

SOLUTIONS

A) MULTIPLE CHOICE QUESTIONS (1 point each, no penalties, at least 5 to pass)

- 1 Which of the following is an example of moral hazard?
(b) A borrower spends poorly the loan money received from the lender
- 2 If the yield curve from flat tilts to an upward sloping shape...
(d) none of the above
- 3 Which of the following is evidence against the efficient market hypothesis?
(a) stocks seem to frequently fall in December and rise again in January
- 4 The supprime mortgage crisis caused the interbanking market to...
(a) increasingly favour secured rather than unsecured transactions
- 5 A bond with a variable coupon, other things being equal...
(d) has a lower interest rate risk
- 6 A commercial bank's main source of profitability is represented by
(c) the interest margin
- 7 If you invest in foreign assets and at the maturity date your currency appreciated over foreign ones...
(b) the return in your own currency is reduced
- 8 The leading liability for a central bank is...
(d) reserves from reserve requirements
- 9 Two similar mutual funds show a tracking error that is higher for funds A and lower for fund B. This means that...
(c) more distancing of fund A from its benchmark than fund B
- 10 In a defined benefit pension plan, the parameter that is contractually fixed is...
(b) the target annuity received at retirement

B) OPEN QUESTION (10 points, check your handwriting and don't exceed the space below)

Covenants in bonds / Exclusions and restrictive clauses in insurance contracts

Both align the interests of the two parties, reducing asymmetric information (moral hazard).
In bonds, they represent behaviour that the issuer must hold to avoid penalties, such as to maintain certain KPIs (f.i. leverage ratios, ROI, ...), avoid certain operations (f.i. M&A, issuing new bonds, ...) as long as the bonds are outstanding. Consequences vary: increased coupons, stop to dividends, ... down to default
In insurance, they represent circumstances where the indemnity is reduced or not due, because the event is explicitly excluded despite the coverage purchased (f.i. war in health insurance), or the policyholder did not behave as required (f.i. leaving open flames unattended in fire insurance)

C) EXERCISE (10 points, briefly explain your calculations and don't exceed the space below)

(varying numbers) A mutual fund with N outstanding shares owns: a) Q_A stocks Alfa, price P_A/each; b) Q_B stocks Beta, price P_B/each; c) K in cash. A new client purchases N_new new shares: how much will this cost, considering an entry fee of F%?

1. Determine NAV per share = $(100 \times 100 + 200 \times 70 + 3000) / 1000 = 27$ or $(500 \times 10 + 1000 \times 7 + 1000) / 10000 = 1,3$
2. Determine the purchase net_value = $100 \times 27 = 2700$ or $1,3 \times 500 = 650$
3. Determine the total cost after the fee = $2700 / (1 - 0,05) = 2713,5$ or $650 / (1 - 1\%) = 656,5$