

# MILLER AND MODIGLIANI APPROACH OF CAPITAL STRUCTURE DECISIONS

BY-

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E MODULE

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M COM SEM II

# MODIGLIANI AND MILLER APPROACH:-

M&M hypothesis is identical with

If taxes are ignored



Net Operating  
Income approach

**HOWEVER**

WHEN taxes **are assumed  
to exist,**  
Their hypothesis is similar  
to



Net Income  
approach

# MODIGLIANI AND MILLER APPROACH:-

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graph TD; A[MODIGLIANI AND MILLER APPROACH:-] --> B[IN THE ABSENCE OF TAXES . (THEOARY OF IRRELEVENCE)]; A --> C[WHEN CORPORATE TAXES ARE ASSUMED TO EXIST. (THEORY OF RELEVANCE)];
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IN THE ABSENCE OF  
TAXES .  
(THEOARY OF  
IRRELEVENCE)

WHEN CORPORATE  
TAXES ARE ASSUMED  
TO EXIST.  
(THEORY OF  
RELEVANCE)

In the absence of taxes . (Theory of Irrelevance):-

This theory proves that the cost of capital is not affected by changes in capital structure or say that debt- equity mix is irrelevant in the determination of total value of a firm.

REASON:-

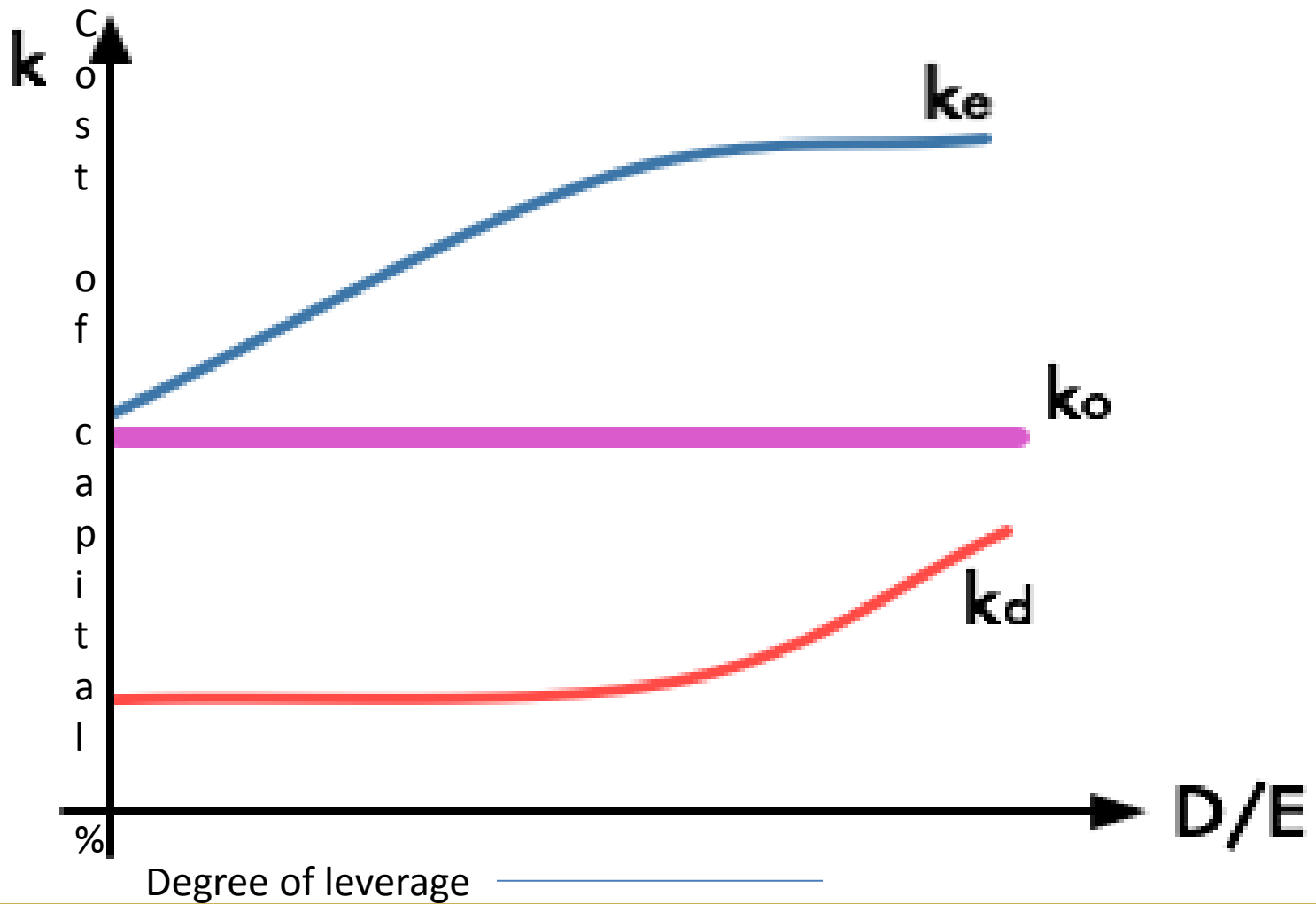
Though debt is cheaper to equity, with increased use of debt as a source of finance, the cost of equity increases. This increase in cost of equity offsets the advantage of low cost of debt. Thus Although the financial leverage affects the cost of equity, the **overall cost of capital remains constant.**

The **theory explains that**

Beyond a certain limit of debt , the cost of debt increases (due to increased financial risk) but cost of equity falls thereby again balancing the two costs.

In the opinion of modigliani and miller, two identical firms in all respect except capital structure cannot have different market values or cost of capital because of arbitrage process.

In case **two identical firms except for their capital structure** have different market values or cost of capital, arbitrage will take place and the investors will engage in '**personal leverage**' (i.e. they will buy equity of other company in preference to the company having lesser value) and this will again render the two firms to have the same total value.



# *Assumptions:-*

- ❖ There are no corporate taxes.
- ❖ There is no perfect market.
- ❖ Investors act rationally.
- ❖ The expected earnings of all the firms have identical risk characteristics.
- ❖ All earnings are distributed to shareholders.

## EXAMPLE:-

A company has earning before interest and taxes of Rs. 100000. It expects a return on its investment at a rate of 12.5%. It is required to find out the total value of the firm according to miller- modigliani theory.

## SOLUTION:-

According to M&M approach, total value of the firm remains constant.

Total value of firm = Earning before Interest and tax

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Overall cost of capital

$$=100000/12.5/100$$

$$=Rs. 800000.$$



## WHEN THE CORPORATE TAXES ARE ASSUMED TO EXIST. (THEORY OF RELEVANCE)

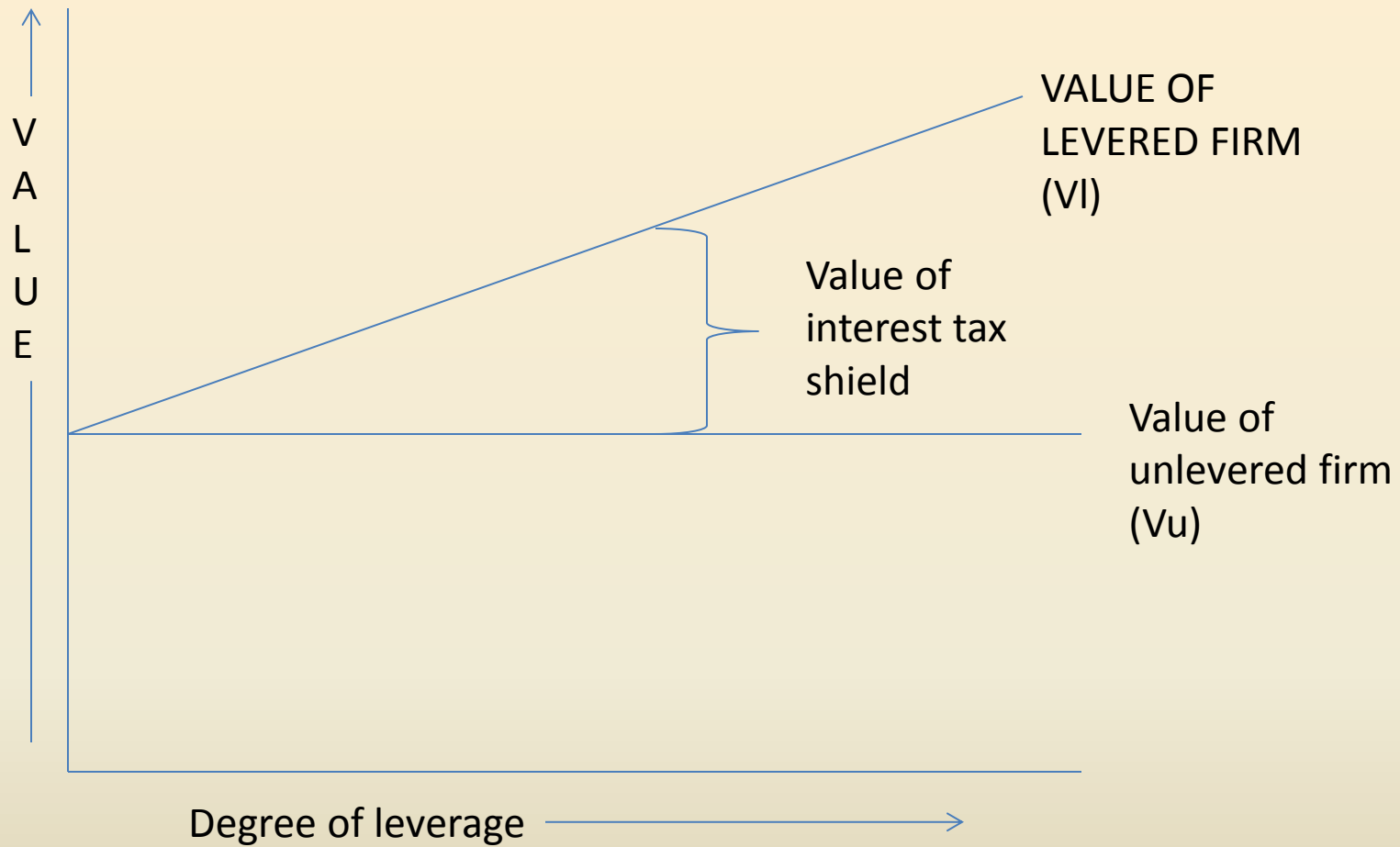
The value of the firm will increase or cost of capital will decrease with the use of debt on account of deductibility of interest charges for tax purpose. Thus, optimum capital structure can be achieved by maximising the debt mix in the equity firm.

Value of **unlevered** firm ( $V_u$ ) =  $\frac{\text{Earning before interest and tax}}{\text{overall cost of capital}} (1-t)$

OR

$$\frac{\text{EBIT}}{K_o} (1-t)$$

Value of **levered** firm =  $V_u + t_d$



MM approach: value of levered and unlevered firm

**THANKS**