Chapter 4: Market efficiency

Self test questions

1. What causes properly anticipated prices to change randomly?

   (a) The random buying and selling of uninformed investors
   (b) The arrival of new information
   (c) Random errors in the models that traders use
   (d) Human fickleness

2. What is an efficient market?

   (a) A market with large numbers of buyers and sellers
   (b) A market with low transaction and information costs
   (c) A market in which prices always fully reflect available information
   (d) A market where payments are always prompt

3. What are excess returns?

   (a) The difference between realized and expected returns
   (b) The returns in excess of what the CAPM predicts
   (c) The returns above the risk free interest rate

4. The fair game model implies that:

   (a) Excess returns have zero expectation ☐ True ☐ False
   (b) Excess returns have constant variance ☐ True ☐ False
   (c) Excess returns are identically and independently distributed (iid) ☐ True ☐ False
   (d) Expected future prices equal current prices ☐ True ☐ False
   (e) Excess returns are not autocorrelated ☐ True ☐ False

5. The martingale model implies that:

   (a) Excess returns have zero expectation ☐ True ☐ False
   (b) Excess returns have constant variance ☐ True ☐ False
   (c) Excess returns are identically and independently distributed (iid) ☐ True ☐ False
   (d) Expected future prices equal current prices ☐ True ☐ False
   (e) Excess returns are not autocorrelated ☐ True ☐ False

6. The random walk model implies that:

(a)	Excess returns have zero expectation	☐ True	☐ False
(b)	Excess returns have constant variance	☐ True	☐ False
(c)	Excess returns are identically and independently distributed (iid)	☐ True	☐ False
(d)	Expected future prices equal current prices	☐ True	☐ False
(e)	Excess returns are not autocorrelated	☐ True	☐ False

7. If markets are efficient then:

(a)	The market is always right	☐ True	☐ False
(b)	There should be no autocorrelation in excess returns	☐ True	☐ False
(c)	People cannot quickly get rich on the stock market	☐ True	☐ False
(d)	Security prices adjust quickly and unbiassedly to new information	☐ True	☐ False

8. If markets are efficient then:

(a)	Investment strategies based on historical information give no positive excess returns	☐ True	☐ False
(b)	There should not be large price fluctuations without apparent reason	☐ True	☐ False
(c)	Differences in excess returns between (groups of) investors are not persistent	☐ True	☐ False
(d)	One stock is as good any other, so selection is useless	☐ True	☐ False
(e)	There should be no autocorrelation in returns	☐ True	☐ False

9. If markets are *weak form* efficient then:

(a)	There should be no autocorrelation in excess returns	☐ True	☐ False
(b)	Security prices adjust quickly and unbiassedly to new public information	☐ True	☐ False
(c)	Investment strategies based on historical price information give no positive excess returns	☐ True	☐ False
(d)	Differences in excess returns between (groups of) investors are not persistent	☐ True	☐ False
(e)	People cannot quickly get rich on the stock market	☐ True	☐ False
(f)	Insider trading gives no positive excess returns	☐ True	☐ False

10. If markets are *semi-strong form* efficient then:

(a)	There should be no autocorrelation in excess returns	☐ True	☐ False
(b)	Security prices adjust quickly and unbiassedly to new public information	☐ True	☐ False
(c)	Investment strategies based on historical price information give no positive excess returns	☐ True	☐ False
(d)	Differences in excess returns between (groups of) investors are not persistent	☐ True	☐ False
(e)	People cannot quickly get rich on the stock market	☐ True	☐ False
(f)	Insider trading gives no positive excess returns	☐ True	☐ False

11. If markets are *strong form* efficient then:

(a)	There should be no autocorrelation in excess returns	☐ True	☐ False
(b)	Security prices adjust quickly and unbiassedly to new public information	☐ True	☐ False
(c)	Investment strategies based on historical price information give no positive excess returns	☐ True	☐ False
(d)	Differences in excess returns between (groups of) investors are not persistent	☐ True	☐ False
(e)	People cannot quickly get rich on the stock market	☐ True	☐ False
(f)	Insider trading gives no positive excess returns	☐ True	☐ False

12. Which of the following contradict *weak form* market efficiency?

(a)	Yearly stock returns over the past 35 years show significant autocorrelation	☐ True	☐ False
(b)	Daily stock returns over the past year show significant autocorrelation	☐ True	☐ False
(c)	Buying stocks after an x% price increase and selling after an x% decrease gives significant excess returns	☐ True	☐ False
(d)	Selling stocks after an x% price increase and buying after an x% decrease gives significant excess returns	☐ True	☐ False

13. Which of the following movements in cumulative abnormal returns contradict *semi-strong form* market efficiency?

(a)	They go significantly up in the days before the announcement of very good quarterly earnings	☐ True	☐ False
(b)	They go significantly up in the days after the announcement of very good quarterly earnings	☐ True	☐ False
(c)	They go significantly down in the days after the announcement of very good quarterly earnings	☐ True	☐ False
(d)	They stay stable in the days after the announcement of very good quarterly earnings	☐ True	☐ False

14. Which of the following contradict strong form market efficiency?

(a)	About 50% of all mutual funds and pension funds outperform their proper benchmark index every year	☐ True	☐ False
(b)	On average, mutual funds and pension funds perform equally well as their proper benchmark index	☐ True	☐ False
(c)	A few mutual funds and pension funds persistently outperform their proper benchmark index	☐ True	☐ False
(d)	Investments by corporate insiders give significantly positive cumulative abnormal returns	☐ True	☐ False
(e)	Hedge fund managers perform so well that they earn billions of dollars in performance fees	☐ True	☐ False

15. If markets are efficient, scatter plots of returns yesterday (x-axis) against returns today (y-axis) show observations that are:

(a) Clustered in the upper right and lower left quadrants

(b) Clustered in the lower right and upper left quadrants

(c) Not clustered but scattered over all quadrants

(d) Not scattered but plot on a straight line

16. If markets are efficient, running a regression of returns today (r_{it}) against returns 1, 2, .. days back ($r_{it-1}, r_{it-2}, ..$) gives:

    (a) Strictly insignificant regression coefficients

    (b) Strictly significantly positive regression coefficients

    (c) Strictly significantly negative regression coefficients

    (d) About equal proportions of significantly positive and significantly negative regression coefficients

17. Which of the following investment strategies give excess returns in efficient markets?

(a)	Selecting stocks that are under-researched	☐ True	☐ False
(b)	Selecting stocks that are unpopular	☐ True	☐ False
(c)	Selecting stocks that are undervalued	☐ True	☐ False
(d)	Selecting stocks that have outperformed the market (past winners)	☐ True	☐ False
(e)	Selecting stocks that have underperformed the market (past losers)	☐ True	☐ False

18. What are the purposes of using the market model in event studies?

(a)	To calculate normal returns	☐ True	☐ False
(b)	To filter out the effects of other news than the event	☐ True	☐ False
(c)	To calculate abnormal returns	☐ True	☐ False

19. Cumulative average abnormal returns (caar) that go significantly up *before* the event can be caused by:

(a)	Sample selection bias	☐ True	☐ False
(b)	Information leaking out before the event	☐ True	☐ False
(c)	Inaccurate measurement of the event date	☐ True	☐ False
(d)	Market inefficiency	☐ True	☐ False

20. For an event study, the following market model is estimated: $\widehat{r}_{it} = 0.005 + 1.25 r_{mt}$. If, on the event date, the return of the market index, r_m, is 0.02 (or 2%) and the return of the stock, r_i, is 0.08, what is the stock's abnormal return on that day?

    (a) 0.045

    (b) 0.05

    (c) 0.055

    (d) 0.06

21. You have excellent data skills. You plan to make a fortune on the stock exchange with your own form of technical analysis that examines marked generated statistics, such as past prices and trading volumes. Your plans are consistent with the conviction that:

    (a) The stock market is at least not weak form efficient

    (b) The stock market is at least not semi-strong form efficient

    (c) The stock market is not strong form efficient

22. You have good combinatorial skills. You plan to make a fortune on the stock exchange with your own form of fundamental analysis that examines companies' yearly and quarterly reports and other public data that can affect companies' values. Your plans are consistent with the conviction that:

    (a) The stock market is at least not weak form efficient

    (b) The stock market is at least not semi-strong form efficient

    (c) The stock market is not strong form efficient

23. After an extensive study of the academic finance literature you become convinced that the stock marked is semi-strong efficient. Which investment strategies are consistent with this conviction?

    (a) Not investing in the stock marked at all, only in risk free bonds ☐ True ☐ False

    (b) Only invest in a few large, low risk and well-known companies (so called 'blue chips') ☐ True ☐ False

    (c) Only invest in index funds that replicate or track a market index ☐ True ☐ False

    (d) Invest in a combination of risk free bonds and index funds ☐ True ☐ False