**CASH FLOW STATEMENT**

**Definitions**

**Cash Flow Statement:** The accrual accounting system produces the income statement, which matches revenues with expenses. This statement, though, does not provide detailed information about the impact of transactions on the cash position of the firm. The cash flow statement provides this information.

The cash flow statement explains how cash has been generated and used during an accounting period. It is, in essence, a rearrangement of the cash T-account in an informative way. The statement of cash flows describes the annual and quarterly flows of cash through a firm and is divided into three sections:

* Cash flow from operating activities
* Cash flow from investing activities
* Cash flow from financing activities

The total cash flow during a period is equal to the difference between the ending and beginning balances of the cash account on the balance sheet. A business enterprise is required to provide the cash flow statement for each period for which results of operations are presented. Cash flow statements provide valuable information about the liquidity, solvency, and financial flexibility of the reporting company. Thus, cash flow statements and income statements complement each other.

**Free Cash Flow**: Free cash flow is the cash flow available to the firm after meeting all current commitments required to maintain and grow its operations. This measure is used by analysts, investors, and creditors to assess a firm’s performance. It is not a GAAP measure and there is no universally agreed upon definition of free cash flows. However, it is commonly defined as cash flow from operations less capital expenditures.

Here are how a few companies define free cash flow:

Walmart: We define free cash flow as net cash provided by operating activities in a period minus payments for property and equipment made in that period.

Sysco: Free cash flow represents net cash provided from operating activities less purchases of plant and equipment plus proceeds from sales of plant and equipment.

Clorox: Free cash flow is calculated as net cash provided by continuing operations less capital expenditures.

Heinz: Operating Free Cash Flow is defined as cash from operations less capital expenditures net of proceeds from disposals of Property, Plant and Equipment.

**Adjusting entries**

Adjusting earnings involve recognizing revenues and expenses at the end of the priod when cash does not change hands.

Adjusting entries always involve a balance sheet account (Interest Payable, Prepaid Insurance, Accounts Receivable, etc.) and an income statement account (Interest Expense, Insurance Expense, Service Revenues, etc.).

There are two scenarios where adjusting journal entries are needed before the financial statements are issued:

* Nothing has been entered in the accounting records for certain expenses or revenues, but those expenses and/or revenues did occur and must be included in the current period's income statement and balance sheet. For example we need to depreciate the property plant and equipment. We need to recognize interest expense, income tax expenses, etc.
* Something has already been entered in the accounting records, but the amount needs to be divided up between two or more accounting periods. For example we prepaid for insurance, rent, salaries and we used them during the accounting period.

**Timing of revenues and cash collections**

Before we go further into the example, let’s go over some timing differences between revenue recognition and cash inflow. Let’s start with a simple cash sale and introduce timing differences from there.

1. Cash received at same time as recognition of revenue:

Dr. Cash (A↑, CFO↑) $X

Cr. Revenues (NI, SE↑) $X

1. Cash received *after* recognition of revenue and after end of reporting period:

Deliver to customer

Report B/S

Receive cash

At time of sale:

Dr. Accounts receivable (A↑) $X

Cr. Revenues (NI, SE↑) $X

When cash is subsequently collected:

Dr. Cash (A↑, CFO↑) $X

Cr. Accounts receivable (A↓) $X

1. Cash received *before* recognition of revenue; delivery occurs after end of reporting period:

Receive cash

Report B/S

Deliver to customer

At the time of cash prepayment:

Dr. Cash (A↑, CFO↑) $X

Cr. Deferred revenue (L↑) $X

At time of sale:

Dr. Deferred revenue (L↓) $X

Cr. Revenues (NI, SE↑) $X

Notice that the total effect of the transactions in each of the three cases is an increase in cash and an increase in sales revenues. However, these transactions do not have the same implications for the financial statements.

**Timing of expenses and cash payments**

Let’s do the same thing for expenses as we did for revenues. Again, we’ll start with the case where the cash payment is made at the same time as expense recognition and move on from there.

1. Cash paid at the time of expense recognition:

Dr. Expense (NI, SE↓) $X

Cr. Cash (A↓) $X

1. Cash is paid *after* the expense is recognized and after the end of the reporting period:

Recognition of Expense:

Dr. Expense (NI, SE↓) $X

Cr. Payables (or Accrued Expense) (L↑) $X

Payment of Cash:

Dr. Payables (or Accrued Expense) (L↓) $X

Cr. Cash (A↓) $X

1. Cash is paid *before* the expense is recognized; expense recognition comes after the end of the reporting period:

Payment of Cash:

Dr. Prepaid Expense (A↑) $X

Cr. Cash (A↓) $X

Recognition of Expense:

Dr. Expense (NI, SE↓) $X

Cr. Prepaid Expense (A↓) $X

**Why is the Cash Flow Statement Important?**

Bankruptcy Prediction: A firm’s survival depends on its ability to generate enough cash to pay its obligations. While earnings provide a good picture of performance, a firm that generates profits does not necessary generate a positive cash flow. A famous example of such a case is W.T. Grant Company, a retailer that went bankrupt in 1976 (at the time, it was the second largest bankruptcy in U.S. history). The company’s operating cash flows were persistently negative for six years prior to bankruptcy, whereas its earnings were positive until mid-1974.

Earnings Quality: Cash is often viewed as more reliable (but not necessarily more informative) than earnings. This is because, unlike earnings, cash flow does not depend on assumptions and judgments (e.g., bad debt expenses). The difference between earnings and cash flow from operations (i.e., the accruals for the period) is often viewed as a measure of earnings quality.

* Note that cash flow from operating activities is not directly comparable to net income because net income includes a charge for equipment (depreciation) whereas cash flow from operations does not (equipment purchases are part of cash flow from investing activities).
* There are several academic studies that show that accruals appear to be used for manipulating earnings and that accruals are less “persistent” than cash flows.

**Example of a cash flow statement: Arden Group**

|  |  |  |  |
| --- | --- | --- | --- |
| **Arden Group, Inc** | | | |
| **Consolidated Statements of Cash Flows (USD $, in thousands)** | | | |
|  | **12 Months Ended** | | |
|  | **Dec. 29, 2012** | **Dec. 31, 2011** | **Jan. 01, 2011** |
| **Cash flows from operating activities:** |  |  |  |
| Cash received from customers | $438,864 | $429,179 | $417,580 |
| Cash paid to suppliers and employees | ($403,243) | ($398,850) | ($384,624) |
| Interest and dividends received | $608 | $587 | $1,580 |
| Interest paid | ($86) | ($87) | ($94) |
| Income taxes paid | ($8,884) | ($12,461) | ($11,354) |
| Net cash provided by operating activities | $27,259 | $18,368 | $23,088 |
| **Cash flows from investing activities:** |  |  |  |
| Capital expenditures | ($5,734) | ($4,292) | ($2,597) |
| Purchases of investments | ($104,286) | ($66,204) | ($29,861) |
| Sales of investments | $132,590 | $37,823 | $51,926 |
| Proceeds from the sale of property, plant and equipment | $24 | $2,189 | $16 |
| Net cash provided by (used in) investing activities | $22,594 | ($30,484) | $19,484 |
| **Cash flows from financing activities:** |  |  |  |
| Purchase and retirement of Company stock | $0 | ($6,684) | $0 |
| Cash dividends paid | ($64,491) | ($3,116) | ($3,161) |
| Net cash used in financing activities | ($64,491) | ($9,800) | ($3,161) |
| Net increase (decrease) in cash and cash equivalents | ($14,638) | ($21,916) | $39,411 |
| Cash and cash equivalents at beginning of year | $30,675 | $52,591 | $13,180 |
| Cash and cash equivalents at end of year | $16,037 | $30,675 | $52,591 |

**Cash Flow From Operating Activities**

These are the activities that are related to the production and sale of goods and services and that enter into the determination of the firm’s income.

|  |  |
| --- | --- |
| **Inflows** | **Outflows** |
| Cash collected from customers | Cash paid to suppliers and employees |
| Interest and dividends *received\** | Interest *paid\** |
|  | Taxes paid\* |

\*IFRS permits, but does not require, firms to report interest and dividends received as investing cash flows and to report interest paid as a financing cash flow. Recently the FASB prepared a draft standard which proposes moving interest paid to Cash From Financing and placing cash paid for taxes in a separate category.

Depending on the nature of their operations, some companies would treat certain cash flows as operating while others would treat them as investing:

* How should a commercial real estate developer classify cash flows from the purchase and sale of retail space?
* How should Starbucks classify cash flows related to the purchase and sale of retail space?

Firms are allowed to present the operating activities section of the cash flow statement using either the direct or indirect method. However, if a company selects the direct method, it must disclose the indirect method in a supplementary schedule. In contrast, disclosure of the direct method is not required when the firm uses the indirect method. Most U.S. firms use the indirect method. The FASB and IASB are working on a proposal to require the direct method in the future. Note that the method only affects the calculation (not the value) of cash flow from operating activities. That is, cash flow from operating activities is the same under both approaches.

**Cash Flow From Operating Activities - The Direct Method**

Under the direct method, the format of the cash flow from operating activitiesons section of the cash flow statement resembles that of the income statement. The direct approach shows cash from operations as the difference between cash received from customers and other operating sources (e.g., interest received) and cash paid to suppliers and employees and other operating uses of cash (e.g., interest and taxes). The direct method for cash flow from operating activities has the following format:

Sources of Cash:

(+) Cash Received From Customers

(+) Other Operating Cash Receipts (if any)

Uses of Cash:

(-) Cash Paid To Suppliers (for example, inventory suppliers)

(-) Cash Paid To Employees

(-) Interest Paid

(-) Income Taxes Paid

(-) Other Operating Payments (if any)

(=) Cash Provided (Used) By Operating Activities

**Example: Preparing the CFO under the direct method**

Consider the partial balance sheets of the Cash-We-Need Merchandising Company:

|  |  |  |  |
| --- | --- | --- | --- |
|  | 12/31/2013 | 12/31/2012 | Change |
| Cash | 280 | 220 | +60 |
| Accounts receivable | 100 | 80 | +20 |
| Inventory | 90 | 60 | +30 |
| Accounts payable (just for inventory) | 30 | 20 | +10 |
| Deferred Revenues | 10 | 30 | -20 |

Its condensed income statement for the year 2013 is as follows:

|  |  |
| --- | --- |
|  | 2013 |
| Revenues | 500 |
| Cost of goods sold | 380 |
| Depreciation expense | 50 |
| Net income | 70 |

In this example we assume that the only items affecting cash flow from operations are collections from customers and payments to suppliers for inventory.

**Formalizing the relation between revenues and cash collections from customers**

The amount of cash collected from customers in a given period equals:

* the period’s total revenues, *less*
* that portion of revenues that won’t be collected in cash until a later period (equal to the amount by which accounts receivable increases during the period), *plus*
* the cash received from customers that won’t be recognized as revenues until a later period (equal to the amount by which deferred revenues increases during the period).

That is:

**Cash Collections from Customers = Revenues – ΔA/R + ΔDeferred Revenues**

In our example:

- Revenues equal 500

- A/R increases by 20

- Deferred Revenue decreases by 20

Therefore, cash collections from customers = 500 – 20 + (-20) = 460

(Please do not just plug the numbers into the equation. Make sure you understand how we adjust revenues to arrive at our estimate of cash collections from customers.)

Another way to find the cash collections is through the summary journal entry:

**Dr. Cash (A↑) 460 (plug figure)**

Dr. Def’d Revenues (L↓) 20

Dr. Accounts Rec. (A↑) 20

Cr. Revenues (NI, SE↑) 500

**Formalizing the relation between cost of goods sold and cash payments to suppliers**

The amount of cash the company pays its suppliers in a given period equals:

* the period’s total cost of goods sold, *plus*
* the amount by which the firm stocks up on inventory for sale in future periods (equal to the increase in inventory during the period), *less*
* the amount by which payment has been deferred until a future period (equal to the increase in accounts payable for inventory during the period).

That is:

**Cash Paid to Suppliers = COGS + ΔInventory – ΔA/P**

In our example:

* COGS is 380
* Inventory increases by 30
* A/P increases by 10

Therefore, cash paid to suppliers = -380 - 30 + 10 = -400.

Another way to find the cash payments is through the summary journal entry:

Dr. Inventory (A↑) 30

Dr. COGS (NI, SE↓) 380

Cr. A/P (L↑) 10

**Cr. Cash (A↓) 400 (plug figure)**

In our simple example there are no other transactions (such as payments to employees or interest paid/received) that affect cash flow from operating activities. Thus, using the direct method, cash flow from operating activities is given as follows:

Cash received from customers 460

Cash paid to suppliers 400

Cash flow from operating activities 60

**Cash Flow From Operating Activities - Indirect Method**

The indirect method arrives at the cash flow from operating activities by beginning with net income and adjusting for (1) all items that affect income during the period but do not provide or use cash and (2) all items that provide or use cash but do not affect income during the period. We can think of this method as “reconciling” net income to cash flow from operating activities.

The following table illustrates how the indirect method works:

|  |  |
| --- | --- |
| Income Statement | Indirect Method |
|  | Start with NET INCOME |
|  | Adjustments: |
| Net Sales | * increase in accounts receivable   + increase in deferred revenue |
| * COGS | * increase in inventory   + increase in accounts payable |
| * SG&A Expenses | * increase in prepaid expenses related to SG&A   + increase in payables related to SG&A |
| * Depreciation/amortization expenses | + depreciation/amortization expenses |
| * Other expenses/income | * increase in corresponding operating asset   + increase in corresponding operating liability |
| * Income tax | * increase in prepaid income taxes   + increase in income taxes payable |
| + Gains | * gains |
| * Losses | + losses |
| NET INCOME | Cash Flow From Operating Activities |

For ease of understanding, companies group these adjustments into two categories and present them in the following way:

Net Income

*Adjustments for: Non-cash and Non-operating items*

(add back) Depreciation and Amortization

(add back) Other non-cash expenses (if any)

(add back) Losses on sales of non-operating assets/liabilities

(subtract) Gains on sales of non-operating assets/liabilities

*Adjustments for: Changes in current operating assets/liabilities*

(subtract) Increases in current operating assets except cash

(add back) Increases in current operating liabilities

= Cash Flow From Operating activities

**Why do we *subtract* increases in current operating assets other than cash?**

Take the case of Accounts receivable, for example. Assume that Accounts receivables went up during the period. This means that customers bought more during the period than they paid for. Therefore, cash collections are less than revenues. Remembering that the indirect method *starts* with net income (one component of which is revenues), we need to make a downward adjustment as we move from net income to cash flow from operating activities to account for the fact that cash collections fell short of revenues. That *downward* adjustment is precisely equal to the *increase* in accounts receivable during the period.

Alternatively, assume that Accounts receivables went down during the period. This means that some of the customers’ payments this period were for goods purchased in prior periods (and which were recognized as revenues in prior periods). Since this additional cash flow is not recognized in current period’s net income, we need to make an upward adjustment as we move from net income to cash flow from operating activities. That *upward* adjustment is precisely equal to the *decrease* in accounts receivable during the period.

**Why do we *add* changes in current operating liabilities?**

Take the case of Accounts payable, for example. Assume that Accounts payable went up during the period. This means that the firm paid less to its vendors than was recognized as expenses this period. Therefore, the negative impact of expenses on net income was greater than the negative impact on cash flow. As a result, we need to make an upward adjustment as we move from net income to cash flow from operating activities. That *upward* adjustment is precisely equal to the *increase* in accounts payable during the period.

Alternatively, assume that Accounts payable went down. This means that the firm paid more to its vendors than was recognized as expenses this period. Therefore, the negative impact of expenses on cash flow is greater than the negative impact on net income. As a result, we need to make a downward adjustment as we move from net income to cash flow from operating activities. That *downward* adjustment is precisely equal to the *decrease* in accounts payable during the period.

**Why do we *add* depreciation/amortization?**

Depreciation is a non-cash expense that decreases net income. As we move from net income to cash flow from operating activities under the indirect method, we need to remove this negative effect, since it is a non-cash expense. (This step is sometimes called the “depreciation add-back”.)

**Why do we *add* losses and *subtract* gains on sales of non-current assets/liabilities?**

Gains and losses are *not* cash flows. The cash flow from the sale of non-current assets and liabilities is the *amount* that we receive from the sale. Since losses are a hit to net income, but are not a cash outflow, we need to add them back as we move from net income to cash flow from operating activities. Similarly, since gains boost net income, but are not a cash inflow, we need to subtract them as we move from net income to cash flow from operating activities.

As we will see, the amount that we receive from the sale of non-current assets and liabilities appears as a cash inflow from investing activities.

**Preparing the CFO Under the Indirect Method**

Going back to our previous example:

|  |  |  |  |
| --- | --- | --- | --- |
|  | 12/31/2012 | 12/31/2011 | Change |
| Cash | 280 | 220 | +60 |
| Accounts receivable | 100 | 80 | +20 |
| Inventory | 90 | 60 | +30 |
| Accounts payable (just for inventory) | 30 | 20 | +10 |
| Deferred Revenues | 10 | 30 | -20 |

|  |  |
| --- | --- |
|  | 2012 |
| Revenues | 500 |
| Cost of goods sold | 380 |
| Depreciation expense | 50 |
| Net income | 70 |

Given this information, the cash flow from operating activities under the indirect method is as follows:

|  |  |
| --- | --- |
| Net income | 70 |
|  |  |
| Adjustment for non-cash items |  |
| Depreciation expense | 50 |
|  |  |
| Adjustments for changes in current assets/liabilities |  |
| Change in A/R | (20) |
| Change in Inventory | (30) |
| Change in Deferred Revenues | (20) |
| Change in A/P | 10 |
|  |  |
| Net cash flow from operating activities | 60 |

Note that when a number has parentheses around it, it means that the change in that current asset or liability necessitates a negative adjustment to net income in the process of moving from income to cash flow from operating activities.

**Important Observations**

* The method used to present the cash flow from operating activities section of the cash flow statement (direct vs. indirect) *only affects* the format of that section. It *has no effect* on how the cash flow from investing and financing activities are presented.
* The direct and indirect methods only differ in how they derive the cash flow from operating activities. Both methods arrive *at exactly the same number*.
* Companies that use the direct method to compute operating cash flow *must* also include the indirect method reconciliation; companies that report using the indirect method have no requirement to also report cash flow from operating activities using the direct method.
* Most companies report only the indirect method.
  + Both the FASB (U.S.) and IASB (everywhere else) are considering mandating the direct method.
* If you try to reconstruct the cash flow statement of an actual company using the data from its balance sheets and income statements, you are likely not to end up with the same numbers that the company reports in its cash flow statement. This is because the changes in current assets and liabilities that are derived from successive balance sheets are distorted by activities like mergers/acquisitions. The changes in current assets and liabilities that are reported on the cash flow statement are solely those that result from the firm’s underlying operating activity during the period; they are not distorted by these other activities.

**ALICO**

Payment to suppliers: -68,590 +1,253 +9,474 = -57,863

Collections on Sales = 88,680 + 419 = 89,099

**Remember: ALWAYS use the CF statement.**

**Walmart**

Payment to suppliers: -352,488 +1,061 – 2,759 = -354,186

Collections on Sales = 466,114 - 614 = 465,500

**Cash Flows From Investing and Financing Activities**

**Cash flows from investing activities**: These activities include the purchase and sale of long-lived productive assets (tangible and intangible), the purchase and sale of security investments, the acquisitions of other firms, long-term loans extended to other firms, and repayments of these long-term loans.

|  |  |
| --- | --- |
| **Inflows** | **Outflows** |
| Disposals of long-lived productive assets | Purchases of long-lived productive assets |
| Sales of security investments\* | Purchases of security investments |
|  | Acquisitions of other firms |
| Receipt of loan repayment | Loans to other firms |

\* Dividends and interest payments received as a result of these investments are included in the cash flow from operating activities section (under U.S. GAAP).

**Cash Flow From Financing Activities:** These activities relate to payments received from or made to the firm’s owners (such as the issuance or repurchase of equity, and the payment of dividends) or to the firm’s creditors (such as the issuance or repurchase of debt).

|  |  |
| --- | --- |
| **Inflows** | **Outflows** |
| Proceeds from issuing stock | Stock repurchases |
| Proceeds from borrowing money/ issuing bonds | Principal portion of loan/bond payments\* |
|  | Dividend payments |

\* Interest payments on debt appear in the operating activities section of the cash flow statement (under U.S. GAAP). FASB is proposing moving it to the cash flow from financing activities section.

**Supplementary Disclosures**

Firms are required to provide the following disclosures supplementary to the statement of cash flows:

* Amounts of interest and income tax payments
  + These are of interest to investors, but don’t appear as separate line items when preparing the cash flow statement using the indirect method.
  + These disclosures will be redundant if the FASB and IFRS mandate the direct method of preparing the cash flow from operating activities.
* Material non-cash investing and financing activities
  + Some common examples are purchases of PP&E through the issuance of debt and the use of shares to buy another company.

Criterion Research **Identifies Companies Where Receivables Growth Signals Earnings Quality Problems** [Business Wire, March 29, 2005]

Criterion Research Group, LLC today identified six companies whose stocks are likely to underperform due to the high levels of non-cash items, particularly receivables, in their earnings. The growth in receivables at these companies was not matched by corresponding growth in sales or bad debt reserves, which can signal earnings quality issues. The reported earnings of these six companies, like nearly all companies whose earnings consist largely of non-cash items, also called accruals, are significantly higher than their cash flows.

The six companies are Anixter International Inc. (NYSE: AXE), Global Payments Inc. (NYSE: GPN), Laserscope (NasdaqNM: LSCP), MGI Pharma Inc. (NasdaqNM: MOGN), Travel Zoo Inc. (NasdaqNM: TZOO), and Turbochef Tech Inc. (AMEX: TCF).

These companies were identified by Criterion's proprietary accrual model, which divides over 5,000 companies into risk categories based on the total accrual component of their earnings. Accruals are management's estimates of future cash flows and expenses that often turn out to be wrong due to error or management's prerogative to increase earnings.

Extensive back testing of the model has demonstrated that companies in its highest risk categories are much more likely to experience poor forward stock returns and widening bond spreads. Companies with high accrual components to their earnings also experience more shareholder class actions, earnings restatements, and SEC enforcement proceedings, though these are very low frequency events that are experienced by very few companies.

According to the model, companies with high receivables may be boosting revenue and earnings in several ways: by booking sales to customers with weak credit profiles; by improperly recording sales; by under-reserving for bad debt expense; or by not properly writing off receivables that are not realistically collectable. While receivables growth alone does not signal these problems, the model's diagnostics also revealed that these companies do not have the corresponding growth in sales or reserves for bad debt that would explain the high growth in receivables.

The model explains how to determine whether high accruals, such as receivables, can represent a real problem. For receivables, the model prompts the user to examine whether reserves for bad debt as a percentage of receivables have declined, and then to examine the make-up of the customer base to see if it warrants such a decline. Alternatively, if a user determines that sales are growing faster or at least in line with an increasing market share, or if a company is booking improved sales to more credit-worthy customers, then the growth in receivables may not be viewed negatively.

The model provides similar diagnostic tools that explain the risks of high accruals in 11 to 12 other categories, including inventories, other current assets, accounts payable and intangibles. Accounts receivable contains the bulk of non-cash items in 25 percent of the 5,300 companies in Criterion's model for the four calendar quarters ending September 30, 2004. …