

# *Week 2*

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## 2.2 The Income Statement

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- Measures financial performance over a specific period of time
- The accounting definition of income is:  
$$\text{Revenue} - \text{Expenses} \equiv \text{Income}$$

# U.S.C.C. Income Statement

The operations section of the income statement reports the firm's revenues and expenses from principal operations.

Total operating revenues	\$2,262
Cost of goods sold	1,655
Selling, general, and administrative expenses	327
Depreciation	90
Operating income	<u>\$190</u>
Other income	29
Earnings before interest and taxes	<u>\$219</u>
Interest expense	49
Pretax income	<u>\$170</u>
Taxes	84
Current: \$71	
Deferred: \$13	
Net income	<u><u>\$86</u></u>
Addition to retained earnings	<u>\$43</u>
Dividends:	\$43

# U.S.C.C. Income Statement

The non-operating section of the income statement includes all financing costs, such as interest expense.

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# U.S.C.C. Income Statement

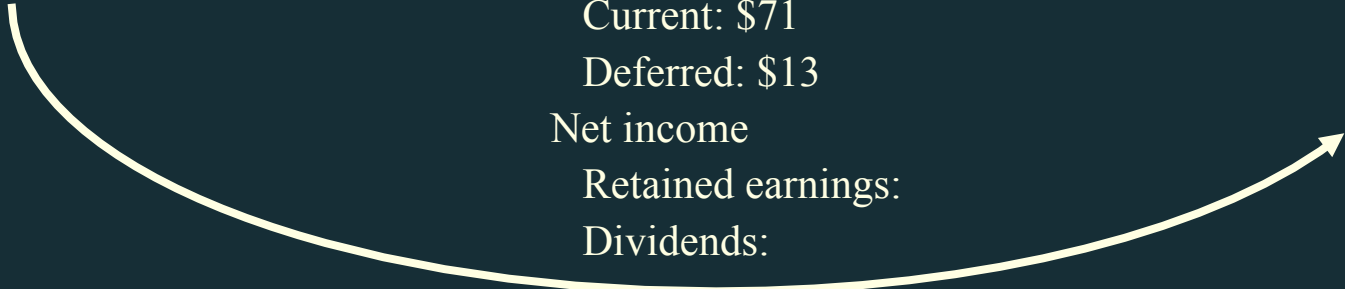
Usually a separate section reports the amount of taxes levied on income.

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Dividends:	\$43

Net income is the “bottom line.”





# Income Statement Analysis

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- There are three things to keep in mind when analyzing an income statement:
  1. Generally Accepted Accounting Principles (GAAP)
  2. Non-Cash Items
  3. Time and Costs



# GAAP

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- ❑ The matching principle of GAAP dictates that revenues be matched with expenses.
- ❑ Thus, income is reported when it is earned, even though no cash flow may have occurred.



# Non-Cash Items

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- ❑ Depreciation is the most apparent. No firm ever writes a check for “depreciation.”
- ❑ Another non-cash item is deferred taxes, which does not represent a cash flow.
- ❑ Thus, net income is not cash.

# Time and Costs

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- ❑ In the short-run, certain equipment, resources, and commitments of the firm are fixed, but the firm can vary such inputs as labor and raw materials.
- ❑ In the long-run, all inputs of production (and hence costs) are variable.
- ❑ Financial accountants do not distinguish between variable costs and fixed costs. Instead, accounting costs usually fit into a classification that distinguishes product costs from period costs.

## 2.3 Taxes

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- ❑ The one thing we can rely on with taxes is that they are always changing
- ❑ Marginal vs. average tax rates
  - Marginal – the percentage paid on the next dollar earned
  - Average – the tax bill / taxable income
- ❑ Other taxes



# US Corporate Tax Rates

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<b>Taxable Income (\$)</b>	<b>Tax Rate<sup>[27]</sup></b>
0 to 50,000	15%
50,000 to 75,000	\$7,500 + 25% Of the amount over 50,000
75,000 to 100,000	\$13,750 + 34% Of the amount over 75,000
100,000 to 335,000	\$22,250 + 39% Of the amount over 100,000
335,000 to 10,000,000	\$113,900 + 34% Of the amount over 335,000
10,000,000 to 15,000,000	\$3,400,000 + 35% Of the amount over 10,000,000
15,000,000 to 18,333,333	\$5,150,000 + 38% Of the amount over 15,000,000
18,333,333 and up	35%

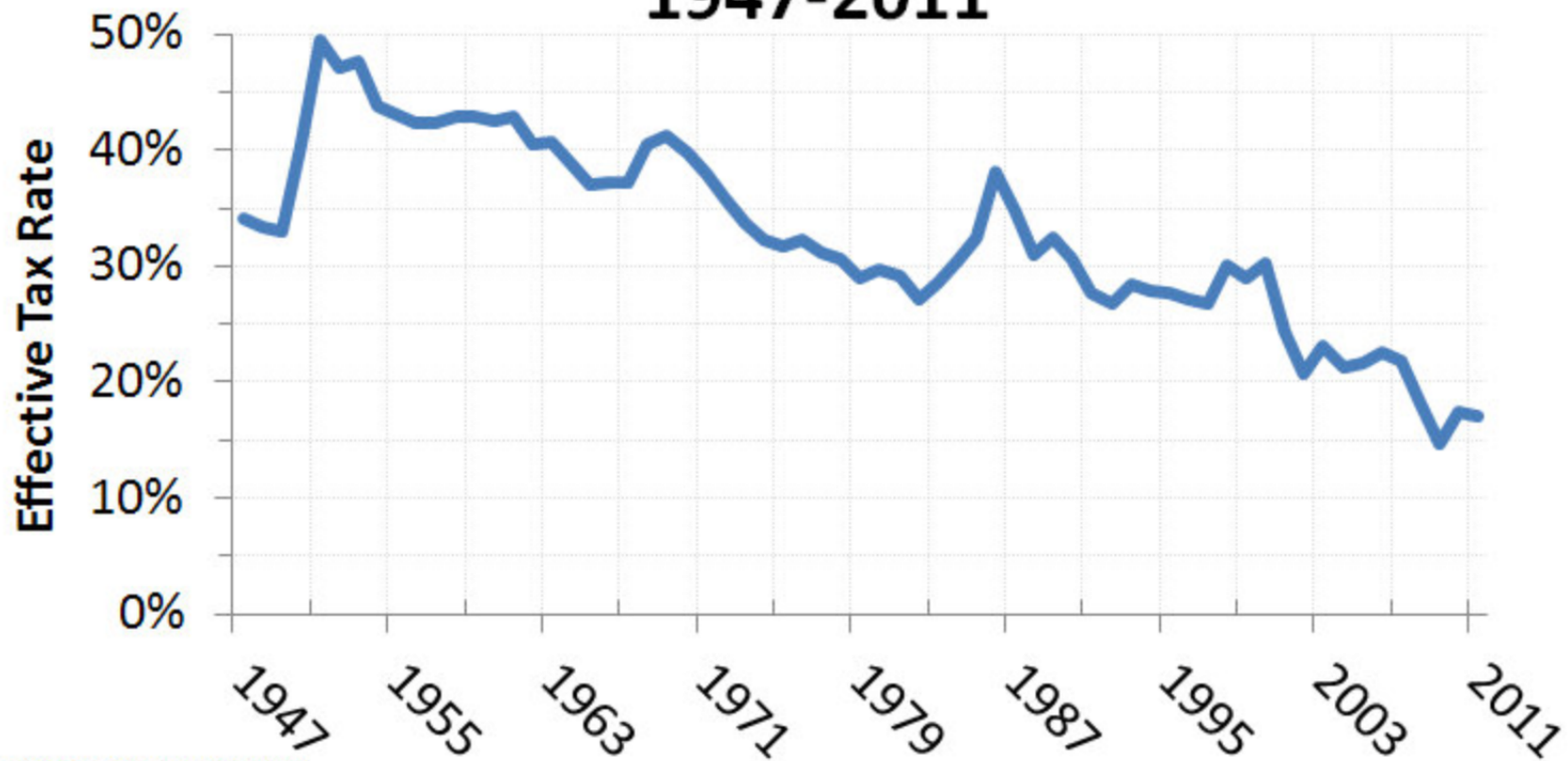
# Marginal versus Average Rates

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- Suppose your firm earns \$300,000 in taxable income.
  - What is the firm's tax liability?
  - What is the average tax rate?
  - What is the marginal tax rate?
- If you are considering a project that will increase the firm's taxable income by \$1 million, what tax rate should you use in your analysis?

US effective rate is much lower than nominal tax rate.  
Global companies have greater access to tax shelters.

## U.S. Effective Corporate Tax Rate 1947-2011



Source: Federal Reserve

## 2.4 Net Working Capital

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- Net Working Capital  $\equiv$   
Current Assets – Current Liabilities
- NWC usually grows with the firm

# U.S.C.C. Balance Sheet

$$\text{\$252m} = \text{\$707} - \text{\$455}$$

	2010	2009
Current assets:		
Cash and equivalents	\$140	\$107
Accounts receivable	294	270
Inventories	269	280
Other	58	50
Total current assets	\$761	\$707

	2010	2009
Current Liabilities:		
Accounts payable	\$213	\$197
Notes payable	50	53
Accrued expenses	223	205
Total current liabilities	\$486	\$455

$$\text{\$275m} = \text{\$761m} - \text{\$486m}$$

Here we see NWC grow to \$275 million in 2010 from \$252 million in 2009.

\$23 million

This increase of \$23 million is an investment of the firm.



## 2.5 Financial Cash Flow

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- In finance, the most important item that can be extracted from financial statements is the actual cash flow of the firm.
- Since there is no magic in finance, it must be the case that the cash flow received from the firm's assets must equal the cash flows to the firm's creditors and stockholders.

$$CF(A) \equiv CF(B) + CF(S)$$

# U.S.C.C. Financial Cash Flow

## Cash Flow of the Firm

Operating cash flow

(Earnings before interest and taxes  
plus depreciation minus taxes)

Capital spending

(Acquisitions of fixed assets  
minus sales of fixed assets)

Additions to net working capital

Total

\$238

-173

-23

\$42

## Cash Flow of Investors in the Firm

Debt

(Interest plus retirement of debt  
minus long-term debt financing)

Equity

(Dividends plus repurchase of  
equity minus new equity financing)

Total

\$36

6

\$42

## Operating Cash Flow:

EBIT \$219

Depreciation \$90

Current Taxes -\$71

OCF \$238

# U.S.C.C. Financial Cash Flow

## Cash Flow of the Firm

Operating cash flow	\$238
(Earnings before interest and taxes plus depreciation minus taxes)	
Capital spending	-173
(Acquisitions of fixed assets minus sales of fixed assets)	
Additions to net working capital	-23
Total	<u>\$42</u>

## Cash Flow of Investors in the Firm

Debt	\$36
(Interest plus retirement of debt minus long-term debt financing)	
Equity	6
(Dividends plus repurchase of equity minus new equity financing)	
Total	<u>\$42</u>

## Capital Spending

Purchase of fixed assets	\$198
Sales of fixed assets	<u>-\$25</u>
Capital Spending	<u>\$173</u>

# U.S.C.C. Financial Cash Flow

## Cash Flow of the Firm

Operating cash flow (Earnings before interest and taxes plus depreciation minus taxes)	\$238
Capital spending (Acquisitions of fixed assets minus sales of fixed assets)	-173
Additions to net working capital	-23
Total	<u>\$42</u>

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Debt (Interest plus retirement of debt minus long-term debt financing)	\$36
Equity (Dividends plus repurchase of equity minus new equity financing)	6
Total	<u><u>\$42</u></u>

NWC grew from \$275 million in 2010 from \$252 million in 2009.

This increase of \$23 million is the addition to NWC.

# U.S.C.C. Financial Cash Flow

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## Cash Flow of the Firm

Operating cash flow	\$238
(Earnings before interest and taxes plus depreciation minus taxes)	
Capital spending	-173
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Total	<u>\$42</u>

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Debt	\$36
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## Cash Flow of Investors in the Firm

Debt (Interest plus retirement of debt minus long-term debt financing)	<u>\$36</u>
Equity (Dividends plus repurchase of equity minus new equity financing)	6
Total	<u>\$42</u>

## Cash Flow to Creditors

Interest	\$49
Retirement of debt	<u>73</u>
Debt service	122
Proceeds from new debt sales	<u>-86</u>
Total	<u>\$36</u>

# U.S.C.C. Financial Cash Flow

## Cash Flow of the Firm

Operating cash flow	\$238
(Earnings before interest and taxes plus depreciation minus taxes)	
Capital spending	-173
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Debt	\$36
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(Dividends plus repurchase of equity minus new equity financing)	
Total	<u>\$42</u>

## Cash Flow to Stockholders

Dividends	\$43
Repurchase of stock	<u>6</u>
Cash to Stockholders	49
Proceeds from new stock issue	
	<u>-43</u>
Total	<u>\$6</u>

# U.S.C.C. Financial Cash Flow

## Cash Flow of the Firm

Operating cash flow (Earnings before interest and taxes plus depreciation minus taxes)	\$238
Capital spending (Acquisitions of fixed assets minus sales of fixed assets)	-173
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## Cash Flow of Investors in the Firm

Debt (Interest plus retirement of debt minus long-term debt financing)	\$36
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Total	\$42

The cash flow received from the firm's assets must equal the cash flows to the firm's creditors and stockholders:

$$CF(A) \equiv CF(B) + CF(S)$$

The diagram illustrates the equality of cash flows from the firm's assets and the cash flows to its investors. The firm's cash flow (CF(A)) is \$42, which is equal to the sum of cash flows to debt holders (CF(B)) and stockholders (CF(S)). The \$42 values are circled in red, and red arrows indicate the flow from the equation to the corresponding totals in the tables.



# Example: Financial Cash Flow Statement

## Karina Corporation, Balance Sheet

Assets	2012	2013
Cash	310	405
Accounts Receivable	2,640	3,055
Inventory	3,275	3,850
Total Current Assets	6,225	7,310
Net Fixed Assets	10,960	10,670
Total Assets	17,185	17,980
<b>Liabilities and Equity</b>		
Accounts Payable	2,720	2,570
Notes Payable	100	0
Total	2,820	2,570
Long-term debt	7,875	8,100
<b>Stockholders' Equity</b>		
Common Stock	5,000	5,250
Retained Earnings	1,490	2,060

## Karina Corporation,

### Income Statement 2013

Revenue	9,610
Cost of Goods	6,310
Depreciation	1,370
<b>EBIT</b>	1,930
Interest	630
Pretax Income	1,300
Tax	455
<b>Net Income</b>	845
Dividends	275
Retained E.	570

Cash Flow from Assets = Cash Flow to Creditors +  
Cash Flow to Stockholders

### Operating Cash Flow:

$\text{EBIT} + \text{Depreciation} - \text{Tax} = 1,930 + 1,370 - 455 = 2,845$

### Cash Flow to Net Working Capital:

$\text{Ending NWC} - \text{Beginning NWC} = (7,310 - 2,570) - (6,225 - 2,820) = 1,335$

### Cash Flow to Capital Spending:

$\text{Ending Net Fix. Assets} - \text{Begin. Net Fix. Assets} + \text{Depreciation}$   
 $= 10,670 - 10,960 + 1,370 = 1,080$

**Cash Flow From Assets:**  $2,845 - 1,335 - 1,080 = 430$

# Example: Financial Cash Flow Statement-continued

## Karina Corporation, Balance Sheet

<b>Assets</b>	<b>2012</b>	<b>2013</b>
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### *Cash Flow to Creditors:*

Interest – (Ending Long-Term Debt – Beginning Long-Term Debt)  
 $630 - (8,100 - 7,875) = 405$

# Example: Financial Cash Flow Statement - continued

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<b>Assets</b>	<b>2012</b>	<b>2013</b>
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### *Cash Flow to Stockholders:*

Dividends – (Stock Sold – Stock Purchased)  
 $275 - 250 = 25$

Note that when we add cash flow to creditors and stockholders, we get \$430, which is exactly equal to cash flow from assets.

## 2.7 Cash Flow Management

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- ❑ Earnings can be manipulated using subjective decisions required under GAAP
- ❑ Total cash flow is more objective, but the underlying components may also be “managed”
  - Moving cash flow from the investing section to the operating section may make the firm’s business appear more stable

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