

# Economic Value Added (EVA)



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# Need for EVA

- Previously Discounted Cash Flow (DCF) techniques such as IRR, NPV were there but no tool to measure overall corporate performance
- People concentrated on net-income growth (example - East India Company).
- New tools – ROA, RONW, etc – but these gave wrong signals such as asset being  $\downarrow$  to have  $\uparrow$  ROA.
- Introduced EVA to measure true economic performance of a company (a la ABC).

# Why existing profitability measures fail?

- They measure only returns [and not cost of generating those returns].
- Profit created on an investment is looked into but not 'surplus profit created'.
- They are usually not implemented properly.
- Some are not marketed properly.

***You cannot know whether your business operation is creating value .***

## **UNTIL YOU APPLY**

- the **TRUE** Cost of Capital  
To
- **ALL** the Capital Employed

**Most companies have no idea what either amount is**

# How to Calculate EVA?

$$\text{EVA} = (\text{Return on Capital} - \text{Cost of Capital}) \times (\text{Capital Invested in Project})$$

ALTERNATIVELY

$$\text{EVA} = \text{NOPAT} - (\text{Cost of Capital} \times \text{Capital})$$

*Note: NOPAT is 'Net Operating Profit After Tax'*

# Calculating EVA ...

- 'Cost of capital' is the minimum rate of return to compensate investors who are ready to bear the risk of investing in the firm. (WMCC or MARR are also taken)
  - It is dependent on company's financial structure, business risk, current interest level, and investors' expectation.
- 'NOPAT' is profit derived from a company's operations after taxes, but before financing costs.
- 'Amount of capital' is the amount of cash invested in the business, net of depreciation.
- Capital Employed will also include investments on R&D, marketing, and restructuring related.

# Calculating EVA ...

- NOPAT is a company's cash generation capability from recurring business activities (disregarding its capital structure)
- $\text{NOPAT} = \text{PAT} + \text{Total Adjustments} - \text{Tax Savings on Adjustments}$
- Cost of Capital ( $K_c$ ) is a weighted average of two components – (a) cost of debt ( $K_d$ ); (b) cost of equity ( $K_e$ ).
- $\rightarrow K_c = W_e * K_e + W_d * K_d$
- $W_e$ ,  $W_d$  in the above above equation are respective weights of individual components.
- Note: Cost of debt ( $K_d$ ) is always taken post-tax.

# Calculating EVA ...

- Cost of equity ( $K_e$ ) is taken based on CAPM model  $\rightarrow K_e = R_f + \beta(R_m - R_f)$
- Where,
- $R_f$  is risk free rate of return (say, t-bill rate)
- $\beta$  is levered beta of the stock price of the firm (w.r.t. market price).
- $(R_m - R_f)$  is also known as market premium
- $R_m$  is the market rate of return on all stocks.
- There are also other ways of calculating  $K_e$



# ***STRATEGIES FOR MAXIMISING E.V.A.***

**EARN MORE  
WITHOUT  
INCREASING  
CAPITAL**

**USE LESS  
CAPITAL**

**HUNT OUT  
LAZY  
CAPITAL**

**INVEST IN  
HIGH RETURN  
PROJECTS**

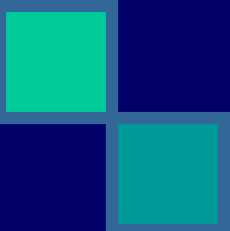

**REDUCE THE  
COST OF  
CAPITAL**

# Understanding EVA

- Let us do a case ...
- ◆ ■ Hence, EVA is a financial technique to measure whether a company is creating economic value over and above the cost of capital of assets employed.
- i.e., it also measures value created during a period of time through increased margins and profitable deployment of underutilized assets.



# Value of a firm in EVA terms (?)

- 
- Hint: DCF
  - Value of assets in place + value of future growth
  - It is EVA of projects in place
  - plus
  - The present value of the EVA of future projects
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# Utility of EVA

- Making capital budgeting decisions.
- Evaluating/Comparing Performance.
- Value creation potential of strategic and tactical options.
- Acquisition and Divestiture analysis.
- Promoting the company (a la ISO9000) → (a) stocks rise; (b) managers act as owners; and (c) decide managerial compensation.

# More Advantages of EVA ...

- ❖ EVA in spirit is most closely related to NPV.
- ❖ Avoids problems associated with approaches that focus on percentage spreads i.e., too high ROA or RONW problems.
- ❖ It makes top managers responsible for a measure that they have control over.
- ❖ It is influenced by all the decisions that managers have to make within a firm (say, investment decision and dividend decisions).

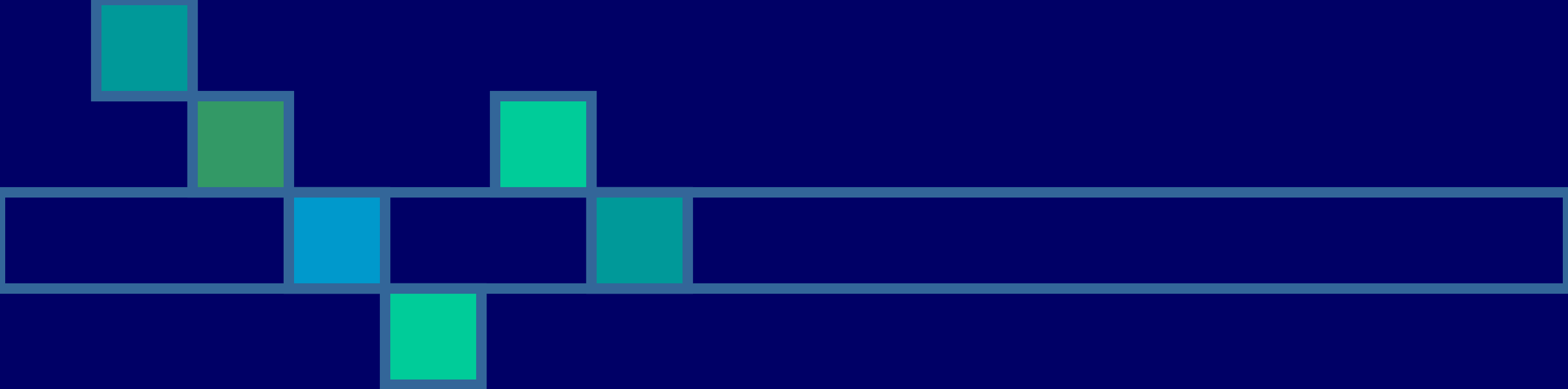
# Why EVA does not work?

*“Don’t think that all you need to do is calculate your EVA”*

- ❖ They don’t make it a way of life.
- ❖ Most managers implement EVA too fast.
- ❖ The boss lacks conviction.
- ❖ Managers fuss too much.
- ❖ Training gets short shrift.
- ❖ Wrong incentive policy.
- ❖ Most assets are long-run oriented.

# Limitations of EVA or any other technique

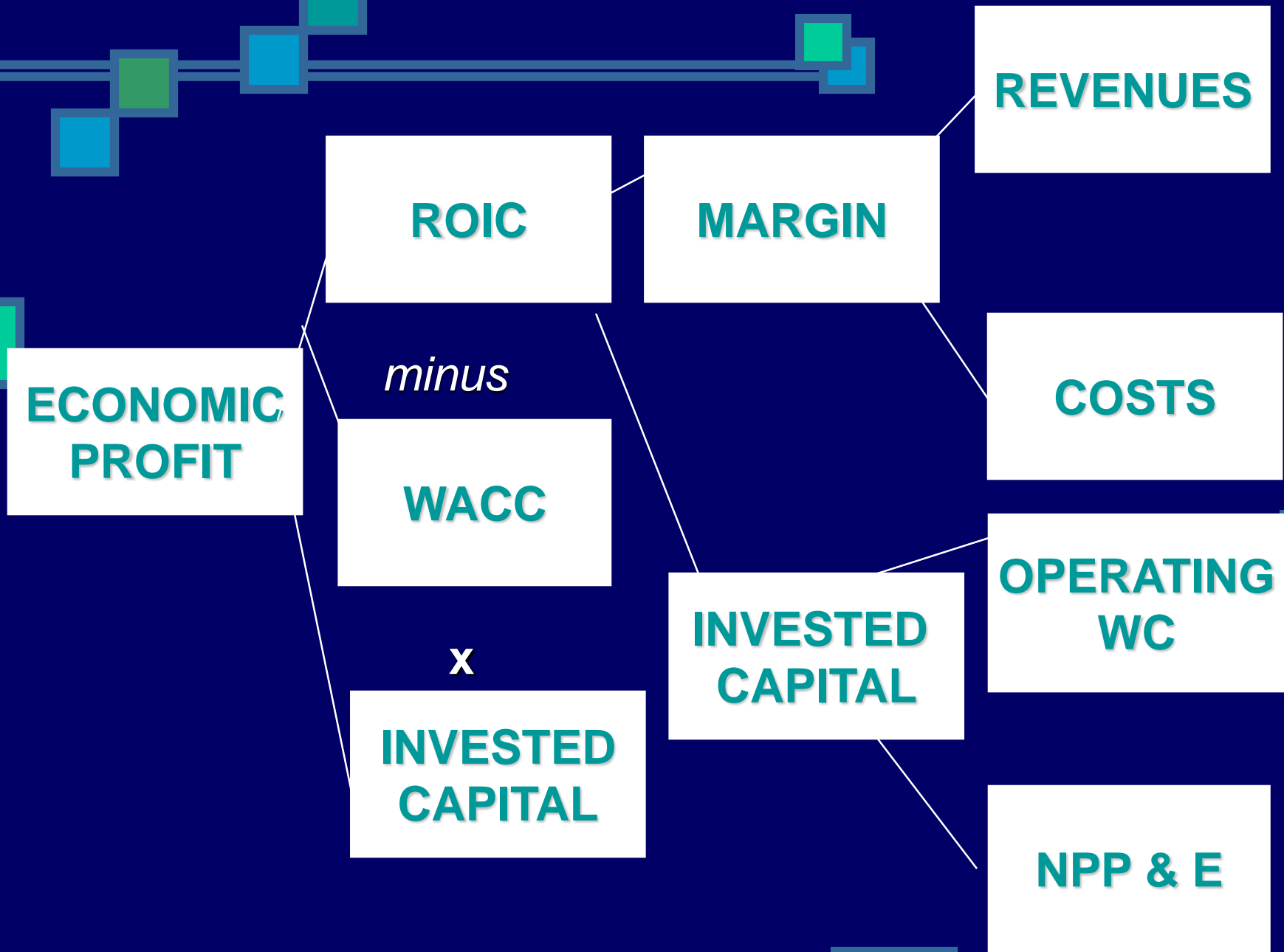
- All calculations in WACC (especially cost of equity related) are usually based on ex-post data. Actually they should be ex-ante. To that extent, it is a questionable concept to bank on.
- It is just a financial number i.e., it misses the advantages of ratios [cannot compare EVA of one firm with other firms (say, size of a firm is not taken care of)].
- EVA Vs EPS Vs MVA Vs PBV Ratio



# EVA @ Tata Steel in 1990s







# INVESTED CAPITAL comprise of.....

- ✓ **Net Fixed Assets less Capital WIP**
- ✓ **Net Current Assets**
- ✓ **Investments**
- ✓ **R & D Expenses**
- ✓ **Bad Debt Reserves added to Receivables**

# FOR TATA STEEL

*Figs. of '97-98*

$$\begin{aligned}\text{COST OF DEBT} &= \text{INTEREST RATE} * \\ &\quad (1 - \text{TAX RATE}) \\ &= 10.7 * (1 - 0.105) \\ &= 9.6 \%\end{aligned}$$

# ***INTEREST RATE***

***INT. RATE*** = INTEREST CHARGE

(GROSS) / DEBTS X 100


=Rs.465 Crs./Rs.4331Crs X 100

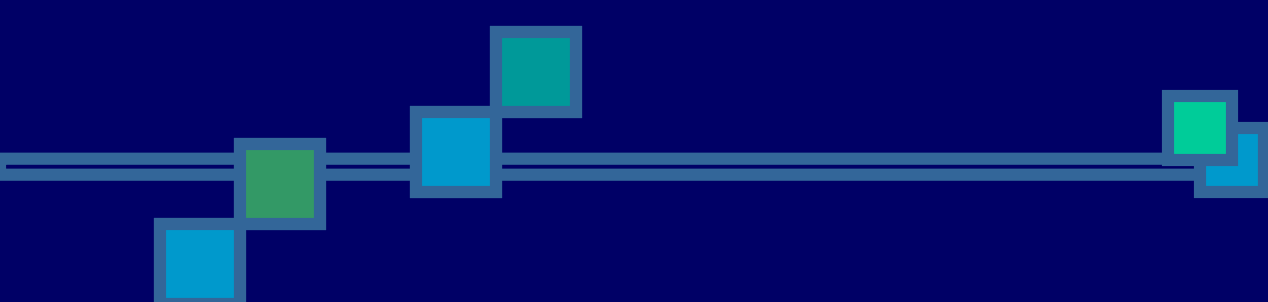
=10.7 %




# COST OF EQUITY:

CAPITAL ASSET PRICING MODEL :

$$\begin{aligned}K_e &= R_f + (R_m - R_f) * \beta \\ &= 14 + (21 - 14) * 1.2 \\ &= 22.4\%\end{aligned}$$




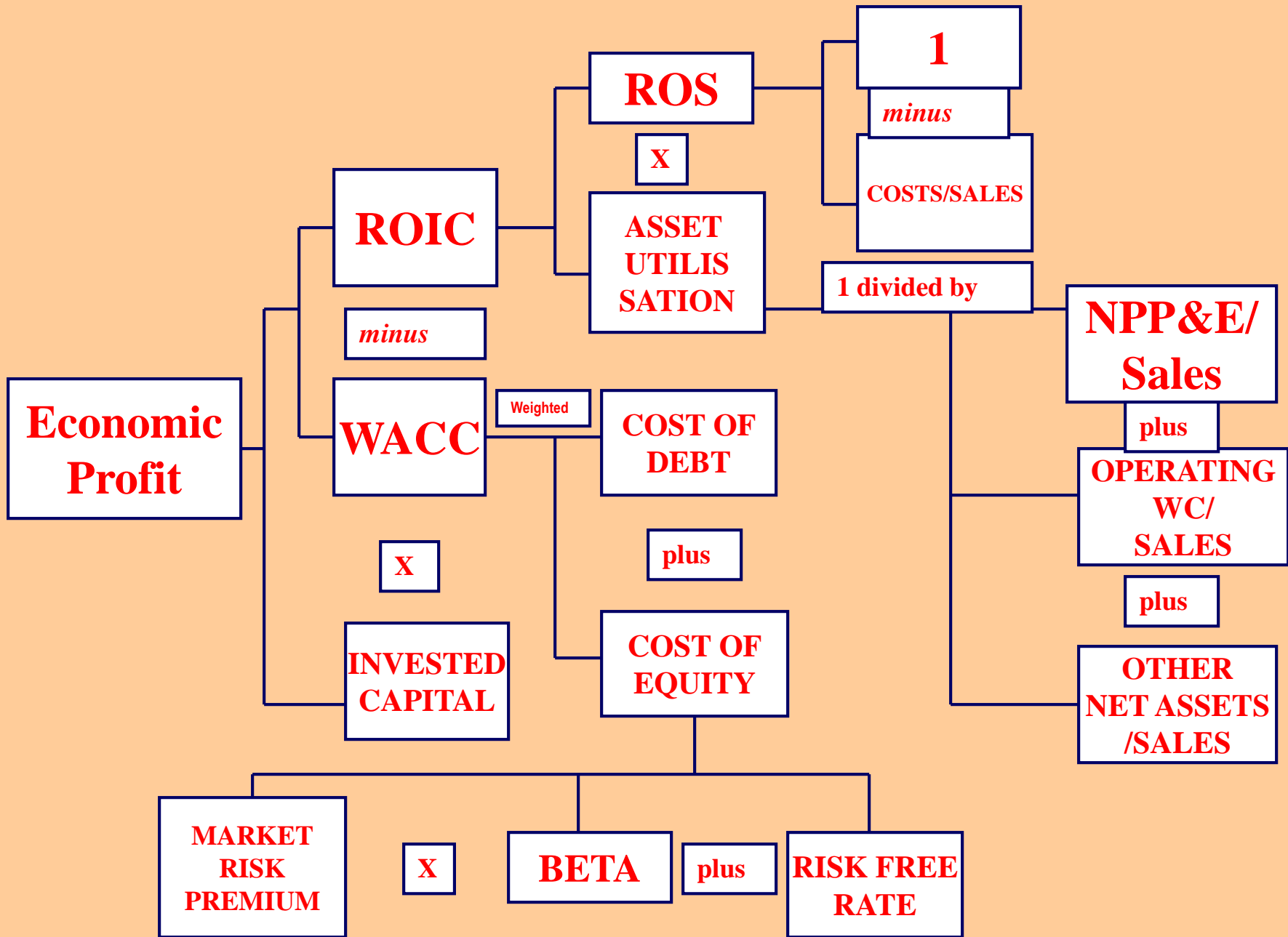
***WACC i.e. THE COST OF DEBT AND  
COST OF EQUITY TAKEN  
TOGETHER  
( AFTER CONSIDERING THE  
DEBT : EQUITY RATIO OF 1: 0.89)  
FOR TATA STEEL = 15 %***



# MAJOR COMPANIES

BASED ON FIGS AS ON 31ST DEC 1994

	<i>ROIC</i>	<i>WACC</i>	<i>EVA</i>
<b>COCA COLA</b>	35.5%	10.0%	25.5%
<b>GENERAL ELEC.</b>	14.8%	12.9%	1.9%
<b>ORACLE SYSTEMS</b>	37.0%	15.4%	21.6%
<b>MICROSOFT</b>	47.6%	14.4%	33.2%
<b>ABBOTT LAB.</b>	27.1%	11.1%	16%
<b>JOHNSON &amp; JOHNSON</b>	19.6%	12.6%	7%
<b>PHILIP MORRIS</b>	16.3%	10.8%	5.5%
<b>INTEL</b>	28.3%	15.4%	12.9%







# THANK YOU!