



Financial Statements, Cash Flow, and Taxes

Balance sheet

Income statement

Statement of cash flows

Accounting income versus cash flow

MVA and EVA

Personal taxes

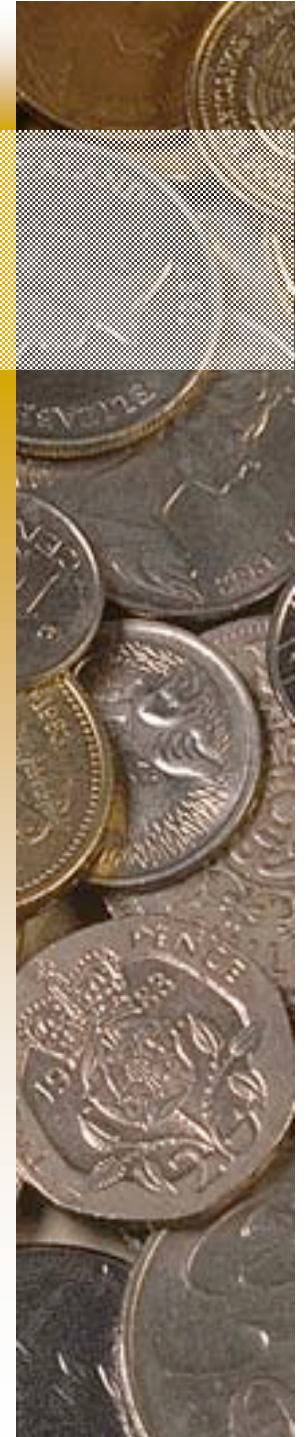
Corporate taxes

Income Statement

	<u>2004</u>	<u>2005</u>
Sales	3,432,000	5,834,400
COGS	2,864,000	4,980,000
Other expenses	340,000	720,000
Deprec.	<u>18,900</u>	<u>116,960</u>
Tot. op. costs	<u>3,222,900</u>	<u>5,816,960</u>
EBIT	209,100	17,440
Int. expense	<u>62,500</u>	<u>176,000</u>
EBT	146,600	(158,560)
Taxes (40%)	<u>58,640</u>	<u>(63,424)</u>
Net income	<u>87,960</u>	<u>(95,136)</u>

What happened to sales and net income?

- Sales increased by over \$2.4 million.
- Costs shot up by more than sales.
- Net income was negative.
- However, the firm received a tax refund since it paid taxes of more than \$63,424 during the past two years.

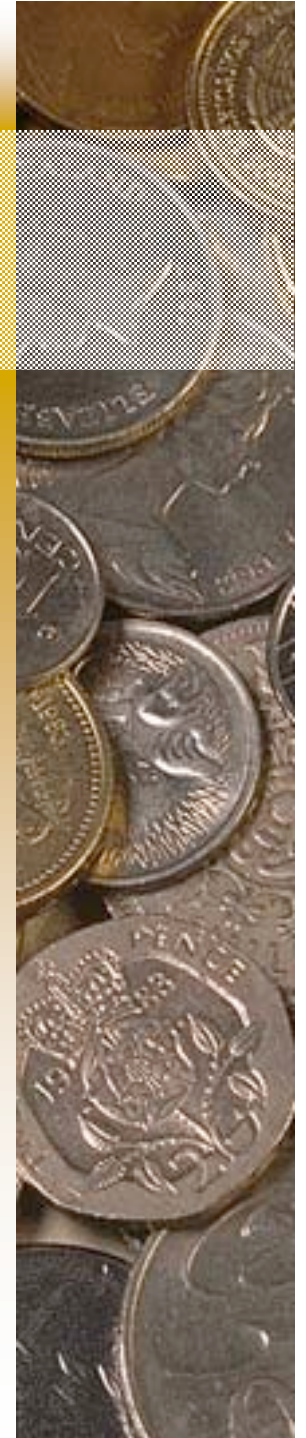


Balance Sheet: Assets

	<u>2004</u>	<u>2005</u>
Cash	9,000	7,282
S-T invest.	48,600	20,000
AR	351,200	632,160
Inventories	<u>715,200</u>	<u>1,287,360</u>
Total CA	1,124,000	1,946,802
Gross FA	491,000	1,202,950
Less: Depr.	<u>146,200</u>	<u>263,160</u>
Net FA	344,800	939,790
Total assets	<u>1,468,800</u>	<u>2,886,592</u>

What effect did the expansion have on the asset section of the balance sheet?

- **Net fixed assets almost tripled in size.**
- **AR and inventory almost doubled.**
- **Cash and short-term investments fell.**



Statement of Retained Earnings: 2005

Balance of ret. earnings, 12/31/2004	203,768
Add: Net income, 2004	(95,136)
Less: Dividends paid, 2004	<u>(11,000)</u>
Balance of ret. earnings, 12/31/2004	<u>97,632</u>

Balance Sheet: Liabilities & Equity

	<u>2004</u>	<u>2005</u>
Accts. payable	145,600	324,000
Notes payable	200,000	720,000
Accruals	<u>136,000</u>	<u>284,960</u>
Total CL	481,600	1,328,960
Long-term debt	323,432	1,000,000
Common stock	460,000	460,000
Ret. earnings	<u>203,768</u>	<u>97,632</u>
Total equity	663,768	557,632
Total L&E	<u>1,468,800</u>	<u>2,886,592</u>

What effect did the expansion have on liabilities & equity?

- CL increased as creditors and suppliers “financed” part of the expansion.
- Long-term debt increased to help finance the expansion.
- The company didn’t issue any stock.
- Retained earnings fell, due to the year’s negative net income and dividend payment.



Statement of Cash Flows: 2005

Operating Activities

Net Income	(95,136)
Adjustments:	
Depreciation	116,960
Change in AR	(280,960)
Change in inventories	(572,160)
Change in AP	178,400
Change in accruals	<u>148,960</u>
Net cash provided by ops.	<u>(503,936)</u>

Long-Term Investing Activities

Cash used to acquire FA	(711,950)
-------------------------	-----------

Financing Activities

Change in S-T invest.	28,600
-----------------------	--------

Change in notes payable	520,000
-------------------------	---------

Change in long-term debt	676,568
--------------------------	---------

Payment of cash dividends	<u>(11,000)</u>
---------------------------	-----------------

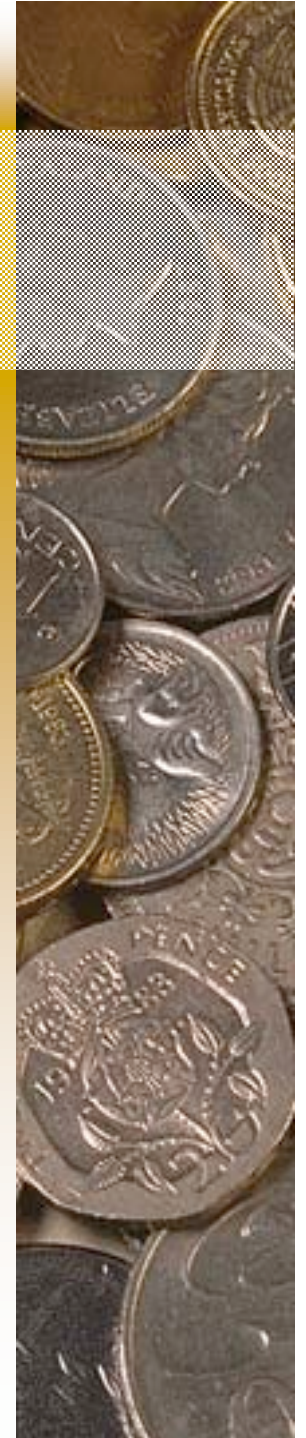
Net cash provided by fin. act.	<u>1,214,168</u>
--------------------------------	------------------

Summary of Statement of CF

Net cash provided by ops.	(503,936)
Net cash to acquire FA	(711,950)
Net cash provided by fin. act.	<u>1,214,168</u>
Net change in cash	(1,718)
Cash at beginning of year	<u>9,000</u>
Cash at end of year	<u>7,282</u>

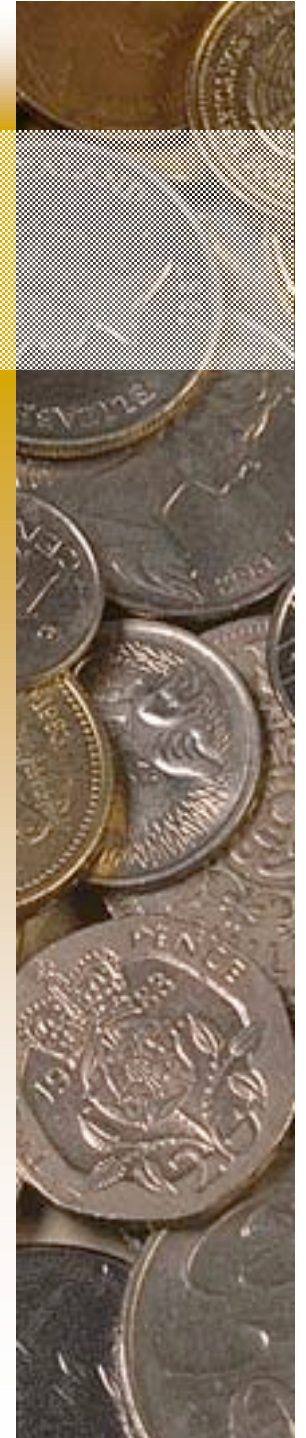
What can you conclude from the statement of cash flows?

- Net CF from operations = $-\$503,936$, because of negative net income and increases in working capital.
- The firm spent $\$711,950$ on FA.
- The firm borrowed heavily and sold some short-term investments to meet its cash requirements.
- Even after borrowing, the cash account fell by $\$1,718$.



What is free cash flow (FCF)? Why is it important?

- FCF is the amount of cash available from operations for distribution to all investors (including stockholders and debtholders) after making the necessary investments to support operations.
- A company's value depends upon the amount of FCF it can generate.



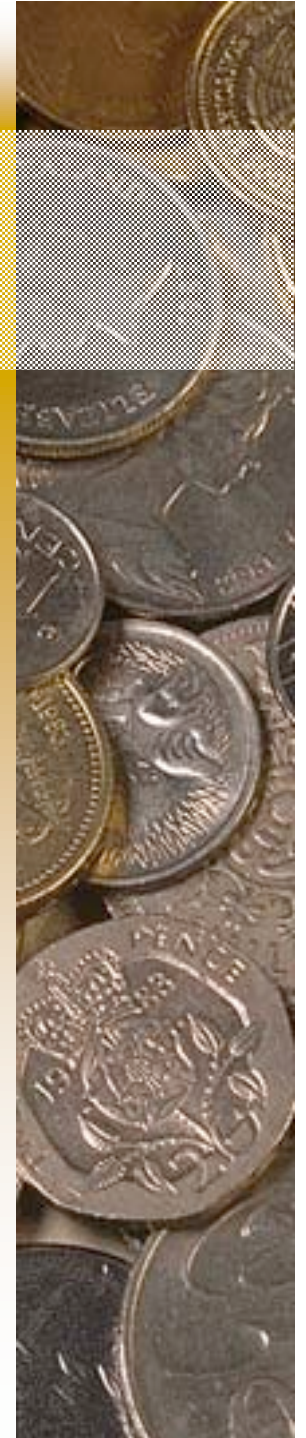
What are the five uses of FCF?

1. Pay interest on debt.
2. Pay back principal on debt.
3. Pay dividends.
4. Buy back stock.
5. Buy nonoperating assets (e.g., marketable securities, investments in other companies, etc.)



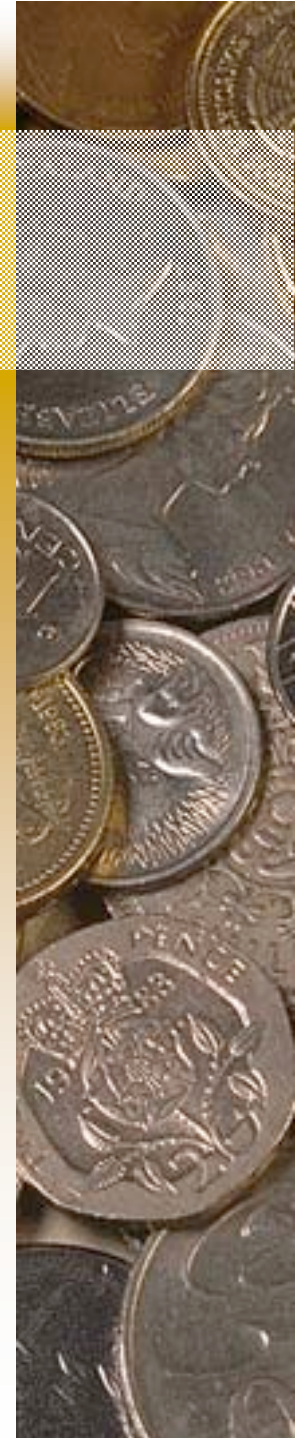
What are operating current assets?

- Operating current assets are the CA needed to support operations.
 - Op CA include: cash, inventory, receivables.
 - Op CA exclude: short-term investments, because these are not a part of operations.



What are operating current liabilities?

- Operating current liabilities are the CL resulting as a normal part of operations.
 - Op CL include: accounts payable and accruals.
 - Op CA exclude: notes payable, because this is a source of financing, not a part of operations.

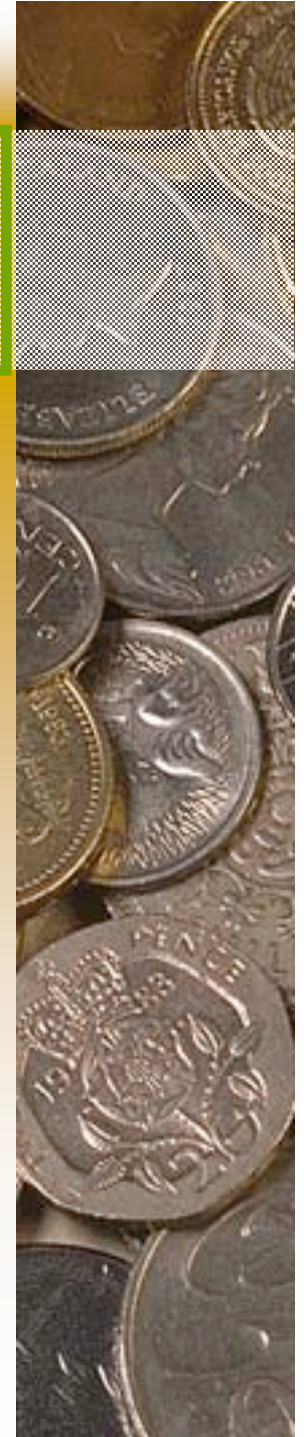


What effect did the expansion have on net operating working capital (NOWC)?

$$\text{NOWC} = \text{Operating CA} - \text{Operating CL}$$

$$\begin{aligned}\text{NOWC}_{05} &= (\$7,282 + \$632,160 + \$1,287,360) - \\ &\quad (\$324,000 + \$284,960) \\ &= \$1,317,842.\end{aligned}$$

$$\text{NOWC}_{04} = \$793,800.$$

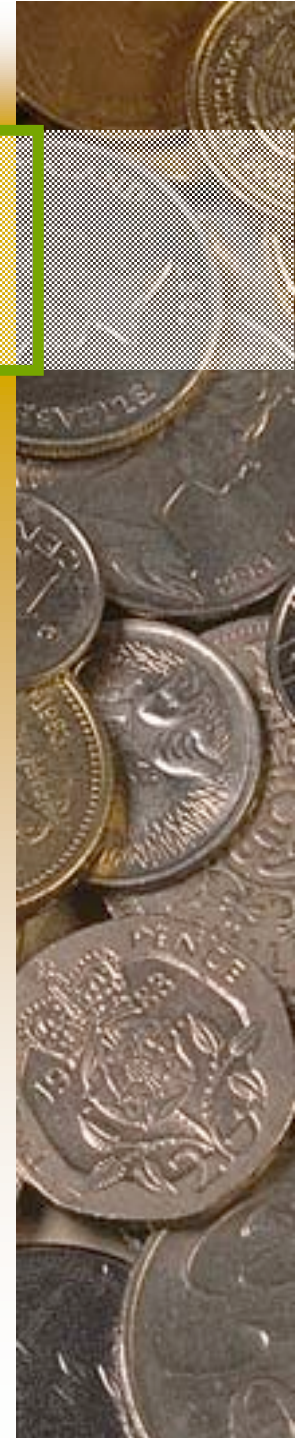


What effect did the expansion have on total net operating capital?

Operating capital = NOWC + Net fixed assets.

Operating capital₀₅ = \$1,317,842 + \$939,790
= \$2,257,632.

Operating capital₀₄ = \$1,138,600.

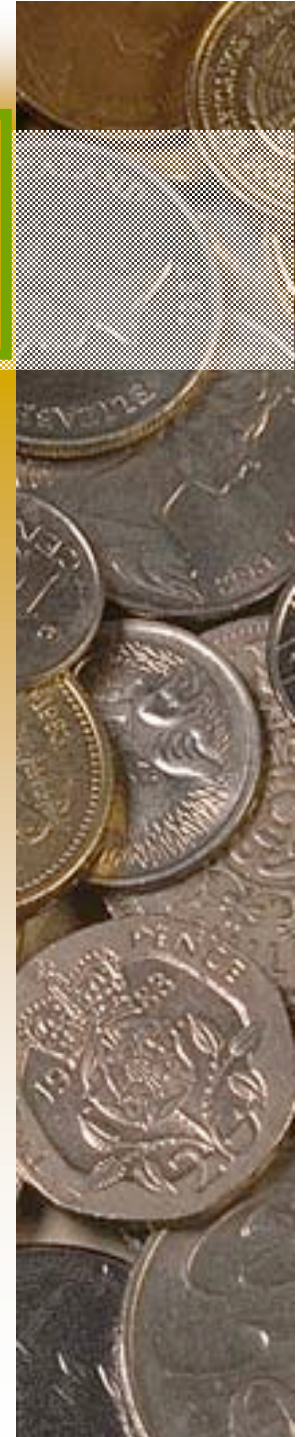


Did the expansion create additional net operating profit after taxes (NOPAT)?

$$\text{NOPAT} = \text{EBIT}(1 - \text{Tax rate})$$

$$\text{NOPAT}_{05} = \$17,440(1 - 0.4)$$
$$= \$10,464.$$

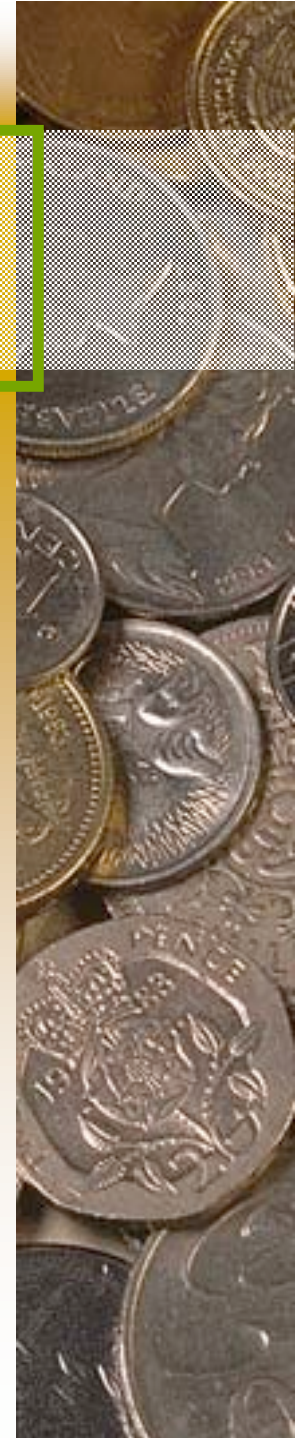
$$\text{NOPAT}_{04} = \$125,460.$$



What was the free cash flow (FCF) for 2005?

$$\begin{aligned}\text{FCF} &= \text{NOPAT} - \text{Net investment in operating capital} \\ &= \$10,464 - (\$2,257,632 - \$1,138,600) \\ &= \$10,464 - \$1,119,032 \\ &= \text{\textbf{-\$1,108,568.}}\end{aligned}$$

How do you suppose investors reacted?

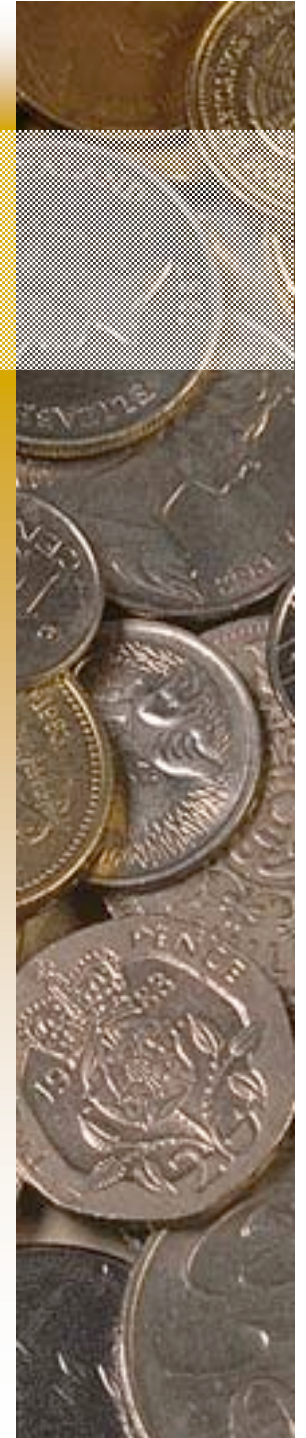


Return on Invested Capital (ROIC)

ROIC = NOPAT / operating capital

$$\text{ROIC}_{05} = \$10,464 / \$2,257,632 = 0.5\%.$$

$$\text{ROIC}_{04} = 11.0\%.$$



The firm's cost of capital is 10%.

Did the growth add value?

- No. The ROIC of 0.5% is less than the WACC of 10%. Investors did not get the return they require.
- Note: High growth usually causes negative FCF (due to investment in capital), but that's ok if $ROIC > WACC$.

For example, Home Depot has high growth, negative FCF, but a high ROIC.

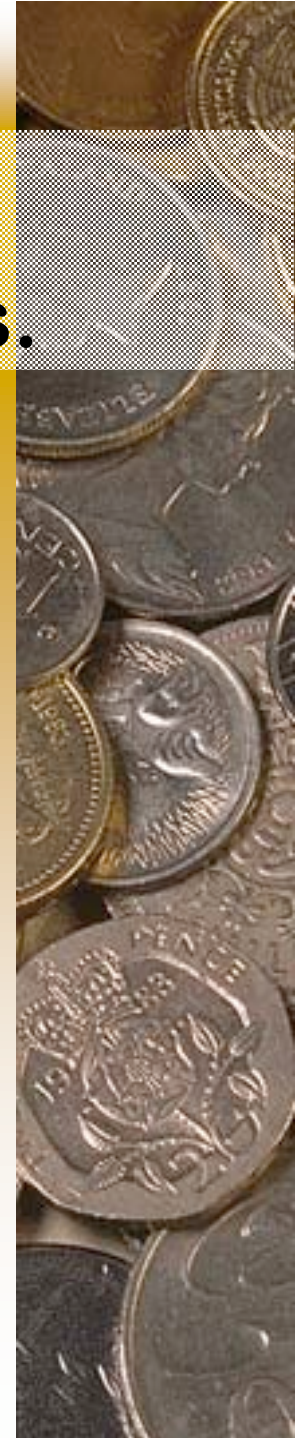


Calculate EVA. Assume the cost of capital (WACC) was 10% for both years.

$$\text{EVA} = \text{NOPAT} - (\text{WACC})(\text{Capital})$$

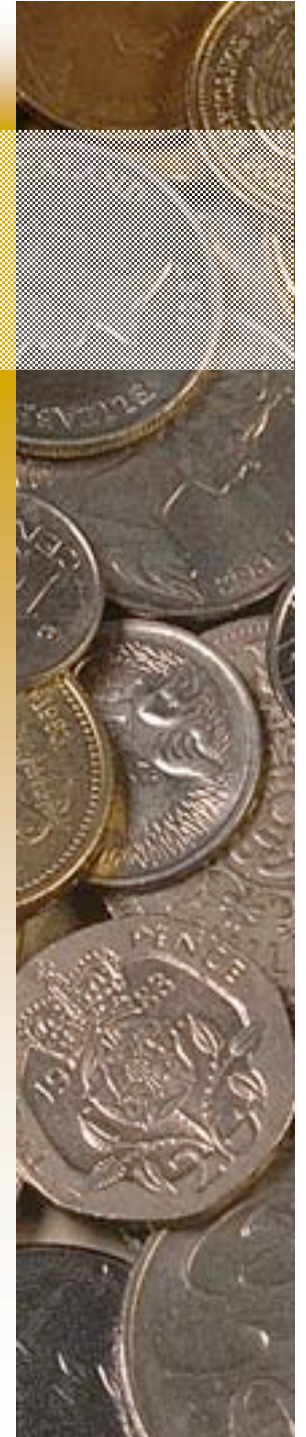
$$\begin{aligned}\text{EVA}_{05} &= \$10,464 - (0.1)(\$2,257,632) \\ &= \$10,464 - \$225,763 \\ &= -\$215,299.\end{aligned}$$

$$\begin{aligned}\text{EVA}_{04} &= \$125,460 - (0.10)(\$1,138,600) \\ &= \$125,460 - \$113,860 \\ &= \$11,600.\end{aligned}$$



Stock Price and Other Data

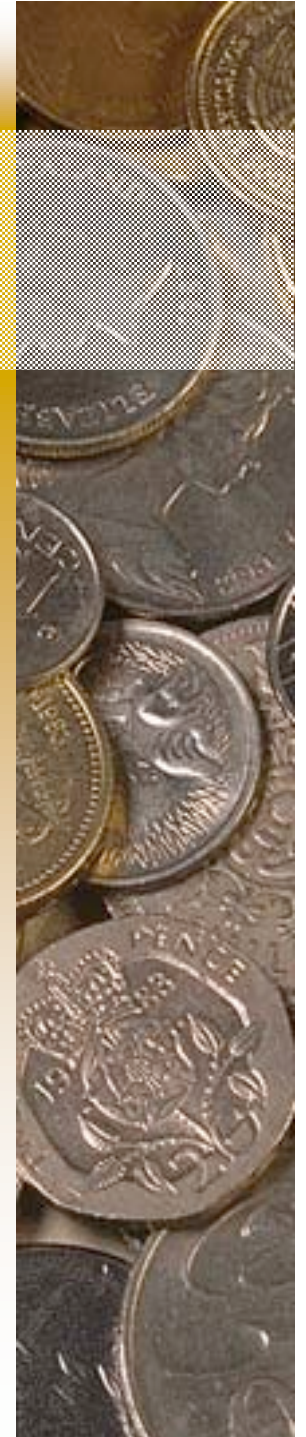
	<u>2004</u>	<u>2005</u>
Stock price	\$8.50	\$2.25
# of shares	100,000	100,000
EPS	\$0.88	-\$0.95
DPS	\$0.22	\$0.11



What is MVA (Market Value Added)?

- **MVA = Market Value of the Firm - Book Value of the Firm**
- **Market Value = (# shares of stock)(price per share) + Value of debt**
- **Book Value = Total common equity + Value of debt**

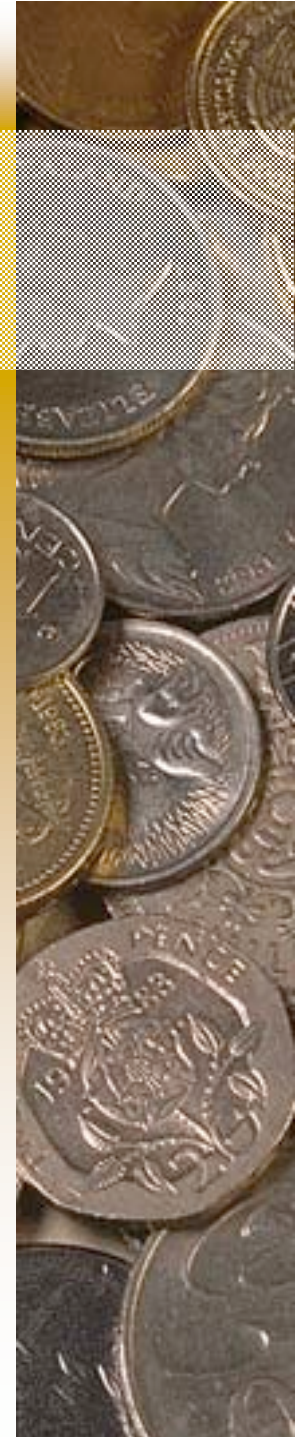
[\(More...\)](#)



MVA (Continued)

- If the market value of debt is close to the book value of debt, then MVA is:

$$\text{MVA} = \text{Market value of equity} \\ - \text{book value of equity}$$

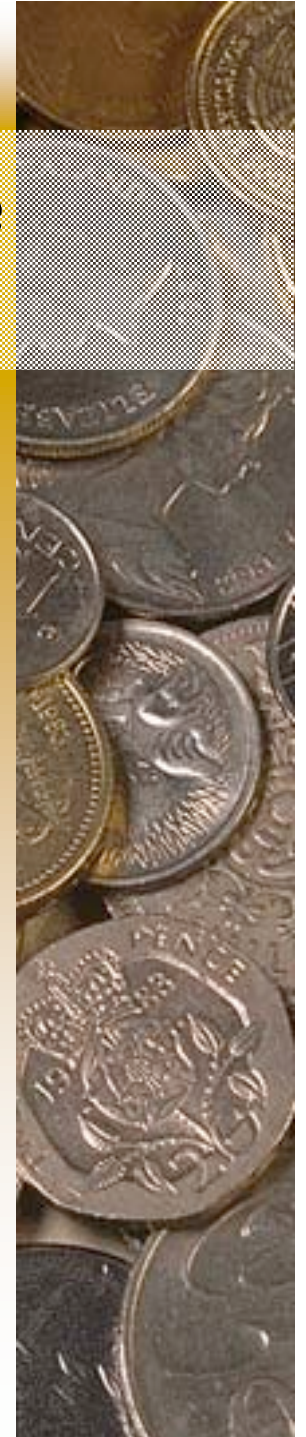


Find 2005 MVA. (Assume market value of debt = book value of debt.)

- **Market Value of Equity 2005:**
 - $(100,000)(\$2.25) = \$225,000$.
- **Book Value of Equity 2005:**
 - $\$557,632$.

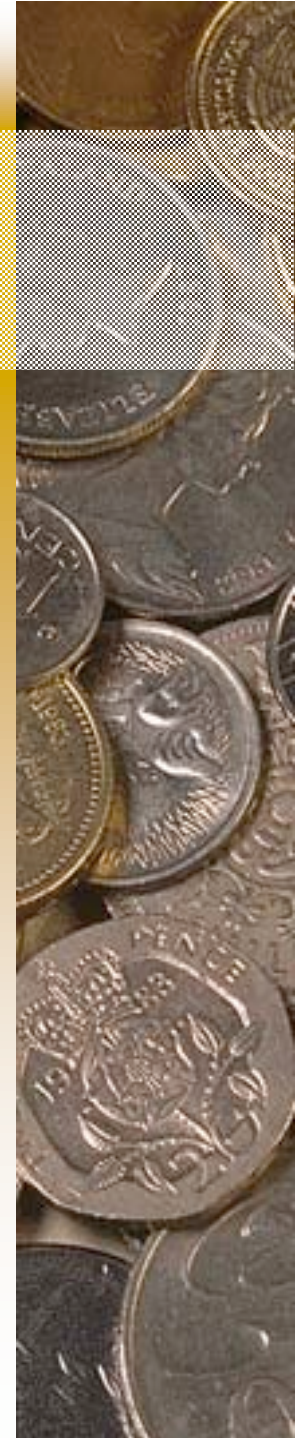
$$\text{MVA}_{05} = \$225,000 - \$557,632 = (\$332,368).$$

$$\text{MVA}_{04} = \$850,000 - \$663,768 = \$186,232.$$



Key Features of the Tax Code

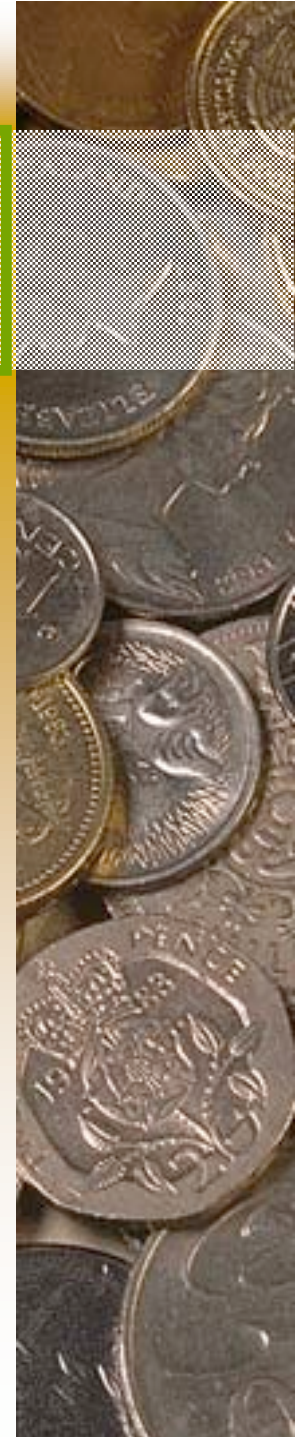
- Corporate Taxes
- Individual Taxes



2003 Corporate Tax Rates

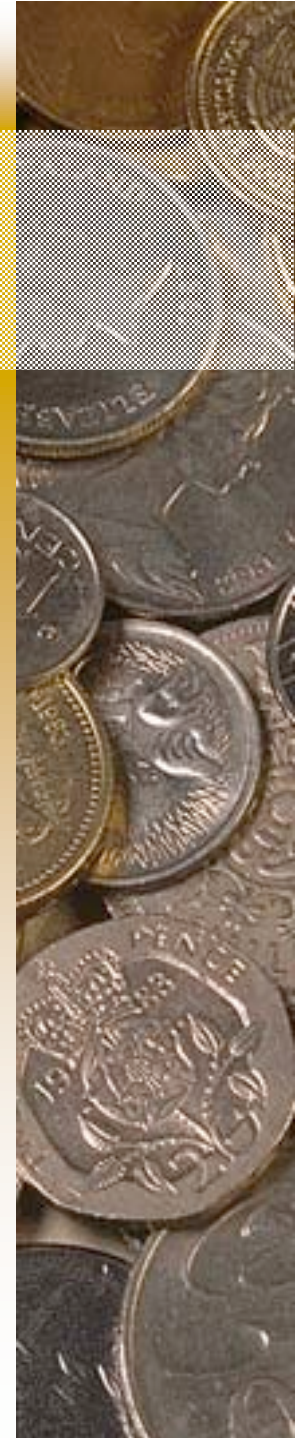
<u>Taxable Income</u>	<u>Tax on Base</u>	<u>Rate*</u>
0 - 50,000	0	15%
50,000 - 75,000	7,500	25%
75,000 - 100,000	13,750	34%
100,000 - 335,000	22,250	39%
...
Over 18.3M	6.4M	35%

***Plus this percentage on the amount over the bracket base.**



Features of Corporate Taxation

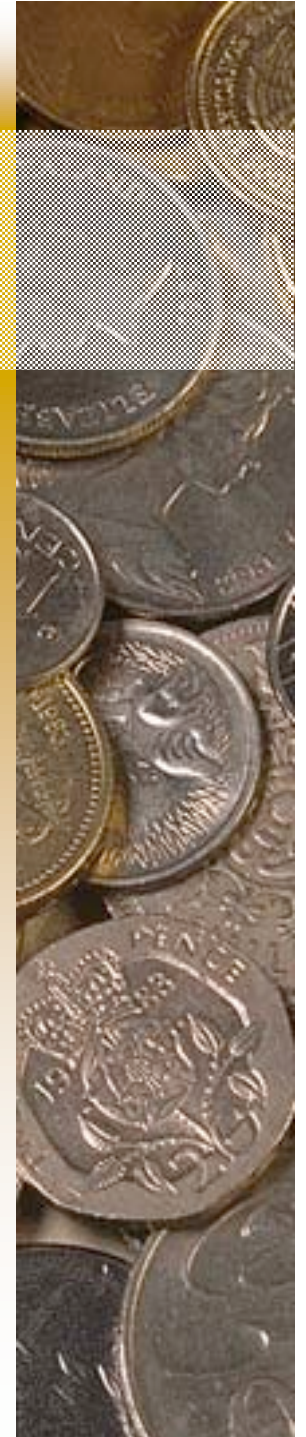
- **Progressive rate up until \$18.3 million taxable income.**
 - Below \$18.3 million, the marginal rate is not equal to the average rate.
 - Above \$18.3 million, the marginal rate and the average rate are 35%.



Features of Corporate Taxes (Cont.)

- A corporation can:
 - deduct its interest expenses but not its dividend payments;
 - carry-back losses for two years, carry-forward losses for 20 years.*
 - exclude 70% of dividend income if it owns less than 20% of the company's stock

* Losses in 2001 and 2002 can be carried back for five years.





Assume a corporation has \$100,000 of taxable income from operations, \$5,000 of interest income, and \$10,000 of dividend income.

What is its tax liability?

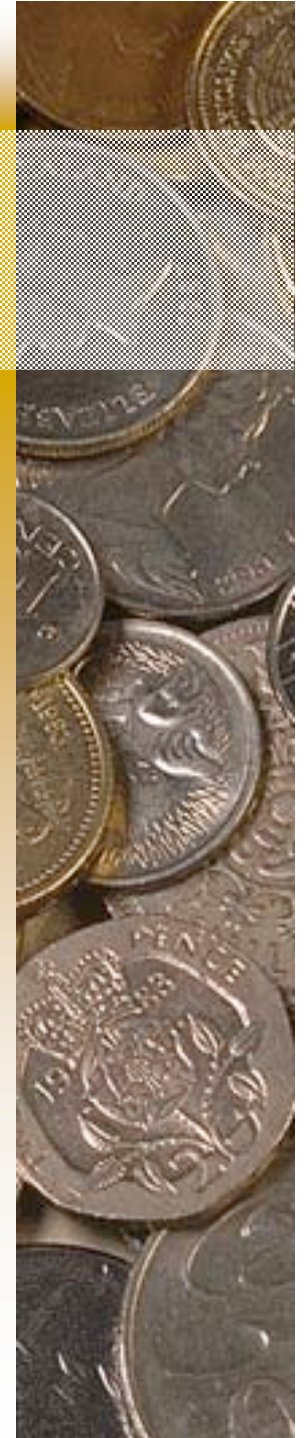
Operating income	\$100,000
Interest income	5,000
Taxable dividend income	3,000*
Taxable income	<u>\$108,000</u>

$$\begin{aligned} \text{Tax} &= \$22,250 + 0.39 (\$8,000) \\ &= \$25,370. \end{aligned}$$

* Dividends - Exclusion
 $= \$10,000 - 0.7(\$10,000) = \$3,000.$

Key Features of Individual Taxation

- Individuals face progressive tax rates, from 10% to 35%.
- The rate on long-term (i.e., more than one year) capital gains is 15%. But capital gains are only taxed if you sell the asset.
- Dividends are taxed at the same rate as capital gains.
- Interest on municipal (i.e., state and local government) bonds is not subject to Federal taxation.





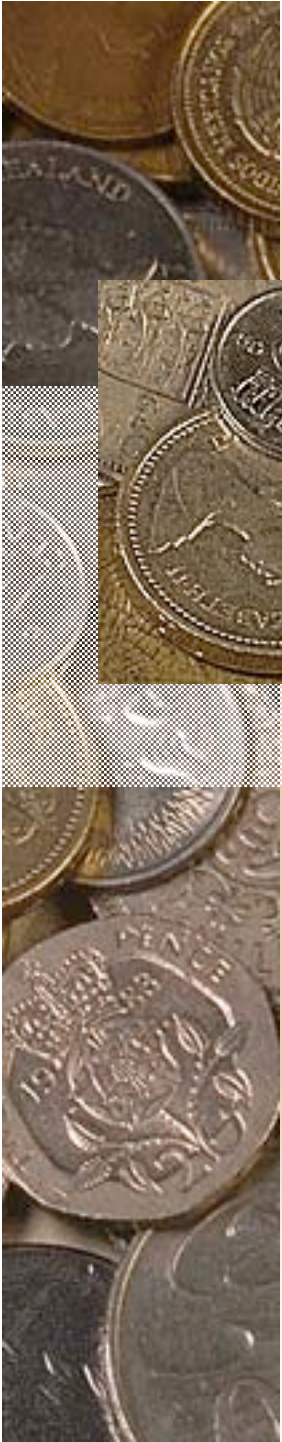
Taxable versus Tax Exempt Bonds

State and local government bonds (**municipals**, or “**munis**”) are generally exempt from federal taxes.

- Exxon bonds at 10% versus California muni bonds at 7%.
- $T = \text{Tax rate} = 25.0\%$.
- After-tax interest income:

$$\begin{aligned} \text{Exxon} &= 0.10(\$5,000) - \\ & 0.10(\$5,000)(0.25) \\ &= 0.10(\$5,000)(0.73) = \mathbf{\$375.} \end{aligned}$$

$$\text{CAL} = 0.07(\$5,000) - 0 = \mathbf{\$350.}$$



At what tax rate would you be indifferent between the muni and the corporate bonds?

Solve for T in this equation:

Muni yield = Corp Yield(1-T)

7.00% = 10.0%(1-T)

T = 30.0%.

Implications

- If $T > 30\%$, buy tax exempt munis.
- If $T < 30\%$, buy corporate bonds.
- Only high income, and hence high tax bracket, individuals should buy munis.

