks (EZU). Although I expect a high Eurozone return, the high volatility and recent low returns of Euro stocks caused me to limit my exposure to 10%.

Macro Environment

Expect US growth to pick up due to Trump administration's infrastructure spending and potential tax burden easing. As a result, the Fed will increase rates at least 2 times over 2017, and possibly 3 or more times. This will cause Fixed Income yields to rise, making FI temporarily a less interesting asset class. Also European growth and stocks to recover this year; thus, having a relatively high return.

Current Portfolio Allocation

1%
10% 10%
20%
59%

■ Cash ■ Bonds ■ US Equity ■ Intl Equity ■ Alternatives
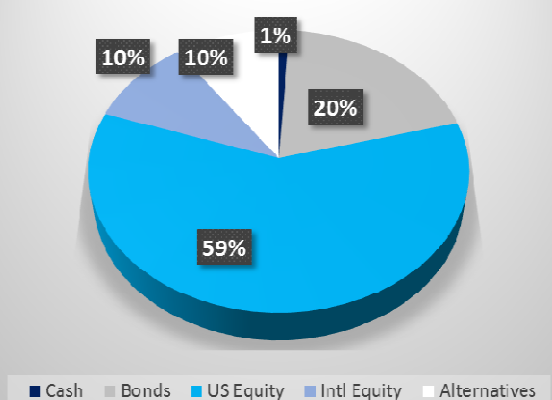
Efficient Frontiers

Historical Efficient Frontier

Efficient Frontier (Jan 1994 - Dec 2016)
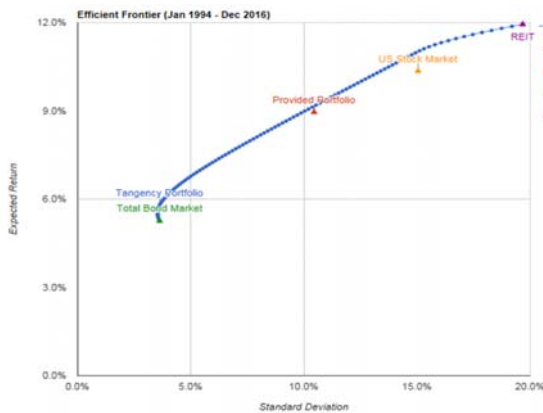
Forecasted Efficient Frontier

Efficient Frontier

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Behavioral Biases
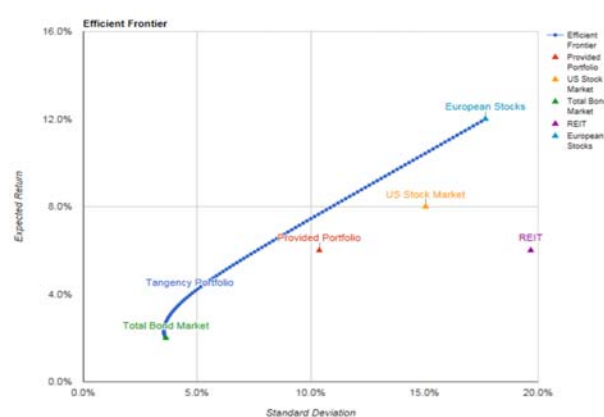
My three main behavioral biases and plans to remedy are as follows:

1) **Loss Aversion** - I am reluctant to sell assets at a loss. Plan is to not take current unrealized gains or losses into account (don't even look at them). Rather analyze the assets looking forward--where I will get the best return from going forward.

2) **Regret Aversion** - Sometimes I don't do anything to avoid making a mistake. Here I will lay out a strategy for when and how much I will invest (for example investing a certain $ amount every month).

3) At times I can be **overconfident** (especially when my strategy is working) and at other times I can be too **conservative**. Similar to #2, my plan is to lay out a plan for when I will invest and how I will go about making decisions. Also, I will not watch the market every day to stay focused on the long-term. But, I will review my returns every quarter, focusing my evaluation on the portfolio as a whole rather than a collection of individual assets. Finally, I will visit with my investment advisor at least once a year.

Performance & Risks

Total Return:	1.2%	**Portfolio Standard Deviation:**	0.4%
Policy Portfolio Return:	1.0%	**Correlation with Benchmark:**	1.00
+ / - Performance:	0.2%	**Beta (Relative to Benchmark):**	0.95

Return vs. Benchmark

Returns of Current Portfolio vs. Policy Portfolio
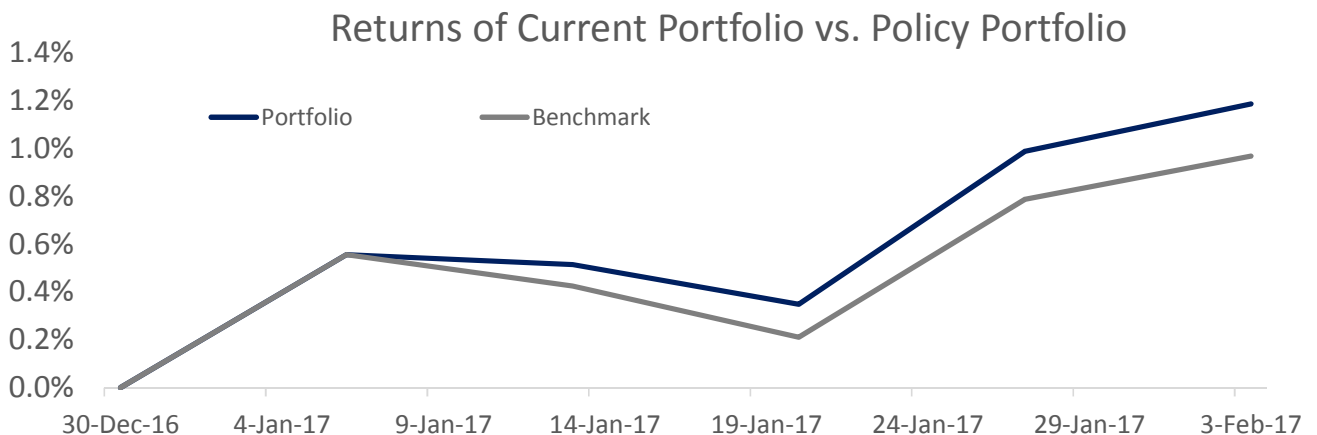
Performance Discussion

Returns

Total Current Portfolio holding period return was 1.2%, which is 13.2% annualized, beating my target return, and the return on the Policy Portfolio by 0.2% in the holding period (or approximately 2% annualized). Both US and Eurozone Stocks were high performers yielding 1.9% (21.8% annualized) and 1.8% (20.4% annualized) respectively. Bonds were essentially unchanged and Real Estate was the lowest performing asset class losing 1.2% (or -11.4% annualized).

Risk

Furthermore, the greater returns in the Current Portfolio had less risk i.e. lower beta (systematic risk) than the Policy Portfolio and a lower standard deviation of .4% (5.2% annualized). Since there is only 10% difference in weighting between the Current Portfolio and the Policy Portfolio, the correlation is high at 1.00. Ironically, moving out of the Total Bond ETF (AGG) and into Eurozone Stocks (EZU) reduced the portfolio's risk. This was an anomaly as EZU had less standard deviation over the time period than AGG.

While only a short period of time has passed, so far the portfolio appears to be in great shape from a risk / return perspective.

Sim Investment Management

		Reference Page Policy Portfolio							
Policy Weight	Ticker	Name	Asset Class	Avg. Weight	Historical Return	Standard Deviation	Expected Return	Actual Return	Annualized Return
1%	Cash	Cash	Cash	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
59%	VTI	Vanguard Total Stock Mrkt	US Equity	59.2%	10.4%	15.1%	8.0%	1.9%	21.8%
30%	AGG	iShares Core U.S. Aggregate	Bonds	23.3%	5.3%	3.6%	2.0%	0.0%	-0.1%
10%	IYR	iShares US Real Estate	Alternatives	9.8%	11.9%	19.7%	7.0%	-1.2%	-11.4%
100%	<-- Policy Portfolio Total Weighting			93.4%	<-- Actual Policy Portfolio Weighting				

		Tactical Positions							
	Ticker	Name	Asset Class	Avg. Weight	Historical Return	Standard Deviation	Expected Return	Actual Return	Annualized Return
	EZU	iShares Eurozone	Intl Equity	6.6%	8.3%	17.7%	12.0%	1.8%	20.4%
				6.6%	<-- Actual Tactical Positions Weighting				

Policy Portfolio

Monday of Portfolio Begin Date:	1/2/2017
- Overall Risk Objective	High
- Overall Return Objective	8%

Please enter the Monday starting Module 1 - Format (MM/DD/YYYY)

Cash is automatically set to 1%, but the cell is changeable.

Inputs

Assets	Asset Class	Category	Weighting	ETF-Used	Name
	Cash	Cash	1%		
Asset 1	US_Equity	US Stock Market	59%	VTI	Vanguard Total Stock Mrkt
Asset 2	Bonds	Total Bond Market	30%	AGG	iShares Core U.S. Aggregate
Asset 3	Alternatives	REIT	10%	IYR	iShares US Real Estate
Asset 4					
Asset 5					
Asset 6					
Asset 7					
Asset 8					
Asset 9					
Total			100%		

Policy Portfolio Allocation

Legend: ■ Cash ■ US Equity ■ Intl Equity ■ Bonds ■ Alternatives
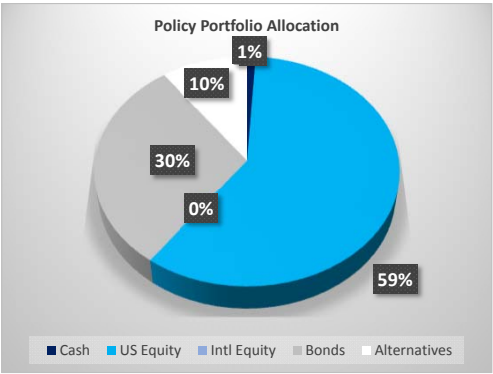
Total Policy Portfolio	
Asset Class	**Weighting**
Cash	1%
US Equity	59%
Intl Equity	0%
Bonds	30%
Alternatives	10%

Risk & Returns

Change the dates to match the Portfolio Visualizer dataset (L8).
Example: 1994-2016

Use PV Data to fill in:
1) Historical Returns (CAGR)
2) Standard Deviation
3) Sharpe Ratio

Using your own forecasts, put the expected return for each asset class in your portfolio.

Paste Policy Portfolio Correlation Matrix Below (Portfolio Visualizer)

Policy Portfolio

#	Asset Class	Category	Fund Type	Ticker	Average Weight	Historical (Provide Dates) Returns	Standard Deviation	Sharpe Ratio	Expected Return	Actual Returns	Annualized Returns
						Overall Portfolio					
1	US Equity	Broad Mrkt	Broad Mrkt	VTI	59.2%	10.4%	15.1%	0.69	8.0%	1.9%	21.8%
2	Bonds	Aggregate Bond	Aggregate Bond	AGG	23.3%	5.3%	3.6%	1.45	2.0%	0.0%	-0.1%
3	Alternatives	REIT	Real Estate	IYR	9.8%	11.9%	19.7%	0.61	7.0%	-1.2%	-11.4%
4											
5											
6											
7											
8											
9											

Correlation Matrix

Asset	US Stock Market	Total Bond Market	REIT
US Stock Market	1	0	0.57
Total Bond Market	0	1	0.18
REIT	0.57	0.18	1
Based on monthly returns from Jan 1994 to Dec 2016			

Change the dates to match the Portfolio Visualizer dataset (L24).
Example: 1994-2016

Expected Returns optional for New Tactical

New Tactical Positions

#	Asset Class	Category	Fund Type	Ticker	Average Weight	Historical (Provide Dates) Returns	Standard Deviation	Sharpe Ratio	Expected Return	Actual Returns	Annualized Returns
						Overall Portfolio					
1	Intl Equity	Developed Mrkts	European Stocks	EZU	6.6%	8.3%	17.7%	0.47	12.0%	1.8%	20.4%
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Trades

Initial Cash Position For Trading	$	990,000
Initial Additional Cash	$	10,000

Policy Portfolio (Initial Trades)

Ticker	Name	Asset Class	Category	Buy/Sell	Transaction Date	# of Shares	Purchase Price	Date	Price	Sell Date	Sell Price	Transaction Value
	Cash	Cash										$ 10,124.44
VTI	Vanguard Total Stock Mrkt	US Equity	Broad Mrkt	Buy		5,077	$ 116.20	12/30/2016				(589,947.40)
AGG	iShares Core U.S. Aggregate	Bonds	Aggregate Bond	Buy		2,773	$ 108.17	12/30/2016				(299,955.41)
IYR	iShares US Real Estate	Alternatives	REIT	Buy		1,275	$ 78.41	12/30/2016				(99,972.75)

Share Calculator

% Desired	Share Price	# of Shares to Buy / Sell
		#DIV/0!

New Tactical Positions

Ticker	Name	Asset Class	Category	Buy/Sell	Transaction Date	# of Shares	Price	Purchase Date	Purchase Price	Sell Date	Sell Price	Transaction Value
	Cash	Cash										$ 10,123.04
EZU	iShares Eurozone	Intl Equity	Developed Mrkts	Buy	1/10/2017	2,825	$ 35.05	1/10/2017 $ 35.05				$ (99,016.25)
AGG	iShares Core U.S. Aggregate	Bonds	Aggregate Bond	Sell	1/10/2017	913	$ 108.45			1/10/2017 $	108.45	$ 99,014.85

Price Inputs

	Policy Portfolio						
		12/30/2016	1/6/2017	1/13/2017	1/20/2017	1/27/2017	2/3/2017
Ticker	Name	Begin	Week 1	Week 2	Week 3	Week 4	Week 5
VTI	Vanguard Total Stock Mrkt	116.20	117.23	117.22	116.91	118.16	118.42
AGG	iShares Core U.S. Aggregate	108.17	108.29	108.42	108.08	108.08	108.01
IYR	iShares US Real Estate	78.41	78.41	77.13	77.43	76.97	77.50

	New Tactical Positions						
		12/30/2016	1/6/2017	1/13/2017	1/20/2017	1/27/2017	2/3/2017
Ticker	Name	Begin	Week 1	Week 2	Week 3	Week 4	Week 5
EZU	iShares Eurozone		35.13	35.36	35.42	35.64	35.68

Current Portfolio Overview

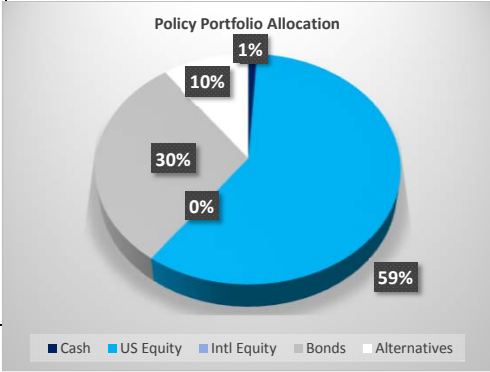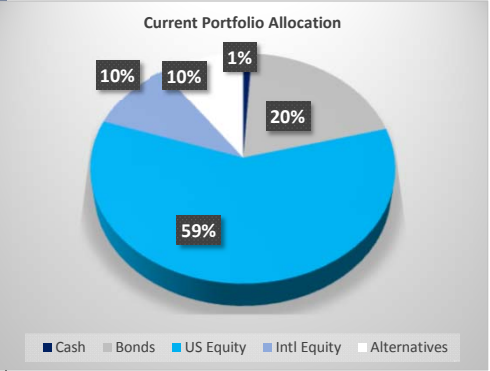|	
Initial Cash Position For Trading	$ 990,000
Additional Cash	$ 10,000
Prices as of:	Week 5

For portfolio pricing to be accurate, the correct week needs to be displayed.

* Current Price is equal to the weekly price from the Price Inputs page or the purchase price if no other price is available.

Make sure you are in the correct week. Otherwise, the portfolio value will be off if securities were bought or sold.

Current Portfolio

Portfolio Total Value		$ 1,011,848					Return	1.2%

Ticker	Name	Policy/ Tactical	Asset Class	Category	# of Shares	* Current Price	Market Value	Percentage of Entire Portfolio
	Cash		Cash				$10,123	1.0%
AGG	iShares Core U.S. Aggregate	Policy	Bonds	Aggregate Bond	1,860	$108.01	$200,899	19.9%
EZU	iShares Eurozone	Tactical	Intl Equity	Developed Mrkts	2,825	$35.68	$100,796	10.0%
IYR	iShares US Real Estate	Policy	Alternatives	REIT	1,275	$77.50	$98,813	9.8%
VTI	Vanguard Total Stock Mrkt	Policy	US Equity	Broad Mrkt	5,077	$118.42	$601,218	59.4%

Current Portfolio Allocation

- 1% Cash
- 20% Bonds
- 59% US Equity
- 10% Intl Equity
- 10% Alternatives

Legend: ■ Cash ■ Bonds ■ US Equity ■ Intl Equity ■ Alternatives

Policy Portfolio Allocation

- 1% Cash
- 59% US Equity
- 0% Intl Equity
- 30% Bonds
- 10% Alternatives

Legend: ■ Cash ■ US Equity ■ Intl Equity ■ Bonds ■ Alternatives

Portfolio Returns

Unrealized Returns

Portfolio Total Value		$ 1,011,848					Return		1.2%

Ticker	Name	Policy/ Tactical	Asset Class	# of Shares	Average Historical Cost	Adjusted Cost Basis *	Current Price **	Market Value	Unrealized (+/-)	% Unrealized Return
	Cash		Cash					$10,123		
AGG	iShares Core U.S. Aggregate	Policy	Bonds	1,860	$108.17	$201,196	$108.01	$200,899	($298)	-0.15%
EZU	iShares Eurozone	Tactical	Intl Equity	2,825	$35.05	$99,016	$35.68	$100,796	$1,780	1.80%
IYR	iShares US Real Estate	Policy	Alternatives	1,275	$78.41	$99,973	$77.50	$98,813	($1,160)	-1.16%
VTI	Vanguard Total Stock Mrkt	Policy	US Equity	5,077	$116.20	$589,947	$118.42	$601,218	$11,271	1.91%

* Adjusted Cost Basis takes a weighted average of share purchases

** Current price is equal to the price on the Price Inputs tab, if no price is availablethe historical cost will be used

Realized Returns For Entire Period

Ticker	Name	Asset Class	# of Shares Sold	Average Historical Cost	Average Sell Price	Realized (+/-)	% Realized Return
AGG	iShares Core U.S. Aggregate	Bonds	913	$108.17	$108.45	$256	0.26%
EZU	iShares Eurozone	Intl Equity					
IYR	iShares US Real Estate	Alternatives					
VTI	Vanguard Total Stock Mrkt	US Equity					