CHAPTER SEVEN

7

CASH FLOW ANALYSIS

A LOOK BACK <

In Chapter 6 we analyzed operating activities using accrual measures. We examined revenue and expense recognition methods for interpretation of operations. Per share figures for income were also examined.

A LOOK AT THIS CHAPTER •

In this chapter we analyze cash flow measures for insights into all business activities, with special emphasis on operations. Attention is directed at company and business conditions when interpreting cash flows. We also consider alternative measures of cash flows.

A LOOK AHEAD >

The next chapter begins our focus on a more strategic application and analysis of financial statements. We analyze return on investment, asset utilization, and other measures of performance that are relevant to a wide class of financial statement users. We describe several tools of analysis to assist in evaluation of company performance and return.

ANALYSIS OBJECTIVES

- Explain the relevance of cash flows in analyzing business activities.
- Describe the reporting of cash flows by business activities.
- Describe the preparation and analysis of the statement of cash flows.
- Interpret cash flows from operating activities.
- Analyze cash flows under alternative company and business conditions.
- Describe alternative measures of cash flows and their usefulness.
- Illustrate an analytical tool in evaluating cash flows (Appendix 7A).

Rite Aid's Bad Case of Cash Woes

HARRISBURG, PA–Rite Aid's financial problems began with an overly aggressive store construction and acquisition binge by its former CEO that drained cash. That CEO built more than 1,600 new stores, shelled out $1.4 billion for Thrifty PayLess, a 1,000-store West Coast chain that proved a drag on earnings, and paid $1.5 billion for pharmacy-benefits manager PCS Health Systems.

The fallout: for the next five years, Rite Aid's cash outflows for investing activities totaled $5 billion. At the same time, its cash inflows from operating activities totaled $800 million. This means Rite Aid financed most of its investments and working capital increases with debt–as reflected by a five-fold increase in total liabilities from $1,738 million to $9,393 million as of 2000.

The crushing debt load impacted the company's ability to obtain supplier credit for inventory purchases and strapped the company of much-needed cash for operating activities. Store sales suffered as a result of inventory shortages, reductions in advertising expenditures, and the inability to be price competitive. The consequent reduction in stock price also prohibited the company from selling common stock to refinance its debt and resulted in a downgrade in its credit rating.

Analysis of cash flows would have exposed these ills.

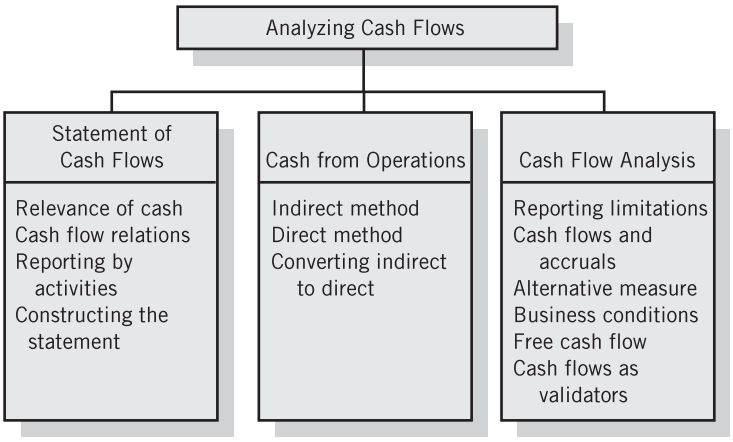
The company is now in turnaround mode under the leadership of its new CEO. The company has sold the PCS Health Systems investment for a net cash inflow of $480 million that it used to reduce its indebtedness. It has also convinced bondholders to accept common stock in exchange for approximately $580 million of indebtedness.

Rite-Aid also sold accounts receivable to a special purpose entity (raising $150 million), and sold and leased back 36 stores (raising $94 million). The proceeds have been used to retire indebtedness. Although the company is making progress, much work needs to be done because its indebtedness as of 2005 amounted to over $5.6 billion, as compared with $323 million of equity.

Analysis of cash flows would have exposed these potential ills early on. Adds T. D. Barrett, an analyst at Massachusetts Financial Services, "This company clearly got in way over its head." The prescription for Rite Aid's ills must include sensible checks on its excessive cash outflows for investing activities–checks that can be monitored by analysis of its statement of cash flows.

PREVIEW OF CHAPTER 7

Cash is the residual balance from cash inflows *less* cash outflows for all prior periods of a company. Net cash flows, or simply *cash flows,* refers to the current period's cash inflows less cash outflows. Cash flows are different from accrual income measures of performance. Cash flow measures recognize inflows when cash is received but not necessarily earned, and they recognize outflows when cash is paid but the expenses not necessarily incurred. The statement of cash flows reports cash flow measures for three primary business activities: operating,



investing, and financing. Operating cash flows, or cash flows from operations, are the cash basis counterpart to accrual net income. More generally, information on cash flows helps us assess a company's ability to meet obligations, pay dividends, increase capacity, and raise financing. It also helps us assess the quality of earnings and the dependence of income on estimates and assumptions regarding future cash flows. This chapter describes cash flows and their relevance to analysis of financial statements. We describe current reporting requirements and their implications for analysis of cash flows, and we explain useful analytical adjustments to cash flows using financial data.

STATEMENT OF CASH FLOWS

The purpose of the statement of cash flows is to provide information on cash inflows and outflows for a period. It also distinguishes among the sources and uses of cash flows by separating them into operating, investing, and financing activities. This section discusses important cash flow relations and the layout of the cash flow statement.

Relevance of Cash

Cash is the most liquid of assets and offers a company both liquidity and flexibility. It is both the beginning and the end of a company's operating cycle. A company's operating activities involve cash conversion into various assets (such as inventories) that are used to yield receivables from credit sales. The operating cycle is complete when the collection process returns cash to the company, enabling a new operating cycle to begin.

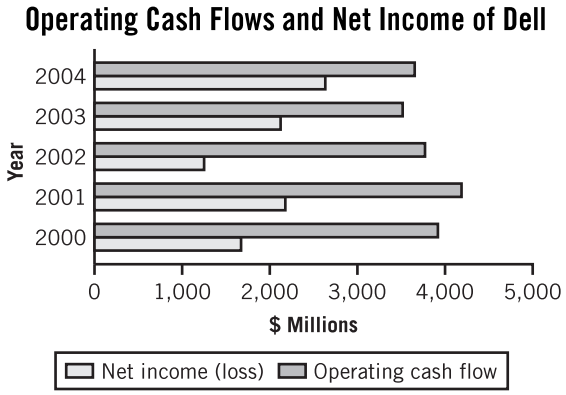
Our analysis of financial statements recognizes that accrual accounting, where companies recognize revenue when earned and expenses when incurred, differs from cash basis accounting. Yet net cash flow is the end measure of profitability. It is cash, not income, that ultimately repays loans, replaces equipment, expands facilities, and pays dividends. Accordingly, analyzing a company's cash inflows and outflows, and their operating, financing, or investing sources, is one of the most important investigative exercises. This analysis helps in assessing liquidity, solvency, and financial flexibility. **Liquidity** is the nearness to cash of assets and liabilities. **Solvency** is the ability to pay liabilities when they mature. **Financial flexibility** is the ability to react and adjust to opportunities and adversities.

Useful but incomplete information on sources and uses of cash is available from comparative balance sheets and income statements. However, a comprehensive picture of cash flows is derived from the **statement of cash flows** (SCF). This statement is important to analysis and provides information to help users 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?

Users of financial statements analyze cash flow to answer these and many similar questions. The statement of cash flows is key to the reconstruction of many transactions,

which is an important part of the analysis. Analysis of this statement requires our understanding of the accounting measures underlying its preparation and presentation. This chapter focuses first on these important accounting fundamentals and then on the analytical uses for the statement of cash flows.



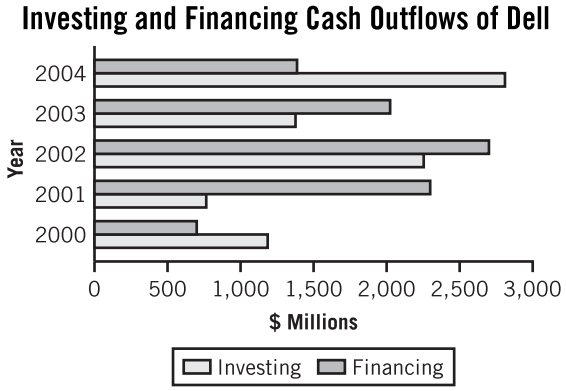
Reporting by Activities

The statement of cash flows reports cash receipts and cash payments by operating, financing, and investing activities–the primary business activities of a company.

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. Operating activities relate to income statement items (with minor exceptions) and to balance sheet items relating to operations–usually working capital accounts like receivables, inventories, prepayments, payables, and accrued expenses.

Investing activities are means of acquiring and disposing of noncash assets. These activities involve assets expected to generate income for a company, such as purchases and sales of PPE and investment in securities. They also include lending funds and collecting the principal on these loans.

Financing activities are means of contributing, withdrawing, and servicing funds to support business activities. They include borrowing and repaying funds with bonds and other loans. They also include contributions and withdrawals by owners and their return (dividends) on investment.



Constructing the Cash Flow Statement

There are two acceptable methods for reporting cash flows from operations, the indirect and direct methods. While both methods yield identical bottom-line results, their format differs. With the **indirect method,** net income is adjusted for noncash income (expense) items and accruals to yield cash flows from operations. An advantage of this method is the disclosure of a reconciliation of differences between net income and operating cash flows. This can aid some users that predict cash flows by first predicting income and then adjusting income for leads and lags between income and cash flows–that is, using the noncash accruals. The indirect method is most commonly employed in practice and we use it initially to illustrate preparation of the statement of cash flows. Computation of the statement of cash flows using the **direct method** is provided subsequently for comparison. This method adjusts each income item for its related accruals and, arguably, provides a better format to assess the amount of operating cash inflows (outflows). The format for computing net cash provided by investing and financing activities is the same for both methods. Only the preparation of net cash flows from operations differs.

Preparation of the Statement of Cash Flows

The statement of cash flows is a blend of the income statement and the balance sheet. Net income is first adjusted for noncash income and expense items to yield cash profits which are, then, further adjusted for cash generated and used by balance sheet transactions to yield cash flows from operations, as well as investing and financing activities.

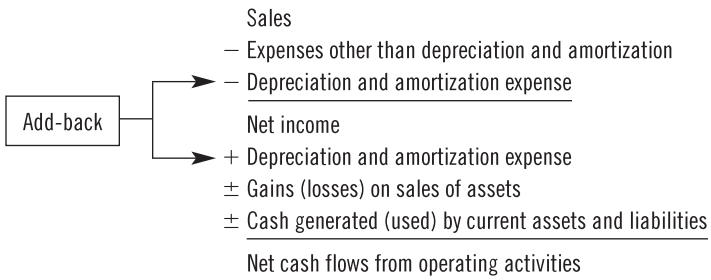
Consider first the net cash from operations. Its computation is as follows:

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

The starting point for the statement of cash flows is net income which we first adjust for noncash depreciation and amortization expense. To better understand this add-back, consider that cash outflow occurs when tangible and intangible assets are purchased. The depreciation (amortization) process, then, allocates that cost over their useful lives to match the expense against the revenues generated by those assets with the following accounting entries,

Depreciation expense	xxx	
Accumulated depreciation		xxx
Amortization expense	xxx	
Intangible asset		xxx

Because the statement of cash flows focuses on cash flows, we need to eliminate these noncash expenses that are recognized in the computation of net income, hence the add-back of depreciation and amortization expense. Adding depreciation and amortization expense does not increase operating cash flow, it merely zeros out the expense subtracted in the computation of net income. This can easily be seen by expanding net income as follows:



We also adjust net income for gains (losses) on the sales of assets in a similar fashion. The purpose of the adjustment, however, is not to eliminate these investment gains (losses) in their entirety, but to move them out of the operating section of the statement of cash flows. The cash inflows from the sales of these assets are reflected in net cash flows from investing activities.

The final adjustments involve analysis of cash generated and used by changes in current assets and liabilities. To see these effects, consider the simple example of a $100

sale on account:

Accounts receivable	100	
Sales		100

In the period of sale, net income is increased by $100, but no cash has been generated as the receivable has not yet been collected. The statement of cash flows at this point reports net income of $100 and net cash from operations of $0 as follows:

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	$ 0

In the following period, the receivable is collected and the statement of cash flows looks like this:

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	$100

The reduction in accounts receivable has generated a $100 cash inflow and is, therefore, reported as a positive amount in the statement of cash flows.

The adjustments for changes in balance sheet accounts can be summarized as follows:

Account	Increase	Decrease
Assets	Cash Outflow	Cash Inflow
Liabilities	Cash Inflow	Cash Outflow

Once net income has been adjusted for depreciation and amortization expense and gains (losses) on the sales of assets, the final step in the preparation of cash flows from operations is to examine changes in current assets (liabilities) and, using the matrix presented above, to reflect these changes as cash inflows (outflows), coded as positive (negative) amounts, respectively.

We now apply these concepts in the preparation of the statement of cash flows for Gould Corporation, whose balance sheet and income statement are presented in Exhibits 7.1 and 7.2, respectively. The following additional information about Gould for Year 2 is available:

1. The company purchased a truck during the year at a cost of $30,000 that was financed in full by the manufacturer.
2. 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.
3. Dividends paid during Year 2 are $51,000.

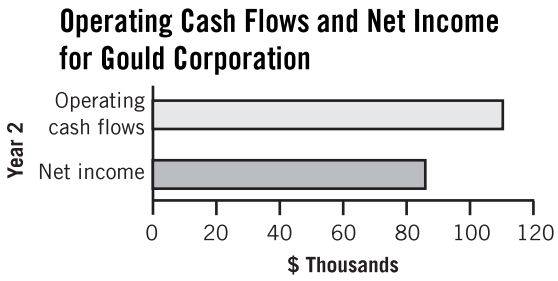


Exhibit 7.1

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
Total assets	$529,000	$442,000	
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
Total liabilities and equity	$529,000	$442,000	

Gould's statement of cash flows is presented in Exhibit 7.3. The operating section begins with net income of $84,000, which is then adjusted for noncash depreciation and amortization expense. Next, the gain on sale of assets is subtracted to zero it out (the proceeds will be reflected in net cash flows from investing activities). Finally, changes in current

Exhibit 7.2

GOULD CORPORATION
Income Statement
For Year Ended December 31, Year 2

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

Exhibit 7.3

GOULD CORPORATION
Statement of Cash Flows
For Year Ended December 31, Year 2

Net income	$ 84,000	
Add (deduct)		
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	
Net cash flow from operating activities		$113,000
Purchase of equipment	(70,000)	
Sale of equipment	7,000	
Net cash flows from investing activities		(63,000)
Mortgage payable	(150,000)	
Preferred stock	175,000	
Dividends	(51,000)	
Net cash flows from financing activities		(26,000)
Net increase in cash		24,000
Beginning cash		51,000
Ending cash		$ 75,000

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

assets and liabilities are reflected as cash inflows (outflows) using the matrix presented above. Gould realized $113,000 in net cash flow from operations in Year 2.

Net cash flows from investing activities include purchases (p) and sales (s) of plant assets. Purchases can be inferred from the T-account for plant assets (PP&E):

Plant Assets

	350,000		
(p)	100,000	10,000	(s)
	440,000		

Beginning with a balance of $350,000, PP&E was reduced by the cost of the asset sold (s). Net purchases (p), then, can be inferred as the amount necessary to yield the ending balance of $440,000. Of the $100,000 increase in PP&E, only $70,000 was paid in cash as the remainder was financed by the manufacturer. Thus, the $70,000 cash payment appears as purchases in the statement of cash flows. The $30,000 equipment purchase is a noncash investing and financing activity and is not reflected in the body of the statement of cash flows. Instead, it is referenced in an explanatory footnote.

The journal entry for the sale of the asset is:

Cash	7,000	
Accumulated depreciation	8,000	
Asset (cost)		10,000
Gain on sale		5,000

The gain on sale of $5,000 is deducted from net income to zero it out of the operating section and the $7,000 cash proceeds are reported in the investing section of the statement of cash flows. Net cash flows from investing activities reflect a net cash outflow of $(63,000).

Net cash flows from financing activities reflect changes in long-term liability and equity accounts. Here, the repayment of the mortgage ($150,000), issuance of preferred stock ($175,000) and payment of dividends ($51,000) are included. The net cash flows from financing activities reflect a net outflow of $(26,000).

The net change in cash is equal to the sum of the net cash flows from operations, investing, and financing activities:

Net cash flow from operations	$113,000
Net cash flows from investing activities	(63,000)
Net cash flows from financing activities	(26,000)
Net change in cash	24,000
Beginning cash	51,000
Ending cash	$ 75,000

The statement of cash flows also provides explanatory notes detailing any noncash investing and financing activities. In our example, this includes the purchase of a truck financed by the manufacturer.

ANALYSIS VIEWPOINT ***. . . YOU ARE THE BOARD MEMBER***

You are a school board member. Your district has received contributions from a publishing company to support educational programs. New management recently took control of the publishing company and reported a $1.2 million annual loss. Net cash flows were an equally dismal $1.1 million decrease—with reported decreases in investing and financing equaling $1.9 million and $0.7 million, respectively. The new management warns you that its contributions to educational programs are ending due to the company's financial distress, including this period's $1.3 million extraordinary loss. What is your course of action?

Special Topics

This section presents several special circumstances that commonly arise in connection with the statement of cash flows and warrant discussion.

Equity Method Investments

Under equity method accounting, 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 (see Chapter 5). The portion of undistributed earnings,

then, is noncash income and should be eliminated from the statement of cash flows, leaving only that portion of earnings that has been received in cash. This is accomplished by subtracting from net income the percentage interest in earnings of the investee company net of dividends received. For example, assume that Gould Corp. owns a 40% interest in Netcom Inc. Netcom reports net income of $100,000 and distributes $60,000 as dividends. Gould includes $40,000 ($100,000 × 40%) as equity earnings on its investment in its net income and reduces its investment balance by $24,000 (dividends received). The $16,000 of reported investment earnings not received in cash must be deducted from net income in computing net cash received from operations.

Acquisitions of Companies with Stock

When one company purchases another with stock, consolidated assets and liabilities increase together with equity accounts as discussed in Chapter 5. Only those changes in balance sheet accounts resulting from cash transactions, however, are reported in the statement of cash flows. As a result, the balance sheet adjustments reported to compute operating cash flows do not equal the changes in balance sheet accounts themselves. Instead, noncash changes in balance sheet accounts are reported in the notes to the statement of cash flows as noncash investing and financing activities, similar to the acquisition of the truck by Gould Corporation that was financed by the manufacturer in the example presented above.

Postretirement Benefit Costs

Pension and other post employment benefit plans accrue expense for service costs and interest, net of expected returns on plan assets, as discussed in Chapter 3. Cash contributions to the pension plan are recorded as a reduction of cash and an increase in the investment balance. The excess of net benefit expense over the cash contribution to the funded plans, or cash benefits paid directly out of the company's funds (in the case of unfunded postretirement benefit plans), must be added to net income in computing net cash flows from operating activities.

Securitization of Accounts Receivable

Companies are increasingly utilizing securitization of accounts receivable via special purpose entities (SPEs) as a method of improving cash flow (see Chapter 3). Securitization involves the transfer of receivables to a SPE that purchases them with the proceeds of bonds sold in the capital markets. Companies account for the reduction in receivables as an increase in cash flow from operations since that relates to a current asset. Analysts need to be cognizant of the source of receivables reductions and question whether they represent true improvement in operating performance or a disguised borrowing.

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. A majority of respondents to the accounting *Exposure Draft* preceding current requirements for reporting cash flows, especially creditors, preferred the direct method. The direct method reports total amounts of cash flowing in and out of a company from operating activities. This offers most analysts a better format to readily assess the amount of cash inflows and outflows for which management

has discretion. The risks to lenders are typically greater for fluctuations in cash flows from operations vis-à-vis fluctuations in net income. Information on the individual amounts of operating cash receipts and payments is important in assessing such fluctuations and risks. These important analytical considerations at first convinced regulators to require the direct method of reporting cash flows. But partly because preparers of information claimed this method imposes excessive implementation costs, regulators decided to only encourage the direct method and to permit the indirect method. 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.

Converting from Indirect to Direct Method

We now show how to convert cash flows from operations reported under the indirect method to the direct method. Accuracy of conversion depends on adjustments using data available from external accounting records. The method of conversion we describe is sufficiently accurate for most analytical purposes.

Conversion from the indirect to the direct format is portrayed in Exhibit 7.4 using values from Gould Corporation. We begin by disaggregating net income ($84,000) into total revenues ($660,000) and total expenses ($576,000). Next, our conversion adjustments are applied to relevant categories of revenues or expenses. From these adjustments we report the direct format of Gould Corporation's cash flows from operations. The gain from sale of equipment (transferred to investing activities) is omitted from the direct method presentation.

Exhibit 7.4 **Cash Flows from Operations Section**

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

Cash flows from operating activities	
Cash receipts from customers[a]	$651,000
Cash paid for inventories[b]	(362,000)
Cash paid for operating expenses[c]	(176,000)
Net cash flows from operations	$113,000

Computations
[a]Sales of $660,000 less increase in accounts receivables of $9,000.
[b]Cost of goods sold of $363,000 less decrease in inventories of $6,000 plus decrease in accounts payable of $5,000.
[c]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 VIEWPOINT ***. . . YOU ARE THE INVESTOR***

You are considering investing in D. C. Bionics. Earlier today D. C. Bionics announced a $6 million annual loss; however, net cash flows were a positive $10 million. How are these results possible?

ANALYSIS IMPLICATIONS OF CASH FLOWS

Cash flow information yields several implications for our financial analysis. We discuss the more significant implications in this section.

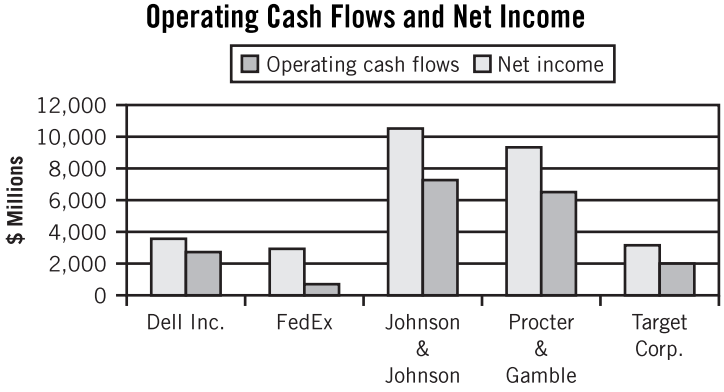
Limitations in Cash Flow Reporting

Following are 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. Many users consider interest paid a financing outflow, and interest and dividends received as cash inflows from investing activities.
- Income taxes are classified as operating cash flows. This classification can distort analysis of the three individual activities if significant tax benefits or costs are attributed to them in a disproportionate manner.
- 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. This is because their related taxes are *not* removed, but left in total tax expense among operating activities.

Interpreting Cash Flows and Net Income

Our analysis of Gould Corporation focused on the two primary financial statements directed to operating activities: the statement of cash flows and the income statement. In spite of practitioners' best efforts to explain the combined usefulness of both operating statements, not all users understand the dual information roles of cash flows and accrual net income. A recurrent misunderstanding among users is the meaning of *operations* and, also, the comparative relevance of cash flows and accrual net income in providing insights into operating activities. More simply, what different insights into operating activities do these two statements provide?



To help us understand their combined usefulness, we return to our analysis of Gould Corporation. Exhibit 7.5 lists amounts side by side from both operating statements and indicates their measurement objectives. We recognize the function of an income statement is to

Exhibit 7.5

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		
	665,000	651,000	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	$ 84,000	$113,000	Cash from operations

measure company profitability for a period. An income statement records revenues when earned and expenses when incurred. No other statement measures profitability in this manner. Yet an income statement does *not* show us the timing of cash inflows and outflows, nor the effect of operations on liquidity and solvency. This information is available to us in the statement of cash flows, shown separately for operating, investing, and financing activities.

Cash flows from operations is a broader view of operating activities than is net income. Cash flows from operations encompass all earning-related activities of a company. This measure concerns not only revenues and expenses but also the cash demands of these activities. They include investing in customer receivables and inventories, and the financing provided by suppliers of goods and services. This difference is evident in Exhibit 7.5 where we arrive at operating cash receipts and disbursements by analyzing changes in operating assets and liabilities to adjust income statement items. Cash flow from operations focuses on the liquidity aspect of operations. It is *not* a measure of profitability because it does not include important costs like the use of long-lived assets in operations nor revenues like the noncash equity in earnings of subsidiaries or nonconsolidated affiliates.

We must bear in mind that a *net* measure, be it net income or cash flows from operations, is of limited usefulness. Whether our purpose of analysis is evaluation of prior performance or prediction of future performance, the key is information about **components** of these net measures. Our discussion in Chapter 11 emphasizes our evaluation of operating performance, and future earning power depends not on net income but on its components.

Accounting accruals determining net income rely on estimates, deferrals, allocations, and valuations. These considerations sometimes allow more subjectivity than do the factors determining cash flows. For this reason we often relate cash flows from operations to net income in assessing its quality. Some users consider earnings of higher quality when the ratio of cash flows from operations divided by net income is greater. This derives from a concern with revenue recognition or expense accrual criteria yielding high net income but low cash flows. Cash flows from operations effectively serve as a check on net income, but not a substitute for net income. Cash flows from operations

Analysis Research

USEFULNESS OF CASH FLOWS

Are cash flow measures useful for users of financial statements? Do cash flow measures offer any additional information beyond accrual measures? Do securities markets react to cash flow information? Analysis research provides valuable insights into these important questions. Several studies of users identify a market shift away from traditional accrual measures like net income in favor of cash flow measures. Cash flow measures are increasingly used for credit analysis, bankruptcy prediction, assigning loan terms, earnings quality assessments, solvency forecasts, and setting dividend and expansion policies. Users of these measures include investors, analysts, creditors, auditors, and management.

Capital market studies provide evidence consistent with the use of cash flow measures. Namely, cash flows from operations explain changes in stock prices beyond those explained by net income. Research also suggests the usefulness of cash flow measures depends on the company and economic conditions prevailing. Evidence indicates the *components* of cash flows, and not the aggregate figure, are what drive the usefulness of cash flow data.

include a financing element and are useful for evaluating and projecting both short-term liquidity and longer-term solvency.

Cash flows from operations exclude, by definition, elements of revenues and expenses not currently affecting cash. Our analysis of operations and profitability should not proceed without considering these elements. Both the income statement and the statement of cash flows are designed to meet different needs of users. The income statement uses accrual accounting in recognizing revenues earned and expenses incurred. Cash flows from operations report revenues received in cash and expenses paid. It is not an issue of which statement is superior to another–only a matter of our immediate analysis needs. Our use of these statements requires that we bear in mind the statements' objectives and limitations.

ANALYSIS EXCERPT

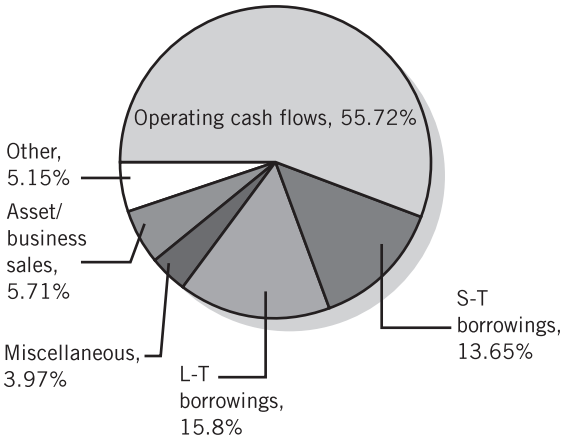
Coca-Cola recently marketed a large initial share offering, not on the basis of traditional measures like price-earnings ratio (which was near 100), but on the basis of operating cash flows (specifically, earnings before taxes, depreciation, interest, and goodwill amortization). This latter measure substantially exceeded net income that was depressed due to heavy noncash charges.

ANALYSIS OF CASH FLOWS

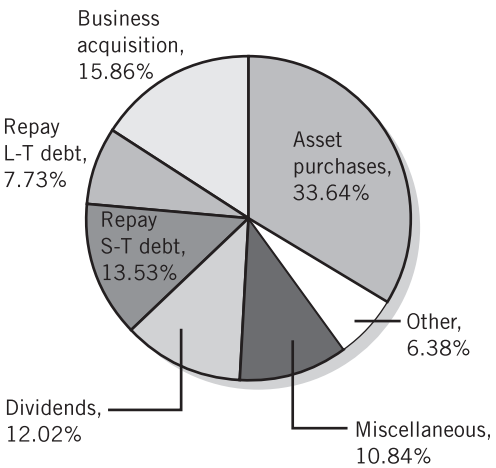
Since conditions vary from company to company, it is difficult to formulate a standard analysis of cash flows. Nevertheless, certain commonalities exist. First, our analysis must establish the major past sources of cash and their uses. A common-size analysis of the statement of cash flows aids in this assessment. In estimating trends, it is useful to total the major sources and uses of cash over a period of a few years since annual or quarterly reporting periods are often too short for meaningful inferences. For example, financing of major projects often spans several years. 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?

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



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



- 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?

Case Analysis of Cash Flows of Campbell Soup

We illustrate the analysis of prior years' statements of cash flows for Campbell Soup Company in the Comprehensive Case following Chapter 11. Our analysis covers the six-year period ending July 28, Year 11. Exhibit CC.10 presents these statements in common-size format.

Our analysis of these statements reveals several insights. During this six-year period the major sources of cash are operations ($3,010 million), long-term debt ($854 million), and short-term debt ($737 million)–see Exhibit CC.4 and Campbell's statements in Appendix A. Major uses are plant purchases (net of sales) of $1,647 million, business acquisitions (net of sales) of $718 million, and cash dividends of $649 million. During this six-year period, cash and cash equivalents increased by $24 million. Sources of cash from operations as a percentage of total sources average 55.7%, with a low of 31.3% in Year 9–see Exhibit CC.10. Year 11 is the most profitable of the six, reflecting a recovery after two years of poor performance and restructuring activities. For this six-year period, cash from operations covered net cash used in investing activities and nearly all dividends paid. Cash flows are partially insulated from the sharp declines in earnings for Years 9 and 10 because restructuring charges of $682 million involved no cash outlays.

Inferences from Analysis of Cash Flows

The Campbell Soup case illustrates the range of useful insights drawn from this analysis. An overall analysis of financial statements then either corroborates or refutes the inferences from the analysis of cash flows.

There are useful generalizations we can make about potential inferences from analysis of the statement of cash flows. First, our analysis of the statement of cash flows enables us to appraise the quality of management's decisions over time and their impact on the company's results of operations and financial position. When our analysis covers a long time period, it can yield insights into management's success in responding to changing business conditions and their ability to seize opportunities and overcome adversities.

Inferences from our analysis of cash flows include where management committed its resources, where it reduced investments, where additional cash was derived from, and where claims against the company were reduced. Inferences also pertain to the

disposition of earnings and the investment of discretionary cash flows. Analysis also enables us to infer the size, composition, pattern, and stability of operating cash flows.

We previously described patterns of cash flows through a company. The operating cycle (Chapter 4) depicts the short-term investment of cash in inventories, the increase in receivables arising from their sale, and the recovery of cash as receivables are collected. The investment in long-term operating assets, such as PPE, follows a much longer cycle. Eventually, all productive uses of cash impact the sales process and are converted into receivables or cash. Profitable operations yield cash recoveries exceeding amounts invested and, consequently, increase cash inflows. Losses yield the opposite effect.

We must examine the components of operating cash flows. Components often hold important clues about the stability of cash sources. For example, increases in operating cash flows that result from the securitization of accounts receivable or the reduction in inventories are not usually a reliable source of cash. This is because cash inflows from the continued reduction of receivables is limited. Similarly, although excess inventories can be reduced without detrimental effects, at some point reductions in inventory adversely impact sales, and cash must be expended to replenish inventory.

Increases in operating cash flows that arise from increases in current liabilities also are not usually a sustainable source of cash inflow. For example, companies can lean on the trade (increase trade payables) to increase operating cash flow. At some point, however, suppliers will respond by charging higher costs or discontinuing shipments for their products (remember, they are incurring higher costs and lower operating cash flows as their level of receivables increases). Similarly, accruals represent unpaid liabilities for which an expense has been currently reported. Accrued wages must be paid, as must accrued rent, and so forth. Increases in accruals typically represent a short-term deferral of cash outflow.

Alternative Cash Flow Measures

Users sometimes compute **net income plus depreciation and amortization** as a crude proxy for operating cash flow. One variant of this measure is the popular EBITDA (earnings before interest, taxes, depreciation, and amortization). This measure suffers from several problems:

1. The add-back of depreciation is sometimes interpreted to mean that the expense is not legitimate. That is incorrect. The using up of long-term depreciable assets is a real expense that must not be ignored.
2. Some interpret the depreciation add-back to indicate that cash has been provided for the replenishment of the long-term assets. That is also incorrect. 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.
3. 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. Examination of working capital components provides insight into the persistence of operating cash flows as discussed in the previous section.

Oversimplification of operating cash flows by the use of net income plus depreciation, EBITDA, or the like, misinterprets the nature of depreciation expense and ignores

valuable information that is revealed by examination of changes in working capital accounts.

Company and Economic Conditions

A balance sheet describes the assets of a company at a point in time and the manner in which those assets are financed. An income statement portrays the results of operations for a period of time. Income increases assets, including cash and noncash (both current and noncurrent) assets. Expenses are the consumption of assets (or incurrence of liabilities). Accordingly, net income is linked to cash flows through adjustments in balance sheet accounts.

It is conceivable that a profitable company can find it difficult to meet current obligations and need cash for expansion. Success through increasing sales can yield liquidity problems and restrict cash due to a growing asset base. Accordingly, there might be insufficient cash to cover maturing obligations. It is also important for us to distinguish performance across business activities. It is especially important to separate operating performance and profitability from those of investing and financing activities. All activities are essential and interconnected, but they are not identical and reflect on different aspects of a company. A statement of cash flows reveals the implications of earnings activities for cash. It reveals assets acquired and how they are financed. It describes how net income and cash flows from operations are different. The ability to generate cash flows from operations is vital to financial health. No business survives in the long run without generating cash from operations. Yet we must interpret cash flows and trends with care and an understanding of economic conditions.

While both successful and unsuccessful companies can experience problems with cash flows from operations, the reasons are markedly different. A successful company confronting increasing investments in receivables and inventories to meet expanding customer demand often finds its growing profitability useful in obtaining additional financing from both debt and equity suppliers. This profitability (positive accrual income) ultimately yields positive cash flows. An unsuccessful company experiences cash shortages from slowdowns in receivable and inventory turnovers, losses in operations, or combinations of these and other factors. The unsuccessful company can increase cash flows by reducing receivables and inventories, but usually this is done at the expense of services to customers, further depressing profits. These factors are signs of current and future crises and cash shortages, including declining trade credit. Decreasing cash flows for an unsuccessful company have entirely different implications than they do for a successful one. Even if an unsuccessful manager borrows money to offset the decline in operating cash flows, the costs and results of borrowing only magnify the ultimate loss. Profitability is our key variable; without it a company is doomed to failure.

We must also interpret changes in operating working capital items in light of economic circumstances. An increase in receivables can imply expanding consumer demand for products or it can signal an inability to collect amounts due in a timely fashion. Similarly, an increase in inventories (and particularly of raw materials) can imply anticipation of increases in production in response to consumer demand, or it can imply an inability to accurately anticipate demand or sell products (especially if finished goods inventory is increased).

Inflationary conditions add to the financial burdens and challenges of companies. The more significant challenges include replacing plant assets, increasing investments

in inventories and receivables, and dividend policies based on profits that do not provide for current costs of resources used in operations. While managerial decisions are not necessarily based on financial statements, we cannot dismiss their importance and implications. We look to the statement of cash flows for information on the effects, in current dollars, of how management copes under inflationary conditions. This yields a focus on cash flows from operations after capital expenditures and dividends.

Free Cash Flow

A useful analytical derivative of the statement of cash flows is the computation of **free cash flow.** As with other analytical measures, we must pay attention to components of the computation. Ulterior motives in reporting the components used in computing free cash flow can sometimes affect its usefulness. While there is not agreement on its exact definition, one of the more useful measures of free cash flow is:

	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 and similar in concept is: FCF = NOPAT − Change in NOA. This definition defines free cash flows to the firm as net operating profits after tax (NOPAT) less the increase in net operating assets (NOA). The increase in NOA subsumes the change in working capital for net cash flows from operations and the increase in long-term operating assets (similar to the second line in the formula presented above). The focus, however, is on the company as a whole, without regard to its financing. Consequently, dividends (a financing activity) are not considered.

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. We must recognize that the amount of capital expenditures needed to maintain productive capacity is generally not disclosed. Rather it is part of total capital expenditures, which are disclosed, but can include outlays for expansion of productive capacity. Separating capital expenditures between these two components is problematic. The statement of cash flows does not separate capital expenditures into maintenance and expansion components.

ANALYSIS VIEWPOINT ***. . . YOU ARE THE CREDIT ANALYST***

You are a credit analyst at a credit-rating agency for industrial companies. A company you are rating has a strong history of positive (1) net cash flows and (2) cash flows from operations. However, its free cash flow has recently turned negative and you expect it to remain negative into the foreseeable future. Do you change your credit rating of the company?

Cash Flows as Validators

The statement of cash flows is useful for prediction of operating results on the basis of acquired and planned productive capacity. It is also of use in assessment of a company's future expansion capacity, its capital requirements, and its sources of cash inflows. The statement of cash flows is an essential bridge between the income statement and the balance sheet. It reports a company's cash inflows and outflows, and a company's ability to meet current obligations. Moreover, the statement of cash flows provides us with important clues on:

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

The statement of cash flows is useful in identifying misleading or erroneous operating results or expectations. Further discussion of earnings quality and the usefulness of cash flows as validators appears in Chapter 11. Nevertheless, like other statements, the statement of cash flows is a reliable and credible source of a company's actions and intentions–more so than are predictions and press releases of management.

We must take care to examine relations among items in a statement of cash flows. Certain transactions are related–for example, purchasing assets by issuing debt. Yet our analysis must be careful not to infer relations among items where none exist. A change in cash, whether positive or negative, cannot be judged solely by the statement of cash flows. It must be analyzed in relation to other variables in a company's financial structure and operating results. For example, an increase in cash can arise from sacrificing a company's future earning power by selling valuable assets, or by taking on debt at high costs or unfavorable terms. Relations among financial statement items and their implications are important for the reliability of our analysis.

SPECIALIZED CASH FLOW RATIOS

The following two ratios are often useful in analyzing a firm's flow of funds.

Cash Flow Adequacy Ratio

The **cash flow adequacy ratio** is a measure of a company's ability to generate sufficient cash from operations to cover capital expenditures, investments in inventories, and cash dividends. To remove cyclical and other random influences, a three-year total is typically used in computing this ratio. The cash flow adequacy ratio is calculated as:

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

Investment in other important working capital items like receivables is omitted because they are financed primarily by short-term credit (such as growth in accounts payable). Accordingly, only additions to inventories are included. Note in years where inventories decline, the downward change is treated as a zero change in computing the ratio.

Using the financial statement data from Campbell Soup Company in Appendix A, we compute its (three-year) cash flow adequacy ratio as:

$$\frac{\$1{,}610.9^{(a)}}{\$1{,}390.3^{(b)} + \$113.2^{(c)} + \$348.5^{(d)}} = 0.87$$

(a)Cash from operations–item **64**.
(b)Property additions–items **65** and **67**.
(c)Inventory additions–item **62**.
(d)Cash dividends–item **77**.

Proper interpretation of the cash flow adequacy ratio is important. A ratio of 1 indicates the company exactly covered these cash needs without a need for external financing. A ratio below 1 suggests internal cash sources were insufficient to maintain dividends and current operating growth levels. For Campbell Soup Company, the ratio indicates that for the three years ending in Year 11, Campbell's operating cash flows fell short of covering dividends and operating growth. While not illustrated here, if we compute a six-year ratio, a more favorable ratio emerges. The cash flow adequacy ratio also reflects on the inflationary effects for funding requirements of a company. As with other analyses, inferences drawn from this ratio should be supported with further analysis and investigation.

Cash Reinvestment Ratio

The **cash reinvestment ratio** is a 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. This ratio is computed as:

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

A reinvestment ratio in the area of 7% to 11% is generally considered satisfactory. Using the financial statements of Campbell Soup Company, we compute the cash reinvestment ratio for Year 11:

$$\frac{\$805.2^{(e)} - \$137.5^{(f)}}{(\$2{,}921.9 + \$477.6)^{(g)} + 404.6^{(h)} + (\$1{,}518.5 - \$1{,}278.0)^{(i)}} = 16.5\%$$

(e)Cash from operations–item **64**.
(f)Cash dividends–item **77**.
(g)Gross plant assets–items **158** thru **161**; plus: intangibles–items **163** and **164**.
(h)Other assets–item **39**.
(i)Total current assets–item **36**; less: total current liabilities–item **45**.

APPENDIX 7A ANALYTICAL CASH FLOW WORKSHEET

This appendix provides a usable worksheet to facilitate the conversion of financial data to the direct (inflow-outflow) format for cash flows from operations. We often desire to convert a company's indirect format for cash flows from operations to an analytically more useful direct format. Exhibit 7A.1 displays a worksheet designed to simplify this conversion.

Exhibit 7A.1

WORKSHEET TO COMPUTE CASH FLOW FROM OPERATIONS (CFO)

Direct Presentation ($ in _____)

Company: _____

Year Ended _____

		YEAR		
		_____	_____	_____
Cash receipts from operations				
Net sales and revenues[a]	*1	$	$	$
Other revenue and income (see also lines 22 and 25)	*2			
(I) D in current receivables	3			
(I) D in noncurrent receivables[b]	4			
Other adjustments[c]	5			
Total cash receipts	6			
Cash disbursements for operations				
Total expenses (include interest and taxes)[a]	*7			
Less expenses and losses not using cash:				
Depreciation and amortization	8			
Noncurrent deferred income taxes	9			
Other _____	10			
Other _____	11			
Other _____	12			
Changes in current operating assets and liabilities				
I (D) in inventories	13			
I (D) in prepaid expenses	14			
(I) D in accounts payable	15			
(I) D in taxes payable	16			
(I) D in accruals	17			
I or D other _____	18			
I or D other _____	19			
I or D in noncurrent accounts[b]	20			
Total cash disbursements[d]	21			
Dividends received				
Equity in income of unconsolidated affiliates	*22			
Less undistributed equity in income of affiliates	23			
Dividends from unconsolidated affiliates	24			
Other cash receipts (disbursements) [e]	*25			
Describe _____ [a]	25			
_____ [a]	25			
Total cash flow from operations[f]	26			

Footnote all amounts that are composites or that are not self-evident. Indicate all sources for figures. I(D) refers to increases (decreases) in accounts.

** The sum of the five lines denoted by asterisks must equal reported net income per income statement.*

[a] Including adjustment (grossing up) of revenue and expense of discontinued operations disclosed in footnote(s). Describe computation. Include other required adjustments and explain.

[b] That relating to operations—describe in notes.

[c] Such as removal of gains included above—describe in notes.

[d] That include (from supplemental disclosures):

Cash paid for interest (net of amount capitalized) $_____ _____ _____

Cash paid for income taxes $_____ _____ _____

[e] These include extraordinary items, discontinued operations, and any other item not included above. The amount in line 25 is after *adjustment to cash basis while the * refers to item(s) included in income* before *such adjustment. (Present details in notes.)*

[f] Reconcile to amount reported by company. If not reported, reconcile to change in cash for period along with investing and financing activities.

GUIDANCE ANSWERS TO ANALYSIS VIEWPOINTS

BOARD MEMBER

Your initial course of action is to verify management's claim of financial distress. A $1.2 million loss along with a $1.1 million decrease in net cash flows seemingly supports their claim. However, you should be suspicious of management's motives and its aversion to community activism. Consequently, you scrutinize the financial results, and your findings reveal a markedly different picture. You note cash flows from operations increased $1.5 million (−$1.1 = CFO − $1.9 − $0.7). You note that net income *before* the extraordinary loss is a positive $100,000. This is sufficient and powerful information with which to confront management. A serious and directed discussion is likely to yield reconsideration of this company's support of your educational programs.

INVESTOR

Several factors can account for an increase in net cash flows when a loss is reported. Possibilities include: (1) early recognition of expenses relative to revenues generated (such as research and development), (2) valuable long-term sales contracts not yet recognized in income, (3) issuances of debt or equity to finance expansion, (4) selling of assets, (5) delayed cash payments, and (6) prepayment on sales. Our analysis of D.C. Bionics needs to focus on the components of both net income and net cash flows, and their implications for future performance.

CREDIT ANALYST

The downward turn in free cash flow is an ominous sign. Free cash flow is the cash remaining after providing for commitments necessary to maintain operations at current levels. These commitments include a company's continuing operations, interest payments, income taxes, net capital expenditures, and dividends. A negative free cash flow implies a company must either sell assets or acquire financing (debt or equity) to maintain current operations. A significant change in free cash flow must be seriously scrutinized in assigning a new credit rating.

[Superscript^{A} denotes assignments based on Appendix 7A.]

QUESTIONS

7–1. What is the meaning of the term *cash flow?* Why is this term subject to confusion and misrepresentation?

7–2. What information can a user of financial statements obtain from the statement of cash flows?

7–3. Describe the three major activities the statement of cash flows reports. Cite examples of cash flows for each activity.

7–4. Explain the three categories of adjustments in converting net income to cash flows from operations.

7–5. Describe the two methods of reporting cash flow from operations.

7–6. Contrast the purpose of the income statement with that of cash flow from operations.

7–7. Discuss the importance to analysis of the statement of cash flows. Identify factors entering into the interpretation of cash flows from operations.

7–8. Describe the computation of free cash flow. What is its relevance to financial analysis?

7–9. List insights that the statement of cash flows can provide to our analysis.

EXERCISES

EXERCISE 7–1

Interpreting Differences between Income and Cash from Operations

Campbell Soup Company

Refer to the financial statements of **Campbell Soup Company** in Appendix A.

Required:

Explain how Campbell Soup Company can have net income of $401.5 million, but generate $805.2 million in cash from operations in Year 11. Explain this in language understood by a general businessperson. Illustrate your explanation by reference to the major reconciling items.

EXERCISE 7–2
Relations in the Statement of Cash Flows

It is important that an analyst understand the activities that comprise the statement of cash flows, including the disclosure of their individual elements.

Required:

a. Practice requires the classification of cash inflows and outflows into three categories. Identify and describe those categories.

b. Which noncash activities are reported in the statement of cash flows and how are they reported?

c. Assume First Corporation retains you to consult with them on preparation of the statement of cash flows using the indirect method for the year ended December 31, Year 8. Advise them on how the following separate items affect the statement of cash flows and how they are shown on the statement:
   (1) Net income for the fiscal year is $950,000, including an extraordinary gain of $60,000.
   (2) Depreciation expense of $80,000 is included in the income statement.
   (3) Uncollectible accounts receivable of $50,000 are written off against the allowance for uncollectible accounts. Bad debts expense of $24,000 is included in determining earnings for the year, and the same $24,000 amount is added to the allowance for uncollectible accounts.
   (4) Accounts receivable increase by $140,000 during the year and inventories decline by $60,000.
   (5) Taxes paid to governments amount to $380,000.
   (6) A gain of $5,000 is realized on the sale of a machine; it originally cost $75,000 and $25,000 is undepreciated on the date of sale.
   (7) On June 5, Year 8, buildings and land are purchased for $600,000; First Corp. gave in payment $100,000 cash, $200,000 in market value of its unissued common stock, and a $300,000 mortgage note.
   (8) On August 8, Year 8, First Corp. converts $700,000 face value of its 6 percent convertible debentures into $140,000 par value of its common stock. The bonds are originally issued at face value.
   (9) The board of directors declares a $320,000 cash dividend on October 30, Year 8, payable on January 15, Year 9, to stockholders of record on November 15, Year 8.
   (10) On December 15, Year 8, First Corp. declares a 2-for-1 stock split payable on December 25, Year 8.

EXERCISE 7–3
Analyzing Operating Cash Flows

The following data are taken from the records of Saro Corporation and subsidiaries for Year 1:

Net income	$10,000
Depreciation, depletion, and amortization	8,000
Disposals of property, plant, and equipment (book value) for cash	1,000
Deferred income taxes for Year 1 (noncurrent)	400
Undistributed earnings of unconsolidated affiliates	200
Amortization of discount on bonds payable	50
Amortization of premium on bonds payable	60
Decrease in noncurrent assets	1,500
Cash proceeds from exercise of stock options	300
Increase in accounts receivable	900
Increase in accounts payable	1,200
Decrease in inventories	850
Increase in dividends payable	300
Decrease in notes payable to banks	400

Required:

CHECK
CFO, $19,340

a. Determine the amount of cash flows from operations for Year 1 (use the indirect format).

b. For the following items, explain their meaning and implications, if any, in adjusting net income to arrive at cash flows from operations.
   (1) Issuance of treasury stock as employee compensation.
   (2) Capitalization of interest incurred.
   (3) Amount charged to pension expense differing from the amount funded.

EXERCISE 7–4
Deriving Cash Flows from Financial Statements

The balance sheets of Barrier Corporation as of December 31, Year 2, and Year 1, and its statement of income and retained earnings for the year ended December 31, Year 2, follow:

BARRIER CORPORATION
Balance Sheets
December 31, Year 2 and Year 1

	Year 2	Year 1	Increase (decrease)
Assets			
Cash	$ 275,000	$ 180,000	$ 95,000
Accounts receivable	295,000	305,000	(10,000)
Inventories	549,000	431,000	118,000
Investment in Ort Inc., at equity	73,000	60,000	13,000
Land	350,000	200,000	150,000
Plant and equipment	624,000	606,000	18,000
Accumulated depreciation	(139,000)	(107,000)	(32,000)
Goodwill	16,000	20,000	(4,000)
Total assets	$2,043,000	$1,695,000	$348,000
Liabilities and Stockholders' Equity			
Accounts payable	$ 604,000	$ 563,000	$ 41,000
Accrued expenses	150,000	—	150,000
Bonds payable	160,000	210,000	(50,000)
Deferred income taxes	41,000	30,000	11,000
Common stock, par $10	430,000	400,000	30,000
Additional paid-in capital	226,000	175,000	51,000
Retained earnings	432,000	334,000	98,000
Treasury stock, at cost	—	(17,000)	17,000
Total liabilities and equity	$2,043,000	$1,695,000	$348,000

BARRIER CORPORATION
Statement of Income and Retained Earnings
For Year Ended December 31, Year 2

Net sales		$1,937,000
Undistributed income from Ort Inc.		13,000
Total net revenue		1,950,000
Cost of sales		(1,150,000)
Gross income		800,000
Depreciation expense	$ 32,000	
Amortization of goodwill	4,000	
Other expenses (including income taxes)	623,000	(659,000)
Net income		$ 141,000
Retained earnings, January 1, Year 2		334,000
		475,000
Cash dividends paid		(43,000)
Retained earnings, December 31, Year 2		$ 432,000

Additional information:

- Capital stock is issued to provide additional cash.
- All accounts receivable and payable relate to operations.
- Accounts payable relate only to items included in cost of sales.
- There are no noncash transactions.

Required:

Determine the following amounts:

CHECK
(*b*) $1,227,000

a. Cash collected from sales during Year 2.

b. Cash payments on accounts payable during Year 2.

c. Cash receipts during Year 2 *not* provided by operations.

d. Cash payments for noncurrent assets purchased during Year 2.

EXERCISE 7–5
Interpreting Cash Flows

Indicate if each transaction and event is (1) a source of cash, (2) a use of cash, and/or (3) an adjustment leading to a source or use of cash (assume an indirect format). List also its placement in the statement of cash flows: operations (O), financing (F), investing (I), noncash significant (NCS), noncash nonsignificant (NCN), or no effect (NE).

Example

Transaction or Event	Source	Use	Adjustment	Category in Statement of Cash Flows
Cash dividend received	X			O

a. Increase in accounts receivable.

b. Pay bank note.

c. Issue common stock.

d. Sell marketable securities.

e. Retire bonds.

f. Declare stock dividend.

g. Purchase equipment.

h. Convert bonds to preferred stock.

i. Pay dividend.

j. Increase in accounts payable.

EXERCISE 7–6
Interpreting Cash Flows

Indicate if each transaction and event is (1) a source of cash, (2) a use of cash, and/or (3) an adjustment leading to a source or use of cash (assume an indirect format). List also its placement in the statement of cash flows: operations (O), financing (F), investing (I), noncash significant (NCS), noncash nonsignificant (NCN), or no effect (NE).

Example

Transaction or Event	Source	Use	Adjustment	Category in Statement of Cash Flows
Issue bonds for cash	X			F

a. Decrease in inventory.

b. Paid current portion of long-term debt.

c. Retire treasury stock.
d. Purchase marketable securities (noncurrent).
e. Issue bonds for property.
f. Declare stock dividend.
g. Sell equipment for cash.
h. Convert bonds to preferred stock.
i. Purchase inventory on credit.
j. Decrease in accounts payable from return of merchandise.

EXERCISE 7–7
Interpreting Economic Impacts of Transactions

During a meeting of the management committee of Edsel Corporation, a number of proposals are made to alleviate its weak cash position and improve income. Evaluate and comment on both the immediate *and* long-term effects of the following proposals on the measures indicated. Indicate increase (+), decrease (−), or no effect (NE).

Proposal	EFFECT ON		
	Net Income	Cash from Operations	Cash Position
1. Substitute stock dividends for cash dividends.			
2. Delay needed capital expenditures.			
3. Reduce repair and maintenance outlays.			
4. Increase the provision for depreciation:			
a. For GAAP books only.			
b. For tax only.			
c. For both GAAP books and tax.			
5. Require earlier payment from clients.			
6. Delay payment to suppliers and pass up cash discounts.			
7. Borrow money short term.			
8. Switch from sum-of-the-years'-digits to straight-line depreciation for books only.			
9. Pressure dealers to buy more.			
10. Reduce funding of pension plan to the minimum legal level.			
11. Reduce inventories by implementing a just-in-time inventory system.			
12. Sell trading securities that have declined by $1,000 in the current period but are still valued at $3,000 above cost.			
13. Reissue treasury shares.			

CHECK
(12) −, NE, +

EXERCISE 7–8
Depreciation as a Source of Cash

An economics book has the following statement: "For the business firm there are, typically, three major sources of funds. Two of these, depreciation reserves and retained earnings, are internal. The third is external, consisting of funds obtained either by borrowing, or by the sale of new equities."

Required:

a. Is depreciation a source of cash? (Exclude all considerations pertaining to depreciation differences between taxable income and accounting income.)

b. If depreciation is not a source of cash, what might explain the belief by some that depreciation is a source of cash?

c. If depreciation is a source of cash, explain the manner in which depreciation provides cash to the business.

EXERCISE 7–9
Analyzing the Statement of Cash Flows

Campbell Soup Company

Refer to the financial statements of **Campbell Soup Company** in Appendix A.

Required:

a. How much cash does Campbell Soup collect from customers during Year 10? (*Hint:* Use the statement of cash flows to derive the beginning balance of receivables.)

CHECK
(*c*) $3,982.4 mil.

b. How much is paid in cash dividends on common stock during Year 11?

c. How much is the total cost of goods and services produced and otherwise generated in Year 11? Consider all inventories.

d. How much is the deferred tax provision for Year 11? What effect did it have on current liabilities?

e. What effect does Year 11 depreciation expense have on cash from operations?

f. Why are the "Divestitures & restructuring" provisions in the statement of cash flows for Year 10 added back to net income in arriving at cash from operations?

g. What does the adjustment "Effect of exchange rate changes on cash" represent?

h. Note 1 to the financial statements discusses the accounting for disposal of property. Where is the adjustment for any gain or loss reported in the statement of cash flows?

CHECK
(*i*) Year 11, $306.6 mil.

i. Compute free cash flows for all years shown.

j. Campbell is an established manufacturer. How would you expect the free cash flows of a start-up competitor in this industry to differ from Campbell?

k. If Campbell launched a new product line in Year 12, how would you expect the three sections of the statement of cash flows to be affected?

EXERCISE 7–10
Linking Operating Cash Flows with Earnings Quality

In reviewing the financial statements of NanoTech Co., you discover that net income increased while operating cash flows decreased for the most recent two consecutive years.

Required:

a. Explain how net income could increase for NanoTech while its operating cash flows decrease. Your answer should include three illustrative examples.

b. Describe how operating cash flows can serve as one indicator of earnings quality.

(CFA Adapted)

EXERCISE 7–11
Relation of Cash Flows to Company Life Cycle

Analysts often exploit the relation between a company's life cycle (see Exhibit 2.3) and its cash flows to better understand company performance and financial condition.

Required:

a. Explain how a company's transition from the growth stage to "cash cow" is reflected in the statement of cash flows.

b. Describe how the decline of a "cash cow" is reflected in the statement of cash flows.

PROBLEMS

PROBLEM 7–1[A]
Converting Cash from Operations under Indirect Method to Direct

Refer to **Campbell Soup Company's** statement of cash flows in Appendix A. **Campbell Soup Company**

Required:

Convert Campbell's statement of cash flows for Year 11 to show cash flows from operations (CFO) using the direct method.

For purposes of this problem only, *assume* the following:

a. Net change in other current assets and current liabilities of $30.6 consists of:

Decrease in prepaid expenses	$(25.3)
Decrease in accounts payable	42.8
Increase in taxes payable	(21.3)
Increase in accruals and payrolls	(26.8)
	$(30.6)

b. Campbell disposed of a division in Year 11 reporting revenues of $7.5 million and an after-tax loss of $5.3 million. The loss is included in expenses. The CFO presentation should include revenues and expenses of the discontinued operations in Year 11.

PROBLEM 7–2[A]
Converting the Statement of Cash Flows to Alternative Formats

Refer to **Campbell Soup Company's** statement of cash flows in Appendix A. **Campbell Soup Company**

Required:

Convert Campbell's statement of cash flows for Year 10 to report its cash from operations under the direct method. (For purposes of this assignment only, assume Campbell disposed of a division in Year 10 that had revenues of $7.5 million and an after-tax loss of $5.3 million. The loss is included in expenses. The CFO presentation should include revenues and expenses of discontinued operations in Year 10.)

PROBLEM 7–3
Preparing and Analyzing the Statement of Cash Flows (Indirect)

A colleague who is aware of your understanding of financial statements asks for help in analyzing the transactions and events of Zett Corporation. The following data are provided:

ZETT CORPORATION
Balance Sheets
December 31, Year 1 and Year 2

	Year 1	Year 2
Cash	$ 34,000	$ 34,500
Accounts receivable, net	12,000	17,000
Inventory	16,000	14,000
Investments (long term)	6,000	—
Fixed assets	80,000	93,000
Accumulated depreciation	(48,000)	(39,000)
Total assets	$100,000	$119,500

(continued)

PROBLEM 7–3
(concluded)

	Year 1	Year 2
Accounts payable	$ 19,000	$ 12,000
Bonds payable	10,000	30,000
Common stock	50,000	61,000
Retained earnings	21,000	28,000
Treasury stock	—	(11,500)
Total liabilities and equity	$100,000	$119,500

Additional data for the period January 1, Year 2, through December 31, Year 2, are:

1. Sales on account, $70,000.
2. Purchases on account, $40,000.
3. Depreciation, $5,000.
4. Expenses paid in cash, $18,000 (including $4,000 of interest and $6,000 in taxes).
5. Decrease in inventory, $2,000.
6. Sales of fixed assets for $6,000 cash; cost $21,000 and two-thirds depreciated (loss or gain is included in income).
7. Purchase of fixed assets for cash, $4,000.
8. Fixed assets are exchanged for bonds payable of $30,000.
9. Sale of investments for $9,000 cash.
10. Purchase of treasury stock for cash, $11,500.
11. Retire bonds payable by issuing common stock, $10,000.
12. Collections on accounts receivable, $65,000.
13. Sold unissued common stock for cash, $1,000.

Required:

a. Prepare a statement of cash flows (indirect method) for the year ended December 31, Year 2.

CHECK
Year 2 CFO, $0

b. Prepare a side-by-side comparative statement contrasting two bases of reporting: (1) net income and (2) cash flows from operations.

c. Which of the two financial reports in (b) better reflects profitability? Explain.

PROBLEM 7–4
Analyzing the Statement of Cash Flows (Indirect)

Dax Corporation's genetically engineered flowers have rapidly gained market acceptance and shipments to customers have increased dramatically. The company is preparing for significant increases in production. Management notes that despite increasing profits the cash balance has declined, and it is forced to nearly double its debt financing in the current year. You are hired to advise management as to specific causes of the cash deficiency and how to remedy the situation. You are given the following balance sheets of Dax Corporation for Years 1 and 2 ($ thousands):

DAX CORPORATION
Balance Sheets
December 31, Year 2 and Year 1

($ thousands)	Year 2		Year 1	
Assets				
Cash		$ 500		$ 640
Accounts receivable, net		860		550
Inventories		935		790
Prepaid expenses		25		—
Total current assets		$2,320		$1,980
Patents	$ 140			
Less accumulated amortization	(10)	130		—
Plant and equipment	2,650		$1,950	
Less accumulated depreciation	(600)	2,050	(510)	1,440
Other assets	200		175	
Less accumulated depreciation	(30)	170	(25)	150
Total assets		$4,670		$3,570
Liabilities and Equity				
Accounts payable		$ 630		$ 600
Deferred income tax		57		45
Other current liabilities		85		78
Total current liabilities		772		723
Long-term debt		1,650		850
Common stock, $1 par		2,000		1,800
Retained earnings		248		197
Total liabilities and equity		$4,670		$3,570

In addition, the following information is available:

1. Net income for Year 2 is $160,000 and for Year 1 it is $130,000.
2. Cash dividends paid during Year 2 are $109,000 and during Year 1 they are $100,000.
3. Depreciation expense charged to income during Year 2 is $95,000, and the provision for bad debts (expense) is $40,000. Expenses include cash payments of $28,000 in interest costs and $70,000 in income taxes.
4. During Year 2 the company purchases patents for $140,000 in cash. Amortization of patents during the year amounts to $10,000.
5. Deferred income tax for Year 2 amounts to $12,000 and for Year 1 it amounts to $15,000.

Required:

a. Prepare a statement of cash flows (indirect method) for Year 2.

b. Explain the discrepancy between net income and cash flows from operations.

c. Describe options available to management to remedy the cash deficiency.

CHECK
(*a*) Year 2 CFO, $(166,000)

PROBLEM 7–5
Preparing the Statement of Cash Flows (Direct)

Using the income statement and balance sheets of Niagara Company below, prepare a statement of cash flows for the year ended December 31, Year 9, using the direct method.

NIAGARA COMPANY
Income Statement
For Year Ended December 31, Year 9

Sales	$1,000
Cost of goods sold	(650)
Depreciation expense	(100)
Sales and general expense	(100)
Interest expense	(50)
Income tax expense	(40)
Net income	$ 60

NIAGARA COMPANY
Balance Sheets
December 31, Year 9 and Year 8

	Year 8	Year 9
Assets		
Cash	$ 50	$ 60
Accounts receivable, net	500	520
Inventory	750	770
Current assets	1,300	1,350
Fixed assets, net	500	550
Total assets	$1,800	$1,900
Liabilities and Equity		
Notes payable to banks	$ 100	$ 75
Accounts payable	590	615
Interest payable	10	20
Current liabilities	700	710
Long-term debt	300	350
Deferred income tax	300	310
Capital stock	400	400
Retained earnings	100	130
Total liabilities and equity	$1,800	$1,900

CHECK
CFO, $165

(CFA adapted)

PROBLEM 7–6
Interpreting Cash Flow Effects of Transactions

An ability to visualize quickly the effect of a transaction on the cash resources of a company is a useful analytical skill. This visualization requires an understanding of the economics underlying transactions and how they are accounted for. Expressing transactions in entry form can help one understand business activities.

Required:

A schematic statement of cash flows is reproduced below. The titles of lines in the schematic are given labels (letters). Several business activities are listed below the schematic. For each of the activities listed, identify the lines affected and by what amount. Each activity is separate and unrelated to another. The company closes its books once each year on December 31. Do not consider subsequent activities. Use the labels (letters) shown below. Do not indicate the effect on any line not given a label. If a transaction has no effect, write none. In indicating effects for lines labeled *Y* and *C*, use a + to indicate an increase and a − to indicate a decrease. (*Hint:* Every activity with an effect, affects at least two lines–equal debits and credits. An analytical entry can aid in arriving at a solution.)

Schematic Statement of Cash Flows

	SOURCES OF CASH	
(Y)	Net income	_____(Y)
(YA)	Additions and addbacks of expenses and losses not using cash	_____(YA)
(YS)	Subtractions for revenues and gains not generating cash	_____(YS)
	Changes in current operating assets and liabilities	
(CC)	Add credit changes	_____(CC)
(DC)	Deduct debit changes	_____(DC)
(NC)	Add (deduct) changes in noncurrent operating accounts	_____(NC)
	Cash flow from operations Y + YA − YS + CC − DC + or − NC	_____
(DE)	Proceeds of debt and equity issues	_____(DE)
(IL)	Increase in nonoperating current liabilities	_____(IL)
(AD)	Proceeds of long-term assets dispositions	_____(AD)
(OS)	Other sources of cash	_____(OS)
	Total sources of cash	_____

	USES OF CASH	
(ID)	Income distributions	_____(ID)
(R)	Retirements of debt and equity	_____(R)
(DL)	Decreases in nonoperating current liabilities	_____(DL)
(AA)	Long-term assets acquisitions	_____(AA)
(OU)	Other uses of cash	_____(OU)
	Total uses of cash	_____
(C)	Increase (decrease) in cash	_____(C)

	SCHEDULE OF NONCASH INVESTING AND FINANCING ACTIVITIES	
(NDE)	Issue of debt or equity	_____(NDE)
(NCR)	Other noncash-generating credits	_____(NCR)
(NAA)	Acquisitions of assets	_____(NAA)
(NDR)	Other noncash-requiring debts	_____(NDR)

Examples:

a. Sales of $10,000 are made on credit.

b. Cash dividends of $4,000 are paid.

c. Entered into long-term capital lease obligation (present value $60,000).

Answers in the Form [Line, Amount]:

a. [DC, $10,000], [+ Y, $10,000]

b. [ID, $4,000], [− C, $4,000]

c. [NAA, $60,000], [NDE, $60,000]

Business activities:

a. Provision for bad debts of $11,000 for the year is included in selling expenses.

b. Depreciation of $16,000 is charged to cost of goods sold.

c. Company acquires a building by issuance of a long-term mortgage note for $100,000.

d. Treasury stock with a cost of $7,000 is retired and canceled.

e. The company has outstanding 50,000 shares of common stock with par value of $1. The company declares a 20 percent stock dividend at the end of the year when the stock is selling for $16 a share.

f. Inventory costing $12,000 is destroyed by fire. The insurance company pays only $10,000 toward this loss, although the market value of the inventory is $15,000.

g. Inventories originally costing $25,000 are used by production departments in producing finished goods that are sold for $35,000 in cash and $5,000 in accounts receivable.

h. Accounts receivable of $8,000 are written off. There is an allowance for doubtful accounts balance of $5,000 prior to the write off.

i. Long-lived assets are acquired for $100,000 cash on January 1. The company decides to depreciate $20,000 each year.

j. A machine costing $15,000 with accumulated depreciation of $6,000 is sold for $8,000 cash.

PROBLEM 7–7
Interpreting Cash Flow Effects of Transactions

Complete the requirements of Problem 7–6 using the business activities listed below:

Part I

a. An annual installment of $100,000 due on long-term debt is paid on its due date.

b. Equipment originally costing $12,000 with $7,000 of accumulated depreciation is sold for $4,000 cash.

c. Obsolete inventory costing $75,000 is written down to zero.

d. Treasury stock costing $30,000 is sold for $28,000 cash.

e. A plant is acquired by issuing a $300,000 mortgage payable due in equal installments over six years.

f. The company's 30 percent-owned unconsolidated subsidiary earns $100,000 and pays dividends of $20,000. The company recorded its 30 percent share of these items using the equity method.

g. A product is sold for $40,000, to be paid with $10,000 down plus $10,000 each year for three years. Interest at 10 percent of the outstanding balance is due. Consider only the effect at the time of sale (the company's operating cycle is less than one year).

h. The company uses a periodic inventory method. Certain inventory is mistakenly valued at $1,000—it should have been valued at $10,000. Show the effect of correcting the error.

i. Cash of $400,000 is used to acquire 100 percent of ZXY Manufacturing Company. At date of acquisition, ZXY has current assets of $300,000 (including $40,000 in cash); plant and equipment of $670,000; current liabilities of $160,000; and long-term debt of $410,000.

j. A provision for bad debt expense of $60,000 is made (calculated as a percent of sales for the period).

Part II

a. Cash of $120,000 is invested in a 30-percent-owned company.

b. A 30 percent-owned subsidiary earns $25,000 (in total) and pays no dividends.

c. A 30 percent-owned subsidiary earns $30,000 (in total) and pays dividends of $10,000 (in total).

d. Equipment with an original cost of $15,000 and accumulated depreciation of $12,000 is sold for $4,000 cash.

e. The company borrows $60,000 from its banks on November 30 payable on June 30 of next year.

f. Convertible bonds with a face value of $9,000 are converted into 1,000 shares of common stock with a par value of $2 per share.

g. Treasury stock with a cost of $4,000 is sold for $6,000 cash.

h. Common stock (par value $2) with a fair market value of $100,000 plus $100,000 cash are given to acquire 100 percent of ZXY Mfg. Co. At date of acquisition ZXY had current assets of $120,000 (including $40,000 cash); plant and equipment of $180,000; current liabilities of $60,000; and long-term debt of $40,000.
(1) Identify the effect on the parent's statement.
(2) Identify the effect on the consolidated statement.

i. The minority's share of income is $4,000.

j. Inventory with a cost of $80,000 is written down to its market value of $30,000.

k. Accounts receivable for $1,200 are written off. The company uses an allowance for doubtful accounts.

l. A noncancelable lease of equipment for 10 years with a present value of $120,000 is capitalized.

m. A 15 percent stock dividend is declared. The 60,000 shares of common stock issued to cover the dividend have a par value of $2 per share and a fair market value of $3 per share.

n. A provision of $27,000 for uncollectible accounts is made (calculated as a percent of sales for the period).

PROBLEM 7–8
Reconstructing a Balance Sheet from Cash Flows

While on assignment you discover that you have misplaced the balance sheet of Bird Corporation as of January 1, Year 1. However, you do have the following data on Bird Corporation:

BIRD CORPORATION
Postclosing Trial Balance
December 31, Year 1

Debit balances	
Cash	$ 100,000
Accounts receivable	120,000
Inventory	130,000
Property, plant, and equipment	550,000
Other noncurrent investments	200,000
Total	$1,100,000
Credit balances	
Accounts payable	$ 100,000
Current portion of long-term debt	80,000
Accumulated depreciation	270,000
Long-term debt	200,000
Common stock	300,000
Retained earnings	150,000
Total	$1,100,000

BIRD CORPORATION
Statement of Cash Flows
For Year Ended December 31, Year 1

Cash flows from operations			
Net income			$150,000
Add (deduct) adjustment to cash basis			
Depreciation		$ 85,000	
Loss on sale of equipment		5,000	
Gain on sale of noncurrent investments		(50,000)	
Increase in accounts receivable		(30,000)	
Increase in inventories		(20,000)	
Increase in accounts payable		40,000	30,000
Cash from operations			180,000
Cash flows from investing activities			
Additions to property and equipment		(150,000)	
Sale of equipment		10,000	
Sale of investments		95,000	
Cash used for investing activities			(45,000)
Cash flows from financing activities			
Issuance of common stock		10,000	
Additions to long-term debt	$15,000		
Decrease in current portion of long-term debt	(30,000)	(15,000)	
Cash dividends		(80,000)	
Cash used for financing activities			(85,000)
Net increase in cash			$ 50,000

CHECK
Total assets, $725,000

Required:

Using the available data and information, prepare the balance sheet of Bird Corporation as of January 1, Year 1. T-accounts can be helpful in reconstructing the individual accounts. (*Note:* Equipment sold had accumulated depreciation of $50,000.)

PROBLEM 7–9
Analyzing Economic Impacts of Transactions

Indicate whether the following independent transactions increase (+), decrease (−), or do not affect (NE) the current ratio, the amount of working capital, and cash from operations. Also indicate the amounts of any effects. The company presently has a current ratio of 2 to 1 along with current liabilities of $160,000.

	Current Ratio Effect	Working Capital Effect $___	Cash from Operations Effect $___
a. Paid accrued wages of $1,000.			
b. Purchased $20,000 worth of material on account.			
c. Received judgment notice from the court that the company must pay $70,000 damages for patent infringement within six months.			
d. Collected $8,000 of accounts receivable.			
e. Purchased land for factory for $100,000 cash.			
f. Repaid currently due bank note payable of $10,000.			
g. Received currently due note receivable of $15,000 from customer as consideration for sale of land.			
h. Received cash of $90,000 from stockholders as donated capital.			
i. Purchased machine costing $50,000; $15,000 down and the balance to be paid in seven equal annual installments.			
j. Retired bonds maturing five years hence at par of $50,000. Bonds have unamortized premium of $2,000.			
k. Declared dividends of $10,000 payable after year-end.			
l. Paid the dividends in *k* in cash.			
m. Declared a 5% stock dividend.			
n. Paid the stock dividend in *m*.			
o. Signed a long-term purchase contract of $100,000 to commence a year from now.			
p. Borrowed $40,000 cash for one year.			
q. Paid accounts payable of $20,000.			
r. Purchase a patent for $20,000.			
s. Wrote off $15,000 of current marketable securities that became worthless.			
t. $8,500 of organization expenses were written off.			
u. Recorded depreciation expense of $70,000.			
v. Sold $28,000 of merchandise on account.			
w. Sold a building for $90,000 that had a book value of $45,000.			
x. Sold a machine at cost for $5,000; received $2,500 down and the balance receivable in six months.			
y. Recorded income tax expense of $80,000, half of which is deferred (long term).			

PROBLEM 7–10
Analyzing Operating Flow Measures

Your banker confides to you after looking at a number of financial statements that she is confused about the difference between two operating measures, net income and cash from operations.

Required:

a. Explain the purpose and significance of these two operating measures.

b. Several financial transactions or events follow. For each transaction or event, indicate whether it yields an increase (+), decrease (−), or no effect (NE) on each of the two measures.

	EFFECT OF TRANSACTION/EVENT ON:	
	Net Income	Cash from Operations
1. Sales of marketable securities for cash at more than their carrying value.		
2. Sale of merchandise with deferred payments (one-half within one year and one-half after one year).		
3. Reclassify noncurrent receivable as current receivable.		
4. Payment of current portion of long-term debt.		
5. Collection of an account receivable.		
6. Recording the cost of goods sold.		
7. Purchase of inventories on account (credit terms).		
8. Accrual of sales commissions (to be paid at a later date).		
9. Payment of accounts payable (resulting from purchase of inventory).		
10. Provision for depreciation on a sales office.		
11. Borrowing cash from a bank on a 90-day note payable.		
12. Accrual of interest on a bank loan.		
13. Sale of partially depreciated equipment for cash at less than its book value.		
14. Flood damage to merchandise inventories (no insurance coverage).		
15. Declaration and payment of a cash dividend on preferred stock.		
16. Sale of merchandise on 90-day credit terms.		
17. Provision for uncollectible accounts receivable.		
18. Write-off of an uncollectible receivable.		
19. Provision for income tax expense (to be paid the following month).		
20. Provision for deferred income taxes (set up because depreciation for tax reporting exceeded depreciation for financial reporting).		
21. Purchase of a machine (fixed asset) for cash.		
22. Payment of accrued salary expense to employees.		

PROBLEM 7–11
Preparing and Interpreting the Statement of Cash Flows

Following the acquisition of **Kraft** during Year 8, the **Philip Morris Companies** released its Year 8 financial statements. The Year 8 financial statements and other data are reproduced on the next page.

Kraft
Philip Morris Companies

PHILIP MORRIS COMPANIES, INC.

Balance Sheets ($ millions)

December 31, Year 8 and Year 7

	Year 8	Year 7
Assets		
Cash and cash equivalents	$ 168	$ 90
Accounts receivable	2,222	2,065
Inventories	5,384	4,154
Current assets	7,774	6,309
Property, plant, and equipment, net	8,648	6,582
Goodwill, net	15,071	4,052
Investments	3,260	3,665
Total assets	$34,753	$20,608
Liabilities and Stockholders' Equity		
Short-term debt	$ 1,259	$ 1,440
Accounts payable	1,777	791
Accrued liabilities	3,848	2,277
Income taxes payable	1,089	727
Dividends payable	260	213
Current liabilities	8,233	5,448
Long-term debt	17,122	6,293
Deferred income taxes	1,719	2,044
Stockholders' equity	7,679	6,823
Total liabilities and stockholders' equity	$34,753	$20,608

PHILIP MORRIS COMPANIES, INC.

Income Statement ($ millions)

For Year Ending December 31, Year 8

Sales	$ 31,742
Cost of goods sold	(12,156)
Selling and administrative expenses	(14,410)
Depreciation expense	(654)
Goodwill amortization	(125)
Interest expense	(670)
Pretax income	3,727
Income tax expense	(1,390)
Net income	$ 2,337

Note: Dividends declared, $941 million.

PHILIP MORRIS PURCHASE OF KRAFT
Allocation of Purchase Price ($ millions)

Accounts receivable	$ 758
Inventories	1,232
Property, plant, and equipment	1,740
Goodwill	10,361
Short-term debt	(700)
Accounts payable	(578)
Accrued liabilities	(530)
Long-term debt	(900)
Purchase price (net of cash acquired)	$11,383

CHECK
(*a*) CFO, $5,205 mil.

CHECK
(*c*) $3,331

Required:

a. Prepare a statement of cash flows (indirect method) for Philip Morris. (*Hint:* Acquisition of Kraft requires you to remove the assets acquired and liabilities incurred as a result of that acquisition from the balance sheet before computing changes used in preparing the statement of cash flows. Philip Morris pays $11.383 billion for Kraft, net of cash acquired—see the Allocation of Purchase Price table.)

b. Calculate cash flows from operations using the direct method for Philip Morris.

c. Based on your answer to *a*, compute Philip Morris's free cash flow for Year 8. Discuss how free cash flow impacts the company's future earnings and financial condition.

(CFA Adapted)

PROBLEM 7–12
Analyzing Cash from Operations (Direct)

Refer to the financial statements of ZETA Corporation reproduced in assignment Case CC–2 of the Comprehensive Case (following Chapter 11).

CHECK
(*a*) Year 6 CFO, $6,400

Required:

a. Prepare a schedule computing cash flows from operations using the direct method. Include revenues and expenses of discontinued operations. Include a list of important assumptions and weaknesses as a note to your cash statement. Support all amounts shown. (*Hint:* Discontinued operations cannot be separated from continuing operations, but unadjusted income and expense of discontinued operations can be.)

b. ZETA's statement of cash flows reports income taxes paid in Year 6 of $2,600. Verify this amount independently.

c. Reconcile the change in "accounts payable and accruals" reported in the statement of cash flows with the number derived from the balance sheet. Explain the reason(s) for any difference. (*Hint:* Refer to notes 3 and 4.)

CASES

CASE 7–1
Cash Flow and Free Cash Flow Analysis

The statement of cash flows for **Lands' End** is reproduced here:

Lands' End

LANDS' END, INC. & SUBSIDIARIES
Consolidated Statements of Cash Flows

($ in thousands)	FOR PERIOD ENDED Year 9	Year 8	Year 7
Cash flows from operating activities			
Net income	$ 31,185	$ 64,150	$ 50,952
Adjustments to reconcile net income to net cash flows from operating activities—			
Pretax non-recurring charge	12,600	—	—
Depreciation and amortization	18,731	15,127	13,558
Deferred compensation expense	653	323	317
Deferred income taxes	(5,948)	(1,158)	994
Pretax gain on sale of subsidiary	—	(7,805)	—
Loss on disposal of fixed assets	586	1,127	325
Changes in assets and liabilities excluding effects of divestitures			
Receivables	(5,640)	(7,019)	(675)
Inventory	21,468	(104,545)	22,371
Prepaid advertising	(2,844)	(7,447)	4,758
Other prepaid expenses	(2,504)	(1,366)	(145)
Accounts payable	4,179	11,616	14,205
Reserve for returns	1,065	944	629
Accrued liabilities	6,993	8,755	4,390
Accrued profit sharing	(2,030)	1,349	1,454
Income taxes payable	(5,899)	(1,047)	8,268
Other	1,665	64	394
Net cash flows from (used for) operating activities	74,260	(26,932)	121,795
Cash flows from (used for) investing activities			
Cash paid for capital additions	(46,750)	(47,659)	(18,481)
Proceeds from sale of subsidiary	—	12,350	—
Net cash flows used for investing activities	(46,750)	(35,309)	(18,481)
Cash flows from (used for) financing activities			
Proceeds from short-term debt	6,505	21,242	1,876
Purchases of treasury stock	(35,557)	(45,899)	(30,143)
Issuance of treasury stock	1,845	409	604
Net cash flows used for financing activities	(27,207)	(24,248)	(27,663)
Net increase (decrease) in cash and cash equiv.	$ 303	$ (86,489)	$ 75,651
Beginning cash and cash equivalents	6,338	92,827	17,176
Ending cash and cash equivalents	$ 6,641	$ 6,338	$ 92,827

Required:

a. Lands' End recently implemented a strategy of filling nearly all orders when the order is placed. In what year do you believe the company implemented this strategy and how is the strategy reflected in the information contained in the statement of cash flows?

b. Explain how the following items reconcile net income to net cash flows from operating activities:
(1) Depreciation (2) Receivables (3) Inventory (4) Reserve for returns

CHECK
(*c*) Yr 9, $27,510

c. Calculate free cash flows for each year shown.

d. How does Lands' End use its free cash flow? Do you think its use of free cash flows reflects good financial strategy?

CASE 7–2
Analysis of Cash Flows for a Dot.Com

The statement of cash flows for **Yahoo!** is reproduced here: Yahoo!

YAHOO! INC.
Consolidated Statements of Cash Flows

(in thousands)	YEAR ENDED DECEMBER 31, Year 8	Year 7	Year 6
Cash flows from operating activities			
Net income (loss)	$ 25,588	$(25,520)	$ (6,427)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	10,215	2,737	639
Tax benefits from stock options	17,827	—	—
Non-cash charges related to stock option grants and warrant issuances	926	1,676	197
Minority interests in operations of consolidated subsidiaries	(68)	(727)	(540)
Purchased in-process research and development	17,300	—	—
Other non-cash charge	—	21,245	—
Changes in assets and liabilities:			
Accounts receivable, net	$ (13,616)	$ (5,963)	$ (4,269)
Prepaid expenses	2,144	(6,110)	(386)
Accounts payable	515	2,425	1,386
Accrued expenses and other current liabilities	16,688	7,404	4,393
Deferred revenue	33,210	2,983	1,665
Due to related parties	(451)	330	948
Net cash provided by (used in) operating activities	110,278	480	(2,394)
Cash flows from investing activities			
Acquisition of property and equipment	(11,911)	(6,722)	(3,442)
Cash acquired in acquisitions	199	—	—
Purchases of marketable securities	(471,135)	(58,753)	(115,247)
Proceeds from sales and maturities of marketable securities	158,350	86,678	43,240
Other investments	(5,445)	(1,649)	(729)
Net cash provided by (used in) investing activities	(329,942)	19,554	(76,178)

(continued)

CASE 7–2
(concluded)

(in thousands)	YEAR ENDED DECEMBER 31, Year 8	Year 7	Year 6
Cash flows from financing activities			
Proceeds from issuance of Common Stock, net	280,679	7,516	42,484
Proceeds from issuance of Convertible Preferred Stock	—	—	63,750
Proceeds from minority investors	600	999	1,050
Other	—	1,106	(128)
Net cash provided by financing activities	281,279	9,621	107,156
Effect of exchange rate changes on cash and cash equivalents	288	(380)	(63)
Net change in cash and cash equivalents	$ 61,903	$ 29,275	$ 28,521
Cash and cash equivalents at beginning of year	63,571	34,296	5,775
Cash and cash equivalents at end of year	$125,474	$ 63,571	$ 34,296

Required:

a. Yahoo!'s operations did not produce significant cash flows during Year 6 and Year 7. How does Yahoo! finance its growth in the absence of sufficient operating cash flows?

b. What appears to drive the operating cash flows of Yahoo!?

c. Yahoo! engages in purchases and sales of marketable securities. Why do you believe Yahoo! pursues this activity?

d. Yahoo! reports $33.21 million of deferred revenue. Based on your understanding of Yahoo!'s operations, what do you believe this amount represents?

CHECK
(*a*) Equity financing

CASE 7–3
Credit Analysis for a Leveraged Buyout

The management of Wyatt Corporation is frustrated because its parent company, SRW Corporation, repeatedly rejects Wyatt's capital spending requests. These refusals led Wyatt's management to conclude its operations play a limited role in the parent's long-range plans. Acting on this assumption, Wyatt's management approaches a merchant banking firm about the possibility of a leveraged buyout of itself. In their proposal, Wyatt management stresses the stable, predictable cash flows from Wyatt's operations as more than adequate to service the debt required to finance the proposed leveraged buyout. As a partner in the merchant banking firm, you investigate the feasibility of their proposal. You receive the following balance sheet and supplementary information for Wyatt Corporation. The management of Wyatt further discloses that, following their proposed purchase, they intend to acquire machinery costing $325,000 in each of the next three years to overcome the previous low level of capital expenditures while a subsidiary of SRW Corporation. Management argues these expenditures are needed for competitive reasons.

Required:

a. Using information in the balance sheet and the supplementary disclosures, prepare a statement of cash flows (indirect method) for the year ended December 31, Year 10.

b. Using the statement of cash flows from *a* and assuming that debt service is $300,000 per year after the leveraged buyout, evaluate the feasibility of management's proposal.

CHECK
(*a*) CFO, $269,000

WYATT CORPORATION
Balance Sheets
December 31, Year 10 and Year 9

	Year 9	Year 10
Assets		
Cash	$ 175,000	$ 192,000
Accounts receivable	248,000	359,000
Inventory	465,000	683,000
Total current assets	888,000	1,234,000
Land	126,000	138,000
Building and machinery	3,746,000	3,885,000
Less accumulated depreciation	(916,000)	(1,131,000)
Total assets	$3,844,000	$4,126,000
Liabilities and Shareholders' Equity		
Accounts payable	$ 156,000	$ 259,000
Taxes payable	149,000	124,000
Other short-term payables	325,000	417,000
Total current liabilities	630,000	800,000
Bonds payable	842,000	825,000
Total liabilities	1,472,000	1,625,000
Common stock	846,000	863,000
Retained earnings	1,526,000	1,638,000
Total shareholders' equity	2,372,000	2,501,000
Total liabilities and equity	$3,844,000	$4,126,000

Supplementary Information:

1. Dividends declared and paid in Year 10 were $74,000.
2. Depreciation expense for Year 10 was $246,000.
3. Machinery originally costing $61,000 was sold for $34,000 in Year 10.

(CFA Adapted)

CASE 7–4
Analyzing a Management Buyout Using the Statement of Cash Flows

The management of Dover Corporation claims that the securities market undervalues shares of its company. They propose to take it private by means of a leveraged buyout. Management's proposal contains the following features:

1. The leveraged buyout is expected to yield additional after-tax annual interest costs of $200,000.
2. To make Dover Corporation competitive, management plans to undertake:
   a. Annual investments in equipment of $180,000.
   b. Annual buildups in inventory of $60,000.
3. Management expects no additional financing demands beyond that listed in (1) and plans to use cash generated by operations as the primary financing source.

At the end of Year 8, management requests you to analyze the feasibility of their proposal. They provide you with the financial data listed below to assist in your analysis.

	DECEMBER 31		
	Year 8	Year 7	Net Change
Assets			
Cash	$ 471,000	$ 307,000	$ 164,000
Marketable equity securities, at cost	150,000	250,000	(100,000)
Allowance to adjust securities to market	(10,000)	(25,000)	15,000
Accounts receivable, net	550,000	515,000	35,000
Inventories	810,000	890,000	(80,000)
Investment in Top Corp., at equity	420,000	390,000	30,000
Property, plant, and equipment	1,145,000	1,070,000	75,000
Less accumulated depreciation	(345,000)	(280,000)	(65,000)
Patents, net	109,000	118,000	(9,000)
Total assets	$3,300,000	$3,235,000	$ 65,000
Liabilities and Stockholders' Equity			
Accounts payable and accrued liabilities	$ 845,000	$ 960,000	$(115,000)
Note payable, long-term	600,000	900,000	(300,000)
Deferred income taxes	190,000	190,000	—
Common stock, $10 par value	850,000	650,000	200,000
Additional paid-in capital	230,000	170,000	60,000
Retained earnings	585,000	365,000	220,000
Total liabilities and equity	$3,300,000	$3,235,000	$ 65,000

Additional Information:

1. On January 2, Year 8, Dover sold equipment costing $45,000, with a carrying amount of $28,000, for $18,000 cash.
2. On March 31, Year 8, Dover sold one of its marketable equity securities for $119,000 cash. There are no other transactions involving marketable equity securities.
3. On April 15, Year 8, Dover issues 20,000 shares of its common stock for cash at $13 per share.
4. On July 1, Year 8, Dover purchases equipment for $120,000 cash.
5. Dover's net income for Year 8 is $305,000. Dover pays a cash dividend of $85,000 on October 26, Year 8.
6. Dover acquires a 20 percent interest in Top Corporation's common stock during Year 5. There is no goodwill attributable to the investment, which is accounted for using the equity method. Top reports net income of $150,000 for the year ended December 31, Year 8. No dividend is paid on Top's common stock during Year 8.

CHECK
CFO, $272,000

Required:

Prepare an analysis evaluating the financial feasibility of management's plans. (*Hint:* Prepare a statement of cash flows. Use the indirect method.)