Financial Management
Warsaw School of Economics

Exam, 11 January, 2004

STUDENT'S NAME:

For each of the questions in parts A and B, indicate your answer by circling
the letter which identifies the best choice

Part A: Each of the following questions is worth 1 point.

Problem 1
If a portfolio's two assets both have high ex ante returns, the portfolio's precise expected return will
a. depend on the correlation between the assets
b. depend on the relative weighting of the assets,
c. depend on the variance
d. depend on the riskless rate
e. none of the above

Problem 2
An unlevered beta measures the effect that an increase in the _____ return is expected to have on the _____ of the asset in question.
a. market, variance
b. asset's, covariance
c. market, expected return
d. levered asset's, unlevered return
e. none of the above

Problem 3
Which of the following is not true of the IRR method ?
a. Discounting a project's cash flows at the IRR yields a zero NPV.
b. If IRR=RRR, the firm should be indifferent to the project.
c. Intermediate cash flows are implicitly reinvested at the RRR.
d. The timing of cash flows is taken into account.
e. none of the above

Problem 4
Under capital rationing, _____ is the best method to use to rank divisible projects.
a. PI
b. IRR
c. MIRR
d. NPV
e. none of the above

Problem 5
The value of call option:
a. decreases as the interest rate decreases.
b. increases as the exercise price increases.
c. decreases as the exercise prices decreases.
d. (a) and (b).
e. (a) and (c).

Problem 6
Call provisions give the _____ more flexibility, while restricting the _____ potential earnings from the issue.
a. bondholder, issuer's
b. issuer, stockholder's
c. issuer, bondholder's
d. put provision, stockholder's
e. none of the above

Part B: Each of the following questions is worth two points.

Problem 7
You are assuming a riskless investment 90 which gives a payoff in one year 110. Assuming that the risk-free rate is 10%. What is the NPV of a project ?
a. -10
b. 0
c. 10
d. 9,5
e. none of the above

Problem 8
The On Deck Co. sells its basketball cards in factory-sealed sets for $65 each. The variable cost of producing each set is $23, and fixed costs are $2,000,000 per year. The company sells 1,000,000 sets per year. If On Deck's DCL is 3.15, what is its DFL?
a. 3,00
b. .33
c. 5,15
d. 2,10
e. none of the above

Part C: Each of the following problems is worth five points.

Please be sure to show your calculations

Problem 9

Russel Air Co. has bid on a major contract to build a space ship.
The contract award decision will be announced 12 months from now and
Russel estimates that it has 40% probability of being awarded the contract.
In anticipation of this potential project, Russel must commit to the engine
manufacturer now to purchase the engines next year at a cost of $520,000. If
Russel gets the contract, the project will produce expected cash flows of
$120,000 per year for eight years, with RRR of 5%. The enginenes will not
be needed if Russel does not receive the contract. What is the maximum that
Russel should be willing to pay to the manufacturer today for an option to
purchase the engines only if he gets the contract?

Note:

rate	nper	payment	PV
5%	8	60	388
6%	8	60	373
7%	8	60	358
8%	8	60	345
9%	8	60	332
5%	8	120	776
6%	8	120	745
7%	8	120	717
8%	8	120	690
9%	8	120	664

Problem 10

New Asian Computronics expects to earn $150,000 this year. Earnings will grow
2% if the firm makes no new investments. The company has the opportunity
to add a line of computer accessories to the business. The immediate outlay
for this opportunity is $100,000, and the earnings from the line will begin one
year from now. The computer accessories business will generate $50,000 in
additional earnings. These earnings will also grow at 2%. The firm's discount
rate is 7%, and 10 000 shares are outstanding.
(a) What is the price per share of stock without the new line, assuming that
all of the earnings are paid out as dividends ?
(b) What is the value of the growth opportunities that the new line offers ?
(c) If the computer accessories line is added, what is the value of the firm's
stock ?
(d) With this new line, what is the P-E ratio of the firm ?
(e) Does a high P-E ratio always imply that a firm has a high growth potential ?

Solutions 2004a

1 b
2 c
3 c
4 a
5 a
6 c
7 c
8 a

9

The NPV of the project if the contract is awarded is the difference between the present value
of revenues stream and the outlay for the trucks.

0	1	2	3	4	5	6	7	8
-520,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000

NPV=   255,6 Excel function   =NPV(12%;B23:J23)*(1+12%)

This amount is evaluated one year hence, and will be realized only if the contract is awarded.

The expected return at the end of t=0 is 0.40 * 255,6=   102,2
Today, beginning of t=0,   102,2/(1+5%)=   97,4
He would therefore be willing to pay up to 97,4 to acquire an option on the truck fleet.

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(a)   EPS   15,00
        P = EPS /(r-g)   300,00
(b)   PVGO
        additional earnings per share   5,00
        total cash inflows (to infinity)   100,00 additional earnings per share/(r-g)
        cash outflows per share   -10,00
        PVGO per share   90,00

(c)   P+PVGO=EPS /(r-g) + PVGO   390,00   19,5
(d)   Earnings per share is currently 15,00, so the price earnings ratio is

$$P - E \text{ ratio} = \frac{S_0}{EPS} = \frac{1}{k_s} + \frac{PVGO \text{ per share}}{EPS}$$ P-E =   26,0

(e)   No, accounting policies can affect earnings per share. If a firm chooses an
        accounting method that lowers EPS, the price-earnings will rise.