

**Module 12 – Financial & Managerial Accounting for MBAs, 4<sup>th</sup> Edition  
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**Practice Quiz**

1. Penn Company reports net operating profit after tax (NOPAT) of \$3,306 million in 2013. Its net operating assets at the beginning of 2013 are \$10,215 million. Assuming a 6.66% weighted average cost of capital (WACC), what is Penn's residual operating income for 2013?
- a. \$ 864 million
  - b. \$2,626 million
  - c. \$1,699 million
  - d. \$3,305 million

2. Penn Company reports net operating profit after tax (NOPAT) of \$3,306 million in 2013. Its net operating assets at the beginning of 2013 are \$10,215 million and are \$11,137 million at the end of 2013.

What are Penn's free cash flows to the firm (FCFF) for 2013?

- a. \$3,305 million
  - b. \$2,441 million
  - c. \$2,384 million
  - d. \$5,176 million
3. In its 2013 fiscal year annual report, BrandCo reports 2013 net operating income after tax (NOPAT) of \$4,140 million. As of the beginning of fiscal year 2013 it reports net operating assets of \$13,529 million.

At what level of WACC would BrandCo not report positive residual operating income for 2013?

- a. 5.8%
- b. 12.3%
- c. 19.1%
- d. 30.6%

4. Following are forecasts of Value-Mart Corporation's sales, net operating profit after tax (NOPAT), and net operating assets (NOA) as of January 31, 2013.

(in millions)	Reported 2013	Horizon Period				Terminal Period
		2014	2015	2016	2017	
Sales	\$51,271	\$57,526	\$64,544	\$72,418	\$81,253	\$82,878
NOPAT	2,694	2,876	3,227	3,621	4,063	4,144
NOA	22,429	25,121	28,185	31,624	35,482	36,191

Assuming a terminal period growth rate of 2%, discount rate (WACC) of 7%, shares outstanding of 874.1 million, and net nonoperating obligations (NNO) of \$8,224 million, estimate the value of a share of Value-Mart common stock using the discounted cash flow (DCF) model as of January 31, 2013.

- \$41.50
  - \$43.21
  - \$47.45
  - \$51.26
5. Following are forecasts of Baker Company's sales, net operating profit after tax (NOPAT), and net operating assets (NOA) as of January 31, 2013.

(in millions)	Reported 2013	Horizon Period				Terminal Period
		2014	2015	2016	2017	
Sales	\$2,785	\$3,838	\$5,289	\$7,288	\$10,043	\$10,244
NOPAT	330	455	627	864	1,190	1,214
NOA	533	735	1,012	1,395	1,922	1,961

Assuming a terminal period growth rate of 2%, a discount rate (WACC) of 13%, common shares outstanding of 103.3 million, and net nonoperating obligations (NNO) of \$(462) million (negative NNO reflects net investments rather than net obligations), estimate the value of a share of Baker common stock using the residual operating income (ROPI) model as of January 31, 2013.

- \$79.90
- \$78.27
- \$74.32
- \$69.78

6. Following are forecasts of sales, net operating profit after tax (NOPAT), and net operating assets (NOA) as of December 31, 2013 for Stellar Stores, Inc.

(in millions)	Reported 2013	Horizon Period				Terminal Period
		2014	2015	2016	2017	
Sales	\$37,006	\$44,777	\$54,180	\$65,558	\$79,325	\$80,912
NOPAT	1,292	1,563	1,891	2,288	2,768	2,824
NOA	10,007	102	14,643	17,718	21,439	21,868

Assuming a terminal period growth rate of 2%, a discount rate (WACC) of 8%, common shares outstanding of 814.3 million, and net nonoperating obligations (NNO) of \$1,676 million, estimate the value of a share of Stellar common stock using the discounted cash flow (DCF) model as of December 31, 2013.

- \$23.59
- \$32.95
- \$25.23
- \$31.06

7. Following is the balance sheet for **3M Company**.

Balance Sheet		
At December 31 (\$ millions, except per share amount)	2005	2004
<b>Assets</b>		
Cash and cash equivalents .....	\$ 1,072	\$ 2,757
Accounts receivable—net of allowances of \$73 and \$83 .....	2,838	2,792
Inventories		
Finished goods .....	1,050	947
Work in process .....	708	614
Raw materials and supplies .....	406	336
Total Inventories .....	2,162	1,897
Other current assets .....	1,043	1,274
Total current assets .....	7,115	8,720
Investments .....	272	227
Property, plant and equipment .....	16,127	16,290
Less: Accumulated depreciation .....	(10,534)	(10,579)
Property, plant and equipment—net .....	5,593	5,711
Goodwill .....	3,473	2,655
Intangible assets—net .....	486	277
Prepaid pension and postretirement benefits .....	2,905	2,591
Other assets .....	689	527
Total assets .....	<u>\$20,513</u>	<u>\$20,708</u>
<b>Liabilities and Stockholders' Equity</b>		
Short-term borrowings and current portion of long-term debt .....	\$ 1,072	\$ 2,094
Accounts payable .....	1,256	1,168
Accrued payroll .....	489	487
Accrued income taxes .....	989	867
Other current liabilities .....	1,452	1,455
Total current liabilities .....	5,238	6,071
Long-term debt .....	1,309	727
Other liabilities .....	3,866	3,532
Total liabilities .....	10,413	10,330
Stockholders' equity		
Common stock, par value \$.01 per share:		
Shares outstanding—2005: 754,538,387;		
Shares outstanding—2004: 773,518,281 .....	9	9
Capital in excess of par value .....	287	287
Retained earnings .....	17,358	15,649
Treasury stock .....	(6,965)	(5,503)
Unearned compensation .....	(178)	(196)
Accumulated other comprehensive income (loss) .....	(411)	132
Stockholders' equity—net .....	10,100	10,378
Total liabilities and stockholders' equity .....	<u>\$20,513</u>	<u>\$20,708</u>

Compute net operating assets (NOA) for 2005.

- \$12,481 million
- \$13,465 million
- \$11,137 million
- \$16,075 million

8. Following is the income statement for **3M Company**.

Income Statement Year Ended December 31 (millions)	2005	2004	2003
Net sales .....	\$21,167	\$20,011	\$18,232
Operating expenses			
Cost of sales .....	10,381	9,958	9,285
Selling, general and administrative expenses .....	4,535	4,281	3,994
Research, development and related expenses .....	1,242	1,194	1,147
Other expense .....	—	—	93
Total .....	<u>16,158</u>	<u>15,433</u>	<u>14,519</u>
Operating income .....	5,009	4,578	3,713
Interest expense and income			
Interest expense .....	82	69	84
Interest income .....	(56)	(46)	(28)
Total .....	<u>26</u>	<u>23</u>	<u>56</u>
Income before income taxes, minority interest and cumulative effect of accounting change .....	4,983	4,555	3,657
Provision for income taxes .....	1,694	1,503	1,202
Minority interest .....	55	62	52
Income before cumulative effect of accounting change ....	3,234	2,990	2,403
Cumulative effect of accounting change .....	(35)	—	—
Net income .....	<u>\$ 3,199</u>	<u>\$ 2,990</u>	<u>\$ 2,403</u>

Compute net operating profit after tax (NOPAT) for 2005, assuming a federal and state statutory tax rate of 36.3%. (*Hint: Other expense is an operating item for 3M.*)

- a. \$3,315 million
- b. \$3,306 million
- c. \$5,009 million
- d. \$3,289 million

9. Following are forecasts of **3M Company's** sales, net operating profit after tax (NOPAT), and net operating assets (NOA) as of December 31, 2005.

(in millions)	Reported 2005	Horizon Period				Terminal Period
		2006	2007	2008	2009	
Sales	\$21,167	\$22,395	\$23,694	\$25,068	\$26,522	\$26,787
NOPAT	3,306	3,498	3,701	3,916	4,143	4,184
NOA	11,137	11,787	12,471	13,194	13,959	14,098

Assuming a terminal period growth rate of 1%, a discount rate (WACC) of 7%, common shares outstanding of 754.5 million, and net nonoperating obligations (NNO) of \$1,037 million, estimate the value of a share of 3M's common stock using the residual operating income (ROPI) model as of December 31, 2005.

- \$71.32
- \$75.41
- \$80.67
- \$83.14

10. Following are the income statement and balance sheet for **Intel Corporation**.

Income Statement			
Year Ended December 31 (In millions)	2005	2004	2003
Net revenue	\$38,826	\$34,209	\$30,141
Cost of sales	15,777	14,463	13,047
Gross margin	23,049	19,746	17,094
Research and development	5,145	4,778	4,360
Marketing, general and administrative	5,688	4,659	4,278
Impairment of goodwill	—	—	617
Amortization and impairment of acquisition-related intangibles and costs	126	179	301
Purchased in-process research and development	—	—	5
Operating expenses	10,959	9,616	9,561
Operating income	12,090	10,130	7,533
Losses on equity securities, net	(45)	(2)	(283)
Interest and other, net	565	289	182
Income before taxes	12,610	10,417	7,442
Provision for taxes	3,946	2,901	1,801
Net income	\$ 8,664	\$ 7,516	\$ 5,641

Balance Sheet		
December 31 (In millions, except par value)	2005	2004
<b>Assets</b>		
Cash and cash equivalents	\$ 7,324	\$ 8,407
Short-term investments	3,990	5,654
Trading assets	1,458	3,111
Accounts receivable, net of allowance for doubtful accounts of \$64 (\$43 in 2004)	3,914	2,999
Inventories	3,126	2,621
Deferred tax assets	1,149	979
Other current assets	233	287
Total current assets	21,194	24,058

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10. *continued*

Balance Sheet		
December 31 (in millions, except par value)	2005	2004
Property, plant and equipment, net	17,111	15,768
Marketable strategic equity securities	537	656
Other long-term investments	4,135	2,563
Goodwill	3,873	3,719
Deferred taxes and other assets	1,464	1,379
<b>Total assets</b>	<b>\$48,314</b>	<b>\$48,143</b>
<b>Liabilities and stockholders' equity</b>		
Short-term debt	\$ 313	\$ 201
Accounts payable	2,249	1,943
Accrued compensation and benefits	2,110	1,858
Accrued advertising	1,160	894
Deferred income on shipments to distributors	632	592
Other accrued liabilities	810	1,355
Income taxes payable	1,960	1,163
<b>Total current liabilities</b>	<b>9,234</b>	<b>8,006</b>
Long-term debt	2,106	703
Deferred tax liabilities	703	855
Other long-term liabilities	89	—
<b>Stockholders' equity</b>		
Preferred stock, \$0.001 per value, 50 shares authorized; none issued	—	—
Common stock, \$0.001 per value, 10,000 shares authorized; 5,919 issued and outstanding (5,253 in 2004) and capital in excess of par value	6,245	6,143
Acquisition-related unearned stock compensation	—	(4)
Accumulated other comprehensive income	127	162
Retained earnings	29,810	32,288
<b>Total stockholders' equity</b>	<b>36,182</b>	<b>38,579</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$48,314</b>	<b>\$48,143</b>

Compute Intel's net operating assets (NOA) for year-end 2005.

- \$33,008 million
- \$30,978 million
- \$29,107 million
- \$21,694 million