

# Financial Management ACCA

## Formulae

Economic order quantity

$$= \frac{2C_o D}{C_H}$$

Miller - Orr Model

$$\text{Return point} = \text{Lower limit} + \left(\frac{1}{3} \times \text{spread}\right)$$

Spread = 3

$\frac{1}{3}$

The Capital Asset Pricing Model

$$E(r_i) = R_f + \beta_i(E(r_m) - R_f)$$

The asset beta formula

$\beta_a =$

+

The Growth Model

$$P_o = \frac{D_o(1+g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = b r_e$$

The weighted average cost of capital

$$\text{WACC} = \frac{V_e}{V_e + V_d} k_e + \frac{V_d}{V_e + V_d} k_d (1 - T)$$

The Fisher formula

$$(1+i) = (1+r)(1+h)$$

## THE FINANCIAL MANAGEMENT ENVIRONMENT

**(d) Mergers and takeovers:**

Where a market is fully efficient, the price of all shares is fair. Hence, if a company is taken over at its current share value the purchaser cannot hope to make any gain unless economies can be made through scale or rationalisation when operations are merged. Unless these economies are very significant an acquirer should not be willing to pay a significant premium over the current share price.

**(e) Validity of current market price:**

If the market is fully efficient, the share price is fair. In other words, an investor receives a fair risk/return combination for his investment and the company can raise funds at a fair cost. If this is the case, there should be no need to discount new issues to attract investors.

## 7 Money market interest rates

Different financial instruments offer different interest rates. In order to understand why this is, it is necessary to appreciate the factors which determine the appropriate interest rate for a particular financial instrument.

### 7.1 The factors which determine interest rates:

**(a) The general level of interest rates in the economy.****(b) The level of risk:**

The higher the level of risk the greater return an investor will expect. For instance, an investor in a building society is taking very little risk and hence receives only a small return. Conversely, a purchaser of shares is taking a significant risk and hence will expect a greater return. This is known as the risk-return trade off.

The additional return required before someone would be indifferent between investing in an equity share or a deposit account will differ from individual to individual, as we all have a different attitude to risk. Therefore the relationship between risk and return is different for each individual.

**(c) The duration of a loan:**

If it is assumed that in the long-term interest rates are expected to remain stable then the longer the length of the loan the higher the interest rate will be. This is quite simply because lending money in the longer term has additional risk for the lender as for instance the risk of default increases.

**(d) The need for the financial intermediaries to make a profit:**

For instance, a depositor at a building society will receive a lower rate of interest than a borrower will be charged.

**(e) Size:**

If a large sum of money is lent or borrowed, there are administrative savings; hence a higher rate of interest can be paid to a lender and a lower rate of interest can be charged to a borrower than would normally be the case.

## MANAGEMENT OF WORKING CAPITAL (4) - CASH

## 6.3 The Miller Orr model

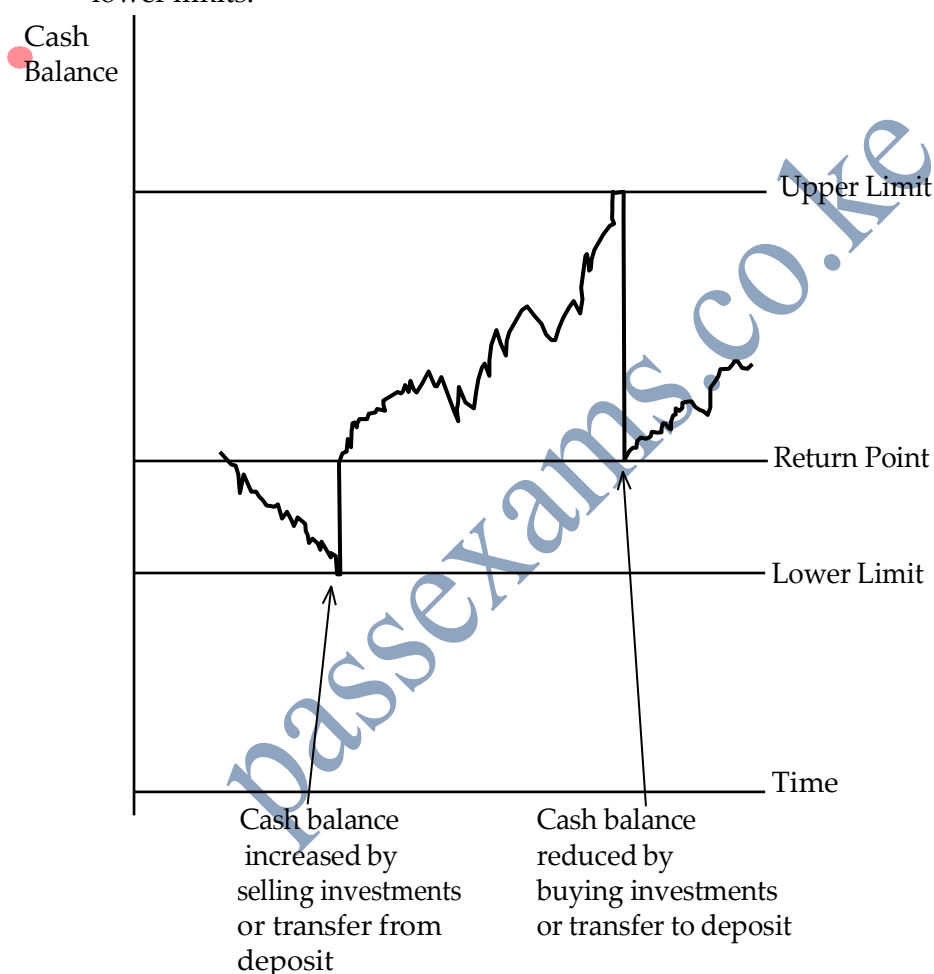
The Miller Orr model does manage to achieve a reasonable degree of realism without being too elaborate.

In practice cash flows are likely to fluctuate considerably from day-to-day. There is also a likelihood that the balances are likely to 'wander' upwards or downwards over a period.

The Miller Orr model fixes limits on the upper and lower levels.

**The basic steps involved are as follows:**

- (1) A safety level or lower limit of cash is decided upon.
- (2) A statistical calculation is made based on the variations of the cash flows, in order to agree an allowable range of fluctuations.
- (3) Using this calculated range, an upper limit of cash is fixed.
- (4) The cash balance is managed to ensure that the balance is always kept between the upper and lower limits.



Miller Orr produced formulae as follows:

Return point = Lower limit +  $(\frac{1}{3} \times \text{spread})$

Spread =  $3 \left( \frac{\frac{3}{4} \times \text{transaction cost} \times \text{variance of cash flows}}{\text{interest rate}} \right)^{\frac{1}{3}}$

(these formulae are given in the examination)

## 4.2 Stock splits

**Stock splits** occur when shares are split in value. For instance each existing \$1 share might be split into two 50p shares.

The total share capital of the company is unchanged, but there will be more shares in issue.

No cash is raised and therefore this is not a source of finance. It will have the effect of reducing the market value per share of all the shares in issue, and can thus make the shares more marketable.

## 4.3 Scrip dividends

This is the offering to shareholders of new shares instead of a cash dividend.

Shareholders are given the choice of whether to take the dividend in the form of cash or new shares. The incentive for shareholders is that it is a cheaper way of acquiring new shares than buying them on the stock exchange, and also there can be tax advantages.

For the company, this is a source of new finance in that new shares are issued (effectively) for cash. It is a cheap way of raising finance and does not risk upsetting the shareholders in the same way that a reduction in dividend may do.

# 5 Internally generated finance

The most common source of finance for most companies is to use retained earnings. This is equity finance in that all the earnings of the company belong to the shareholders. However, most companies do not pay out all their earnings as dividends, but instead retain a proportion of them as a source of finance in order to expand the company.

Retained earnings are the best source of finance in that they avoid issue costs and the cash is immediately available.

## 5.1 Dividend irrelevancy theory

In theory it is irrelevant whether a company pays out all its earnings to shareholders as dividend, or retains all the earnings for investment (or any combination of the two).

The reason for this is that although a lower dividend obviously means less immediate cash for the shareholders, this is compensated for by the fact that the extra investment by the company will increase the value of the company (and its share value).

In theory the shareholders will be indifferent because the increase in the value of their shares will compensate them for the lower dividend.

## 5.2 Dividend policy in practice

Although in recent years it has become common for companies to have high retention of earnings and pay low dividends (or even to pay no dividends – e.g. Microsoft), it is risky for a company to change its dividend policy without considering the consequences.

In particular they need to consider the following:

## 5.3 The Clientele effect

A constant dividend policy (e.g. always distributing 20% of earnings, or always increasing dividend by 5% p.a.) will attract a group of shareholders to whom the policy is suited (in terms of, for example, their tax position, or their need for income). Changing the dividend policy will upset these shareholders.

## 5.4 The Signalling effect