

1.a. (i) Dividend income:

X:	\$10,000	(100,000 x \$.10)
Z:	<u>0</u>	
Total	\$10,000	

Dividends are not recorded as income for Y (40% owned), but are included in "equity in income of affiliates" instead.)

(ii) Unrealized gains/losses included in stockholders' equity (all before deferred tax):

Firm	12/31/2000	2001 Change	12/31/2001
X	\$(400,000)	\$ 300,000	\$(100,000)
Z	<u>300,000</u>	<u>450,000</u>	<u>750,000</u>
Total	\$(100,000)	\$ 750,000	\$(650,000)

Y: market value changes not recognized under equity method.

(iii) Equity in income of affiliates:

Y: .40 x \$900,000 = \$360,000

b. The investments are accounted for as follows:

Y using the equity method, as ownership exceeds 20%

X and Z at market value as "available-for-sale" securities under SFAS 115

c.

Dividend income	\$ 10,000
Equity income	360,000
Total income	\$370,000

d.

X:	100,000 x \$49 = \$4,900,000
Z:	150,000 x 30 = 4,500,000
Y:	carried at original cost plus equity in undistributed earnings subsequent to acquisition.

Carrying amount at 1/1/2001 cannot be determined but would be calculated as:

Carrying amount at 1/1/2000: 800,000 x \$35 =	\$2,800,000
Plus 2000 undistributed earnings (data not available)	
Plus 2001 earnings: \$.40 x \$900,000 =	360,000
Less 2001 dividends: \$.09 x \$800,000 =	(72,000)

e. Mark to market returns for 2001:

Firm	Dividends +	MV Change =	Total Return
X	10,000	\$ 300,000	\$ 310,000
Y	72,000	1,600,000	1,672,000
Z	0	450,000	450,000
Total	\$ 82,000	\$2,350,000	\$2,432,000

For firms X and Z, the total return is reported in the financial statements, but that

return is reported primarily as an adjustment to stockholders' equity.

f. If consolidation were required for 40% ownership, Bart would consolidate firm Y. While consolidation does not change reported income, Bart's equity in the earnings of firm Y would be replaced by all revenues and expenses of firm Y. Similarly, Bart's investment in firm Y would be replaced by all of the assets and liabilities of firm Y. The 60% of firm Y equity (and income) not owned by Bart would be shown as minority interest.

2.a. The held-to-maturity fixed maturities are measured at amortized cost. The available-for-sale fixed maturities and equity securities are measured at market value.

b. 2000 Reported ROA by Portfolio Component (\$ millions)

Total	Fixed Maturities	Equity Securities	Total Portfolio
Opening balance	\$14,519	\$ 769	\$15,288
Investment income	903	23	926
Return on assets	6.22%	2.99%	6.06%

Note: Opening balances from Exhibit 13-3A (p. 463).

Investment income includes realized gains

All returns are below the corresponding reported 1999 returns shown in Exhibit 13-3B.

c. First, compute the mark-to-market returns, using the analysis on p. 465 as a guide.

2000 Change in MVA (\$ in millions)

Fixed Maturity Securities	Held-to-Maturity	Available for-Sale	Equity Total	Securities
2000				
Market value	\$1,565	\$14,068	\$15,633	\$ 830
Cost	1,496	13,720	15,216	840
MVA	\$ 69	\$ 348	\$ 417	\$ (10)
1999				
Market value	\$1,801	\$12,777	\$14,578	\$769
Cost	1,742	12,944	14,686	715
MVA	\$ 59	\$ (167)	\$ (108)	\$ 54
Change in MVA				
Fixed maturities	\$417 - \$(108) =	\$525		
Equity securities	\$(10) - \$ 54 =	(64)		
Total portfolio		\$461		

Calculation of 2000 Mark-to-Market Return

	Fixed Maturities	Equities	Total
Dividends and interest	\$ 895	\$ 24	\$ 919
Realized gains (losses)	8	(1)	7
Reported income	\$ 903	\$ 23	\$ 926
Change in MVA	525	(64)	461
Mark-to-market return	\$1,428	\$(41)	\$1,387

Calculation of 2000 Mark-to-Market ROA

	Fixed Maturities	Equities	Total Portfolio
Opening balance	\$14,578	\$ 769	\$15,347
Mark-to-market return	1,428	(41)	1,387
Return on assets	9.80%	(5.33%)	9.04%

These returns are quite different from the 2000 reported returns. The fixed maturity portfolio returns are higher whereas the equity return is lower. These results reflect the 2000 stock market decline and the rise in the debt markets as interest rates fell. The mark-to-market returns also contrast with 1999. In 1999 equity securities showed a positive return as stock prices rose whereas fixed maturities showed a negligible return as interest income was offset by capital losses. During 1999 fixed-income securities' prices fell as interest rates rose. These comparisons show that mark-to-market returns, while they report actual market results, are more volatile than reported returns that can be smoothed by management decisions.

d. The mark-to-market returns clearly report the effect of market performance on Chubb's investment portfolios. To fully evaluate the performance of Chubb's portfolios, we need benchmarks. For the bond portfolio, an appropriate benchmark would be a weighted average of market returns (with weights equal to the proportion of U.S. government, corporate, tax-exempt, etc.) held in Chubb's portfolio. The benchmark should also be adjusted for any differences in duration, quality, or other bond characteristics.

The equity benchmark should also reflect the composition of Chubb's portfolio, reflecting such characteristics as type of stock (preferred vs. common), capitalization (large vs. small), and any international representation.

3. a. Reported ROA by portfolio segment:

	Fixed Maturities	Equities	Total
1999			
Fixed maturities	\$1,429 /	\$20,576 =	6.94%
Equity securities	135 /	2,037 =	6.63
Total portfolio	\$1,564 /	\$22,613 =	6.92%
2000			

Fixed maturities	\$1,426 /	\$19,654 =	7.26%
Equity securities	94 /	2,005 =	4.69
Total portfolio	\$1,520 /	\$21,659 =	7.02%

where return equals dividend and interest income plus realized gains or losses. These data suggest that the return on the fixed income portfolio improved in 2000, but was partly offset by a reduced return on the equity portfolio.

b. First, compute the mark-to-market returns for 1999 and 2000, using the analysis on p. 465 as a guide.

Change in MVA (\$ in millions)

Fixed Maturity Portfolios

	Held-to-Maturity	Available for-Sale	Total	Equity Securities
2000				
Market value\$	0	\$20,830	\$20,830	\$1,815
Cost	0	20,388	20,388	876
MVA	0	\$ 442	\$ 442	939
1999				
Market value	\$2,772	\$16,831	\$19,603	\$2,005
Cost	2,733	17,259	19,992	973
MVA	39	\$(428)	\$(389)	\$1,032
1998				
Market value\$	3,259	\$17,855	\$21,114	\$2,037
Cost	2,721	16,680	19,401	953
MVA	538	\$ 1,175	\$ 1,713	\$1,084

2000 Change in MVA

Fixed maturities	\$ 442 - \$(389) =	\$831
Equity securities	\$ 939 - \$1,032 =	(93)
Total portfolio		\$738

1999 Change in MVA

Fixed maturities	\$(389) - \$1,713 =	\$(2,102)
Equity securities	\$1,032 - \$1,082 =	(50)
Total portfolio		\$(2,152)

Calculation of 2000 Mark-to-Market Return

	Fixed Maturities	Equities	Total
Dividends and interest	\$1,477	\$ 31	\$1,508
Realized gains (losses)	(51)	63	12
Reported income	\$1,426	\$ 94	\$1,520
Change in MVA	831	(93)	738
Mark-to-market return	\$2,257	\$ 1	\$2,258

Calculation of 2000 Mark-to-Market ROA

	Fixed Maturities	Equities Portfolio	Total Portfolio
Opening balance	\$21,114	\$ 2,037	\$23,151
Mark-to-market return	2,257	1	2,258
Return on assets	10.69%	0.05%	9.75%

Calculation of 1999 Mark-to-Market Return

	Fixed Maturities	Equities Portfolio	Total Portfolio
Dividends and interest	\$ 1,429	\$ 52	\$ 1,481
Realized gains (losses)	---	83	83
Reported income	\$ 1,429	\$135	\$ 1,564
Change in MVA	(2,102)	(50)	(2,152)
Mark-to-market return	\$ (673)	\$ 85	\$ (588)

Calculation of 1999 Mark-to-Market ROA

	Fixed Maturities	Equities Portfolio	Total Portfolio
Opening balance	\$19,603	\$ 2,005	\$21,608
Mark-to-market return	(673)	85	(588)
Return on assets	(3.43)%	4.24%	(2.72)%

These returns are quite different from reported returns. In 1999, both the fixed maturity and equity portfolio returns are lower. The fixed-maturity returns are negative reflecting the 1999 rise in interest rates.

The 2000 mark-to-market fixed income returns on the other hand were sharply higher than the 1999 returns (and the 2000 reported returns) as interest rates fell dramatically in 2000 and prices of debt securities rose accordingly. The mark-to-market equity returns in 2000 were negligible, reflecting the stock market decline.

These comparisons show that mark-to-market returns, while they report actual market results, are more volatile than reported returns that can be smoothed by management decisions.

c. The mark-to-market returns clearly report the effect of market performance on Safeco's investment portfolios.

d. To fully evaluate the performance of Safeco's portfolios, we need benchmarks. For the bond portfolio, a weighted average of market returns (with weights equal to the proportion of U.S. government, corporate, tax-exempt, etc.) held in Safeco's portfolio should be used. The benchmark should also be adjusted for any differences in duration, quality, or other bond characteristics.

The equity benchmark should also reflect the composition of Safeco's portfolio, reflecting such characteristics as type of stock (preferred vs. common), capitalization

(large vs. small), and any international representation.

e.	(i)	1999	2000
	Reported pretax	\$ 332	\$ 159
	Less: reported return	(1,564)	(1,520)
	Plus: MTM return	<u>(588)</u>	<u>2,258</u>
	Equals: adjusted pretax	\$ (1,820)	\$ 897

(ii) Managements generally oppose mark-to-market accounting because of the resulting volatility of reported income and because, when only realized gains are reported, earnings can be managed as discussed in (iii). If MTM returns were included in reported income, return volatility would be transmitted directly to the income statement as well, as illustrated in (i) above.

(iii) When only realized gains and losses are included in reported earnings, management can smooth variations in operating earnings by varying the amounts of realized gains and losses. In good years, realized losses reduce total earnings. In poor operating years, realized gains augment reported earnings. Securities sold for earnings management purposes can be replaced with other (similar) securities.

f. We disagree with Safeco management. Analysts should look at corporate profits relative to the resources available to management. In the case of marketable securities, market value is a better measure of those resources than historical cost. If those resources cannot earn an adequate return in Safeco's insurance business, that suggests that assets should be returned to stockholders for reinvestment in other businesses with higher returns. Reducing the reported asset base inflates reported ROA and ROE, suggesting that the enterprise is more profitable than it really is.

4.a. Carrying amounts at December 31, 2001:

(i)	Trading: 100 x \$ 37 =	\$3,700
(ii)	Available-for-sale:(same)	3,700
(iii)	Equity method: \$4,000 + 100 (\$3.00 - \$1.00) =	4,200

b. Investment income for 2001:

(i)	Trading: 100 x \$1 - \$300 =	\$(200)
(ii)	Available-for-sale: 100 x \$1 =	100
(iii)	Equity method: 100 x \$3.00 =	300

c. Total income over holding period:

(i)	Trading: \$(200)in 2001 + \$200 gain in 2002 =	0
(ii)	AFS: \$100 in 2001 - \$100 loss in 2002 =	0
(iii)	Equity: \$300 in 2001 - \$300 loss in 2002 =	0

Over the entire holding period, all accounting methods report the same total return.

The pattern of income recognition, however, differs.

5.a. 2000: Cost method, unless Burry can argue that it has "significant influence" over Bowman. SFAS 115 does not apply as Bowman shares are not marketable securities.

2001: Equity method, unless Burry does not have "significant influence." If the equity method is appropriate, retroactive restatement of the Investment in Bowman account and retained earnings is required.

b. 2000: Income and Cash from Operations both equal the dividends received during the year: \$152,000 (.19 x \$800,000). Cash for investment equals \$(10) million.

There is no effect on the carrying amount of Burry's investment in Bowman, which remains at the acquisition cost of \$10 million.

2001: Because Burry acquired an additional 1% for a total share of 20%, a retroactive restatement of the investment account and retained earnings is required:

Acquisition cost:	\$10,000,000
Less:	
Share of 2000 loss (.19 x \$600,000)	(114,000)
Dividends received (.19 x \$800,000)	(152,000)
Restated carrying amount, 1/1/2001	\$ 9,734,000

Note: The \$266,000 reduction is charged to retained earnings.

2001 transactions and entries:

Restated carrying amount, 1/1/2001	\$ 9,734,000
Plus: Additional acquisition cost	500,000
Share of 2001 income (.20 x \$2,000,000)	400,000
Less: dividends received (.20 x \$1,000,000)	(200,000)
Carrying amount, December 31, 2001	\$10,434,000

Income equals Burry's proportionate interest in the earnings of Bowman: \$400,000 (.2 x \$2,000,000).

Cash from operations equals the amount of dividends received from Bowman: \$200,000 (.2 x \$1,000,000). Cash for investing equals \$(500,000).

c. 2000: same as b
Income = \$152,000 (.19 x \$800,000)
No effect on investment

2001: income equal to cash flow from dividend payments of \$200,000 (.2 x 1,000,000).

The investment account at 12/31/01 would equal the total cost of \$10,500,000 (\$10,000,000 + \$500,000).

d. 2000: Burry would recognize its proportionate share of Bowman's loss: (\$114,000) = .19 x \$(600,000)

Investment account would be \$9,734,000 a decrease of \$266,000 (\$152,000 + \$114,000) reflecting the share of loss and the dividends received. [See part b.]

[Alternate calculation: share of undistributed loss for 2000 = .19 x [(\$600,000) - \$800,000] = .19 x (\$1,400,000) = \$(266,000)]

Cash from operations equals \$152,000. Cash for investment equals \$(10,000,000).

2001: Income equal to \$400,000 (.2 x \$2,000,000)

Cash from operations equal to \$200,000 (.2 x \$1,000,000). Cash for investing equals \$(500,000).

Investment account equals \$10,434,000, an increase of \$700,000 including the \$200,000 difference between income and cash flow and the additional investment of \$500,000.

e. The answer depends on the relationship between Burry and Bowman. It is unlikely that the purchase of an additional 1% interest changed that relationship. Thus B, which uses different methods for the two years, does not provide useful information. The choice is between the cost method (c) and the equity method (d).

The advantage of the cost method is that Burry's income statement records only the cash flow (dividends) received. If Burry is a passive investor in Bowman, the cost method provides the best information.

The equity method is more appropriate when Burry is actively involved in managing Bowman and thus earning its share of the profits of Bowman. The payment of dividends may be discretionary on the part of the major shareholders.

6.a. Cost method is used for 2001:

No effect on sales.

Income recognized = dividends received of \$10 (.01 x \$1,000)

Cash from operations = dividends received	\$ 10
Cash for investment = cost of shares	(100)
Net cash flow	\$(90)

Equity method is used for 2002:

No effect on sales

Income recognized = proportionate share of earnings
= \$660 (.30 x \$2,200).

Cash from operations = dividends received	\$ 360
Cash for investment = cost of shares	(3,190)
Net cash flow	\$(2,830)

b. 2001: December 31, 2001 (cost method) \$100
2002: The equity method must be applied retroactively to 2001:

Initial acquisition cost \$ 100

Plus share of 2001 earnings (1% of \$2,000)	20
Less dividends received	(10)
Adjusted carrying amount, January 1, 2002	\$ 110
January 1, 2002 shares purchased	\$3,190
Equity in 2002 earnings	660
Less: 2002 dividends received	(360)
Carrying amount, December 31, 2002	\$3,600

c. The additional share purchases require that Potter consolidate San Francisco, for two reasons:

- (i) It owns 100% of San Francisco's shares
- (ii) It controls San Francisco.

Potter must use the purchase method of accounting (see Chapter 14) to reflect its ownership of San Francisco. The assets and liabilities of San Francisco must be consolidated with those of Potter using fair market values at January 1, 2003 (San Francisco only). Off-balance-sheet items (such as contingencies and postemployment benefits) may also be recognized. Information on fair values and off-balance-sheet items, as well as full financial statements for San Francisco, would be needed to evaluate the effect of the acquisition on Potter's 2003 financial statements.

7.a. The market method is used for the "available-for-sale" portfolio and the cost/equity method is used for the "affiliate on the equity method"

(\$ thousands)	METHOD	1998	1999	2000
Available for sale	Market	\$164,978	\$197,318	\$257,973
Affiliate on equity method	Equity	<u>35,422</u>	<u>41,157</u>	<u>46,353</u>
Investment in marketable securities		\$200,400	\$238,475	\$304,326

b. Disaggregate HP's earnings:

(\$ thousands)	1999	2000
Operating income ¹	\$57,181 x.604 = \$34,546	\$104,790 x.578 = \$60,592
Marketable securities	\$ 7,757 x.604 = 4,686	\$31,973 x.578 = 18,487
Affiliates	= 3,556	= 3,221
Total	\$42,788	\$82,300

¹ Income before taxes and equity in affiliate income less income from investments, multiplied by (1 - tax rate).

c. Disaggregate HP's assets:

(\$ thousands)	1998	1999	2000
Operating	\$ 890,030	\$ 871,224	\$ 955,166
Available for sale	164,978	197,318	257,973
Affiliate	<u>35,422</u>	<u>41,157</u>	<u>46,353</u>
Total assets	\$ 1,090,430	\$ 1,109,699	\$ 1,259,492

Now, compute ROA on opening asset values, for each segment:

	1999	2000
Operations	3.9%	7.0%
Available-for-sale	2.8%	9.4%
Affiliate	<u>10.0%</u>	<u>7.8%</u>
Total	3.9%	7.4%

d. The results are not very useful as the asset values are a hybrid of historical costs and market values and income amounts are not actual mark-to-market returns.

	1999	2000
e.(i) Dividends and interest (Income from investments less realized gains)	\$5,210	\$18,678
(ii) Realized gains and losses	2,547	13,295
(iii) Unrealized gains and losses [Change during year]	33,053	49,811

Market value adjustments (MVA)

	Market - Cost =	MVA	Change
1998 \$164,978	\$76,770	\$ 88,208	-----
1999 197,318	76,057	121,261	\$33,053
2000 257,973	86,901	171,072	49,811

The mark-to-market return equals dividend and interest income plus realized gains plus the change in MVA (from e (iii) above):

	1999	2000
Dividends and interest	\$ 5,210	\$ 18,678
Realized gains and losses	2,547	13,295
Unrealized gains and losses	<u>33,053</u>	<u>49,811</u>
Pretax mark-to-market return	\$ 40,810	\$ 81,784
Aftertax return [pretax x (1-t)]	24,653	47,289

Opening market value	164,978	197,318
Return on assets	14.9%	24.0%

g. Since there were no sales or purchases and the affiliate paid no dividends the mark-to-market return is equivalent to the change in market price as calculated below: *Change*

1998	\$ 62,437	---
1999	91,687	\$ 29,250
2000	125,063	33,376

The aftertax mark-to-market ROA is the aftertax change in value as a % of the opening value:

	1999	2000
Pretax mark-to-market return	\$ 29,250	\$ 33,376
Aftertax return [pretax x (1-t)]	17,670	19,299
Opening market value	62,437	91,687
Return on assets	28.3%	21.0%

h. HP reported portfolio returns of 2.8% to 10% in 1999 and 7.8% to 9.4% in 2000 (part c). The mark-to-market returns (parts f and g combined) are quite different: 18.6% (\$42,323/\$227,415) for 1999 and 23.0% (\$66,588/\$289,005) for 2000.

i. The mark-to-market return is a better measure of the performance of equity-based investments over the 1998 to 2000 period. The equity method is an arbitrary accounting method. The market value measures the market's assessment of the worth of equity-based investments and is a better measure of the resource available to HP should it wish to sell its investment.

8.a. Start with the carrying amounts on HP's balance sheet (see Exhibit 13P-2):

	Carrying value	Change
1998	\$ 35,422	----
1999	41,157	\$ 5,735
2000	46,353	5,196

Because Atwood paid no dividend, the change in carrying amount equals HP's share of the income (loss) of Atwood. As HP owns 24% of Atwood, Atwood's total pretax income must have been:

1999:	\$5,735 / .24 =	\$23,896
2000:	5,196 / .24 =	21,650

b. The tax rate can be computed by comparing HP's pretax and after-tax

equity in Atwood's income:

$$1999 \text{ Tax rate} = [1 - (3,556/5,735)] = 38\%$$

$$2000 \text{ Tax rate} = [1 - (3,221/5,196)] = 38\%$$

HP made the assumption that income from Atwood would be taxed at normal corporate tax rates. One possible reason for this assumption is that HP decided it would (eventually) sell its investment in Atwood. Had they assumed they would receive the income in the form of dividends, a lower tax rate would have been appropriate.

c. HP may have reported its equity in Atwood's income on a separate line so that HP investors could see HP's results without distortion from the highly variable results of Atwood's operations.

9.a. Exhibit 13S-1 presents the December 31, 2001 and 2002 balance sheets for Moore Motors, using the equity method to account for Moore's investment in MMF.

b. Exhibit 13S-2 provides Moore Motor's income statement for the year ended December 31, 2002 using the equity method for MMF.

c. *2002 Ratios: Consolidated Equity Method*

Gross profit margin	14.27	14.27
Return on assets	5.93	5.16
Return on equity	11.68	11.68
Receivables turnover*	1.16	6.06
Times interest earned	1.73	8.03
Debt-to-equity	2.55	0.18

*Average trade and finance receivables used in this ratio.

d. Gross profit margin: The consolidated and equity method statements report the same gross profit margin, as MMF has no operations other than financing.

Return on assets: The ratio based on consolidated statements is more useful; the equity method reports neither the total assets used by the parent and its affiliate nor the total interest expense.

Return on equity: Because net income and equity are the same under the equity method and consolidation, these methods report the identical ROE.

Receivables turnover: Consolidated statements are more informative for the parent's stockholders since they include all receivables generated by the firm, unlike the equity method wherein the receivables sold to MMF are excluded from the analysis. Note the large difference in the ratio due to this exclusion.

Times interest earned: Again, the parent's stockholders are better served by the consolidated ratio that reflects the total cost of amounts borrowed whether the debt is reported on MMF's books or those of the parent. The equity method excludes the subsidiary's interest expense as it reports only the parent's share of the net income of its subsidiary.

Debt-to-equity: The consolidated ratio is more informative; it reflects the debt of the parent as well as that of its affiliate, MMF. The equity method ratio is misleadingly low as it excludes the debt of MMF.

*Exhibit 13S-1
Moore Motors-Equity Method
Balance Sheets, December 31, 2001-2002*

(\$ thousands)	2001	2002
Cash and cash equivalents	\$ 6,909	\$ 7,070
Accounts receivable--trade	4,541	5,447
--subsidiary	3,515	2,898
Finance receivables	13,246	13,235
Inventories	10,020	10,065
Fixed assets (net)	30,238	32,286
Investment in finance subsidiary	7,271	7,782
Miscellaneous assets	<u>14,908</u>	<u>16,092</u>
Total assets	<u>\$ 90,648</u>	<u>\$ 94,875</u>
Accounts payable--trade	\$ 7,897	\$ 7,708
--subsidiary	14,840	14,460
Bank debt	6,255	6,557
Accrued liabilities	21,054	23,847
Accrued income tax	<u>4,930</u>	<u>5,671</u>
Total liabilities	\$ 54,976	\$ 58,243
Stockholders' equity	<u>35,672</u>	<u>36,632</u>
Total liabilities and equity	<u>\$ 90,648</u>	<u>\$ 94,875</u>

*Exhibit 13S-2
Moore Motors - Equity Method
Income Statement, Year Ended December 31, 2002*

Sales	\$110,448
Equity in income of finance subsidiary	1,111
Interest income	<u>1,980</u>
Total revenues	\$113,539
Cost-of-goods-sold	(94,683)
Selling and administrative expense	(6,386)
Interest expense	(849)
Depreciation and amortization	<u>(5,664)</u>
Total expenses	<u>\$(107,582)</u>

Pretax income	5,957
Income tax expense	<u>(1,733)</u>
Net income	<u>\$ 4,224</u>

10.a. The cash flow consequences of finance or credit receivable transactions are reported as components of investment cash flows. Because MMF's credit receivables are generated by the long-term financing it provides for Moore's customers, i.e., for Moore's essential operating activities, their cash flow consequences should be reported as components of cash flow from operations.

The net cash flow impact of these transactions should be reported as operating cash flows. For the year ended December 31, 2002, the reported operating cash flow of \$13,006,000 should be reduced by \$5,295,000 (cash inflow of \$95,394,000 from liquidation of finance receivables less cash outflow for investment in finance receivables of \$100,689,000) for an adjusted operating cash flow of \$7,711,000 and adjusted investing cash flow of \$9,710,000.

b. Interest payments of manufacturing and retailing firms should be components of financing cash flows because they reflect firms' leverage choices. The analysis of a firm's ability to generate cash from operations should not be confused by its financing decisions. Interest payments reported by Moore's manufacturing units should therefore be reflected in its financing cash flows (see Chapter 3). However, interest incurred by MMF is an operating cost and should be considered a component of its operating cash flow.

c. Exhibit 13S-3 contains the 2002 direct method cash flows of MMF and Moore's manufacturing operations.

d. Cash flow from MMF to Moore's manufacturing operations \$ thousands):

Decrease in intercompany receivables	\$(380)
Dividends paid	600
Decrease in intercompany payables	<u>617</u>
Total	<u>\$ 837</u>

Note that this computation does not consider the cash flow effects of transactions involving the purchase of and payments for finance receivables. Data required to evaluate these transactions has not been provided in the problem.

e. The segmentation allows the analyst to separately determine the leverage, profitability, and cash flows generated by the manufacturing unit and the finance operations and to understand the impact of each segment on the consolidated entity. Trends in these critical performance indices can be evaluated in the light of the industry and economic conditions that affect manufacturing operations and those (different) conditions that influence the financing business.

Exhibit 13S-3
 Moore Motors-Equity Method
 Statement of Cash Flows, Year Ended December 31, 2002
 Page 1 of 2
 Indirect Method:

	Moore Motors Finance	Moore Motors (Equity Method)
(\$ thousands)		
Net income	\$ 1,111	\$ 3,7131
Depreciation and amortization	1,504	5,664
(accounts receivable)	---	(906)
(inventories)	---	(45)
(accrued liabilities)	(366)	2,793
(accrued income taxes)	---	741
(accounts payable)	---	(189)
(intercompany receivables)	380	(380)
(intercompany payables)	(617)	617
Miscellaneous operating cash flow	---	(414)
Cash Flow from Operations	\$ 2,012	\$ 11,594
Net change in fixed assets ²	(1,645)	(8,065)
Net change in finance receivables ²	(4,889)	(406)
Cash flow for investment	\$ (6,534)	\$ (8,471)
Net change in bank debt ²	4,993	302
Repurchase of equity	---	(1,474)
New equity issued	---	173
Dividends paid	(600)	(1,963)
Cash flow for financing	\$ 4,393	\$ (2,962)
Net cash flow	\$ (129)	\$ 161

¹ Net income less equity in earnings of finance subsidiary plus dividends received.

² Only net entries possible from data provided.

Exhibit 13S-3 Moore Motors--Equity Method
 Statement of Cash Flows
 Direct Method:

Sales	\$ 110,448	
(accounts receivable)	(906)	
Cash collections		\$109,542
Cost-of-goods-sold	(94,683)	
(inventories)	(45)	
(accounts payable)	(189)	
Cash inputs		(94,917)
Selling and administrative	(6,386)	

(accrued liabilities)	2,793	
Cash administration		(3,593)
Interest expense		(849)
Interest income		1,980
Dividend from MMF		600
Miscellaneous operating cash flow		(414)
Income tax expense	(1,733)	
(accrued income tax)	741	
Income taxes paid		(992)
(intercompany receivable)		(380)
(payables)		617
Cash flow from operations		\$ 11,594

Moore Motors Finance

Direct Method:

Finance revenues	\$ 14,504	
(finance receivables)	(4,889)	
Cash collections		\$ 9,615
Interest expense	(7,908)	
Cash inputs		(7,908)
Net cash collections		\$ 1,707
Selling and administrative	(3,540)	
(accrued liabilities)	(366)	
Cash administration		(3,906)
Income tax expense		(441)
(intercompany receivable)		380
(intercompany payables)		(617)
Cash flow from operations ¹		\$ (2,877)

¹ Cash flow from operations reported under the indirect method is \$2,012. The difference of \$4,889 [\$2,012 - (\$2,877)] results from reclassification of the change in finance receivables from investment to operating cash flow.

11.a. Under current U.S. GAAP, the increase in ownership from 25 to 33% would have no effect; Ford would continue to use the equity method to account for its investment in Mazda.

b. Under the proposed FASB standard, it is likely that Ford would have to consolidate Mazda as it now has management control (including substantial board representation). If there is no other significant shareholder, the presumption of control would be strengthened. Possible Japanese government restriction on control of Japanese firms by foreign firms would also have to be considered.

c. (i) Proportionate consolidation would replace Ford's investment in Mazda with its proportionate share of Mazda's assets and liabilities. The resulting balance

sheet would give financial statement users a more complete picture of Ford's activities. Similarly, the income statement and cash flow statement would include Ford's share of Mazda's income, expenses, and cash flows.

(ii) Unless Ford is fully responsible for Mazda's debt, full consolidation would overstate the importance of Mazda to Ford.

12.a. Modo Paper is described on page 22 of the Holmen annual report. The formation of Modo Paper is described on page 27 and there are references to the effect of the transaction. Footnotes 9, 10, and 11 report the effect of the deconsolidation of Modo on intangible assets, fixed assets, and financial assets (investments) respectively.

The transaction replaced the assets and liabilities of the operations that were contributed to Modo Paper with a net investment in Modo (Associate companies). The result is to reduce Holmen's reported assets and liabilities.

As Modo is excluded from the consolidated group as of October 1, 1999, its revenues, expenses, and cash flows are no longer included in Holmen's income and cash flow statements after that date. Instead, Holmen reports its "interest in earnings of associate companies." The cash flow statement does not explicitly show transactions with Modo but Holmen must report transactions between itself and Modo rather than the cash flows of Modo.

b. (i) The current ratio of Holmen is affected as the current assets and liabilities of Modo are excluded. The effect of deconsolidation depends on the current ratios of Holmen and Modo. If the latter is higher, then consolidation reduces Holmen's current ratio.

(ii) The fixed asset turnover ratio is also affected by the deconsolidation as both revenues and fixed assets now exclude those of Modo. We can judge the effect by examining Holmen's disclosures.

The segment data on page 30 shows the effect of deconsolidation on Holmen's 1999 revenue. If we take the gross revenues (before intra-group elimination) and increase the "divested" amount by one-third (Modo is included only for nine months), we find that the divested operations accounted for more than 40% of revenues (all amounts in SKr millions):

<i>Revenues</i>	<i>Reported</i>	<i>Adjusted</i>	<i>%</i>
Group	16,404	16,404	59.6%
Divested*	<u>8,345</u>	<u>11,127</u>	<u>40.4%</u>
Total	24,749	27,531	100.0%

* Adjusted equals reported x 4/3

Using the data in footnote 11, we can separate the divested fixed assets from group assets at the beginning of 1999:

<i>Fixed assets</i>	<i>%</i>	
Group	20,707	75.4%
Divested	<u>6,738</u>	<u>24.6%</u>
Total	27,445	100.0%

As the divested assets accounted for a larger percentage of revenues than the percentage they represented of total (fixed) assets, asset turnover is reduced by the deconsolidation. The operations contributed to Modo were less fixed asset intensive than the remaining operations.

(iii) Return on equity is unchanged by deconsolidation. Both net income and equity remain the same. However Modo was formed by merging Holmen's contributed operations with those contributed by SCA (the joint venture partner). The combined operation is likely to have an ROE that differs from that of Holmen so that Holmen's ROE will be affected by recording its share of the joint venture earnings.

14.a. (All data in \$ thousands)

Nucor's minority interest fell by \$1,525 (\$280,871 - \$282,396) in 1999. This decrease must reflect the minority interest in income and capital contributions or distributions during the year. Given distributions of \$87,177 the minority interest in 1999 income must be equal to the:

$$\begin{aligned} \text{Change in minority interest} &= 1999 \text{ income} - \text{distributions} \\ (\$1,525) &= ? & - \$87,177 \\ \text{Therefore: } ? &= (\$1,525) + \$87,177 & = \$85,652 \end{aligned}$$

This amount represents the 49% of the 1999 net income of the joint venture that accrues to the minority shareholder rather than to Nucor.

b. Dividing the data provided by .49 results in 100% of the 1999 net income and 1998 - 1999 equity of the joint venture:

$$\begin{aligned} 1999 \text{ net income} &= \$85,652 / .49 = \$174,800 \\ 12-31-98 \text{ equity} &= \$282,396 / .49 = \$576,318 \\ 12-31-99 \text{ equity} &= \$124,048 / .49 = \$253,206 \end{aligned}$$

$$\begin{aligned} 1999 \text{ return on (average) equity equals:} \\ \$174,800 / \$574,762 &= 30.4\% \end{aligned}$$

$$\begin{aligned} \text{ROE can also be computed directly from the minority interest data:} \\ \$85,652 / \$281,634 &= 30.4\% \\ \text{where } \$281,634 &\text{ is the average minority interest.} \end{aligned}$$

c. The answer mainly depends on how the joint venturers are responsible for the

liabilities of the venture. If each party is responsible only for its share of joint venture debt, there is a strong argument for reflecting only that portion of the debt on Nucor's balance sheet (and only its share of the assets as well).

profitable.

d. (i) From the point of view of Nucor management, proportionate consolidation has two advantages. First, it can hide the profitability of the joint venture, as the analysis in part b would no longer be possible. This may be a competitive advantage. The second advantage is that reported debt and debt-based ratios decline under proportionate consolidation. The only possible disadvantage is that reported sales and assets also decline under proportionate consolidation.

(ii) From the point of view of a financial analyst, full consolidation is better in that the analysis in part a can determine the profitability of the joint venture and thus help the analyst understand the source of Nucor earnings.

15a. See Exhibit 13S-5

b. *Lumex Segment:*

Modest but relatively stable operating profit margin

No trend in ROA or asset turnover

Capex rose from half of depreciation in 1992 to approximately equal for 1993/1994

Cybox Segment:

Erratic operating profit margin, declining in 1993-4

Erratic ROA; negative in 1993

Rising asset turnover but below Lumex segment

Capex relative to depreciation over 1 and rising

c. Segment results are affected by allocation of parent overhead. Trends are affected by acquisitions and divestitures, price changes, and exchange rate changes.

Comparisons with other companies are affected by the same factors. In addition, seemingly similar segments of different firms may have different customer bases, product mixes, or production processes that limit their comparability.

d. Improved segment analysis requires better understanding of the economic factors that affect segment sales and profitability, as well as the impact of acquisitions and divestitures, and price and exchange rate changes.

e. Sale of the Lumex segment, with its stable profitability, left the company exposed to the volatile Cybox segment. The segment data permitted analysts to see that sale of the Lumex segment would force the firm to confront the operating difficulties of Cybox.

In early 1997, the company merged with a better managed company in the exercise equipment field, expecting that the combined firms would prove more

Exhibit 13S-5

Lumex

Industry Segments

Ratio Computations, 1992
to 1994

\$ in thousands

Years Ended December 31 (\$000)

Lumex Segment

	<i>1992</i>	<i>1993</i>	<i>1994</i>
Sales	\$50,038	\$54,187	\$60,764
Operating profit	3,445	3,881	4,012
Identifiable assets	24,297	24,756	28,659
Capital expenditures	603	1,481	1,532
Depreciation and amortization	1,142	1,283	1,568
Operating profit margin	6.9%	7.2%	6.6%
Return on ending assets	14.2%	15.7%	14.0%
Asset turnover	2.06	2.19	2.12
Capex-to-depreciation	0.53	1.15	0.98

Cybex Segment

Sales	\$53,850	\$54,781	\$70,420
Operating profit	3,690	(692)	2,218
Identifiable assets	31,452	32,117	37,087
Capital expenditures	1,550	1,736	2,047
Depreciation and amortization	1,382	1,523	1,671
Operating profit margin	6.9%	-1.3%	3.1%
Return on ending assets	11.7%	-2.2%	6.0%
Asset turnover	1.71	1.71	1.90
Capex-to-depreciation	1.12	1.14	1.23
