

Question 1 (24 points)

Conduct CAPM and 3-Factor Model regressions regarding the lowest decile of stocks ranked by past performance (Decile 1), the highest decile of stocks ranked by past performance (Decile 10), and the momentum hedge fund strategy that is long Decile 10 and short Decile 1.

Round all answers in this table to the nearest one hundredth (e.g., 5.34 or -0.03).

Specifically, estimate regressions with annual data of the returns in the spreadsheet **Momentum_1927_2014.xlsx** called “m1_RF”, “m10_RF”, and “mom_10_minus_1”, respectively, and fill in the following table:

Q1: Momentum decile spread 1927-2014



	Past Losers Decile 1	Past Winners Decile 10	Long/Short (10-1)
Alpha from CAPM (yearly)			
Beta from CAPM			
R-squared			
Alpha from 3-Factor Model (yearly)			
Beta on Market Factor			
Beta on Size Factor			
Beta on Value Factor			
R-squared			

Data based on Kenneth R. French Data Library

Question 2 (5 points)

Consider three hedge-fund strategies conducted on a monthly basis: the **momentum strategy** (long past winners and short past losers), the **value strategy** (long value stocks and short growth stocks); and the **size strategy** (long small stocks and short large stocks). Of these three strategies, which one of them will likely involve the highest trading costs? Answer “MOMENTUM”, “VALUE, or “SIZE”.

ANSWER:

Question 3 (10 points)

Suppose the momentum strategy (i.e., buy past winners and short past losers) yields impressive returns because it really represents compensation for some type of risk that investors are concerned about. In other words, the positive returns to the momentum strategy reflect that the strategy is “risky”.

Under this scenario, would you expect the momentum strategy to still yield positive returns on average in the future? Answer “YES” or “NO”.

ANSWER:

Question 4 (10 points – 5 for each part)

Do other popular investment strategies, like long the market and short Treasury Bills, long small stocks and short large stocks, and long value stocks and short growth stocks, explain a lot or only a little of the variability in returns of the long-short momentum hedge fund strategy in the far-right column of the Q1 table? Answer “A LOT” or “A LITTLE”. What from the regression output best supports your conclusion?

ANSWER:

Question 5 (10 points)

Stock returns over the past year positively predict stock returns over the next month (i.e., the momentum effect). As the case discusses, this phenomenon could be consistent with both over-reaction and under-reaction. Suppose we further find that following the momentum effect, stock prices begin to reverse. Would this result be more consistent with the over-reaction or under-reaction hypothesis? Answer “OVER-REACTION” or “UNDER-REACTION”.

ANSWER:

Question 6 (8 points – 4 for each part)

Does the momentum mutual fund strategy (displayed in the middle column of the Q1 table) seem to have more of a tilt towards small stocks or more of a tilt towards large stocks? Answer “SMALL STOCKS” or “LARGE STOCKS”. What from the regression output best supports your conclusion?

ANSWER:

Question 7 (15 points)

Based on the coefficients from the CAPM from Question 1 (and applying CAPM intuition), which asset should have a higher required return from investors: the risk-free asset or an asset with the same beta as the long-short momentum hedge fund strategy formed based on the top and bottom deciles of past performance? Answer “RISK-FREE ASSET” or “ASSET WITH SAME BETA AS LONG-SHORT MOMENTUM STRATEGY”.

ANSWER:

Question 8 (18 points)

KEY QUESTION OF CASE. Should AQR launch momentum mutual funds to retail investors? In your answer, clearly discuss at least one pro and one con to AQR offering momentum mutual funds and then discuss what your team would ultimately decide.

ANSWER:

Question 8, continued (18 points)

ANSWER (continued):