

Introduction to Financial Engineering

ENMG 602

Balance Sheet Overview
[Voice over Slides Video]
(Chapter 2, Antle)

The Entity Concept

- A balance sheet reflects the point of view of an *entity*.
- The entity concept provides the “point of view” for economic events (i.e., transactions) captured by financial statements. I.e., it answers: “Whose asset is it?”; “Whose liability is it?”

Balance Sheet Contents

A balance sheet generally contains the following “accounts,”

- ❖ Current assets
- ❖ Long-term investments
- ❖ Property, plant, and equipment
- ❖ Other assets
- ❖ Current Liabilities
- ❖ Long-term liabilities
- ❖ Stockholders' equity

Oshkosh B'gosh Balance Sheet

OshKosh B'Gosh, Inc. and Subsidiaries
Consolidated Balance Sheets
 (dollars in thousands, except per share amounts)

ASSETS	December 29, 2001	December 30, 2000
Current assets		
Cash and cash equivalents	\$ 29,322	\$ 19,839
Investments	—	511
Accounts receivable, less allowances of \$7,075 in 2001 and \$5,510 in 2000	25,697	30,166
Inventories	55,429	53,185
Prepaid expenses and other current assets	1,607	1,882
Deferred income taxes	13,000	13,800
Total current assets	<u>\$125,055</u>	<u>\$119,383</u>
Property, plant, and equipment, net	30,001	32,285
Deferred income taxes	4,300	4,950
Other assets	1,984	1,638
Total assets	<u>\$161,340</u>	<u>\$158,256</u>

LIABILITIES AND SHAREHOLDERS' EQUITY	December 29, 2001	December 30, 2000
Current liabilities		
Current portion of long-term debt	\$ —	\$ 10,000
Accounts payable	11,229	14,840
Accrued liabilities	38,403	39,942
Total current liabilities	<u>\$ 49,632</u>	<u>\$ 64,782</u>
Long-term debt	24,000	34,000
Employee benefit plan liabilities	14,008	15,001
Total liabilities	<u>\$ 87,640</u>	<u>\$113,783</u>
Shareholders' equity		
Preferred stock, par value \$.01 per share:		
Authorized—1,000,000 shares;		
Issued and outstanding—None	\$ —	\$ —
Common stock, par value \$.01 per share:		
Class A, authorized—30,000,000 shares;		
Issued and outstanding—10,020,226 shares in 2001, 9,943,762 shares in 2000	100	99
Class B, authorized—3,750,000 shares;		
Issued and outstanding—2,207,394 shares in 2001, 2,228,707 shares in 2000	22	22
Additional paid-in capital	5,339	—
Other	(312)	(702)
Retained earnings	68,551	\$ 45,054
Total shareholders' equity	<u>\$ 73,700</u>	<u>\$ 44,473</u>
Total liabilities and shareholders' equity	<u>\$161,340</u>	<u>\$158,256</u>

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Assets

[Voice over Slides Video]
(Chapter 2, Antle)

Assets

- ❖ According to FASB, an asset is “a portable future economic benefit obtained or controlled by an entity as a result of a past transaction or event.”
- ❖ For an item to be classified as an asset, it should (i) generate economic benefit, (ii) be owned or controlled, (iii) be the result of a past transaction.

Current Assets

- ❖ These are assets that are expected to be converted to cash or used up in business within one year.
- ❖ Current assets are listed in order of liquidity.

Examples of Current Assets

- ❖ **Cash:** Money in form of bank deposits and money market instruments.
- ❖ **Short-term Investments:** An entity's investment in another entity's stock or debt (i.e., bonds). Sometimes referred to as "Marketable Securities."
- ❖ **Accounts Receivable:** Amounts due from customers for goods they purchased on credit. Because all customers do not pay their bills, balance is reduced by an "allowance."

Examples of Current Assets

- ❖ **Inventories:** Goods an entity has on hand are *finished goods* inventories. Materials to make goods are *raw materials* inventories. Raw materials in the manufacturing process are *work-in-process* inventories
- ❖ **Prepaid Expenses:** Amounts an entity has already paid for services or goods to be delivered in future (e.g., car insurance, internet access).

Noncurrent Assets

- ❖ These are assets that are expected to be converted to cash or used up in business after more than one year.

Examples of Noncurrent Assets

- ❖ Property, Plant And Equipment: E.g., land, buildings, equipment, furniture and fixtures used in operating the business.
- ❖ Long-term Investments: Investments in other entities equity (stock) or debt (bond) that will not be sold in one year.
- ❖ Rights: E.g., patents (right to exclude others from using a product), copyrights (right to publish original material), and trademarks (right to names and symbols).

Asset Valuation

- ❖ Market Value is the value the market assigns to an asset.
- ❖ Book Value is the value accounting assigns to an asset.
- ❖ Market value and book value are often different.

Asset Valuation

- ❖ Historical Cost is the market price paid when the asset is acquired.
- ❖ Assets are recorded at cost at the time they are acquired.
- ❖ The book value is adjusted subsequently.
- ❖ Depreciation is the deduction of the historical cost over time.

Assets in Oshkosh B'gosh Balance Sheet

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Liabilities

[Voice over Slides Video]

(Chapter 2, Antle)

Liabilities

- ❖ According to FASB, a liability is “a probable future sacrifice of economics benefits arising from the present obligations of an entity to transfer assets or provide service as a result of a past transaction or event.”
- ❖ To be classified as a liability, an item must (i) require a future sacrifice, (ii) be an obligation, and (iii) be the result of a past transaction.

Current Liabilities

- ❖ These are liabilities that are expected to be paid within one year.
- ❖ Current liabilities are listed in order of liquidity.

Examples of Current Liabilities

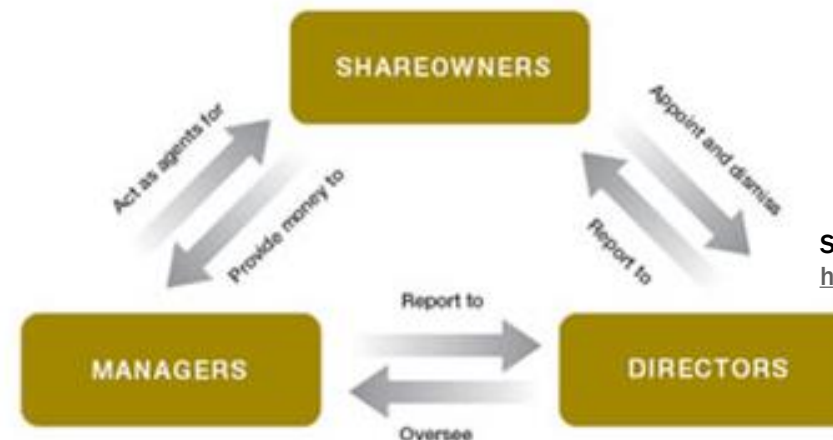
- ❖ Accounts Payable: Amount an entity owes to suppliers for goods previously delivered.
- ❖ Accrued Liabilities: Amounts an entity owes for taxes, rent, wages, etc.
- ❖ Short-term Borrowings: Amounts due within one year for bank loans, commercial papers, and other short-term debt.

Examples of Current Liabilities

- ❖ **Unearned Revenues:** Amounts received by an entity that accepts up-front payments of cash in exchange for future delivery of its products or services. E.g., an advanced payment for a magazine subscription is a liability for the magazine.
- ❖ **Dividends Payable:** Amounts owed by a corporation to its shareholders when dividends declared by the Board of Directors have not yet been paid.

Corporate Governance Defined

FIGURE 1: The Principal Actors: Shareowners, Directors, Managers



Source:

<https://studycafe.in/2018/12/corporate-governance.html>

Noncurrent (Long-Term) Liabilities

❖ Debts expected to be paid after more than one year.

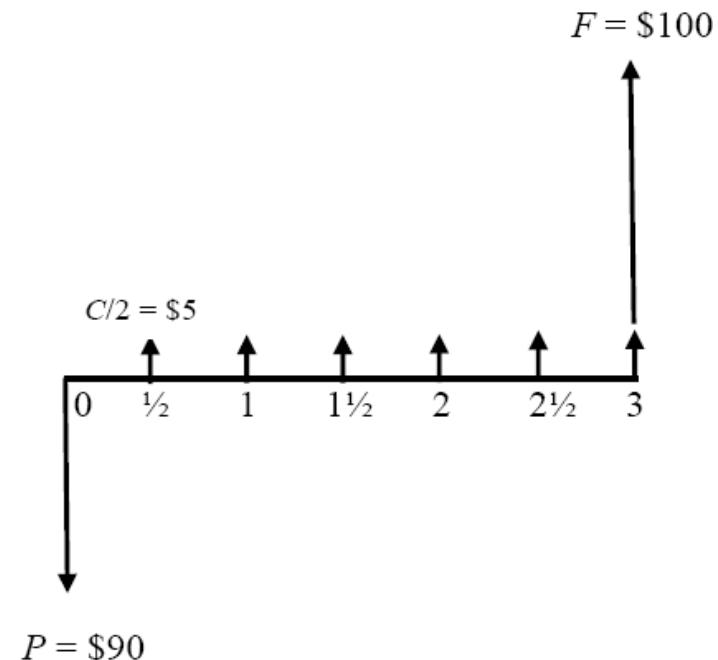
Examples Include

- ❖ Warranties: Entity's obligation to replace defective merchandise within a specified time period
- ❖ Employee benefit plan liabilities: Obligations for workers' health plans, pensions, retirement health care, etc.

Examples of Noncurrent (Long-Term) Liabilities

- ❖ Lease: Payments that must be made to secure the use of equipment or property to conduct operations.
- ❖ Long-term borrowings: Monetary amounts for bank loans and other debt that do not have to be paid within one year.

- ❖ Bonds payable: Amount due to bond purchasers under terms of bond issue.



Liability Valuation

- ❖ Fewer valuation processes are required for liabilities than for assets.
- ❖ However, the valuation of some liabilities is difficult. (E.g., the valuation of employee benefits liability)

Liabilities in Oshkosh B'gosh Balance Sheet

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Equities

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Stockholders' Equity

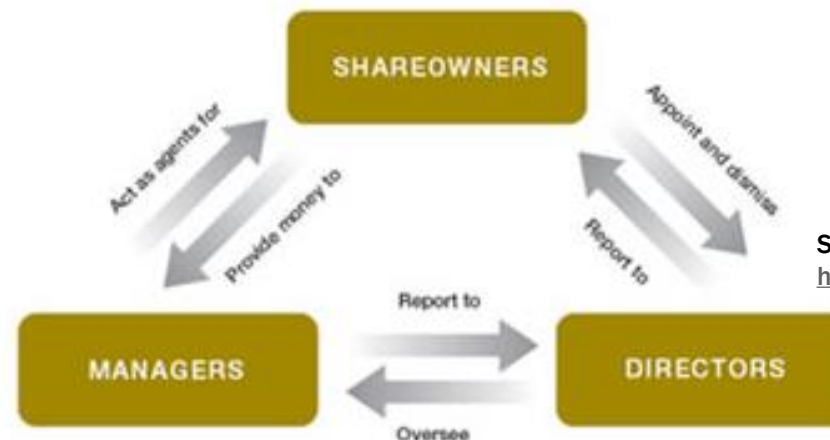
- This is the difference between total assets and total liabilities, which arises from the contributions of owners and economic income.

Equity Examples

- Common Stock: Shareholders' investment in entity through acquisition of stock. Ownership of a share entitles holder to a vote on major corporate decisions and a residual claim to entity's assets in the event of liquidation.
- Additional Paid-in-capital: Amount paid by investors for shares of stock in excess of their par (nominal) value.

Corporate Governance Defined

FIGURE 1: The Principal Actors: Shareowners, Directors, Managers



Source:

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Equity Examples

- Preferred Stock: Preferred stock owners typically are not allowed to vote on major corporate issues. They however have priority in dividend distribution and claim on assets in the event of liquidation.
- Retained Earnings: Net income generated from operations less what has been returned to shareholders in dividends

Equities in Oshkosh B'gosh Balance Sheet

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Constructing Balance Sheet Using the Accounting Identity

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Balance Sheet Construction Using the Accounting Identity

- The balance sheet can be constructed by tracking the effect of business transaction on the accounting identity,

$$\text{ASSETS} = \text{LIABILITIES} + \text{EQUITY}$$

- This identity must always hold).

Websell Corporation Balance Sheet Construction

- Websell Corporation was formed by Bob and Betsy to develop and market software over the Internet.
- On January, 1 2004, they both contributed \$500,000 to Websell. In exchange, they receive common stocks.

$$\begin{array}{rclcl}
 \text{ASSETS} & = & \text{LIABILITIES} & + & \text{EQUITY} \\
 \text{Cash } \$1,000 & = & 0 & + & \text{CS } \$1,000
 \end{array}$$

Webcell Corporation Balance Sheet Construction

➤ At this point, Webcell's balance sheet is as follows:

Webcell, Inc.			
Statement of Financial Position as of January 1, 2004			
(amounts in thousands)			
ASSETS		LIABILITIES	
Cash	\$1,000	Total liabilities	<u>\$ 0</u>
		EQUITY	
		Common stock	<u>\$1,000</u>
		Total equity	<u>\$1,000</u>
Total assets	<u><u>\$1,000</u></u>	Total liabilities & equity	<u><u>\$1,000</u></u>

Webcell Corporation Balance Sheet Construction

- On January 2, 2004, Webcell issue bonds, receiving \$2,000,000 in cash. The bond is to be paid back in 6 years, and may involve an annual coupon payment.

$$\begin{array}{rclcl}
 \text{ASSETS} & = & \text{LIABILITIES} & + & \text{EQUITY} \\
 \text{Cash } \$3,000 & = & \text{Bond } \$2,000 & + & \text{CS } \$1,000
 \end{array}$$

Webcell Corporation Balance Sheet Construction

➤ At this point, Webcell's balance sheet is as follows:

Webcell, Inc.			
Statement of Financial Position as of January 2, 2004			
(amounts in thousands)			
ASSETS		LIABILITIES	
Cash	\$3,000	Bonds payable	<u>\$2,000</u>
		Total liabilities	<u>\$2,000</u>
		EQUITY	
		Common stock	<u>\$1,000</u>
		Total equity	<u>\$1,000</u>
Total assets	<u><u>\$3,000</u></u>	Total liabilities & equity	<u><u>\$3,000</u></u>

Websell Corporation Balance Sheet Construction

- Websell begins acquiring assets. We show the incremental effect of each transaction on the accounting identity.
- On January 3, Websell buys computers and office equipments for \$300,000 cash.

Δ Assets	=	Δ Liabilities	+	Δ Equities
Cash		(\$300)		
Property, Plant, & Equipment		\$300		
		\$0		\$0

Webcell Corporation Balance Sheet Construction

➤ On January 3, Webcell prepays \$75,000 rent for one year.

Δ Assets	=	Δ Liabilities	+	Δ Equities
Cash				
	(\$75)			
Prepaid rent				
	\$75			
	\$0	\$0		\$0

Web sell Corporation Balance Sheet Construction

- On January 4, Web sell establishes a business account at officeMax with a credit line of \$10,000.
- One January 5, Web sell purchases \$2,000 of supplies from OfficeMax on credit.

<u>ΔAssets</u>	=	<u>ΔLiabilities</u>	+	<u>ΔEquities</u>
Supplies		Account Payable		
\$2		\$2		
<u>\$2</u>		<u>\$2</u>		<u>\$0</u>

Webcell Corporation Balance Sheet Construction

➤ One January 7, Webcell pays \$1,000 for account payable (OfficeMax).

Δ Assets	=	Δ Liabilities	+	Δ Equities
Cash		Account Payable		
(\$1)		(\$1)		0
(\$1)		(\$1)		0

Obtained Balance Sheet for Websell

Websell, Inc.			
Statement of Financial Position as of January 7, 2004			
(amounts in thousands)			
ASSETS		LIABILITIES	
Cash	\$2,624	Accounts payable	\$ 1
Supplies	2	Total current liabilities	\$ 1
Prepaid rent	75		
Total current assets	<u>\$2,701</u>	Bond payable	2,000
		Total liabilities	<u>\$2,001</u>
Property, plant, and equipment	<u>300</u>		
		EQUITY	
		Common stock	\$1,000
		Total equity	<u>\$1,000</u>
Total assets	<u>\$3,001</u>	Total liabilities & equity	<u>\$3,001</u>