# R19 Understanding Cash Flow Statements





Version 1.0

## 1. Introduction

The cash flow statement provides important information about a company's cash receipts and payments during an accounting period. It is a vital information source that assists users to evaluate a company's liquidity, solvency, and financial flexibility.

## 2. Classification of Cash Flows and Non-Cash Activities

Under both IFRS and US GAAP, cash flows are categorized as operating, investing, or financing activities on the cash flow statement.

**Operating activities:** These are activities related to the normal operations of a company. Examples include:

- Cash inflows such as cash collected from sales, commissions, royalties, etc.
- Cash outflows such as cash payments for inventory, salaries, and operating expenses.
- Cash payments and receipts related to trading securities (securities that are not bought as investments).

**Investing activities:** These are activities associated with acquisition and disposal of long-term assets. Examples include:

- Cash from sale of property, plant, and equipment.
- Cash spent to purchase property, plant, and equipment.
- Cash payments and receipts related to investment securities (not trading securities).

**Financing activities:** These are activities related to obtaining or repaying capital. Examples include:

- Issuance or repurchase of a company's own preferred or common stock.
- Issuance or repayment of debt.
- Dividend payments to shareholders.

**Example**

JFK Enterprises recorded the following for the year 2015:

| | |
|---|---|
| Purchase of equipment | $70,000 |
| Gain from sale of van | $8,000 |
| Receipts from sale of van | $18,000 |
| Dividends paid on ordinary share capital | $10,000 |
| Interest and preference dividend paid | $12,000 |
| Salaries paid | $40,000 |

What is the net cash flow from investing activities?

**Solution:**

We first need to identify cash flows associated with investing activities. These are the purchase of equipment and the receipts from the sale of van. The gain from sale of van is not

a cash flow item. The remaining items pertain to either operating or financing cash flows. Therefore, the net cash flow from investing activities is:

Net cash flow from investing activities = Purchase of equipment + Receipt from sale of van

Net cash flow from investing activities = -$70,000 + $18,000 = $52,000

**Non-cash transactions**

A non-cash transaction is any transaction that does not involve an outflow or inflow of cash. Significant non-cash transactions must be disclosed in either a footnote or a supplemental schedule to the cash flow statement. Analysts should incorporate non-cash transactions into the analysis of past and current performance and include their effects in estimating future cash flows. An example of a non-cash transaction is the conversion of face value $1,000,000 convertible bonds to common stock.

## 3. Cash Flow Statement: Differences between IFRS and US GAAP

The reporting of interest paid/received and dividends paid/received is different between IFRS and US GAAP. The differences between the two standards are summarized in the table below.

| Cash flow | IFRS | US GAAP |
|---|---|---|
| Interest received | Operating or investing | Operating |
| Interest paid | Operating or financing | Operating |
| Dividends received | Operating or investing | Operating |
| Dividends paid | Operating or financing | Financing |

In addition to the points made above, IFRS and US GAAP also have some differences with respect to bank overdrafts, taxes paid, and the format of the cash flow statement. These are outlined in the table below.

| Cash Flow | IFRS | US GAAP |
|---|---|---|
| Bank overdrafts | Considered part of cash equivalents. | Not considered part of cash equivalents and classified as financing. |
| Taxes paid | Generally categorized as operating, but a portion can be allocated to investing or financing if it can be specifically identified with these categories. | Operating. |
| Format of statement | Both direct and indirect formats are allowed but the direct format is encouraged. | Both direct and indirect formats are allowed but the direct format is encouraged. A reconciliation of net income to cash flow from operating activities must be provided regardless of method used. |

## 4 – 8: Cash flow Statement: Direct and Indirect Methods of Reporting

Under IFRS and US GAAP, there are two acceptable formats for reporting cash flow from operating activities: indirect and direct.

- The **indirect method** shows how cash flow from operations can be obtained from reported net income through a series of adjustments.
- The **direct method** shows the specific cash inflows and outflows that result in reported cash flow from operating activities.

**Indirect Format Sample**

With the indirect method, we start with net income and make several adjustments for non-cash, non-operating items to arrive at the cash flow from operations. Shown below is a sample of the indirect format for a fictitious company called K2 Corp.

| | |
|---|---|
| Net income | **2,775** |
| Depreciation | 1,000 |
| Gain on sale of equipment | (200) |
| Increase in accounts receivable | (150) |
| Increase in inventory | (600) |
| Increase in pre-paid expenses | (30) |
| Increase in accounts payable | 300 |
| Increase in wages payable | 10 |
| Increase in tax payable | 5 |
| Increase in other accrued liabilities | 100 |
| Decrease in interest payable | (10) |
| **Cash flow from operations** | **3,200** |

**Direct Format Sample**

In the direct format, we look at the specific cash inflows and outflows that resulted in cash flow from operating activities. This method is encouraged by both IFRS and US GAAP.

| | |
|---|---|
| Cash from customers | 24,850 |
| Cash paid to suppliers | (10,300) |
| Cash paid to employees | (7,990) |
| Cash paid for other operating expenses | (1,930) |
| Cash paid for interest | (510) |
| Cash paid for taxes | (920) |
| **Cash flow from operations** | **3,200** |

Notice that while the presentation formats are different, the cash flow from operations number is the same under both methods.

## 9. Linkages of the Cash Flow Statement with the Income Statement and Balance Sheet

**Link between the Cash Flow Statement and the Balance Sheet**

Cash is an asset and is reported on the balance sheet. The cash flow statement explains the change in cash during an accounting period. This can be illustrated through a simple scenario. Assume that beginning cash is 1,100. This is reported on the balance sheet. The cash flow statement will show the cash receipts and cash payments. For the scenario presented below, the cash receipts equal 3,200 and the cash payments equal 3,300 which means that the net change in cash is -100. This explains how the cash balance went from 1,100 at the start of the period to 1,000 at the end of the period.

| **Beginning Balance Sheet 1 Jan 2015** | **Statement of Cash Flows for Year Ended 31 December 2015** | | **Ending Balance Sheet at 31 Dec 2015** |
|---|---|---|---|
| Beginning Cash | Plus: Cash Receipts | Less: Cash Payments | Ending Cash |
| 1,100 | 3,200 | 3,300 | 1,000 |

**Link between Cash Flow Statement, Balance Sheet, and Income Statement**

Let's consider an example of how items on the balance sheet are related to the income statement and the cash flow statement. Suppose the beginning accounts receivable is 200, the revenue during the year is 5,000 and the cash collected from customers is 4,800. What is the ending accounts receivables? The table below makes it easy to compute the missing amount. We see that the ending accounts receivables will be 400.

| **Balance Sheet at 1 Jan 2015** | **Income Statement** | **Statement of Cash Flows** | **Balance Sheet at 31 Dec 2015** |
|---|---|---|---|
| Beginning A/R | Plus: Revenue | Less: Cash Collected from Customers | Ending A/R |
| 200 | 5,000 | 4,800 | 400 |

This example clearly shows that receivables (balance sheet item), revenue (income statement item) and cash collected from customers (cash flow item) are related as follows:

Ending receivables = Beginning receivables + Revenue – Cash collected from customers

## 10 – 14: Preparing the Cash Flow Statement

Only cash flow from operating activities is presented differently under the two methods. Presentation of cash flow from investing activities and cash flow from financing activities is the same under both methods.

**Operating Cash Flow**

Direct method:
In the direct method, we take each item from the income statement and convert it to its cash equivalent by removing the impact of accrual accounting.

The rules to adjust are:

- Increase in assets is use of cash (-ve adjustment) and decrease in asset is source of cash (+ve adjustment).
- Increase in liability is source of cash (+ve adjustment) and decrease in liability is use of cash (-ve adjustment).

Cash collected from customers: Adjust sales for changes in accounts receivable and unearned revenue.

Cash for inputs: Adjust COGS for changes in inventory and accounts payable.

Cash operating expenses: Adjust SG&A for changes in related accrued liabilities or prepaid expenses.

Cash interest paid: Adjust interest expense for changes in interest payable.

Cash taxes paid: Adjust tax expense for changes in tax payable and changes in deferred tax assets and liabilities.

**Example**

Consider a company that reported sales of $10 million. Accounts receivable for the year went up from $2 million to $4 million. Unearned revenue went up from $1 million to $2 million. Calculate cash collected from customers.

**Solution:**

Δ Accounts receivable = $2 million. This is an asset and increase in asset is use of cash so –ve adjustment.

Δ Unearned revenue = $1million. This is a liability and increase in liability is source of cash so +ve adjustment.

Cash collected from customers = + $10 million - $2million + $1million = $9 million.

**Example**

Consider a company with COGS of $20 million for a particular period. During this period inventory increased by $4 million and accounts payable went up by $2 million. Calculate the cash paid for inputs.

**Solution:**

Δ Inventory = $4 million. This is an asset and increase in asset is use of cash so –ve adjustment.

Δ Accounts payable = $2 million. This is a liability and increase in liability is source of cash so +ve adjustment.

Cash paid for inputs = - $20 million - $4 million + $2 million = - $22 million

**Indirect method:**

Indirect method shows how cash flow from operations can be obtained from reported net income as a result of a series of adjustments.

The steps are:

- Begin with net income.
- Add back all non-cash charges to income and subtract all non-cash components of revenue (For example, add depreciation and amortization).
- Subtract any gains that resulted from financing or investing cash flows (For example, gain on the sale of an equipment).
- Add or subtract changes to related balance sheet operating accounts.
- Decrease in operating assets (source of cash) should be added and increase in operating assets (use of cash) should be subtracted.
- Similarly, increase in current liabilities (source of cash) should be added and decrease in current liabilities (use of cash) should be subtracted.

**Example**

Consider a company with net income of $100 million in 2001. Depreciation expense is $10 million. Gain on sale of equipment is $4 million. Increase in A/R is $8 million. Increase in A/P is $4 million. Increase in inventory is $10 million. Calculate CFO using the indirect method.

**Solution:**

| | |
|---|---|
| Net income | +100 |
| Add non-cash charges (depreciation) | + 10 |
| Less gain on sale of equipment | - 4 |
| Less increase in A/R | -8 |
| Add increase in A/P | +4 |
| Less increase in inventory | -10 |
| **Total** | **92** |
| CFO = $ 92 million | |

**Investing cash flows**

CFI is calculated by examining the change in the gross asset account that results from investing activities. Typically, this change results from purchases or sale of equipment (long-term assets). To determine the cash inflow from the sale of equipment, we need to use the expression shown below.

Cash from sale of equipment = Historical cost of equipment sold

− Accumulated depreciation on equipment sold
+ Gain on sale of equipment

where:

Historical cost of equipment sold = beginning balance
+ equipment purchased
− ending balance equipment

Accumulated depreciation on equipment sold = beginning value of depreciation + depreciation expense – ending value of depreciation

**Example**

The balance sheet extract for Jackal Labs Ltd shows the machinery and accumulated depreciation balances for the years 2011 and 2012.

| | **2011** | **2012** |
|---|---|---|
| Machinery (Gross) | $80 million | $91 million |
| Accumulated depreciation | $25 million | $31 million |

Further information provided is as follows:

| | |
|---|---|
| Gain on sale of machinery | $1.5 million |
| Depreciation expense for 2012 | $7 million |
| Capital expenditure on machinery | $14 million |

What is the cash received from sale of equipment?

**Solution:**

Cash from sale of machinery = historical cost of equipment sold – accumulated depreciation on equipment sold + gain on sale of equipment

We know the gain is $1.5 million. Calculate the other components in the equation:

Historical cost of equipment sold = beginning balance + equipment purchased – ending balance of equipment = 80 + 14 – 91 = $3 million

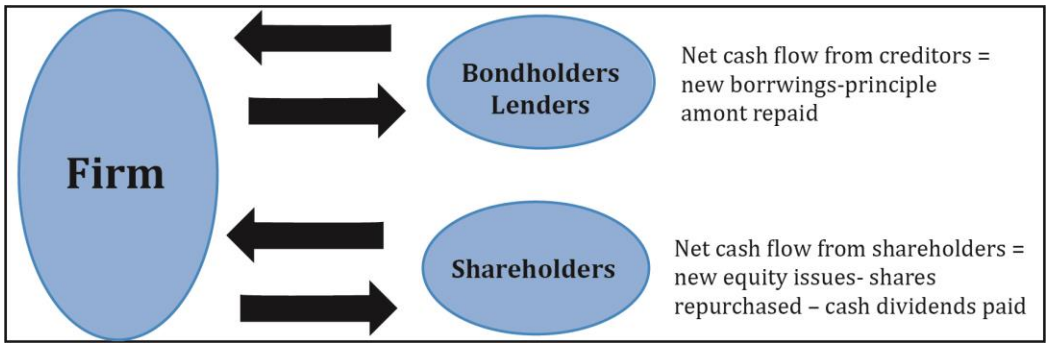
Accumulated depreciation on equipment sold = beginning value of depreciation + depreciation expense – ending value of depreciation = 25 + 7– 31 = $1 million

Cash from sale of machinery = 3 – 1 + 1.5 = 3.5

**Financing cash flows**

Cash flow from financing activities refers to cash flows between the firm and the suppliers of capital. Suppliers of capital include creditors, bondholders, and shareholders. Similar to investing activities, the presentation of cash flows from financing activities is also identical under both methods. The figure below summarizes the calculation of net cash flows from creditors, bondholders, and shareholders.




It can be calculated using the following formulae:

(1) CFF = Net cash flow from creditors + Net cash flow from shareholders

(2) Net cash flow from creditors = New borrowings – Principal repaid

(3) Net cash flow from shareholders = New equity issued – Shares repurchased – Cash dividends

**Example**

The following information is available about company ABC for 2001.

| | |
|---|---|
| New borrowings | $10 million |
| Principal repaid | $5 million |
| New equity issued | $5 million |
| Shares repurchased | - |
| Dividends paid | $2 million |

Calculate CFF.

**Solution:**

Net cash flow from creditors = New borrowings – Principal repaid = 10 – 5 = $5 million

Net cash flow from shareholders = New equity issued – Shares repurchased – Cash dividends = 5 – 0 -2 = $3 million

CFF = Net cash flow from creditors + Net cash flow from shareholders = 5 + 3 = $8 million

## 15. Conversion of Cash Flows from the Indirect Method to Direct Method

**Instructor's note:** The probability of getting tested on this topic on the exam is low.

The operating cash flow from indirect method can be converted to direct by using the three-step process:

- Aggregate all the revenues and expenses.
- Remove all non-cash items from aggregated revenues and expenses and break up remaining items into relevant cash flow items.
- Convert accrual amounts to cash flow amounts by adjusting for changes in corresponding working accounts.

## 16. Cash Flow Statement Analysis: Evaluation of Sources and Uses of Cash

Evaluation of the cash flow statement should involve the following:

- Evaluate where the major sources and uses of cash flow are between operating, investing, and financing activities. Major sources of cash for a company can vary with its stage of growth. For example, for a mature company it is expected that operating activities are the primary source of cash flows. However, analysts must analyze whether operating cash flows are positive and cover capital expenditures for all companies.
- Evaluate the primary determinants of operating cash flow. Analysts should compare operating cash flow with net income. If a company has large net income but poor operating cash flow, it may be a sign of poor earnings quality. In addition, analysts need to look at consistency of operating cash flows.
- Evaluate the primary determinants of investing cash flow. This is useful for letting the analyst know how much is being invested for the future in property, plant, and equipment and how much is put aside in liquid investments.
- Evaluate the primary determinants of financing cash flow. This helps understand if the company is raising capital or repaying capital and which capital sources are being used.

## 17. Cash Flow Statement Analysis: Common-Size Analysis

In common-size analysis of a company's cash flow statement, there are two alternative approaches. In the first approach, we express each line item of cash inflow (outflow) as a percentage of total inflows (outflows). An example of a common-size cash flow statement using this approach is shown below for K2 Corp.

| **Inflows** | **Actual** | **% of Total Inflow** |
|---|---|---|
| Net cash provided by operating activities | 3,200 | 80 % |
| Sale of Equipment | 800 | 20% |
| Total | 4,000 | 100% |
| | | |
| **Outflows** | **Actual** | **% of Total Outflow** |
| Purchase of equipment | 1,500 | 36.58% |
| Retirement of long-term debt | 500 | 12.19% |
| Retirement of common stock | 325 | 7.9% |
| Dividend payments | 1,775 | 43.29% |
| Total | 4,100 | 100% |
| Net increase (decrease) in cash | (100) | |

In the second approach, we express each line item as a percentage of revenue. An example of such a statement is shown below for K2 Corp. In this example, we have assumed total revenue is 10,000.

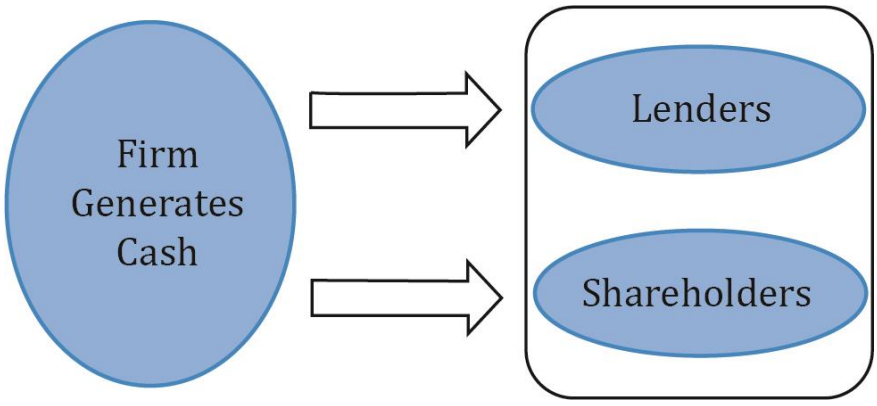
 

| Cash flow | Actual | % of Total Revenue |
|---|---|---|
| **Cash flow from operating activities** | | |
| Net Income | 4,000 | 40% |
| Depreciation expense | 500 | 5% |
| Increase in accounts receivable | (500) | (5%) |
| Increase in inventory | (1,000) | (10%) |
| Decrease in prepaid expenses | 1,000 | 10% |
| Increases in accounts payable | 500 | 5% |
| Increases in accrued liabilities | 500 | 5% |
| **Net cash provided by operating activities** | **5,000** | **50%** |
| | | |
| **Cash flow from investing activities** | | |
| Cash received from sale of equipment | 2,000 | 20% |
| Cash paid for purchase of equipment | (5,000) | (50%) |
| **Net cash used for investing activities** | **(3,000)** | **(30%)** |
| | | |
| **Cash flow from financing activities** | | |
| Sale of bonds | 1,000 | 10% |
| Cash dividends | (2,000) | (20%) |
| **Net cash used for financing activities** | **(1,000)** | **(10%)** |
| | | |
| **Net increase in cash** | **1,000** | **10%** |

The common-size cash flow statement makes it easier to see trends in cash flow rather than just looking at the total amount. The second approach is useful for the analyst in forecasting future cash flows.

## 18. Cash Flow Analysis: Free Cash Flow to Firm and Free Cash Flow to Equity

**Free cash flow to firm** (FCFF) is the cash flow available to all the suppliers of capital to a company after all operating expenses have been paid and necessary investments in working capital and fixed capital have been made. The suppliers of capital include both lenders (debt) and equity shareholders (equity). This is illustrated in the figure below:



The formula for computing FCFF is:

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

where:
NI = Net Income
NCC = non-cash charges
Int = Interest expense
FCInv = Fixed capital investment/expenditures
WCInv = working capital expenditures

While FCFF indicates how much cash is available to all suppliers of capital, **free cash flow to equity** (FCFE) is the cash flow available to the company's stockholders after all operating expenses and borrowing costs (principal and interest) have been paid and necessary investments in working capital and fixed capital have been made. The formula for computing FCFE is as follows:

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

## 19. Cash Flow Statement Analysis: Cash Flow Ratios

There are several ratios useful for the analysis of the cash flow statement. These ratios generally fall into cash flow performance (profitability) ratios and cash flow coverage (solvency) ratios. The calculation and interpretation of these ratios are summarized in the tables below.

| **Performance Ratios** | **Calculation** | **What It Measures** |
|---|---|---|
| Cash flow to revenue | CFO ÷ Net revenue | Operating cash generated per dollar of revenue. |
| Cash return on assets | CFO ÷ Average total assets | Operating cash generated per dollar of asset investment. |
| Cash return on equity | CFO ÷ Average shareholders' equity | Operating cash generated per dollar of owner investment. |
| Cash to income | CFO ÷ Operating income | Cash generating ability of operations. |
| Cash flow per share | (CFO – Preferred dividends) ÷ Number of common shares outstanding | Operating cash flow on a per-share basis. |

| **Coverage Ratios** | **Calculation** | **What It Measures** |
|---|---|---|
| Debt coverage | CFO ÷ Total debt | Financial risk and financial leverage. |
| Interest coverage | (CFO + Interest paid + Taxes paid) ÷ Interest paid | Ability to meet interest obligations. |

| | | |
|---|---|---|
| Reinvestment | CFO ÷ Cash paid for long-term assets | Ability to acquire assets with operating cash flows. |
| Debt payment | CFO ÷ Cash paid for long-term debt repayment | Ability to pay debts with operating cash flows. |
| Dividend payment | CFO ÷ Dividends paid | Ability to pay dividends with operating cash flows. |
| Investing and financing | CFO ÷ Cash outflows for investing and financing activities | Ability to acquire assets, pay debts, and make distributions to owners. |

## Summary

**LO.a: Compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items.**

Under both IFRS and U.S. GAAP, cash flows in the cash flow statement are categorized as:

- Operating activities: These are the company's day-to-day activities that create revenues such as selling inventory and providing services.
- Investing activities: These are activities associated with acquisition and disposal of long-term assets.
- Financing activities: These are activities related to obtaining or repaying capital.

**LO.b: Describe how non-cash investing and financing activities are reported.**

Non-cash investing and financing activities are not reported in cash flow statements. They must be disclosed in either a footnote or a supplemental schedule to the cash flow statement.

**LO.c: Contrast cash flow statements prepared under International Financial Reporting Standards (IFRS) and U.S. generally accepted accounting principles (U.S. GAAP).**

| Cash flow | IFRS | U.S. GAAP |
|---|---|---|
| Interest received | Operating or investing | Operating |
| Interest paid | Operating or financing | Operating |
| Dividends received | Operating or investing | Operating |
| Dividends paid | Operating or financing | Financing |

**LO.d: Compare and contrast the direct and indirect methods of presenting cash from operating activities and describe arguments in favor of each method.**

In the **direct method** we take each item from the income statement and convert it to its cash equivalent by removing the impact of accrual accounting. The main advantage of the direct method is that it provides more information than the indirect method.

**Indirect method** shows how cash flow from operations can be obtained from reported net income through a series of adjustments. The main advantage of indirect method is that it focuses on the differences between net income and operating cash flow.

**LO.e: Describe how the cash flow statement is linked to the income statement and the balance sheet.**

Cash is an asset. The cash flow statement ultimately shows the change in cash during an accounting period. The beginning and ending balances of cash are shown on the balance sheet and the bottom of the cash flow statement reconciles beginning cash with ending cash.

Because a company's operating activities are reported on an accrual basis in the income statement, any differences between the accrual basis and cash basis for accounting result in an increase or decrease in some asset or liability on the balance sheet.

**LO.f: Describe the steps in the preparation of direct and indirect cash flow statements, including how cash flows can be computed using income statement and balance sheet data.**

CFO can be computed using the direct method or the indirect method.

Direct method:
In the direct method, we take each item from the income statement and convert it to its cash equivalent by removing the impact of accrual accounting.
The rules to adjust are:

- Increase in assets is use of cash (-ve adjustment) and decrease in asset is source of cash (+ve adjustment).
- Increase in liability is source of cash (+ve adjustment) and decrease in liability is use of cash (-ve adjustment).

Indirect method:
Indirect method shows how cash flow from operations can be obtained from reported net income as a result of a series of adjustments.
The steps are:

- Begin with net income.
- Add back all non-cash charges to income and subtract all non-cash components of revenue (For example, add depreciation and amortization).
- Subtract any gains that resulted from financing or investing cash flows (For example, gain on the sale of an equipment).
- Add or subtract changes to related balance sheet operating accounts.
- Decrease in operating assets (source of cash) should be added and increase in operating assets (use of cash) should be subtracted.
- Similarly, increase in current liabilities (source of cash) should be added and decrease in current liabilities (use of cash) should be subtracted.

CFI is calculated by determining changes in the gross asset account that result from the purchase or sale of equipment.

CFF is the sum of net cash flows from creditors and net cash flows from shareholders.

**LO.g: Demonstrate the conversion of cash flows from the indirect to direct method.**

The operating cash flow from indirect method can be converted to direct by using the three-step process:

- Aggregate all the revenues and expenses.
- Remove all non-cash items from aggregated revenues and expenses and break up remaining items into relevant cash flow items.
- Convert accrual amounts to cash flow amounts by adjusting for working capital changes.

**LO.h: Analyze and interpret both reported and common-size cash flow statements.**

Operating cash flow

- A healthy firm should generate positive cash flows from operating activities. (This is not applicable for startups).
- Positive operating cash flow generated by liquidating non-cash working capital items (like liquidating inventory and receivables or increasing payables) is not sustainable.
- Earnings that are significantly greater than operating cash flows indicate that aggressive accounting policies are being followed.

Investing cash flow

- Cash outflows can result from investments in property, plant and equipment, or other assets.
- Increasing outflows is an indication of growth.
- Decreasing outflows may indicate a reduction of capital expenditure and reduction in growth.

Financing cash flow

- Tells us if the company is generating cash by issuing debt or equity.
- Also tells us if the company is using cash to repay debt, reacquire stock, or pay dividends.

Common-Size format

- There are two approaches:
    - In the first approach, we express each line item of cash inflow (outflow) as a percentage of total inflows (outflows).
    - In the second approach, we express each line item as a percentage of revenue.
- Common-size cash flow statement makes it easier to identify trends in cash flows.
- It also helps us in forecasting future cash flows.

**LO.i: Calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.**

FCFF = NI + NCC + Int (1 - Tax rate) – FCInv – WCInv

Or

FCFF = CFO + Int (1 - Tax rate) – FCInv

FCFE = CFO – FCInv + Net borrowing

| | | Calculation | What It Measures |
|---|---|---|---|
| **Performance Ratios** | Cash flow to revenue | CFO ÷ Net revenue | Operating cash generated per dollar of revenue. |
| | Cash return on assets | CFO ÷ Average total assets | Operating cash generated per dollar of asset investment. |
| | Cash return on equity | CFO ÷ Average shareholders' equity | Operating cash generated per dollar of owner investment. |
| | Cash to income | CFO ÷ Operating income | Cash generating ability of operations. |
| | Cash flow per share | (CFO – Preferred dividends) ÷ Number of common shares outstanding | Operating cash flow on a per-share basis. |
| **Coverage Ratios** | Debt coverage | CFO ÷ Total debt | Financial risk and financial leverage. |
| | Interest coverage | (CFO + Interest paid + Taxes paid) ÷ Interest paid | Ability to meet interest obligations. |
| | Reinvestment | CFO ÷ Cash paid for long-term assets | Ability to acquire assets with operating cash flows. |
| | Debt payment | CFO ÷ Cash paid for long-term debt repayment | Ability to pay debts with operating cash flows. |
| | Dividend payment | CFO ÷ Dividends paid | Ability to pay dividends with operating cash flows. |
| | Investing and financing | CFO ÷ Cash outflows for investing and financing activities | Ability to acquire assets, pay debts, and make distributions to owners. |

## Practice Questions

1. Sale of land would be classified as what type of activity on the cash flow statement?
   A. Operating.
   B. Investing.
   C. Financing.

2. Issuing stocks would be classified as:
   A. investing cash flow.
   B. financing cash flow.
   C. operating cash flow.

3. The conversion of face value $500,000 convertible bond for $500,000 of common stock would *most likely* be reported as:
   A. $500,000 investing cash inflow and outflow.
   B. $500,000 financing cash outflow and inflow.
   C. reported as supplementary information to cash flow statement.

4. Where is interest expense reported in the cash flow statement under U.S. GAAP and IFRS?

| | **U.S. GAAP** | **IFRS** |
|---|---|---|
| A. | Operating or financing | Financing |
| B. | Operating | Financing |
| C. | Operating | Operating or financing |

5. Which of the following would be *least likely* reported under Cash flow from operations under US GAAP?
   A. Payment of interest.
   B. Receipt of dividend.
   C. Payment of dividend.

6. Which of the following can be presented using the indirect method under both IFRS and US GAAP?
   A. Cash flow from operations (CFO)
   B. Cash flow from investing (CFI)
   C. Cash flow from financing (CFF)

7. An analyst gathered the following information from a company's 2015 financial statements (in $ millions):

| **Year ended 31st Dec** | **2014** | **2015** |
|---|---|---|
| Net Sales | 24 | 25 |
| Cost of goods sold | 16 | 17 |

| | | |
|---|---|---|
| Accounts receivable | 7 | 6 |
| Inventory | 3 | 4 |
| Accounts payable | 2 | 3 |

Based only on the information above, the cash received from the customers and the cash paid to suppliers by the company in 2015 is *closest* to:

| | **Cash received from customers** | **Cash paid to suppliers** |
|---|---|---|
| A. | 26 | 17 |
| B. | 26 | 19 |
| C. | 25 | 17 |

8. Using the following information (in $ millions), calculate a firm's cash flow from operations (CFO).

| | |
|---|---|
| Net income | 100 |
| Decrease in accounts receivable | 21 |
| Depreciation | 30 |
| Increase in inventory | 12 |
| Increase in accounts payable | 9 |
| Decrease in wages payable | 7 |
| Increase in deferred tax liabilities | 13 |
| Profit on sale of building | 3 |

A. 130
B. 151
C. 178

9. The following annual financial data is available for a company:

| | $ millions |
|---|---|
| Beginning interest payable | 75 |
| Cash paid for interest | 97 |
| Ending interest payable | 86.2 |

Interest expense for the year is *closest* to:

A. 64.20.
B. 108.20
C. 258.20.

10. An analyst gathered the following information about a company's transactions during 2015.
    - Purchased land for $60,000.
    - Converted $100,000 worth of preferred shares to common shares.
    - Received cash dividends of $15,000

- Paid cash dividends of $20,000.
- Paid off long-term bank borrowings of $25,000

Assuming the company follows US GAAP, its Cash flow from investing (CFI) and Cash flow from financing (CFF) for 2015 would be:

| | **CFI** | **CFF** |
|---|---|---|
| A. | (60,000) | (65,000) |
| B. | (60,000) | (45,000) |
| C. | (40,000) | (25,000) |

11. Which of the following is *most likely* a calculation performed for converting cash flows from indirect method to the direct method?
    A. Add decrease in inventory to cost of goods sold.
    B. Subtract increase in accounts receivable to non-cash adjusted revenue.
    C. Subtract decrease in salary and wage payable from salary and wage expense.

12. The following information is available about AMYs Corporation for 2018:

| | |
|---|---|
| New borrowings | $15 million |
| Principal repaid | $7 million |
| New equity issued | $4 million |
| Shares repurchased | $1 million |
| Dividends paid | $1.5 million |

The cash flow from financing (CFF) of AMYs would most likely be:
    A. $8 million.
    B. $9.5 million
    C. $10.5 million

13. In preparing a common-size cash flow statement, each item on the cash flow statement is expressed as percentage of:
    A. total assets.
    B. total revenue.
    C. total cash inflows.

14. The following selected data are available for a firm:

| | **$ millions** |
|---|---|
| Net income | 40 |
| Non-cash charges | 12 |
| Interest expense | 2 |
| Capital expenditures | 15 |
| Working capital expenditures | 8 |

If the firm's tax rate is 30%, the free cash flow to the firm (FCFF) is *closest* to:

A. $30.4 million.
B. $31.0 million.
C. $38.4 million.

15. The following information is available for Sparkle Lights Ltd.

| | |
|---|---|
| Net income | $25,000 |
| Depreciation | $12,000 |
| CAPEX | $10,000 |
| WC expenditure | $5,000 |
| Net debt repayment | $8,500 |
| Cash flow from operations | $42,000 |

The free cash flow to equity of the company is *closest* to:

A. 23,500.
B. 40,200.
C. 43,500.

**Solutions**

1. B is correct. The sale of land would be classified as an investing cash flow.

2. B is correct. Issuing stocks would be classified as financing cash flow.

3. C is correct. A non-cash transaction is any transaction that does not involve an outflow or inflow of cash. The transaction mentioned in the question is a non-cash transaction. Non-cash transactions are not reported in the investing or financing sections of the cash flow statement. If significant, they are reported as supplementary information.

4. C is correct. Interest expense is always classified as an operating cash flow under US GAAP but may be classified as either an operating or financing cash flow under IFRS.

5. C is correct. Payment of dividends is a financing activity under US GAAP. Payment of interest and receipt of dividends are included in operating cash flows under US GAAP.

6. A is correct. CFO may be prepared under the indirect method. CFI and CFF are always prepared under the direct method.

7. A is correct. Cash received from customers = Sales – Change in accounts receivable = 25 - (6-7) = 26
   Cash paid to suppliers = COGS + Change in inventory – Change in accounts payable = 17 + (4-3) – (3-2) = 17

8. B is correct. CFO = Net income – profit from sale of building + depreciation + decrease in accounts receivable – increase in inventory + increase in accounts payable – decrease in wages payable + increase in deferred tax liabilities
   = 100 – 3 + 30 + 21 – 12 +9 – 7 + 13 = 151

9. B is correct. Interest expense = Ending interest payable + Cash interest paid – beginning interest payable = 86.2 + 97 – 75 = 108.20.

10. B is correct.
    Purchased land for $60,000 – CFI Outflow
    Converted $100,000 worth of preferred shares to common shares – Non-cash transaction
    Received cash dividends of $15,000 – CFO inflow
    Paid cash dividends of $20,000 – CFF outflow
    Paid off long-term bank borrowings of $25,000 – CFF outflow
    CFI = -60,000
    CFF = -20,000 – 25,000 = -45,000

11. B is correct. Increase in accounts receivable must be subtracted from revenue adjusted for non-cash items. Decrease in inventory to cost of goods sold must be subtracted from revenue adjusted for non-cash items while decrease in salary and wage payable from salary and wage expense must be added.

12. B is correct. Net cash flow from creditors = New borrowings – Principal repaid = 15 – 7 = $8 million
    Net cash flow from shareholders = New equity issued – Shares repurchased – Cash dividends = 4 – 1 -1.5 = $1.5 million
    CFF = Net cash flow from creditors + Net cash flow from shareholders = 8 + 1.5 = $9.5 million

13. B is correct. In common-size analysis of a company's cash flow statement, there are two alternative approaches. In the first approach, we express each line item of cash inflow (outflow) as a percentage of total inflows (outflows). In the second approach, we express each line item as a percentage of revenue.

14. A is correct. FCFF = Net income + Non-cash charges + interest expense * (1 – Tax rate) – capital expenditures – working capital expenditures
    FCFF = 40 + 12 + 2 *(1 – 0.3) – 15 – 8 = $30.4 million

15. A is correct.
    $\text{FCFE} = \text{CFO} - \text{FCInv} - \text{Net debt repayment}$
    $\text{FCFE} = 42{,}000 - 10{,}000 - 8{,}500 = 23{,}500$