

Finance for Non-Finance

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Agenda

- How to draw meaningful inferences from financial statements?
- How do we manage cost and ensure cost-efficiency?
- How do we take financial decisions?

Financial Statements

- Balance Sheet
 - $\text{Assets} = \text{Liabilities} + \text{Equity} + \text{Revenue} - \text{Expenses}$
- Income Statement
 - Subset of Balance sheet
 - $\text{Income} - \text{Expenses} = \text{Profit}$
 - Gross Profit, EBDITA, PBIT, PBT, PAT or Net Profit
- Cash Flow Statement
 - Cash generated through (a) Operations (b) Financing activities and (c) Investing activities

Balance Sheet of UHGIS

	Mar-13	Mar-12
Shareholders Fund	3984.79	3022.19
Long-term Provisions	409.47	266.62
Total Current Liabilities	1467.47	699.25
Total Sources of Funds	5861.73	3988.06
Total Fixed Assets	2210.55	1310.06
Total Current Assets	3651.18	2678.00
Total Uses of Funds	5861.73	3988.06

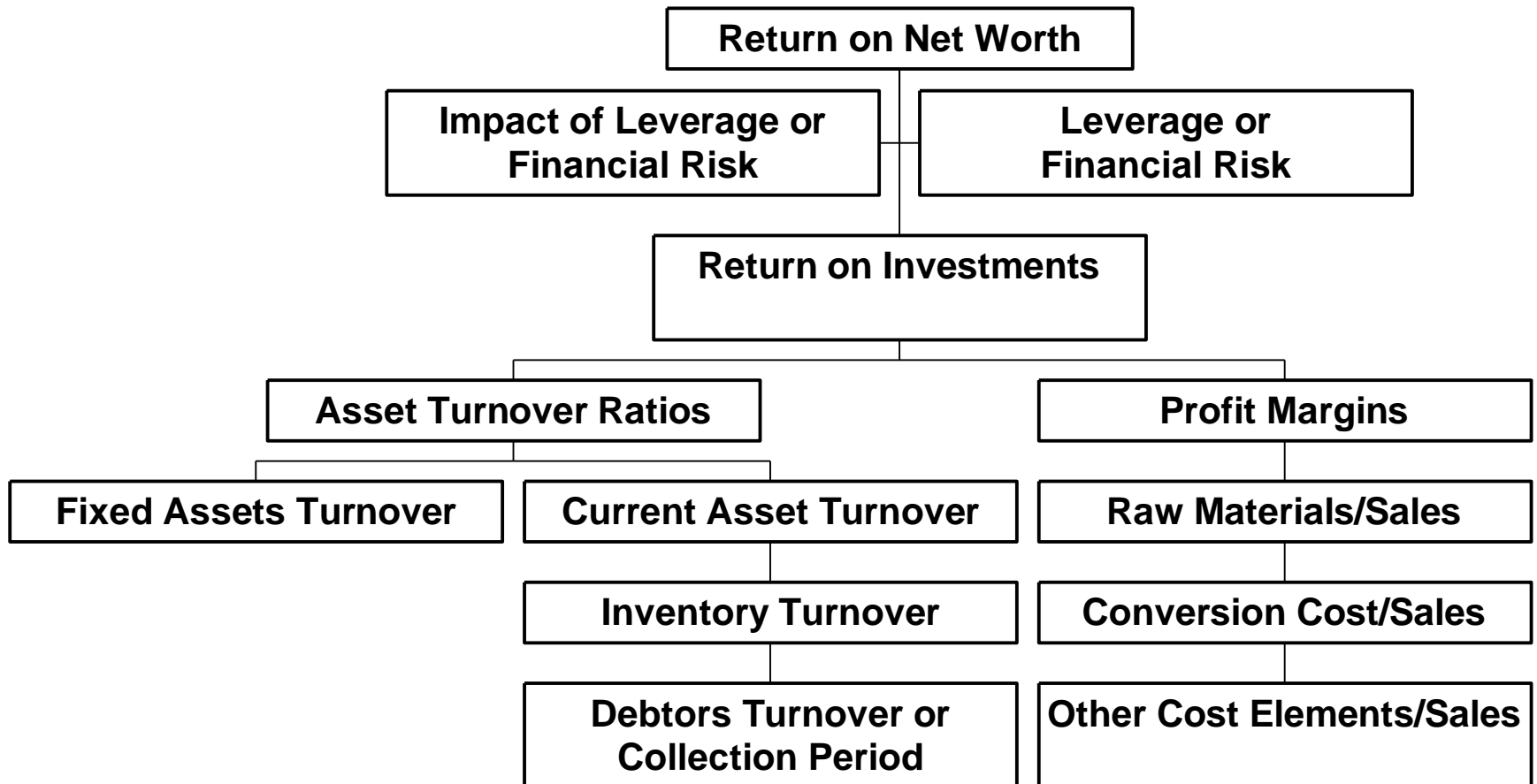
Income Statement of UHGIS

	Mar-13	Mar-12
Revenue from Operations	8990.87	6325.64
Other Income	120.98	160.40
Total Income	9111.85	6486.04
Employee Benefit	5092.23	3606.48
Depreciation	423.32	379.37
Other Expenses	2480.67	1717.75
Total Expenses	7996.22	5703.60
Profit before Taxes	1115.63	782.44
Taxes	153.03	121.73
Profit after Taxes	962.60	660.71

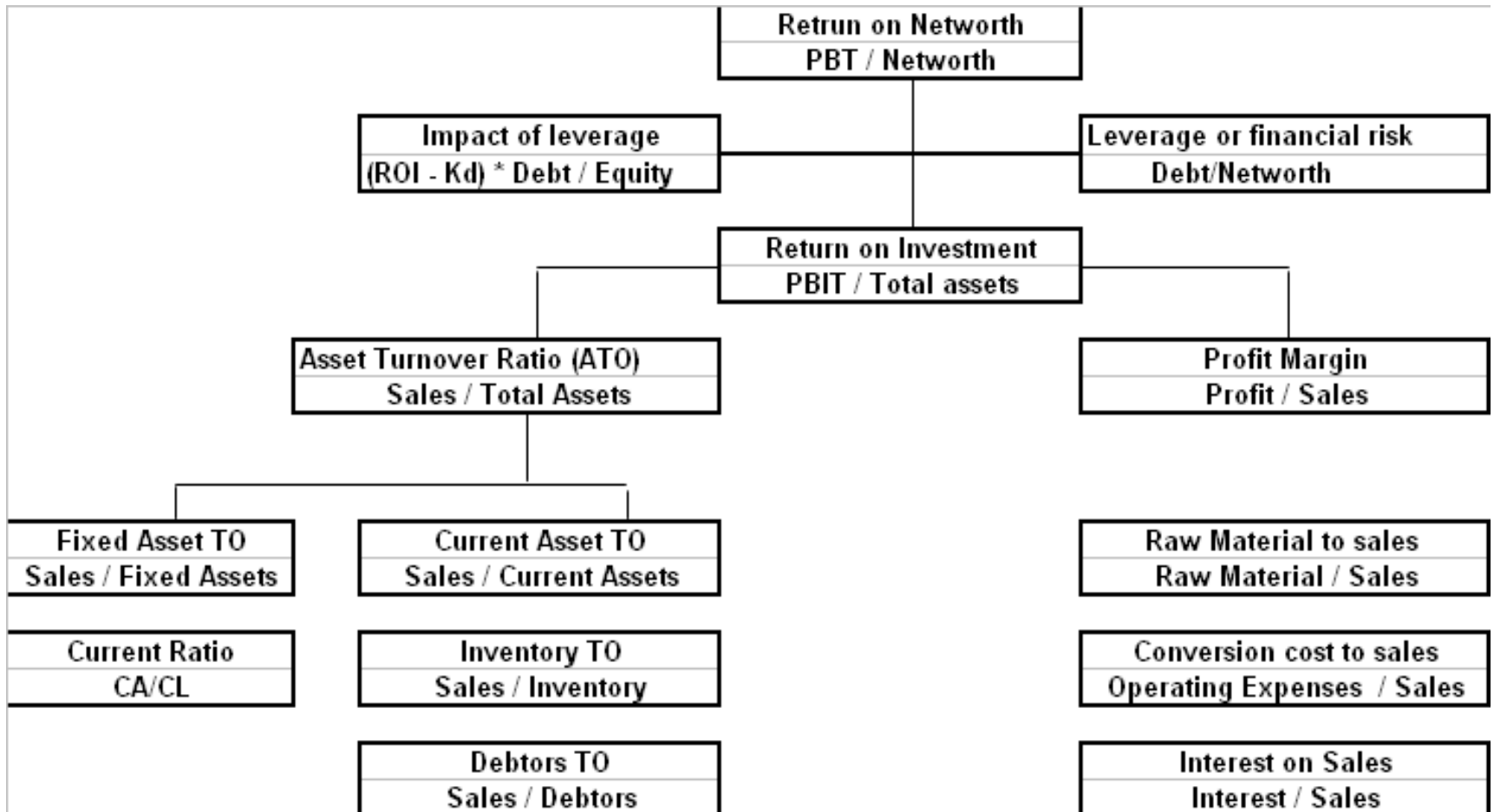
Understanding Profit Drivers

- How do we assess the performance of a business?
 - ROI ? ROE ?
- What drives ROE?
 - Asset Management
 - Cost or Profit Management
 - Leverage or Debt Management
 - Tax Management

FSA-Basic Structure



DuPont Chart



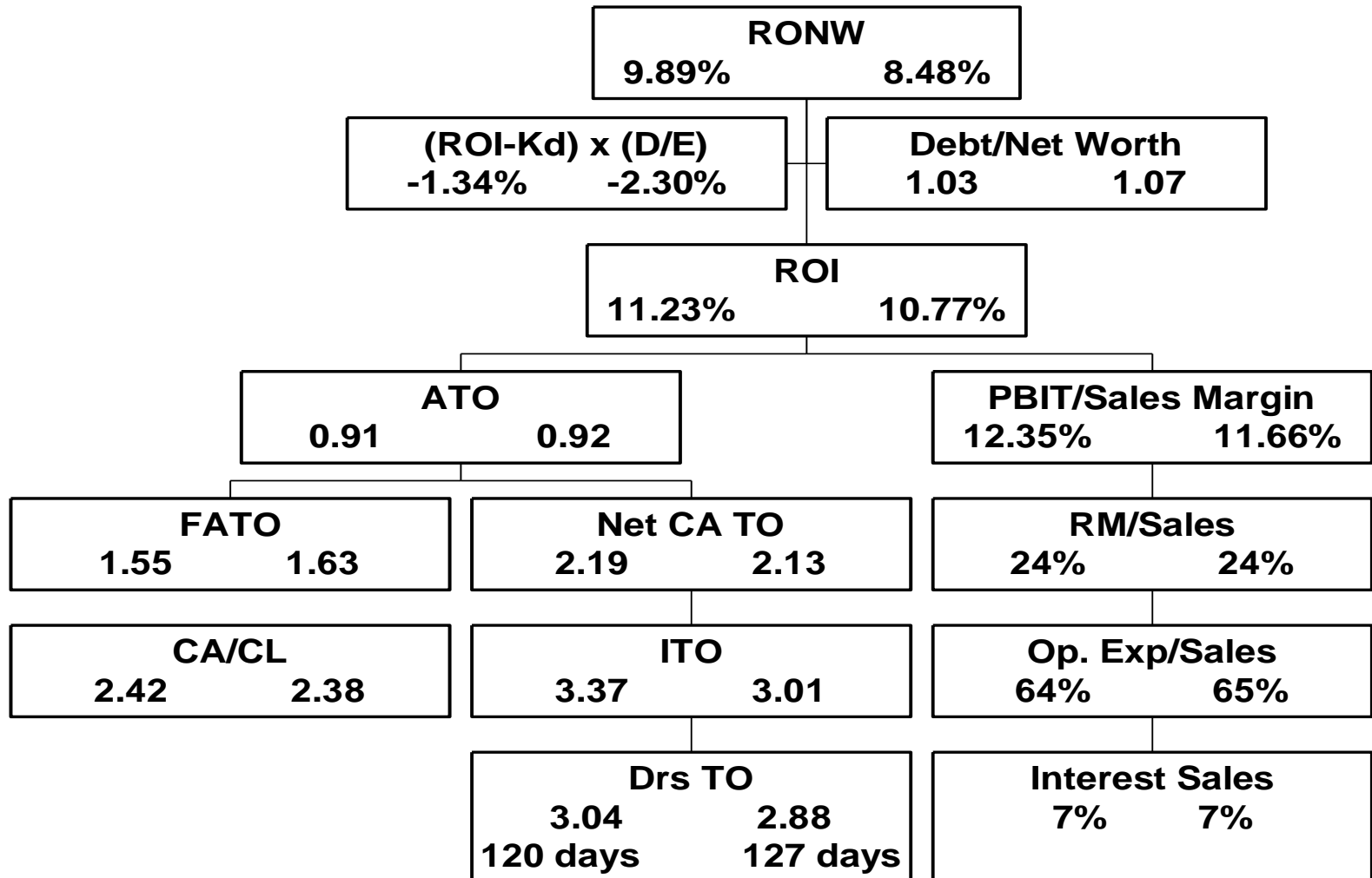
FSA of L&T Ltd.

	<u>2000</u>	<u>2001</u>
Net Worth	3864	3999
Loan	<u>3974</u>	<u>4263</u>
Total	<u>7838</u>	<u>8263</u>
F.A.	4589	4671
Inventory	2112	2537
Receivables	2343	2648
Cash	1081	1008
Less: C.L.	<u>2287</u>	<u>2601</u>
Total Assets	<u>7838</u>	<u>8263</u>

	<u>2000</u>	<u>2001</u>
Sales	7125	7633
Raw Material	1681	1807
Op. Expenses	<u>4564</u>	<u>4936</u>
PBIT	880	890
Interest	<u>498</u>	<u>551</u>
PBT	382	339
Tax	<u>41</u>	<u>24</u>
PAT	<u>341</u>	<u>315</u>

What went wrong in 2001?

FSA- L&T Ltd.

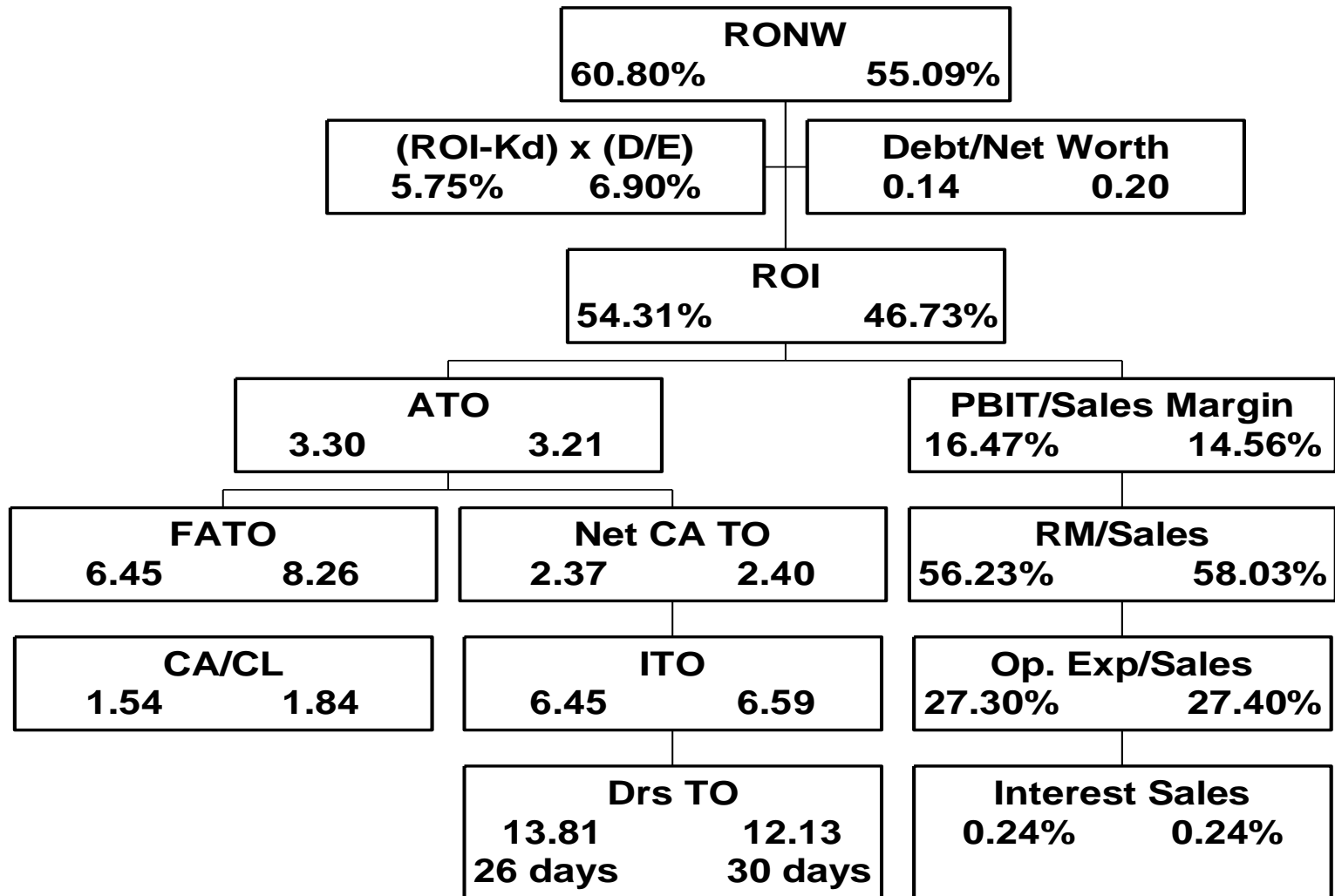


FSA of Asian Paints Ltd.

	2007-08	2006-07
Equity	928.50	744.08
Loan	126.22	147.82
Total	1054.72	891.90
F.A.	539.22	346.53
Inventory	538.97	434.07
Receivables	251.90	235.96
Cash	464.23	376.88
Other CA	212.00	146.71
Less: C.L.	951.60	648.25
Total Assets	1054.72	891.90
Current assets	1467.10	1193.62
Cost of debt	6.55	4.65

Asian Paints	2007-08	2006-07
Sales	3,478.74	2,861.74
Raw Material	1,956.13	1,660.71
Other Expenses	949.79	784.24
PBIT	572.82	416.79
Interest	8.27	6.87
PBT	564.55	409.92
Tax	187.96	139.99
PAT	376.59	269.93

FSA- Asian Paints



FSA of Asian Paints Ltd.

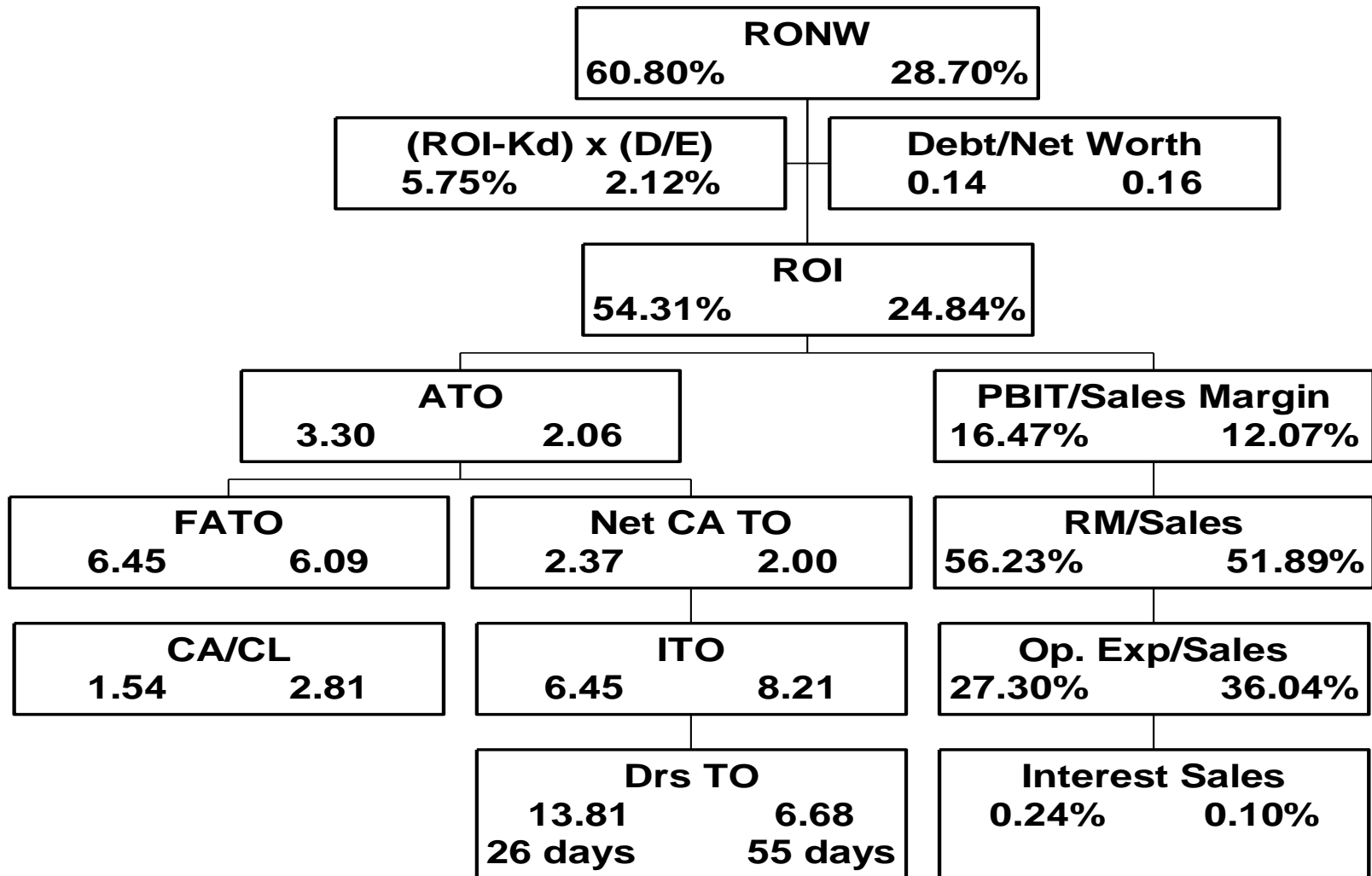
- Profitability increased on account of both better cost management and asset management
 - Raw material consumption declined
- Scope for improvement
 - Fixed Asset Turnover ratio declined – why?
 - Inventory Turnover ratio declined – why?

Asian Paints vs. Kansai Nerolac

	Asian Paints	Kansai
Equity	928.50	593.69
Loan	126.22	97.95
Total Liabilities	1054.72	691.64
F.A.	539.22	233.84
Inventory	538.97	173.41
Receivables	251.90	212.93
Cash	464.23	265.52
Other CA	212.00	58.53
Less: C.L.	951.60	252.59
Total Assets	1054.72	691.64
Current assets	1467.1	710.39
Cost of debt	6.55	1.44

	AsianPaints	Kansai
Sales	3,478.74	1,423.21
Raw Material	1,956.13	738.54
Other Expenses	949.79	512.87
PBIT	572.82	171.8
Interest	8.27	1.41
PBT	564.55	170.39
Tax	187.96	50.60
PAT	376.59	119.79

FSA- Asian Paints vs. Kansai



Asian Paints vs. Kansai Nerolac

- What are the areas of improvement that Kansai should take-up?
 - Kansai is not doing well both on Asset management and cost management
 - Operating expenses are high
 - On the assets side, receivable management requires improvement

Altman's Credit Rating Model

$$Z = 1.2 x_1 + 1.4 x_2 + 3.3 x_3 + 0.6 x_4 + 1.0 x_5$$

Where: x_1 = Working Capital/Total Assets

x_2 = Retained Earnings/Total Assets

x_3 = EBIT/Total Assets

x_4 = Equity/Total Debt

x_5 = Sales/Total Assets

If Z is below 2.675, then the firm is potentially a sick firm.

E.I. Altman, Financial Ratios, Discriminant Analysis, and Prediction of Corporate Bankruptcy, JOF, Sept. 1968, 581-609

Summary: Financial Statements

- Financial Statements are analyzed in different ways to get further insight on the activities of the business unit
- Major methods of analysis are Horizontal, Trend and ratio analysis
- FS are analysed to know
 - Profit and profitability
 - Performance of Different Functions
 - Long-term and Short-term Solvency or Liquidity

Cost Analysis and Management

Classification of Costs

- Two broad classification
 - Variable Cost
 - Fixed cost
 - Costs are often mixed
- Cost of employees who are directly involved in operations are variable cost
- Most other costs are fixed in the short run and are “step costs”
- A small part of total cost are fixed

Controlling Variable Costs

- Variable costs are controlled by improving productivity or changing the process
 - Continuous process improvement
- A small quantum of saving shows substantial improvement in bottom-line due to multiplier effect.
 - $\text{Revenue} - \text{variable cost} = \text{Contribution}$
 - $\text{Profit} = \text{Contribution} * \text{Number of units} - \text{Fixed cost}$

Controlling Fixed Cost

- Fixed Cost is controlled in several ways
 - Increasing volume; 100% capacity utilization
 - Converting to variable or semi-fixed cost
 - Substitution of Cheaper Resources
- Controlling fixed cost has lower impact on profit but major impact on risk
 - Break-even Point: $\text{Fixed Cost} / \text{Contribution}$
 - Operating Risk: $\text{Contribution} / \text{Contribution} - \text{Fixed Cost}$

High-Level Cost Analysis of IT Firm

Year	Net Operating Income	<u>Operating Expenses</u>	<u>Employee Cost</u>	<u>Power/Electricity Charges</u>	<u>Selling and Administration Exp</u>	<u>Miscellaneous Expenses</u>	<u>Depreciation</u>
2005	8,051.11	3,049.89	1,863.86	44.59	578.32	353.87	133.22
2006	11,230.50	1,541.47	5,108.84	66.85	866.9	217.29	257.38
2007	14,939.97	1,938.66	7,314.05	93.89	1,099.15	168.97	343.41
2008	18,289.85	2,272.97	9,401.97	135.57	1,384.63	273.30	458.78
2009	22,404.00	2,587.48	11,663.54	164.34	1,624.75	1,038.23	417.46
2010	23,044.45	2,571.72	11,767.96	200.49	1,450.04	357.46	469.35
2011	29,275.41	3,556.72	14,723.60	240.00	1,800.56	172.42	537.82
2012	38,104.23	4,900.79	18,898.77	292.1	2,314.26	300.55	688.17
2013	48,426.14	13,798.52	17,081.72	375.61	2,120.19	718.81	802.86
2014	64,672.93	17,560.10	21,466.56	463.25	2,735.72	873.81	1,080.55

Income statement of Tata Consultancy Services

Cost Analysis of IT Firm (TCS)

	Variable cost	Fixed Cost
Operating Expenses	21.89%	0.00
Employee Cost	32.50%	2880.12
Power/Electricity Charges	0.76%	0.00
Selling and Administration	3.55%	609.66
Miscellaneous Expenses	0.96%	179.89
Depreciation	1.53%	92.32
Total	61.19%	3761.99

Cost Analysis of IT Firm (TCS)

Contribution Margin Ratio	38.81%
Fixed Cost for TCS	3761.99
BEP in Revenue	9693.25
Current Revenue	64,672.93
Margin of Safety	54,979.68
MOS as % current revenue	85%

Basic Ideas of Cost Management

- Organization exists to create value to product or services
- Activities are performed to create value
 - Activities require resources – human resources or equipment
- Activities have three dimensions
 - Time, Cost and Quality
- Cost Management requires improving all three dimensions of the activities

Categorization of Activities

- Unit level activities
 - Activities that are performed when a unit is produced or service is performed
- Batch Level Activities
 - Activities that are performed when a group of units are produced or services are performed
- Product Level Activities
 - Activities that are required when a new product or service are launched
- Facility Level Activities

ABC in Banks

	Employee Cost	Branch Overhead	Total Cost
(A) General Banking			
Offering Term Deposit Account	55.70	81.60	137.30
(B) Offering Saving Bank/Current A/C			
Cash collection and payment	2.50	3.65	6.15
Accounting of SB and Current Account Transactions	3.70	5.25	8.95
Processing of Cheque received for collection	2.40	3.60	6.00
Clearing of Cheques issued by customers	2.40	3.60	6.00
(C) Offering Locker Facility	6.45	9.05	15.50
(D) Offering Payment (Remittance) Services	2.20	3.25	5.45

Bank Customer Costing

Product Type: Savings Bank Account	No. of Transactions per year	Cost per Transaction	Total Cost
Branch A			
Cheque deposits in a year	12	6.00	72
Cash deposits in a year	6	6.15	37
Cheque Issued to third parties	36	6.00	214
Cash withdrawals	24	6.15	148
Number of SB transactions processed	78	9.00	702
Total Cost			1172

ABC in Hospital (Nursing Cost)

Activities I&II floor	Time taken for activity by each nurse (in minutes)	Nursing Cost per bed per day (Rs.)
Inventory	20	
Handing over	20	
Rounds	25	
Mother bath	30	
Baby bath	30	
Assist mother for feeding	30	
Medicines	20	
Documentation	60	
Indenting	10	
Nappy changing	15	
Total Nursing Cost per bed per day		339

ABC in Hospital (ICU)

Activity	Activity
Inventory Check	Sending X-Ray for Reporting
Duty Handing Over	Doctors' Round
Checking Baby Side	Collecting Blood Samples
	Patient Medical Care
Carbonization of Equipment	Monitoring
Laundry Work	Assisting doctors for procedures
Collecting Reports	Assisting X Rays
Packing for CSSD	New Admission
Night Report	Tube Feeding
Indenting	Breast Feed Assistance
Pharmacy	Health Education
	Maintaining admission & Discharge Registers

Cost per bed per day: Rs. 642

Summary: Cost Management

- Cost consciousness is required at all levels
- Activities description, identification of resources, cost of performing activities are to be documented
- Performance metric should include how departments improved on three dimensions of activities – Quality, Time and Cost
- Inflation adjusted cost should continuously trend downward

Financial Decisions

Types of Financial Decisions

- Managers take large number of financial decisions
 - Capex or Investment Decisions
 - Operational Financial Decisions
- Capex decisions are one-time investment that produces continuous stream of revenue
 - Eg. Buying Office Space or Investing in Training or upgrading software or replacing equipment
- Operational financial decisions leads to periodic cash out flow
 - Eg. Decision on variable vs fixed pay

Financial Decision Rule

- All financial decisions should pass on a single decision rule
- Present Value of Cash Inflow should be greater than Present Value of Cash Out Flow
 - $PVCIF \geq PVCOF$
- $PVCIF - PVCOF$ is called Net Present Value (NPV)
- Input Required: Estimation of COF, CIF, Life of CIF and Discount Rate

Estimation of COF and CIF

- Fairly simple due “CASH” component
- If a decision requires organization to spend “CASH”, it is COF
- If a decision brings CASH to organization, it is CIF
- There is no accounting or IFRS issues
- The source of COF and CIF is not important
 - CIF includes incremental revenue and cost savings
 - Recognize opportunity cost as COF

CIF and COF: Example

- Alpha Ltd. is planning for expanding its facilities. It can acquire a facility in the same building which cost Rs. 500 million including furnishing (ready to use). Depreciation for new facility is 5%. Yearly operating profit out of the new facility is Rs. 150 million [Revenue Rs. 230 million; Expenses Rs. 80 million]. Tax Rate is 30%
- Life of business/facility is 30 years
- Is it viable project? Discount rate is 20%

CIF and COF: Example

- 200 KMs away, another facility is available at Rs. 250 million; Salary Expenses will increase as productivity is relatively low; Training expenses will also increase; Yearly operating profit is expected to be Rs. 80 million for first 10 years and then increase to Rs. 150 million for next 20 years.
 - In 10 years time, the facility will turn as productive as the current facility
- Where do we locate the new facility?

Discount Rate

- All resources (land, labour, capital) have cost.
- Discount rate is related to cost of capital
 - Risk Adjusted Weighted Average Opportunity Cost of capital
 - Opportunity cost is Risk Free Rate (Treasury Bill)
 - Risk is adjusted through a measure called Beta; if beta of a business is high, risk is high
 - Different sources of capital (debt and equity) is used and hence should be adjusted for the mix

Discount Rate: Example

- What is the Risk Adjusted Weighted Average Opportunity Cost Capital for:
 - Infosys
 - Tata Steel
 - DLF
 - Colgate

Operational Financial Decisions

- An employee aged 40 years is getting a fixed pay of Rs. 15 lakhs per year
- Average Billing on his account is Rs. 50 lakhs
- You are considering a proposal of 60% fixed and 40% variable
 - Rs. 9 lakh fixed + 15% of Revenue = Rs. 16.50 lakhs
- Assume the employee is likely to hold the current role for next 5 years and if the fixed pay continues, the productivity will decline by 5% every year

Summary: Financial Decision

- The cost of reversing financial decisions is often costly
 - Cost of changing software
- A lot of analysis is required before investing capital
- Periodic review of all investment decision taken in the past will give lot of learning