Question 41 (24 June 2009, Q1).
Briefly present Gordon's model for the valuation of common stock.

Hence, consider a stock listed on the Milan Bourse. Suppose it recently paid an annual dividend of €0.25 per share. Assume in the future dividends will grow at a constant yearly rate of 20%. Assume the risk-free rate is 5%, while the expected return on the MIB30 is 15% and the stock's beta is 2. What is the equilibrium price for the stock if the CAPM holds?

Question 44 (4 June 2010, Q4).
Consider the following forecasts on STMicroeconomics (STM), an IT firm listed in the Milan Bourse. It is expected that STM will earn €2.00 per share next year (i.e. its *earnings per share* will be €2.00). Today the *book value* of the firm is €10.00 per share. STM is to start (from next year) an investment policy which will increase the *book value* of the firm by 10% per year for the foreseeable future. New investment will be entirely financed via retained earnings. It is expected that earnings will increase proportionally to new investment, while the market capitalization rate for STM its 18%.

1. Define the following concepts and calculate the corresponding values for STM: the *plowback ratio*, the *payout ratio*, the *return on book equity* (ROE).
2. What is the price of STM stock if its management will maintain for ever this new investment policy?
3. What would this price be if the management decided to suspend entirely any expansion program and returned all earnings to shareholders? How can you explain the difference?

Question 45 (13 October 2010, Q2).
Telecom Italia is expected to pay a dividend of €2 next year. In line with widespread opinion among financial analysts, this dividend is expected to grow at an annual rate of 2% in the following years.

The interest rate is 3%. Using data from the past 30 years, you estimated the average yearly return on the MIB30 (to be considered the market portfolio) to be 11% and its standard deviation to be 20%.

If over the same period Telecom Italia presented a covariance with the return on the MIB30 of 2%, what is the equilibrium price for Telecom Italia stock?

Question 47 (15 January 2013, Q4).
Americana Airways stock dividend at the end of the year is expected to be $3 and it is expected to grow at 8% per year for ever. Assume the opportunity cost of capital for Americana Airways stock is 12%

1. What is the economic value for such stock?
2. If the current market price is equal to the economic value, what is next year's expected price?
3. If an investor were to buy Americana Airways stock now and sell it after receiving the $3 dividend a year from now, what is the expected capital gain (i.e. the price appreciation) in percentage terms? What is the dividend yield, and what would be the holding period return?