Solutions

Problem 1

During 2005, Myears Oil Co. had gross sales of $1 000,000, cost of goods sold of $400,000, and general and selling expenses of $300,000. The interest expense was $6,000. Nonoperating income was $66,000, depreciation was $60,000, and dividends of $70,000 were paid.

(a) What was the NOI?

(b) What was the NPBT?

(c) What was the NI if the average tax rate was $10%?

(d) If the retained earnings were $300,000 on December 31, 2004, what will they be on December 31, 2005?

Solution

(a)	Gross sales	1 000,000
	- COGS	-400,000
	Gross profit	600,000
	-expenses	-300,000
	-depreciation	-60,000
	NOI	240,000
	+ nonoperating income	66,000
	EBIT	306,000
	- interest	-6,000
(b)	NPBT	300,000
	- taxes	-30,000
(c)	NI	270,000
(d)	Retained earnings t=0	300,000
	+ NI	270,000
	- dividends	-70,000
	Retained earnings t=1	500,000

Problem 2

The balance sheet of the Myears Oil Co. on December 31, 2004, is shown below.
During the next year, Myears Oil Co. has gross sales of $1000,000, sells inventory valued at $500,000, and manufactures $800,000 of new inventory.
It collects $700,000 of outstanding accounts receivable and extends new credit in the amount of $600,000. Accounts payable are decreased by $120,000.
Net income for the period is $270,000, of which $70,000 is paid in dividends.
During 2005 Myears Oil Co. issued $50,000 of equity. Long-term debt is increased by $20,000. Prepaid expenses are increased by $10,000.
For simplicity, assume that none of the other accounts has changed (except cash).
(a) Construct the balance sheet as of December 31, 2005.
(b) Show how fixed assets and net current assets are financed with debt and equity.

Cash	100,000	Accounts payable	500,000
Accounts receivable	400,000	Notes payable	200,000
Inventory	500,000		
Prepaid expenses	50,000		
Current assets	1 050,000	Current liabilities	700,000
		Long-term debt	800,000
Net fixed assets	2 000,000	Common equity	1 550,000
Total assets	3 050,000	Total liabilities and stockholders' equity	3 050,000

Solution

(a)

Cash is obtained by filling in all other numbers first.

Cash	40,000	Accounts payable	380,000
Accounts receivable	300,000	Notes payable	200,000
Inventory	800,000		
Prepaid expenses	60,000		
Current assets	1 200,000	Current liabilities	580,000
		Long-term debt	820,000
Net fixed assets	2 000,000	Common equity	1 800,000
Total assets	3 200,000	Total liabilities and stockholders' equity	3 200,000

(b)

Net current assets	620,000	Long-term debt	820,000
Net fixed assets	2 000,000	Common equity	1 800,000
Total assets	2 620,000	Total liabilities	2 620,000

Problem 3

The records of the Myears Oil Co. Corporation provide more precise data for the period ended December 31, 2005. Use cash balance 1/1/2005 = $100,000.

Balance sheet changes			
Decrease in accounts receivable		$	100,000
Increase in merchandise inventory			-300,000
Increase in prepaid expenses			-10,000
Purchase of gross plant and equipment	-60,00		
Decrease in accounts payable			-120,000
Borrowed on a long term note			100,000
Payment of bonds payable in full			-80,000
Issued stock			50,000
Net income			270,000
Paid cash dividend			-70,000
Change in cash		$	-60,000
Income statement changes			
Sales revenue		$	1 000,000
Cost of goods sold			-400,000
Depreciation expense			-60,000
Remaining expenses			-300,000
Income tax	10%		-30,000
Nonoperating income (cash from disposal of old drilling rig)			66,000
Interest			-6,000
Net income		$	270,000

(a) Prepare a cash flow statement for the period using indirect approach.
(b) Prepare a cash flow statement for the period using direct approach.
(c) Calculate FCFF starting from net income, cash flow from operations and net operating income after tax.
(d) Calculate FCFE starting from FCFF, net income, cash flow from operations and net operating income after tax.

Solution

(a)

<u>Indirect approach</u>

Cash inflows (outflows) from operating activities	
Net income	270,000
+ Depreciation expense	60,000
- Increase in merchandise inventory	-300,000
- Increase in prepaid expenses	-10,000
+ Decrease in accounts receivable	100,000
- Decrease in accounts payable	-120,000
Adjustments	
- nonoperating income	-66,000
+ interest	6,000
Net cash inflow (outflow) from operating activities	-60,000
Cash inflows (outflows) from investing activities	
- Increase in gross plant and investment	-60,000
+ Nonoperating income (cash from disposal of old drilling rig)	66,000
Net cash inflow (outflow) from investing activities	6,000
Cash inflows (outflows) from financing activities	
+ Issued stock	50,000
- Dividends paid	-70,000
+ Proceeds from long-term note	100,000
- Retirement of bonds	-80,000
- Interest	-6,000
Net cash inflow (outflow) from financing activities	-6,000
Net increase (decrease) in cash	-60,000
Beginning cash balance, 1/1/2005	100,000
Ending cash balance, 31/12/2005	40,000

(b)

Direct approach

Cash inflows (outflows) from operating activities

Cash collected from customers		
	Sales revenue	1 000,000
	Decrease in accounts receivable	100,000
		1 100,000
Payments to suppliers		
	Cost of goods sold	-400,000
	Increase in merchandise invento	-300,000
	Decrease in accounts payable	-120,000
		-820,000
Gross cash margin		280,000
Remaining expenses		-300,000
Cash from operations		-20,000
Increase in prepaid expenses		-10,000
Taxes		-30,000
Net cash inflow (outflow) from operating activities		-60,000

(c)

Free cash flows to the firm (FCFF)

NI	270,000
+D	60,000
+Interest (1-T)	5,400
- ΔFA	-60,000
- ΔNCA	-330,000
FCFF	-54,600
OCF	-60,000
+NonopInc	66,000
-Interest	-6,000
+Interest (1-T)	5,400
- ΔFA	-60,000
FCFF	-54,600
NOI (1-T)	216,000
+NonopIn (1-T)	59,400
+D	60,000
- ΔFA	-60,000
- ΔNCA	-330,000
FCFF	-54,600
ΔCash	-60,000
Tax savings	-0,600
Financial flow	6,000
FCFF	-54,600

(d)

Free cash flows to equity (FCFE)

FCFF	-54,600
- Interest (1-T)	-5,400
+Net Borrowing	20,000
FCFE	-40,000
NI	270,000
+D	60,000
- ΔFA	-60,000
- ΔNCA	-330,000
+Net Borrowing	20,000
FCFE	-40,000
OCF	-60,000
+NonopInc	66,000
-Interest	-6,000
- ΔFA	-60,000
+Net Borrowing	20,000
FCFE	-40,000
ΔCash	-60,000
-(Issued stock - Dividends paid)	20,000
FCFE	-40,000