Questions from 2019 and 2020 on final exam topics

1. What is an advantage of measuring factor performance with the spread between returns of large portfolios of stocks?

A) It is easy for the average retail investor to implement a strategy that exactly matches this spread.
B) It is easy for the average retail investor to implement a dollar-neutral long-short strategy.
C) The spread between large stock portfolios is unaffected by shocks that affect the entire market.
D) The spread between large stock portfolios offers a completely risk-free return.

2. Which of these would lead to positive market return, and positive SMB return, at the same time?

A) Small-cap stocks *fall*, while large-cap stocks stay flat.
B) Small-cap stocks *fall*, while large-cap stocks *rise*.
C) Small-cap stocks *rise*, while large-cap stocks stay flat.
D) Small-cap stocks and large-cap stocks both rise, by the same amount.

3. Why does the Fama-French procedure imagine that you identify value stocks in June of each year, when most companies calculate the book value of their equity as of December 31?

A) Trading costs are lower in June.
B) The value premium is larger in June.
C) We can't be sure that investors will have access to data on the book value of equity before June.
D) We can't be sure that investors have access to market cap data in June.

4. In constructing the SMB and HML returns, why do Fama and French go to the trouble to "double-sort" stocks at the same time on both the size and value dimension?

A) To ensure that HML is market-neutral.
B) To ensure that SMB is market-neutral.
C) To ensure that SMB and HML are neutral to each other.
D) To ensure that SMB and HML are *not* neutral to each other.

5. Suppose that there are 4000 publicly-traded stocks. Approximately how many will be in the two "medium B/M" portfolios from the Fama-French procedure for constructing SMB and HML?

A) 300
B) 600
C) 1200
D) 1600

6. Here is the formula for HML in any month:

$$r_{HML} = 1/2(r_{S/H} + r_{B/H}) - 1/2(r_{S/L} + r_{B/L})$$

What is the best way to describe the number labeled $r_{S/H}$ in the formula above?

A) The **equal-weighted** return on **large-cap** stocks with **high**-B/M ratios.
B) The **value-weighted** return on **small-cap** stocks with **high**-B/M ratios.
C) The **equal-weighted** return on **small-cap** stocks with **low**-B/M ratios.
D) The **value-weighted** return on **large-cap** stocks with **low**-B/M ratios.

7. Suppose the value-weighted returns during a given month are as follows, for the six portfolios in the Fama-French procedure for constructing SMB and HML:

S/L = 4% S/M = 5% S/H = 6%
B/L = 1% B/M = 2% B/H = 3%

What is the value of the Fama-French SMB factor during this time?

A) 1%
B) 2%
C) 3%
D) 4%

8. Think back to the chart I showed in you class, of how HML has changed over time. What pattern tells us that the returns on value investing have been less attractive over the last 10 years?

A) HML is trending *downward*, and is *less* correlated with the market excess return.
B) HML is trending *downward*, and is *more* correlated with the market excess return.
C) HML is trending *upward*, and is *less* correlated with the market excess return.
D) HML is trending *upward*, and is *more* correlated with the market excess return.

9. Which of the following is **not** a factor in the Fama-French three-factor model?

A) The value-weighted excess return on a stock market index
B) The size premium (captured by SMB)
C) The value premium (captured by HML)
D) The momentum effect (captured by UMD, also called WML).

10. Suppose you evaluate a long-only investment strategy in the stock market using the Fama-French three-factor model. Which of the three risk factors should we typically expect to have the highest factor loading for this kind of strategy?

A) The value-weighted excess return on a stock market index
B) The SMB return (size premium)
C) The HML return (value premium)
D) The UMD or WML return (momentum effect).

11. Based on the Fama-French model, how can we describe the performance of the equal-weighted S&P 500 portfolio (EW) compared to the value-weighted S&P 500 portfolio (VW)?

A) The EW portfolio has historically underperformed the VW portfolio.
B) The EW portfolio has historically delivered about the same performance as the VW portfolio.
C) The EW portfolio has historically beaten the VW portfolio, and we can explain this almost entirely with its CAPM beta.
D) The EW portfolio has historically beaten the VW portfolio, and we can explain this almost completely by how it tilts towards strategies of investing in small-cap and value stocks.

12. Suppose a strategy has the following factor loadings:

$\beta_M = 0.9$, $\beta_{SMB} = 0.75$, $\beta_{HML} = 0.2$.

And suppose you forecast the following returns on the Fama-French factors:

Market excess return: 10%, SMB: 4%, HML: 5%

What is the expected excess return on this strategy according to the Fama-French three-factor model?

A) 11%
B) 12%
C) 13%
D) 14%