

FINANCIAL ANALYSIS OF BUSINESS STATEMENTS

The process of examining various financial statement items with the objective of performance, and perhaps more importantly, projecting future performance and financial condition.

BROAD CATEGORIES OF RISK

- **General Economic Risk**
- **Financial Price Risk**
- **Liquidity Risk (Operational and Agency implications)**
- **Long-Term Solvency Risk/Risk of Financial Distress**
- **Financial Structure Risk**
 - **Agency Risk (per the Incentives of Management)**
- **Operational Risk/Execution Risk**
 - **Sales Risk (Acquiring and Retaining Clients)**
 - **Credit Risk/Receivables Risk/Collateralization**
 - **Brand/Marketing Risk**
 - **Technological Obsolescence Risk**
 - **Individual Project Risk (And Opportunity Risk)**

DIMENSIONS OF RISK

- **Historical trends**
- **Variability**
- **Comparable benchmarking**
 - **Lifecycle stage**
 - **Industry**
 - **Peer firms**

OPERATING EFFICIENCY

3 key areas of operating efficiency:

- **A/R** (A/R days should not go up <-- reduction of operating cash flows, pejorative implications for operating margin, increased probability of a write down)
- **Inventory** (Inventory Days should not go up <-- financing inventory with higher cash outflows and increased probability of a write down)
- **A/P** (decrease --> higher cash outflows)

CRITICAL QUESTIONS

- Has the firm made a change in its product, geographic, or customer mix that would affect the comparability of the ratios over time?
- Has the firm made a major acquisition or divestiture?
- Has the firm changed its methods of accounting over time?

COMMON SIZE AND TREND FINANCIAL STATEMENTS

Definition: In common-size balance sheets, all items are expressed as a percent of total assets.

Purpose:

- To better appreciate the **relative** size and importance of the various items reported in the balance sheet
- Facilitates comparison between firms

From the structure of the B/S, an analyst can infer important aspects of the company's business model.

Possible Risks and Signals:

- High cash → flexibility, barrier to entry (if credible threat of predatory pricing, for example), not necessarily good for investors, liquidity, agency risk (possibility of less management discipline)
- Inventory → if low, suggests JIT
- Vulnerability to demand shocks → problems and difficulties forecasting demand, seasonality, etc. → Operational risk
- Possibility of outsourcing
- Scale economies being realized or not?
- Liquidity can add or destroy value by virtue of its operational and agency implications

Definition: In common-size income statements, all items are expressed as a percentage of total sales.

Definition: Under trend analysis, a base year is identified and the values of a given item in subsequent years are expressed as a percentage of the base year value. The base year value is usually defined as 100, for ease of interpretation.

RATIO ANALYSIS

Definition: Taking ratios of financial statement items designed to make indications of profitability, short-term liquidity and long-term solvency for specific firms to make absolute and relative judgments (in relation to other comparable firms).

- Profitability ratios → operating risk/efficiency
- Liquidity ratios → financial price risk, operating risk
- Solvency ratios → risks of financial distress, financial structure risk

Sustainable growth: The level of growth that can be sustained by internally generated funds. It is the level of growth that is sustainable without requiring raising financing through either debt or equity issues, potentially shifting the capital structure of the firm. $G = ROE * (1-d)$, where g is the sustainable growth rate, ROE is the return on equity and d is the dividend payout ratio.

PROFITABILITY RATIOS

- Rate of Return on Assets: measures a firm's success in using assets to generate earnings independent of the financing of those assets (i.e. debt versus equity)

ROA Analysis

4 steps:

- Calculate ROA
- Decompose ROA into profit margin and assets turnover
- Decompose profit margin into expense ratios for the various cost items
- Decompose asset turnover into various individual turnover rates

ROA is calculated as:

Net Income + (1 - Tax Rate)(Interest Exp) + Min. Int. in Earnings

Average Total Assets

- We can break it down into its constituent parts

ROA = Profit Margin X Assets Turnover

$$\frac{[\text{Net Income} + \text{Interest Expense (net of taxes)} + \text{Minority Interest in Earnings}]}{\text{Average Total Assets}} = \frac{[\text{Net Income} + \text{Interest Expense (net of taxes)} + \text{Minority Interest in Earnings}]}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average Total Assets}}$$

Accounts Receivable Turnover (Credit Risk)

- Measures how soon sales will become cash
- Amount of sales per A/R → prefer a high amount of sales to A/R
- Inverse of the percentage of sales from A/R

$$\text{Accounts Receivable Turnover} = \frac{\text{Net Sales on Account}}{\text{Average Accounts Receivable}}$$

Days Receivable Outstanding (Credit Risk)

- The rate which A/R are being collected
- $365 \times$ the percentage of sales that are from A/R

$$\text{Days Receivable Outstanding} = 365 / \text{Accounts Receivable Turnover}$$

- Sustained increase might mean:
 - Higher percentage of sales from A/R → deteriorating customer base in terms of credit, or that the credit department is doing a poor job or that the credit department is being too aggressive
 - Sensitive to the general economy

Inventory Turnover Ratio

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

- Inverse of the proportion of inventory in COGS
- How much COGS do you get for every \$ of inventory

Days Inventory Held

$$\text{Days Inventory Held} = 365 / \text{Inventory turnover}$$

- $365 \times$ the proportion of inventory in COGS
- Being in inventory ties up cash
- Ideally days inventory held is low → less inefficient use of cash
- Higher inventory turnover → lower days inventory held → more efficient use of cash
- An increase in inventory turnover may mean a loss of sales ← shortages

- What is the optimal amount of inventory turnover for the particular industry? **What is the tradeoff between efficient use of cash, having appropriate amount on hand to sustain sales and avoiding technological obsolescence?**
- A low inventory turnover can also imply that the inventory of the firm is becoming obsolete

Fixed Asset Turnover

- **How efficiently is the firm using its fixed assets to generate sales?**
- **How many sales per unit of average fixed assets?**
- Can signal a firm making investments in fixed assets in anticipation of higher sales in future periods (i.e. a low or decreasing rate of fixed asset turnover may be an indication of an expanding firm that is preparing for future growth)
- Alternatively, a firm may cut back its capital expenditures if the near-term outlook for its products is poor → leading to an increase in fixed asset turnover

$$\text{Fixed asset turnover} = \frac{\text{Sales}}{\text{Average Fixed Assets}}$$

Accounts Payable Turnover

- **How quickly is the firm paying its suppliers?**

$$\text{Accounts Payable Turnover} = \frac{\text{Purchases}}{\text{Average Accounts Payable}}$$

- Inverse of the amount of purchases that are in A/P

Days Payable Outstanding

- 365 x the percentage of purchases in average A/P
- When a firm begins to experience financial difficulty, the days payable outstanding typically begins to rise
- Too low a rate might imply that the firm is not exploiting the (implicit) financing of its operations that suppliers provide when they sell to the firm on credit

ROE

$$\text{ROE} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Average Common Equity}}$$

Or

$$\text{ROE} = \frac{\text{Net Income Available to Common}}{\text{Average Common Equity}}$$

Decomposition of ROE

$$\text{ROE} = \text{ROA} \times \text{Common Earnings Leverage (CEL)} \times \text{Capital Structure Leverage (LEV)}$$

$$\text{NI Avail to Common} / \text{Avg CEquity} =$$

$$\frac{(NI^* / \text{Avg TA}) \times (NI \text{ Avail to Common} / NI^*) \times (\text{Avg TA} / \text{Avg CEquity})}{1}$$

- Common Earnings Leverage in which $NI^* - NI = \text{Cost of Debt and Preferred Stock}$
 - The higher (lower) is the cost of these sources of capital, the lower (higher) will be this multiplier (i.e. the less (more) will be left for common shareholders)
- Financial Leverage measures the degree to which the firm uses the investment of common shareholders to finance itself (how many assets for every \$ of equity)
 - Higher financial leverage \rightarrow less capital obtained from common shareholders \rightarrow riskier
 - Common shareholders can (but not always) benefit in terms of earning a higher ROE when the proportion of non-common equity financing in the capital structure is increased
- CEL and LEV combine to form a multiplier effect on ROA that emanates from the use of non-common equity sources of finance
- CEL captures the cost of these other sources of finance
- LEV captures the proportion of these other sources of finance vis-à-vis common equity

Du Pont Analysis

ROE = Net Income / Shareholders' equity

ROE = Profit margin X Turnover X Leverage

Profit margin = Net Income / Sales

Turnover = Sales / Assets

Leverage = Assets / Shareholders equity

- ROE will be greater than ROA when ROA is greater than the cost of capital provided by creditors and preferred shareholders
- When a firm generates earnings using capital provided by creditors and preferred shareholders that exceeds the costs of such capital, the "excess" return belongs to common shareholders.

LIQUIDITY RATIOS

- Sheds light on a firm's ability to pay for obligations that come due during its operating cycle

Current Ratio

Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

- Matches the amount of cash and other current assets that will become cash within one year against the obligations that come due in the next year
- Rule of thumb: A minimum current ratio of 1.0
- An increase of equal amount in both \rightarrow a decrease in the ratio when it is higher than 1.0 ex ante and an increase in the current ratio if it is less than 1.0 ex ante
- A very high current ratio may accompany unsatisfactory business conditions
- A falling ratio may accompany profitable operations \rightarrow e.g. lower inventories
- In a recessionary period, businesses contract, firms pay current liabilities, current ratio goes up, even though current assets reach a low point
- Reverse can occur in a boom

Quick Ratio

$$\text{Quick Ratio} = \frac{\text{Cash} + \text{Mkt Securities} + \text{AR}}{\text{Current Liabilities}}$$

- Includes only in the numerator those assets that can be quickly converted to cash

Operating Cash Flow to Current Liabilities Ratio

$$\frac{\text{Operating Cash Flow}}{\text{Average Current Liabilities}}$$

- Based on cash flow **after** the funding needs for working capital (i.e. A/R and Inventory) have been made
- Average CL used in the denominator to be consistent with the numerator (cash flow from operations generated over the course of the year)
- A ratio of 1.0 would be interpreted as: The firm could pay, if it had to, 100% of its CL out of the cash it generates from operations (i.e. without external funding)

LONG-TERM SOLVENCY RATIOS

- Measure a firm's ability to meet interest and principal payments on long-term debt and similar obligations like long-term leases
- The best indicator for assessing long-term solvency risk is the firm's ability to generate earnings over a period of years

Long-Term Debt Ratio

$$\text{Long-Term Debt Ratio} = \frac{\text{Long-Term Debt}}{\text{Long-Term Debt} + \text{Shareholders' Equity}}$$

$$\text{Debt/Equity Ratio} = \frac{\text{Long-Term Debt}}{\text{Shareholders' Equity}}$$

$$\text{Liabilities/Assets Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Interest Coverage Ratio

$$\frac{[\text{Net Income} + \text{Interest Expense} + \text{Income Tax Expense} + \text{Minority Interest in Earnings}]}{\text{Interest Expense}}$$

Interest coverage ratios less than 2.0 suggest a risky situation.

- If a firm must make other required periodic payments (e.g. pensions, leases), the analyst could include them as well (if so, then referred to as the fixed charges ratio)
- Uses earnings rather than cash flows in the numerator
- Problematic since firms pay fixed charges with cash not earnings

$$\text{Fixed Charges Ratio} = (\text{Net Income} + \text{Periodic Payments}) / \text{Interest Expense}$$

Cash Interest Coverage Ratio

$$\frac{[\text{Cash Flow from Operations} + \text{Cash Payments for Interest} + \dots]}{\text{Interest Expense}}$$

$$\frac{\text{Cash Payments for Income Taxes}}{\text{Cash Payments for Interest}}$$

- Uses cash flow instead of earnings

Operating Cash Flow to Total Liabilities Ratio

- Measures the firm's ability to generate cash flow from operations to service debt
- Measures the firm's ability to generate cash flow from operations in excess of the capital expenditures needed to maintain and build plant capacity
- The "excess" cash flow can be used to service debt

$$\frac{\text{Cash Flow Continuing Operations}}{\text{Average Total Liabilities}}$$

SUSTAINABLE GROWTH RATE g

- The sustainable growth rate, g , is the rate of growth below which the firm can grow by financing itself using internally generated cash.
- At rates of growth in excess of g , the firm will require external financing, obtained either by issuing debt or by issuing equity
- Growth in excess of the sustainable growth rate has implications for shifts in the firm's capital structure

POTENTIAL FLAGS

Operating Efficiency

- Growth through credit → declining credit quality of customers as evidenced by growth in A/R and worsening A/R Turnover (or Days Receivable)
- See profitability ratios
- See cash flow trends
- Inventory analysis → inventory growth, days of inventory → possibly selling to weak customers
 - Stuffing the channel
 - Inventory write-down expense?

CASH FLOW ANALYSIS

Objective: We seek to find the determinants of operating cash flow surpluses or shortages. These can be segregated into the effects of:

- Growth
- Changes in operating profitability
- Changes in operating efficiency

- Two methods: direct and indirect
- Indirect method: adjust net income for non-cash items
- Inferences:
 - Flows from selling activity
 - Cash profitability of sales activity
 - Current growth and changing prospects about growth

Growth

- 2 effects:

- Revenue growth
- Changes in operating efficiency
- **Growth does not guarantee an increase in operating cash flow**
 - Revenue --> Increased cash into the company
 - Expenses --> consumption of cash
 - If positive operating margin --> net effect **should** be positive on operating cash flow
 - Investments in accounts receivable and inventory --> use of cash
 - Increased accounts payable credit --> source of cash
- Key factors:
 - Rate of growth
 - Firm's operating profit margin (gross margin, SG&A)
 - Declining gross margin --> more cash generated by sales used for inventory
 - Increased SG&A --> More revenue dollars spent on these operating items
 - **Implications for future profit rates**
 - Management of A/R, Inventory and A/P
- To calculate the cash flow effects of growth on gross profit, SG&A, we multiply the growth in revenue during the current year by the prior year's profitability measures
- Cash flow effects of growth
 - On A/R is computed as the product of growth in revenue per day during the current year by A/R days in the prior year
 - On inventory and A/P are the product of growth in sales per day during the current year by the previous year's inventory days and A/P days, respectively
- **The higher a company's profitability rate and the lower its required commitments to A/R and Inventory, the faster it can grow and provide positive operating cash flow**
- Cash flow effects of changes in profitability and efficiency:
 - Multiply the change in gross margin and SGA% during the current year by the current year's revenue
 - On A/R, multiply the change in A/R days during the current year by revenue per day in the current year
 - On Inventory and A/P, multiply the change in Inventory Days and A/P days during the current year by the current year's revenue

Cash Flow Determinant Affected by Profitability and Efficiency	Cah Flow Effect
Increase in gross margin	Positive
Decrease in gross margin	Negative
Increase in SGA%	Negative
Decrease in SGA%	Positive
Increase in A/R days	Negative
Decrease in A/R days	Positive
Increase in inventory days	Negative
Decrease in inventory days	Positive
Increase in A/P days	Positive
Decrease in A/P days	Negative

Red Flags

- Look for creativity in classifying cash flows
- Anticipate earnings surprises
- **Growing discrepancy between net income and operating cash flows**
 - Premature recognition of revenues --> operating-related balance sheet assets
 - Expenses may be accrued early --> increases in operating liability --> **operating cash flow will exceed income**
 - Undervaluation of liabilities
 - Overcapitalization --> income smoothing by capitalizing costs that are usually expensed, deferring expenses to a later period
 - Asset write downs in later periods --> no cash flow effect
- Investing:
 - Increased investment if high growth forecasted by management
 - Effect of the nature of the business
 - Capital intensive?
 - Distribution/retailing?
 - Relationship to current operating performance
- Financing:
 - Effect of the nature of the business
 - Debt capacity of assets increases in:
 - Tangible assets
 - Steady cash flow generation
 - Investment not unique to the firm
 - Tax advantage of debt
 - Related to current operating performance
 - **Growth associated with investing and financing**
- Uses of cash flow statements:
 - Performance assessment
 - Firm's ability to generate cash flows
 - Ability to meet obligations (short-term vs. long-term)
 - Benchmark criteria:
 - Valuation
 - Planning

Modified Cash Flow Presentation

Net Cash Flow
Net Income
Adjustments for non-current operating accruals (e.g. depreciation and amortization) and non-operating items (e.g. interest expense and income)
Investments in working capital
Investments in long-term assets
Interest expense and income
Dividends

External Financing Activity
Net Cash Flow

Cash Flow Calculation	
Increase in Assets	Use of Cash
Decrease in Assets	Source of Cash
Increase in Liabilities	Source of Cash
Decrease in Liabilities	Use of Cash

Non-operating sources of cash flow can be relied upon only in the short run.

REVENUE RECOGNITION

What was known?

What was knowable?

Did they perform a sufficiently detailed analysis

Depending on the nature of the goods (typically at the time of delivery) or services provided, and management judgment, revenue might be recognized:

- At the time an order is placed by a customer
- During the production process
- At the time of shipment of the goods or providing of services
- After acceptance of the goods by the customer
- After all return privileges have expired
- After collection of the amount billed

Philosophically, we are looking for:

- A transfer of legal ownership
- External certification where possible
- The effect in the current period
- The effect on future expectations of revenue and cash flows (something that is especially important for growing companies)

Problems may arise from:

- There are material uncertainties about quality
- Managerial incentives to overstate
- Alternative schemes across firms in the same industry
- Premature revenue recognition (with implications for the realizability of sales **since A/R take longer to collect and the A/R balance grows**)
- Fictitious revenue recognition entails recognizing revenue without regard to whether it will materialize with intent (causing overstatement of earnings, assets and shareholders' equity) -
-> **inconsistency with MD&A, comparables, etc:**
 - A/R days increases
 - Inconsistent reduction in estimates of uncollectible accounts, possibly
 - Growth in inventory days
 - Losses in previous years due to cost overruns
- **Beware a change in policy**
- Revenue metrics to compare with other firms in industry include:
 - Revenue per employee
 - Revenue per dollar of fixed assets
 - Revenue per dollar of total assets

- Unbilled receivables as a percentage of cumulative contract revenue for each of the last four to six quarters --> trend analysis
- Percentage rate of change in unbilled receivables with the percentage rate of change in contract revenue

EXPENSE RECOGNITION

Matching Principle and Conservatism

Focus: On expenses that begin as capitalized expenditures, or assets, and are subsequently charged to expense through amortization

- Capitalization is permitted under the matching principle when future periods are expected to benefit from expenditures incurred currently
- Amounts capitalized are reported as assets and are amortized over future years
- Deciding whether future periods will benefit requires management's judgment
- Conservative approach: expense amounts incurred
- **Future earnings will be negatively affected if costs capitalized in previous years are not realized and must be written off**

Incentives to Understate Expenses:

- Higher management compensation
- Higher stock price --> lower cost of equity capital and increased value of ownership stakes in company for managers
- More slack in debt covenants
- Lower apparent firm risk --> reduced cost of debt capital
- May signal management's confidence that growth will continue --> write-off when growth slows

Red Flags:

- Do policies differ substantively from those of the firm's competitors?
- Does the company expense more, taking a more conservative approach?
- What do capitalized costs represent?
 - An identifiable asset with an ascertainable market value?
 - Not an identifiable asset whose market value, if any, is tied to the general fortunes of the company?
- Do capitalized costs exceed net realizable value?
- What proportion of software costs are being capitalized?
 - How does this percentage compare with competitors' software policies?
- Should capitalization of interest costs be discontinued?
 - Is the asset under construction complete and available for intended use?
 - Do costs incurred on the asset under construction give an indication of exceeding net realizable value?
 - Have there been construction delays?
 - Have there been cost overruns?
- Does the company use the successful efforts method (expensing option) or the full-cost method (capitalization) for oil-gas to account for exploration expenditures?
 - Do capitalized costs appear realizable?
- Has the company proven to have been aggressive in the past regarding its capitalization policies?
- Has the company selected extended amortization and depreciation periods for capitalized costs?
- How does the average amortization period for long-lived assets compare with competitors or other firms in the industry?

- Calculated as average asset costs, excluding land and construction-in-process, divided by the annual amount of depreciation or amortization expense
- Watch out for extended amortization periods in the following situations:
 - Firm's industry is experiencing price deflation
 - Firm in an industry that is experiencing rapid technological change

EARNINGS MANAGEMENT

Definition: The active manipulation of accounting numbers to create an altered impression of performance. Current year earnings are boosted/lowered at the expense/to the benefit of future years. **Income smoothing.**

Techniques Used in Earnings Management

- Lengthening the useful lives of depreciable assets --> lower current year depreciation charges --> raises current year's income and lowers future income
- Premature revenue recognition
- Aggressive cost capitalization
- Extended amortization periods
- A/R, Inventory and Investments carried at valuations exceeding realizable amounts (i.e. postponing income charges)
- Undervaluation of liabilities --> lower service costs + future shock when adjusted to correct level
- Discretionary accounting changes (DACs)
 - **Changes in Accounting Principle:** the change from one accepted accounting principle to another
 - Show the cumulative effect of the change on net income of prior years as a single amount (net of tax) in the income statement in the year of change, reported in the body of the income statement and not highlighted
 - Footnote disclosure in the year of the change is the only disclosure provided of the current year effect
 - **Changes in Accounting Estimates:** Estimates are used in determining the useful lives of equipment, residual values, the portion of A/R that will not be collected and the PV of pension obligations
 - Many used to improve reported results
- Timed management actions (TMAs):
 - The use of management discretion in the timing of its operating decisions
 - Example: One-time gains from the sale of appreciated land
 - Postponement of operating expenses
- **Taking a Bath:** Occurs when a firm uses wholesale asset write-downs and liability accruals to turn what appears to be a poor quarter or year into a complete rout:
 - All the bad news is history
 - Increased future earnings <-- lower charges and liability accruals
 - Lowers the bar for future performance
 - Particularly useful for a new management team

Checklist:

Boosting Current-Year Performance

Have accounting tactics been used to increase current-year income?

- Premature revenue recognition,
- Aggressive cost capitalization,
- Extended amortization periods,
- Excessive asset valuation, or
- Under-valuation of liabilities.

Has current-year income been increased through the use of DACs?

- Are changes in accounting principles disclosed on the I/S and notes?
- What is the current-year effect of the change on income?
- Are there changes in accounting estimates disclosed in the notes?
- What is the current-year effect of the change on income?
- How is the firm doing in the absence of the effects of DACs?
- Have the DACs resulted in asset book values whose realizability may be questioned?
- Has the likelihood of a future write-down of these assets been increased?
- What does the change do to comparisons of results with prior years?
- Has management been known to boost earnings with DACs in the past?

Has management timed actions to boost current-year income?

- Is there evidence of significant nonrecurring gains on asset sales?
- Have expenses been postponed?
- R&D?
- Has the dollar amount of R&D declined significantly?
- What are the implications for the firm's research agenda?

Advertising expenses

- If SGA% declined, what was the reason for the decline?
- Did a reduction in advertising play a role?
- If SGA% declined, is the decline a long-term improvement?

Reducing Current-Year Performance

- Has the firm used changes in accounting estimates to reduce current-year income?
- Reduced useful lives of assets,
- Reduced realizable values of assets necessitating write-downs,
- Increased reserves or contra-asset accounts, or
- Over-accrued liabilities.
- Have timed management actions been used to reduce current-year income?
- Sale of assets at a loss.
- Increased discretionary expenses.
- Is the firm reporting income earned in prior years?
- Sudden reductions in reserves or contra-asset accounts.
- Declines in accrued liabilities.
- Unexpected improvements in gross margin or SGA%.
- Has the firm taken a big bath in recent periods?
- Has current performance benefited as a result?
- How will performance look when the benefits of the "bath" wear off?

PRO-FORMA FINANCIAL STATEMENTS

What are they? Estimated or projected financial statements (income statements, balance sheets, and cash flow statements) for future periods.

Preparation of Pro Forma Financial Statements

In many settings the following approach works reasonably well.

Steps:

- 1) Project sales and other operating revenues for the desired number of years into the future.**
- 2) Project operating expenses (cost of goods sold, selling and administrative, etc.), and derive income before interest expense and income taxes.**
- 3) Project the assets required to support the level of operations projected in steps 1 and 2.**
- 4) Project the financing (liabilities and shareholders' equity, except retained earnings) needed to support the level of assets projected in step 3.**
- 5) Determine the cost of financing the capital structure derived in step 4.**
 - Subtract the cost of this financing from pretax operating income to obtain projected net income before income taxes.
 - Subtract income tax expense from net income before income taxes to obtain projected, net income.
 - Subtract dividends from projected net income to obtain the projected change in retained earnings. Derive the statement of cash flows from the projected income statements and balance sheets.