# Learning Module 5: Analyzing Statements of Cash Flows 2

## LOS 5a: analyze and interpret both reported and common-size cash flow statements

Users of financial statements can obtain helpful information about a company by analyzing its cash flow statement. This can help them understand the company's business and earnings and predict its future cash flows.

The tools and techniques used in analyzing statement analysis include:

- analysis of sources and uses of cash and cash flow,
- common-size analysis, and
- calculation of free cash flow measures and cash flow ratios.

## Analysis of Reported Cash Flow Statement

Evaluation of the cash flow statement involves assessing the sources and uses of cash in the three main categories: cash flows from operating, investing, and financing activities. Moreover, the analysis of cash flow statements involves assessing the main drivers of cash flow within each activity.

Generally, analysis of the reported cash flow statement is done in the following steps:

### Step 1: Evaluation of Major Sources and Uses of Cash Flow Among the Operating, Investing, and Financing Activities

In this step, an analyst should consider major sources and uses of cash flow and determine whether the operating cash flow is positive and enough to cover capital expenditures.

The main cash sources for a company can vary depending on its growth stage. For instance, in mature companies, it is typical and desirable for cash flows to primarily originate from operational activities. Over the long term, it is essential for a company to generate cash through

its operating activities. Should these cash flows be persistently negative, the company would need to resort to borrowing or issuing equity (financing activities) to cover the shortfall.

Ultimately, the company financiers must be repaid through operational earnings, or they may choose to discontinue their financing.

Cash produced from operations might be allocated to investment or financing activities. When there are valuable investment opportunities, it is prudent to utilize cash for these investments. Conversely, if profitable investment avenues are lacking, this cash should be redirected back to the capital providers as part of financing activities.

For companies in the early or growth phases, operational cash flow might temporarily be negative as investments are made into critical assets such as inventory and receivables to facilitate business expansion. This scenario cannot be sustained indefinitely; eventually, the business needs to generate substantial operational cash flow to satisfy the demands of capital providers.

Finally, it is crucial for operating cash flows to adequately cover capital expenditures.

## Step 2: Evaluation of the Primary Determinants of Operating Cash Flow

In this step, three important aspects are identifying major determinants of operating cash flow, ascertaining whether the operating cash flow is higher or lower than net income, and checking the consistency of operating cashflows.

Analysts should closely monitor changes in receivables, inventory, and payables to discern whether a company is consuming or producing cash through its operations and to understand the underlying reasons for these changes.

It is also important to compare a company's operating cash flow to its net income, especially for mature companies. Ideally, operating cash flow should surpass net income because net income may include non-cash charges like depreciation and amortization, which do not affect cash flow. A disparity where net income significantly exceeds operating cash flow could indicate poor earnings quality, suggesting that the company might be employing aggressive accounting tactics

that enhance net income without a corresponding cash generation.

Lastly, the variability in earnings and cash flows should be analyzed to assess their impact on the company's risk profile and its capability to project future cash flows for valuation. This examination helps in understanding how fluctuations in financial performance may affect the company's long-term financial health and valuation accuracy.

## Step 3: Evaluation of the Primary Determinants of Investing Cash Flow

Analysts should thoroughly evaluate each line item within the investing activity section to discern the sources and uses of cash. This detailed analysis will show how much cash is allocated to long-term assets like property, plant, and equipment, how much is used for acquiring entire companies, and how much is invested in more liquid assets such as stocks and bonds. It will also indicate how much cash is generated by selling these types of assets.

Understanding the sources of funding for these major capital investments is crucial. Analysts should evaluate whether the funds are derived from surplus operating cash flow, financing activities, or other sources.

Additionally, if assets are being sold, it is vital to understand the reasons behind these sales and to consider the potential impacts of these disposals on the company's overall financial health and strategy.

## Step 4: Evaluation of the Primary Determinants of Financing Cash Flow

Each line item in the financing activity section should be evaluated to determine whether the company is engaged in raising or repaying capital and to identify the nature of its capital sources. This includes evaluating if the company regularly borrows money and, if so, identifying the expected repayment dates, which are crucial for understanding the company’s financial commitments.

Additionally, this section will detail dividend payments and stock repurchases, which are alternative methods the company uses to return capital to shareholders. Analysts must understand the reasons behind the company's decisions to raise or repay capital, as these

decisions directly impact the company's financial strategy and shareholder value.

## Analysis of Common-size Cash Flow Statement

Common-sizing the cash flow statement can help to quickly tell if a company has sufficient cash to undertake certain activities, such as capital expenditures and debt repayment.

There are two approaches to the common-size analysis of a cash flow statement:

- **First approach:** Involves the expression of each line item of cash inflow as a percentage of total cash inflows and each cash outflow as a percentage of the total cash outflow. However, when a cash flow statement is presented using the indirect method, the operating cash inflows and outflows are not presented separately. As a result, the common-size cash flow statement will only show the net operating cash flow as a percentage of the total inflows or outflows (dependent on whether or not the net amount was a cash inflow or outflow).
- **Second approach:** Entails the expression of each line item on the cash flow statement as a percentage of net revenue.

**Example: Common-sizing Cash Flow using the First Approach**

Consider the following direct cash flow statement for a hypothetical company, KTDA, for the year ended

| | |
|---|---|
| Cash flow from operating activities: | |
| Cash received from customers | $25,417,000 |
| Cash paid to suppliers | $11,214,00,000 |
| Cash paid to employees | $(4,190,000) |
| Cash paid for other operating expenses | $(3,889,000) |
| Cash paid for interest | $(260,000) |
| Cash paid for income tax | $1,505,000 |
| Net cash provided by operating activities | $4,573,000 |
| Cash flow from investing activities: | |
| Cash received from sale of equipment | $220,000 |
| Cash paid for purchase of equipment | $(1,000,000) |
| Net cash used for investing activities | $(780,000) |
| Cash flow from financing activities: | |
| Cash paid to retire long-term debt | $(500,000) |
| Cash paid to retire common stock | $(500,000) |
| Cash paid for dividends | $(2,720,000) |
| Net cash used for financing activities | $(3,720,000) |
| Net Increase in cash | $73,000 |
| Cash balance, 31 December 2022 | $1,254,000 |
| Cash balance, 31 December 2023 | $1,327,000 |

Not that under the first approach of common-sizing cash flow statement, each of the cash inflows is expressed as a percentage of the total cash inflows, whereas each of the cash outflows is expressed as a percentage of the total cash outflows.

As such, the common size of the direct cash flow statement is as follows:

| Inflows | | Percentage of Total Inflows |
|---|---|---|
| Receipts from customers | $25,417,000 | 99.14% |
| Sale of equipment | $220,000 | 0.86% |
| Total | $25,637,000 | 100.00% |

| Outflows | | Percentage of Total Outflows |
|---|---|---|
| Payments to suppliers | $11,214,000 | 43.51% |
| Payments to employees | $4,190,000 | 16.26% |
| Payments for other operating expenses | $3,889,000 | 15.09% |
| Payments for interest | $260,000 | 1.01% |
| Payments for income tax | $1,505,000 | 5.84% |
| Purchase of equipment | $1,000,000 | 3.88% |
| Retirement of long-term debt | $500,000 | 1.94% |
| Retirement of common stock | $500,000 | 1.94% |
| Dividend payments | $2,720,000 | 10.56% |
| Total | $25,778,000 | 100.00% |

## Question 1

Which of the following statements is *most* accurate?

A. For mature companies, it would be preferable for financing activities to be the primary source of cash flows.
B. If a company has a significant net income despite its negative operating cash flow, this may be a sign of poor earnings quality.
C. One approach to the common-size analysis of the cash flow statement involves expressing each cash flow (inflows and outflows) as a percentage of total cash inflows.

**Solution**

**The correct answer is B.**

If a company has a negative operating cash flow and still has a significant net income, this is a manifestation of the poor quality of the company's earnings.

**A is incorrect.** For a mature company, operating activities, not financing activities, should be the primary source of cash flows.

**C is incorrect.** Common-sizing the cash flow statement entails the expression of each line item of cash inflow as a percentage of total cash inflows and each cash outflow as a percentage of total cash outflow.

## Question 2

Which of the following ratios *most likely* indicates that a company has earnings of high quality?

A. Operating cash flow/Net income > 1.
B. Investing cash flow/Net income > 1.

C. Financing cash flow/Net income > 1.

**Solution**

**The correct answer is A.**

An operating cash flow or net income of one or more indicates that all the earnings recognized on an accrual basis on the income statement have also been recognized on a cash basis on the cash flow statement. The cash realization of earnings gives these earnings a higher value than similar earnings with less corresponding cash from operations since the latter earnings are less likely to be realized in cash.

## LOS 5b: calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios

# Evaluating Free CashFlow

Recall that it is important for operating cash flows to adequately cover capital expenditures. The surplus of operating cash flow after accounting for capital expenditures is called free cash flow.

In company valuation aspects, such as assessing a company's overall value or its equity securities, an analyst might consider utilizing additional cash flow metrics such as free cash flow to the firm (FCFF) or free cash flow to equity (FCFE).

## Free Cash Flow to the Firm

Free Cash Flow to the Firm (FCFF) is the cash flow available to a company's debt and equity capital suppliers after the company has paid all its operating expenses and made the required investments in fixed and working capital. It is computed according to the following equation:

$$FCFF = NI + NCC + Int(1 - \text{Tax rate}) - FCInv - WCInv$$

Where:

$NI$ = Net income;

$NCC$ = Non-cash charges;

$Int$ = Interest expense;

$FCInv$ = Capital expenditures; and

$WCInv$ = Working capital expenditures.

Alternatively, it may be computed as:

$$FCFF = CFO + Int(1 - \text{Tax rate}) - FCInv$$

Where CFO represents cash flow from operating activities in the case where interest paid is included as an operating activity.

If interest paid is categorized under financing activities, then there is no need to adjust cash flow from operations (CFO) for interest adjusted for taxes, i.e., Int(1 – Tax rate).

Additionally, according to IFRS guidelines, if interest and dividends received are reported under investing activities, these amounts should be added back to the CFO when calculating free cash flow to the firm (FCFF). Furthermore, if dividends paid are deducted in the operating section, they should be reinstated to CFO for the accurate computation of FCFF.

## Free Cash Flow to Equity

Free Cash Flow to Equity (FCFE) refers to the cash flow available to a company's common stockholders after it has paid all its operating expenses and borrowing costs and made the required investments in fixed capital and working capital. It is computed according to the following equation:

$$FCFE = CFO - FCInv + \text{Net borrowing}$$

If net borrowing is negative, a company's debt repayments have exceeded its receipt of borrowed funds. In this case:

$$FCFE = CFO - FCInv - \text{Net debt repayment}$$

A positive FCFE implies that a company has more operating cash flow than it needs to cover capital expenditures and debt repayment. Therefore, such a company has cash available for distribution to shareholders.

**Example: Calculating FCFF and FCFE from Cash Flow Statement**

Consider the following direct cash flow statement for a hypothetical company,
KTDA, for the year ended
31

December

2023

| Cash flow from operating activities: | |
|---|---|
| Cash received from customers | $25,417,000 |
| Cash paid to suppliers | $11,214,00,000 |
| Cash paid to employees | $(4,190,000) |
| Cash paid for other operating expenses | $(3,889,000) |
| Cash paid for interest | $(260,000) |
| Cash paid for income tax | $1,505,000 |
| Net cash provided by operating activities | $4,573,000 |
| Cash flow from investing activities: | |
| Cash received from sale of equipment | $220,000 |
| Cash paid for purchase of equipment | $(1,000,000) |
| Net cash used for investing activities | $(780,000) |
| Cash flow from financing activities: | |
| Cash paid to retire long-term debt | $(500,000) |
| Cash paid to retire common stock | $(500,000) |
| Cash paid for dividends | $(2,720,000) |
| Net cash used for financing activities | $(3,720,000) |
| Net Increase in cash | $73,000 |
| Cash balance, 31 December 2022 | $1,254,000 |
| Cash balance, 31 December 2023 | $1,327,000 |

We wish to calculate FCFF and FCFE from the above Cash Flow Statement, assuming a tax rate of 30%.

**Solution**

FCFF is calculated as shown in the table below:

| | |
|---|---|
| CFO | USD4,573,000 |
| Plus: Interest paid times (1 - income tax rate) | (USD260,000 [1 - 0.30]) |
| | USD182,000 |
| Less: Net investments in fixed capital (USD1,000,000 - USD220,000) | (USD780,000) |
| FCFF | USD3,975,000 |

Note that net fixed capital investment is calculated from the cash flow from investing activities. We use the data for payments for the purchase of equipment (USD1,000,000) and proceeds from

the sale of equipment (USD220,000).

Lastly, FCFE is calculated as follows:

| | |
|---|---|
| CFO | USD4,573,000 |
| Less: Net investments in fixed capital (USD1,000,000 - USD220,000) | (USD780,000) |
| Less: Debt repayment (USD500,000) | (USD500,000) |
| FCFE | USD3,293,000 |

## Cash Flow Performance and Coverage Ratios

Several ratios can be computed using the cash flow from the operating activities segment of a cash flow statement. Data gathered from the computation can be used to compare the performance and prospects of different companies within the same industry or across industries. These ratios fall into two categories: cash flow performance (profitability) ratios and cash flow coverage (solvency) ratios.

These ratios are summarized in the following table:

Performance Ratios

| Performance Ratio | Calculation | Indication |
|---|---|---|
| Cash flow to revenue | $\frac{\text{CFO}}{\text{Net revenue}}$ | Operating cash generated per dollar of revenue. |
| Cash return on assets | $\frac{\text{CFO}}{\text{Average total assets}}$ | Operating cash generated per dollar of asset investment. |
| Cash return on equity | $\frac{\text{CFO}}{\text{Average shareholder's equity}}$ | Operating cash generated per dollar of owner investment. |
| Cash to income | $\frac{\text{CFO}}{\text{Operating income}}$ | Cash generated from operations. |
| Cash flow per share | $\frac{\text{CFO} - \text{Pref Dividends}}{\text{Number of common shares outstanding}}$ | Operating cash flow on a per-share basis. |

Coverage Ratios

| Coverage Ratio | Calculation | Indication |
|---|---|---|
| Debt payment | $\frac{\text{CFO}}{\text{Cash paid for long-term debt payment}}$ | Ability to pay debts with operating cash flows. |
| Dividend payment | $\frac{\text{CFO}}{\text{Dividend paid}}$ | Ability to pay dividends with operating cash flows. |
| Investing and financing | $\frac{\text{CFO}}{\text{Cash outflows for Inv. and Fin. activities}}$ | Ability to acquire assets, pay debts, and make distributions to owners. |
| Debt coverage | $\frac{\text{CFO}}{\text{Total debt}}$ | Financial risk and financial leverage. |
| Interest coverage | $\frac{\text{CFO+Interest Paid+Taxes Paid}}{\text{Interest paid}}$ | Ability to meet interest obligations. |
| Reinvestment | $\frac{\text{CFO}}{\text{Cash paid for long-term assets}}$ | Ability to acquire assets with operating cash flows. |

**Example: Calculating the Performance Ratio from a Financial Statement**

An analyst analyzes the financial statements of a company. Some of the information from the financial statements of the company is given below (in thousands):

| | |
|---|---|
| Revenue (net) | $\$25,456$ |
| Cost of goods sold | $\$11,345$ |
| Gross profit | $\$14,111$ |
| Cash paid to retire long-term debt | $\$(500)$ |
| Net cash provided by operating activities | $\$4,573$ |
| Cash paid to retire common stock | $\$(500)$ |
| Cash paid for dividends | $\$(2,720)$ |

Assuming that the company does not have short-term debt, the debt repayment ratio is *closest to:*

A. 4.60

B. 9.15

C. 9.28

**Solution**

The correct answer is **B**.

The debt repayment ratio is calculated as follows:

$$\begin{aligned}\text{Debt repayment} &= \frac{\text{CFO}}{\text{Cash paid for long-term debt payment}} \\ &= \frac{\$4,573}{\$500} \\ &= 9.15\end{aligned}$$

## Question 1

Which of the following statements accurately describes free cash flow to the firm (FCFF)?

A. Cash flow is available to a company's suppliers of debt capital after the company has paid all its operating expenses and made necessary investments in fixed and working capital.
B. Cash flow is available to a company's suppliers of debt and equity capital after the company has paid all its operating expenses and made necessary investments in fixed and working capital.
C. Cash flow is available to a company's common stockholders after the company has paid all its operating expenses and borrowing costs and made necessary investments in fixed and working capital.

**Solution**

The correct answer is **B.**

Free cash flow to the firm (FCFF) is the cash flow available to a company's suppliers of debt and equity capital after the company has paid all its operating expenses and made necessary investments in fixed and working capital.

**B is incorrect.** It describes free cash flow to equity (FCFE).

**C is incorrect.** It inaccurately excludes suppliers of equity capital in its definition.

## Question 2

U&U Ltd. reported the following information in its latest financial reports:

Beginning borrowing balance: $200,000

Ending borrowing balance: $250,000

Cash from operations: $500,000

Fixed capital investment: $100,000

U&U's free cash flow to equity (FCFE) is *closest to*:

A. $50,000

B. $150,000

C. $450,000

**Solution**

The correct answer is **C.**

$$\begin{aligned} FCFE = &\text{ Cash from operations} - \text{Fixed capital investment} \\ &+ \text{Net borrowing} \end{aligned}$$

Where:

Net borrowing=Ending borrowing balance-Beginning borrowing balance

Net borrowing=$250,000-$200,00=$50,000

⇒FCFE=$500,00-$100,000+$50,000=$450,000

$$\begin{aligned} \text{Net borrowing} \Rightarrow FCFE &= \text{Ending borrowing balance} \\ &- \text{Beginning borrowing balance} \\ &= \$250,000 - \$200,000 \\ &= \$50,000 = \$500,000 - \$100,000 + \$50,000 \\ &= \$450,000 \end{aligned}$$