Solution

1. The bid-ask spread measures the difference between the bid price and the ask price on an asset or security at a point in time. In which of the following stocks, are you likely to see the highest bid-ask spread, as a percent of the price?
    a. A large market-cap stock, with a high stock price and lots of analysts tracking it.
    b. A small market-cap stock, with a high stock price and lots of analysts tracking it.
    c. A large market-cap stock, with a low stock price and lots of analysts tracking it.
    d. A small market-cap stock, with a low stock price and lots of analysts tracking it.
    e. A large market-cap stock, with a low stock price and few analysts tracking it.
    f. A small market-cap stock, with a low stock price and few analysts tracking it.

    Explanation: The bid-ask spread as a percent of the price will be higher for lower priced stocks and for stocks where the information disparity between informed and uninformed traders is higher. (With fewer analysts, you will have more information disparity between informed and uninformed traders).

2. Assume that you have a two-year time horizon and have an investment strategy heavily focused on investing in illiquid companies, with high bid-ask spreads. If the average bid-ask spread is 4% of the stock price and the annual return that you need to make (given risk in your strategy) is 10%, what annual return would you need to generate on your stock picks over the next 2 years to beat the market?
    a. 10%
    b. 10.4%
    c. 12.0%
    d. 12.22%
    e. 14%

Explanation: Roughly speaking, the answer has to be 12% (with the 10% return, plus the 4% bid ask spread divided by two (holding period) to get an additional 2%). You are ignoring a compounding effect when you do this, though:
Assume that you have $100 to invest and need to make 10% a year (after transactions costs):
After 2 years, you will need to have made $121 to earn this 10%
Split the spread into two halves, assuming that you will pay 2% up front when you invest and 2% at the end when you sell:
Thus, your initial investment of $100 will get you $98 worth of shares
*And to get to your final amount of $121, you will need to sell the shares for $121*1.02 = $123.42*
Pre-transactions cost return = $(123.42/98)^{1/2}-1 = 12.22\%$

3. The price impact measures the effect you have on stock prices when you trade on a stock, pushing the price up as you buy and pushing it down as you sell. For which of the following types of investors is the cost of the price impact going to be greatest?
    a. Small investors investing in large cap stocks
    b. Small investors investing in small cap stocks
    c. Large investors investing in large cap stocks
    d. Large investors investing in small cap stocks

Explanation: The price impact is likely to be largest for those investing large amounts of money in small cap, less liquid companies.

4. You can reduce your trading costs by waiting for the right time to trade or by breaking up your trades into smaller trades but there can be a cost to waiting to trade. For which of the following investment strategies is the cost of waiting likely to be highest?
    a. Momentum trading, based upon new information reaching the market
    b. Contrarian trading, based upon new information reaching the market
    c. Passive growth investing, where you buy stocks based on your assessment of growth value
    d. Passive value investing, where you buy stocks based on your assessment of value of assets in place.

Explanation: You worry about waiting to trade most when you are trading on information (because you are worried that others may find out about it) and when prices are moving in your direction, since the longer you wait the more profits you will lose.

5. As investors, we care about after-tax returns. As you look across investment options, which of the following is likely to minimize the tax bite (reduce the gap between pre-tax and after-tax returns) on your returns?
    a. Invest with a 10-year holding period, in index funds
    b. Invest with a 1-year holding period, in index funds
    c. Invest with a 10-year holding period, in an actively managed fund
    d. Invest with a 1-year holding period, in an actively managed fund

    Explanation: The tax bit is larger for shorter holding periods and in funds where there is more trading. Index funds trade much less than actively managed funds.