

1076.92	107.88	71.62	67.46
3230.76	323.64	214.86	202.40
923.08	146.35	61.38	63.42
2769.24	439.11	184.14	190.28

10e Financial Statement  
ANALYSIS

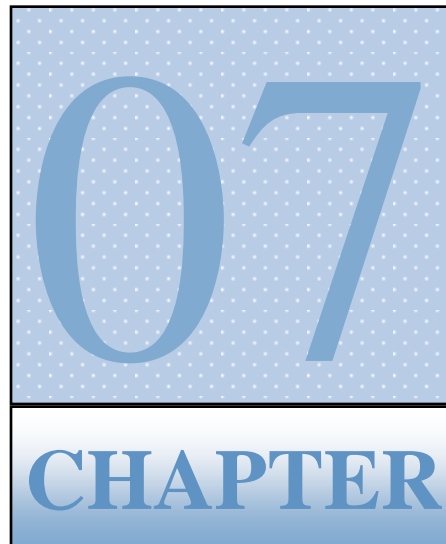
K. R. SUBRAMANYAM  
JOHN J. WILD

# Financial Statement Analysis

*K R Subramanyam  
John J Wild*

# Cash Flow Analysis

---



# Statement of Cash Flows

## Relevance of Cash

- Cash is the most liquid of assets.
  - Offers both liquidity and flexibility.
  - Both the beginning and the end of a company's operating cycle.
- Contrast: Accrual accounting and Cash basis accounting.
  - Net cash flow as the end measure of profitability.
  - Cash flow analysis helps in assessing liquidity, solvency, and financial flexibility.



# Statement of Cash Flows

## Relevance of Cash

- Statement of cash flows (SCF) helps address questions such as:
  - ✓ How much cash is generated from or used in operations?
  - ✓ What expenditures are made with cash from operations?
  - ✓ How are dividends paid when confronting an operating loss?
  - ✓ What is the source of cash for debt payments?
  - ✓ How is the increase in investments financed?
  - ✓ What is the source of cash for new plant assets?
  - ✓ Why is cash lower when income increased?
  - ✓ What is the use of cash received from new financing?



# Statement of Cash Flows

## Reporting by Activities

- The SCF reports cash receipts and cash payments by operating, financing, and investing activities:
- **Operating activities** are the earning-related activities of a company.

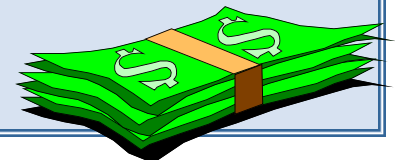
Beyond revenue and expense activities represented in an income statement, they include the net inflows and outflows of cash resulting from related operating activities like extending credit to customers, investing in inventories, and obtaining credit from suppliers.



# Statement of Cash Flows

## Reporting by Activities

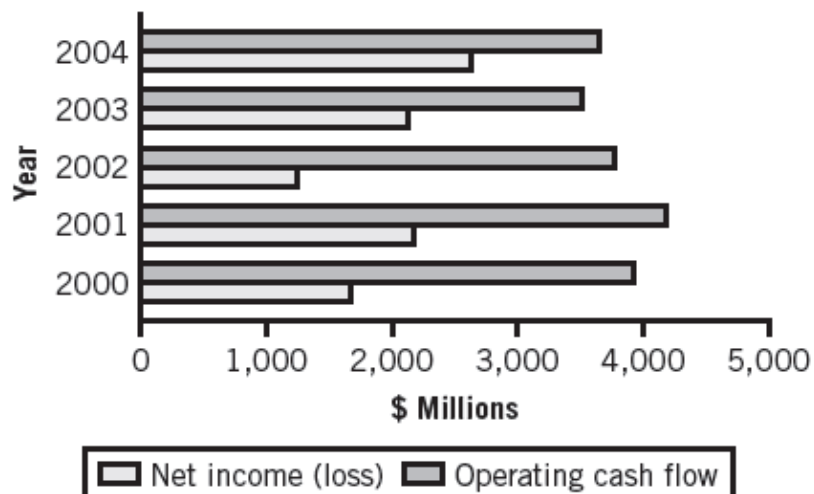
- **Investing activities** are means of acquiring and disposing of noncash assets.
  - Involve assets expected to generate income; lending funds and collecting the principal on these loans.
- **Financing activities** are means of contributing, withdrawing, and servicing funds to support business activities.
  - Include borrowing and repaying funds with bonds and other loans; contributions and withdrawals by owners and their return on investment.



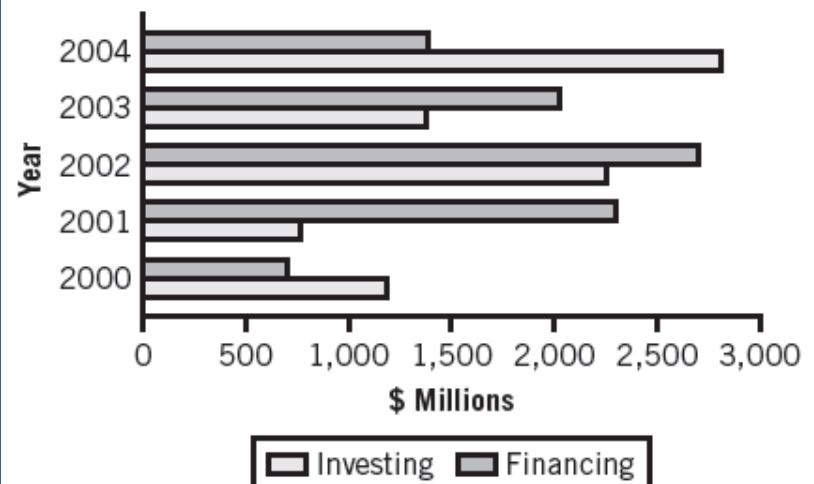
# Statement of Cash Flows

## Reporting by Activities

Operating Cash Flows and Net Income of Dell



Investing and Financing Cash Outflows of Dell



# Statement of Cash Flows

## Constructing the Cash Flow Statement

- Indirect Method
  - Net income is adjusted for non-cash income (expense) items and accruals to yield cash flow from operations
- Direct Method
  - Each income item is adjusted for its related accruals
- Both methods yield identical results-only the presentation format differs.



# Statement of Cash Flows

## Preparation of the SCF (Indirect method)

- Consider first the net cash from operations.

Net income

+ Depreciation and amortization expense

± Gains (losses) on sales of assets

± Cash generated (used) by current assets and liabilities

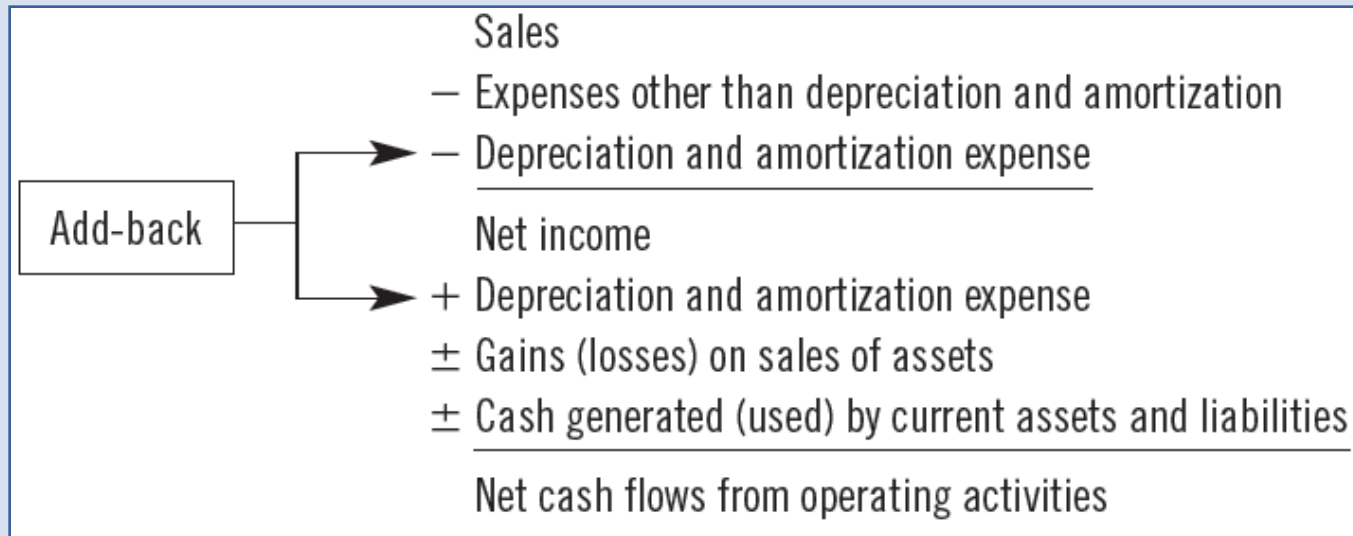
---

Net cash flows from operating activities

# Statement of Cash Flows

## Preparation of the Statement of Cash Flows

- Depreciation and amortization add-back.



# Statement of Cash Flows

## Income v/s Cash Flows - Example

Consider a \$100 sale on account

- (1) In period of sale, net income is increased by \$100 but no cash has been generated.

Net Income	100
Depreciation and amortization expense	0
Gains (losses) on sale of assets	0
Change in accounts receivable	(100)
Net Cash flow from operations	<u>0</u>

- In period of collection no income is recorded.

Net Income	0
Depreciation and amortization expense	0
Gains (losses) on sale of assets	0
Change in accounts receivable	100
Net Cash flow from operations	<u>100</u>

# P7-9 dan P7-10

# Statement of Cash Flows

## Preparation of the Statement of Cash Flows

- Adjustments for changes in balance sheet accounts can be summarized as follows:

<b>Account</b>	<b>Increase</b>	<b>Decrease</b>
Assets.....	Cash Outflow	Cash Inflow
Liabilities.....	Cash Inflow	Cash Outflow

# Statement of Cash Flows

## Constructing the Statement

### GOULD CORPORATION

Comparative Balance Sheets  
December 31, Year 2 and Year 1

	Year 2	Year 1	Absolute Value of Change
Cash .....	\$ 75,000	\$ 51,000	\$ 24,000
Receivables .....	48,000	39,000	9,000
Inventory .....	54,000	60,000	6,000
Prepaid expenses .....	6,000	9,000	3,000
Plant assets .....	440,000	350,000	90,000
Accumulated depreciation .....	(145,000)	(125,000)	20,000
Intangible assets .....	51,000	58,000	7,000
<b>Total assets .....</b>	<b>\$529,000</b>	<b>\$442,000</b>	
Accounts payable .....	\$ 51,000	\$ 56,000	5,000
Accrued expenses .....	18,000	14,000	4,000
Long-term note payable .....	30,000	0	30,000
Mortgage payable .....	0	150,000	150,000
Preferred stock .....	175,000	0	175,000
Common stock .....	200,000	200,000	0
Retained earnings .....	55,000	22,000	33,000
<b>Total liabilities and equity .....</b>	<b>\$529,000</b>	<b>\$442,000</b>	

### GOULD CORPORATION

Income Statement  
For Year Ended December 31, Year 2

Sales .....	\$660,000
Cost of sales .....	<u>(363,000)</u>
Gross profit .....	297,000
Operating expenses .....	(183,000)
Depreciation & amortization .....	(35,000)
Gain on sale of asset .....	<u>5,000</u>
<b>Net income .....</b>	<b><u><u>\$ 84,000</u></u></b>

- The company purchased a truck during the year at a cost of \$30,000 that was financed in full by the manufacturer.
- A truck with a cost of \$10,000 and a net book value of \$2,000 was sold during the year for \$7,000. There were no other sales of depreciable assets.
- Dividends paid during Year 2 are \$51,000

# Statement of Cash Flows

## Steps in Constructing the Statement

- (1) Start with Net Income
- (2) Adjust Net Income for non-cash expenses and gains
- (3) Recognize cash inflows (outflows) from changes in current assets and liabilities
- (4) Sum to yield net cash flows from operations
- (5) Changes in long-term assets yield net cash flows from investing activities
- (6) Changes in long-term liabilities and equity accounts yield net cash flows from financing activities
- (7) Sum cash flows from operations, investing, and financing activities to yield net change in cash
- (8) Add net change in cash to the beginning cash balance to yield ending cash

# Statement of Cash Flows

<b>GOULD CORPORATION</b>		
Statement of Cash Flows		
For Year Ended December 31, Year 2		
Net income .....	\$ 84,000	
<b>Add (deduct)</b>		
Depreciation and amortization expense.....	35,000	
Gain on sale of assets .....	(5,000)	
Accounts receivable.....	(9,000)	
Inventories.....	6,000	
Prepaid expenses.....	3,000	
Accounts payable .....	(5,000)	
Accrued expenses .....	4,000	
	<u>          </u>	
Net cash flow from operating activities .....		\$113,000
Purchase of equipment.....	(70,000)	
Sale of equipment .....	7,000	
	<u>          </u>	
Net cash flows from investing activities.....		(63,000)
Mortgage payable .....	(150,000)	
Preferred stock .....	175,000	
Dividends .....	(51,000)	
	<u>          </u>	
Net cash flows from financing activities .....		(26,000)
Net increase in cash .....		24,000
Beginning cash .....		51,000
		<u>          </u>
Ending cash .....		<u><u>\$ 75,000</u></u>

Note: Assets costing \$30,000 were purchased during Year 2 and were financed in whole by the manufacturer.



# Statement of Cash Flows

## Special Topics

- Equity Method Investments
  - The investor records as income its percentage interest in the income of the investee company and records dividends received as a reduction of the investment balance.
  - The portion of undistributed earnings is noncash income and should be eliminated from the SCF.
- Acquisitions of Companies with Stock
  - Such acquisitions are non-cash.
  - Changes in balance sheet accounts reflecting the acquired company will not equal cash inflows (outflows) reported in the SCF.

# Statement of Cash Flows

## Special Topics

- Postretirement Benefit Costs
  - The excess of net postretirement benefit expense over cash benefits paid must be added to net income in computing net cash flows from operations
- Securitization of Accounts Receivable
  - Companies account for the reduction in receivables as an increase in cash flow from operations since that relates to a current asset.
  - Analysts should question whether they represent true improvement in operating performance or a disguised borrowing.

# Statement of Cash Flows

## Direct Method

- **The direct (or inflow-outflow) method** reports gross cash receipts and cash disbursements related to operations—essentially adjusting each income statement item from accrual to cash basis
  - Reports total amounts of cash flowing in and out of a company from operating activities
  - Preferred by analysts and creditors
  - Implementation costs
  - When companies report using the direct method, they must disclose a reconciliation of net income to cash flows from operations (the indirect method) in a separate schedule

# Statement of Cash Flows

## Converting from Indirect to Direct Method

### GOULD CORPORATION

Cash Flows from Operations  
For Year Ended December 31, Year 2  
(\$ thousands)

#### Cash flows from operating activities

Cash receipts from customers <sup>a</sup> .....	\$651,000
Cash paid for inventories <sup>b</sup> .....	(362,000)
Cash paid for operating expenses <sup>c</sup> .....	<u>(176,000)</u>
Net cash flows from operations .....	<u><u>\$113,000</u></u>

#### Computations

<sup>a</sup>Sales of \$660,000 less increase in accounts receivables of \$9,000.

<sup>b</sup>Cost of goods sold of \$363,000 less decrease in inventories of \$6,000 plus decrease in accounts payable of \$5,000.

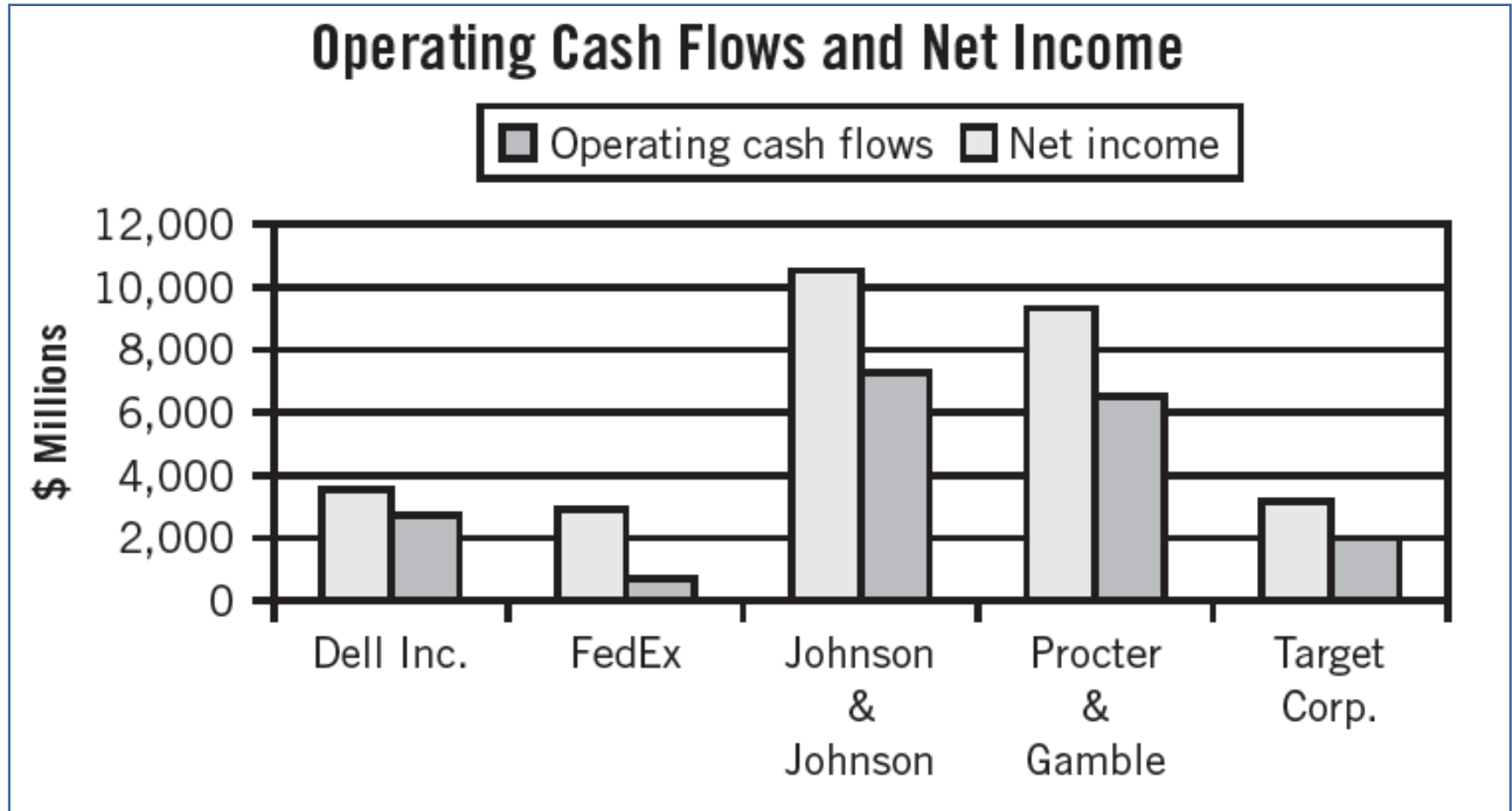
<sup>c</sup>General, selling, and administrative expenses of \$218,000 less (noncash) depreciation and amortization of \$35,000, less decrease in prepaid expenses of \$3,000, less increase in accrued expenses of \$4,000.

# Analysis Implications of Cash Flows

## Limitations in Cash Flow Reporting

- Some limitations of the current reporting of cash flow:
  - Practice does not require separate disclosure of cash flows pertaining to either extraordinary items or discontinued operations.
  - Interest and dividends received and interest paid are classified as operating cash flows.
  - Income taxes are classified as operating cash flows.
  - Removal of pretax (rather than after-tax) gains or losses on sale of plant or investments from operating activities distorts our analysis of both operating and investing activities.

# Analysis Implications of Cash Flows



# Analysis Implications of Cash Flows

## Interpreting Cash Flows and Net Income

### GOULD CORPORATION

#### Comparison of Accrual and Cash Reporting

	Income Statement	Operating Cash Flows	
Sales .....	\$660,000	\$651,000	..... Cash collections from customers
Gain on sale of asset.....	5,000		
	<u>665,000</u>	<u>651,000</u>	..... Total cash collections
Cost of goods sold .....	(363,000)	(362,000)	..... Payments to suppliers
Operating expenses .....	(183,000)	(176,000)	..... Payments for expenses
Depreciation and amortization .....	(35,000)		
Net income .....	<u>\$ 84,000</u>	<u>\$113,000</u>	..... Cash from operations

# Analysis Implications of Cash Flows

## Interpreting Cash Flows and Net Income

- An income statement records revenues when earned and expenses when incurred.
  - It does not show the timing of cash inflows and outflows, nor the effect of operations on liquidity and solvency.
  - This information is available in the SCF.
- Cash flows from operations (CFO) is a broader view of operating activities than is net income.
  - It is not a measure of profitability.
- Note: A net measure, be it net income or cash flows from operations, is of limited usefulness. The key is information about **components** of these net measures.

# Analysis Implications of Cash Flows

## Interpreting Cash Flows and Net Income

- Accounting accruals determining net income rely on estimates, deferrals, allocations, and valuations.
  - Subjectivity
- Note: CFO effectively serve as a check on net income, but not a substitute for net income.
- CFO exclude elements of revenues and expenses not currently affecting cash.
  - Our analysis of operations and profitability should not proceed without considering these elements.

# Analysis of Cash Flows

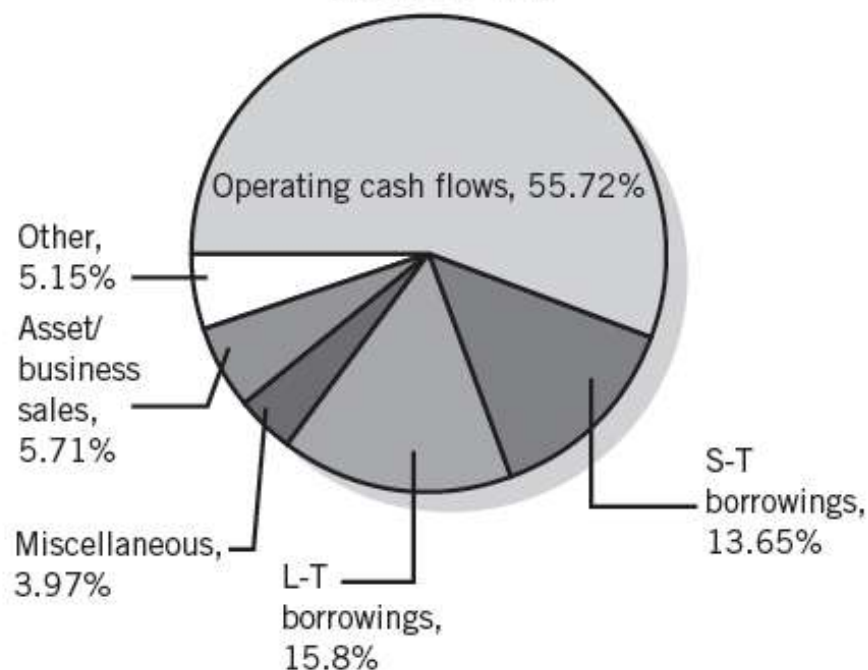
- In evaluating sources and uses of cash, the analyst should focus on questions like:
  - ✓ Are asset replacements financed from internal or external funds?
  - ✓ What are the financing sources of expansion and business acquisitions?
  - ✓ Is the company dependent on external financing?
  - ✓ What are the company's investing demands and opportunities?
  - ✓ What are the requirements and types of financing?
  - ✓ Are managerial policies (such as dividends) highly sensitive to cash flows?



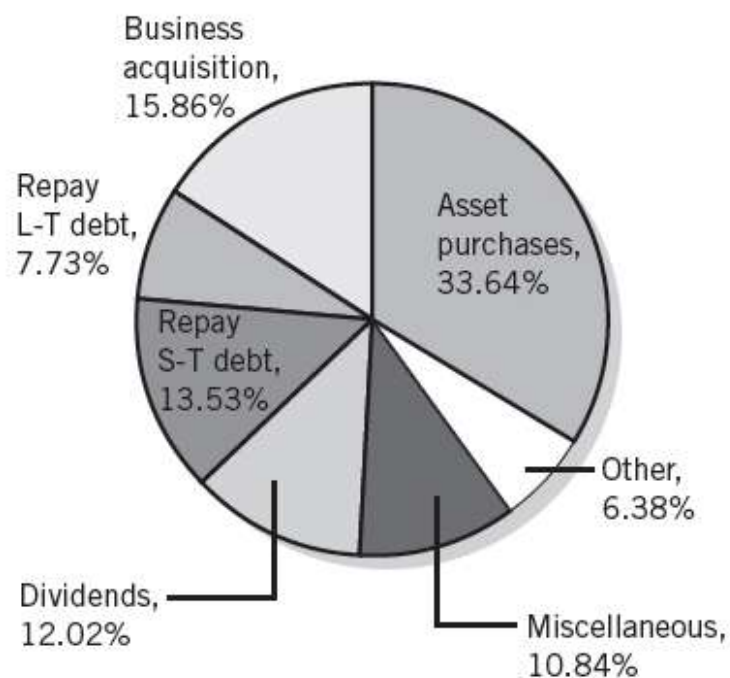
# Analysis of Cash Flows

## Case Analysis of Cash Flows of Campbell Soup

**Major Sources of Cash for Campbell Soup  
(Years 6–11)**



**Major Uses of Cash for Campbell Soup  
(Years 6–11)**



# Analysis of Cash Flows

## Inferences from Analysis of Cash Flows

- Inferences from analysis of cash flows include:
  - Where management committed its resources
  - Where it reduced investments
  - Where additional cash was derived from
  - Where claims against the company were reduced
  - Disposition of earnings and the investment of discretionary cash flows
  - The size, composition, pattern, and stability of operating cash flows

# Analysis of Cash Flows

## Alternative Cash Flow Measures

- Net income plus depreciation and amortization
  - EBITDA (earnings before interest, taxes, depreciation, and amortization)



# Analysis of Cash Flows

## Issues with EBITDA

- The using up of long-term depreciable assets is a real expense that must not be ignored.
- The add-back of depreciation expense does not generate cash. It merely zeros out the noncash expense from net income as discussed above. Cash is provided by operating and financing activities, not by depreciation.
- Net income plus depreciation ignores changes in working capital accounts that comprise the remainder of net cash flows from operating activities. Yet changes in working capital accounts often comprise a large portion of cash flows from operating activities.

# Analysis of Cash Flows

## Company and Economic Conditions

- While both successful and unsuccessful companies can experience problems with cash flows from operations, the reasons are markedly different.
- We must interpret changes in operating working capital items in light of economic circumstances.
- Inflationary conditions add to the financial burdens of companies and challenges for analysis.



# Analysis of Cash Flows

## Free Cash Flow

Cash flows from operations

- Net capital expenditures required to maintain productive capacity
- Dividends on preferred stock and common stock (assuming a payout policy)

Free cash flow (FCF)

Another definition that is widely used:

$$\text{FCF} = \text{NOPAT} - \text{Change in NOA}$$

(net operating profits after tax (NOPAT) less the increase in net operating assets (NOA))



# Analysis of Cash Flows

## Free Cash Flow

Positive free cash flow reflects the amount available for business activities after allowances for financing and investing requirements to maintain productive capacity at current levels.

Growth and financial flexibility depend on adequate free cash flow.



Recognize that the amount of capital expenditures needed to maintain productive capacity is generally not disclosed—instead, most use total capital expenditures, which is disclosed, but can include outlays for expansion of productive capacity.

# Analysis of Cash Flows

## Cash Flow as Validators

- The SCF is useful in identifying misleading or erroneous operating results or expectations.

**SCF provides us with important clues on:**

- ✓ Feasibility of financing capital expenditures.
- ✓ Cash sources in financing expansion.
- ✓ Dependence on external financing.
- ✓ Future dividend policies.
- ✓ Ability in meeting debt service requirements.
- ✓ Financial flexibility to unanticipated needs/opportunities.
- ✓ Financial practices of management.
- ✓ Quality of earnings.




# Specialized Cash Flow Ratios

**Cash Flow Adequacy Ratio** – Measure of a company's ability to generate sufficient cash from operations to cover capital expenditures, investments in inventories, and cash dividends:

$$\frac{\text{Three-year sum of cash from operations}}{\text{Three-year sum of expenditures, inventory additions, and cash dividends}}$$

**Cash Reinvestment Ratio** – Measure of the percentage of investment in assets representing operating cash retained and reinvested in the company for both replacing assets and growth in operations:

$$\frac{\text{Operating cash flow} - \text{Dividends}}{\text{Gross plant} + \text{Investment} + \text{Other assets} + \text{Working capital}}$$



E7-9

