

A210 - Final Exam
Fall 1997
Suggested Solutions

PART I: Philip Morris (Receivables)

1. \$4633 m [4466+167].
2. a. The calculation below assumes no other entries relating to acquisitions. This is not likely to be true but we have no other information to rely on. See also answer to Part VII Q 1.

1996 Allowance for uncollectibles

Written		Op. Bal.	163
Off	23	Bad debts Expense	27
		Cl. Bal.	167

- b. No effect on net income. Over time, provision for bad debts will likely be adjusted.

PART II: Philip Morris (Inventories)

1. a. Gross Profit Margin for 1996 is 40.45% (27993/69204). This uses Philip Morris' definition of Gross Profit.

b.

$$\begin{aligned}\text{Gross Profit (under FIFO)} &= \text{Gross Profit (under LIFO)} + \Delta\text{LIFO reserve} \\ &= 27993 + (965-750) \\ &= 28208\end{aligned}$$

$$\text{Gross Profit Margin (under FIFO)} = 40.76\% (28208/69204).$$

c. Gross Margin under (a) is more meaningful because the most recent costs (LIFO) are matched against current revenues.

2. The two factors are i) change in inventory prices and ii) change in quantity of inventories. The information provided does not permit identifying the separate effects.

3. Higher.

$$\begin{array}{rcl}\text{Retained earnings under LIFO} & = & 22478 \\ \text{Add: LIFO reserve x (1-taxrate)} & = & 579 \\ & & 965 \times (1-.40) \\ & & \hline & & \underline{\underline{23057}}\end{array}$$

Part III: Philip Morris (Income Taxes)

1. Provision for taxes = 41% (4380/10683).
Net Income before taxes

This rate is different from the statutory rate of 35% because of permanent differences and/or state and local income taxes.

2.

Income Tax Payable			
		Op. Bal.	1137
Income tax	3861	Prov. for	3993 [4380 - 387]
Paid		Income taxes	
		Cl. Bal.	1269

Income tax paid is different from provision for income tax because:

- i) Income taxes due is ascertained after the end of the fiscal year and only part of the income tax due for the current (fiscal) year would have been paid during the fiscal year .
 - ii) A portion of the taxes is deferred because of temporary differences (Deferred taxes).
- 3.
- a. $\$3636 \text{ m} + \$731 \text{ m} = \$4367 \text{ m}$.
 - b. \$1269 million
 - c. Deferred taxes represent taxes postponed due to temporary differences. Income tax payable represents the amount of taxes still payable with the current year's tax return. There could be accrued taxes for financial services, but the amount may be small enough that it is not separately disclosed but included in other liabilities.

Part IV: Philip Morris (Long-Term Debt)

1.
 - a. Yes. At least one issued at a discount because the average effective rate on the Debentures exceeds the maximum coupon rate. Also, face value of debentures is \$1.2 billion which exceeds the amount recognized.
 - b. Estimate of 1997 interest expense for debentures = $1046 * 10.77\% = \$112.65$ million, ignoring semi-annual compounding.

2.
 - a. The fair value of debt will decrease. It will have no effect on the financial statements. Accounting for long-term debt is done using the effective interest rate method based on interest (market) rates at the date of issuance. Subsequent changes in interest rates do not affect the value of debt on the books.

 - b. The fair value of debt at the end of 1996 was \$15.3 billion compared to the book value of debt which was \$14.8 million [$\$13.673 + \1.134 m]. This suggests that, on average, interest rates have declined since the issuance of debt.

PART V: Philip Morris (Pensions)

1. Overfunded by \$2221 million [\$7101-\$4880] using the Projected Benefit Obligation. Overfunded by \$2871 million [\$7101-\$4230] using the Accumulated Benefit Obligation. The market value of plan assets exceeds the present value of all projected future obligations to retirees.
2.
 - a. The actual return on plan assets has been volatile. But the plan has done unexpectedly well in 1996 and 1995. For 1996, the actual return was \$980 m whereas the expected return was only \$533m (\$980-\$447). There was a positive (actual) return of \$1344 million in 1995 while the plan assets incurred a loss of \$94 million in 1994.
 - b. Most of the gains is deferred. The expected return is accounted in the pension expense which is \$533, \$496, \$211 million for years 1996, 1995, and 1994 respectively. Therefore, the actual performance of plan assets does not affect pension expense in the current year.
3.
 - a. \$833 million (prepaid pension cost)
 - b. As part of other assets.
 - c. "Stuff" – e.g., Deferred gains and losses on pension plan assets, amortization of prior service cost.
4. Philip Morris decreased their pension obligations by increasing the discount rate from 7.25% to 7.75%. Increasing the discount rate reduces the present value of future obligations.

PART VI: Philip Morris (Stockholders' Equity)

1. Retained Earnings

2.

a. 3462 million

b.

Dividends Payable			
			834
Paid	3462	Declared (plug)	3606
			978

3. \$9387 million.

PART VII: Philip Morris (Cash Flow Statement)

1. Change in accounts receivable reflect (among other things) additions (and/or deletions) relating to acquisitions and sales of business which are included in the investing section of the cash flow statement.
2. Philip Morris is essentially a "cash cow". They generate an enormous amount of cash flow from operations year after year (\$7 billion for each of the past 3 years). Since Philip Morris is a dividend paying company much of the cash flow from operations is used to pay dividends and to undertake capital expenditures and acquire businesses. Since they did not make any major acquisitions in the last 3 years they also returned money to shareholders in the form of share repurchases.

Part VIII: Philip Morris (Acquisitions)

1. \$12.9 billion
2. $\$12.9 - \$11.6 = \$1.3$ billion
3.
 - a. \$11.6 billion. A predominant portion of goodwill is likely to represent brand value of Kraft.
→ Any reasonable answer is OK.
 - b. Philip Morris amortizes goodwill over 40 years. At the end of 1996, eight years amortization would bring the value of goodwill relating to Kraft to approximately \$9.28 billion [Amortization for 8 years = $11.6/40 \times 8 = \$2.32$ billion].
The discussion of the current value of goodwill should focus on:
 - a) the arguably growing popularity of generic brands and,
 - b) expected excess future earning power of Kraft business.
4.
 - a. Net income under the pooling method is likely to be higher because under the pooling method the net income would include Kraft's net income for 1988 and also no goodwill amortization would be recorded. If Kraft had substantial net losses in the months just prior to the acquisition the effect could be reversed. This is not likely.
 - b. The net income will increase by the amount of goodwill amortization (one month i.e., Dec 7 to Dec 31) recorded under the purchase method which is \$24 million and Kraft's income in 1988 for 11 months prior to acquisition. Goodwill amortization is calculated as follows:
Amortization for 1yr = $11.6/40 = \$290\text{m}$. For one month, amortization = $290/12 = \$24$ m (approx).

Part IX: Philip Morris (ratios)

1. PE ratio for 1996 = 119/7.68 = 15.49
Market to book ratio = Market value of equity/Book value of equity
= Price * shares outstanding/Book value of equity
= (119*810.448m shares)/14218
=6.78

2. a. Yes.

$$P/E \text{ ratio} = \frac{\$119}{\$7.68} = 15.49$$

M/B ratio =

$$= \frac{\text{Market value of Equity}}{\text{Book value of Equity}} = \frac{\text{Price} \times \text{Shares Outstanding}}{\text{Book value of Equity}}$$
$$= \frac{119 \times 810.448\text{m}}{14218} = \frac{96443}{14218} = 6.78$$

- i) Inventories at current prices would be \$965 million higher,
 - ii) Pension plan assets net of obligations of \$2221 million (US plans),
 - iii) Liabilities (Long-Term Debt) fair value of \$15.3 billion is higher than the book value of \$14.8 billion.
- b. Unrecorded intangible assets. For Philip Morris, the value of brand names internally generated (e.g., Marlboro, Miller). Unrecorded liabilities associated with lawsuits would reduce market to book ratio.
- c. There are trade-offs involved in deciding whether to include these items in the balance sheet. These items are certainly relevant for valuation purposes (i.e., they are potentially valuable to investors) but it is difficult to objectively measure them.

Part X: Philip Morris (Revenue Recognition)

1. For revenue on sales to wholesalers to be recognized such revenue must be earned and realized. While realizability may not be at question, whether revenues have been earned is disputable. If wholesalers can return "stale" cigarettes because of excess stocking and lack of demand for cigarettes then not all of the revenues to wholesalers under the 'trade loading' practice should be recognized. Alternatively, Philip Morris could make a provision for expected returns from wholesalers which is what they actually do. Philip Morris can, however, defend the trade loading practice arguing that it is part of their marketing strategy to provide incentives (price reductions or quantity discounts) to distributors and they do not influence (or coerce) the wholesalers to buy excess inventory surrounding quarter ends. However, Philip Morris' large market power raises issues of potential coercion.
2.
 - a. Trade loading will reduce Philip Morris's inventory levels relative to no trade loading at the end of any quarter because of the "trade loaded" inventories sold to wholesalers. At the end of the first month of the following quarter, given the assumption of constant production, the inventory levels at Philip Morris will increase because of reduced demand from their distributors.
 - b. If trade loading increases in any given quarter then net income for the quarter will also increase. The effect of trade loading on net income is influenced by two offsetting factors: i) reduced sales early in the quarter due to trade loading in the previous quarter and ii) increased sales later in the quarter due to trade loading in the current quarter.
 - c.
 - i) consumer demand for tobacco products,
 - ii) demand from wholesalers,
 - iii) willingness of wholesalers to purchase stock in excess and hence the relationship with wholesalers,
 - iv) ability of Philip Morris to continue to give price concessions and other incentives to wholesalers to hold inventories.
 - d. If the inventory of \$200 to \$300 million still remained in Philip Morris' books, revenues would be lower by this amount. Gross Margin (computed in question 1(a) of Part II was 40.45%. Hence operating income would be lower by $40.45\% * \$200$ or $\$300$, i.e., \$80.9 million to \$121.35 million. Assuming a tax rate of 35%, the net income and hence, the book value of equity would have been lower by $\$52.6 \text{ m}$ ($80.9 * (1 - .35)$) to $\$78.9 \text{ m}$ ($121.35 * (1 - .35)$). If an effective tax rate of 41% is assumed the book value of equity will be lower by $\$47.7 \text{ m}$ to $\$71.6 \text{ m}$.
3.
 - a.
 - i) This practice could simply be a part of marketing strategy to provide incentives to distributors.
 - ii) To temporarily increase revenues and net income in the quarter where the prospective price increase was announced.
 - b.

- i) when it stops there could be a large negative effect on net income and/or net income growth (returns and/or sales stopping)
- ii) need to cut prices and provide incentives to induce wholesalers
- iii) practice may reduce credibility of management
- iv) potential sale of stale cigarettes to customers damaging to reputation plus brand image.