THE INSTITUTE OF CHARTERED ACCOUNTANTS OF SRI LANKA

MOCK EXAMINATION – DECEMBER 2013

Strategic Financial Management

Answer No. 01

(a)

Option 01 -

		Rs. Mn
Benefit	6	40
	15%	
Project Cost		50
Net present Value		-10

Option 02

		Cashflow	NPV @15%
Renting the warehouse (from 1 to 5 years)		0.5 mn per annum	1.676078
Rent income from office c	(6.5/15%) * 0.43233		18.7343
Cost of the project	55 x0.49718		27.34472
Net present Value			-6.93434

Both the projects are generating negative NPV and not acceptable at a cost of capital 15%

(b) (i) Fully Financed with equity

		Rs. Mn
Benefit	6	40
	15%	
Project Cost		50
Net present Value		-10

The project should not be undertaken because the NPV is negative.

ii) In the equilibrium the total market value of a geared Company can be derived as below

$V_g = V_u + D$

Vg	the total market value of geared Company
Vu	Total Market value that the same company would have if it was purely equity financed
D	Market Value of debt
t	Rate of incorporation tax expressed as a percentage

For AHL PLC

D	Rs.50 mn
t	35%
Vu	(4,000,000 Shares x 35 per share) + benefit of project if all equity financed = 140mn +40mn = Rs.180 mn
Vg	180mn +(50 mn x35%) = 197.50 million
D	50 mn
t	35%

The new value of equity after the project is undertaken is Rs.197.50 mn – Rs.50 mn = Rs.147.50 mn
This is Rs.7.5 mn higher than at present so the project could be undertaken.

a) (i)

$$\text{WACC} = \frac{\text{Total return to investor}}{\text{The total market value of the firm}}$$

		Rs. Mn
Existing return	4 x 35 x 15%	21
Return from new project		6
Total Return		27
Total market value of levered firm (calculated before)		200
Cost of capital		13.5%

(ii)

$$\text{Incremental COC} = \frac{\text{Incremental Reward}}{\text{Incremental value of the firm}}$$

$$\text{Incremental COC} = \frac{6}{(200\text{-}140)}$$

$$= 10\%$$

This figure should confirm the conclusions reached in (b) (ii) and (iii)

The benefit of the project if debt is introduced

	Rs. Mn
Value of the incremental benefit valued at incremental cost of capital (6 /10%)	60
Less/ Cost of the project	50
Total Return	10

This is the same incremental benefit we calculated in (b) (ii)

(d) Long term financial objectives of a firm should be maximization of shareholder wealth. In this regard IP, FP and Dive policy of a firm are important

Investment policy should look into the rate of return as well as risk. The latter should also recognize the portfolio effect of the firms' assets which has a bearing on shareholder wealth

Financing policy of a firm has a linkage with the cost of capital and the risk mainly financial risk. If financial policy of the firm is not sound, the consequences would be very heavy, sometime resulting in insolvency.

Div. policy of a firm should take into account its effect on the market value of share, solvency and reinvestment decisions.

It will be noted that investment policy, financing policy and dividend policy will have to be carefully considered in the context of shareholder wealth with a view to increasing the return of a firm subject to its overall risk. They are inter related e.g. Division policy could lead to retention of funds which could reduce the leverage and availability of funds for reinvestment.

Accordingly IP, FP and DP are critical in the growth and stability of the firm.

Answer No. 02

a) Calculated below is the theoretical market capitalization of two companies once the reorganization has taken place

Company A		**Rs. '000**
Existing Market Ca	(90 mn x 3.32)	298,800.00
P/E Ratio	(298,800 /37,350) = 8.0	
Existing equity earnings		37,350.00
Less/ Earnings from broadband division		- 6,000.00
Net earnings		31,350.00
20% efficiency		6,270.00
New annual equity earnings		37,620.00
New Capitalization (P/E Based) (37,620x.8)		300,960.00
VRS		- 10,000.00
Sale of broadband division		42,100.00
		333,060.00
Company D		
Existing Market Ca	(28mn x 16.80)	470,400.00
Property Sale		75,200.00
Less/Reorganization Costs		- 21,000.00
Total Capitalization		524,600.00
The Combined Capitalization		
Company A		333,060.00
Company D		524,600.00
		857,660.00

The total number of shares issued in Company A is 90 mn . Two each 9 shares offer would need Company to issue 20 million own shares.

$\frac{90}{9}$	x 2	20 mn

Total number of shares after new shares in Company D 48 Mn

New Shares Prices (Theoretical)

Company D	$\frac{857,660}{48,000}$	=	17.87
Company A	(2/9 times)		3.97

(b) The calculations carried out by the Company D shows only the theoretical price and it will not necessarily be the price placed by the market participants. The shares in Company A will not only be valued on the basis of market estimates of the potential merger synergy. In practice, the price will depend on expectations of buyers and sellers of the likely success and ultimate success of the bid as well as the amount of competition for the company from other bidders.

In competition for the acquisition it is likely that share price levels of Company D will rise to a higher level as the market anticipates a premium having to be paid by the final buyer in order to secure the company.

0n the other hand, if there is little interest in the company from other bidders, Company Dl may not need to offer much above the current market price of the shares in order to secure the acquisition, and Company A's shares will therefore be valued at a lower figure.

(c) Since investors are risk averse, a cash alternative will normally be more attractive than a share offer. This is supported by the fact that many mergers fail to achieve the forecasted synergies as quickly as expected and therefore earnings in the early years post merger are often lower than expected. Therefore a cash alternative is likely to be lower than the current value of the shares exchange.

(d)

The existing share price of Company A		3.32
The calculated price with 15% gain	3.32 x 1.15	3.818
New market capitalisation (Rs'000)	3.818 x 90mn	343,620
Total capitalisation of new group		857,660
New holding percentage with 15% gain	(343,620/857,660)	40.06%

Let no of new shares to be issued by Company D = n

$$\frac{n}{28\ mn + n} = \frac{40.06}{100}$$

$$100n = 1121.68\ mn + 40.06\ n$$
$$59.4\ n = 1121.68\ mn$$
$$n = 18.88\ mn$$

The Company D will have to offer 18.8 mn shares for 90 mn shares in Company A. This represents an offer of one for 4.76 shares

(e) (i) In practice, a major reason for M&A is the economics of scale. However, this presumption will not materialize in all M&A's due to various reasons, for example, compatibility HR issues, incorrect assumptions

(ii) In modern management financial strategy major role. Accordingly in M&A it is important any integration standard not only bring in synergy but also diversification of risk e.g. if the combined effect of an M&A is positive, it will be subject to high swings of return and such volality has a bearing on the stability of the portfolio especially when the variation is high.

(iii) Generally there is a tendency for under valuation of shares of the target company due to various factors mainly unforeseen circumstances in the post M&A. However this under valuation policy will not be valid especially in a hostile takeover and instead of under valuation the shares could be exchanged/acquired at a premium.

Answer No. 03

(a)	With additional debt	Sales Level	Sales Level	Sales Level
	No. of units	10,000 units	20,000 units	30,000 units
	Selling price	300	300	300
	Variable cost	120		
	Contribution	180	180	180
	Total contribution	1,800,000	3,600,000	5,400,000
	Fixed costs	1,000,000	1,000,000	1,000,000
	EBIT	800,000	2,600,000	4,400,000
	Interest @ 10%	800,000	800,000	800,000
		0	1,800,000	3,600,000
	Tax @ 30%	0	540,000	1,080,000
	EAIT	0	1,260,000	2,520,000
	No. of shares	300,000	300,000	300,000
	EPS	0.00	4.20	8.40
	P/E Ratio	20	20	20
	Mkt price	0.00	84.00	168.00
		Q	(S-V) FC	Q (S-V) =
	With right issue			
	No. of units	10,000	20,000	30,000
	Selling price	300	300	300
	Variable cost	120		
	Contribution	180	180	180
	Total contribution	1,800,000	3,600,000	5,400,000
	Fixed costs	1,000,000	1,000,000	1,000,000
	EBIT	800,000	2,600,000	4,400,000
	Interest @ 10%	200,000	200,000	200,000
		600,000	2,400,000	4,200,000
	Tax @ 30%	180,000	720,000	1,260,000
	EAIT	420,000	1,680,000	2,940,000
	No. of shares	330,000	330,000	330,000
	EPS	1.27	5.09	8.91
	P/E Ratio	30	30	30
	Mkt price	38.18	152.73	267.27

Raising required funds by way of right issue is more justifiable in terms of higher EPS and market price.

(b)

DOL@20000	Q(S-V) =	20000	180		3,600,000
	Q(S-V)-FC			1,000,000	2,600,000
DOL@20000 (½)					1.385
Debt financing		EBIT	EBIT-1		
	EBIT/(EBIT-1)	2,600,000	1,800,000		
DFL			1.4444444		
DCL			Q(S-V)	divided	Q(S-V)-F-1
					2.6m-
			3,600,000		0,8m
			3.6		1.8
					2

The effect of DOL, DFC & DCL under each option is clearly seen on the outcome on the (a) level of activity and (b) degree of leverage, and depending on the outcome the market price of the share could vary. Similarly, the financial structure has a bearing on the financing performance e.g. EPS could also vary. However, the company's estimated P/E ratios seem unrealistic for the reason than irrespective of the financial outcome the P/E ratio cannot be static.

DOL@20000	Q(S-V) =	20000	180		3,600,000
	Q(S-V)-FC			1,000,000	2,600,000
DOL@20000					1.385
Debt financing		EBIT	EBIT-1		
	EBIT/(EBIT-1)	2.6M	2.4M		
DFL	EBIT	Divided	EBIT-1	1.083333	
DCL			Q(S-V)	divided	Q(S-V)-F-1
					2.6m-
			3,60M		0,2m
			3.6		2.4m
					1.5

Furthermore, the assumption that the Fixed Cost remains at Rs 10M irrespective of the level of activity seems unrealistic.

Significance of operating leverage in project sensitivity to business cycle

Business conditions have an impact on project profitability. Operating leverage (OL) recognizes the differentiation of operating costs between "fixed cost (FC) & variable cost (VC).

Firms having a high FCs as against VC are subject to high swings of earnings irrespective of the output, such companies would have to carry a high burden on the other hand firm with high VC but with low F/Cs the burden will be less and their profitability will not vary widely.

In business cycles, depending on demand for company products and services the level of activity. However firms having high FC will not be able to earn high profit (sometime leading to losses) and when the business situation is not conducive the result outcome will not be good. The profitability could vary.

Thus degree of OL and the project sensitivity is important in business cycle.

(c) The effect of financial leverage on equity beta

A firm's assets are financed by equity and debts (sometimes solely with equity) i.e. both the shareholders and debt holders i.e., the financial leverage of a firm depends on debt/equity structure of the firm.

Cash flows generated by a firm's assets could vary depending on volatility and such volatility risks called business risk.

The debt holders have a prior claim on assets of a firm. Thus, ordinary shareholders will carry a higher risk and if the firm cash flows are inadequate to meet debt obligations, i.e. the shareholders tend to lose money. This risk associated with financing is called the financial risk.

With the increase in debt equity ratio or (D/D+E) the financial risk will increase the firm beta will increase and the shareholders will be subject to both business risk and financial risk i.e. firm's equity beta will increase. Thus could be exemplified by using the following:

$$\beta \text{ equity} = \beta \text{ asset} \left(1 + (1-t) \right) \frac{D}{E}$$

(d) (i) **Significance of coefficient of variation**

The coefficient of variation (CV) is a useful summary measure of project risk. It is the standard deviation (SD)of the projected returns divided by the expected value(EV).

$$CV = \frac{SD}{EV}$$

The coefficient of variation represents the ratio of the SD to the mean Assuming a positive expected value,. It is a useful static in evaluating competing projects, in

the context of risks. The higher the coefficient, the more risky is the project./ the lower the coefficient of variation the less the project risk

(ii) **Significance of Correlation in project evaluation**

When a new project is to be considered it is important to recognize the outcome of the new project in relation to the existing portfolio of assets or any other potential investment opportunities i.e. the portfolio effect to be considered.

The combined effect of projects should improve stability of a portfolio . Thus, the consideration of correlation is important in project evaluation.

A correlation coefficient, r, is a number between -1 and +1 that indicates an idea of the strength or degree of a relationship between two projects. -1 is a perfectly negative correlation, 0 is no correlation at all and +1 is a perfectly positive correlation. However, the coefficient of determination -- r^2(squared) -- measures the best strength of the relationship. This strength is usually expressed in given probability levels, p, such as .05.

Answer No. 04

(a) (i) ke = $\frac{Do\ (1+g)}{V} + g$

= $\frac{39{,}000\ (1 + 3.6.1)}{1{,}683{,}500} + 3.6\%$

= 2.4% + 3.6%

= 6%

(ii) WACC = 6% x $\frac{1500}{2220}$ + 2% x $\frac{720}{2220}$

= 4.05% + 0.65%

= 4.70%

(b) (in Rs' '000)

	Y_1	Y_2	Y_3	
Sales	2332	2565.2	2821.72	
Less: cost of sales	(1982.2)	(2180.42)	(2398.46)	
Gross profit	349.80	383.78	423.26	
Selling & distribution	(116.60)	(128.26)	(141.09)	
Administration – depreciation %	(32.5)	(35)	(35)	
Other administration	(19.8)	(21.78)	(23.96)	
Profit before tax	180.9	199.74	223.21	
Tax @ 35%	(63.32)	(69.91)	(78.12)	
Profit after tax	117.58	129.83	145.09	
Add: depreciation	32.5	35	35	
Change in working capital (Note 1)	(37.82)	(41.77)	(45.96)	
Cash flow from operation	112.26	123.06	134.13	
Less : Capex	(25)	(25)	-	
Free cash flows	87.26	98.06	134.13	
Terminal value	———	———	2853.83	$\left(\frac{134.13}{4.7\%}\right)$
Net cash flow	87.26	98.06	2987.96	
Discount factor @ 4.7%	0.96	0.96	0.87	
Present value	83.77	89.23	2599.53	
Total PV AUD 2772/53				

Value of the firm is = $\frac{\sum \text{cash flows of the firm}}{(1 + ko)^t}$

= $\frac{307{,}488}{(1 + 0.06)^3}$

Cash flow valuation of equity

Note 1 : Working capital

		Y_1	Y_2	Y_3
Stocks	300	330.37	363.4	399.74
Debtors	530	583	641.3	705.45
Creditors	(450)	(495.55)	(545.11)	(599.62)
	380	417.82	459.59	505.55

Face value	= AUD	2772/53
Less debt		(720.00)
		22052.53

(c) As the buyer's representative The job assigned to you is to make sure that the acquisition is worthwhile . In this connection it is important to carry out a due diligence study focusing on the status and the performance of the Target Company. In the due diligence study of the Target Company, ascertain any evidence of "Red Flag" payments turn up which warrant further investigation. If such "Red Flags" arise, the purchasing company must not turn a blind eye;. Similarly it is important to consider whether the firm or any of its key officers have been the subject of debarment, suspension, investigation, legal action or negative publicity, and it is does not run afoul of any corrupt practices

An initial inquiry should be made into the ownership structure of the target company. There are several factors to consider in making such a determination. Some of these factors include: percentage ownership of the target company; control exercised over the target company; and how are the employees of the target company described by their country's government.

The greater the degree of involvement of the firm in the international economic environment or the greater the degree of differences among different segments of the international economic environment, the greater are the complexities. Basically, when a company makes international investments, it also need to consider the political relations between the host government and home government. The capital budgeting technique also considers the intra-firm flows.

Performance evaluation of an overseas subsidiary stems from the complexities in exchange rate fluctuations, varying rates of inflation and purchasing parity, international transfer pricing, and cultural and environmental differences. i.e. operate in different economic, political, legal, cultural and tax environment

(d) International Working Capital (WC) management is complex compared to a uninational setting. It involves management of current assets and current liabilities denominated in different currencies. Accordingly a significant additional dimensionality will have to be added to the WC Management when foreign exchange rates, foreign tax methodologies, sources of funds from foreign money markets, and new multi-faceted social, economic, and political factors are superimposed on the framework. Hence, there is a need for proper management of working capital, so that day by day operations do not hamper; at the same time there would not be any idle investment in working capital. i.e. optimization of working capital

Answer No. 05

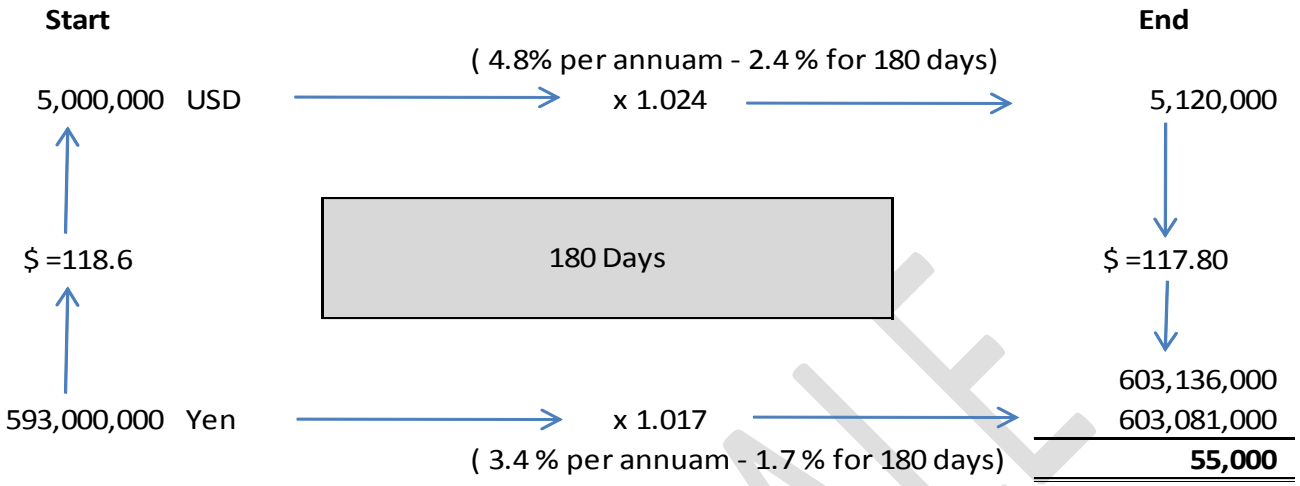
a) **Covered interest arbitrage** is an arbitrage trading strategy whereby an investor capitalizes on the interest rate differential between two countries by using a forward contract to *cover* (eliminate exposure to) exchange rate risk. Using forward contracts enables arbitrageurs such as individual investors or banks to make use of the forward premium (or discount) to earn a riskless profit from discrepancies between two countries' interest rates. The opportunity to earn riskless profits arises from the reality that the interest rate parity condition does not constantly hold. When spot and forward exchange rate markets are not in a state of equilibrium

b) **Uncovered interest arbitrage** is an arbitrage trading strategy whereby an investor capitalizes on the interest rate differential between two countries. Unlike covered interest arbitrage, uncovered interest arbitrage involves no hedging of foreign exchange risk with the use of forward contracts or any other contract. The strategy involves risk, as an investor exposed to exchange rate fluctuations is speculating that exchange rates will remain favorable enough for arbitrage to be profitable.

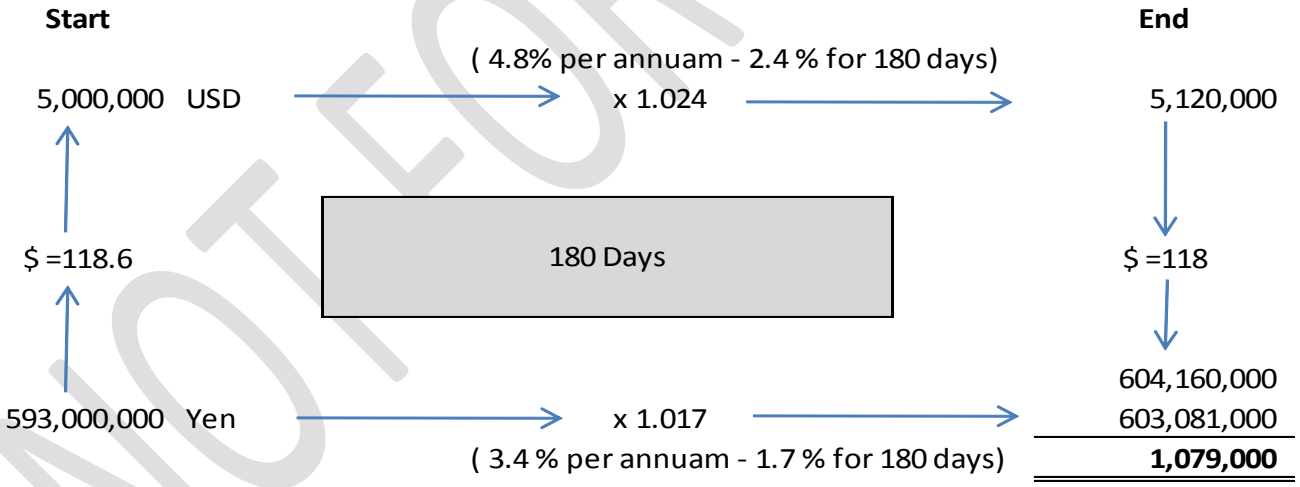
Both methods would lead to make profits as result of interest rate differentials in countries under consideration. The CIA is not exposed to exchange rate risk whereas UIA is always exposed to exchange rate fluctuation related risks. However to compensate such risk the return could be higher than the CIA.

c) Steps to follow

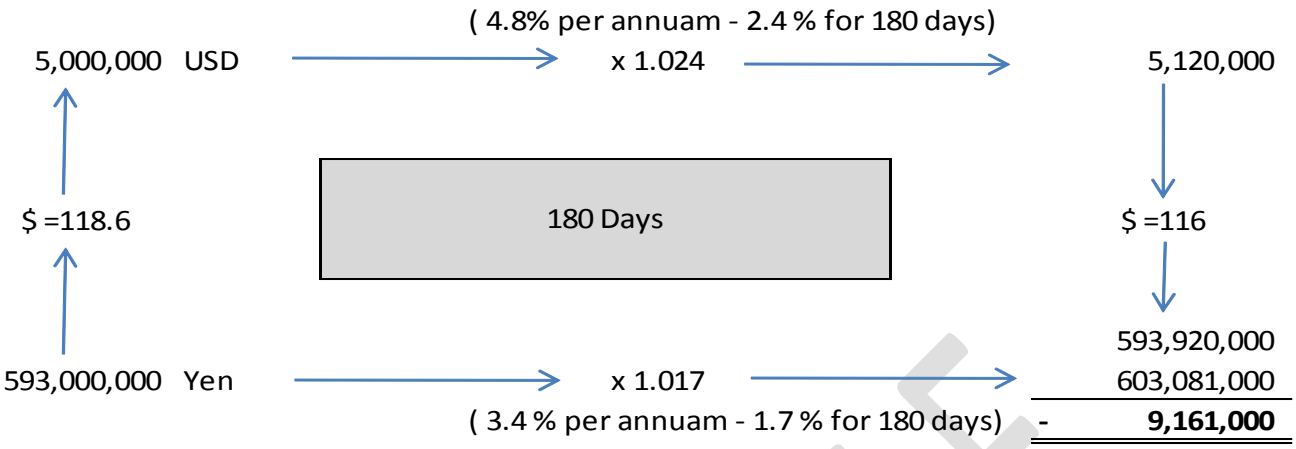
- ✓ Start with 593 mn yen
- ✓ Convert 593 mn yen into 5mn USD in the spot market at the rate of 118.6
- ✓ Invest 5 mn USD in dollar money market to gain 4.8% interest per annum
- ✓ Simultaneously sell the future process of 5.12 mn USD in forward market at the rate of 117.8
- ✓ You will end up with 5.12 mn USD at the end of 180 days (2.4 % for 180 days)
- ✓ Convert 5.12 mn USD at the rate of 117.8 per USD in the forward market to arrive at 603.136 mn yen.
- ✓ Compare the proceeds with the amount that you would get had that been invested in yen money market .
- ✓ You will end up with a gain of 55,00 yen at the end.



He would end up with 1,079,00 yen calculated at the exchange rate of 118yen for each USD. This is 1,024,00 yen greater that what he could earn under CIA. (refer the diagram below)



(d) The biggest risk is that if the exchange rate changes on the other way he would end up with a loss. It could be very material depending on the extent to which the exchange rate is going to move. For example if the forward exchange rate is recorded as 116 yen for each USD. The loss is calculated below. (Loss of 9.161 mn yen).



(e) IPP takes into account inflation, interest, purchasing power etc. which have a bearing in foreign currency investment. These factors could have a bearing on the outcome of a project which could some times have results which was not exported at the time of evaluation. IPP factors cannot be considered in isolation, in that all the factors are interlinked as explained in 'international fisher effect:" Further more when foreign currency investment is considered more single evaluation based on the current or short term effects will not be sufficient, i.e. uncertainty and resultant risk is high longer the project period and on account of this sound evaluation technical such as sensitivity analysis scenario, analysis should be recgonised.