Financial Planning and Forecasting

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Pro-forma (Projected Financial Statements)

- Pro-forma Financial Statements:
  - Forecast the company's financial position and performance over a period of years.
- Purpose of Forecasted Financial Statements:
  - Can assess the forecasted performance with general targets and investors expectations.
  - Assess the effect of proposed operating changes on financials of the company.
  - Estimate the future financing needs of the company.
  - Useful for estimating the projected firm's free cash flows, which determines the value of firm.

Operating Plans

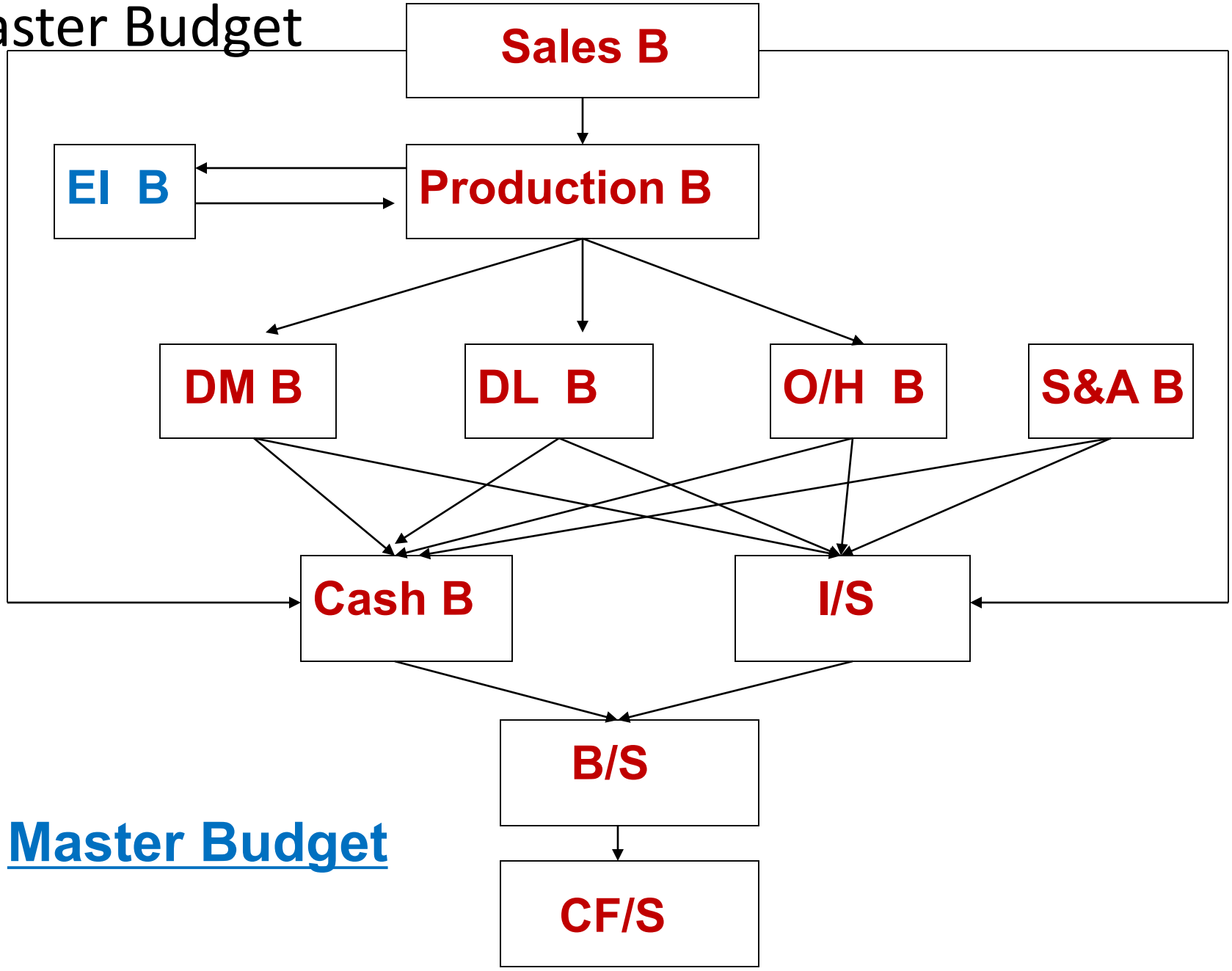
- Operating Plans provide a detailed implementation guidance based on the corporate strategy, to help meet the corporate objectives.
- The operative plans can be developed for any time horizon, but most companies use a five year's plan horizon.

Financial Planning Process

There are six steps in Financial Planning Process:

1. Project Financial Statements and use these projections to analyze the effects of the operating plan on projected profits and various ratios.
2. Determine the funds needed to support the five year plan. This includes funds for plant and machinery, equipment, as well as inventories and receivables, for R&D programs and for major promotion campaigns.
3. Forecast funds availability over the next five years.
4. Establish and maintain systems of controls to govern the allocation and use of funds with in the firm.
5. Develop procedures for adjusting the basic plan if the economic forecasts upon which the plan was based do not materialize.
6. Establish performance based management compensation system.

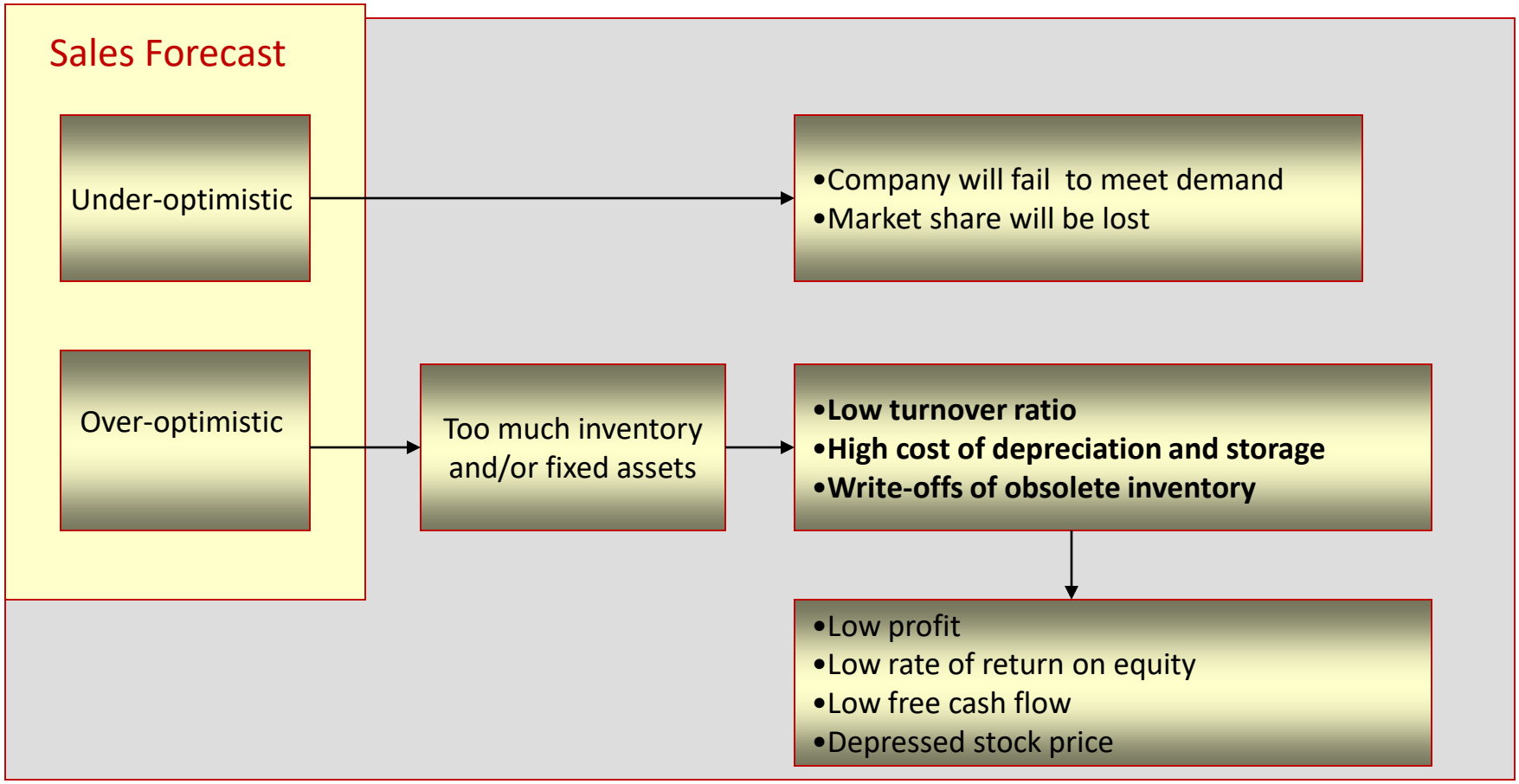
Master Budget



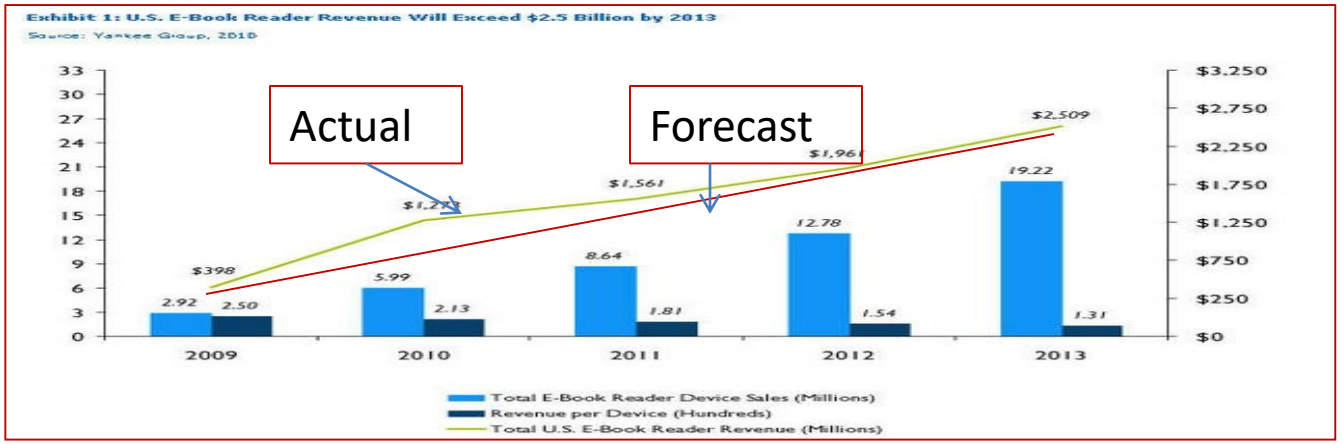
Master Budget

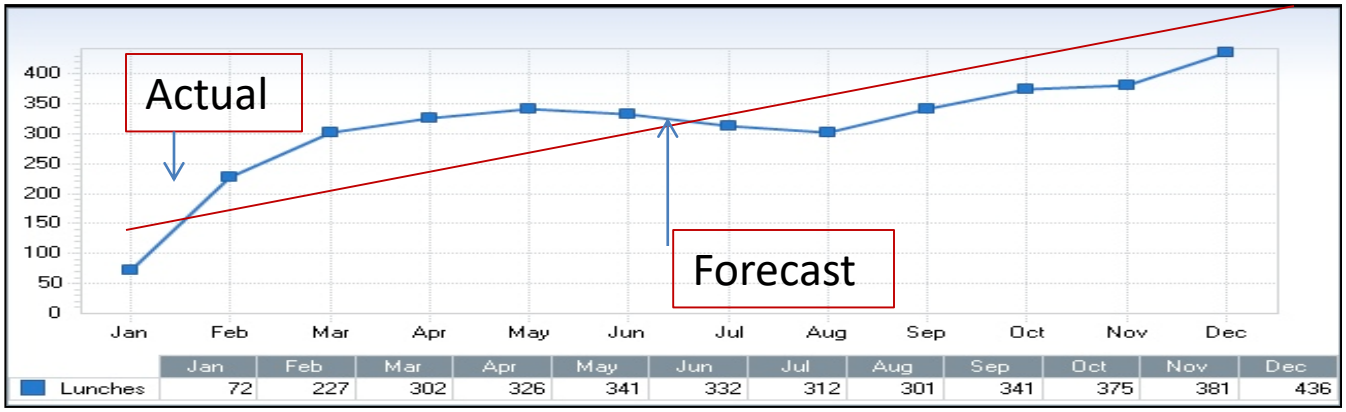
Projected Financial Statements –Sales Forecast

- Sales forecasts are usually based on the analysis of historic data.
- An accurate sale forecast is critical to the firm's profitability:



Sales Forecast





Sales Forecasting -Percent of Sales Method

- This is the most common method, which begins with the sales forecast expressed as an annual growth rate in rupee sale revenue.
- Many items on the balance sheet and income statement are assumed to change proportionally with sales.

Percent of Sales Method- Example

Balance Sheet

***Cash**	1,080		***Accounts Payable**	4,320
***Receivables**	6,480		***Accruals**	2,880
***Inventory**	9,000		**Notes Payable**	2,100
***TCA**	16,560		**TCL**	9,300
***Fixed Assets**	12,600		**Bonds**	3,500
			Common Stock	3,500
			Retained Earnings	12,860
***Total Assets**	29,160	X 1.15 = 33,534 Δ **4,374**	**Total (L+E)**	29,160

We need increase on the asset side.

- All assets are spontaneous. On the liability and equity side, Accounts Payable and Accruals are the only spontaneous funds.
- During the next year, sales increase by 15% resulting in a 15% increase in Total Assets (4,374). Hence, the asset side on next year's balance sheet must go up by 15%. Also, the spontaneous funds on the liability side must also increase by 15%.

**Denotes spontaneous, which means increase spontaneously with sales.*

Percent of Sales Method- Example- Balance Sheet

Balance Sheet

*Cash	1,080			*Accounts Payable	4,320	X 1.15 =	4,968	Δ 648
*Receivables	6,480			*Accruals	2,880	X 1.15 =	3,312	Δ 432
*Inventory	9,000			Notes Payable	2,100			
*TCA	16,560			TCL	9,300			
*Fixed Assets	12,600			Bonds	3,500			
				Common Stock	3,500			
				Retained Earnings	12,860			
*Total Assets	29,160	X 1.15 =	33,534	Δ 4,374	Total (L+E)	29,160		

The spontaneous items on the liabilities side of the projected balance sheet must also increase by 15%.

Percent of Sales Method- Income Statement

Income Statement

	20111				2012
***Sales**	36,000	X	1.15	=	41,400
***Operating Costs**	32,440	X	1.15	=	37,306
***EBIT**	3,560	X	1.15	=	4,094
Interest	560				560
EBT	3,000				3,534
Keep	0.6				0.6
Net Income	1800				2,120
Keep (45% dividends)	0.55				0.55
Retained Earnings	990				1,166

*Keep is the after tax result (1-tax)

Percent of Sales Method- Additional Funds Needed

Balance Sheet

	2011		2012			2011		2012	
***Cash**	1,080				***Accounts Payable**	4,320	X 1.15 =	4,968	? **648**
***Receivables**	6,480				***Accruals**	2,880	X 1.15 =	3,312	? **432**
***Inventory**	9,000				**Notes Payable**	2,100		2,100	
***TCA**	16,560				**TCL**	9,300		10,380	
***Fixed Assets**	12,600				**Bonds**	3,500		3,500	
					Common Stock	3,500		3,500	
					Retained Earnings	12,860	+1,166	14,026	
***Total Assets**	29,160	X 1.15 =	33,534	? **4,374**	**Total (L+E)**	29,160		31,406	
						Total Assets		33,534	
						AFN		2,128	(short)

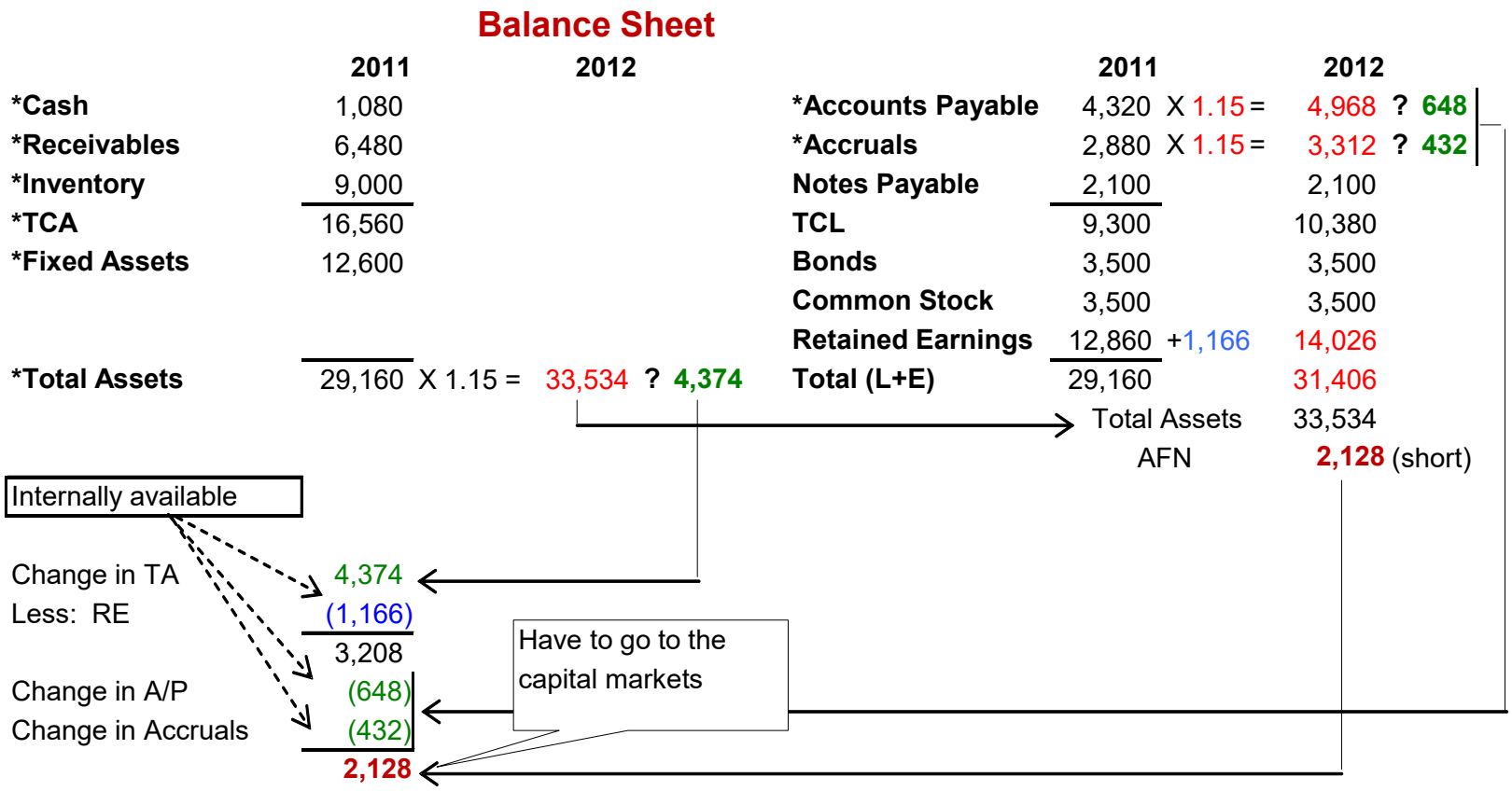
- Retained earnings will also increase but not at the same rate as sales.
- The 2012 amount of RE is the old amount plus the addition to retained earnings, which we calculated in the projected income statement.
- Since the TA = TL and the TA have increased to 33,534, while TL have increased to 31,406, there are additional funds needed (AFN) of 2,128 on the liabilities side.

Percent of Sales Method- Additional Funds Needed

There are two categories of sources for the AFN:

- Issuance of new stocks (equity)
- Use some combination of debt
- In this example, there are internally generated funds from:
  - Retained Earnings
  - Accounts Payable and Accruals

Percent of Sales Method- Additional Funds Needed



Financing AFN and Implications

- If issues new debt and common stock, the total amount of interest and dividends paid will change.
- Interest and dividends must be paid with cash, any increase in these costs will decrease the funds the firm has to invest—that is, the amount of income added to retained earnings will be less than originally forecasted.
- When we consider the effects of the increased interest and dividend payments, we find that the AFN is actually greater than originally expected.
- Financing feedbacks—that is, the effects on the financial statements of actions taken to finance forecasted increases in assets—must be considered to determine the exact amount of AFN.

Financing AFN and Implications

Borrow at 10% (Notes Payable).

- It means that next year the interest will be 560 + (10% * 2,128)

Income Statement				First Pass		Second Pass	
	2011			2012	2012	2012	
*Sales	36,000	X 1.15	=	41,400		41,400	
*Operating Costs	32,440	X 1.15	=	37,306		37,306	
*EBIT	3,560	X 1.15	=	4,094		4,094	
Interest	560			560	+ 213	773	
EBT	3,000			3,534		3,321	
Keep	0.6			0.6		0.6	
Net Income	1800			2,120		1,993	
Keep (45% dividends)	0.55			0.55		0.55	
Retained Earnings	990			1,166	-	1,096	= **70** (AFN)

*Keep is the after tax result (1-tax)

- Instead of retaining 1,166, the company retains 1,096 because of the interest.
- The end results is that the company has to raise 2,128 + 70 = 2198

Additional Funds Needed (AFN) Estimation

$$\frac{^*A}{S}(\Delta S) - \frac{^*L}{S}(\Delta S) - \Delta RE = AFN$$

- In the formula, we can use either year (2011 or 2012) numbers to arrive at the final result.
- *A refers to the Total Assets.
- *L refers to the sum of all spontaneous liabilities (Accounts Payable and Accruals).

$$\frac{33,534}{41,400} * 5,400 - \frac{8,280}{41,400} * 5,400 - 1,166 = 2,128 \quad (First\ Pass)$$

$$\frac{33,534}{41,400} * 5,400 - \frac{8,280}{41,400} * 5,400 - 1,096 = 2,198 \quad (Second\ Pass)$$

70 AFN

The factors effect the AFN

There are FIVE Key factors influences the AFN.

1. Sales Growth
2. Capital Intensity – Amount of assets required for an increase in rupee sales.
3. Spontaneous Liabilities to Sales Ratio.
4. Profit Margin
5. Retention Ratio

Element	Data Source
EBIT x (1-Tax rate)	Current Income Statement
+ Depreciation/Amortization	Current Income Statement
- Changes in Working Capital	Prior & Current Balance Sheets: Current Assets and Liability accounts
- Capital expenditure	Prior & Current Balance Sheets: Property, Plant and Equipment accounts
= **Free Cash Flow**	

Element	Data Source
Net Profit	Current Income Statement
+ Interest expense	Current Income Statement
- Net Capital Expenditure(CAPEX)	Current Income Statement
- Net changes in Working Capital	Prior & Current Balance Sheets: Current Assets and Liability accounts
- Tax shield on Interest Expense	Current Income Statement
= **Free Cash Flow**	

where, Net Capital Expenditure(CAPEX) = Capex - Depreciation & Amortization Tax Shield = Net Interest Expense X Effective Tax Rate

Free Cash flow Summary

Free Cash Flows	Year 2011	2012 (f0recast)	2013 (Forecast)	2010 (Forecast)	2011 (fore cast)
EBITA	646	610	648	671	700
Cash Taxes on EBITA	(204)	(177)	(227)	(236)	(246)
NOPLAT	442	434	420	436	454
Depreciation	137	142	139	151	159
Gross cash flow	579	576	559	586	613
Change in W.C	(18)	(195)	35	(26)	(27)
Cap Expenditure	(183)	(142)	(275)	(223)	(235)
Increase in Net Other assets	(18)	(47)	12	12	13
Gross Investment	(219)	(384)	(228)	(237)	(249)
Operating Free Cash Flows	360	192	331	349	364
Cash flow for Non operating Investments	(0)	25	450	0	0
A.T Interest Income	2	0	0	0	0
Dec/Inc in Marketable Secs	0	0	(40)	(170)	210
C.F Available to Investors	**362**	**217**	**741**	179	574
Financing Flow					
Net Interest Exp A.T	48	52	43	42	36
Dec/Inc in Net Debt	(322)	36	3	0	(108)
Common Dividends	122	129	195	137	146
Share Repurchases	514	0	500	0	500
Financing Flow	362	217	741	179	574

Other Techniques for Forecasting Financial Statements

Simple Linear Regression.

AFN in two cases:

- No Idle Capacity
- Where Idle capacity exists.

- Excess capacity: lowers AFN.
- Economies of scale: leads to less-than-proportional asset increases.
- Lumpy assets: leads to large periodic AFN requirements, recurring excess capacity

Economic Value Added (EVA)

EVA = (Operating Income) x (1-T) -WACC x (Capital Employed)

Changes in Ratios

- Performance
- Debt

Risk will lead to changes in EVA.

Thank You

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