

# 15.514

## Mid-term Examination Solutions

Name: \_\_\_\_\_

About the exam:

1. The exam consists of
  - a. The exam questions
  - b. 5-page supplement with financial statements.
2. There are 87 points in total -- point allocations are stated for each question.
3. Difficult questions are not necessarily worth more. Therefore, be sure not to spend too much time on any one question. If you have trouble on a question come back to it later.
4. Please write your answers in the space provided, and show any supporting computations you make.
5. **Please write as legibly as possible** -- we can't grade what we can't read!
6. If a question is unclear, make an appropriate assumption that does not contradict any information given in the question.
7. This exam must be completed in 1 hour and 30 minutes.

**QUESTION 1: TRANSACTIONS AND STATEMENT OF CASH FLOWS** (40 points, 8 points each)

For each event in (1) – (5):

- (a) Record the transaction (if necessary) using either the balance sheet equation or journal entries. Be specific about account names. Be sure to label each account as Asset (A), Liability (L), or Equity (E). Equity (E) includes income statement items (i.e. revenue and expense accounts).
- (b) Indicate the effect of each transaction on the Statement of Cash Flows (SCF). Specify which section(s) of the SCF the transaction affects (Operating, Investing, or Financing). Use the indirect method for the Operating section (i.e., start with Net Income and reconcile to Cash from Operations). If there is no effect on the SCF, write “no effect”.
- (c) Ignore taxes

The first event is given as an example.

Event/Transaction	Statement of Cash Flows
<p>Example: Recognize \$8,000 of SG&amp;A expense, of which \$2,500 is paid.</p> $\begin{array}{r} \text{Cash (A)} = \text{Accrued Expenses (L)} + \text{Ret. Earnings (E)} \\ -2,500 \qquad + 5,500 \qquad -8,000 \end{array}$	<p><b>Operating Section</b>  <i>Net Income</i> ↓ \$8,000.   <i>Add back \$5,500</i>  <i>(increase in Accrued Liabilities)</i></p>

Event/Transaction	Statement of Cash Flows				
<p>(1) Insurance Premium of \$400 for two years is paid in advance.</p> $\begin{array}{r} \text{Cash(A)} + \text{Pre-paid Expense(A)} = (L) + (E) \\ -400 \qquad \qquad \qquad 400 \end{array}$	<p><u>Operating Section</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Changes in other assets</td> <td style="text-align: right;">-400</td> </tr> <tr> <td>Increase in prepaid expense</td> <td></td> </tr> </table>	Changes in other assets	-400	Increase in prepaid expense	
Changes in other assets	-400				
Increase in prepaid expense					
<p>(2) Insurance expense for the first year [See (1)] is recognized.</p> $\begin{array}{r} \text{Pre-paid Expense(A)} = (L) + (E) \\ -200 \qquad \qquad \qquad -200 \end{array}$	<p><u>Operating Section</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Net Income</td> <td style="text-align: right;">-200</td> </tr> <tr> <td>Decrease in prepaid expense:</td> <td style="text-align: right;">+200</td> </tr> </table>	Net Income	-200	Decrease in prepaid expense:	+200
Net Income	-200				
Decrease in prepaid expense:	+200				



For Q2-Q4, you need to refer to the financial statements and relevant notes for Dow Jones & Company.

Question 2: (12 points)

- a. In Schedule II of the financial statements, Dow Jones provided detailed information on information related to Allowance for Doubtful Accounts. Based on the schedule, what is the Bad debt expense for Dow Jones in 2001 (1 point)?

\$6,395

- b. Show the Balance Sheet Equation effects (or a journal entry) to record Dow Jones' bad debt expense (2 points).

$$A/R (A) \quad - \frac{ADA (A)}{6,395} = (L) + \frac{R/E(E)}{-6,395}$$

- c. Show the Balance sheet equation effects (or a journal entry) to record Dow Jones' recovery of accounts that were previously written off and the cash receipt (2 points).

	<u>Cash(A)</u>	<u>A/R(A)</u>	-	<u>ADA(A)</u>	=	(L)	+	(E)
Cash Receipt	1,055	-1,055						
Recovery		1,055		1,055				

- d. Estimate the **total** amount of cash Dow Jones received from customers from sales and the collection of accounts receivable during the fiscal 2001 (7 points). [Hint: check Dow Jones's current liabilities]

	Cash	<u>A/R (A)</u>	<u>-ADA(A)</u>	=	Unearned Revenue (L)	+	RE(E)
BB		242,661	6,377				
Sales		1,773,083					1,773,083
BD			6,395				-6,395
Write Off		-8217	-8217				
Recovery		1055	1055				
Δ URev					-8289		8289
Cash Collected	1,832,124	-1,832,124					
EB		168,169	5,610				

Question 3 (22 points):

The following footnote appears in Dow Jones 2001 10-K:

Newsprint Inventories is stated at the lower of cost or market. The cost of newsprint is computed by the last-in, first-out (LIFO) method. If newsprint inventory had been valued by the average cost method, it would have been approximately \$7.5 million and \$9.7 million higher in 2001 and 2000, respectively.

Assume the average cost method and FIFO yield insignificant differences in the ending inventory value.

- a. If Dow Jones were to use the average cost method, what would be their ending inventory newsprint inventory balance on 31 December 2001(2 points)?

$$7,500,00 + 10,810,000 = \$18,310,000$$

- b. If Dow Jones had always used the average cost method would they report higher or lower income in fiscal 2001? By how much (3 points)?

*Reserve ↓ Cogs ↑ Income ↓*

$$\$9.7m - \$7.5m = \$2.2m \text{ lower}$$

*Pre-tax Income \$2.2 lower*

$$10\% \text{ tax rate } \$2.2 * (1-.1) = \$1.98m \text{ after tax income}$$

- c. A competitor in the publishing industry uses average cost to value their inventory. The competitor's inventory turnover ratio (i.e., CoGS/Average Inventory) was 12 times in 2001. Was Dow Jones more or less efficient in managing their inventory compared to the competitor (6 points)?

$$\frac{COGS(AC)}{Aug. Inv(AC)} = \frac{150,791,000 + 2,200,000}{[18,310,000 + (13,109,000 + 9,700,000)]/2}$$

$$= \frac{152,991,000}{20,559,500} = 7.4$$

*Dow Jones is less efficient*

- d. Assume Dow Jones had \$1 million of newsprint spoiled by a flood. How would you use the Balance Sheet Equation to recognize this reduction in inventory value (2 points)? (Ignore taxes)

$$\frac{Inventory(A)}{-1,000,000} = (L) + \frac{RE(E)}{-1,000,000}$$

- e. Assume that “Accounts payable – trade” arise only to purchases of newsprint. How much cash did Dow Jones pay to its newsprint suppliers in fiscal 2001 (5 points)?

<u>Cash</u>	<u>Inventory</u>	<u>A/P</u>	<u>RE</u>
	13,109	66,699	
	<u>148,492**</u>	148,492	
	(150,791)		(150,791)
(153,612)		<u>153,612*</u>	
	<u>10,810</u>	61,579	

\*cash paid to suppliers

\*\*purchases (solve for this number firms)

- f. Assume that Dow Jones had expensed amounts related to “Prepaid expenses” as soon as cash was paid in the current and all prior years.

- a. How much higher/lower would fiscal **2001 net income** be under this new accounting method (Ignore taxes)(2 points)?

*2001 had a reduction in PPExpenses → Net income would be higher by  
18,105,000 – 13,877,000 = \$4,228,000*

- b. How much higher/lower would **retained earnings** be on December 31, 2001 under this new accounting method (Ignore taxes)(2 points)?

*Retained earnings would be lower by \$13,877,000*

Question 4 (13 points):

- a. How much was Dow Jones' depreciation expense? Where did you find the info (1 point)?

*\$102,597,000, statement of cash flows*

- b. What was the value of PPE acquired for cash in fiscal 2001 (1 point)?

*\$128,759,000*

- c. Use the Balance Sheet Equation (or a journal entry) to record the gain on disposal of PPE (7 points).

(Thousands)	Cash	PPE	Acc Dep =	(L)	+	RE(E)
BB		1,625,479	864,616			
ADD	-128,759	128,759				
DEPR			102,597			-102,597
WRITE OFF			24,186			-24,186
DISPOSAL	2,239	<u>81,045</u>	<u>79,555</u>			<u>749</u>
EB		1,679,193	911,844			

- d. If in the beginning of 2001 Dow Jones decided to lengthen the estimated useful life for some of its PPE. What effect would this have on the fiscal 2001 income? On the 31 December 2001 balance sheet (2 points)?

*Reported income ↑ less depreciation expense.*

*Net PPE higher. Net PPE would decrease at a slower rate.*

- e. Note the "Contract guarantees, net" charge on the 2001 income statement. What was the effect of this charge on operating cash flow (2 points)?

*No effect on operating cash flow because reduction in net income is reversed as net income is reconciled to cash*