

5-9-2019

Analysis of Financial Accounting Theory and Methodologies

Sienna Johnson
University of Mississippi

Follow this and additional works at: https://egrove.olemiss.edu/hon_thesis



Part of the [Accounting Commons](#)

Recommended Citation

Johnson, Sienna, "Analysis of Financial Accounting Theory and Methodologies" (2019). *Honors Theses*. 1101.
https://egrove.olemiss.edu/hon_thesis/1101

This Undergraduate Thesis is brought to you for free and open access by the Honors College (Sally McDonnell Barksdale Honors College) at eGrove. It has been accepted for inclusion in Honors Theses by an authorized administrator of eGrove. For more information, please contact egrove@olemiss.edu.

ANALYSIS OF FINANCIAL ACCOUNTING THEORY AND METHODOLOGIES

by
Sienna J. Johnson

A thesis submitted to the faculty of the University of Mississippi in partial fulfillment of
the requirements of the Sally McDonnell Barksdale Honors College.

Oxford, MS
May 2019

Approved by

Advisor: Dr. Vicki Dickinson

Reader: Dean W. Mark Wilder

ABSTRACT

The following thesis consists of a compilation of eleven case studies pertaining to various accounting theory and methodologies. Each individual case study begins with an executive summary consisting of an introduction, analysis, and conclusion. The following cases were completed throughout the 2017-2018 school year in the course, ACCY 420, taught by Dr. Vicki Dickinson. The following cases consist of detailed analysis of financial statements, accounting methods, and the use and implementation of data analytics software. These cases were individually reviewed and graded throughout the ACCY 420 course, as well as discussed and analyzed through group discussion. This thesis has been defended through participation in the PwC & KPMG Accounting Case Competitions.

TABLE OF CONTENTS

Abstract.....	1
Case Study #1—Home Heaters Inc.	3
Case Study #2—Molson Coors Brewing Co.	16
Case Study #3—Pearson PLC.....	23
Case Study #4—Palfinger AG.....	33
Case Study #5—Volvo Group.....	43
Case Study #6—Data Analytics.....	54
Case Study #7—Rite Aid Corporation.....	66
Case Study #8—Merck & Co.	75
Case Study #9—State Street Corporation.....	82
Case Study #10—ZAAG Inc.	91
Case Study #11—Apple Inc.	101

Home Heaters Inc. – Financial Analysis of Glenwood and Eads

Case Study #1

Executive Summary

Introduction:

This case study consists of transactions made by two companies, Eads Heaters, Inc. and Glenwood Heating, Inc. Both companies sell home heating units, operate under similar economic conditions, and execute identical operations throughout the year. However, at the end of the year, each manager makes different GAAP decisions regarding accounting methods, estimates, and purchasing negotiations. Analysis of these differing methodologies, as well as how they impact the financial statements, reveals the external repercussions of such decisions. While Glenwood Heating, Inc. and Eads Heaters, Inc. prove to be nearly identical companies, the different accounting choices made by each manager alter the financial statements in a way that make one company appear a better investing or lending option. Based on comparison of the two companies' financial statements, Glenwood Heating, Inc. appears to be the better investing or lending option for external users.

Analysis:

The following points contain justification for the conclusion that, based on the financial statements, Glenwood Heating, Inc. would be the better company to invest in or lend money to.

- Allowance for Bad debts (Part B: 1): Eads estimates that five percent of their ending accounts receivable will be uncollectible, while Glenwood has a significantly lower bad debt estimate of one percent. This illustrates that Glenwood exhibits less uncertainty in the collection of their receivables, making them the safer investment option.

- Depreciation of equipment (Part B: 2): Eads predicts a higher rate of depreciation on the delivery equipment purchased in Part A: No. 5 than Glenwood. This results in a \$20,000 depreciation expense versus Glenwood's \$9,000 depreciation expense for the year. This estimate ultimately brings down Eads' retained earnings as well as their net income.
- Operating equipment (Part B: 4): Glenwood and Eads both purchased an identical large piece of operating equipment; however, Glenwood chose to rent the equipment for \$16,000 a year, while Eads negotiated a capital lease agreement for \$92,000. This results in the recording of a \$92,000 long-term lease payable, drastically increasing Eads' liabilities as opposed to Glenwood. The inclusion of this long-term liability adds risk to the company. This results in a higher debt-to-equity ratio for Eads, portraying that they have greater financial leverage but also prove to be the riskier investment option.

Conclusion:

This case study exemplifies the effects of accounting choices on external users when deciding whether to invest or lend money to a company. While these choices may not directly affect the company in the short-run, they may alter the decisions of external users, therefore affecting future investment and financing endeavors. In conclusion, managers should analyze the effects of these GAAP accounting choices on their financial statements when making decisions.

Part 1: Glenwood Heating, Inc. Financial Statements

**Glenwood Heating, Inc.
Balance Sheet
December 31, 20X1**

Assets		Liabilities	
Current Assets		Current Liabilities	
Cash	\$ 426.00	Accounts payable	\$ 26,440.00
Accounts receivable	\$ 99,400.00	Interest payable	\$ 6,650.00
Allowance for bad debts	\$ (994.00)	Total Current Liabilities	\$ 33,090.00
Inventory	\$ 62,800.00		
Total Current Assets	\$ 161,632.00	Long-term Liabilities	
		Notes payable	\$ 380,000.00
Long-term Assets		Total Liabilities	\$ 413,090.00
Land	\$ 70,000.00		
Building	\$ 350,000.00	Equity	
Equipment	\$ 80,000.00	Common stock	\$ 160,000.00
Less: Accumulated depreciation		Retained earnings	\$ 69,542.00
Building	\$ (10,000.00)	Total Equity	\$ 229,542.00
Equipment	\$ (9,000.00)		
Total Assets	\$ 642,632.00	Total Liabilities and Equity	\$ 642,632.00

**Glenwood Heating, Inc.
Income Statement
December 31, 20X1**

Revenue	
Sales	\$ 398,500.00
Cost of Goods Sold	\$ (177,000.00)
Gross Profit	\$ 221,500.00
Expenses	
Other operating expense	\$ (34,200.00)
Bad debt expense	\$ (994.00)
Interest expense	\$ (27,650.00)
Depreciation expense - building	\$ (10,000.00)
Depreciation expense - equipment	\$ (9,000.00)
Rent expense	\$ (16,000.00)
Income before taxes	\$ 123,656.00
Provision for income tax expense	\$ (30,914.00)
Net Income	\$ 92,742.00

Glenwood Heating, Inc.
Statement of Retained Earnings
December 31, 20X1

Retained earnings - January 1, 20X1	\$ -
Plus: Net income	\$ 92,742.00
Less: Dividends	\$ (23,200.00)
Retained earnings - December 31, 20X1	\$ 69,542.00

Part 2: Eads Heaters, Inc. Financial Statements

Eads Heater, Inc.
Balance Sheet
December 31, 20X1

Assets		Liabilities	
Current Assets		Current Liabilities	
Cash	\$ 7,835.00	Accounts payable	\$ 26,440.00
A/R	\$ 99,400.00	Interest payable	\$ 6,650.00
Allowance for bad debts	\$ (4,970.00)	Total Current Liabilities	\$ 33,090.00
Inventory	\$ 51,000.00		
Total Current Assets	\$ 153,265.00	Long-term Liabilities	
Long-term Assets		Note payable	\$ 380,000.00
Land	\$ 70,000.00	Lease payable	\$ 83,360.00
Building	\$ 350,000.00	Total Liabilities	\$ 496,450.00
Equipment	\$ 80,000.00	Equity	
Leased equipment	\$ 92,000.00	Common stock	\$ 160,000.00
Less: Accumulated depreciation		Retained earnings	\$ 47,315.00
Building	\$ (10,000.00)	Total Equity	\$ 207,315.00
Equipment	\$ (20,000.00)		
Leased equipment	\$ (11,500.00)	Total Liabilities and Equity	\$ 703,765.00
Total Assets	\$ 703,765.00		

Eads Heater, Inc.
Income Statement
December 31, 20X1

Revenue		
Sales		\$ 398,500.00
Cost of Goods Sold		\$ (188,800.00)
Gross Profit		\$ 209,700.00
Expenses		
Other operating expense		\$ (34,200.00)
Bad debt expense		\$ (4,970.00)
Interest expense		\$ (35,010.00)
Depreciation expense - building		\$ (10,000.00)
Depreciation expense - equipment		\$ (20,000.00)
Depreciation expense - leased equipment		\$ (11,500.00)
Income before taxes		\$ 94,020.00
Provision for income tax expense		\$ (23,505.00)
Net Income		\$ 70,515.00

Eads Heater, Inc.
Statement of Retained Earnings
December 31, 20X1

Retained earnings - January 1, 20X1	\$ -
Plus: Net income	\$ 70,515.00
Less: Dividends	\$ (23,200.00)
Retained earnings - December 31, 20X1	\$ 47,315.00

Appendix A

Glenwood Heating, Inc. and Eads Heaters, Inc. Beginning Transactions (Part A):

Assets						
	Cash	Accounts receivable	Inventory	Land	Building	Equipment
No. 1	\$ 160,000.00					
No. 2	\$ 400,000.00					
No. 3	\$ (420,000.00)			\$ 70,000.00	\$ 350,000.00	
No. 4	\$ (80,000.00)					\$ 80,000.00
No. 5			\$239,800.00			
No. 6		\$ 398,500.00				
No. 7	\$ 299,100.00	\$ (299,100.00)				
No. 8	\$ (213,360.00)					
No. 9	\$ (41,000.00)					
No. 10	\$ (34,200.00)					
No. 11	\$ (23,200.00)					
No. 12						
Balances	\$ 47,340.00	\$ 99,400.00	\$239,800.00	\$ 70,000.00	\$ 350,000.00	\$ 80,000.00

Liabilities			Equity		
	Accounts payable	Notes payable	Interest Payable	Common stock	Retained Earnings
No. 1				\$160,000.00	
No. 2		\$ 400,000.00			
No. 3					
No. 4					
No. 5	\$ 239,800.00				
No. 6					\$ 398,500.00
No. 7					
No. 8	\$ (213,360.00)				
No. 9		\$ (20,000.00)			\$ (21,000.00)
No. 10					\$ (34,200.00)
No. 11					\$ (23,200.00)
No. 12			\$ 6,650.00		\$ (6,650.00)
Balances	\$ 26,440.00	\$ 380,000.00	\$ 6,650.00	\$160,000.00	\$ 313,450.00

Appendix B

Glenwood Heating, Inc. Ending Transactions (Part B):

Assets

	Cash	Accounts receivable	Allowance for bad debts	Inventory	Land	Building	Accumulated depreciation - building	Equipment	Accumulated depreciation - equipment
Balances: Part A	\$ 47,340.00	\$ 99,400.00	\$-	\$ 239,800.00	\$70,000.00	\$350,000.00	\$-	\$80,000.00	\$-
Part B (1) Bad debts			\$ 994.00						
Part B (2) COGS				\$(177,000.00)					
Part B (3) Depreciation									
Building							\$ 10,000.00		
Equipment									\$ 9,000.00
Part B (4) Equipment									
Rental Payment	\$(16,000.00)								
Part B (5) Income tax	\$(30,914.00)								
Balances	\$ 426.00	\$ 99,400.00	\$ 994.00	\$ 62,800.00	\$70,000.00	\$350,000.00	\$ 10,000.00	\$80,000.00	\$ 9,000.00

Liabilities

Equity

	Accounts payable	Interest Payable	Notes payable	Common stock	Retained Earnings
Balances: Part A	\$ 26,440.00	\$ 6,650.00	\$ 380,000.00	\$ 160,000.00	\$ 313,450.00
Part B (1) Bad debts					\$ (994.00)
Part B (2) COGS					\$ (177,000.00)
Part B (3) Depreciation					
Building					\$ (10,000.00)
Equipment					\$ (9,000.00)
Part B (4) Equipment					
Rental Payment					\$ (16,000.00)
Part B (5) Income tax					\$ (30,914.00)
Balances	\$ 26,440.00	\$ 6,650.00	\$ 380,000.00	\$ 160,000.00	\$ 69,542.00

Glenwood Heating, Inc. Adjusted Trial Balance (Part B):

**Glenwood Heating, Inc.
Part B: Trial Balance**

	Debits	Credits
Cash	\$ 426.00	
Accounts receivable	\$ 99,400.00	
Allowance for bad debts		\$ 994.00
Inventory	\$ 62,800.00	
Land	\$ 70,000.00	
Building	\$ 350,000.00	
Accumulated depreciation- building		\$ 10,000.00
Equipment	\$ 80,000.00	
Accumulated depreciation- equipment		\$ 9,000.00
Accounts payable		\$ 26,440.00
Notes payable		\$ 380,000.00
Interest payable		\$ 6,650.00
Common stock		\$ 160,000.00
Dividend	\$ 23,200.00	
Sales		\$ 398,500.00
Cost of goods sold	\$ 177,000.00	
Other operating expenses	\$ 34,200.00	
Interest expense	\$ 27,650.00	
Bad debts expense	\$ 994.00	
Depreciation expense- building	\$ 10,000.00	
Depreciation expense- equipment	\$ 9,000.00	
Rent expense	\$ 16,000.00	
Provision for income tax	\$ 30,914.00	
Total	\$ 991,584.00	\$ 991,584.00

Appendix C

Eads Heaters, Inc. Ending Transactions (Part B):

Assets

	Cash	Accounts receivable	Allowance for Bad debts	Inventory	Land	Building
Balances: Part A	\$ 47,340.00	\$ 99,400.00	\$ -	\$ 239,800.00	\$ 70,000.00	\$ 350,000.00
Part B (1) Bad debts			\$ 4,970.00			
Part B (2) COGS				\$ (188,800.00)		
Part B (3) Depreciation						
Building						
Equipment						
Part B (4) Equipment						
Lease						
Lease payment	\$ (16,000.00)					
Depreciation						
Part B (5) Income tax	\$ (23,505.00)					
Balances	\$ 7,835.00	\$ 99,400.00	\$ 4,970.00	\$ 51,000.00	\$ 70,000.00	\$ 350,000.00

Assets

	Accumulated depreciation-building	Equipment	Accumulated depreciation-equipment	Leased equipment	Accumulated depreciation-leased equipment
Balances: Part A	\$ -	\$ 80,000.00	\$ -	\$ -	\$ -
Part B (1) Bad debts					
Part B (2) COGS					
Part B (3) Depreciation					
Building	\$ 10,000.00				
Equipment			\$ 20,000.00		
Part B (4) Equipment					
Lease				\$ 92,000.00	
Lease payment					
Depreciation					\$ 11,500.00
Part B (5) Income tax					
Balances	\$ 10,000.00	\$ 80,000.00	\$ 20,000.00	\$ 92,000.00	\$ 11,500.00

Liabilities

Equity

	Liabilities				Equity	
	Accounts payable	Interest payable	Notes payable	Lease payable	Common stock	Retained earnings
Balances: Part A	\$ 26,440.00	\$ 6,650.00	\$ 380,000.00	\$ -	\$ 160,000.00	\$ 313,450.00
Part B (1) Bad debts						\$ (4,970.00)
Part B (2) COGS						\$(188,800.00)
Part B (3) Depreciation						
Building						\$ (10,000.00)
Equipment						\$ (20,000.00)
Part B (4) Equipment						
Lease				\$ 92,000.00		
Lease payment				\$ (8,640.00)		\$ (7,360.00)
Depreciation						\$ (11,500.00)
Part B (5) Income tax						\$ (23,505.00)
Balances	\$ 26,440.00	\$ 6,650.00	\$ 380,000.00	\$ 83,360.00	\$ 160,000.00	\$ 47,315.00

Eads Heaters, Inc. Adjusted Trial Balance (Part B):

Eads Heaters, Inc. Part B: Trial Balance		
	Debits	Credits
Cash	\$ 7,835.00	
Accounts receivable	\$ 99,400.00	
Allowance for Bad debts		\$ 4,970.00
Inventory	\$ 51,000.00	
Land	\$ 70,000.00	
Building	\$ 350,000.00	
Accumulated depreciation- building		\$ 10,000.00
Equipment	\$ 80,000.00	
Accumulated depreciation- equipment		\$ 20,000.00
Leased equipment	\$ 92,000.00	
Accumulated depreciation- leased equipment		\$ 11,500.00
Accounts payable		\$ 26,440.00
Notes payable		\$ 380,000.00
Interest payable		\$ 6,650.00
Lease payable		\$ 83,360.00
Common stock		\$ 160,000.00
Dividend	\$ 23,200.00	
Sales		\$ 398,500.00
Cost of goods sold	\$ 188,800.00	
Other operating expenses	\$ 34,200.00	
Bad debts expense	\$ 4,970.00	
Depreciation expense- building	\$ 10,000.00	
Depreciation expense- equipment	\$ 20,000.00	
Depreciation expense- leased equipment	\$ 11,500.00	
Interest expense	\$ 35,010.00	
Provision for income tax	\$ 23,505.00	
Total	\$1,101,420.00	\$1,101,420.00

Appendix D**Bad debts expense calculations:**

Glenwood Heating, Inc.: $\$99,400 \times .01 = \994

Eads Heaters, Inc.: $\$99,400 \times 0.05 = \$4,970$

Equipment depreciation expense calculations:

Glenwood Heating, Inc.: $(\$80,000 - \$8,000) / 8 = \$9,000$

Eads Heaters, Inc.: $80,000 \times 1/8 \times 2 = \$20,000$

Debt-to-equity ratio:

Glenwood Heating, Inc.: $413,090 / 229,542 = 1.8$

Eads Heaters, Inc.: $496,450 / 207,315 = 2.4$

Molson Coors Brewing Co. – Profitability & Earnings Persistence

Case Study #2

Executive Summary

Introduction:

Molson Coors Brewing Company was formed on February 9, 2005 resulting from the merging of Adolph Coors Company and Molson Inc. Molson Coors is committed to producing the highest-quality beers and appeal to a wide range of consumer tastes, styles, and preferences. This case study contains Molson Coors' Consolidated Income Statement, Consolidated Statements of Comprehensive Income, Consolidated Balance Sheet, as well as the notes pertaining to these consolidated financial statements. Questions pertaining to the company's 2013 Income Statement and Statement of Comprehensive Income are addressed in this case.

Analysis:

Parts A, B, C, and D of this case focus on concepts relating to the income statement and statement of comprehensive income. Molson Coors chose wisely in choosing to present a classified income statement because investors and creditors viewing their financial statements will be able to form a better understanding of the company's current financial standing, as well as their ability to generate future cash flows. Molson Coors presents a persistent measure of income, adding consistency to the company's financial statements. Molson Coors also differentiates between net income and comprehensive income, aiding investors and creditors in assessing the company and providing them with the information necessary to make decisions. Parts E, F, G, and H focus on the processes involved in Molson Coors' financial statements. Molson Coors' successfully classifies items such as sales, net sales, special items, and other income (expense) in a way that distinguishes the differences between these items. The separation of net income and comprehensive

income also adds detail to the financial statements, increasing users' abilities to accurately assess the company. Finally, Part J of this case involves the effective tax rate and the process involved its calculation.

Conclusion:

This case has helped me to realize the value and importance of a company's ability to successfully classify their financial statements, as well as include sufficient detail so that investors and creditors may accurately assess the company. I have also gained a greater appreciation for the notes included with the financial statements. I now see the importance of clarifying why a company classifies items in a certain way, as well as what kind of items are included in these classifications. This case has made me realize how beneficial notes can be in providing investors and creditors with the material necessary for a full understanding of the company.

a. **What are the major classifications on an income statement?**

- **Sales or Revenue**—Presents sales, sales discounts, sales returns and allowances, and other related information. The subtotal “net sales” is determined at the end of this section.
- **Cost of Goods Sold**—Shows the cost of goods that were sold to generate sales.
- **Operating Expenses: Selling Expenses**—Expenses resulting from the company's efforts to generate sales (i.e. Sales salary expense, delivery expense, advertising expense)
- **Operating Expenses: Administrative or General Expenses**—Expenses of general administration (i.e. Office salary expense, utilities expense, insurance expense)

- **Other Revenues and Gains**—Revenues recognized or gains incurred as a result of non-operating activities
 - **Other Expenses and Losses**—Expenses recognized or losses incurred as a result of non-operating activities
 - **Income Tax**—Federal and state taxes levied on income from continuing operations
 - **Discontinued Operations**—Gains or losses resulting from the disposal of a certain product line or segment of a company's business
 - **Non-controlling Interest**—An allocation of income to non-controlling shareholders
 - **Earnings Per Share**- A measure of performance over the reporting period. Earnings per share is calculated by dividing net income less preferred dividends by the weighted average of common shares outstanding.
- b. **Why does U.S. GAAP require companies to provide “classified” income statements?**
- U.S. GAAP requires companies to provide “classified” income statements because this form provides investors and creditors with the most detail. Being that most decision-makers find the parts of a financial statement to be more useful than the whole, it is crucial that companies provide as much detail in their financial statements as possible. Providing this detail allows decision-makers to better assess future income and cash flows.
- c. **Why might financial statement users be interested in a measure of persistent income?**

- Financial statement users are interested in a measure of persistent income so that they may compare the company's financial statements from year to year.

Measures of persistent income improve the comparability as well as the consistency of the company's financial statements. A persistent income also aids in the user's ability to predict the nature and timing of future cash flows.

d. **What is comprehensive income and how does it differ from net income?**

- Comprehensive income includes all changes in equity during a period except those resulting from investments by owners and distributions to owners.

Comprehensive income differs from net income in that it provides a broader measure of income by including income and expenses that have not yet been realized by the company.

e. **What is the difference between "Sales" and "Net sales?" Why does Molson Coors report these two items separately?**

- Sales are the total amount of revenue a company receives from transactions, while net sales include deductions from sales returns and allowances and sales discounts. Molson Coors reports these two items separately so that users can differentiate between the initial revenue generated from sales and the net value of sales after deductions have been made.

f. **Consider the income statement items "Special items, net" and information in Notes 1 and 8.**

i. **What types of items does Molson Coors include in this line item?**

- Molson Coors records items that are not indicative of their core operations as "special items." Specifically, Molson Coors considers these special items to be one of the following: infrequent or unusual items, impairment or asset

abandonment-related losses, restructuring charges and other atypical employee-related costs, or fees on termination of significant operating agreements and gains (losses) on disposal of investments.

- ii. **Why does the company report these on a separate line item rather than including them with another expense item? Do you agree with Molson Coors decision to classify these items as operating expenses?**

➤ The company records these special items on a special line item in order to differentiate them from other expenses. Special items differ from the company's other expenses in that they are a product of activities not indicative of the company's core operations. However, special items should be included as an operating expense because while they are not related to the company's core operations, they do deal with operating related activities.

- g. **Consider the income statement item "Other income (expense), net" and the information in Note 6. What is the distinction between "Other income (expense), net" which is classified a non-operating expense, and "Special items, net" which Molson Coors classifies as operating expenses?**

➤ The distinction between other income expenses and special items pertains to their incorporation with the company's operations. While special items are unusual and unrelated to core operations, they still pertain to the company's operations; therefore, justifying their classification in the operating expense category. On the other hand, other income expenses are completely unrelated to the company's operations; therefore, they should be classified as a non-operating expense.

- h. **Refer to the statement of comprehensive income.**

i. What is the amount of comprehensive income in 2013? How does this amount compare to net income in 2013?

- Molson Coors' comprehensive income in 2013 was \$765.40 while net income was \$572.50. The comprehensive income amount is greater than the amount of net income because it represents a broader measure of income, including items not yet realized by the company.

ii. What accounts for the difference between net income and comprehensive income in 2013? How are the items included in Molson Coors' comprehensive income related?

- Comprehensive income differs from net income due to the inclusion of foreign currency translation adjustments, an unrealized gain on derivative instruments, reclassification of derivative loss to income, pension and other postretirement benefit adjustments, amortization of net prior service benefit cost and net actuarial gain to income, and ownership share of unconsolidated subsidiaries' other comprehensive income. These items are considered to be "dirty surplus" items. These items are volatile and are not easily predictable; therefore, they are included in the broader category of income (comprehensive income) but not in the calculation of net income. They are not included in net income so that they do not negatively affect the decisions of investors and creditors when analyzing the company's net income.

j. What is Molson Coors' effective tax rate in 2013?

- Molson Coors' effective tax rate in 2013 is 12.8%. This rate derives from the division of income tax expense by the company's pre-tax income.

Pearson PLC – Accounts Receivable

Case Study #3

Executive Summary

Introduction:

Headquartered in London, England, Pearson is an international company with businesses in education, business information, and consumer publishing. This case includes the company's Consolidated Income Statement, Consolidated Statement of Comprehensive Income, Consolidated Balance Sheet, and essential notes to these 2009 financial statements. This case focuses on accounts receivable, as well as certain contra accounts such as allowance for doubtful accounts and allowance for sales returns and allowances. This case relays information relating to the definitions of these accounts, methods in which companies estimate allowances, and the identification and analysis of these accounts in Pearson's consolidated financial statements and footnotes.

Analysis:

Parts A, B, and C of this case provide information on accounts receivable and contra accounts. In part C, the allowance for doubtful accounts and allowance for sales returns and allowances are identified as contra accounts present in Pearson's financial statements. Part D presents two different methods companies use in determining estimates for these contra accounts, the percentage-of-sales procedure and aging-of-accounts procedure. While both of these methods are used by companies when producing allowance estimates, the aging-of-accounts procedure proves to yield the most accurate estimates because it deals with each account individually and uses the characteristic of time to determine potentially uncollectible accounts. Part E provides information regarding why companies continue to extend credit to customers even though there is risk that these accounts will be uncollectible. While companies will always face

risk when extending credit, the risk of dealing with credit sales is outweighed by the benefit of increased sales that these credit ventures yield. However, the risks could potentially outweigh the benefits if management does not successfully estimate an accurate allowance for these potentially uncollectible accounts. Parts F, G, and H present Pearson's allowance for doubtful accounts, allowance for sales returns and allowances, and accounts receivable T-accounts as well as the journal entries that go along with certain transactions. It is interesting to note the way in which the activity in allowance for doubtful accounts and sales returns and allowances ultimately affect accounts receivable.

Conclusion:

This case has provided me with a greater understanding of receivables, as well as allowance for doubtful accounts and sales returns and allowances. The portrayal of how these contra accounts affect the company's receivables have helped me to gain awareness of just how important it is for management to provide accurate estimates for these various accounts.

A. What is an account receivable? What other names does this asset go by?

- Account receivables are oral promises of the purchaser to pay for goods and services sold. These assets represent "open accounts" resulting from short-term extensions of credit, and are usually collected within 30-60 days. These assets may also be referred to as "trade receivables."

B. How do accounts receivable differ from notes receivable?

- Accounts receivables differ from notes receivables in that notes receivables are generally written promises to pay a certain sum of money on a specified future

date, while accounts receivables are usually oral promises. While accounts receivables are generally short-term credit extensions collected within 30-60 days, notes receivables may consist of short-term or long-term agreements.

C. What is a contra account? What two contra accounts are associated with Pearson's trade receivables? What types of activities are captured in each of these contra accounts? Describe factors that managers might consider when deciding how to estimate the balance in each of these contra accounts?

- A contra account is an account that deducts from the balance of an ordinary account. For example, the contra asset account, allowance for doubtful accounts, is subtracted from the gross accounts receivable balance yielding a net accounts receivable balance.
- The two contra accounts associated with Pearson's trade receivables are the provisions for bad and doubtful debts account (i.e. allowance for doubtful accounts) and provision for sales returns account (i.e. sales returns and allowances). The allowance for doubtful accounts increases when the company credits the account for the estimation of uncollectible receivables, and decreases when the company debits the account in using up the allowance to write-off uncollectible accounts. The allowance for sales returns and allowances account is similar in that it increases with a debit for the estimation of sales returns and allowances, and decreases with a credit when the actual sales returns are made.
- Managers might consider factors such as the company's history with collecting receivables, specific customer performance, the age of the receivable, the volume of sales made during the year, and many other various factors when estimating the allowance for each of these accounts.

D. Two commonly used approaches for estimating uncollectible accounts receivable are the percentage-of-sales procedure and the aging-of-accounts procedure. Briefly describe these two approaches. What information do managers need to determine the activity and final account balance under each approach? Which of these two approaches do you think results in a more accurate estimate of net accounts receivable?

- The percentage-of-sales method uses a percentage of sales volume for a given period to accurately estimate the uncollectible credit sales for that period. The aging-of-accounts method uses the amount of time receivables have been outstanding to estimate the number of uncollectible receivables.
- Both of these methods require the use of historical information. For the aging-of-accounts method, managers need information regarding the amount of time the receivables have been outstanding, and, based on this amount of time, what percentage of these accounts should be estimated as bad debts. For the percentage-of-sales procedure, managers need information regarding the total amount of sales and any changes in credit policies, as well as historical information regarding the company's past performance.
- The aging-of-receivables approach will yield a more accurate estimate of bad debts because the individual accounts are being actively analyzed based on the specific characteristic of time, as opposed to all being lumped together to create a single estimate. While the percent-of-sales method gives a generalized, less reliable estimate based on past performance, the aging-of-receivables method

provides a specific estimate based on current assumptions and measurable variables; therefore, yielding a more accurate estimate.

E. If Pearson anticipates that some accounts will be uncollectible, why did the company extend credit to those customers in the first place? Discuss the risks managers must consider with respect to accounts receivable.

- The company continues to extend credit to these customers because it believes that the risk of not collecting on account is less than the amount of sales that would potentially be lost if the company only dealt in cash or did not make credit sales to these customers in the first place. In other words, the risk of not collecting accounts is outweighed by the benefit of the boost in sales when credit is extended. Businesses always run the risk of not collecting when extending credit, especially to new customers with no performance history. Management must allow for this when estimating bad debts and ensure an accurate allowance is established so that the company is not negatively impacted by uncollected accounts.

F. Note 22 reports the balance in Pearson's allowance for bad and doubtful debts (for trade receivables) and reports the account activity ("movements") during the year ended December 31, 2009.

- i. **Use the information in Note 22 to complete a T-account that shows the activity in the allowance for bad debts account during the year. Explain the line items that reconcile the change in account during 2009.**

Allowance for Doubtful Accounts	
Exchange differences 5	Beginning balance £72
	Income statement movements 26
	Acquisition through business combination 3
	End of year balance <u>£76</u>

- The “exchange differences” line item results from Pearson engaging in international business, therefore dealing with different currencies. When these various currencies are exchanged for British pounds, the exchange rate may differ, resulting in either a loss or gain for the company. This year, these “exchange differences” resulted in a loss for the company, therefore reducing allowance for doubtful accounts.
- The “income statement movements” line item results from the company having an increase in estimated bad debt expense for the following year.
- The “utilized” line item is a product of the company actually writing-off uncollectible accounts throughout the period.
- The “acquisitions through business combination” line item is a result of Pearson acquiring another company, therefore taking on the company’s allowance accounts as well.

ii. Prepare the journal entries that Pearson recorded during 2009 to capture 1) bad and doubtful debts expense for 2009 (that is, the “income statement movements”) and 2) the write-off of accounts receivable (that is, the amount “utilized”) during 2009. For each

account in your journal entries, note whether the account is a balance sheet or income statement account.

1) Bad debt expense (IS)	£26	
Allowance for doubtful accounts (BS)		£26
2) Allowance for doubtful accounts (BS)	£20	
Accounts receivable (BS)		£20

iii. Where in the income statement is the provision for bad and doubtful debts expense included?

- The bad debt expense is included in the company's selling, general and administrative expenses on the income statement.

G. Note 22 reports that the balance in Pearson's provision for sales returns was £372 at December 31, 2008 and £354 at December 31, 2009. Under U.S. GAAP, this contra account is typically referred to as an "allowance" and reflects the company's anticipated sales returns.

- i. **Complete a T-account that shows the activity in the provision for sales returns account during the year. Assume that Pearson estimated that returns relating to 2009 Sales to be 425 million. In reconciling the change in the account, two types of journal entries are required, one to record the estimated sales returns for the period and one to record the amount of actual book returns.**

Allowance for Sales Returns and Allowances	
	Beginning balance £372
	Estimated sales returns 425
Actual sales returns 443	
	End of year balance <u>£354</u>

- ii. Prepare the journal entries that Pearson recorded during 2009 to capture 1) the 2009 estimated sales returns and 2) the amount of actual book returns during 2009. In your answer, note whether each account in the journal entries is a balance sheet or income statement account.

1) Sales returns (IS)	£425
Allowance for sales returns and allowances (BS)	£425
2) Sales returns (IS)	£443
Accounts receivable (BS)	£443

- iii. In which income statement line item does the amount of 2009 estimated sales returns appear?

- The amount of 2009 estimated sales returns appears as a reduction to gross sales on the income statement.

H. Create a T-account for total or gross trade receivables (that is, trade receivables before deducting the provision for bad and doubtful debts and the provision for sales returns). Analyze the change in this T-account between December 31, 2008 and 2009. Assume that all sales in 2009 were on account. That is, they are all “credit sales.” You may assume that there were no changes to the account due to business combinations or foreign exchange changes. Prepare the journal entries to record the sales on account and accounts receivable collection activity in this account during the year.

Accounts Receivable

Beginning balance £1,342 Credit sales 5,642	Cash collections 5,237 Write-off of bad debts 20 Sales returns 443
End of year balance <u>£1,284</u>	

1) Accounts receivable	£5,642	
Sales		£5,642
2) Cash	£5,237	
Accounts receivable		£5,237

Palfinger AG – Property, Plant, & Equipment

Case Study #4

Executive Summary

Introduction:

Headquartered in Bergheim, Austria, Palfinger AG manufactures hydraulic lifting, loading, and handling solutions. Palfinger manufactures a variety of different kinds of cranes, such as the knuckle boom crane, timber recycling crane, and the telescopic crane. In addition to cranes, Palfinger also manufactures several other handling machineries such as container handling systems, tailgates, aerial work platforms, forklifts, and railway systems. Being that Palfinger manufactures equipment, and also requires the use of other pieces of equipment in the process of this manufacturing, the company's "Property, plant, and equipment" proves to be its largest and most important asset. The way in which Palfinger accounts for and depreciates its property, plant, and equipment is vital to the success of the company.

Analysis:

Being that Palfinger's primary asset is its property, plant, and equipment, this case focuses primarily on the topics of PPE and depreciation. Parts A-F of this case focus on concepts behind Palfinger's property, plant, and equipment and how they depreciate these assets. PPE consists of non-current or long-term assets that a company uses in its operations. The PPE for Palfinger most likely includes cranes, heavy machinery, trucks, warehouses, production facilities, and land. Palfinger accounts for its PPE in the body of the financial statements, as well as in the notes to these financial statements. Palfinger chooses to depreciate its assets using the straight-line depreciation method, which seems appropriate considering the PPE used in operations should generally depreciate on a steady basis. However, if Palfinger recognizes that a substantial percentage of its

equipment becomes obsolete or unusable before it can be fully depreciated to its salvage value, the company may want to consider switching to the double-declining-balance depreciation method. This method recognizes accelerated depreciation in the early years of the assets useful life. Parts G-J regard the processes in which Palfinger depreciates and accounts for its PPE. The amounts for purchases of new PPE, government grants, depreciation expense, and net book value of disposed assets are provided in this section. Tables containing Palfinger's depreciation expense as well as net book value of its PPE using both depreciation methods is also provided. Interestingly, the total income statement effect of the sale of equipment did not differ with the use of either depreciation method.

Conclusion:

This case provided me with a large amount of new knowledge regarding property, plant, and equipment as well as its depreciation. The use of the different depreciation methods, and their impact on depreciation expense as well as net book value of the company's PPE was interesting to note. It is very important for a company to know the rate in which their equipment depreciates, and choose a depreciation method that aligns closely with this physical depreciation. This alignment will provide the most accurate value of PPE, as well as the most accurate depreciation expense and net income for the company. Overall, this case made me realize the importance of the valuation and depreciation of property, plant, and equipment.

a. Based on the description of Palfinger above, what sort of property and equipment do you think the company has?

- Being that Palfinger manufactures hydraulic lifting, loading, and handling solutions, Palfinger most likely has property and equipment of cranes, warehouses, transportation vehicles (trucks), factories, and land for these factories.

b. The 2007 balance sheet shows property, plant, and equipment of €149,990. What does this number represent?

- This number represents Palfinger's long-term or noncurrent assets. These assets are valued at their historical cost on the balance sheet.

c. What types of equipment does Palfinger report in notes to the financial statements?

- Palfinger reports their own buildings as well as investments in third-party buildings, plant and machinery, and fixtures, fittings, and equipment in the notes to their financial statements.

d. In the notes, Palfinger reports "Prepayments and assets under construction."

What does this sub-account represent? Why does this account have no accumulated depreciation? Explain the reclassification of €14,958 in this account during 2007.

- The subaccount of "Prepayments and assets under construction" represents advance payments made by the company to acquire new assets and assets that are

currently under construction. These assets are grouped together in a separate sub-account due to the fact that they both do not require depreciation because they are not currently being used in the company's operations. Instead, once the prepaid assets are attained and the assets under construction are completed, they are added to the "Property, plant, and equipment" section of the balance sheet and depreciated. The 2007 reclassification of €14,958 is due to the company putting these assets into operations, therefore taking them out of the sub-account and putting them into the "Property, plant, and equipment" account on the balance sheet. These assets are now subject to depreciation because they are now available for use.

e. How does Palfinger depreciate its property and equipment? Does this policy seem reasonable? Explain the trade-offs management makes in choosing a depreciation policy.

- Palfinger depreciates its property and equipment using the straight-line method. This seems like a reasonable depreciation method because the machinery the company uses in their operations does not generally have an accelerated depreciation during the early years of its operations. Instead, this machinery depreciates at a generally steady and consistent pace throughout its useful life. However, Palfinger could potentially realize an inaccurate amount of accumulated depreciation with the straight-line method if its equipment becomes obsolete or outdated before it reaches salvage value. If this is the case for a majority of Palfinger's equipment, the company may need to consider switching to the double-declining-balance depreciation method.

f. Palfinger routinely opts to perform major renovations and value-enhancing modifications to equipment and buildings rather than buy new assets. How does Palfinger treat these expenditures? What is the alternative accounting treatment?

- Palfinger treats these renovation and value-enhancing modification expenses as current expenses recognized in the year in which they occur. These expenses are capitalized and depreciated over either the new, or original useful life of the asset. An alternative treatment for these renovations and value-enhancing modifications would be to subtract the value of the renovation from the accumulated depreciation of the asset.

g. Use the information in the financial statement notes to analyze the activity in the “Property, plant and equipment” and “Accumulated depreciation and impairment” accounts for 2007. Determine the following amounts:

- The purchase of new property, plant and equipment in fiscal 2007.
- The purchases of new PPE assets are recorded in the “additions” line found in financial statement notes. The amount of these purchases is stated as €61, 444.
- Government grants for purchases of new property, plant, and equipment in 2007.

Explain what these grants are and why they are deducted from the property, plant, and equipment account.

- Government grants for purchases of new PPE in 2007 are €733. These grants are deducted from PPE in order to reduce the purchase price to the net realizable value of the asset.

- Depreciation expense for fiscal 2007.
- The depreciation expense for 2007 is €12,557.
- The new book value of property, plant, and equipment that Palfinger disposed of in fiscal 2007.
- The net book value of the PPE that Palfinger disposed of in 2007 is €1,501. This amount represents the historical cost of the assets less their accumulated depreciation.

h. The statement of cash flows (not presented) reports that Palfinger received proceeds on the sale of property, plant, and equipment amounting to €1,655 in fiscal 2007. Calculate the gain or loss that Palfinger incurred on this transaction. Hint: use the book value you calculated in part g above. Explain what this gain or loss represents in economic terms.

- Palfinger incurred a gain of €154 during this transaction. This gain represents a period of economic inflation, resulting in a higher fair value price for Palfinger's PPE.

i. Consider the €10,673 added to “Other plant, fixtures, fittings, and equipment” during fiscal 2007. Assume that these net assets have an expected useful life of five years and a salvage value of €1,273. Prepare a table showing the depreciation expense and net book value of this equipment over its expected life assuming that Palfinger recorded a full year of depreciation in 2007 and the company uses:

➤ **Straight-line depreciation.**

Straight-Line Depreciation		
	<i>Depreciation Expense</i>	<i>Net Book Value</i>
2007	€ 1,880.00	€ 8,793.00
2008	€ 1,880.00	€ 6,913.00
2009	€ 1,880.00	€ 5,033.00
2010	€ 1,880.00	€ 3,153.00
2011	€ 1,880.00	€ 1,273.00

➤ **Double-declining-balance depreciation.**

Double-Declining-Balance Depreciation		
	<i>Depreciation Expense</i>	<i>Net Book Value</i>
2007	€ 4,269.20	€ 6,403.80
2008	€ 2,561.52	€ 3,842.28
2009	€ 1,536.91	€ 2,305.37
2010	€ 922.15	€ 1,383.22
2011	€ 110.22	€ 1,273.00

j. Assume that the equipment from part i. Was sold on the first day of fiscal 2008 for proceeds of €7,500. Assume that Palfinger's accounting policy is to take no depreciation in the year of sale.

Calculate any gain or loss on this transaction assuming that the company used straight-line depreciation. What is the total income statement impact of the equipment for the two years that Palfinger owned it? Consider the gain or loss on disposal as well as the total depreciation recorded on the equipment (i.e. the amount from part i.)

- The loss from this transaction can be calculated by subtracting the proceeds from the sale of €7,500 from the net book value from the previous year of €8,793. This calculation ($€8,793 - €7,500$) yields a loss of €1,293. This loss would appear in the "Other expense and losses" section of the income statement, negatively affecting the company's net income for 2008. In the two years that Palfinger owned the equipment, the total income statement impact would include the equipment's accumulated depreciation from the previous year, plus the loss of €1,293 realized from the sale of the equipment. This calculation results in a total two-year income statement impact from the equipment of €3,173.

Calculate any gain or loss on this transaction assuming the company used double-declining-balance depreciation. What is the total income statement impact of this equipment for the two years that Palfinger owned them? Consider the gain or loss on disposal as well as the total depreciation recorded on the equipment (i.e. the amount from part i.)

- If using double-declining-balance depreciation, the company would record a €1,097 gain from the sale of equipment. This gain would appear in the “Other revenues and gains” section of the balance sheet for 2008. This gain offsets €1,097 of depreciation expense for the equipment on the income statement, resulting in a total two-year income statement effect of €3,173.

Compare the total two-year income statement impact of the equipment under the two depreciation policies. Comment on the difference.

- While the income statement effects of the sale of equipment using different depreciation methods resulted in the use of different values for the ultimate calculation of total income statement effects, the final value of the equipment’s effect on the income statement proved to be identical with either method. This is because with the straight-line method, depreciation expense for the equipment is lower; however, the company recognizes a loss from the sale of the equipment. With double-declining-balance, the depreciation expense is higher; however, the company recognizes a gain with the sale of equipment. These different effects of each method ultimately balance each other out to result in the same €3,173 total two-year income statement effect.

Volvo Group - Research & Development

Costs

Case Study #5

Executive Summary

Introduction:

This case contains information regarding the Volvo Group, a company who supplies commercial vehicles including trucks, buses, construction equipment, engines and drive systems as well as aircraft engine components. Specifically, this case discusses Volvo's treatment of their research and development costs. Headquartered in Torslanda, Sweden, Volvo Group prepares their financial statements under International Financial Reporting Standards (IFRS). Indifferent from the U.S. GAAP regulations, the IFRS requires all research costs to be expensed in the period in which they occur, and allows certain development expenditures to be classified as intangible assets, and therefore amortized over a period of time. This case provides information regarding Volvo's treatment of R&D under the IFRS guidelines.

Analysis:

Parts A-D of this case pertain to concepts relating to Volvo's research and development costs. Volvo's research and development expenses most likely contain expenditures relating to achieving technical breakthroughs, reducing the harmful effects of car emissions, and investments into meeting future emissions and other global emission regulations. In accordance with the IFRS, Volvo expenses all research expenditures in the period in which they occur and capitalizes development costs that meet a number of certifications. Volvo executives must estimate the period of time in which to amortize development costs using many different sources of information and good judgement. While the differing treatments of R&D costs mandated by the IFRS and U.S. GAAP both

have their advantages and disadvantages, I believe that the IFRS treatment more accurately matches expenses with their prospective economic benefits. Parts E-G regard the process Volvo takes in accurately reporting their research and development costs in their financial statements. Volvo Group reports the development costs that meet the characteristics to be capitalized in the “Intangible asset” line item of the balance sheet at their net amount. This net amount is found by subtracting the accumulated amortization from the total amount of the intangible asset. The percentage of Volvo’s R&D costs that were capitalized is provided, as well as the proportion of total R&D costs incurred to net sales for both Volvo Group as well as its U.S. competitor, Navistar International Corporation.

Conclusion:

This case contains information regarding the different treatments of research and development costs in accordance with IFRS and U.S. GAAP regulations. The different treatment of these expenditures under each method is an important aspect to be aware of when viewing the financial statements of international companies. Learning about the differences between the IFRS requirements and U.S. GAAP requirements has provided me with insight into the complexity of accounting for these various expenditures. It has become evident that there is not a clear, and perfectly justifiable method in which to account for research and development costs, being that both methods have their advantages and disadvantages. This case further portrayed the complexity and difficulty of accounting.

The 2009 income statement shows research and development expenses of SEK 13,193 (millions of Swedish Krona). What types of costs are likely included in these amounts?

- Volvo Group's research and development expenses most likely include activities focused on achieving new technical breakthroughs, specifically in regard to reducing the negative environmental impact of car emissions. Volvo Group also invests research and development into meeting future emissions and other global emission regulations. Expenditures for the development of new products, production systems, and software are also included in the company's research and development expenses.

Volvo Group follows IAS 38 - Intangible Assets, to account for its research and development expenditures (see IAS 38 excerpts at the end of this case). As such, the company capitalizes certain R&D costs and expenses others. What factors does Volvo Group consider as it decides which R&D costs to capitalize and which to expense? Volvo Group expenses all of the expenditures arising from the research portion of research and development; however, they may capitalize intangible assets arising from the development aspect if, and only if, they demonstrate all of the following:

- The technical feasibility of completing the intangible asset so that it will be available for use or sale.
- Its intention to complete the intangible asset and use or sell it.

- Its ability to use or sell the intangible asset.
- How the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset.
- The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset.
- Its ability to measure reliably the expenditure attributable to the intangible asset during its development.

The R&D costs that Volvo Group capitalizes each period (labeled Product and software development costs) are amortized in subsequent periods, similar to other capital assets such as property and equipment. Notes to Volvo's financial statements disclose that capitalized product and software development costs are amortized over three to eight years. What factors would the company consider in determining the amortization period for particular costs?

- Volvo would need to consider the type of product or software being developed and, based on either previous comparable product development times or reasonable, good faith estimates, approximate a justifiable amortization period for the particular asset. Volvo may also refer to the

financial statements of its competitors who may be developing or have developed similar products in order to estimate a reasonable amortization period for the particular product or software being developed.

Under U.S. GAAP, companies must expense all R&D costs. In your opinion, which accounting principle (IFRS or U.S. GAAP) provides financial statements that better reflect costs and benefits of periodic R&D spending?

- I believe the IFRS guidelines for dealing with R&D costs provide financial statements that better reflect costs and benefits of periodic R&D spending. If all R&D costs are expensed when incurred as the U.S. GAAP mandates, the potential benefits of these expenditures are not properly recognized with their associated expenses. The IFRS requirement of expensing all research activities and recognizing development activities as intangible assets better matches expenses with their associated future revenues. The recognition of development expenditures as intangible assets is justified because this phase is further advanced than the research phase, therefore more likely to generate probable future economic benefits. However, the IFRS treatment is flawed due to the fact that not all development expenditures are associated with future revenues. Nonetheless, the probability of future economic benefit is high and can be reasonably estimated in the development stage, therefore deserving recognition.

Refer to footnote 14 where Volvo reports an intangible asset for “Product and software development.” Assume that the product and software development costs reported in footnote 14 are the only R&D costs that Volvo capitalizes.

What is the amount of capitalized product and software development costs, net of accumulated amortization at the end of fiscal 2009? Which line item on Volvo Group’s balance sheet reports this intangible asset?

- The net amount of product and software development costs is found by taking the total amount of acquisition costs for product and software development of SEK 25, 148, and subtracting its associated accumulated amortization cost of SEK 13, 739. This yields a final balance of SEK 11, 409 for Volvo’s net amount of 2009 capitalized product and software development costs. This amount is reported in the “Intangible assets” line item of Volvo’s balance sheet.

Create a T-account for the intangible asset “Product and software development,” net of accumulated amortization. Enter the opening and ending balances for fiscal 2009. Show entries in the T-account that record the 2009 capitalization (capital expenditures) and amortization. To simplify the analysis, group all other account activity during the year and report the net impact as one entry in the T-account.

Cap. Product & Software, net (in SEK millions)

Beg Bal 12, 381	
Amounts Capitalized 2,602	3,126 Amortization
	448 Adjustment
End Bal 11,409	

Refer to Volvo's balance sheet, footnotes, and the eleven-year summary.

Assume that the product and software development costs reported in footnotes 14 are the only R&D costs that Volvo capitalizes. Complete the table below for Volvo's Product and software development intangible asset.

(in SEK millions)	2007	2008	2009
1) Product and software development costs capitalized during the year	2,057	2,150	1,858
2) Total R&D expense on the income statement	11,059	14,348	13,193
3) Amortization of previously capitalized costs (included in R&D expense)	2,357	2,864	3,126
4) Total R&D costs incurred during the year = 1 + 2 - 3	10,759	13,634	11,925

What proportion of Total R&D costs incurred did Volvo Group capitalize (as product and software development intangible asset) in each of the three years?

Proportion Capitalized: Product & software development costs capitalized during the year Total R&D costs incurred during the year

2007: 2,057 = 19.12% 10,759

2008: 2,150 = 15.77% 13,634

2009: 1,858 = 15.58% 11,925

Assume that you work as a financial analyst for Volvo Group and would like to compare Volvo's research and development expenditures to the U.S. competitor, Navistar International Corporation. Navistar follows U.S. GAAP that requires that all research and development costs be expensed in the year they are incurred. You gather the following information for Navistar for fiscal year end October 31, 2007 through 2009.

(in US \$ millions)	2007	2008	2009
Total R&D costs incurred during the year, expensed on the income statement	375	384	433
Net sales, manufactured products	11,910	14,399	11,300
Total assets	11,448	10,390	10,028
Operating income before tax	(73)	191	359

Use the information from Volvo's eleven-year summary to complete the following table.

Calculate the proportion of total research and development costs incurred to net sales from operations (called, net sales from manufactured products, for Navistar) for both firms. How does the proportion compare between the two companies?

- Volvo Group has greater research and development costs than Navistar, as well as higher net sales for the fiscal years 2007, 2008, and 2009. While Volvo's proportion of total research and development costs incurred to net sales from operations increases over the years, Navistar's proportion decreases from 2007 to 2008, and then increases in the following year. Regardless, both companies realized a positive proportion for each year.

Volvo Group:

(in SEK millions)	2007	2008	2009
Net sales, industrial operations	276,795	294,932	208,487
Total assets, from balance sheet	321,647	372,419	332,265

2007: $10,759 = 3.89\%$ 276,795

2008: $13,634 = 4.62\%$ 294,932

2009: $11,925 = 5.72\%$ 208,487

Navistar:

2007: 375 = 3.15% 11,910

2008: 284 = 2.67% 14,399

2009: 433 = 4.32% 11,300

Data Analytics – Microsoft Power BI

Case Study #6

Executive Summary

Introduction:

This case contains information regarding the Microsoft Power BI (Business Intelligence) software. Officially launched by Microsoft in 2015, Power BI provides a way for business users to synthesize various forms of big data into easy to understand, visual formats. These data reports can be stored altogether in one place, updated in real time, and made available to multiple users on their own devices.

Analysis:

The use of Microsoft Power BI would be beneficial in all of the three main areas of public accounting: auditing, tax planning, and advisory. With auditing, Power BI would allow auditors to use data presented in various formats to gain a greater understanding of the client's business operations, recognize patterns and correlations easier and earlier in the auditing process, and improve client services. In tax planning, tax professionals would benefit from the ease of data management and storage offered with Power BI, the ability to easily transform complex data into understandable visual formats, and be able to focus more on the insight and foresight of their client's business rather than just the hindsight. In the advisory realm, professionals would be able to easily share data reports with the client, have a heightened awareness of unusual behaviors and risk factors, and help the client to better understand their analysis and proposed business suggestions. Overall, the integration of Power BI into essentially all units of business is vital for the progression of any public accounting firm.

Conclusion:

This case has broadened my awareness of the increasing importance of data analytics in the business world today. Data analytics software, such as Microsoft Power BI, are the key to further business efficiency and productivity. With the increasing importance of “big data” in analyzing business operations and making important decisions, companies simply have no other option but to invest in data analytics tools. Data and analytics is the future of the business world, making it extremely important for individuals to develop a deeper understanding of these tools and comfort in operating them.

1. Identify the history and purpose of Microsoft Power BI and describe, in general, how it is used to make business decisions. Be specific about what kind of technology platform it uses, etc. and other resources that need to be in place to fully utilize the functionality of the tool.

- Microsoft Power BI (Business Intelligence) was originally created by Amir Netz of the SQL Server Reporting Services Team at Microsoft in 2006. Originally, the development of this new software was kept a secret under the code name “Gemini.” In 2009, “Gemini” was renamed “Power Pivot” and released as a free Microsoft Excel add-in. As Power Pivot began to gain popularity, Microsoft began to invest more into it, eventually releasing it as part of SharePoint—Microsoft’s document management and storage system software—in 2012. In 2013, Microsoft launched “Power Query,” a data reshaping and combining tool, as an additional Excel add-in. While Power Pivot and Power Query were

extremely accessible as Excel add-ins, they did not offer a way for the data to be easily shared with others. In response to this problem, Microsoft introduced the Power BI service in 2015, combining the benefits of Power Pivot and SharePoint into one single application. Power BI provides a way for business users to synthesize various forms of data into easy to understand, visual formats. This data can be stored altogether in one place, updated in real time, and made available to multiple users on their own devices. Power BI makes business decisions simpler by providing a multitude of various data in one simple, concise formation, making it easier for individuals to access and analyze. Reports made through Microsoft BI can be securely published for organizations to access through the web or on a mobile device with the Power BI Mobile app.

2. What special skills are needed to use Power BI to aid in business decision making. How might a student like yourself gain those skills?

- Unlike previous, more traditional BI systems, Microsoft Power BI takes the process of data combination and report building to a whole new level of simplicity. While the traditional model for building a report containing a multitude of various data sources would require the assistance of a technical specialist or IT department, Power BI makes this process attainable for any individual containing basic Excel skills. Users are given the ability to easily connect to any data source and quickly summarize findings into a simple, accessible report without the complexity and hassle of programming. Any business user comfortable with building Excel models that reference multiple sheets or conducting advanced Excel

functions will have great success in using Power BI for decision making. While not many students possess the technical skills necessary to create a summarized data report using the traditional systems, Power BI makes it possible for students with basic Excel knowledge to build an impressive data report.

3. **How, specifically, would you use Power BI in the following business settings? Create at least three specific scenarios for each category in which Power BI would lead to more efficiency and/or better effectiveness. Be sure to describe what kinds of data Power BI would use for each scenario.**

➤ **Auditing**

- i. **Use of Multiple Data Formats:** For auditors, it is extremely important to utilize all types of data generated from a client's business activities. While auditors have access to a multitude of relevant data information from their client, it can be complicated for this data to be successfully analyzed and compared being that it may be available in a multitude of various formats (i.e. audio, image, video). However, with the use of data analytics applications such as Power BI, auditors now have the ability to successfully consolidate, analyze, and compare various forms of data. For example, Power BI offers the ability to combine data pertaining to sales calls made to customers with revenue numbers to provide a more complete basis for the analysis of the client's sales. The use of Power BI throughout the audit process would lead to a more precise and complete audit.

- ii. **Pattern Recognition:** Power BI offers the ability for big data to be consolidated all in one place, with easy accessibility for all users. Power BI also allows data to be updated in real time. These functions would be extremely beneficial to the audit process due to the large amount of data that must be analyzed by auditors. It is important for auditors to possess a sufficient understanding of a client's business in order to be able to recognize suspicious activity, assess risk, and identify fraudulent activities. This can be done through the recognition and knowledge of patterns and trends found through data analysis. Power BI's accessibility, ability to compile big data, and visual formatting would make the recognition of patterns, correlations, and fluctuations from these findings easier for auditors to analyze.
- iii. **Improved Client Service:** Not only can the implementation of Power BI positively affect the auditors themselves, this software would also enhance the client's experience throughout the audit process. With Power BI, the recognition of patterns, correlations, and suspicious deviations from the model would be easier to analyze, therefore providing auditors with the opportunity to communicate any concerns with the client at an earlier date. This allows for the client to be more proactive with their responsive actions. Power BI would also enhance client communication, being that data can be visualized in simple, understandable formats, providing an opportunity for the client to analyze and digest the

data as well. Client's would be given the opportunity to visualize their everyday data in new ways, enabling an opportunity for them to understand their information from a different perspective.

➤ **Tax Planning**

- i. **Data Management:** Tax is one of the largest consumers of data. This extensive amount of available data can present a challenge for tax professionals when attempting to consolidate, compare, and analyze this big data. This challenge makes tax planning a prime candidate for the use of data analytics tools, such as Power BI. Power BI offers the ability to consolidate structured data—data presented in a field or in tables—with the more complicated, unstructured data—various data such as vendor invoices, tax legislation, and other text documents. Without the use of data analytics, this function would be an extremely difficult and time-consuming process. Power BI also makes the combination of internal data and external data possible, and easier than ever. Using the Power BI gateways, users can connect SQL Server databases, Analysis Services models, and many other data sources to the same dashboard in Power BI. With the use of Power BI, tax professionals can manage the extensive amount of various data all in one place updated in real time, making the analysis of this data and recognition of patterns and correlations much easier.
- ii. **Visualization:** The visualization of data in charts, diagrams, fields, and tables can allow for the data to be viewed from different

perspectives and explained in different ways. Visualization aids in narrowing the focus down to the key issues driving the client's tax liability. With access to a library of custom visualizations, Power BI Desktop allows productivity and creativity when arranging data into visual formats. Visualization also allows for easier communication of data interpretations between the tax professionals and the client. With Power BI, the client no longer has to flip through complex spreadsheets or navigate multiple data sources. Power BI Desktop allows all data to be stored in one place and possesses the ability to be accessed by multiple people on multiple devices. This data is also updated in real time, making it simple for tax professionals to reconstruct or change data presentations without having to redistribute the data to the client.

- iii. Hindsight, Insight, Foresight:** Traditionally, tax planning has focused on hindsight, dealing with data that has already occurred. While the hindsight focus still remains necessary for successful tax planning, data and analytics tool such as Power BI are now allowing for a greater focus on the insight and foresight aspects of tax planning. Essentially, data and analytics changes the tax professional's mindset of "What do I need to do?" to "What do I need to know?" With Power BI gateways, data can be queried into large datasets and programmed to automatically refresh, giving analysts the most up to date data possible. These tools allow for a deeper insight and understanding of the drivers of the client's tax

liability. This deeper insight provides the means for a more complete and accurate foresight, even in the absence of future data. With Power BI's ability to consolidate various forms of data from different sources all to one place, it is easier for tax professionals to build future models based on previous trends and correlations. For example, monthly trends in book income, cash taxes, and effective tax rates can help reduce the potential for future tax related surprises.

➤ **Financial Statement Analysis / Valuation / Advisory**

- i. **Simple Sharing:** With other data analytics tools, it can be a hassle to distribute and share information with the client. With Excel, sharing is limited by the cumbersome nature of having to email large data sets. With other business intelligence software, data sharing can be limited by extremely expensive software licensing. With Power BI, users have the ability to publish and embed live data reports in any web page. This function is a huge advantage for the advisory realm being that it offers professionals the ability to reconfigure data sets to exhibit different scenarios right in front of the client. The days of professionals having to reconfigure the data to exhibit a certain business scenario and then go through the cumbersome process of redistributing this data to the client are long gone with the use of Power BI. This open access between the advisory professional and the client creates an interactive

relationship between the two, ultimately leading to more intelligent business decisions.

- ii. **Risk Consulting:** As previously discussed, Power BI makes the awareness of patterns and correlations easier for users to recognize and analyze. With the ability to easily combine multiple forms of data (i.e. structured, unstructured, internal, external) all in one place, users are able to compare a plethora of business transactions to arrive at key observations. The recognition of these patterns and correlations allow for the creation of a model of the client's regular business functions. This model then provides for an easier detection of suspicious activity and helps professionals generate a clearer view of the client's risk factors.
- iii. **Client Understanding:** Power BI provides a way for advisory professionals to present data to a client in a clear, easy to understand visual format. Instead of professionals simply stating their advice to a client based on analysis that they have made themselves, Power BI allows for extensive interactivity between the consultant and the client. The client gains a greater understanding of their business, as well as a complete understand of the consultant's business suggestions with the use of Power BI. Together, with the assistance of Power BI, consultants and clients can partake in a more complete analysis and arrive at more confident, evidence based solutions.

4. Write a few paragraphs to your future public accounting partner explaining why your team should invest in the acquisition of and training in this tool.

Explain how the tool will impact the staffing and scope of your future engagements.

- Investing in Microsoft Power BI would be a huge asset for all sections of our business. Power BI offers the ability to consolidate big data from multiple data sources all in one place using the gateway feature, and then allows for feature-rich data mashup and creative, productive visualization formats using Power BI Desktop. With this business intelligence software, our team would be able to compare a multitude of dissimilar data, such as unstructured/structured data and internal/external data in order to arrive at insightful realizations and suggestions. The ability to combine such a large amount of data and make comparisons between data of various formats would allow for our team to recognize patterns and correlations earlier in the analysis process. Unlike more traditional business intelligence software, Power BI does not require extensive IT knowledge. Power BI can be used by any individual who possesses basic Excel knowledge and skills. Therefore, there would be no need for extensive training on this software. With Power BI, gone are the days of relying on IT specialists to create big data presentations. Now, all team members have the ability to work with big data, aiding in the efficiency and productivity of our team. Not only would our team members benefit directly from the integration of this software, our clients would reap the benefits of this business intelligence application as well. Power BI offers the ability to publish data

sets to the web, therefore providing easy access for the client to view data reports. These data reports can also be programmed to automatically refresh when changes are made, therefore eliminating the cumbersome process of having to redistribute data to clients every time changes are made. Power BI makes the presentation of complex data simple and understandable, therefore allowing the client to analyze and understand the presented data with ease. The integration of Power BI into our team's daily business functions is vital to the future success of our company.

Works Cited

"8 Facts about Power BI You Should Know." *InfoWorks*, 26 Feb. 2016.

Mueller, Beth, and Nathan Andrews. "Tax Data Analytics." *Deloitte United States*, 12 Nov. 2017.

Tang, Jail, and Khondkar E. Karim. "Big Data in Business Analytics: Implications for the Audit Profession." *The CPA Journal*, 22 June 2017.

Tim Rodman. "What Is Power BI?" *Tim Rodman*, 21 May 2016.

"What Is Power BI?" *What Is Power BI | Microsoft Power BI*, Microsoft.

Rite Aid Corporation – Long Term Debt

Case Study #7

Executive Summary

Introduction:

With 4,780 stores in 31 states, Rite Aid is the third largest retail pharmacy in the U.S. Rite Aid Corporation sells a wide variety of over-the-counter-medications, health and beauty products, household items, beverages, convenience food, greeting cards, seasonal merchandise, and photo processing in addition to pharmacy prescriptions. Due to the large nature of this corporation, it is necessary for Rite Aid to finance its operations heavily with debt. Rite Aid finances its operations with a wide variety of debt including secured debt, unsecured unguaranteed debt, and guaranteed unsecured debt. These various forms of debt constitute a wide variety of interest rates and credit terms. This case focuses on analyzing Rite Aid's various forms of debt and its effect on Rite Aid's assets, liabilities, and net income.

Analysis:

Part A of this case contains definitions and explanations of Rite Aid's various debt instruments. It is explained that Rite Aid's secured debt differs from its unsecured debt due to the company's right to collateral with secured debt. This collateral, usually found in the form of assets, may be collected by Rite Aid if the debt arrangement is not satisfied by the debtor. Of Rite Aid's unsecured debt, some contain guarantees by Rite Aid's wholly-owned subsidiaries. If these guaranteed unsecured debt arrangements are not satisfied, Rite Aid's subsidiaries will cover either all or a partial amount of the debt obligation. The important terms pertaining to debt "senior," "fixed rate," and "convertible" are also defined and explained in this section of the case. Due to the size of Rite Aid Corporation, it is necessary for Rite Aid to take part in several forms of debt

financing in order to fund its operations and expansion ventures. Parts B, C, and D focus on the analysis of Rite Aid's debt. Rite Aid's total debt and the portion this total debt representing current obligations is calculated in Part B. Part C focuses on the 7.5% senior secured notes due March 2017. The face value, interest payments, and journal entries dealing with these notes are calculated. Part D analyzes the 9.375% notes due December 2015. Because these notes were issued at a discount, the total interest expense includes a cash interest payment as well as a non-cash interest payment. The non-cash part of interest expense represents the amortization of the discount on the notes. Part E focuses on the 9.75% notes due June 2016. Similar calculations are presented along with an amortization schedule for the notes.

Conclusion:

This case provides information and analysis proving the complexity of debt in a large corporation. Large corporations, such as Rite Aid, finance their operations through various forms of debt such as secured debt, guaranteed unsecured debt, and unsecured unguaranteed debt. These debt instruments all contain different terms, face values, and interest rates. It is important for Rite Aid to establish adequate debt management in order to ensure that the corporation is benefiting from its debt financing.

a. Consider the various types of debt described in note 11, Indebtedness and Credit Agreement.

i. Explain the difference between Rite Aid's secured and unsecured debt. Why does Rite Aid distinguish between these two types of debt?

- Rite Aid's secured debt is backed by an asset referred to as collateral. If the debtor fails to satisfy the terms of the debt, Rite Aid may claim the collateral used to guarantee the loan. Rite Aid's unsecured debt is not backed by collateral; therefore, Rite Aid does not have any ownership claim against the debtor if they fail to satisfy the terms of the debt agreement. Rite Aid distinguishes between these two forms of debt because it is important information for investors and creditors to know when viewing Rite Aid's financial statements.

ii. What does it mean for debt to be "guaranteed"? According to note 11, who has provided the guarantee for some of Rite Aid's unsecured debt?

- Guaranteed debt occurs when one party (the guarantor) makes a promise to assume the debt obligation of a borrower if that borrower fails to satisfy the debt obligation. A guarantee can be limited or unlimited, meaning they are either responsible for all of the debt or just a portion of the debt. Substantially all of Rite Aid Corporation's wholly-owned subsidiaries have provided the guarantee for some of Rite Aid's unsecured debt.

iii. What is meant by the terms "senior," "fixed-rate," and "convertible"?

- The term “senior” refers to debt that takes priority over other unsecured debt owned by the issuer. The senior debt has priority for repayment in the case of liquidation. “Fixed rate” refers to a fixed, predetermined interest rate associated with a debt instrument. The term “convertible” refers to a bond or other various forms of debt that gives the holder the option to convert the debt into a specified number of shares of common stock in the issuing company.

iv. Speculate as to why Rite Aid has many different types of debt with a range of interest rates.

- Being that Rite Aid Corporation is an extremely large corporation and requires a large amount of capital, it is necessary for Rite Aid to fund its operations through various forms of debt with a broad range of interest rates.

b. Consider note 11, Indebtedness and Credit Agreement. How much total debt does Rite Aid have at February 27, 2010? How much of this is due within the coming fiscal year? Reconcile the total debt reported in note 11 with what Rite Aid reports on its balance sheet.

- At February 27, 2010, Rite Aid has total debt of \$6,370,899. Of this total debt, \$51,502 is due within the coming fiscal year.

c. Consider the 7.5% senior secured notes due March 2017.

i. What is the face value (i.e. the principle) of these notes? How do you know?

- The face value of these notes is \$500,000. Because the carrying value for 2009 and 2010 is \$500,000, the notes must have been issued at their

principle of \$500,000. This means that the notes were not issued at a premium or a discount, therefore there is no change in the notes' carrying value from year to year.

- ii. Prepare the journal entry that Rite Aid must have made when these notes were issued.**

Cash	500,000	
Notes Payable		500,000

(Assets → Increase, Liabilities → Increase, Net Income → Not effected)

- iii. Prepare the annual interest expense journal entry. Note that the interest paid on a note during the year equals the face value of the note times the state rate (i.e., coupon rate) of the note.**

Interest Expense	37,500	
Cash		37,500

(Assets → Decrease, Liabilities → No effect, Net Income → Decrease)

- iv. Prepare the journal entry that Rite Aid will make when these notes mature in 2017.**

Notes Payable	500,000	
Cash		500,000

(Assets → Decrease, Liabilities → Decrease, Net Income → No effect)

- d. Consider the 9.375% senior note due December 2015. Assume that interest is paid annually.**

- i. What is the face value (or principle) of these notes? What is the carrying value (net book value) of these notes at February 27, 2010? Why do these two values differ?**

- The face value of these notes is \$410,000. The carrying value of these notes at February 27, 2010 is \$405,951. These two values differ due to the amortization of \$4,049 of the total discount on the notes.
- ii. How much interest did Rite Aid pay on these notes during the fiscal 2009?**
- Rite Aid made a cash interest payment of \$38,438 on these notes during fiscal 2009.
- iii. Determine the total amount of interest expense recorded by Rite Aid on these notes for the year ended February 27, 2010. Note that there is a cash and a noncash portion of interest expense on these notes because they were issued at a discount. The noncash portion of interest expense is the amortization of the discount during the year (that is, the amount by which the discount decreased during the year).**
- The total amount of interest expense recorded by Rite Aid on these notes for the year ended February 27, 2010 was \$39,143. The cash portion of this interest expense was \$38,438, and the noncash (amortized discount) portion was \$705.
- iv. Prepare the journal entry to record interest expense on these notes for fiscal 2009. Consider both the cash and discount (noncash) portions of interest expense from part iii above.**

Interest Expense	39,143	
Discount on Notes Payable		705
Cash		38,438

(Assets → Decrease, Liabilities → Increase, Net Income → Decrease)

- v. **Compute the total rate of interest recorded for fiscal 2009 on these notes.**
- The effective interest rate for these notes is 9.659%, and the stated interest rate is 9.375%.
- e. **Consider the 9.75% notes due June 2016. Assume that Rite Aid issued these notes on June 30, 2009 and the company pays interest on June 30th of each year.**
- i. **According to note 11, the proceeds of the notes at the time of issue were 98.2% of the face value of the notes. Prepare the journal entry that Rite Aid must have made when these notes were issued.**

Cash	402,620	
Discount on Notes Payable	7,380	
Notes Payable		410,000

(Assets → Increase, Liabilities → Increase, Net Income → No effect)

- ii. **At what effective annual rate of interest were these notes issued?**
- The note was issued at an effective annual interest rate of 10.1212%.
- iii. **Assume that Rite Aid uses the effective interest rate method to account for this debt. Use the table that follows to prepare an amortization schedule for these notes. Use the last column to verify that each year's interest expense reflects the same interest *rate* even though the *expense* changes. *Note:* Guidance follows the table.**

<i>Date</i>	<i>Interest Payment</i>	<i>Interest Expense</i>	<i>Bond Discount Amortization</i>	<i>Net Book Value of Debt</i>	<i>Effective Interest Rate</i>
June 30, 2009	--	--	--	\$ 402,620	10.1212 %
June 30, 2010	\$ 39,975	\$ 40,750	\$ 775	\$ 403,395	10.1212 %
June 30, 2011	\$ 39,975	\$ 40,828	\$ 853	\$ 404,248	10.1212 %
June 30, 2012	\$ 39,975	\$ 40,915	\$ 940	\$ 405,188	10.1212 %
June 30, 2013	\$ 39,975	\$ 41,010	\$ 1035	\$ 406,223	10.1212 %
June 30, 2014	\$ 39,975	\$ 41,115	\$ 1140	\$ 407,363	10.1212 %
June 30, 2015	\$ 39,975	\$ 41,230	\$ 1255	\$ 408,618	10.1212 %
June 30, 2016	\$ 39,975	\$ 41,357	\$ 1382	\$ 410,000	10.1212 %

- iv. **Based on the above information, prepare the journal entry that Rite Aid would have recorded February 27, 2010, to accrue interest expense on these notes.**

Interest Expense	27,167	
Discount on Notes Payable		517
Interest Payable		26,650

Assets → No Effect, Liabilities → Increase, Net Income → Decrease)

- v. **Based on your answer to part iv., what would be the net book value of the notes at February 27, 2010?**

The net book value (i.e., carrying value) at February 27, 2010 would be \$403,137.

Merck & Co., Inc.—Shareholders’ Equity

Case Study #8

Executive Summary

Introduction:

Headquartered in New Jersey, Merck & Co. is a global research-driven pharmaceutical company that discovers, develops, manufactures, and markets a broad range of products aimed at the improvement of human and animal health. Merck has a large number of employees from across the globe, with the majority of them having an engagement in research activities. Merck's shares are sold on the New York and Philadelphia Stock Exchanges. This case provides analysis of the equity section of Merck's balance sheet.

Analysis:

This particular case consists of the analysis of Merck's equity. Part 1 of this case pertains specifically to Merck's common shares. In the stockholders' equity section of Merck's balance sheet, the number of total shares Merck is authorized to sell and the number of issued shares are both listed as separate line items. The ability to differentiate between Merck's authorized and issued shares is important for financial statement users and potential investors. Furthermore, it is vital for investors and creditors to note the portion of Merck's issued shares that are currently being held by the company as treasury stock. This can be calculated by subtracting Merck's treasury stock (found at the bottom of the equity section of Merck's balance sheet) from the number of issued shares for that year. Merck's market capitalization can be found by multiplying the number of shares outstanding (shares actually owned by the company's shareholders) by the market price per share of the company's stock at that date. This is an important area of

analysis for financial statement users because it represents the total dollar value of the company that is currently being traded on the stock market. Part 2 deals with Merck's payment of dividends and their reasoning behind these payments.

Companies choose to distribute dividends when their earnings allow as a way to communicate strength and profitability to their shareholders. The payment of dividends makes the stock more attractive in the eyes of shareholders, therefore increasing a company's share price. Part 3 explains the reason why companies often partake in the buyback of their own stock. Companies buy their own shares of stock on the market as a way of investing in their own company. The purchase of treasury stock could indicate the company's confidence in future profitability, as well as reduce the number of shares outstanding. The reduction of shares outstanding boosts a company's earnings per share, therefore potentially increasing the value of its stock. Part 4 presents the journal entry made by Merck for the payment of dividends distributed in 2007. Part 5 analyzes Merck's treasury stock transactions for 2007 through the analysis of Merck's statement of cash flows. Finally, Part 6 consists of a chart with information pertaining to Merck's equity, as well as certain relevant financial statement ratios.

Conclusion:

This case presents the importance and complex nature of the stockholder's equity section of the balance sheet.

1. Consider Merck's common shares.**i. How many common shares is Merck authorized to issue?**

- Merck is authorized to issue 5,400,000 shares of common stock.

ii. How many common shares has Merck actually issued at December 31, 2007?

- At December 31, 2007, Merck has actually issued 2,983,508,6675 shares of common stock.

iii. Reconcile the number of shares issued at December 31, 2007, to the dollar value of common stock reported on the balance sheet.

- The dollar value of common stock reported on the balance sheet represents the par value of Merck's common stock. Therefore, one can conclude the par value of common stock to be \$0.01 per share. Merck's issued shares of 2,983,508,675 multiplied by the par value of \$0.01, gives the dollar value of the stock—29.8 million—that is reported on Merck's balance sheet.

iv. How many common shares are held in treasury at December 31, 2007?

- Merck has 811,005,791 common shares held in treasury as of December 31, 2007.

v. How many common shares are outstanding at December 31, 2007?

- To calculate the number of Merck's common shares outstanding at December 31, 2007, one subtracts the shares held in treasury from the total number of common shares issued. This gives the number of common shares actually held by the company's shareholders, representing Merck's

outstanding common stock. Merck has common shares of 2,172,502,884 outstanding at December 31, 2007.

vi. **At December 31, 2007, Merck's stock price closed at \$57.61 per share.**

Calculate the total market capitalization of Merck on that day.

- A company's total market capitalization can be calculated by multiplying the number of shares outstanding by the market price per share on the current date. Merck had 2,172,502,884 shares outstanding at December 31, 2007 and a market price per share of \$57.61. Therefore, Merck's market capitalization at that date would be \$125,157,891,100.

2. Why do companies pay dividends on their common or ordinary shares?

What normally happens to a company's share price when dividends are paid?

- Companies pay dividends on their common or ordinary shares in order to provide shareholders with confidence in the company's strength and profitability. The distribution of dividends is also a positive sign of future earnings, therefore making the company's stock more attractive in the eyes of shareholders. A company's share price usually increases with the payment of dividends.

3. In general, why do companies repurchase their own shares?

- In general, a company will repurchase its own shares of stock as a means of investing in itself. When a company repurchases its own stock, the shares are absorbed by the company therefore reducing the number of shares outstanding. The reduction of outstanding shares increases the relative ownership stake of each shareholder, therefore improving the

company's earnings per share. This leads to more attractive stock in the eyes of shareholders.

- 4. Consider Merck's statement of cash flows and statement of retained earnings. Prepare a single journal entry that summarizes Merck's common dividend activity for 2007.**

Retained Earnings	3310.7	
Dividends Payable		3307.3
Cash		3.4

- 5. During 2007, Merck repurchased a number of its own common shares on the open market.**
- i. Describe the method Merck uses to account for its treasury stock transactions.**
 - As described in Note 11, Merck uses the cost method when accounting for treasury stock transactions.
 - ii. Refer to note 11 to Merck's financial statements. How many shares did Merck repurchase on the open market during 2007?**
 - Merck repurchased 26.5 million shares of treasury stock on the open market during 2007.
 - iii. How much did Merck pay, in total and per share, on average, to buy back its stock during 2007? What type of cash flow does this represent?**
 - Merck paid \$1,429.7 million to buy back 26.5 million shares of its common stock during 2007. Therefore, Merck paid \$53.95 per share. These purchases represent a cash outflow from financing activities, and is

accounted for in the line item “purchases of treasury stock” in the financing section of Merck’s statement of cash flows.

iv. Why doesn’t Merck disclose its treasury stock as an asset?

- Treasury stock is not considered to be an asset. Treasury stock is accounted for as a contra equity account; therefore, it is subtracted from Merck’s equity section on the balance sheet.

6. Determine the missing amounts and calculate the ratios in the tables below.

For comparability, use dividends paid for both companies rather than dividends declared. Use the number of shares outstanding at year end for per-share calculations. What differences do you observe in the two companies’ dividend-related ratios?

	2007	2006
Dividends paid	3,307.3	3,322.6
Shares outstanding	2,172.5	2,167.8
Net income	3,275.4	4,433.8
Total assets	48,350.7	44,569.8
Operating cash flows	6,999.2	6,765.2
Year-end stock price	\$57.61	\$41.94
Dividends per share	\$1.52	\$1.53
Dividend yield	2.64%	3.65%
Dividend payout	1.01	.749
Dividends to total assets	6.84%	7.45%
Dividends to CF	47.25%	49.11%

State Street Corporation—Marketable Securities

Case Study #9

Executive Summary

Introduction:

State Street Corporation operates primarily through its principal banking subsidiary, State Street Bank and Trust, with a focus on serving institutional investors. State Street's two lines of business consist of Investment Servicing and Investment Management. Products of State Street Corporation include brokerage and other trading services, securities finance, deposit and short-term investment facilities, performance, risk and investment research, and investment management. This case focuses on State Street's marketable securities and the differences between trading, available-for-sale, and held-to-maturity securities. The ways in which State Street accounts for and values these various securities on their financial statements is discussed throughout this case.

Analysis:

Parts A, B and C of this case focus on differentiating between the various types of marketable securities that State Street possesses. These securities consist of trading securities, available-for-sale securities, and held-to-maturity securities. Part A discusses trading securities, securities in which management intends to sell within a short period of time (usually within a year). These securities are valued at their fair value on the balance sheet, and are reported as current assets. The unrealized holding gains and losses related to the change in fair value flow through the company's income statement. Part B discusses available-for-sale securities, a classification given to securities that neither classify as trading or held-to-maturity securities. Management's intent for these securities is unclear. Available-for-sale securities are valued at their fair value, with unrealized holding gains and losses recorded in other comprehensive income (equity) on the balance

sheet. Part C discusses held-to-maturity securities, securities in which management intends to hold until their stated maturity date. These securities are valued at amortized cost, and no adjustment is made for any changes in their fair value. The only gains or losses recorded for held-to-maturity securities are realized gains or losses resulting from the sale of the securities at their maturity date. Because equity securities do not have a maturity date, only debt securities may be classified as held-to-maturity. Parts E-G focus on the specific balances presented for these various securities on State Street's financial statements.

Conclusion:

This case shows the importance of the different valuation methods for trading, available-for-sale, and held-to-maturity securities and the ways in which the accounting for these securities ultimately effects the financial statements. Not only is it important for companies to guarantee they are accounting for these securities in the proper manner, it is also essential for financial statement users to recognize and understand the different valuation methods for these securities.

a. Consider trading securities. Note that financial institutions such as State Street typically call these securities “Trading account assets.”

i. In general, what are trading securities?

- Trading securities are either debt or equity securities in which the company intends to sell within a short period of time, usually less than a year. These securities are classified as current assets on the balance sheet.

ii. How would a company record \$1 of dividends or interest received from trading securities?

The journal entry to record \$1 of dividend revenue:

Cash	1	
Dividend Revenue		1

The journal entry to record \$1 of interest received:

Cash	1	
Interest Revenue		1

iii. If the market value of trading securities increased by \$1 during the reporting period, what journal entry would the company record?

Fair Value Adjustment - Trading	1	
Unrealized Holding Gain - Inc		1

b. Consider securities available-for-sale. Note that State Street calls these, “Investment securities available for sale.”

i. In general, what are securities available-for-sale?

- Available-for-sale securities are either debt or equity securities in which management’s intent is unclear as to whether they plan to sell the

securities or hold them to maturity. The “available-for-sale” classification is applied to securities that cannot be classified as either a trading security or held-to-maturity security.

- ii. **How would a company record \$1 of dividends or interest received from securities available-for-sale?**

The journal entry to record \$1 of dividend revenue:

Cash	1	
Dividend Revenue		1

The journal entry to record \$1 of interest received:

Cash	1	
Interest Revenue		1

- iii. **If the market value of securities available-for-sale increased by \$1 during the reporting period, what journal entry would the company record?**

Fair Value Adjustment – AFS	1	
Unrealized Holding Gain		1

- c. **Consider securities held-to-maturity. Note that State Street calls these,**

“Investment securities held-to-maturity.”

- i. **In general, what are these securities? Why are equity securities never classified as held-to-maturity?**

- Securities classified as held-to-maturity are debt securities in which management intends to hold until their stated maturity date. Equity securities are never classified as held-to-maturity being that they do not

have a stated maturity date. These securities are valued at their amortized cost on the balance sheet.

- ii. **If the market value of securities held-to-maturity increased by \$1 during the reporting period, what journal entry would the company record?**

- Because it is management's intent to hold these securities until maturity, the changes in fair value are not recorded. Held-to-maturity securities are valued at their amortized cost on the balance sheet; therefore, there would be no entry made for the increase in fair value.

d. **Consider the "Trading account assets" on State Street's balance sheet.**

- i. **What is the balance in this account on December 31, 2012? What is the market value of these securities on that date?**

- The balance in the "Trading account assets" account on December 31, 2012 is \$637,000,000. Being that these trading securities are valued at their fair value, it is safe to assume that the market value of these securities is \$637,000,000 as well.

- ii. **Assume that the 2012 unadjusted trial balance for trading account assets was \$552 million. What adjusting journal entry would State Street make to adjust this account to market value? Ignore any income tax effects for this part.**

Trading Account Assets	85
Trading Services	

85

*shown in millions

e. **Consider the balance sheet account “Investment securities held to maturity” and the related disclosures in Note 4.**

i. **What is the 2012 year-end balance in this account?**

- The 2012 year-end balance in the “Investment securities held to maturity” account is \$11,379,000,000.

ii. **What is the market value of State Street’s investment securities held to maturity?**

- The market value for State Street’s held-to-maturity securities, as stated in Note 4, is \$11,661,000,000. This proves there to be a material difference between the amortized cost of the securities and their current market value. Being that the market value exceeds the amortized cost, one can assume that the value of these securities has increased.

iii. **What is the amortized cost of these securities? What does “amortized cost” represent? What does the difference suggest about how the average market rate of interest on held-to-maturity securities has changed since the purchase of the securities held by State Street?**

- The amortized cost of State Street’s held-to-maturity securities is \$11,379,000,000. This value represents the original acquisition price of the securities and any unamortized discount or premium to date. If the securities were purchased at a discount, the discount amortization would increase the securities’ value over their life. On the other hand, if the securities were purchased at a premium, the amortization would decrease the securities’ value. The difference between the amortized cost of \$11,379,000,000 and market value of \$11,661,000,000 reveals an increase

in the securities' value over time. This increase reflects a decrease in the securities' market interest rate below the stated rate. As the market rate decreases, the securities become more valuable to investors.

f. Consider the balance sheet account “Investment securities available for sale” and the related disclosures in Note 4.

i. What is the 2012 year-end balance in this account? What does this balance represent?

- The 2012 year-end balance for the “Investment securities available for sale” account is \$109,682,000,000. This value represents the securities' fair market value.

ii. What is the amount of net *unrealized* gains or losses on the available-for-sale securities held by State Street at December 31, 2012? Be sure to note whether the amount is a net gain or loss.

- Through the netting of unrealized gains and losses recorded for the available-for-sale securities throughout the year, a net unrealized gain of \$1,119,000,000 is calculated.

iii. What was the amount of net *realized* gains (losses) from sales of available-for-sale securities for 2012? How would this amount impact State Street's statements of income and cash flows for 2012?

- As presented on State Street's income statement, there is a realized gain of \$55,000,000 from the sale of available-for-sale securities. If the statement of cash flows for this company were given, this amount would appear as a positive cash flow under the “cash flows from operating activities” section.

- g. **State Street's statement of cash flow for 2012 (not included) shows the following line items in the "Investing Activities" section relating to available-for-sale securities (in millions):**

Proceeds from sales of available-for sale securities	\$5,399
Purchases of available-for-sale securities	\$60,812

- i. **Show the journal entry State Street made to record the purchase of available-for-sale securities for 2012.**

Investments in AFS Securities	60,812	
Cash		60,812

*shown in millions

- ii. **Show the journal entry State Street made to record the sale of available-for-sale securities for 2012. Note 13 (not included) reports that available-for-sale securities sold during 2012 had "unrealized pre-tax gains of \$67 million as of December 31, 2011." Hint: be sure to remove the current book-value of these securities in your entry.**

Cash	5,399	
Unrealized Holding Gain	67	
Investments in AFS Securities		5,411
Gain on Sale of AFS Securities		55

*shown in millions

- iii. **Use the information in part g.ii to determine the original cost of the available-for-sale securities sold during 2012.**

- The original cost of the available-for-sale securities sold in 2012 can be calculated by subtracting the realized gain from the sale of these securities from the cash proceeds of the sale. This results in a book value of \$5,344,000,000 for the available-for-sale securities.

ZAAG Inc.—Deferred Income Taxes

Case Study #10

Executive Summary

Introduction:

ZAGG, “Zealous About Great Gadgets,” began business designing and protecting plastic shields for wristwatches in 2005. ZAGG also manufactures products such as mobile keyboards, cases, headphones, and portable power devices. This case analyzes the concepts underlying deferred income tax accounting. Concepts relating to book income, taxable income, permanent and temporary tax differences, statutory and effective tax rates, deferred tax liabilities, deferred tax assets, and deferred tax valuation accounts are discussed and explained. Analysis of ZAGG’s specific accounting for their deferred tax assets and liabilities is also included in this case.

Analysis:

Due to the various differences in GAAP accounting as opposed to the IRS tax code rules, company’s pre-tax financial income—or book income—differs from the amount in which they report as taxable income on its tax return. These differences are either classified as temporary or permanent tax differences. Permanent differences result from transactions that are either included in book income but not taxable income, or included in taxable income but not book income. Permanent differences are not reversed in future years. Temporary differences are the result of timing differences in the inclusion of certain transactions in book income and taxable income. Temporary differences may result from an item being included in book income for the current year but not taxable income, or vice versa. Temporary differences result in either a deferred tax liability or a deferred tax asset. Deferred tax assets arise from deductible temporary differences. A company pays tax on an item in a current year, and is able to deduct that amount in a future year,

resulting in a deferred tax asset. While deferred tax assets may sound favorable, they are actually unfavorable to the tax payer. Deferred tax liabilities arise from taxable temporary differences. A company is able to deduct an item from its taxable income in the current year, therefore deferring the payment of tax to a future year. Because tax payers always prefer to push back tax liabilities as far in the future as possible, deferred tax liabilities are favorable. If a company can reasonably assume that they will not realize some or all of a deferred tax asset, they may use a deferred tax valuation allowance account. This account is evaluated at the end of the year, and serves as a contra deferred tax asset account; therefore, decreasing the value of the deferred tax asset. Part f refers specifically to ZAGG's accounting treatment regarding its deferred tax assets and liabilities.

Conclusion:

Accounting for the differences in book income and taxable income and dealing with deferred tax assets and deferred tax liabilities is crucial. If a company fails to properly account for these items, it could find itself committing tax evasion or failing to take advantage of tax savings. As a financial statement user, it is also important to understand the company's current state regarding their deferred tax liabilities and deferred tax assets.

a. Describe what is meant by the term book income? Which number in ZAGG's statement of operation captures this notion for fiscal 2012? Describe how a company's book income differs from its taxable income.

- The term book income refers to the pre-tax financial income that is reported on a company's income statement. Book income is calculated in accordance with GAAP, while taxable income is calculated in accordance with the IRS rules (tax code). For 2012, ZAGG reported book income of \$23,898,000 on its income statement. Differences between book income and taxable income can either be temporary or permanent differences, or the result of any carryforward or carryback losses.

b. In your own words, define the following terms.

i. Permanent tax differences (also provide an example)

- A permanent tax difference is the result of a transaction that is reported differently for financial and tax reporting purposes. This difference is the result of items that are either included in financial income but never taxable income, or included in taxable income but never financial income. Some examples of permanent tax differences are meals and entertainment expenses, municipal bond interest, and penalties and fines.

ii. Temporary tax difference (also provide an example)

- A temporary tax difference is the difference between the tax basis of an asset or liability and the asset or liabilities' current book value on the company's financial statements. These differences result in taxable amounts or deductible amounts in future years. Taxable amounts increase taxable income in future years, while deductible amounts decrease future

taxable income. Depreciation expense is a common example of a temporary tax difference.

iii. Statutory tax rate

- The statutory tax rate is the tax rate mandated by the law. This rate may differ based on a company or individual's taxable income.

iv. Effective tax rate

- The effective tax rate is the average rate at which an individual or corporation is taxed.

c. Explain in general terms why a company reports deferred income taxes as part of their total income tax expense. Why don't companies simply report their current tax bill as their income tax expense?

- A company is required to report its deferred income taxes as part of their total income tax expense due to the fact ignoring these items would be in violation with the full disclosure principle of accounting. By definition, deferred income taxes are the result of transactions that are deductible in the current tax year, but will be taxed in a future year. Deferred taxes are the result of future taxable amounts. Deferred taxes represent an amount payable in the future, therefore meeting the requirements of a liability. For a company to ignore the inclusion of this deferred tax liability in the current year would be in violation of the full disclosure principle and possibly lead to internal control deficiencies and financial statement restatements.
- Guidance for the accounting treatment for income tax expense and income tax payable is provided by the ASC 740. The ASC 740 is a set of

financial accounting and reporting standards for the treatment of income tax effects for current and future years. ASC 740's principles and requirements apply to both domestic and foreign entities. These entities include not-for-profit entities and apply to federal, state, local, and some foreign taxes based on income. Essentially, the ASC 740 applies to all entities that remain a part of a reporting entity. Taxes not covered by the ASC 740 include sales and use taxes, property taxes, payroll taxes, excise taxes, VAT taxes, and capital (equity) based franchise taxes. The ASC 740's primary objective is to recognize taxes payable during the current year as well as taxes either payable or refundable in future years. The ASC 740 also provides rules and regulations regarding the reporting of deferred tax assets and deferred tax liabilities relating to future tax consequences.

- The accounting for these deferred tax assets and liabilities is crucial to guarantee full disclosure of a company's current financial position.

Companies should be concerned with ASC 740 because it has the effect of requiring organizations to track tax positions for both tax reporting and financial reporting purposes. For many companies, the tracking of these uncertain tax positions and the successful evaluation of the processes and procedures can be overwhelming and complex. This tracking becomes even more challenging when a company becomes exposed to multiple tax jurisdictions. The consequences for incorrect reporting of tax positions can result in major issues for the company. Companies that take aggressive taxable income positions must disclose the information regarding their uncertain tax position in the footnotes of their financial statements.

Footnotes containing a high level of uncertain positions may spark the interest of the IRS, state, or foreign tax authority and consequently result in the challenging of the company's tax reporting and previously filed income tax returns. If these challenges result in a loss for the company, the company may be forced to eliminate deductions or include additional income items in the calculation of taxable income. This results in a larger tax liability for the company, as well as a potentially negative effect on the company's net income. It is crucial for companies to abide by the ASC 740 rules for tax reporting regarding the inclusion of their income tax payables into total income tax expense. According to GAAP, companies are required to abide by the full disclosure principle, therefore required to include all future liabilities on their financial statement. While it may seem more intuitive to report only the current year's tax expense on the financial statements for that year, it excludes crucial liabilities of the company and results in a violation of the full disclosure principle.

d. Explain what deferred income tax assets and deferred income tax liabilities represent. Give an example of a situation that would give rise to each of these items on the balance sheet.

- A deferred tax asset is the deferred tax resulting from deductible temporary differences. The tax liability related to these future deductible temporary differences is settled in the current period, therefore resulting in an increase in taxes refundable in future years. For example, a deferred tax asset would result from the deduction of a litigation loss for financial reporting purposes but not for tax purposes in the current year. This loss

will be deductible in a future year for tax purposes (when the liability is paid), therefore creating a future tax savings amount (deferred tax asset). While deferred tax assets may sound appealing, tax payers always prefer to push back tax payments as long as possible; therefore, deferred tax assets are unfavorable. A deferred tax liability represents the increase in taxes paid in future years. Taxes resulting from taxable temporary differences are payable in future years, therefore resulting in a future tax liability increase. For example, a deferred tax liability would result from the inclusion of accounts receivable in book income but not taxable income. The individual or corporation would not be taxed in the current year for the accounts receivable balance, however they have a liability to pay the tax on this asset in a future year, therefore creating a deferred tax liability. Deferred tax liabilities are favorable for the individual or corporation being taxed.

e. Explain what a deferred income tax valuation allowance is and when it should be recorded.

- A deferred income tax valuation allowance is used when a company decides, based on available evidence, that it is more likely than not that it will not realize some portion or all of the deferred tax asset. To justify the use of a deferred tax valuation allowance, a company generally should have a likelihood of not realizing the deferred tax asset of slightly more than fifty percent. The amount entered into the valuation allowance account should be determined at the end of the year. Increases in the deferred income tax valuation allowance account serves as a contra

deferred tax asset account, therefore decreasing the value of the deferred tax asset.

f. Consider the information disclosed in Note 8—Income Taxes to answer the following questions:

i. Using information in the first table in Note 8, show the journal entry that ZAGG recorded for the income tax provision in fiscal 2012.

Income Tax Expense	9,393	
Deferred Tax Asset	8,293	
Income Tax Payable		17,686

** In thousands

ii. Using the information in the third table in Note 8, decompose the amount of “net deferred income taxes” recorded in income tax journal entry in part f. i. into its deferred income tax asset and deferred income tax liability components.

Income Tax Expense	9,393	
Deferred Tax Asset	8,002	
Deferred Tax Liability	291	
Income Tax Payable		17,686

** In thousands

iii. The second table in Note 8 provides a reconciliation of income taxes computed using the federal statutory rate (35%) to income taxes computed using ZAGG’s effective tax rate. Calculate ZAGG’s 2012 effective tax rate using the information provided in their income statement. What accounts for the difference between the statutory rate and ZAGG’s effective tax rate?

- ZAGG's 2012 effective tax rate for 2012 is 39.3 percent. The effective tax rate is calculated by divided ZAGG's income tax expense of \$9,393 by income before provisions of \$23,898. The difference in the statutory rate of 35 percent and effective tax rate of 39.3 percent is due to permanent differences between income tax expense and income tax payable.

Apple Inc.—Revenue Recognition

Case Study #11

Executive Summary

Introduction:

Apple Inc. designs, manufactures, and markets personal computers, mobile communication devices, and portable digital music and video players. They also sell a variety of software, services, and networking solutions. Apple sells its products in several global markets through online retailing, retail stores, and third-party wholesalers, resellers, and value-added resellers. This case addresses Apple's process of revenue recognition, as well as the current requirements mandated by the FASB and IASB for the recognition of revenue. Recently, the FASB and IASB issued a converged standard on revenue recognition titled, *Revenue from Contracts with Customers*. This new standard is referenced throughout the case.

Analysis:

Part A of this case explains the difference between revenues and gains. Revenue can be defined as income from a company's primary business operations, while gains represent income resulting from a company's peripheral activities. Gains are usually the result of the sale of assets at a price greater than the assets current book value. Part B deals with the recognition of revenue. According to the new standard, *Revenue from Contracts with Customers*, revenue is to be recognized in the period in which the performance obligation is satisfied. Just because a company may receive proceeds from a customer does not justify the recognition of revenue. The new standard outlines a five-step process for the recognition of revenue. This process consists of identification of the contract with the customer,

identification of the separate performance obligations outlined in the contract, determination of transaction price, allocation of the transaction price to the different performance obligations, and finally the recognition of revenue when each performance obligation is satisfied. Part C addresses Apple's specific revenue recognition criteria. Apple states that for the recognition of revenue to be justified, persuasive evidence of a contract exists, delivery has occurred, a fixed sales price exists or is determinable, and the sale is probable. These four requirements align with the requirements outlined by the revenue recognition standard. Part D explains multi-element contracts and the obstacles they impose on revenue recognition. Apple handles multi-element contracts by allocating the different performance obligations based on their relative selling price. Part E references the many incentives that management may be exposed to regarding revenue. These incentives make the manipulation of revenue recognition quite tempting for managers in some cases, therefore making the revenue recognition guidelines very important. Finally, Part F discusses the different ways in which Apple recognizes revenue for the sale of various products.

Conclusion:

This case shows the importance of revenue recognition and the many technical difficulties management may face in recognizing revenue in accordance with the FASB's guidelines.

a. In your own words, define “revenues.” Explain how revenues are different from “gains.”

- Revenue is income recognized by a company originating from the company’s primary business operations. Revenue is generally presented at the top of the income statement, with all expenses subtracted below to arrive at a net income number. The difference between revenues and gains is that gains arise from a company’s peripheral activities, not the company’s main operations. Gains usually result from the sale of an asset at an amount greater than its book value.

b. Describe what it means for a business to “recognize” revenues. What specific accounts and financial statements are affected by the process of revenue recognition? Describe the revenue recognition criteria outline in the FASB’s Statement of Concepts No. 5.

- According to the ASC 606 new revenue recognition standard, *Revenue from Contracts with Customers*, revenue is classified as being recognized in the period in which the performance obligation is satisfied. The key objective of this new standard is to recognize revenue to depict the transfer of goods or services to customers in an amount that reflects the consideration that the company receives, or expects to receive, in exchange for these goods or services. This standard adopts an asset-liability approach, meaning that revenue is recognized based on related changes in assets and liabilities. Accounts such as revenue, cash, accounts receivable, sales, and unearned revenue are affected by the process of revenue recognition. The revenue account is presented on the income

statement; however, it also has significant effects on the balance sheet and statement of cash flows. The new revenue recognition standard constitutes a five-step process for the recognition of revenue. These five steps include the identification of the contract created with the customer, identification of the separate performance obligations defined in the contract, determination of the transaction price, allocation of the transaction price to the performance obligations, and finally, the recognition of revenue with the satisfaction of each performance obligation.

- c. Refer to the Revenue Recognition discussion in Note 1. In general, when does Apple recognize revenue? Explain Apple's four revenue recognition criteria. Do they appear to be aligned with the revenue recognition criteria you described in part b, above?**

- According to Apple's most recent 10-K, the company generally recognizes revenue when "persuasive evidence of an arrangement exists, delivery has occurred, the sales price is fixed or determinable, and collection is probable." These four revenue recognition criteria align with the revenue recognition principles outlined in the new standard. Apple recognizes the sale of a product when it is shipped, and title, risk of loss, and ownership have all transferred to the customer. Apple states that all of these criteria are usually met at the time the product is shipped. For online sales, the company defers recognition until the customer physically receives the product, due to the fact that they still retain certain risks of loss during transit of the product. Apple recognizes revenue from standalone sales of software products, sales of software upgrades, and sales of software

bundled with hardware not essential to the functionality of the hardware in accordance with industry-specific software accounting guidance.

d. What are multiple-element contracts and why do they pose revenue recognition problems for companies?

- Multiple-element contracts are contracts that consist of multiple performance obligations. These pose problems for companies in the way in which they account for the revenue recognized for each of these separate performance obligations. Being that the performance obligations for these different elements of the contract are not satisfied at the same time, the total contract price must be allocated to each separate performance obligation, and recognized when satisfied. For Apple, revenue relating to multiple-element arrangements that include hardware products containing software essential to the functionality of the hardware, undelivered software elements relating to the hardware's functionality, and undelivered not-software services, is allocated to all service obligations based on their relative selling price.

e. In general, what incentives do managers have to make self-serving revenue recognition choices?

- Management may be presented with certain incentives when the company reaches a certain sales number or certain revenue goal within a specified time span. These incentives may be prizes, cash prizes, trips, or bonuses. These incentives tempt management to manipulate revenue recognition in a way that makes the company look more profitable. For this reason,

FASB takes a very strong approach to mandating revenue recognition principles.

f. Refer to Apple's revenue recognition footnote. In particular, when does the company recognize revenue for the following types of sales?

i. iTunes songs sold online.

- Apple recognizes iTunes songs sold online when the item is transferred to the recipient; therefore, the performance obligation is satisfied. Being that there is no major time difference between the purchase and possession of the song by the customer, revenue is generally recognized at the time of purchase.

ii. Mac-branded accessories such as headphones, power adapters, and backpacks sold in the Apple stores. What if the accessories are sold online?

- Apple uses its four requirements of revenue recognition to determine when to recognize revenue for accessories such as headphones, power adapters, and backpacks. If these items are sold in store, the four requirements are generally met at the time of purchase, therefore validating the recognition of revenue at the point of sale. However, if these items were to be sold online, Apple would delay revenue recognition until the customer physically receives the item due to the fact that they still bear some elements of risk during transit.

iii. iPods sold to a third-party reseller in India.

- Apple generally accounts for revenue sold to third-party resellers at the gross amount billed. Apple generally establishes its own pricing and related risk when dealing with third-party sales.

iv. Revenue from gift cards.

- Revenue from the sale of gift cards would be deferred until the customer actually makes a purchase using the gift card. The proceeds from the initial sale of the gift card would represent unearned revenue for the company until they satisfy the obligation to provide the products or services that the gift card covers.