FIN622 Subjective Current and Past 2009 to 2010 Solved
By Dua Wiki

Q 4 How does the probability analysis evaluate the financial feasibility of a project? Marks. 5

Why capital rationing makes hurdle for business to invest in optimum investment? 5

Q Why weighted average cost of capital of a levered firm is lesser than that of an Un-levered firm? Explain briefly? (3)

Question No: 31 (Marks: 5)
Differentiate between a bond's Coupon rate and its Yield to Maturity?

Yield-to-Maturity, or YTM, is the single discount rate applied to all future interest and principal payments. It will produce a present value equivalent to the price of the security. YTM is the rate of return estimated on a bond if it is held until the maturity date,
The coupon rate, or, more simply stated, coupon of a particular bond, is the amount of interest paid every year. It is expressed as a percentage of the face value. Basically, it is the rate of interest that a bond issuer, or debtor, will pay to the holder of the bond. Thus, the coupon rate determines the income that will be earned from the bond.
1. YTM is the rate of return estimated on a bond if it is held until the maturity date, while the coupon rate is the amount of interest paid per year, and is expressed as a percentage of the face value of the bond.
2. YTM includes the coupon rate in its calculation.

Question No: 29 (Marks: 3)
Why weighted average cost of capital (WACC) should be used as discount rate for Analyzing the financial viability of a project?
The discount rate used to find out the PV of future cash flow is normally the WACC.

Question No: 30   (Marks: 3)
Suppose you have 40% of your portfolio invested in firm A, 30% in firm B, 20% in firm C, and 10% in firm D. You know that the betas for these firms are, respectively, 1.2, 1.4, 0.8, and 1.1. Calculate your portfolio beta.

Portfolio beta = XaBa + XbBb +XcBc + XdBd
Xa = portfolio invested in firm A
Ba = beta for firm A
Portfolio beta = (40% * 1.2) + (30% * 1.4) + (20% * .8) + (10%*1.1)
= .48 + 0.42 + .16 + .11 = **1.17**

Question No: 31   (Marks: 5)
Differentiate between accounting breakeven point and economic break even point.

The difference between the accounting and economic break even is a cost factor known as opportunity cost of capital. In accounting break even we calculate the accounting earnings first and then deduct all the costs from earnings to reach at break even except the opportunity cost of capital that is invested in the project.
Economic break even suggests that when you deduct other cost from accounting earnings you should also deduct the cost of capital employed. A project having a positive EVA adds value to firm and a negative EVA reduces the firm's value.

Question No: 32   (Marks: 5)
Why capital asset pricing model (CAPM) is more suitable to calculate the cost of equity as compared to dividend growth model? Discuss.

Using dividend growth model does not mean capital gains; investors can have their income return slowly and at low risk. Many companies have been using this method. If we summarize, its major points were;
• To invest a solid share
• To increase dividends annually
• To avoid inflation and
• Additional income each year
The CAPM on the other hand, tells us that investors demand a higher rate of return for riskier shares. CAPM proposed a higher rate of risks than dividend growth model. CAPM is a model for pricing an individual's security or a portfolio. The investor has a higher rate of risk since he invests in the form of assets. It is generally seen as a much better method of calculating the cost of equity than the dividend growth model (DGM) in that it explicitly takes into account a company's level of systematic risk relative to the stock market as a whole.

Question No: 29   (Marks: 3)
How stable dividend policy could increase the marketability of a firm's shares?
Stable dividend per share: look favorably by investors and implies low risk firm. it increases the marketability of firm's share. Cash flow can be planned as dividend amount can be ascertained with accuracy (aid in financial planning)

Question No: 30   (Marks: 3)
Differentiate between the single period capital rationing and multi-period capital rationing.
Single period capital rationing:
It is a situation where the company has limited amounts of funds in one investment period only. After that period, the company can access funds from various sources, e.g. issuing shares, borrowing from banks or issuing bonds.

Multi-period capital rationing:

When capital is in limited availability in more than one period and selection of projects cannot be made by ranking projects according to PI, this situation is known as multi-period capital rationing.

Question No: 31   (Marks: 5)

In the year ending January 2008, Wal-Mart paid out Rs.1,326 million as debt interest. How much more tax would Wal-Mart have paid if the firm had been entirely financed by equity? What would be the present value of Wal-Mart's interest tax shield if the company planned to keep its borrowing permanently at the 2008 level? Assume an interest rate of 8% and a corporate tax rate of 35%.

More tax in case of entirely finance by equity:
1326 million *35/100 =464 million
Present value of interest   = 1326 million /1 .08
                                     =1218.75 million

Question No: 32   (Marks: 5)

Suppose you are a capital budgeting manager of a company. For current year you have a total capital budget of Rs.6, 000,000. Following are given the projects available for investment:

Projects	Initial Investment (millions)	Annual Cash flows (millions)	Project Life (years)	Discount Rates
A	3	1	5	10%
B	3	1.5	3	8%
C	3	1	6	12%

Requirement:-
Which project(s) should be selected for investment with in the given budget?

SOLUTION:-

PROJECT	Present value of cash inflow	NPV= PV OF INLOW – PV OF OUTFLOW	PROFITABILITY INDEX= NPV/ INITIAL INVESTMENT	RANKING ON THE BASE OF PI
A	1million [{ $(1+0.1)^{-5}$} – 1] / 0.1 = 3.79 million	3.79 – 3 =0.79 million	0.79 /3 = 0.263	3RD
B	1.5m [{ $(1+0.08)^{-3}$} – 1] / 0.08 = 3.86 million	3.86 – 3 = 0.86 million	0.86 / 3 = 0.287	2ND
C	1m [{ $(1+0.12)^{-6}$	4.11 – 3 = 1.11	1.11 / 3 =0.37	1ST

} – 1] / 0.12 = 4.11 million	million		

ASSUME PROJECTS ARE DIVISIBLE &NOT MUTUALLY EXCLUSIVE.
AMOUNT AVAILABLE =   6,000,000
INVEST IN PROJECT C =   (3,000,000)
INVEST IN PROJECT B =   (3,000,000)
REMAINING FUNDS =   NILL

Question No: 31   (Marks: 5)
A Company had the following data, extracted from its financial statements for the year ending June 30, 2008:

a)   Current Ratio = 2
b)   Acid Ratio = 1.5
c)   Current Liabilities = $500,000
d)   Inventory Turnover = 5
e)   Gross Profit Margin = 20 percent

   What were its sales for the year?
ANSWER
Current ratio = current assets / current liabilities
= current assets / 500,000
Current assets = 500,000 * 2
            = 1,000,000

Acid ratio = current assets / current liabilities
  1.5   =   current assets / 500,000
Current assets = 500,000*1.5
            = 750,000
Inventory = 1,000,000 – 750,000
           = 250,000

Inventory turnover = CGS / average inventory
= CGS / 250,000
CGS = 250,000 * 5
     = 1,250,000
Sales = 1,250,000/.8
     = 1,562,500

Question No: 32   (Marks: 10)

Bank A pays 6.2% interest compounded semiannually and Bank B pays 6% interest, compounded monthly. Which bank offers the higher effective annual rate?

Bank A

$$EAR = [1 + i/n)^n - 1$$
$$= (1+6.2\%/2)^2-1$$
$$= (1+3.1\%)^2-1$$
$$= (1+0.031)^2-1$$
$$= (1.031)^2-1$$
$$= 1.06296-1$$
$$= 6.2961$$

Bank B

$$EAR = [1 + i/n)^n - 1$$
$$= (1+6\%/12)^{12}-1$$
$$= (1+.5\%)^{12}-1$$
$$= (1+0.005)^{12}-1$$
$$= (1.005)^{12}-1$$
$$= 1.06167-1$$
$$= 6.1677$$

Bank A offer higher effective annual rat

Question No: 16   (Marks: 5)

Calculate and compare the effective annual interest rates for Bank A and B, if
Bank A is offering interest rate of 10% per year, compounded monthly.
Bank B is offering interest rate of 8% per year, compounded quarterly.
ANSWER

BANK A (compounded monthly)
$$EAR = (1+i/n)^n-1$$
$$= (1+.1/12)^{12}-1$$
$$= (1.0083)^{12} - 1$$
$$= 1.1043 - 1$$
$$= 10.4275$$

BANK B (compounded quarterly)
$$EAR = (1+i/n)^n-1$$
$$= (1+.02)^4-1$$
$$= (1.02)^4 - 1$$
$$= (1.08243 -1$$
$$= 8.2432$$

Question No: 17   (Marks: 5)
Following are given the forecasted cash flows (in millions) of two projects:

Year	Project A	Project B
0	- 36	-50
1	20	25
2	20	25
3	20	25

If both projects are mutually exclusive, which project should be chosen on the basis of Profitability Index criteria? Assume a discount rate of 10%.

Solution
Project A
NPV = -Io + CF1/(1+r)t + CF2/(1+r)t + CF3/(1+r)t
NPV = -36+ 20/(1+.1)1 + 20/(1+.1)2 + 20/(1+.1)3
NPV = -36+ 20/1.1 + 20/1.21 + 20/1.331
NPV = -36+ 18.18 + 16.53 + 15.03
NPV = 13.74
PI = (NPV + Io)/Io = (13.74+36)/36 = **1.381**
Project B
NPV = -Io + CF1/(1+r)t + CF2/(1+r)t + CF3/(1+r)t
NPV = -50+ 25/(1+.1)1 + 25/(1+.1)2 + 25/(1+.1)3
NPV = -50+ 25/1.1 + 25/1.21 + 25/1.331
NPV = -50+ 22.7 + 20.66 + 18.78
NPV = 12.14
PI = (NPV + Io)/Io = (12.14+50)/50 = **1.243**
Project A selected because it has positive NPV and also have greater amount of NPV and PI

Question No: 18   (Marks: 5)
What is the relationship between market risk of a security and rate of return that investors demand of that security?
The extra return that investors require for taking risk is known as the risk premium. The capital asset pricing model states that the expected risk premium of an investment should be proportional to both its beta and the market risk premium. The expected rate of return from any investment is equal to the risk-free interest rate plus the risk premium, so the CAPM boils down to
$r = r_f + b(r_m - r_f)$
The security market line is the graphical representation of the CAPM equation. The security market line relates the expected return investor's demand of a security to the beta.

Question No: 19   (Marks: 5)
A public limited Company is expected to pay Rs.0.50 per share dividend at the end of the year. The dividend is expected to grow at a constant rate of 7% per year. The required

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rate of return on the stock is 15%. What value per share of the Company's stock is expected one year from now?

D2 = D1(1+g)
    = .5(1.07)
    = .535
P1 = D2 / r – g
    =.535/.15-.07
    = . 535/.08
    =   6.69

Question No: 31   (Marks: 5)
How much should you pay for a bond with \$1,000 face value, a 14 percent coupon rate, and five years to maturity if your appropriate discount rate is 10 percent and interest is paid annually?
SOLUTION

$$P_0 = \sum_{t=1}^{T} \frac{C}{(1+r)^t} + \frac{F}{(1+r)^T}.$$

$140/(1.10)+140/(1.10)^2+140/(1.10)^3+140/(1.10)^4+140/(1.10)^5 +1000/(1.10)^5$

127 + 115 + 105 + 95 + 86 + 620.92
1148

Question No: 32   (Marks: 10)
'Person A' has decided to invest Rs.1,000 at the end of each year for the next 10 years. After 10 years the person will deposit nothing and will let the accumulate amount (in the previous 10 years) to compound for 40 additional years.
On the other hand 'Person B' has a different investment program: He will invest nothing for the next 10 years, but will invest Rs.1,000 per year (at the end of each year) for the following 40 years. If we assume an 8 percent rate of return, compounded annually, which investment program will be worth more 50 years from now?

Question No: 31   (Marks: 5)
What (high or low) level of Debt Financing would you suggest for the following firms?
    A) Firm paying high tax
    In this case i suggest that firm should do high debt financing so firm can reduce its tax.

    B) Firm paying no tax
    In this case i suggest that firm should do low debt financing because firm is

already not paying any tax so no need for high debt financing in this situation for the purpose of tax payment.

Question No: 32   (Marks: 10)

A public limited company deals in Foods and Beverages is financed 80% by common stocks and 20% by bonds. The expected return on the common stock is 12% and the rate of interest on bonds is 6%. Assume that the bonds are default free and that there are no taxes. Now assume that the company issues more debt and uses the proceeds to retire equity. The new financing mix is 60% equity and 40% debt. If the debt is still default free, what happens to the expected rate of return on equity? What happens to the expected return on the overall mix of debt and equity?

Type of financing	weights	returns	WACC	Total
Equity	80%	.12	9.6	10.8
Bonds	20%	.06	1.2	

After retiring equity

Type of financing	weights	returns	WACC	Total
Equity	60%	.12	7.2	9.6
Bonds	40%	.06	2.4	

Return of equity decreases from 9.6% to 7.2%
Over all cost of capital decreases from 10.8% to 9.6%

1. Systemic and unsystematic risk (3 Marks)

Systematic Risk:
Systematic risks are unanticipated that effects all the assets to some degree. It is non-diversifiable. Systematic risk influences large number of assets and is also known as market risk. Systematic Risk is measured by Beta Coefficient or Beta. Beta measure the systematic risk inherent in an asset relative to the market as whole.
Unsystematic Risk or Unique Risk:
It affects only specific assets or a firm. it is also known as Diversifiable or Unique or Asset- specific Risk. It can be eliminated by Diversification therefore; a Portfolio with many assets has almost zero Unsystematic Risk.

2. Capital ratio for investment (5 Marks)

Capital Rationing occurs when a company has more amounts of capital budgeting projects with positive net present values than it has money to invest in them. Therefore,

some projects that should be accepted are excluded because financial capital is limited. This is known as artificial constraint because the management may dictate the amount to be invested for project purposes.

It is also the artificial constraints because the amount is not based on the product marginal analysis in which the return for each proposal is related to the cost of capital and projects with net present values are accepted. A company may adopt a posture of capital rationing because it is fearful of too much growth or hesitant to use external sources of financing.

3. Levered and un levered for firm (3 Marks)

The amount of debt used to finance a firm's assets. A firm with significantly more debt than equity is considered to be highly leveraged.

Leverage is most commonly used in real estate transactions through the use of mortgages to purchase a home.

A firm with no debt in its capital structure known as un levered firm

4. Dividend policy and types. (5 Marks)

The policy a company uses to decide how much it will pay out to shareholders in dividends.

TYPES OF DIVIDEND

1. Cash (most common) are those paid out in form of "real cash". It is a form of investment interest/income and is taxable to the recipient in the year they are paid. It is the most common method of sharing corporate profits.

2. Stock or Scrip dividends (common) are those paid out in form of additional stock shares of the issuing corporation, or other corporation (e.g., its subsidiary corporation). They are usually issued in proportion to shares owned (e.g., for every 100 shares of stock owned, 5% stock dividend will yield 5 extra shares). This is very similar to a stock split in that it increases the total number of shares while lowering the price of each share and does not change the market capitalization

3. Property or dividends in specie are those paid out in form of assets from the issuing corporation, or other corporation (e.g., its subsidiary corporation). Property dividends are usually paid in the form of products or services provided by the corporation. When paying property dividends, the corporation will often use securities of other companies owned by the issuer.

1. Difference b/w simple payback period and discount period? 3 marks

The only difference between simple and discounted Pay Back is discounting.
Simple payback method does not care about the time-value of money principle while discounted payback period do take care of this principle in calculation.

2. Difference b/w economic breakeven point and accounting breakeven point? 5 marks

Accounting Break Even does not recover cost of capital.
Economic Break even recovers cost of capital
The difference between the accounting and economic break even is a cost factor known as opportunity cost of capital. In accounting break even we calculate the accounting earnings first and then deduct all the costs from earnings to reach at break even except the opportunity cost of capital that is invested in the project.
Economic break even suggests that when you deduct other cost from accounting earnings you should also deduct the cost of capital employed. A project having a positive EVA adds value to firm and a negative EVA reduces the firm's value.

3. Compare and contrast the Stable Dividend per share policy and Constant dividend payout policy. Marks 5
CONSTANT DIVIDEND PAYOUT
A fixed %age is paid out as dividend. Under this policy the dividend amount will vary because the net income is not constant.

STABLE DIVIDEND PER SHARE:
Per share fixed amount of dividend paid every year. Look favorably by investors and implies low risk firm. Investors can easily forecast and predict their earnings. Aid in financial planning

4. AGGRESSIVE AND DEFENSIVE STOCKS: 3 marks
Aggressive Stocks have high betas, greater than 1, meaning that their return is more than one-to-one to changes in return of overall market.
Defensive stocks are less volatile to change in market return and have beta of less than one

Question No: 29   (Marks: 3)
Difference between accounting and economic breakeven

The difference between the accounting and economic break even is a cost factor known as opportunity cost of capital. In accounting break even we calculate the accounting earnings first and then deduct all the costs from earnings to reach at break even except the opportunity cost of capital that is invested in the project.
Economic break even suggests that when you deduct other cost from accounting earnings you should also deduct the cost of capital employed. A project having a positive EVA adds value to firm and a negative EVA reduces the firm's value.

Question No: 30   (Marks: 3)
Difference between Soft and hard capital rationing

Capital rationing can be classified into hard and soft, based on whether the factors are

external or internal. Hard capital rationing is when constraints that may affect business decisions are externally determined; hard capital rationing does not occur under perfect market conditions. Soft capital rationing occurs when investment expenditure is controlled and limited internally, by restrictions imposed by management.

Question No: 31   (Marks: 5)
Difference between IPO and private placement securities

Initial public offerings and private placements are types of offerings of securities for sale to investors. The key differences between the two involve government registration requirements and the potential rates of investment return.

Initial Public Offering
An initial public offering, or IPO, is a private company's first sale of stock to the public. Often, IPO's are offered by smaller and younger companies that are looking to grow rapidly. That means IPO's are a risky investment, because the company has a limited history and the stock's future value is uncertain.

Private Placement
A private placement is a non-public offering that is typically exempt from the usual requirements of registration with the U.S. Securities and Exchange Commission. Private placements usually involve sales of securities to small groups of institutional and accredited investors. Banks, mutual funds, insurance companies and pension funds are most likely to offer private placements.

Differences
A company issuing a private placement has the advantage of not having to pay expensive underwriting fees that are common with IPO's. Also, private placements are not traded on public exchanges, but in general their rates of return are potentially higher than those of IPO's.

Question No: 32   (Marks: 5)
How u suggest high or low debt financing for:
A) Firm paying high tax
In this case i suggest that firm should do high debt financing so firm can reduce its tax.

B) Firm paying no tax
In this case i suggest that firm should do low debt financing because firm is already not paying any tax so no need for high debt financing in this situation for the purpose of tax payment

Q 2.What is the difference between systematic and unsystematic risk? Marks 3
Systematic Risk:
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market risk. Systematic Risk is measured by Beta Coefficient or Beta. Beta measure the systematic risk inherent in an asset relative to the market as whole.

Unsystematic Risk or Unique Risk:

It affects only specific assets or a firm. it is also known as Diversifiable or Unique or Asset- specific Risk. It can be eliminated by Diversification therefore; a Portfolio with many assets has almost zero Unsystematic Risk.

Q 3.Compare and contrast the Stable Dividend per share policy and Constant dividend payout policy. Marks 5

CONSTANT DIVIDEND PAYOUT

A fixed %age is paid out as dividend. Under this policy the dividend amount will vary because the net income is not constant.

STABLE DIVIDEND PER SHARE:

Per share fixed amount of dividend paid every year. Look favorably by investors and implies low risk firm. Investors can easily forecast and predict their earnings. Aid in financial planning

Q4. Stock A & B have beta of 1.5 & 0.75 respectively. Risk free rate is 7% & average return rate is 13%.By how much required risk of higher risky stock is greater than of lower risky stock? 5marks

Solution:-

Stock A

Ere = Rf + Be x (Erm – Rf)

Ere = 0.07+ 1.5 x (0.13 – 0.07)

Ere = 0.07+ 1.5 x (0.06)

Ere = 0.07+ 0.09

Ere = 0.16*100

Ere = 16%

Stock B

Ere = Rf + Be x (Erm – Rf)

Ere = 0.07+ 0.75 x (0.13 – 0.07)

Ere = 0.07+ 0.75 x (0.06)

Ere = 0.07+ 0.045

Ere = 0.115

Ere = 11.5%

The required risk of higher risky stock is 4.5% greater than lower risky stock.
Stock A is highly risky.

Q1. How PI is used in capital budgeting decisions. 3marks

The profitability index, or PI, method compares the present value of future cash inflows with the initial investment on a relative basis. Therefore, the PI is the ratio of the present value of cash flows (PVCF) to the initial investment of the project.

$$PI = \frac{PVCF}{\text{Initial investment}}$$

In this method, a project with a PI greater than 1 is accepted, but a project is rejected when its PI is less than 1.if the present value of cash flows exceeds the initial investment, there is a positive net present value and a PI greater than 1, indicating that the project is acceptable.

Q2. A company has 800,000 12% debt financing. Calculate PV of tax benefit if tax rate is 40%. By how much tax benefit would change if tax rate decreases to 30%. 3marks

PV of tax benefit = 800000*12% *40%
= 800000*.12 * .4 = 38400
If tax decrease:
PV of tax benefit = 800000*12% *30%
== 800000*.12 * .3 = 28800
Change = 38400-28800 = 9600

What are gear and UN gear beta describe the difference? 3
Beta Geared
The Beta attaching to the ordinary shares of a geared firm. These bear a risk higher than the firms basic activity.
Beta Ungeared
The geared Beta stripped of the effect of gearing. Corresponds to the activity Beta in an equivalent ungeared firm. The inherent systematic riskiness of a firms operations, before allowing for gearing.

Face Value = 1020, time period = 15 years, after 1 year bond value increases to 1050.
Coupon payment = Rs.80
Calculate rate of return of bond?
Solution:-

$$YTM = \frac{C + (V - P)/T}{(V + P)/2}$$

$$YTM = \frac{80 + (1020 - 1050)/15}{(1020 + 1050)/2}$$

$$YTM = \frac{80 + (-30)/15}{(2070)/2}$$

$$YTM = 0.07536$$

$$Bond\ value = \left[C \times \frac{1 - \frac{1}{(1+r)^n}}{r} \right] + \left[\frac{Par}{(1+r)^n} \right]$$

$$1050 = \left[80 \times \frac{1 - \frac{1}{(1+0.07536)^{15}}}{0.07536} \right] + \left[\frac{1020}{(1+0.07536)^{15}} \right]$$

$$1050 = 1048$$

Break-even analysis and sensitivity analysis explain it.marks 3

A **breakeven analysis** is used to determine how much sales volume your business needs to start making a profit. The breakeven analysis is especially useful when you're developing a pricing strategy, either as part of a marketing plan or a business plan. To conduct a breakeven analysis, use this formula:

Fixed Costs divided by (Revenue per unit - Variable costs per unit)

Sensitivity analysis is used to determine how "sensitive" a model is to changes in the value of the parameters of the model and to changes in the structure of the model. Parameter sensitivity is usually performed as a series of tests in which the modeler sets different parameter values to see how a change in the parameter causes a change in the dynamic behavior of the stocks. By showing how the model behavior responds to changes in parameter values, sensitivity analysis is a useful tool in model building as well as in model evaluation.

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Differentiate stable dividend policy and the constant dividend policy? 5 marks

Stable dividend per share: look favorably by investors and implies low risk firm. It increases the marketability of firm's share. Cash flow can be planned as dividend amount can be ascertained with accuracy (aid in financial planning).

Constant dividend payout (div per share/Eps)
A fixed %age is paid out as dividend. Under this policy the dividend amount will vary because the net income is not constant. Thus results in variability of return to investors. The dividends may drop to nil in case of loss. Market price of share will lower.