

Question 1

You want to create a portfolio **equally as risky as the market**, and you have **\$1,000,000** to invest. Given this information, fill in the rest of the following table. (15 pts)

Asset	Investment	Beta
Stock A	\$200,000	0.8
Stock B	\$250,000	1.3
Stock C	(i)	1.5
Risk Free Asset	(ii)	(iii)

Question 1

You have **\$100,000** to invest in a portfolio containing Stock X, Stock Y and a Risk Free Asset. You must invest all of your money. Your goal is to create a portfolio that has an **Expected Return of 13.5%** and that has only **70% of the risk of the overall market**. If X has an Expected Return of **31%** and a Beta of **1.8**, Y has an Expected Return of **20%** and a Beta of **1.3**, and the Risk Free Asset has a Return of **7%**, how much money will you invest in Stock X? (15 pts)

Question 2

Below is a table with the information about the future rates of return of two stocks. Assume **all states are equally likely**.

- a) Calculate the **Expected Return** and **Standard Deviation** of each of the following stocks. (10 pts)
- b) What are the **Covariance** and **Correlation** between the two stocks? (5 pts)

State of Economy	Return Stock A	Return Stock B
Bear	6.3%	-3.7%
Normal	10.5%	6.4%
Bull	15.6%	25.3%

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Question 2

Below is a table with the information about the future rates of return of two stocks

- a) Calculate the **Expected Return** and **Standard Deviation** for each of the following stocks. (10 pts)
- b) What are the **Covariance** and the **Correlation** between the two stocks? (5 pts)

State of the Economy	Probability	Return of Stock J	Return of Stock K
Bear	25%	-2%	5%
Normal	60%	9.2%	6.2%
Bull	15%	15.4%	7.4%

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Question 3

One of the firms you are responsible to analyze is the Argentinean giant River Plate Industries. You just received the word that the longtime president of almost half a century, D. Agustin Pellegrini, aged 81, **unexpectedly announced his retirement**. He is to be replaced by his grandson, José “El Pibe” Anchorena, age 34.

You immediately looked up the price of River Plate Industries and discovered the **price jumped 5% only minutes after the announcement**.

- a) Do you think this price reaction is an indication the Argentinean stock market is not Semi-Strong form efficient? How do you explain this price increase? (5 pts)
- b) Following this increase in the price, would you advise your clients to buy stock of River Plate Industries? (5 pts)

Question 4

Below is a table with return statistics for two stocks, ABC and XYZ

Stock	Expected Return	Standard Deviation
ABC	15%	33%
XYZ	25%	46%

Additionally you know that the **Correlation Coefficient** between the two stocks is **0.5698**.

- a) Compute the **Expected Return** and **Standard Deviation** of a Portfolio composed of **25% ABC** and **75% XYZ**. (10 pts)
- b) What are the different combinations of ABC and XYZ a rational, risk-averse investor would **never** want to hold? (5 pts)
- c) Your client, Mr. Grey, wants to invest in a portfolio composed by these two stocks that would generate an **Expected Return of 19%**. What **combination** of ABC and XYZ would achieve that result? What is the portfolio's **Standard Deviation** of returns? (10 pts)
- d) Would you advise your client against this specific combination of stocks ABC and XYZ? Why? (5 pts)

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Question 5

You are looking at a table that predicts the behavior of two Stocks and of the Market for **two equally likely** future scenarios

Market Return	Aggressive Stock	Defensive Stock
5%	-2%	6%
25%	38%	12%

- a) What are the **Betas** of the two stocks? (6 pts)
- b) What is the **Expected Return** of the two stocks and of the Market? (6 pts)
- c) What is the expression of the **Security Market Line**, assuming the Risk Free Rate is **6%**? (6 pts)

Note: If you were not able to solve part a) assume that the betas for the aggressive and defensive stocks are respectively 1.8 and 0.25 (these are not the correct values)

- d) What advice would you give your clients about investing in these two stocks? (6 pts)
- e) If you had a client that wanted only to invest in one of these stocks and in the Risk Free Asset, which of the two stocks you would tell him to pick? (6 pts)

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