Capstone Sim Portfolio
Objectives, Activities, System, and Grading – Overview & Module 1

Simulation (Sim) Portfolio Overview and Rules
You have just been given a $1 million dollars that must immediately be invested.

There are five available assets classes you may choose from—Cash, US Equity, Intl Equity, Bonds, and Alternatives—and within each of these asset classes, there are a number of ETFs allowing you to invest in different categories. For example, within Alternatives you have choices of REITS (real estate), gold, precious metals, and commodities.

You may choose any of the ETF assets from the list of ETFs provided in the accompanying Excel-based Simulated Investment Management System (SIMS) described further below. However, you **must invest in a minimum of 3 and a maximum of 9 ETFs**. While you may trade as often as you like, at no time can you have less than 3 or more than 9 ETFs.

➢ Please keep in mind that this is an investment portfolio, not a trading portfolio!

Trades should be done at the current price in the marketplace if during US trading hours or at the market closing price if done after US market hours.

Overview of the Sim Portfolio Activities by Module
You will research and set up a Policy Portfolio in Module 1, determining asset allocation and strategy including expected return, level of risk, time horizon, etc. Then, you will develop some short-term forecasts and allowing you to make short-term or tactical changes starting in Module 2. Your portfolio following tactical changes will be referred to as your Current Portfolio (and ETFs added to your Current Portfolio which are not in your Policy Portfolio will be called New Tactical Positions). In Module 3 you will reflect on behavioral issues and start weekly pricing of both your Policy and Current Portfolio assets. In Module 5, you will analyze performance (returns and risk) of your Current Portfolio and Policy Portfolio. In Module 6, the final product of your Sim Portfolio activities will be peer graded.

Even though you will be managing this portfolio for five weeks in the Capstone, your strategy and plans should assume a longer term portfolio—anywhere from 1 year to 50 years or more—depending on the strategy you chose. Again, please keep in mind that this is an investment simulation not a trading simulation.

Simulated Investment Management System (SIMS)
Your portfolio will be managed in the Excel-based **Simulated Investment Management System (SIMS)**, which contains the following worksheets (or tabs).

In every module instruction, the names of the SIMS worksheets are colored to match their worksheet colors in SIMS.

- **ETF List**
  Reference sheet with all ETFs eligible to buy as investments, categorized by type

- **Final Report** (dark blue tab)
  For documentation of final results of all Sim Portfolio analysis, the Final Report will be peer graded in Module 6

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Four sheets with yellow tabs, in which you will input most of your data:
- All cells in which you will input data are yellow
- There are orange instruction / help boxes on all of the yellow tabs

- **Policy Portfolio** (yellow tab)
  Where you will set up your Policy Portfolio in Module 1

- **Risk & Returns** (yellow tab)
  For historical and expected risk and returns data for your Policy Portfolio assets as well as any tactical assets you buy

- **Trades** (yellow tab)
  Where you will input trades in your Policy Portfolio and tactical assets

- **Price Inputs** (yellow tab)
  Where you will input weekly prices for all ETF investments you buy

Two sheets with green tabs provide returns on a week-by-week basis. No calculations will be done on these worksheets:

- **Current Portfolio** (green tab)
  Shows % of assets in the Current Portfolio well as overall portfolio return on a week-by-week basis

- **Port Returns** (green tab)
  Breaks down return by investment into unrealized and realized returns

Each of the SIMS worksheets are protected. But, there is no password if you want to unprotect them.

Help with the Sim Portfolio
For each module with Sim Portfolio activities, you have the following help resources:
- A bullet point list instructions of SIMS
- Detailed written instructions of SIMS
- The grading rubric which will be used in Module 6 peer grading
- Videos demonstrating the usage of SIMS
- An optional forum where you may seek help / advice from your peers
- An ungraded end-of-module self-assessment to help you confirm your understanding of that module's material

Best of luck with the Sim Portfolio! I hope you have a wonderful learning experience.

Module 1 – Developing Asset Allocation Strategies
In this module, you will research—by examining historical risk and return—and establish an asset allocation strategy, which will include selection of asset classes and % weighting. You will also lay out

your overall investment goals including risk and return objectives and a time horizon. This will be called your **Policy Portfolio.**

Note: Names of worksheets or tabs are colored as they appear in SIMS.

SIMS Bullet Point Instructions

- Fill in **Final Report** (page 1)
  - Investment Strategy section (page 1 top)
  - Briefly describe Strategy & Implementation of Policy Portfolio (page 1 middle)
  - Copy & paste (as picture) Policy Portfolio Allocation pie chart (page 1 top)
  - Copy & paste (as picture) Historical Efficient Frontier (page 1 bottom)
- **Policy Portfolio**: Enter Monday of Portfolio Begin date and set up Policy Portfolio asset allocation
- **Trades**: Enter purchase price for each Policy Portfolio asset
- **Risk & Returns**: Input return, standard deviation and Sharpe Ratio for Policy Portfolio assets

Detailed Instructions

Developing an Investment Strategy
Develop an investment strategy for your Policy Portfolio and briefly write about your strategy in the **Final Report** including:

- *Overall Risk Objective* – Select from Very Low, Low, Moderate, High, Very High
- *Overall Return Objective* – Enter as a % (i.e., 8%)
- *Primary Goal* – What is the main goal of making the investments (i.e., steady cash flow, capital appreciation, growth of assets)
- *Reason* – Purpose of the investment portfolio (i.e., finance retirement, raise a down payment for a house, send children to college)
- *Constraints* – Various constraints / considerations of your portfolio including time horizon, taxes, liquidity needed, legal, and any other unique requirements

Also, please briefly describe details about your strategy in the "Strategy & Implementation" section in the **Final Report** including:
1) Risk assessment: your willingness and ability to take risk (i.e., how much volatility as a percentage or in terms of $ amount is acceptable)
2) Return objectives (i.e., the importance of income requirements for spending and growth requirements for the future)

This section could also include any secondary goals, how important the various goals are to you, what will be done if you meet these goals, etc. Additionally, in this section, you will also briefly discuss implementation of the Policy Portfolio as detailed further below.

Determining Policy Portfolio Asset Allocation
You will use a combination of Portfolio Visualizer's Historical Efficient Frontier and Mean Variance Optimization to analyze and help determine a Policy Portfolio asset allocation, which is consistent with your return and risk objectives. This asset allocation will be input into SIMS' **Policy Portfolio** sheet.

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> **Portfolio Visualizer website: https://www.portfoliovisualizer.com/**

In **Policy Portfolio** sheet, first input the Monday in which Module 1 of your Capstone begins (this goes into "Monday of Portfolio Begin Date"). From this date, SIMS will keep track of the weeks of the Sim Portfolio.

Then input your asset allocation into the "Inputs" table:
- *Asset Class* – US Equity, Intl Equity, Bonds, Alternatives (plus Cash**)
  - All of the ETFs in the **ETF List** have been classified into one of these asset classes
  - **Note: Cash defaults to 1% to make sure you have enough liquidity for trades. So, you will have to adjust one of your Policy Portfolio assets down by 1% to make the allocation equal 100%. You may also choose to increase the cash position
- *Category* – Choose the category within the asset class – for example, within US Equity you could choose different capitalization or style assets
- *Weighting* – Be sure your allocation = 100%

Remember: You must have a minimum of 3 ETFs and a maximum of 9 at any point in time (cash does not count toward this 3 – 9 ETF requirement). You may decide to allocate more than 1% to cash in your portfolio especially if you need liquidity, but it will not earn any interest. So, if you don't need the liquidity you should likely leave cash at the 1% default.

The Policy Portfolio and weightings you put in will automatically create a pie chart (which is on the right side of the "Inputs" table) that you will copy and paste into the **Final Report** (pasting as a picture will work the best). Additionally, the Policy Portfolio Assets will populate the first section of **Risk & Returns** and **Trades**.

In **Risk & Returns**, copy and paste (as values) the historical returns, standard deviation, and Sharpe Ratio for your policy portfolio assets, which can come from either Portfolio Visualizer – Mean Variance Optimization or Historical Efficient Frontier. Make sure you include the dates (i.e., 1994-2016) that your historical analysis covers. You may also copy and paste correlations between asset classes in the space to the right of **Risk & Returns**.

Additionally, copy and paste the Historical Efficient Frontier from Portfolio Visualizer into the bottom of page 1 of your **Final Report**.

A few important notes about the Portfolio Visualizer tools:
- Remember the Efficient Frontier is only a tool and is looking at the past over a specific period of time. Therefore, you may need to make some adjustments based on what you think is right.
  - For example: US Fixed Broad Fixed Income (AGG) performed very well in 2008-2016, but perhaps may not do as well if interest rates start to rise quickly.
- In addition to the maximum amount of time, you may want to examine Efficient Frontiers over various periods (1 year, 5 years, 10 years).
- Examine correlations between assets as part of your mean variance analysis.

As you briefly discuss implementation in the **Final Report**, you may want to consider:

What are the highest and lowest return and risk asset classes you analyzed? Are there any assets which have significantly higher or lower return or significantly higher or lower standard deviation than you expected? Are there assets which you decided to not buy as a result?

Implement (Trade) the Policy Portfolio – Trades
The assets in your Policy Portfolio will automatically populate this spreadsheet. Then use the "share calculator" in Trades to determine the number of shares to buy by entering the percentage allocation given to the particular ETF and the current share price. The calculator will provide the number of shares to buy.

Then enter in details of the trade: # of shares, purchase date, and purchase price. Your cash will be adjusted automatically.

Trades should be done at the current price in the marketplace if during US trading hours or at the market closing price if done after market hours. You may use Yahoo Finance, Google Finance, Baidu, Sina, or any other free internet resource to determine share prices.

One thing to note: Until we start the weekly pricing, which will be in Module 3, your portfolio value will be based solely on the prices at which you bought the Policy Portfolio assets.

Finally, use the "Strategy & Implementation" section on the Final Report to briefly note anything worthy of commentary about your trades or implementing your Policy Portfolio.

Module 1 – Grading Rubric
Below is the grading rubric on Module 1 activities that will be used in Module 6 peer grading of your final Sim Portfolio product.

Strategy and Policy Portfolio
Are the Overall Risk Objective and Overall Return Objective filled in and described briefly in "Strategy & Implementation" section of the Final Report (page 1 middle)?
  0 – Not done
  1 – Partially done (some sections are filled out but others are not—or—Overall Risk and Return Objectives are present but are not described in "Strategy & Implementation")
  2 – Completely done

Are all other parts of "Investment Strategy & Policy Portfolio" (Primary Goal, Reason, and Constraints) completed in the Final Report (page 1 top)?
  0 – Not done
  1 – Partially done (some sections are filled out but others are not)
  2 – Completely done

Is the Policy Portfolio pie chart included in the Final Report (page 1 middle)?
  0 – No
  1 – Yes

Does the Policy Portfolio contain between 3 and 9 assets (in addition to cash)?
    0 – No, too many or too few
    1 – Yes

Risk & Returns Analysis

Are Historical Returns, Standard Deviation, and Sharpe Ratio included for all Policy Portfolio Assets in the **Final Report** (page 3 top)?
    0 – Not done
    1 – Partially done (some are completed but less 50% are completed)
    2 – Partially done (not all are completed but more than 50% are completed)
    3 – Completely done

Is the Historical Efficient Frontier copied into the **Final Report** (page 1 bottom)?
    0 – No
    1 – Yes