

### Solution

1. Transition probabilities measure the likelihood that institutional investors in a given quartile based upon performance in the last period will stay in that quartile in the next period. Assuming that there is no continuity in performance, which of the following probabilities should you see in the table for investors in quartile 1 for the following year?
  - a. Quartile 1: 100%, Quartile 2: 0%, Quartile 3: 0%, Quartile 4: 0%
  - b. Quartile 1: 50%, Quartile 2: 50%, Quartile 3: 0%, Quartile 4: 0%
  - c. Quartile 1: 33.33%, Quartile 2: 33.33%, Quartile 3: 33.33%, Quartile 4: 0%
  - d. Quartile 1: 25%, Quartile 2: 25%, Quartile 3: 25%, Quartile 4: 25%**
  - e. None of the above

*Explanation: If there is randomness in the process, your ranking in the next period should have no relationship with the ranking in this one.*

2. Morningstar ranks mutual funds, based upon past performance and other criteria and assigns a ranking/rating for each fund. Which of the following best summarizes the findings in studies that have looked at the predictive power of Morningstar ratings?
  - a. Morningstar ratings have no predictive power
  - b. Morningstar ratings have always had strong predictive power.
  - c. Morningstar ratings used to have little predictive power before 2002, but a revamp of the system has improved their predictive power.**
  - d. Morningstar ratings used to have strong predictive power before 2002, but a revamp of the system has worsened their predictive power.

*Explanation: Studies of the pre-2002 rankings found that Morningstar ratings did not do a good job of predicting future performance. After Morningstar revamped its ratings process, it seems to have improved in its predictive power.*

3. Studies often claim to find a “hot hands” phenomenon with mutual funds. Which of the following leads this to finding?
  - a. A high percent of mutual fund winners repeat as winners the next year.**
  - b. A high percent of mutual fund losers become winners the next year.
  - c. A high percent of mutual fund winners become losers the next year.
  - d. A high percent of mutual fund losers continue to be losers in the next year.
  - e. Mutual fund winners this year are just as likely to be losers next year as winners.

*Explanation: The hot hands phenomenon refers to the finding that a larger percent of winners repeat as winners the next year than would be expected. It is not a strong a result with losers (continuing to be losers).*

4. Mutual funds vary in terms of time horizon and trading volume. Which of the following best summarizes the evidence on the link between trading and performance?
- Mutual funds that trade more (have higher turnover ratios) have higher total returns but lower risk adjusted returns than the market.
  - Mutual funds that trade more (have higher turnover ratios) have lower total returns but higher risk adjusted returns than the market.
  - Mutual funds that trade more (have higher turnover ratios) have lower total returns and lower risk adjusted returns than the market.**
  - Mutual funds that trade more (have higher turnover ratios) earn about the same returns on a risk-adjusted basis as the market.

*Explanation: On average, the more funds trade, the higher the transactions costs and the lower the returns earned at funds tend to be.*

5. One measure of the payoff to activity is to compare the actual return earned by a mutual fund manager to the returns that he/she would have earned, if he/she left the portfolios at the start of the year untouched. (Return to activity = Actual annual return – Return on frozen year-beginning portfolio). If you try to run an active fund in an efficient market, which of the following should you find?
- The payoff to activity is positive.
  - The payoff to activity is zero.
  - The payoff to activity is negative.**

*Explanation: Though the number of studies is limited, the returns after transactions costs are lower with the active portfolio than with the frozen portfolio.*