

GAAP VS. IFRS TREATMENT OF LEASES AND THE IMPACT ON FINANCIAL RATIOS

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CASE DESCRIPTION

As of January 1, 2011, most of the world financial market economies are using International Reporting Standards (IFRS) as the required framework for financial statements. A non-comprehensive listing includes the European Union Countries, Canada, Australia and New Zealand. In the United States, US Generally Accepted Accounting Principles (GAAP) is still required but adoption of IFRS has support of many accounting firms and professional organizations and is under consideration by the SEC. This case study focuses on differences in the treatment of leases and the impact of these differences on financial statements and selected financial ratios. Students take GAAP financial statements and prepare an IFRS based balance sheet and income statement. It is necessary to understand both GAAP and IFRS rules regarding leases to address this case study. This case study is suitable for use at both the undergraduate and graduate levels. It may be used in an Intermediate Accounting II, Accounting Theory, Financial Statement Analysis or an International Accounting class, as well as an Investment Finance course. The case can be offered as an individual case study or as a group project.

JEL: M4, M41, M42, M48, M49

KEYWORDS: US GAAP, IFRS, Capital Lease, Operating Lease, Financing Lease, Ratios.

CASE INFORMATION

ACE Corp, a publically traded NASDAQ company (symbol ACE), is a manufacturer of electrical automobiles. It is based in Detroit, Michigan and the company has been operating since 1996. The company sells their electrical automobiles to auto manufacturers as well as the retail market on a worldwide basis. Its major clients are Ford, General Motors and Toyota. Ace has captured about 10 percent of the world market of the electrical automobile sales. Its stock sells at 25 US Dollars per share, and its 52-week price range is between 19.75 and 27.15 US Dollars, with a market cap of 10.6 billion dollars.

Their financial statements presented below for the year ending December 31, 2011 has been prepared using GAAP (Tables 1 and Table 2). The controller would like to see the effect of IFRS treatment of leases on the financial statements, and you have been assigned this task. In particular, the controller would like to see the impact GAAP and IFRS differences have on balance sheet, income statement and selected financial ratios. The company would like to adapt IFRS by as early as next year as it is considering a new stock issue in the Tokyo Stock Exchange, which requires IFRS compliance.

Table 1: GAAP Balance Sheet for ACE Corp. at 12/31/2011

ACE Corp.			
Balance Sheet (in 000's)		12/31/2011	
ASSETS		LIABILITIES AND SHAREHOLDERS EQUITY	
Current Assets		Current Liabilities	
Cash	\$ 33,000	Accounts payable	\$20,000
Accounts receivable	25,000	Accrued expenses	15,000
Investments	10,000	Taxes payable	<u>5,000</u>
Inventory (FIFO)	<u>50,000</u>	Total current liabilities	\$40,000
Total current assets	\$118,000		
Property, Plant and Equipment		Noncurrent Liabilities	
Assets (cost)	100,000	Bonds payable	<u>50,000</u>
Less: Accumulated Depreciation	<u>(30,000)</u>	Total liabilities	\$90,000
Total property, plant and equipment	\$ 70,000		
Intangible Assets		Shareholders' Equity	
Trademark	5,000	Common stock (\$1 par)	\$50,000
Goodwill	7,000	Retained earnings	<u>60,000</u>
	<u>\$12,000</u>	Total shareholders' Equity	<u>110,000</u>
Total assets	\$200,000	Total Liabilities and Shareholders' Equity	\$200,000

Table 1 shows the GAAP Balance Sheet for the case. Students must convert this GAAP statement to an IFRS Statement

Table 2 ACE Corp. GAAP Income Statement for the year ended 12/31/2011

ACE Corp	
Income Statement (in 000's)	12/31/2011
Sales	\$ 250,000
Cost of goods sold	<u>175,000</u>
Gross profit	\$ 75,000
Selling and administrative expenses (Exclusive of amortization and depreciation)	<u>31,000</u>
Earnings before interest, taxes, depreciation and amortization	\$ 45,000
Amortization and depreciation expense	<u>10,000</u>
Earnings before interest and taxes	\$ 34,000
Interest expense	<u>4,000</u>
Income before tax	\$30,000
Tax expense (30 %)	<u>9,000</u>
Earnings from continuing operations and before Extraordinary item	\$21,000
Net loss from Hurricane (net of 4,500 taxes)	<u>(10,500)</u>
Net Income	<u>\$10,500</u>

Table 2 shows the GAAP Income Statement for the case. Students must convert this GAAP statement to an IFRS Statement.

ADDITIONAL INFORMATION

Ace entered into a lease on January 1, 2011 with the following terms:

1. Ace leased specialized machinery manufactured by the lessor, Bell Corp., which will enable Ace to manufacture their electric cars in a much more efficient manner. This machinery does not have a resale market and was made specifically for ACE to meet its specifications.
2. The lease term is for 3 years with a minimum lease payment of \$10,000. Payment is due on December 31 of each year, with the first payment due on December 31, 2011. At the end of year 3, Ace has the option of leasing the equipment for one additional year for \$2,500. At the end of the lease term, ownership reverts to the lessor. There is no option to buy the equipment.
3. The lessee will pay all executor costs.

4. The estimated useful life of the lease is 49 months (4 and 1/12 years.)
5. The fair market value of the equipment is \$30,000.
6. The implicit rate of Bell Corp. is 6 percent, and the lessee, Ace, knows this.
7. The incremental borrowing rate of Ace is 7 percent.

QUESTIONS

- 1- Differentiate between an operating lease and a capital/ financing Lease for GAAP financial reporting purposes.
- 2- Under GAAP, has this been treated as a capital lease / financing Lease for Ace or an operating lease?
- 3- Under IFRS, should this lease be classified as an operating or a financing lease?
- 4- Describe the different reporting results between GAAP and IFRS and make the necessary adjusting entries to conform the financial statements to IFRS compliance for Year 1.
- 5- Prepare an income statement under IFRS for year 1. Assume that the net income remains the same under IFRS as it does for GAAP and any difference is reconciled in the tax expense and tax payable accounts.
- 6- Prepare balance sheet under IFRS for Year 1.
- 7- Compute the following ratios for Year 1, under both IFRS and GAAP reported totals:
 - a. Current Ratio
 - b. Quick Ratio
 - c. Cash Ratio
 - d. Times Interest Earned
 - e. Debt to Capital Ratio
 - f. Debt to Shareholder Equity Ratio
- 8- Comment on your findings in 7 above.

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TEACHING NOTES

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CASE DESCRIPTION

This case focuses on GAAP and IFRS differences in the treatment of leases and the grounds for classification as an operating or capital lease. It is designed to have students conduct research on GAAP and IFRS pronouncements. They must compare and contrast the differences in the treatment of leases under the two frameworks. It also requires students to prepare the adjusting entries for the IFRS conversion. They will prepare IFRS statements, and compute and compare financial ratios for both GAAP and IFRS statements. Finally, they will discuss the status of IFRS adoption and the impact of its adoption in the US.

Since this case requires research into GAAP and IFRS pronouncements, it is most appropriate for students who have completed or are currently enrolled in intermediate financial accounting II. It can be used at the graduate or undergraduate levels in a variety of additional financial reporting courses including accounting theory, international accounting, and financial statement analysis, as well as an investment finance course.

CASE LEARNING OBJECTIVES

The case is designed to have students identify reporting issues and apply U.S. and international authoritative accounting literature by researching the FASB Accounting Standards Codification and the International Financial Reporting Standards (IFRS).

The specific learning objectives are for the student to:

- a) Identify differences in GAAP and IFRS treatment of leases:
- b) Prepare adjusting entries to convert GAAP based financial statements to IFRS income statement and balance sheet and
- c) Prepare an IFRS income statement and balance sheet

Suggested Teaching Approach

The case may be offered as an individual case study or as a group project. For more advanced accounting students, this case should be an individual project. It could have a weight of 10-15 % of the final course grade. When offered as an individual project, students will need three to six hours to research and prepare the case solution.

For less advanced students, the case may be offered as a collaborative group project. This would enable students to demonstrate and develop team-working skills. The case presents an opportunity to discuss the status of IFRS implementation in the US and the impact IFRS had on JAL Corp. The in-class review of the solution and case discussion can be completed as part of a 50-minute class.

In grading the case write-ups, instructors should evaluate the identification of relevant issues, proper accounting for the IFRS conversion and computation of the ratios including the computational accuracy of numbers, quality and depth of research as evidenced by proper citations of the literature. We suggest that the instructor explain the basis for grading at the outset.

Pointers for Classroom Discussion.

After the review of the IFRS statements, the instructor may wish to discuss the impact of IFRS. Suggested questions to ask the class are: What impact will IFRS have on AXE Corp.'s income statement and balance sheet? What are the benefits of adopting IFRS? What are the disadvantages of IFRS? You may wish to have students research the status in the US of IFRS adoption.

SUGGESTED SOLUTION

Question 1: Differentiate between an operating lease and a Capital/ Financing Lease for financial reporting purposes.

Solution 1: An operating lease is treated as a rent expense and recorded on the income statement. An operating lease is an off balance sheet transaction and is preferred by companies because it lowers the liabilities and the debt ratio. A GAAP capital lease is treated as a purchase of a Property, Plant and Equipment and capitalized on the Balance Sheet. Capital leases are termed as a financing lease under IFRS.

The minimum lease payments required on the lease are recorded as a liability on the Balance Sheet at the present value. The discount rate is the lessee's incremental borrowing or the implicit rate of the lease, if it is lower and known by the lessee. The liability is separated into its current and long-term components, which affects the current ratio.

Pointers for Classroom Discussion

Discuss the differences between rule based US GAAP, versus principles based IFRS requirements for distinguishing between operating versus capital/financing leases.

Question 2: Under US GAAP, is the lease treated as a capital lease / financing lease or an operating lease?

Solution 2: Under GAAP, if the lessee meets one of the four tests listed below, the lease is treated as a capital lease; otherwise, it is an operating lease.

Test 1: Economic Life Test: The lease term is equal to or greater than 75% of the economic life of the asset. In this case, the lease term is 3 years divided by the economic life of 4.1 years, yields 73%. Test 1 not met.

Test 2: Transfer of Ownership Test: If at the end of the lease term, ownership transfers to lessee, then this test is satisfied. Test 2 is not met in this case, as there is no transfer of ownership at the end of year 3.

Test 3: Bargain Purchase Option: If the lessee has the option to purchase the lease at a bargain purchase price, then this test is satisfied. In this case, there is no bargain purchase option, so test 3 is not met.

Test 4: Economic Recovery Test: If the Present Value of the Minimum Lease payments is 90 percent or greater than the fair market value of the asset.

In this case, the present value of the Minimum Lease Obligation is \$26,730. This divided by the fair market value of the leased asset of \$30,000 is 89 percent; just shy of the 90% requirement. Test 4 is not met.

Table 3: Minimum Lease Payments

Minimum Lease		Assuming a Capital/ Financing Lease		Obligation-Payable
Year	Payment	Interest-6%	Principal	
1	\$ 10,000	1,604	8,396	\$26, 730
2	10,000	1,100	8,900	18,334
3	10,000	566	9,434	9,434
Total	\$ 30,000	3,270	26,730	0
				N/A

Tables 3 shows interest and principle payments for each year of the lease liability at the end of each year.

Table 3 shows the interest and principle payments for each year of the lease. It also shows the liability at the end of each year. The interest expense is the beginning lease obligation multiplied by the interest rate. Since none of the four tests is met, the lease is treated as an operating lease to the AXE Corp. under US GAAP. Note should be made that AXE just missed some of these tests by fractional amounts.

Pointers for Classroom Discussion

Discuss why a corporation has an incentive for making a lease classification as operating rather than capital.

Question 3: Under IFRS, should this lease be classified as an operating lease or a financing lease?

Solution 3: Under IFRS, this lease is clearly a financing/capital lease as the criteria of lease type is based on principles, and not rules. Under IFRS, if the lessee assumes the economic benefit and risks of the leased asset, and the facts of the situation are such that the lease resembles a financing lease, then it is treated as a financing lease. The fact that the lessee has a fourth year rental option at a very significant discount, coupled that this machine is specialized in nature for ACE's use, and many of the tests under GAAP are nearly met which are an indicator of a financing classification rather than operating lease. The lessor manufactured this equipment to ACE's specifications and in effect transferred the risk to AXE upon the inception of the lease. Further, ACE was able to circumvent the capital lease rules under GAAP by making estimates work to its advantage.

Question 4: Describe the different reporting results between GAAP and IFRS and make the necessary adjusting entries to conform the financial statements to IFRS compliance for Year 1.

Solution 4: In each of the three years of the lease, GAAP treats the operating lease payment of \$10,000 as rent expense on the income statement and no liability is recorded on the balance sheet.

A: Year of lease Inception:

Under IFRS, the financing/ capital lease is treated as a purchase of property, plant and equipment and capitalized on the balance sheet as such for \$26,730. Additionally, the Minimum Lease obligation is shown on the balance sheet as a liability of \$18,334 (\$26,730 less the year 1 payment of \$8,396). Of this amount, \$8,900 is classified as a current liability and \$9,434 is classified as a long term liability. On the income statement, depreciation expense is \$8,910 (26,730 divided by the lease term of 3 years) and interest expense is \$1,604, for a total of \$10,514.

B: Subsequent to Year of Inception-years 2 and 3 of lease payments:

IFRS: The \$10,000 lease payment is treated as an interest expense as calculated above; \$1,100 in year 2 and \$566 in year 3 in addition to a depreciation expense of \$8,910. Over the 3-year period, the total expense will be the same at \$30,000 under both methods of reporting (operating v. capital/financing.)

ADJUSTING ENTRIES YEAR 1 TO CONFORM TO IFRS

1-Dr. Leased Asset-Financing Lease: 26,730

Cr. Minimum Lease Obligation-Financing Lease: 26,730

To record capitalization of the lease

2-Dr. Depreciation Expense: 8,910

Cr. Accumulated Depreciation: 8,910

To record depreciation expense on the capitalized lease

3-Dr. Interest Expense: 1,604

Dr. Minimum Lease Obligation-Financing Lease: 8,396

Cr. Rent expense/Selling and Administrative expense: 10,000

To adjust lease from operating to capital/financing

4-Dr. Minimum Lease Obligation-Financing lease: 18,334

Cr. Minimum Lease Obligation-Financing lease -Current liability: 8,900

Cr. Minimum Lease Obligation-Financing lease -Long Term Liability: 9,434

To correctly classify the Minimum Lease Obligation to its liability term components

5- Dr. Selling and Administrative Expense: 15,000

Cr.- Extraordinary Item: 15,000

To reclassify extraordinary item as an operating expense

This is calculated by the extraordinary loss, shown net of taxes of 10,500 divided by 1 less the tax rate of 30 percent, or 0.7, which yields a before tax loss of 15,000.

Pointers for Classroom Discussion

There is no prompt for this reclassification. Students must demonstrate critical thinking by identifying that IFRS does not allow for the use of an extraordinary item. It is important to point out that we should not be so focused on one issue (lease treatment) that we overlook other issues that should be apparent.

Also, note that the reclassification of the extraordinary loss is shown before tax (10,500+ 4,500)

6- Dr. Tax Payable 514

Cr. Tax Expense 514

To reconcile a net income total of \$10,500; an amount equal to the GAAP reported total.

Pointers for Classroom Discussion

Show that under capital/financing lease treatment, the expense will be greater in the early year(s), resulting in lower income, and lower in the latter year(s), showing a higher income. In the entire term of the lease, each method will yield identical expense totals. Use of the amortization schedule will illustrate this clearly.

Question 5: Prepare an Income Statement under IFRS for year 1. Assume that the net income remains the same under IFRS as it does for GAAP and any difference is reconciled in the tax expense and tax payable accounts.

Solution 5: Table 4 shows the impact of the conversion to IFRS.

Table 4 ACE Corp. IFRS Income Statement for the year ended 12/31/2011

ACE Corp		
Income Statement (in 000's) For the year ended 12/31/2011		
Sales		\$250,000
Cost of goods sold		<u>175,000</u>
Gross profit		\$ 75,000
Selling and administrative expenses	31,000 plus (5)15,000	
(Exclusive of amortization & depreciation)	less (3) 10,000 =	<u>36,000</u>
Earnings before interest, taxes, depreciation and amortization		\$ 39,000
Amortization and depreciation expense	10,000 + (2)8,910 =	<u>18,910</u>
Earnings before interest and taxes		\$ 20,090
Interest expense	4,000 + (3)1,604 =	<u>5,604</u>
Income before tax		\$ 14,486
Tax expense	4,500-(6)514 =	<u>3,986</u>
Net Income		\$ 10,500

Table 4 shows the impact of the conversion to IFRS.

Question 6: Prepare a Balance Sheet under IFRS for Year 1.

Solution 6: Table 5 shows IFRS Balance Sheet for ACE Corp at 12/31/2011

Table 5: IFRS Balance Sheet for ACE Corp at 12/31/2011

ACE Corp			
Balance Sheet (in 000's) 12/31/2011			
<u>Intangible Assets</u>		<u>Equity</u>	
Goodwill	7,000	Share capital	\$50,000
Trademark	5,000	Retained earnings	<u>60,000</u>
Total intangible assets	12,000	Total equity	\$110,000
<u>Property, Plant and Equipment</u>		<u>Non-current Liabilities</u>	
Plant assets (cost)	\$100,000	Bonds payable	\$50,000
Leased asset	(1) 26,730	Minimum lease obligation (4)	<u>\$9,434</u>
		Noncurrent liabilities	<u>\$59,434</u>
Accumulated depreciation		<u>Current Liabilities</u>	
30,000 plus (2) 8,910=	38,910	Minimum lease obligation (4)	\$8,900
Net plant assets	\$87,820	Taxes payable 5,000-(6)514=	4,486
<u>Current Assets</u>		Accrued expenses	15,000
Inventory (FIFO)	50,000	Accounts payable	\$20,000
Investments	10,000	Total current liabilities	\$48,386
Accounts receivable	25,000	Total liabilities	\$107,820
Cash	\$33,000	Total equity and liabilities	\$217,820
Total current assets	\$118,000		
Total assets	\$217,820		

IFRS Balance Sheet after conversion.

Table 4 shows the IFRS Balance Sheet after conversion. Where adjustments were necessary, they are indicated next to the account. Note that IFRS recommends listing accounts in reverse order of liquidity. The common stock is shown as share capital.

Question 7: Ratio Calculations:**Solution 7: Tables 6 shows GAAP and IFRS Ratios****Tables 6 shows GAAP and IFRS Ratios**

	GAAP	IFRS
Current Ratio=current assets/current liabilities 118,000/40,000 118,000/48,316	2.95	2.44
Quick Ratio=current assets-inventory/current liabilities 18,000-50,000/40,000 118,000-50,000/48,316	1.70	1.41
Cash Ratio=cash/current liabilities 33,000/40,000 33,000/48,316	0.83	0.68
Times Interest Earned =EBIT/ Interest Expense 34,000/4,000 20,090/5,604	8.5	3.58
Debt to Capital Ratio=Total Liabilities/Total Assets 90,000/200,000 107,820/217,820	0.45	0.50
Debt to Shareholder Equity Ratio=Liabilities/Shareholder' Equity 90,000/110,000 107,820/110,000	0.82	0.98

Question 8: Comments

Solution 8: The ratios clearly indicate that IFRS rules result in more conservative ratio results with respect to the current and long-term creditor when compared to US GAAP. Every liquidity ratios is lower under IFRS and the differences are significant. Similarly, all long-term ratios are also more conservative when compared to US GAAP. The implications here is that IFRS will have far greater negative implications on bond covenant agreements as well as other long and short-term creditor legally binding agreements than US GAAP.

CONCLUSION

IFRS is the future of worldwide financial reporting and should be included as a major part of any accounting and/or business curriculum in the US, as well as the rest of the world. This case illustrates a situation where a Balance Sheet and Income Statement is prepared using GAAP as a basis and converted to IFRS for comparison purposes, with the focus being from the creditor point of view. In this case study, IFRS rules are discussed, and key lease GAAP and IFRS accounting similarities and differences are addressed and the implications on the corporation's creditors.

BIOGRAPHY

Peter Harris is a Professor and Chair of the Accounting and Finance department at the New York Institute of Technology. Previously, he has worked for Ernst and Young LLP. He is an author of over 40 refereed journal articles and over 100 intellectual contributions. He has presented and continues to present seminars to nationally and globally audiences on topics relating to financial reporting and taxation. He is a member of several professional organizations. He can be reached at pharris@nyit.edu and by phone at 516-695-6707.

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Liz Washington Arnold is an Associate Professor of Accounting at The Citadel. She has over 25 years of corporate accounting experience and is an active member of various community and professional organization. Her research on Corporate Accounting Malfeasance and other topics appears in journals such as Accounting and Taxation, the Southeast Case Research Association Journal, and Business Education Innovations. She can be reached at The Citadel, 171 Moultrie Street, Charleston, SC 29445, liz.arnold@citadel.edu.

Katherine Kinkela is an Assistant Professor at the New York Institute of Technology. She is an attorney and holds an LL.M degree in addition to the JD. Prior to teaching, Katherine has worked at Deloitte and Touche, LLP and currently serves as a tax consultant. She has published a number of papers, and has presented accounting, auditing, legal and taxation topics in national conferences. She is a member of several professional organizations.