



# **Financial Statements and Cash Flows**

Topic 2

# Contents

- Balance sheet statement and its managerial applications;
- Income statement and its managerial applications;
- The concept of cash flow from assets (free cash flow).

# *Balance Sheet* reflects the financial position of a firm

- By “***financial position***” we mean:
  - Assets
  - Liabilities
  - Stockholders’ (Shareholders’, Owners’) Equity

# Elements of balance sheet

- Assets are economic resources which are owned by a business:
  - Result from past transactions (inventory, machinery purchases etc.)
  - Are expected to benefit future operations.
- Liabilities are obligations of the entity to outside parties (“*creditors*”):
  - Result from past transactions (purchase through credit, cash borrowing, etc.)
  - Are sources of financing for assets
- Owners’ Equity indicates the amount of financing provided by owners of the business
  - Contributed
  - Retained earnings

# Characteristics of Balance Sheet

- 1) There is a relationship between balance sheet elements:

$$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

This is also called the “**basic accounting equation**” or the “**balance sheet equation**” or the “**balance sheet identity**”

- 2) Balance Sheet provides a “*snapshot*” of a firm’s financial position
  - it’s prepared at a particular moment of time
  - it provides summarized information

# Format of the Balance Sheet

**AAA Corp.**

Balance Sheet

As of December 31, 2008

(in thousands of dollars)

## **Assets**

## **Liabilities + Owners' Equity**

### Current Assets

— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_

### Current Liabilities

— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_

### Non-current Assets

— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_

### Non-current Liabilities

— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_

### Owners' Equity

— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_  
— \$ \_\_\_\_\_

**Total Assets**      \$ \_\_\_\_\_

**Total L + SE**      \$ \_\_\_\_\_

# Exercise 1

- Prepare a balance sheet for AAA Corp. as of December 31, 2008, based on the following information: cash = \$150 000; patents and copyrights = \$840 000; accounts payable = \$224 000; accounts receivable = \$241 000; tangible net fixed assets = \$4 700 000; inventory = \$400 000; accumulated retained earnings = \$4 213 000; long-term debt = \$1 894 000.



# What can be derived from the Balance Sheet

- 1) The proportion of current assets to current liabilities which provides an estimate of firm's liquidity.



# Liquidity

- The term “liquidity” has at least two meanings:
  - **asset liquidity** - ease and speed with which asset can be converted into cash
  - **firm liquidity** – its capability to pay off all its short-term liabilities in due course.

# The assessment of firm's liquidity

**ABC Corp.**

Balance Sheet

As of December 31, 2008

(in thousands of dollars)

## Assets

## Liabilities + Owners' Equity

<u>Current Assets</u>		<u>Current Liabilities</u>	
—	\$ _____	—	\$ _____
—	\$ _____	—	\$ _____
—	\$ _____	—	\$ _____
<u>Non-current Assets</u>		<u>Non-current Liabilities</u>	
—	\$ _____	—	\$ _____
—	\$ _____	—	\$ _____
—	\$ _____		
		<u>Owners' Equity</u>	
		—	\$ _____
		—	\$ _____
		—	\$ _____
<b><u>Total Assets</u></b>	\$ _____	<b><u>Total L + SE</u></b>	\$ _____

## Exercise II

- XYZ company has the following **assets** and **liabilities**:

cash = \$2,000, manufacturing equipment = \$13,500,

inventory=\$2,400, accounts

receivable=\$5,000, accounts payable = \$4,000, short-term debt = \$3,000.

Calculate: 1) shareholders' equity

2) working capital in accounting and economic sense

# Exercise II

- 1) **Shareholders' equity =**  
 $13,500 + 2,000 + 2,400 + 5,000 - 4,000 - 3,000 = 15,900$
- 2) **Working capital in accounting sense =**  
 $2,000 + 2,400 + 5,000 - 4,000 - 3,000 = 2,400$
- 3) **Working capital in economic sense =**  
 $2,000 + 2,400 + 5,000 - 4,000 = 5,400$

# Working capital

- Working capital (WC) is a *difference* between firm's *current assets* and *current liabilities*
- *Working capital* and *net working capital* are generally considered to be synonyms.

# Working capital

$$WC = \text{Current assets} - \text{Current liabilities}$$

**Accounts  
receivable**

**Inventory**

**Cash (required for  
operations)**

Excess cash and  
marketable  
securities

**Payments to  
suppliers**

**Accrued taxes**

**Accrued wages**

Short-term debt

# Another way to assess firm's liquidity

$$\textit{Current ratio} = \frac{\textit{Current assets}}{\textit{Current liabilities}}$$



# What can be derived from the Balance Sheet

2) The proportion in which debt and equity are distributed in the company.



# The income statement

- provides an assessment of firm's performance **over a particular period of time**
- The **income statement equation** is:  
$$\text{Revenues} - \text{Expenses} = \text{Income}$$
- Revenues and expenses are shown in the income statement on the **matching principle**

# The Income Statement

## ABC Corp.

### Income Statement

For the Year Ended December

31, 2009

(in thousands of dollars)

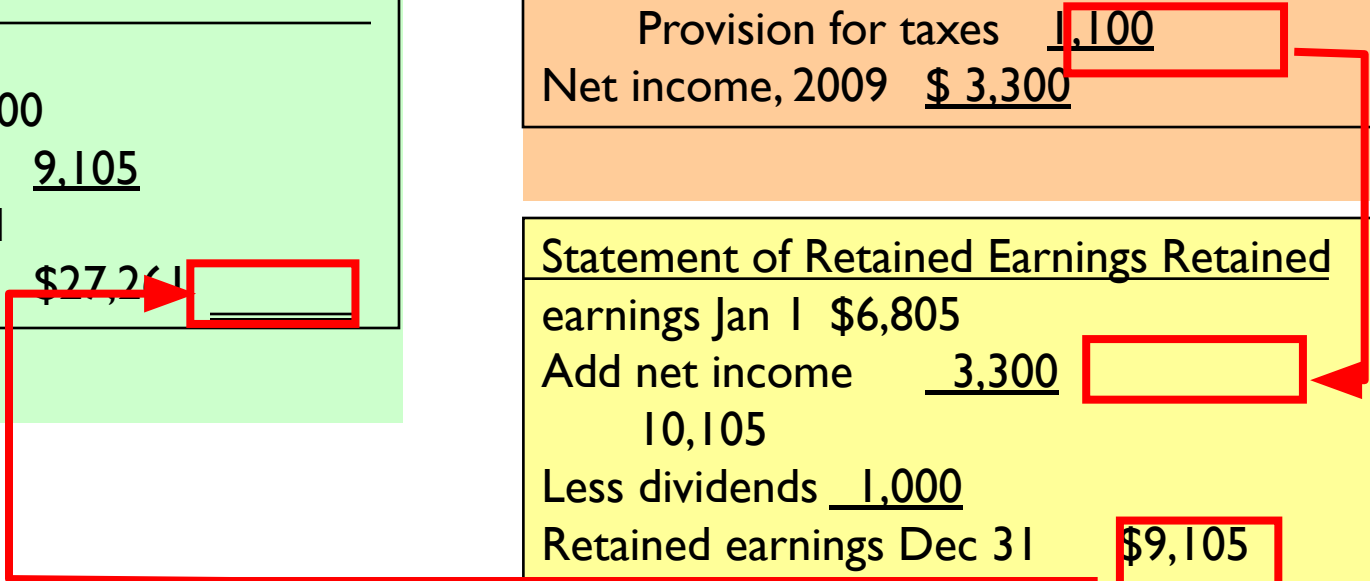
Sales revenue	\$ 37 436
Less cost of sales (Cost of Goods Sold - COGS)	(20 980)
Less depreciation	<u>(6 000)</u>
Gross margin	16 456
Selling, general and administrative expenses	(3 624)
<b>Operating Income (Earnings before interest and taxes)</b>	12 832
Interest expense	<u>(450)</u>
Income before taxes	12 382
Provision for income taxes	<u>(1 100)</u>
<b>Net income</b>	<b><u>\$ 11 282</u></b>

# How the Income Statement relates to the Balance Sheet...

Condensed Balance Sheet As of December 31, 2009	
<b>Assets</b>	
Current assets	\$ 19,126
Building and equip.	7,154
Land	<u>981</u>
Total assets	\$27,261
<b>Liabilities and Owners' Equity</b>	
<b>Liabilities</b> \$16,156	
<b>Owners' Equity</b>	
Paid-in capital	2,000
Retained earnings	<u>9,105</u>
Total liabilities and owners' equity	\$27,261

Income Statement For the Year 2009	
Sales revenue	\$37,436
Less cost of sales	<u>26,980</u>
Gross margin	10,456
Less operating exp.	<u>5,576</u>
Operating income	<u>4,880</u>
Income before taxes	<u>4,430</u>
Provision for taxes	<u>1,100</u>
Net income, 2009	<u>\$ 3,300</u>

Statement of Retained Earnings	
Retained earnings Jan 1	\$6,805
Add net income	<u>3,300</u>
	10,105
Less dividends	<u>1,000</u>
Retained earnings Dec 31	<u>\$9,105</u>



# Accounting income and cash flow

- basically, they **are not the same thing**
- The **main reasons** why accounting income differs from cash flow are:
  - revenues and expenses are shown on the income statement *at the time they accrue* (not necessarily the time when cash exactly flows in and out)
  - income statement contains *noncash items* (most notably, depreciation)

# Cash flow from assets (free cash flow)

- It's the cash flow generated by the company which is not invested into its assets and is, therefore, **free to distribution** to its creditors and shareholders.
- **It consists of three parts:**
  - 1) Operating cash flow
  - 2) Net investment in fixed assets
  - 3) Changes in working capital

# Cash flow from assets (free cash flow)

## Operating cash flow

- Net investment in fixed assets
  - Change in working capital
- 

= **Cash flow from assets (Free cash flow)**

**Cash flow from assets** = cash flow to creditors + cash flow to shareholders

# Operating cash flow

## Sales

- Cost of goods sold
  - Depreciation
  - Selling, General and Administrative expenses
- 

= Operating profit (**Earnings before Interest and Taxes**)

- Taxes
  - + Depreciation
- 

= **Operating cash flow**

# Net investment in fixed assets

Ending net fixed assets

- Beginning net fixed assets

+ Depreciation

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= **Net investment in fixed assets**



# Changes in working capital

Ending working capital

- Beginning working capital

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= **Change in working capital**

# Cash flow to creditors

Interest paid

- New net borrowing

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= **Cash flow to creditors**

# Cash flow to stockholders

Dividends paid

- New net equity raised

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= **Cash flow to stockholders**