

Elton, Gruber, Brown, and Goetzmann
Modern Portfolio Theory and Investment Analysis, 7th Edition
Solutions to Text Problems: Chapter 17

Chapter 17: Problem 1

The simplest trading strategy would be to buy a stock at the opening price on the day that the “heard on the street” column indicates analysts have reported positive recommendations and to short sell it if analysts have reported negative recommendations. Since any stock price effect occurs very shortly after the news is released, the stock position could be unwound after five days. Naturally, in examining returns from this strategy, purchases and sales would have to be adjusted for transactions costs. The results of Davies and Canes suggest that round-trip transactions costs must be less than two percent and perhaps less than one percent for this rule to produce excess returns. In testing this strategy, we would have to be sure to adjust the returns for risk. Following this strategy will lead to a changing portfolio of stocks being held over time. Either the beta or standard deviation of this portfolio could be used as a risk measure.

Chapter 17: Problem 2

See the section in the text entitled “Relative Strength” for the answer to this question.

Chapter 17: Problem 3

There are several ways this rule could be tested. One way would be to rank all stocks by their P/E ratios, select the X percent (e.g., 20%) of the stocks with the lowest P/E ratios, then select from that group the Y percent (e.g., 20%) with the largest five-year growth rates. After then making sure that transactions costs are included, risk-adjusted excess returns for the final group could be obtained and examined using one of the methodologies outlined in the text.

Chapter 17: Problem 4

If a market is semi-strong-form efficient, the efficient market hypothesis says that prices should reflect all publicly available information. If you have access to a “good” and significant piece of information that you believe is not yet public information, you could examine the residuals from a model such as the “market model” to see if there were recently positive excess returns, indicating whether or not the market had already incorporated that information.

Chapter 17: Problem 5

If a market is semi-strong-form efficient, the efficient market hypothesis says that prices should reflect all publicly available information. If publicly available information is already fully reflected in market prices, one would strongly suspect the market to be weak-form efficient as well. The only rational explanation for weak-form inefficiency is if information is incorporated into prices slowly over time, thus causing returns to be positively autocorrelated. The only exception to this might be if the market is strong-form inefficient and monopoly access to information disseminates through widening circles of investors over time.

Chapter 17: Problem 6

You could test that by following any of the test methodologies outlined in the text for semi-strong-form efficiency, where day zero (the “event day”) is defined as the day at which the block of stocks becomes available for trading.

Chapter 17: Problem 7

Recall that the zero-beta CAPM leads to lower expected returns for high-beta (above 1) stocks and higher expected returns for low-beta stocks than does the standard CAPM. If we were testing a phenomenon that tended to occur for low-beta stocks and not for high-beta stocks, then the zero-beta CAPM could show inefficiency while the standard CAPM showed efficiency.

Chapter 17: Problem 8

The betting market at roulette is in general an efficient market. Though betting on the roulette wheel has a negative expected return, there is no way that that information can be used to change the expected return. The only exception to this might be if the roulette wheel was not perfectly balanced. Since the house does not change the odds (prices) to reflect an unbalanced roulette wheel, an unbalanced wheel would make the betting market at roulette inefficient.

Chapter 17: Problem 9

As in Problem 6, you could test that by following any of the test methodologies outlined in the text for semi-strong-form efficiency, where day zero (the “event day”) could be defined either as the day of retirement or as the day the retirement is first announced to the public.