

SIMON FRASER UNIVERSITY
Department of Economics

Econ 482
Asset Pricing

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MIDTERM EXAM

Answer the following questions True, False, or Uncertain. Briefly explain your answers. No credit without explanation. (5 points each).

1. Stock returns will be predictable if dividends are predictable.
2. It is not possible for an asset with uncertain payoff to have an expected return below the risk-free rate.
3. The consumption-based CAPM is not valid if markets are incomplete.
4. Someone with constant relative risk aversion has increasing absolute risk aversion.
5. Economic theory predicts that if markets are efficient then stock prices should follow random walks.
6. According to the consumption-based CAPM, stocks that are more highly correlated with consumption have higher expected returns.

The following questions are short answer. Clarity will be rewarded.

7. (10 points). The CAPM predicts that *everyone* holds the *same* portfolio of risky assets (ie, the market portfolio). Why is this? Why wouldn't more risk averse individuals hold a greater proportion of safe stocks?
8. (20 points). Consider a world with just two 'states' - Good or Bad. There are two firms in the economy - Firm A and Firm B. The share price of Firm A is \$10 and the share price of Firm B is \$12. Assume their state-contingent profits are as follows:

	Good	Bad
Firm A	2	1
Firm B	3	0

- (a) What are the (implicit) state-contingent claims prices?
- (b) Given your answer to part (a), what must be the price of a risk-free asset?
- (c) Briefly discuss the relationship between state-contingent claims prices and stochastic discount factors.

9. (10 points). Suppose a stock has a β of 0.9, the market return is 8%, and the risk-free rate is 3%. According to the CAPM, what is the expected rate of return on this stock?
10. (10 points). What does the CAPM predict about the relationship between stock prices and the (riskless) interest rate? Assuming expected future stock prices are unaffected by the interest rate change, how are current prices affected? Does it depend on a stock's β ? (Hint: What is the relationship between expected returns and current prices?).
11. (20 points). Assume a representative agent maximizes a logarithmic utility function:

$$E_t \sum_{j=0}^{\infty} \beta^j \ln c_{t+j}$$

Also assume that there is a single asset in the economy that produces an exogenous stream of nonstorable dividends, d_{t+j} . Assume this is the only good in the economy, so that in equilibrium, $c_t = d_t$, for all t .

Show that the equilibrium price/dividend ratio is constant, no matter what the distribution of dividends is. What is the economic explanation for this result?