Chapter 14

Lecture Notes

**Chapter theme**: This chapter explains how to prepare and interpret the statement of cash flows.

 1

1. **Statement of cash flows**
	1. Setting the stage
		1. The statement of cash flows highlights the major activities that **impact cash flows** and hence, affect the overall cash balance.

 2

* + 1. The statement of cash flows helps answer a variety of questions such as:
			1. Are cash flows sufficient to support ongoing operations?

 3

* + - 1. Can we pay our debts?
			2. Can we pay dividends?
			3. Will we have to borrow money to make needed investments?
			4. Why is there a difference between net income and net cash flow?
		1. The statement of cash flows is based on the principle that properly analyzing **the changes in all noncash balance sheet accounts will always quantify the cash inflows and outflows that explain the change in the cash balance**.

 4

* + 1. The **basic equations** for assets, contra-assets, liabilities, and stockholders’ equity shown on this slide will be useful in preparing a statement of cash flows.

 5

* + 1. The term cash on the statement of cash flows refers broadly to both **currency and cash equivalents**.

 6

1. **Statement of cash flows—four key concepts**

*Learning Objective 1: Classify cash inflows and outflows as relating to operating, investing, or financing activities.*

 7

* 1. **Key concept #1**
		1. The statement of cash flows is organized into three sections that report cash flows resulting from **operating activities, investing activities, and financing activities***.*
			1. **Operating activities** generate cash inflows and outflows related to revenue and expense transactions that affect net income.

 8

* + - 1. **Investing activities** generate cash inflows and outflows related to acquiring or disposing of noncurrent assets such as property, plant, and equipment, long-term investments, and loans to another entity.
			2. **Financing activities** generate cash inflows and outflows related to borrowing from and repaying principal to creditors and completing transactions with the company’s owners.
		1. This slide summarizes the **most common types of cash inflows and outflows** resulting from operating, investing, and financing activities.

 9

* 1. **Key concept #2**
		1. The net amount of cash inflows and outflows resulting from operating activities, which is known formally as the **net cash provided by operating activities**, can be derived using either the **direct** **or indirect method**.
			1. Under the direct method, **the income statement is reconstructed on a cash basis from top to bottom**. For example:

 10

* + - * 1. Cash collected from customers is listed instead of revenue, and payments to suppliers is listed instead of cost of goods sold.

2. Under the indirect method, **net income is adjusted to a cash basis**. That is, rather than directly computing cash sales, cash expenses, and so forth, these amounts are derived indirectly by removing from net income any items that do not affect cash flows.

#### Key concept #3

* + 1. The indirect method adjusts net income to net cash provided by operating activities using the **three-step process** summarized on this slide.

 11

* + 1. The **first step is to add depreciation charges to net income**. The basic equation for contra-assets shown on this slide can be used to determine the amount of this adjustment. For example:

 12

* + - 1. Assume the beginning and ending balances in the Accumulated Depreciation account are **$300** and **$500**, respectively. Also, assume that the accumulated depreciation on equipment sold during the period was **$70**.

13

* + - 1. Given these assumptions, the basic equation for contra-assets can be used to compute depreciation charges of **$270**.
		1. The **second step is to analyze the net changes in balance sheet accounts that affect net income**.
			1. To complete this step you begin by **computing the change in the balance of each current asset and current liability account**.

14

* + - 1. If a **current asset** account **balance increases** (decreases), then the amount of the increase (decrease) is **subtracted from** (added to) net income.
			2. If a **current liability** account **balance increases** (decreases), then the amount of the increase (decrease) is **added to** (subtracted from) net income.

iv. The **third step is to** **adjust for gains and losses** included in the income statement.

1. U.S. GAAP and IFRS require **gains and losses to be disclosed in the investing activities section** of the statement of cash flows.

15

2. Therefore, **we reverse the impact of gains and losses on net income by subtracting gains and adding losses**.

* 1. **Key concept #4**
		1. **U.S. GAAP and IFRS** require that the investing and financing sections of the statement of cash flows disclose **gross cash flows**.
			1. When the balance in a **noncurrent asset account increases** (decreases), it signals the need to record a **cash outflow** (cash inflow) in the **investing activities section** of the statement of cash flows. However, computing the correct amount of cash flows requires **further analysis** as you’ll see shortly.

 16

* + - 1. When the balances in **Bonds Payable and Common Stock increase** (decreases), it signals the need to record a **cash inflow** (cash outflow) in the **financing activities section** of the statement of cash flows. However, computing the correct amount of cash flows also requires **further analysis**.
			2. The **Retained Earnings account also requires further analysis to quantify the amount of dividends** as you’ll see shortly.

16

* + 1. To illustrate how to compute gross cash flows, let’s use the **Property, Plant, and Equipment account**. Let’s assume the information as shown in the top half of this slide.

 17

* + - 1. Based on this information, the company would record a **cash inflow of $40 related to the sale of equipment**.
			2. The **basic equation for assets** can be used to determine that **the company would also need to record a cash outflow of $900**.

iii. As another example, let’s look at the **Retained Earnings** account and assume the information as shown in the top half of this slide.

18

1. The basic equation for stockholders’ equity accounts can be used to determine that the company would need to record **dividends** (a cash outflow) **of $200 in the financing activities section** of the statement of cash flows.

#### Summary of four key concepts

 19-20

* + 1. These slides summarize the four key concepts related to preparing the statement of cash flows.

## **The statement of cash flows—an example**

*Learning Objective 2: Prepare a statement of cash flows using the indirect method to determine the net cash provided by operating activities.*

 21

#### Apparel Inc.: background information

 22

* + 1. Let’s assume that Apparel Inc. reported the **income statement** shown on this slide.

 23

* + 1. Let’s assume that the company reported the **balance sheet** shown on this slide.
		2. Let’s also assume the **additional information** shown on this slide.

 24

#### Computing net cash provided by operating activities—a three step process

* + 1. The first step in computing the net cash provided operating activities is to **add depreciation to net income**.

 25

* + - 1. The basic equation for contra-asset accounts can be used to determine that Apparel should **add $103 million of depreciation to net income**.

ii. The second step is to **analyze net changes in noncash balance sheet accounts that impact net income**.

26

1. The **accounts receivable** balance **decreased by $17**, so this amount needs to be **added to net income**.

2. The **inventory** balance **increased by $49**, so this amount needs to be **subtracted from net income**.

3. The **accounts payable** balance **increased by $44**, so this amount needs to be **added to net income**.

 26

4. The **accrued liabilities** balance **increased by $3**, so this amount needs to be **added to net income**.

5. The **income taxes payable** balance **increased by $4**, so this amount needs to be **added to net income**.

iii. The third step is **adjust for gains and losses** included in the income statement.

1. Apparel’s income statement includes a **gain of $3 million**, so this amount must be **subtracted from net income**.

 27

2. Subtracting the gain on sale removes it from the operating activities section of the statement of cash flows. The entire amount of the proceeds related to this sale will be recorded in the investing activities section of the statement.

1. The **operating activities section** of Apparel’s statement of cash flows would appear as shown on this slide.

 28

#### Investing activities

* + 1. To compute the **gross cash flows** in the investing activities section of the statement, we need to focus on the Property, Plant, and Equipment account.
			1. Apparel would record an **$8 million cash inflow** related to the sale of the store.

 29

* + - 1. The **basic equation for asset accounts** can be used to determine that Apparel needs to record a **$138 million cash outflow** related to the purchase of property, plant, and equipment.

#### Financing activities

* + 1. To compute the **gross cash flows** in the financing activities section of the statement, we need to focus on the **Bonds Payable**, **Common Stock**, and **Retained Earnings** accounts.
			1. The balance in **Bonds Payable decreased by $41 million**. Because the assumptions state that Apparel did not issue any bonds during the year, **the $41 million decrease relates to retiring bonds and represents a cash outflow**.

 30

* + - 1. The balance in **Common Stock increased by $2 million**. Because the assumptions state that Apparel did not repurchase any of its own stock, **the $2 million increase relates to issuing common stock and represents a cash inflow**.
			2. The basic equation for stockholders’ equity accounts can be used to determine that **Apparel paid dividends of $28 million that need to be recorded as a cash outflow**.

 30

#### Apparel Inc: statement of cash flows

* + 1. Apparel’s completed statement of cash flows is shown on this slide. Notice, the net increase in cash and cash equivalents (**$62**) explains the change in the cash balance.

 31

#### Apparel Inc: seeing the big picture

1. T-accounts can be used to summarize how changes in Apparel Inc.’s noncash balance sheet accounts quantify the cash inflows and outflows that explain the change in its cash balance.
	* + 1. The first entry **records Apparel’s net income** (**$140 million**) in the credit side of the Retained Earnings account and the debit side of the Cash account.

 32

* + - 1. The second entry **adds depreciation of $103 million to net income**.
			2. Entries 3-7 **adjust net income for the changes in the current asset and current liability accounts**.
			3. Entries 8-11 summarize the cash outflows and inflows related to **property, plant, and equipment, the retirement of bonds payable, the payment of the cash dividend, and the issuance of common stock**.
			4. The final entry records **the sale of the store**. Notice, the gain on the sale (**$5 million**) is recorded in the credit side of the cash account so that the entire amount of the cash proceeds from the sale (**$8 million**) can be recorded as an investing activity.

 32

1. **Interpreting the statement of cash flows**

A. Consider a company’s **specific circumstances**

* + 1. **Start-up companies** often have negative net cash provided by operating activities, large spikes in net cash used for investing activities and net cash provided by financing activities.
		2. **As start-up companies mature**, the net cash provided operating activities should swing from a negative to a positive number. The net cash used for investing activities should decline somewhat and stabilize and the net cash provided by financing activities should decrease.

 33

B. Consider the **relationships among the numbers**

1. Some managers study their company’s trends in **cash flow margins** by comparing net cash provided by operating activities to sales.
2. Managers also **compare the net cash provided by operating activities to the ending balance of current liabilities** to see if they generated enough cash flow to pay their bills at the end of the period.
3. Some managers compare the additions to property, plant, and equipment in the investing activities section of the statement to depreciation included in the operating activities section.

 33

* + - 1. If the additions to property, plant, and equipment are less than depreciation, it suggests the company is not investing enough money to maintain its noncurrent assets.

 34

*Learning Objective 3: Compute free cash flow.*

iv. **Free cash flow** looks at the relationship among three numbers from the statement of cash flows—**net cash provided by operating activities, additions to property, plant, and equipment, and dividends**.

* + - 1. Free cash flow measures a **company’s ability to fund its capital expenditures and dividends from its net cash provided by operating activities**.

 35

* + - 1. The equation for computing free cash flow is **net cash provided by operating activities minus capital expenditures and dividends**.
			2. Apparel’s free cash flow of **$93 million** is computed as shown.

 36

v. Managers and investors look at the relationship between net income and net cash provided by operating activities to assess **earnings quality**. Managers perceive that earnings are of higher quality when the earnings:

 37

1. Are not unduly influenced by inflation.

2. Are computed using conservative accounting principles and estimates.

3. Are correlated with net cash provided by operating activities.

1. **Appendix 14A: The direct method of determining the net cash provided by operating activities (Slide #38 is a title slide for the appendix)**

*Learning Objective 4: Use the direct method to determine the net cash provided by operating activities.*

 39

#### Computing net cash provided by operating activities

* + 1. The direct method computes net cash provided by operating activities by **reconstructing the income statement on a cash basis** from top to bottom.

 40

* + - 1. The amount of net cash provided by operating activities under the direct method will **always agree** with the amount computed using the indirect method.

#### Similarities and differences in the handling of data

* + 1. The adjustments for accounts that affect **revenue** are the **same** in the direct and indirect methods.
			1. In either case, **increases** in the accounts are **deducted** and **decreases** in the accounts are **added**.
		2. The adjustments for accounts that affect **expenses** are handled in **opposite ways** for the direct and indirect methods. Under the **indirect method**, the adjustments are made to **net income**, whereas under the **direct method** the adjustments are made to the **expense accounts** themselves. For example:

 41

* + - 1. In the indirect method, an **increase in prepaid expenses** is **deducted** from net income. However, in the direct method an **increase in prepaid expenses** is **added** to operating expenses.
		1. Regarding **gains and losses** on sale of assets, **no adjustments are needed** at all under the direct method.

 42

* + - 1. These gains and losses are **ignored** because they are not part of sales, cost of goods sold, operating expenses, or income taxes.

iv When a company uses the direct method it must prepare a reconciliation between net income and the net cash provided by operating activities. If it uses the indirect method it must disclose the amount of interest and income taxes paid during the year.

 43