



Machakos University College

A Constituent College of Kenyatta University

SCHOOL OF BUSINESS AND ECONOMICS

BAC 204 BUSINESS FINANCE II

JANUARY –APRIL 2016 END OF SEMESTER EXAMINATIONS

C. M. DENNIS

MLOLONGO

CAMPUS

DATE: APRIL 16TH 2016

TIME: 2 HOURS

Instructions: PLEASE ATTEMPT Questions ONE and any other two questions

Question 1

Kenya Institute for advanced scientific Research Limited is evaluating whether or not to construct a new R&D laboratory. The Initial investment being **KShs. 500,000,000**. The estimated life of the laboratory is five years and should be scrapped at the end of the period. The projected yearly sales and expenses are as shown in the table below:

TABLE 1.0 - PROJECTED YEARLY REVENUE AND EXPENSES

KSHS '000'

	YR 1	YR 2	YR 3	YR 4	YR 5
Revenue	4,333,333	450,000	266,667	200,000	133,333
Expenses	200,000	150,000	100,000	100,000	100,000

Additional Information

- (i) Corporate tax is 25%
- (ii) Depreciation allocation cost at KShs. 100,000

Required

- a) Tabulate a cost revenue scheduled for KIASR in lieu of the additional information

(15 marks)

SOLUTION

Revenue	4,333,333	450,000	266,667	200,000	133,333
Expenses	200,000	150,000	100,000	100,000	100,000
Before Tax	233,333	300,000	166,667	100,000	33,333
Cash flow					
Depreciation	100,000	100,000	100,000	100,000	100,000
E-earnings	133,333	200,000	66,667	0	-66,667
Before Tax					
Tax	<u>33,333</u>	<u>50,000</u>	<u>16,667</u>	<u>0</u>	<u>-16,667</u>
Net Income	100,000	150,000	50,000	0	-50,000

(b) Compute the Average Accounting Return (AAR) and Examine some of the flaws in the context of KIASR (15 marks)

SOLUTION

AAR= $\frac{\text{Average Project Earnings (KIASR)}}{\text{Average Book Value of (KIASR) Investment during its life}}$

$$\text{Average Net Income} = \text{KShs.} \frac{(10,000 + 150,000 + 50,000 + 0 + (-50,000))}{5}$$

$$= \frac{250,000}{5} = \text{KShs. } 250,000$$

$$\text{Average Investment} = \text{KShs.} \frac{(500,000 + 0)}{2} = \text{KShs. } 250,000$$

$$\therefore \text{AAR} = \frac{\frac{-50,000}{250,000} \times 100\%}{5} = 20\%$$

Examined Flaws:

- It was book value of these investment and net income both of which come from the accounting books (subjective measures). Conversely, NPV Method uses cash flows.
- Concept Timing Value is not considered discounting of the future cash flows.
- Offers no guidance to right arbitrary out of date of the targeted rate of return should be.

QUESTION 2

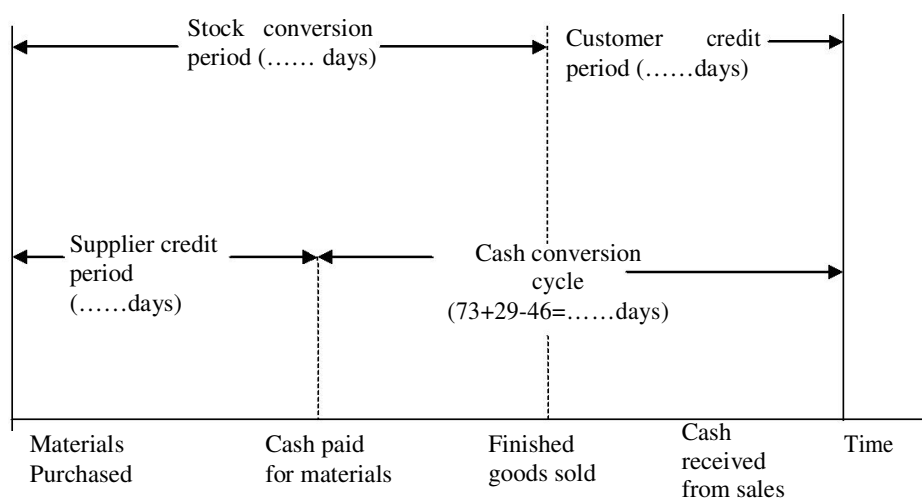
TABLE 1.1 – N.Y.S.H.G. WORKING CAPITAL ITEMS

ITEMS	1 ST JANUARY	31 ST DECEMBER
STOCK	KShs. 5,500	KShs. 6,500
DEBTORS	KShs. 3,200	KShs. 4,800
CREDITORS	KShs. 3,000	KShs. 4,500

Nairobi Youths self-help group has the following working capital items in its statement of financial position as postulated above at the start and end of its financial year.

Required:

- a.) Complete the illustrated Cash conversion cycle figure below, clearly calculating the working capital ratios involved:



(20 marks)

SOLUTION

Calculation of turn over ratios:

Stock turnover= cost of sales/average stock = $(30,000/6,000) = 5$ times p.a

Debtor's turnover=sales/average debtors = $(50,000/4,000) = 12.5$ times p.a

Creditor's turnover= cost of sales/average creditors = $(30,000/3,750) = 8$ times p.a

Calculation of number of days each item is held in working capital:

Stock period = $365/5 = 73$ days

Debtors period = $365/12.5 = 29.2$ days

Creditors period = $365/8 = 45.6$ days

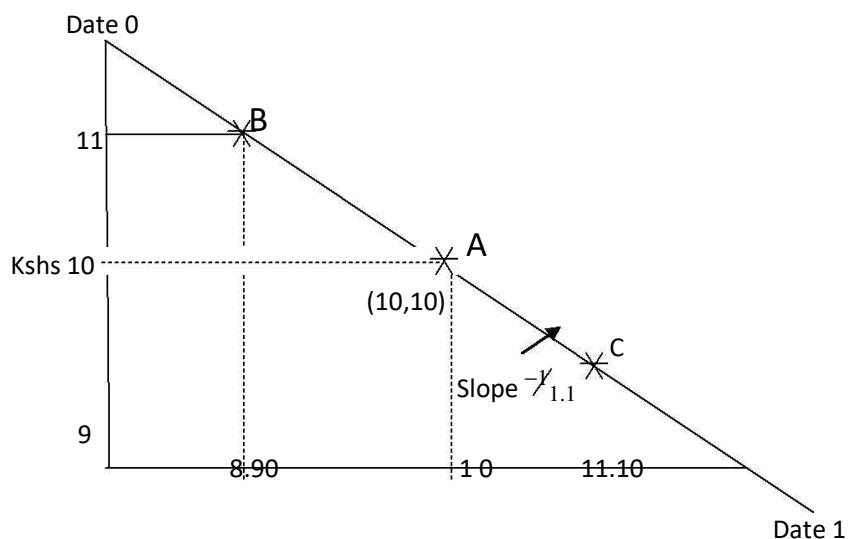
The cash operating cycle:

$(73+29.2-45.6) = 56.6$ days

QUESTION 3

This Graph illustrates both:

- 1) How managers can vary dividend policy and
- 2) How individuals can undo the firm's dividend policy



Interpret the graph in lieu of dividends and dividend policy.

(20 marks)

SOLUTION

- (1) A firm paying out all cash flows immediately is at point A on the graph.

The firm could achieve point B by issuing stock to pay extra dividends or achieve point C by buying back old stock with some of its cash.

- (2) Suppose the firm adopts the dividend policy represented by point B: dividends of KShs. 11.00 at date 0, placing him at point B. No matter what dividend policy the firm establishes, a shareholder can undo it.

QUESTION 4

- a.) Capital structure refers to the combination of funds, in the form of debt and equity, a firm uses to finance its assets. In addition, academicians have proposed many theories regarding the capital structures of firms. Discuss the *Trade-off theory* and *Signaling theory* as major theories summarized under Capital Structure Theory:

SOLUTION

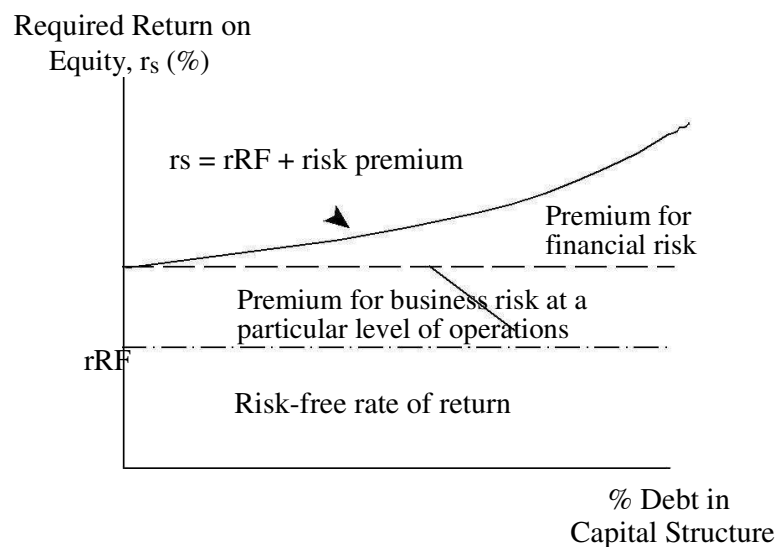
Trade-off theory—more than 40 years ago Franco Modigliani and Merton Miller, who have since won the Nobel prize for Economics, developed a theory that showed firms should favor using debt in their capital structures because the tax deductibility of interest payments is such a benefit. Under a very restrictive set of assumptions, they showed that the value of a firm increases as it uses more and more debt. In fact, according to their theory, the value of the firm is maximized when it is financed with nearly 100 percent debt. However, the theory ignored the costs associated with bankruptcy, which can be considerable. When the costs of bankruptcy are considered, there is a point where the benefit of the tax deductibility of debt is more than offset by increases in the cost of debt and the cost of equity that result from the risk associated with the firm's heavy use of debt.

Signaling theory—most people agree that managers and other “insiders” possess more information about the firm than outside investors. The fact that managers have *asymmetric information*, which means they have some information that outside investors do not, could mean that any action taken by

a firm, including how it raises funds (capital), might provide a *signal* to the less-informed investors. For example, studies have shown that when firms issue new common stock to raise funds the per share value of the stock decreases.

It has been suggested that this occurs because managers would only issue new common stock if they felt that the firm's future prospects were unfavorable. Consider the fact that when new stock is issued, new stockholders join the firm's existing stockholders to share in any future changes in value.

b.) To determine a firm's optimal capital structure, we first consider the fact that the relationship of the cost of equity, r , and the amount of debt the firm uses to finance its assets as postulated in the graph below. In lieu of a levered firm, extrapolate and interpret the findings of the graph.



SOLUTION

According to the graph, for a given level of operations, the required return on (cost of) equity, r_s , is affected by the firm's financial risk, which is based on the amount of debt used to finance its assets.

Although debt increases the cost of equity, the tax benefit associated with using debt (interest paid is tax deductible) generally requires firms to use some debt to finance assets. But, at some point, the tax benefit is overshadowed by the additional risk the firm incurs by increasing the amount of debt it uses, which causes the cost of additional debt to increase significantly. In other words, the risk of

bankruptcy increases so significantly that increases in the cost of debt, r_d , more than offset the benefit associated with the tax deductibility of the interest payments.

(20 marks)

QUESTION 5

a.) Economist John Maynard Keynes in his Treatise of money (1930) marks the beginning of his departure from the neoclassical monetary theory and postulated the Motives for Holding Cash and the influences that affect the firm's cash balance. In view of the above, Discuss this statement in the context of marketable securities for most contemporary organizations.

SOLUTION

The Transactions Motive

Balances held for transaction purposes allow the firm to meet its cash needs that arise in the ordinary course of doing business. For example, cash would be used to meet the irregular outflows as well as the planned acquisition of fixed assets and inventories. The relative amount of cash needed to satisfy transaction requirements is affected by a number of factors, including the industry in which the firm operates. It is well known that utilities can forecast cash receipts quite accurately because of stable demand for their services.

The Precautionary Motive

Precautionary balances serve as a buffer. This motive for holding cash relates to the maintenance of balances used to satisfy possible, but as yet unknown, needs. The cash-flow predictability of the firm has a material influence on this precautionary motive. In actual business practice, the precautionary motive is met to a large extent by the holding of a portfolio of liquid assets, not just cash. In large corporate organizations, funds may flow either into or out of the marketable-securities portfolio on a daily basis.

The Speculative Motive

Cash is held for speculative purposes in order to take advantage of potential profit-making situations. Construction firms that build private dwellings will, at times, accumulate cash in anticipation of a significant drop in lumber costs. If the price of building supplies does drop, the companies that built up their cash balances stand to profit by purchasing materials in large quantities. This will reduce their cost of goods sold and increase their net profit margins. Generally, the speculative motive is the least important component of a firm's preference for liquidity. The transactions and precautionary motives account for most of the reasons why a company holds cash balances.

b.) *Yossina, Aisha, Allan & Johnson Company Limited* expects total demand (S) for their firm's product next year to be 5,000, 000 units. Moreover, to place an order the firm incurs an ordering cost (O) of Kshs.200, 000 and the carrying cost per unit (C) is Kshs.2, 000. Compute the economic order quantity (Q^*) for the said company.

SOLUTION

$$Q^* = \sqrt{(2SO \div C)}$$

Where Q^* = the economic order quantity, or EOQ , which minimizes the costs of ordering and holding an inventory

S = the total number of units of inventory *Yossina, Aisha, Allan & Johnson Company Limited* will need over the coming year

O = the cost of placing an order

C = the carrying cost per unit of inventory

Substituting into the EOQ equation we estimate:

$$\begin{aligned} Q^* &= \sqrt{\{(2 \times 5,000,000 \times 200,000) \div 2,000\}} \\ &= \sqrt{1,000,000,000} = 31,622.78 \text{ units} \end{aligned}$$

Thus, the cost of ordering and carrying an inventory is minimized when we order 31,622.78 units each time an order is placed in lieu of the firm.

*****END*****

