CHAPTER 14

LONG-TERM FINANCIAL LIABILITIES

ASSIGNMENT CLASSIFICATION TABLE

Topics	Brief Exercises	Exercises	Problems	Writing Assignment
1. Understand the nature of long-term debt.		10		
2. Identify various types of long-term debt.				
3. Understand how long-term debt is valued and measured.	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 8, 10, 11	
4. Apply the effectiveinterest and straight-line bond amortization methods.	3, 10, 11, 12, 13, 14, 15	2, 3, 9, 11, 12, 13, 14, 15, 16, 17	1, 2, 3, 4, 5, 6, 7, 8, 9, 12	
5. Value bonds and consideration inspecial situations.	4, 5, 6	4, 5, 6, 7, 8, 18	7, 9, 10	
6. Account for derecognition of debt.	16	11, 19, 20	1, 4, 5, 6	
7. Debt restructurings.	17	21, 22, 23, 24, 25, 26, 27, 28	13, 14, 15, 16, 17, 18	
8. Off-balance sheet financing arrangements.				
9. Long-term debt analysis and presentation.	18	15, 29, 30, 31	1, 10	

NOTE: If your students are solving the end-of-chapter material using a financial calculator or an Excel spreadsheet as opposed to the PV tables, please note that there will be a difference in amounts. Excel and financial calculators yield a more precise result as opposed to PV tables. The amounts used for the preparation of journal entries in solutions have been prepared from the results of calculations arrived at using the PV tables.

ASSIGNMENT CHARACTERISTICS TABLE

Item	Description	Level of Difficulty	Time (minutes)
E14-1	Entries for bond transactions.	Simple	15-20
E14-2	Entries for bond transactions—effective interest.	Simple	15-20
E14-3	Entries for bond transactions—straight-line.	Simple	15-20
E14-4	Entries for noninterest-bearing debt.	Simple	15-20
E14-5	Imputation of interest.	Simple	15-20
E14-6	Instalment note.	Moderate	15-20
E14-7	Purchase of equipment with noninterest-bearing debt.	Moderate	15-20
E14-8	Purchase of equipment with noninterest-bearing debt.	Moderate	15-20
E14-9	Entries for bond transactions.	Moderate	15-20
E14-10	Information related to various bond issues.	Simple	20-30
E14-11	Entries for retirement of bonds.	Simple	10-15
E14-12	Amortization schedule—straight-line.	Simple	15-20
E14-13	Amortization schedule—effective interest.	Simple	15-20
E14-14	Determine proper amounts in account balances.	Moderate	15-20
E14-15	Entries and questions for bond transactions.	Moderate	20-30
E14-16	Entries for retirement and issuance of bonds – straight line.	Simple	15-20
E14-17	Entries for retirement and issuance of bonds – effective interest.	Complex	30-35
E14-18	Government interest free loan	Moderate	15-20
E14-19	Entry for retirement of bond; bond issue costs.	Simple	15-20
E14-20	Entries for retirement and issuance of bonds.	Simple	15-20
E14-21	Impairments.	Moderate	15-25
E14-22	Settlement of debt.	Moderate	15-20
E14-23	Term modification debtor's entries.	Moderate	20-30
E14-24	Term modification creditor's entries.	Moderate	25-30
E14-25	Settlement debtor's entries.	Moderate	25-30
E14-26	Settlement creditor's entries.	Moderate	20-30
E14-27	Debotr/creditor entries for modification of troubled debt.	Moderate	20-25

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

Item	Description	Level of Difficulty	Time (minutes)
E14-28	Debtor/creditor entries for settlement of troubled debt.	Simple	15-20
E14-29	Long-term debt disclosure.	Simple	10-15
E14-30	Classification of liabilities	Simple	15-20
E14-31	Classification.	Simple	15-20
P14-1	Comprehensive problem; issuance, classification, reporting.	Moderate	20-25
P14-2	Analysis of amortization schedule and interest entries.	Simple	15-20
P14-3	Issuance and retirement of bonds.	Moderate	25-30
P14-4	Comprehensive bond problem.	Complex	50-65
P14-5	Issuance of bonds between interest dates, straight-line, retirement.	Complex	30-35
P14-6	Issuance of bonds between interest dates, effective interest, retirement.	Complex	30-35
P14-7	Entries for life cycle of bonds.	Moderate	20-25
P14-8	Entries for noninterest-bearing debt.	Simple	15-25
P14-9	Entries for noninterest-bearing debt; payable in instalments.	Moderate	20-25
P14-10	Contrasting note terms.	Complex	40-50
P14-11	Interest costs in excess of payments.	Moderate	20-30
P14-12	Issuance and retirement of bonds; income statement presentation.	Simple	15-20
P14-13	Loan impairment entries.	Moderate	30-40
P14-14	Debtor/creditor entries for continuation of troubled debt.	Moderate	15-25
P14-15	Restructure of note under different circumstances.	Complex	40-50
P14-16	Debtor/creditor entries for continuation of troubled debt.	Complex	40-50
P14-17	Entries for troubled debt restructuring.	Moderate	30-35
P14-18	Debtor/creditor entries for continuation of troubled debt with new effective interest.	Complex	40-50

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 14-1

Present value of the principal	
$500,000 X .37689	**$188,445**
Present value of the interest payments	
$27,500 X 12.46221	**342,711**
Issue price	**$531,156**

Excel formula:
=PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	**?**	**Yields $ 531,156**
I	**5%**	
N	**20**	
PMT	**$ (27,500)**	
FV	**$ (500,000)**	
Type	**0**	

BRIEF EXERCISE 14-2

(a)	**Cash**	**300,000**	
	Notes Payable		**300,000**
(b)	**Interest Expense**	**24,000**	
	Cash ($300,000 X 8%)		**24,000**

BRIEF EXERCISE 14-3

(a)

Present value of the principal	
$200,000 X .74409	**$148,818**
Present value of the interest payments	
$8,000 X 12.46221	**68,242**
Issue price	**$217,060**

Excel formula:
=PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	**?**	**Yields $ 217,060.14**
I	**3%**	
N	**10**	
PMT	**$ (8,000)**	
FV	**$ (200,000)**	
Type	**0**	

(b)	**Cash**	**217,060**	
	Bonds Payable		**217,060**
(c)	**Interest Expense ($217,060 X 6% X 6/12)**	**6,512**	
	Bonds Payable ($8,000 – $6,512)	**1,488**	
	Cash ($200,000 X 8% X 6/12)		**8,000**
	Interest Expense [($217,060 – $1,488) X 6% X 6/12]	**6,467**	
	Bonds Payable ($8,000 – $6,467)	**1,533**	
	Cash ($200,000 X 8% X 6/12)		**8,000**

BRIEF EXERCISE 14-4

(a)	Cash	47,664	
	Notes Payable.....		47,664
(b)	Interest Expense ($47,664 X 12%)	5,720	
	Notes Payable.....		5,720

(c)
Using a financial Calculator:

FV =	$(75,000)	
n =	4	
PMT =	0	
i =	12%	Calculate
PV =	$47,664	

(d)

Schedule of Discount Amortization
Effective Interest Method (12%)

Date	12% Interest Expense	Discount Amortized	Carrying Amount
Jan. 1 2012			$47,664.00
Dec. 31 2012	$5,719.68	$5,719.68	53,383.68
Dec. 31 2013	6,406.04	12,125.72	59,789.72
Dec. 31 2014	7,174,77	19,300.49	66,964.49
Dec. 31 2015	* 8,035.51	27,336.00	75,000.00
	$27,336.00	$27,336.00	

* rounded

BRIEF EXERCISE 14-5

(a)	Computer	38,912	
	Notes Payable.....		38,912
(b)	Interest Expense.....	4,280*	
	Cash		2,500**
	Notes Payable.....		1,780

*($38,912 X 11% = $4,280)

**($50,000 X 5% = $2,500)

Note: The transaction is a monetary transaction and as such should be measured by estimating the value of the note by discounting it at the market interest rate of 11%.

Excel formula: =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	?	Yields $ 38,912
I	11%	
N	4	
PMT	$(2,500)	
FV	$ (50,000)	
Type	0	

BRIEF EXERCISE 14-6

Cash	140,000	
Notes Payable		102,904
Unearned Revenue		37,096

[$140,000 – ($140,000 X .73503 = $102,904)] = $37,096

Excel formula: =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	?	Yields $ 102,904
I	8%	
N	4	
PMT	0	
FV	$ (140,000)	
Type	0	

BRIEF EXERCISE 14-7

The relevant interest rate to be imputed on the instalment note is the rate Pflug would pay at its bank of 11%

Using Ordinary Annuity Tables for 11% for two periods, the factor of 1.71252 is used and divided into the present value amount of $40,000 to arrive at the amount of the equal instalment payment of $23,357.39

Excel formula = PMT(rate,nper,pv,fv,type)

Using a financial calculator:

PV	$ (40,000)	
I	11%	
N	2	
PMT	?	Yields $ (23,357.35)
FV	$ 0	
Type	0	

BRIEF EXERCISE 14-8

(a)	Cash ($500,000 – $25,000).....	475,000	
	Bonds Payable.....		475,000
(b)	Interest Expense ($40,000* + $2,500**).....	42,500	
	Bonds Payable.....		2,500
	Cash*.....		40,000

* $500,000 X 8% = $40,000
** $25,000 issue cost X 1/10 = $2,500

(c) When a note or bond is issued, it should be recognized at the fair value adjusted by any directly attributable issue costs. However, note that where the liabilities will subsequently be measured at fair value (e.g., under the fair value options or because they are derivatives), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].

BRIEF EXERCISE 14-9

(a)	Cash	300,000	
	Bonds Payable.....		300,000
(b)	Interest Expense.....	15,000	
	Cash ($300,000 X 10% X 6/12).....		15,000
(c)	Interest Expense.....	15,000	
	Interest Payable.....		15,000

BRIEF EXERCISE 14-10

(a)	Cash ($300,000 X .98)	294,000	
	Bonds Payable		294,000
(b)	Interest Expense	15,600	
	Cash ($300,000 X 10% X 6/12)		15,000
	Bonds Payable		600
	($6,000 X 1/5 X .5 = $600)		
(c)	Interest Expense	15,600	
	Interest Payable		15,000
	Bonds Payable		600

BRIEF EXERCISE 14-11

(a)	Cash ($300,000 X 1.03 = $309,000)	309,000	
	Bonds Payable		309,000
(b)	Interest Expense	14,100	
	Bonds Payable ($9,000 X 1/5 X .5)	900	
	Cash ($300,000 X 10% X 6/12)		15,000
(c)	Interest Expense	14,100	
	Bonds Payable	900	
	Interest Payable		15,000

BRIEF EXERCISE 14-12

(a)	Cash	721,000	
	Bonds Payable.....		700,000
	Interest Expense.....		21,000
	($700,000 X 9% X 4/12 = $21,000)		
(b)	Interest Expense.....	31,500	
	Cash		31,500
	($700,000 X 9% X 6/12 = $31,500)		
(c)	Interest Expense.....	31,500	
	Interest Payable.....		31,500

BRIEF EXERCISE 14-13

(a)	Cash	559,229	
	Bonds Payable		559,229
(b)	Interest Expense	22,369	
	Cash		21,000
	Bonds Payable		1,369
(c)	Interest Expense	22,424	
	Interest Payable		21,000
	Bonds Payable		1,424

(d)
Using a Financial Calculator:

FV =	(600,000)	Given
n =	20	10 years X 2
PMT =	(21,000)	Face X 7% X 6/12
i =	4.0%	Calculate
PV =	559,229	Given

(e)

Schedule of Discount Amortization
Effective Interest Method (4%)

Date	3.5% Cash Paid	4.0% Interest Expense	Discount Amortized	Carrying Amount
Jan. 1 2012				$559,229.00
July 1 2012	$21,000.00	$22,369.16	$1,369.16	560,598.16
Jan. 1 2013	21,000.00	22,423.93	1,423.93	562,022.09
July 1 2013	21,000.00	22,480.89	1,480.89	563,502.97

BRIEF EXERCISE 14-14

(a)	Cash	644,635	
	Bonds Payable		644,635
(b)	Interest Expense	19,339	
	Bonds Payable	1,661	
	Cash		21,000
(c)	Interest Expense	19,289	
	Bonds Payable	1,711	
	Interest Payable		21,000

(d)
Using a Financial Calculator:

FV =	(600,000)	Given
n =	20	10 years X 2
PMT =	(21,000)	Face X 7% X 6/12
i =	3.0%	Calculate
PV =	664,635	Given

(e)

Schedule of Premium Amortization
Effective Interest Method (3%)

Date		3.5% Cash Paid	3.0% Interest Expense	Premium Amortized	Carrying Amount
Jan. 1	2012				$644,635.00
July 1	2012	$21,000.00	$19,339.05	$1,660.95	642,974.05
Jan. 1	2013	21,000.00	19,289.22	1,710.78	641,263.27
July 1	2013	21,000.00	19,237.90	1,762.10	639,501.17

BRIEF EXERCISE 14-15

Interest Expense	6,446*	
Bonds Payable	1,554	
Interest Payable		8,000**

* ($644,636 X 6% X 2/12 = $6,446)
** ($600,000 X 8% X 2/12 = $8,000)

BRIEF EXERCISE 14-16

Bonds Payable ($500,000 + $9,750)	509,750	
Cash ($500,000 X .99)		495,000
Gain on Redemption of Bonds		14,750

BRIEF EXERCISE 14-17

Two different types of situations result with troubled debt: (1) Impairments, and (2) Restructurings. Restructurings can be further classified into:
(a) Settlements.
(b) Modification of terms.

When a debtor company runs into financial difficulty, creditors may recognize an impairment on a loan extended to that company. Subsequently, the creditor may modify the terms of the loan, or settle it on terms unfavourable to the creditor. In unusual cases, the creditor (or creditors acting together) force the debtor into bankruptcy (when the debt is unsecured) or receivership (when the debt is secured) in order to ensure the highest possible collection on the loan relative to other creditors.

BRIEF EXERCISE 14-18

Current liabilities	
Bond interest payable	$ 80,000
Long-term liabilities	
Bonds payable, due January 1, 2020	$1,912,000

SOLUTIONS TO EXERCISES

EXERCISE 14-1 (15-20 minutes)

1. Divac Limited:

(a)	**1/1/11**	**Cash**	**300,000**	
		Bonds Payable		**300,000**
(b)	**7/1/11**	**Bond Interest Expense**	**6,750**	
		($300,000 X 9% X 3/12)		
		Cash		**6,750**
(c)	**12/31/11**	**Bond Interest Expense**	**6,750**	
		Interest Payable		**6,750**

2. Verbitsky Inc.:

(a)	**6/1/11**	**Cash**	**210,000**	
		Bonds Payable		**200,000**
		Bond Interest Expense		**10,000**
		($200,000 X 12% X 5/12)		
(b)	**7/1/11**	**Bond Interest Expense**	**12,000**	
		Cash		**12,000**
		($200,000 X 12% X 6/12)		
(c)	**12/31/11**	**Bond Interest Expense**	**12,000**	
		Interest Payable		**12,000**

Note to instructor: Some students may credit Interest Payable on 6/1/11. If they do so, the entry on 7/1/11 will have a debit to Interest Payable for $10,000 and a debit to Bond Interest Expense for $2,000.

EXERCISE 14-2 (15-20 minutes)

(a)

1/1/11	Cash ($800,000 X 102%)	816,000	
	Bonds Payable		816,000

(b)

7/1/11	Bond Interest Expense	39,780	
	($816,000 X 9.75% X 1/2)		
	Bonds Payable	220	
	Cash		40,000
	($800,000 X 10% X 6/12)		

(c)

12/31/11	Bond Interest Expense	39,769	
	($815,780* X 9.75% X 1/2)		
	Bonds Payable	231	
	Interest Payable		40,000

* Carrying amount of bonds at July 1, 2011:

Carrying amount of bonds at January 1, 2011	$816,000
Amortization of bond premium ($40,000 – $39,780)	(220)
Carrying amount of bonds at July 1, 2011	$815,780

EXERCISE 14-3 (15-20 minutes)

(a)

(1)	**1/1/11**	**Cash ($800,000 X 102%) .....**	**816,000**	
		Bonds Payable		**816,000**
(2)	**7/1/11**	**Bond Interest Expense .....**	**39,600**	
		Bonds Payable	**400**	
		($16,000 ÷ 40)		
		Cash		**40,000**
		($800,000 X 10% X 6/12)		
(3)	**12/31/11**	**Bond Interest Expense .....**	**39,600**	
		Bonds Payable	**400**	
		Interest Payable		**40,000**

(b) Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

EXERCISE 14-4 (15-20 minutes)

(a)		January 1, 2012	
1.	Land	300,000.00	
	Notes Payable		300,000.00
	(The $300,000 capitalized land cost represents the present value of the note with maturity amount of $505,518 discounted for five years at 11%)		
2.	Equipment	204,241.73	
	Notes Payable		204,241.73

*Computation of the discount on notes payable:

Maturity value		$275,000.00
Present value of $275,000 due in 8 years at 11%—$275,000 X .43393	$119,330.75	
Present value of $16,500 ($275,000 X 6% X 12/12) payable annually for 8 years at 11% annually—$16,500 X 5.14612	84,910.98	
Present value of the note		(204,241.73)
Discount to be amortized		$ 70,758.27

EXERCISE 14-4 (Continued)

Using a financial calculator:

PV	$?	Yields $204,240.81
I	11%	
N	8	
PMT	$ (16,500)	
FV	$ (275,000)	
Type	0	

A more accurate result is obtained compared to using factors from tables as there are a limited number of decimal places in the tables. This difference is in most cases immaterial.

(b)

1.	Interest Expense	33,000	
	Notes Payable		33,000
	($300,000 X .11)		
2.	Interest Expense	22,467	
	($204,241.73 X .11)		
	Notes Payable		5,967
	Cash ($275,000 X .06)		16,500

EXERCISE 14-5 (15-20 minutes)

(a) The applicable Excel formula to determine the present value of the future cash flows of $427,068 is as follows:

Excel formula = PV(rate,nper,pmt,fv,type)

Using tables:

Face value of the non-interest-bearing note	$600,000
Discounting factor (12% for 3 periods)	X .71178
Amount to be recorded for the land at January 1, 2012	$427,068

Using a financial calculator:

PV	$?	Yields $427,068.15
I	12%	
N	3	
PMT	0	
FV	$ (600,000)	
Type	0	

Carrying amount of the note at January 1, 2012	$427,068
Applicable interest rate (12%)	X .12
Interest expense to be reported in 2012	$ 51,248

The assessed value for the land is not as clear a measure of the value of the land compared to the present value of the future cash flows on the note. The present value represents the agreed cash flows, discounted at the market rate of interest, whereas the assessed value has been computed (generally) only for the purpose of municipal taxation. It can be used as a reasonableness check on the amount arrived at to calculate the carrying amount of the non-interest-bearing note.

EXERCISE 14-5 (Continued)

(b) January 1, 2012

Cash	4,000,000	
Notes Payable.....		2,732,040
Unearned Revenue*.....		1,267,960

*$4,000,000 – ($4,000,000 X .68301) = $1,267,960

Excel formula = PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $2,732,054
I	10%	
N	4	
PMT	0	
FV	$ (4,000,000)	
Type	0	

A more accurate result is obtained compared to using factors from tables as there are a limited number of decimal places in the tables. This difference is in most cases immaterial.

Carrying amount of the note at January 1, 2012	$2,732,040**
Applicable interest rate (10%)	X .10
Interest expense to be reported for 2012	$ 273,204

**$4,000,000 – $1,267,960 = $2,732,040

EXERCISE 14-6 (15-20 minutes)

(a) The purchase price of the land should be recorded at the present value of the future cash flows of the instalment note at the imputed interest rate of 9%. This is the fairest measure of the value of the asset obtained as it represents the present value of an agreed series of future cash flows. The listing price represents a tentative amount "asked" for the property and could be above or below the eventual agreed value.

(b) Land will be recorded at $110,000 based on the calculations below:

*PV of $43,456 ordinary annuity @ 9% for 3 years: ($43,456 X 2.53130) = $110,000

Excel formula: =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	?	Yields $ 110,000
I	9%	
N	3	
PMT	$ (43,456)	
FV	$ 0	
Type	0	

(c)

Schedule Instalment Note Payments
Effective Interest Method – 9%

Year	Note Payment	9% Interest	Reduction of Principal	Carrying Amount
1/1/12				$110,000
12/31/12	$43,456	$9,900	$ 33,556	76,444
12/31/13	43,456	6,880	36,576	39,868
12/31/14	43,456	3,588	39,868	0

EXERCISE 14-6 (Continued)

(d)	Land	110,000	
	Note Payable		110,000
(e)	Interest Expense.....	9,900	
	Notes Payable.....	33,556	
	Cash		43,456

(f) From the perspective of Safayeni Ltd., an instalment note provides for a reduced risk of collection when compared to a regular interest-bearing note. In the case of the interest-bearing note, the principal amount is due at the maturity of the note. Further, the instalment note provides a regular reduction of the principal balance in every payment received annually and therefore reduces Safayeni's investment in the receivable, freeing up the cash for other purposes. This is demonstrated in the schedule of discount amortization provided above for the instalment note.

EXERCISE 14-7 (15-20 minutes)

(a)	Equipment.....	576,765*	
	Notes Payable.....		576,765

*PV of $160,000 annuity @ 12% for 5 years: ($160,000 X 3.60478) = $576,765

Excel formula = PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $576,764
I	12%	
N	5	
PMT	$ (160,000)	
FV	$ 0	
Type	0	

(b)	Interest Expense.....	69,212*	
	Notes Payable.....	90,788	
	Cash		160,000

*(12% X $576,764)

Year	Note Payment	12% Interest	Reduction of Principal	Carrying Amount
1/2/12				$576,765
12/31/12	$160,000	$69,212	$ 90,788	485,977
12/31/13	160,000	58,317	101,683	384,294

(c)	Interest Expense.....	58,317	
	Notes Payable.....	101,683	
	Cash		160,000

EXERCISE 14-8 (15-20 minutes)

(a)	Equipment.....	86,349.00*	
	Cash		30,000.00
	Notes Payable.....		56,349.00
	*PV of $75,000 @ 10% for 3 years		
	($75,000 X 0.75132)		$56,349
	Down payment		30,000
	Capitalized value of equipment		$86,349

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $56,349
I	10%	
N	3	
PMT	$ 0	
FV	($ 75,000)	
Type	0	

(b)	December 31, 2012:	
	Interest Expense (see schedule).....	5,634.90
	Note Payable.....	5,634.90

Year	10% Interest	Balance
12/31/11		$56,349.00
12/31/12	$5,634.90	61,983.90
12/31/13	6,198.39	68,182.29
12/31/14	6,817.71*	75,000.00

* rounded by $0.52

EXERCISE 14-8 (Continued)

December 31, 2013:		
Interest Expense	**6,198.39**	
Note Payable		**6,198.39**
December 31, 2014:		
Interest Expense	**6,817.71**	
Note Payable	**75,000.00**	
Note Payable		**6,817.71**
Cash		**75,000.00**

EXERCISE 14-9 (15-20 minutes)

(a)

	January 1, 2011	
Cash	860,651.79	
Bonds Payable		860,651.79

(b)

Schedule of Interest Expense and Bond Premium Amortization
Effective Interest Method
12% Bonds Sold to Yield 10%

Date	Credit Cash	Debit Interest Expense	Debit Bond Payable	Carrying Amount of Bonds
1/1/11	–	–	–	$860,651.79
1/1/12	$96,000.00	$86,065.18	$9,934.82	850,716.97
1/1/13	96,000.00	85,071.70	10,928.30	839,788.67
1/1/14	96,000.00	83,978.87	12,021.13	827,767.54

(c)

	December 31, 2011	
Bond Interest Expense	86,065.18	
Bonds Payable	9,934.82	
Interest Payable		96,000.00
	January 1, 2012	
Interest Payable	96,000.00	
Cash		96,000.00

(d)

	December 31, 2013	
Bond Interest Expense	83,978.87	
Bonds Payable	12,021.13	
Interest Payable		96,000.00
	January 1, 2014	
Interest Payable	96,000.00	
Cash		96,000.00

EXERCISE 14-9 (Continued)

(e) Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

EXERCISE 14-10 (20-30 minutes)

		Unsecured Bonds	Zero Coupon Bonds	Mortgage Bonds
(a)	Maturity value	$10,000,000	$2,500,000	$15,000,000
(b)	Number of interest periods	40	10	10
(c)	Stated rate per period	3.25% (13% / 4)	0	10%
(d)	Effective rate per period	3% (12% / 4)	12%	12%
(e)	Payment amount per period	$325,000 (1)	0	$1,500,000 (2)
(f)	Present value	$10,577,900 (3)	$804,925 (4)	$13,304,880 (5)

(1) $10,000,000 X 13% X 1/4 = $325,000

(2) $15,000,000 X 10% = $1,500,000

(3) Present value of an annuity of $325,000 discounted at 3% per period for 40 periods ($325,000 X 23.11477) = $ 7,512,300

Present value of $10,000,000 discounted at 3% per period for 40 periods ($10,000,000 X .30656) = 3,065,600

$10,577,900

Using a financial calculator:

PV	$?	Yields $10,577,869
I	3%	
N	40	
PMT	$ (325,000)	
FV	$ (10,000,000)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

EXERCISE 14-10 (Continued)

(4) Present value of $2,500,000 discounted at 12% for 10 periods
($2,500,000 X .32197) = $804,925

Using a financial calculator:

PV	$?	Yields $804,933
I	12%	
N	10	
PMT	0	
FV	$ (2,500,000)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

(5) Present value of an annuity of $15,000,000 discounted at 12% for 10 periods
($15,000,000 X 5.65022) = $8,475,330
Present value of $15,000,000 discounted at 12% for 10 years
($15,000,000 X .32197) 4,829,550
$13,304,880

Using a financial calculator:

PV	$?	Yields $13,304,933
I	12%	
N	10	
PMT	$ (1,500,000)	
FV	$ (15,000,000)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

A more accurate result is obtained compared to using factors from tables as there are a limited number of decimal places in the tables.

EXERCISE 14-10 (Continued)

(g) Similarities and differences between the bond features and their impact on risk are as follows:

– bond maturity (duration) – The bonds all have the same maturity date (duration), thus this risk factor is equalized among the bonds.

– bond stated rate and effective interest rate – The bonds all have the a different stated interest rate (ranging from a deep discount, zero coupon bond of 0% to 13%). A discount on bonds payable results when investors demand a rate of interest higher than the rate stated on the bonds. This occurs when the investors are not satisfied with the stated nominal interest rate because they can earn a greater rate on alternative investments of equal risk. They refuse to pay par for the bonds and cannot change the stated nominal rate. However, by lowering the amount paid for the bonds, investors can alter the effective rate of interest. A premium on bonds payable results from the opposite conditions. That is, when investors are satisfied with a rate of interest lower than the rate stated on the bonds, they are willing to pay more than the face value of the bonds in order to acquire them, thus reducing their effective rate of interest below the stated rate. In this case, all the bonds are set to yield an effective interest rate of 12%, which adjusts the pricing of each indicual bond so that they are all equally attractive to investors (purely on interest rates).

– timing of cash flows – The bonds all have differeing timing of cash flow to the investors. This can affect their risk, as cash flows further in the future have a higher risk factor than cash flows in the present.

– bond security – Bonds security affects the risk of the bond. In the event of default, a secured bond (presumably the mortgage bonds have security), will rank higher than an unsecured bond. Thus unsecured bonds are generally more risky than secured bonds.

All of the above factors have to be assessed together to determine the riskiness of each bond.

EXERCISE 14-11 (10-15 minutes)

Reacquisition price ($500,000 X 104%)		**$520,000**
Less: Net carrying amount of bonds redeemed:		
Face value	**$500,000**	
Unamortized discount	**(10,000)**	**490,000**
Loss on redemption		**$ 30,000**

Bonds Payable	**490,000**	
Loss on Redemption of Bonds	**30,000**	
Cash		**520,000**
(To record redemption of bonds payable)		

Cash	**512,000**	
Bonds Payable ($500,000 + $15,000 – $3,000)		**512,000**
(To record issuance of new bonds)		

Note: When a note or bond is issued, it should be recognized at the fair value adjusted by any directly attributable issue costs. These costs would consequently affect the amount of bond premium or discount amortization subsequently recorded and effectively increase the interest expense over the term of the bond through the allocation of the issuance cost to periods. However, note that where the liabilities will subsequently be measured at fair value (e.g., under the fair value options or because they are derivatives), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed at the time of issuance) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].

EXERCISE 14-12 (15-20 minutes)

Schedule of Discount Amortization
Straight-Line Method

Year	Credit Interest Payable	Debit Interest Expense	Credit Bond Payable		Carrying Amount of Bonds
Jan. 1, 2011					$2,783,724.00
Dec. 31, 2011	$300,000	$343,255.20	$43,255.20	*	2,826,979.20
Dec. 31, 2012	300,000	343,255.20	43,255.20		2,870,234.40
Dec. 31, 2013	300,000	343,255.20	43,255.20		2,913,489.60
Dec. 31, 2014	300,000	343,255.20	43,255.20		2,956,744.80
Dec. 31, 2015	300,000	343,255.20	43,255.20		3,000,000.00

*$43,255.20 = ($3,000,000 – $2,783,724) ÷ 5.

EXERCISE 14-13 (15-20 minutes)

Using a financial calculator:

PV	$ 2,783,724
I	? %
N	5
PMT	$ (300,000)
FV	$ (3,000,000)
Type	0

Excel formula: = RATE(nper,pmt,pv,fv,type)
The effective interest or yield rate is 12%

Schedule of Discount Amortization
Effective Interest Method (12%)

Year	Credit Interest Payable	Debit Interest Expense		Credit Bond Payable	Carrying Amount of Bonds
(1)	(2)	(3)		(4)	
Jan. 1, 2011					$2,783,724.00
Dec. 31, 2011	$300,000	$334,046.88	*	$34,046.88	2,817,770.88
Dec. 31, 2012	300,000	338,132.51		38,132.51	2,855,903.39
Dec. 31, 2013	300,000	342,708.41		42,708.41	2,898,611.80
Dec. 31, 2014	300,000	347,833.42		47,833.42	2,946,445.22
Dec. 31, 2015	300,000	353,554.78	**	53,554.78	3,000,000.00

*$334,046.88 = $2,783,724 X .12.
**Rounded.

EXERCISE 14-14 (15-20 minutes)

1.

Printing and engraving costs of bonds	$25,000
Legal fees	69,000
Commissions paid to underwriter	70,000
Amount to be reported	$164,000

When a note or bond is issued, it should be recognized at the fair value adjusted by any directly attributable issue costs. The costs would consequently affect the amount of bond premium or discount amortization subsequently recorded and effectively increase the interest expense over the term of the bond. However, note that where the liabilities will subsequently be measured at fair value (e.g., under the fair value options or because they are derivatives), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed at the time of issuance) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].

2.

Interest paid for each period, from January 1 to June 30, 2012 and July 1 to Dec. 31, 2012 $3,000,000 X 10% X 6/12	$150,000
Less: Premium amortization for each period from January 1 to June 30, and July 1 to Dec. 31, [($3,000,000 X 1.04) – $3,000,000] ÷ 10 X 6/12	6,000
Interest expense to be recorded on each of July 1 and December 31, 2012	$ 144,000

3.

Carrying amount of bonds on June 30, 2011	$562,500
Effective interest rate for the period from June 30 to October 31, 2011 (.10 X 4/12)	X .033333
Interest expense to be recorded on October 31, 2011	$ 18,750

EXERCISE 14-15 (20-30 minutes)

(a)

1.

	June 30, 2011		
Cash		4,300,920	
Bonds Payable			4,300,920

2.

	December 31, 2011		
Bond Interest Expense		258,055	
($4,300,920 X 12% X 6/12)			
Bonds Payable		1,945	
Cash			260,000
($4,000,000 X 13% X 6/12)			

3.

	June 30, 2012		
Bond Interest Expense		257,939	
[($4,300,920 – $1,945)			
X 12% X 6/12]			
Bonds Payable		2,061	
Cash			260,000

4.

	December 31, 2012		
Bond Interest Expense		257,815	
[($4,300,920 – $1,945 –			
$2,061) X 12% X 6/12]			
Bonds Payable		2,185	
Cash			260,000

(b) Long-term Liabilities:

Bonds payable, 13% (due on June 30, 2031)	$4,298,975

($4,300,920 – $1,945) = $4,298,975

EXERCISE 14-15 (Continued)

(c)

1. Interest expense for the period from July 1 to December 31, 2011 from (a) 2. $258,055

Amount of bond interest expense reported for 2011 $258,055

2. The amount of bond interest expense reported in 2011 will be greater than the amount that would be reported if the straight-line method of amortization were used. Under the straight-line method, the amortization of bond premium is $7,523 ($300,920/20 X 6/12). Bond interest expense for 2011 would be the difference between the actual interest paid, $260,000 ($4,000,000 X 13% X 6/12) and the amortized premium, $7,523. Thus, the amount of bond interest expense would be $252,477, which is smaller than the bond interest expense under the effective interest method.

Note: Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

3.

Total interest to be paid for the bond ($4,000,000 X 13% X 20)	$10,400,000
Principal due in 2031	4,000,000
Total cash outlays for the bond	14,400,000
Cash received at issuance of the bond	(4,300,920)
Total cost of borrowing over the life of the bond	$10,099,080

4. They will be the same, although the pattern of recognition will be different.

EXERCISE 14-16 (15-20 minutes)

(a)

	June 30, 2011	
Bonds Payable	789,600	
Loss on Redemption of Bonds	42,400	
Cash		832,000
Reacquisition price ($800,000 X 104%)		$832,000
Carrying amount of bonds redeemed:		
Par value	$800,000	
Unamortized discount (.02 X $800,000 X 13/20)	(10,400)	(789,600)
Loss on redemption		$ 42,400
Cash ($1,000,000 X 102%)	1,020,000	
Bonds Payable		1,020,000

(b)

	December 31, 2011	
Bond Interest Expense	49,500	
Bonds Payable	500*	
Cash		50,000**

*(1/40 X $20,000 = $500)

**(.05 X $1,000,000 = $50,000)

EXERCISE 14-17 (30-35 minutes)

Using either a financial calculator or Excel the effective interest rate on the bonds is calculated as follows:
Excel formula =RATE(nper,pmt,pv,fv,type)

Using a financial calculator:

PV	$ 784,000	
I	? %	Yields 6.135%
N	40	
PMT	$ (48,000)	
FV	$ (800,000)	
Type	0	

Schedule of Bond Discount Amortization
Effective Interest Method
12% Semi-annual Bonds Sold to Yield 12.27%

Date		6.0% Cash Paid	6.135% Interest Expense	Discount Amortized	Carrying Amount
June 30	2004				$784,000.00
Dec. 31	2004	$48,000.00	$48,099.92	$99.92	784,009.92
June 30	2005	48,000.00	48,106.09	106.06	784,205.98
Dec. 31	2005	48,000.00	48,112.56	112.56	784,318.54
June 30	2006	48,000.00	48,119.47	119.47	784,439.01
Dec. 31	2006	48,000.00	48,126.80	126.80	784,564.81
June 30	2007	48,000.00	48,134.58	134.58	784,699.38
Dec. 31	2007	48,000.00	48,142.83	142.83	784,842.22
June 30	2008	48,000.00	48,151.60	151.60	784,993.81
Dec. 31	2008	48,000.00	48,160.90	160.90	785,154.71
June 30	2009	48,000.00	48,170.77	170.77	785,325.48
Dec. 31	2009	48,000.00	48,181.25	181.25	785,506.72
June 30	2010	48,000.00	48,192.36	192.36	785,699.09
Dec. 31	2010	48,000.00	48,204.17	204.17	785,903.25
June 30	2011	48,000.00	48,216.69	216.69	786,119.95
				2,119.95	

EXERCISE 14-17 (Continued)

Although not required, the entry at the issuance of the bonds:

6/30/04	Cash ($800,000 X 98%).....	784,000	
	Bonds Payable.....		784,000

(a)
At June 30, 2011 the carrying amount of the bonds is as indicated in the effective interest table:

Bonds payable	$800,000.00
Less: unamortized discount	13,880.05
	$786,119.95

	June 30, 2011	
Bonds Payable	786,119.95	
Loss on Redemption of Bonds	45,880.05	
Cash.....		832,000.00

Reacquisition price ($800,000 X 104%)....		$832,000.00
Net carrying amount of bonds redeemed:		
Par value.....	$800,000.00	
Unamortized discount	(13,880.05)	(786,119.95)
Loss on redemption.....		$45,880.05

Cash ($1,000,000 X 102%).....	1,020,000	
Bonds Payable		1,020,000

EXERCISE 14-17 (Continued)

Using either a financial calculator or Excel the effective interest rate on the bonds is calculated as follows:
Excel formula =RATE(nper,pmt,pv,fv,type)

Using a financial calculator:

PV	$ 1,020,000	
I	? %	Yields 4.8853 %
N	40	
PMT	$ (50,000)	
FV	$ (1,000,000)	
Type	0	

(b) December 31, 2011

Bond Interest Expense	49,830.06	
Bonds Payable	169.94	
Cash		50,000.00

($1,020,000 X 4.8853% = $49,830.06)

EXERCISE 14-18 (15-20 minutes)

(a) By granting the loan for the burner, the Province of Ontario is conferring additional benefit to Russell Forest Products Limited beyond providing financing. They are forgiving the interest that Russell would normally be charged, in this case at the rate of 7%, had they borrowed the funds to finance the construction. Russell Forest Products Limited is getting a double benefit. First it is getting the loan and second the company does not have to incur interest payments on the note. The benefit has to be accounted for as a government grant. The measurement of the interest at 7% is the fair rate of interest to impute on this loan.

(b)

Using a financial calculator:

PV	$?	Yields $232,804
I	7%	
N	8	
PMT	$ 0	
FV	$ (400,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

Schedule of Note Discount Amortization

Date	Debit, Interest Expense Credit Notes Payable	Carrying Amount of Note
12/31/11		$ 232,803.64
12/31/12	$16,296.25	249,099.90
12/31/13	17,436.99	266,536.89
12/31/14	18,657.58	285,194.47

EXERCISE 14-18 (Continued)

(c)

Cash	**400,000**	
Note Payable		**232,804**
Burner — Government Grant		**167,196**

($400,000 – $232,804 = $167,196)

(d)

December 31, 2012

Interest Expense	**16,296**	
Note Payable		**16,296**

EXERCISE 14-19 (15-20 minutes)

(a)

Reacquisition price ($850,000 X 102%)	$867,000
Less: Net carrying amount of bonds redeemed:	
Par value	850,000
Unamortized discount	(43,915)
	806,085
Loss on redemption	$ 60,915

Calculation of unamortized discount—

Original amount of discount:	
$850,000 X 3% = $25,500	$25,500
Bond issuance costs ($110,000 X	
$850,000/$1,500,000 =	62,333
Amount to be amortized over 10 years	$87,833

Amount of discount unamortized:
$87,833/10 = $8,783 amortization per year
$8,783 X 5 remaining years = $43,915

January 2, 2011

Bonds Payable	806,085	
Loss on Redemption of Bonds	60,915	
Cash		867,000

EXERCISE 14-19 (Continued)

(b) Had the costs of issuing the bond of $110,000 been expensed on the date of issue (which is the required accounting treatment for transactions costs when the debt is subsequently measured at fair value rather than amortized cost), the costs would not be included in the carrying amount of the bond at the date of the redemption. This unamortized balance of the discount in the amortization table would be correspondingly reduced as will the loss on the redemption. The total cost remains the same.

Calculation of unamortized discount—

Original amount of discount:
$850,000 X 3% = $25,500 to be amortized over 10 years

$25,500/10 = $2,550 amortization per year
$2,550 X 5 remaining years = $12,750

Reacquisition price ($850,000 X 102%)	**$867,000**
Less: Net carrying amount of bonds redeemed:	
Par value	**850,000**
Unamortized discount	**(12,750)**
Carrying amount of bonds redeemed	**837,250**
Loss on redemption	**$ 29,750**

January 2, 2011

Bonds Payable	**837,250**	
Loss on Redemption of Bonds	**29,750**	
Cash		**867,000**

EXERCISE 14-19 (Continued)

(c)

If Brueckner were to follow IFRS, then the effective interest method must be used to amortize any discounts or premiums. Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

EXERCISE 14-20 (15-20 minutes)

Cash ($7,000,000 X .98)	6,860,000	
Bonds Payable		6,860,000
(To record issuance of 10% bonds)		
Bonds Payable	4,880,000	
Loss on Redemption of Bonds	220,000	
Cash ($5,000,000 X 1.02)		5,100,000
(To record retirement of 11% bonds)		
Reacquisition price		$5,100,000
Less: Net carrying amount of bonds redeemed:		
Par value	$5,000,000	
Unamortized bond discount	(120,000)	4,880,000
Loss on redemption		$ 220,000

EXERCISE 14-21 (15-25 minutes)

(a) Journal entry to record issuance of loan by Par Bank:

	December 31, 2010	
Note Receivable	81,241	
Cash		81,241

(b)

Note Amortization Schedule
(Before Impairment)

Date	Cash Received (0%)	Interest Revenue (9%)	Discount Amortized	Carrying Amount of Note
12/31/10				$81,241
12/31/11	$0	$7,312	$7,312	88,553

Computation of the impairment loss:

Carrying amount of investment (12/31/11)	$88,553
Less: Present value of $93,750 due in 4 years at 9% ($93,750 X .70843)	66,415
Loss due to impairment	$22,138

Using a financial calculator:

PV	$?	Yields $66,415
I	9%	
N	4	
PMT	0	
FV	$ (93,750)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

EXERCISE 14-21 (Continued)

The entry to record the loss by Par Bank is as follows:

Bad Debt Expense	**22,138**	
Allowance for Doubtful Accounts		**22,138**

(c) Mohr Inc., the debtor, makes no entry because it still legally owes $125,000.

EXERCISE 14-22 (15-20 minutes)

(a) Transfer of property on December 31, 2011:

Strickland Inc. (Debtor):

Note Payable	200,000	
Interest Payable	18,000	
Accumulated Depreciation—Machine	221,000	
Machine		390,000
Gain on Disposition of Machine		11,000[a]
Gain on Debt Restructuring		38,000[b]

[a]$180,000 – ($390,000 – $221,000) = $11,000.
[b]($200,000 + $18,000) – $180,000 = $38,000.

Heartland Bank (Creditor):

Machine	180,000	
Allowance for Doubtful Accounts*	38,000	
Note Receivable		200,000
Interest Receivable		18,000

*** Assumes Heartland had previously recognized a loss when they determined the loan was impaired, and set up an allowance for doubtful accounts or had otherwise included this category of notes in allowance calculations.**

(b) "Gain on Machine Disposition" and "Gain on Debt Restructuring" should be reported as unusual items in the other revenues and gains section of the income statement below the subtotal caption "income from operations".

EXERCISE 14-22 (Continued)

(c) Granting of equity interest on December 31, 2011:

Strickland Inc. (Debtor):

Note Payable	200,000	
Interest Payable	18,000	
Common Shares.....		190,000
Gain on Debt Restructuring.....		28,000

Heartland Bank (Creditor):

Trading Securities.....	190,000	
Allowance for Doubtful Accounts*	28,000	
Note Receivable		200,000
Interest Receivable		18,000

*** Assumes Heartland had previously recognized a loss when they determined the loan was impaired, and set up an allowance for doubtful accounts or had otherwise included this category of notes in allowance calculations.**

EXERCISE 14-23 (20-30 minutes)

(a)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 12% for consistency and comparability.

Present value of old debt is $2,000,000.
Present value of new debt is calculated as follows:
Using tables:

		12% Factor	Present Value
Single amount	$ 1,900,000	0.71178	$ 1,352,382
Interest annuity	190,000	2.40183	456,348
			$ 1,808,730

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $1,808,730
I	12%	
N	3	
PMT	$ (190,000)	
FV	$ (1,900,000)	
Type	0	

EXERCISE 14-23 (Continued)

Since the present value of the future cash flows of the new debt does not differ by an amount greater than 10% of the present value of the old debt, the renegotiated debt is not considered a settlement. No gain is recorded by Troubled. This is considered a modification of terms. The old debt remains on the books of Troubled at $2,000,000 and no gain or loss is recognized. Note disclosure is required.

(b)
The new effective rate of 7.9592% was computed by Troubled in order to record the interest expense based on the future cash flows specified by the new terms with the pre-restructuring carrying amount of the debt of $2,000,000. The rate would have been calculated as follows:

Excel formula =RATE(nper,pmt,pv,fv,type)

Using a financial calculator:

PV	$ 2,000,000	
I	? %	Yields 7.9592 %
N	3	
PMT	$ (190,000)	
FV	$ (1,900,000)	
Type	0	

***EXERCISE 14-23 (Continued)**

The interest payment schedule is prepared as follows:

TROUBLED INC.
INTEREST PAYMENT SCHEDULE AFTER DEBT RESTRUCTURING
EFFECTIVE INTEREST RATE 7.9592%

Date	Cash Interest (10%)	Effective Interest (7.9592%)	Reduction of Carrying Amount	Carrying Amount of Note
12/31/11				$2,000,000
12/31/12	$190,000[a]	$159,184[b]	$30,816[c]	1,969,184
12/31/13	190,000	156,731	33,269	1,935,915
12/31/14	190,000	154,085[d]	35,915	1,900,000
Total	$570,000	$470,000	$100,000	

[a]$1,900,000 X 10% = $190,000.
[b]$2,000,000 X 7.9592% = $159,184.
[c]$190,000 – $159,184 = $30,816.
[d]Adjusted for rounding.

(c) Interest payment entry for Troubled Inc. is:

	December 31, 2013	
Note Payable	33,269	
Interest Expense	156,731	
Cash		190,000

(d) The payment entry at maturity is:

	January 1, 2015	
Note Payable	1,900,000	
Cash		1,900,000

EXERCISE 14-24 (25-30 minutes)

(a) The Green Bank should use the historical interest rate of 12% to calculate the loss.

(b)

Pre-restructuring carrying amount of note	$2,000,000
Present value of restructured cash flows (below)	1,808,730
Loss on debt restructuring	$ 191,270

Using tables:

		12% Factor	Present Value
Single amount	$ 1,900,000	0.71178	$ 1,352,382
Interest annuity	190,000	2.40183	456,348
			$ 1,808,730

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $1,808,730
I	12%	
N	3	
PMT	$ (190,000)	
FV	$ (1,900,000)	
Type	0	

	December 31, 2011	
Bad Debt Expense.....	191,270	
Allowance for Doubtful Accounts.....		191,270

EXERCISE 14-24 (Continued)

(c) The interest receipt schedule is prepared as follows:

GREEN BANK
INTEREST RECEIPT SCHEDULE AFTER DEBT RESTRUCTURING
EFFECTIVE INTEREST RATE 12%

Date	Cash Interest (10%)	Effective Interest (12%)	Increase in Carrying Amount	Carrying Amount of Note
12/31/11				$1,808,730
12/31/12	$190,000[a]	$217,047[b]	$27,047[c]	1,835,777
12/31/13	190,000	220,293	30,293	1,866,070
12/31/14	190,000	223,930	33,930	1,900,000
Total	$570,000	$661,270	$91,270	

[a]$1,900,000 X 10% = $190,000.
[b]$1,808,730 X 12% = $217,047.
[c]$217,047 – $190,000 = $27,047.

(d) Interest receipt entry for Green Bank is:

December 31, 2013

Cash	190,000	
Allowance for Doubtful Accounts	30,293	
Interest Revenue		220,293

(e) The receipt entry at maturity is:

January 1, 2015

Cash	1,900,000	
Allowance for Doubtful Accounts	100,000	
Note Receivable		2,000,000

EXERCISE 14-25 (25-30 minutes)

(a)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 12% for consistency and comparability.

Present value of old debt is $2,000,000.
Present value of new debt is calculated as follows:

		12%	Present
Using tables:		**Factor**	**Value**
Single amount	$ 1,600,000	0.71178	$ 1,138,848
Interest annuity	160,000	2.40183	384,293
			$ 1,523,141

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $1,523,141
I	12%	
N	3	
PMT	$ (160,000)	
FV	$ (1,600,000)	
Type	0	

Since the present value of the future cash flows of the new debt of $1,523,141 differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $2,000,000, the renegotiated debt is considered a settlement and Troubled records a gain.

EXERCISE 14-25 (Continued)

(b)

Note Payable	2,000,000	
Gain		400,000
Note Payable		1,600,000

(c)

Under the terms of the settlement with Green Bank the new rate of interest to be applied is 10%. Although the rate of interest charged is the same as in E14-23, the amount of the interest expense will be lower as the principal has been reduced by $400,000.

(d) The interest payment schedule is prepared as follows:

TROUBLED INC.
INTEREST PAYMENT SCHEDULE AFTER DEBT RESTRUCTURING
EFFECTIVE INTEREST RATE 10%

Date	Cash Interest (10%)	Effective Interest (10%)	Reduction of Carrying Amount	Carrying Amount of Note
12/31/11				$1,600,000
12/31/12	$160,000[a]	$160,000	-	1,600,000
12/31/13	160,000	160,000	-	1,600,000
12/31/14	160,000	160,000	-	1,600,000
Total	$480,000	$480,000		

[a] $1,600,000 X 10% = $160,000.

EXERCISE 14-25 (Continued)

(e) Interest payment entries for Troubled Inc. are:

	December 31, 2012 through 2014	
Interest Expense	160,000	
Cash		160,000

(f) The payment entry at maturity is:

	January 1, 2015	
Note Payable	1,600,000	
Cash		1,600,000

EXERCISE 14-26 (20-30 minutes)

(a)

Pre-restructuring carrying amount of note	$2,000,000
Present value of restructured cash flows (below)	1,523,141
Loss on debt restructuring	$ 476,859

Using present value tables:

		12% Factor	Present Value
Single amount	$ 1,600,000	0.71178	$ 1,138,848
Interest annuity	160,000	2.40183	384,293
			$ 1,523,141

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $1,523,141
I	12%	
N	3	
PMT	$ (160,000)	
FV	$ (1,600,000)	
Type	0	

Green Bank needs to calculate the present value of the expected cash flows discounted at the historical effective interest rate, which in this case is 12%.

(b)

	December 31, 2011	
Bad Debt Expense.....	476,859	
Allowance for Doubtful Accounts.....		476,859

EXERCISE 14-26 (Continued)

(c) The interest receipt schedule is prepared as follows:

GREEN BANK
INTEREST RECEIPT SCHEDULE AFTER DEBT RESTRUCTURING
EFFECTIVE INTEREST RATE 12%

Date	Cash Interest (10%)	Effective Interest (12%)	Increase in Carrying Amount	Carrying Amount of Note
12/31/11				$1,523,141
12/31/12	$160,000[a]	$182,777[b]	$22,777[c]	1,545,918
12/31/13	160,000	185,510	25,510	1,571,428
12/31/14	160,000	188,572	28,572	1,600,000
Total	$480,000	$556,859	$76,859	

[a]$1,600,000 X 10% = $160,000.
[b]$1,523,141 X 12% = $182,777.
[c]$182,777 – $160,000 = $22,777.

(d) Interest receipt entry for Green Bank is:

December 31, 2012		
Cash	160,000	
Allowance for Doubtful Accounts	22,777	
Interest Revenue		182,777
December 31, 2013		
Cash	160,000	
Allowance for Doubtful Accounts	25,510	
Interest Revenue		185,510
December 31, 2014		
Cash	160,000	
Allowance for Doubtful Accounts	28,572	
Interest Revenue		188,572

EXERCISE 14-26 (Continued)

(e) The receipt entry at maturity is:

	January 1, 2015	
Cash	1,600,000	
Allowance for Doubtful Accounts	400,000	
Note Receivable		2,000,000

EXERCISE 14-27 (20–25 minutes)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 12% for consistency and comparability.

Present value of old debt is $270,000.
Present value of new debt is calculated as follows:

Using tables:		**12% Factor**	**Present Value**
Single amount	**$ 220,000**	**0.79719**	**$ 175,382**
Interest annuity	**11,000**	**1.69005**	**18,591**
			$ 193,973

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	**$?**	**Yields $193,973**
I	**12%**	
N	**2**	
PMT	**$ (11,000)**	
FV	**$ (220,000)**	
Type	**0**	

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the old debt, the renegotiated debt is considered a settlement. A gain/loss is recorded by Vargo (debtor) and no interest is recorded by the debtor. This is not considered a modification of terms. The old debt is removed from the books of Vargo with a gain/loss being recognized, and the new debt is recorded.

EXERCISE 14-27 (Continued)

Because the carrying amount of the debt, $270,000 exceeds the total future cash flows $242,000 [$220,000 + ($11,000 X 2)], a gain is recognized and no interest is recorded by the debtor.

(a)

Vargo Corp.'s entries:

2011	Note Payable	28,000	
	Gain on Restructuring		28,000
2012	Note Payable	11,000	
	Cash (5% X $220,000)		11,000
2013	Note Payable	231,000	
	Cash [$220,000 + (5% X $220,000)]		231,000

(b)

First Trust's entry on December 31, 2011:

Bad Debt Expense	76,027	
Allowance for Doubtful Accounts		76,027

Pre-restructure carrying amount		$270,000
Present value of restructured cash flows:		
Present value of $220,000 due in 2 years at 12%, interest payable annually ($220,000 X .79719)	$175,382	
Present value of $11,000 interest payable annually for 2 years at 12%; ($11,000 X 1.69005)	18,591	193,973
Creditor's loss on restructure		$ (76,027)

EXERCISE 14-27 (Continued)

Date	Cash Interest	Effective-Interest	Increase in Carrying Amount	Carrying Amount of Note
12/31/11				$193,973
12/31/12	$11,000[a]	$23,277[b]	$12,277[c]	206,250
12/31/13	11,000	24,750	13,750	220,000

[a]$11,000 = $220,000 X .05
[b]$23,277 = $193,973 X 12%
[c]$12,277 = $23,277 – $11,000

December 31, 2012		
Cash	11,000	
Allowance for Doubtful Accounts	12,277	
Interest Revenue		23,277
December 31, 2013		
Cash	11,000	
Allowance for Doubtful Accounts	13,750	
Interest Revenue		24,750
Cash	220,000	
Allowance for Doubtful Accounts	50,000	
Note Receivable		270,000

EXERCISE 14-28 (15-20 minutes)

(a) Grumpy Limited's entry:

Notes Payable	137,300	
Property		55,000
Gain on Property Disposition..... ($82,500 – $55,000)		27,500
Gain on Restructuring		54,800*

*$137,300 – $82,500

(b) Bank One Inc.'s entry:

Property	82,500	
Loss on Loan Impairment..... (or Allowance for Doubtful Accounts)	54,800	
Notes Receivable		137,300

EXERCISE 14-29 (10-15 minutes)

At December 31, 2011, disclosures would be as follows:

Long-term debt consists of the following:

Note payable, due June 30, 2014	$2,200,000
Bond, due September 30, 2015	4,000,000
Debenture	16,500,000
	$22,700,000

The debenture has annual sinking fund payments of $3,500,000 in each of the years 2013 to 2017.

Maturities and sinking fund requirements on long-term debt are as follows:

2012	$ 0	
2013	3,500,000	
2014	5,700,000	($2,200,000 + $3,500,000)
2015	7,500,000	($4,000,000 + $3,500,000)
2016	3,500,000	
Thereafter	2,500,000	

Note:The company would also need to disclose interest rates for each liability, collateral if any, covenants and any other significant details in the debt agreements.

EXERCISE 14-30 (15-20 minutes)

(a) IFRS

1. Current liability since the operating cycle of the winery is 5 years.
2. Current liability, $2,000,000; long-term liability, $8,000,000.
3. Current liability (amount actually held in trust).
4. Probably noncurrent, although if operating cycle is greater than one year and current assets are reported based on this longer period, this item would be classified as current.
5. Interest payable is a current liability and the note payable is noncurrent liability.
6. Current liability.
7. Noncurrent liability.
8. Current liability.
9. Current asset – netted against other cash balances.
10. Current liability.

(b) Private enterprise GAAP

No differences. All of the above IFRS classifications would be the same under private enterprise GAAP.

EXERCISE 14-31 (15-20 minutes)

(a) IFRS

1. Interest expense (credit balance)—"Other revenues and gains" on the income statement.
2. Gain on repurchase of debt—Classify as unusual item on income statement with other revenues and gains.
3. Mortgage payable—Classify one-third as current liability and the remainder as long-term liability on balance sheet.
4. Debenture bonds—Classify as long-term liability on balance sheet.
5. Notes payable—Classify as long-term liability on balance sheet.
6. Income bonds payable—Classify as long-term liability on balance sheet.

(b) Private enterprise GAAP

No differences. All of the above IFRS classifications would be the same under private enterprise GAAP.

TIME AND PURPOSE OF PROBLEMS

Problem 14-1 (Time 20-25 minutes)

Purpose—to provide the student with an understanding of a number of areas related to bonds. Specifically, the classification of bonds, determination of cash received with bond issue costs and accrued interest, and disclosure requirements.

Problem 14-2 (Time 15-20 minutes)

Purpose—to provide the student with the opportunity to interpret a bond amortization schedule. This problem requires both an understanding of the function of such a schedule and the relevance of each of the individual numbers. The student is to prepare journal entries to reflect the information given in the bond amortization schedule.

Problem 14-3 (Time 25-30 minutes)

Purpose—to provide the student with an understanding of how to make the journal entry to record the issuance of bonds. In addition, a portion of the bonds are retired and therefore a bond amortization schedule has to be prepared. Student must also deal with accounting for the costs of issuing a bond.

Problem 14-4 (Time 50-65 minutes)

Purpose—to provide the student with an understanding of the relevant journal entries which are necessitated for a bond issuance. This problem involves two independent bond issuances with the assumption that one is sold at a discount and the other at a premium, both utilizing the effective interest method. This comprehensive problem requires preparing journal entries for the issuance of bonds, related interest payments and amortization (with the construction of amortization tables where applicable), and the retirement of part of the bonds.

Problem 14-5 (Time 30-35 minutes)

Purpose—to provide the student with an understanding of the relevant journal entries, for a bond issuance and bond retirement. This problem requires preparing journal entries, assuming the straight-line method, for the issuance of bonds, related interest payments and amortization, and the retirement of part of the bonds.

TIME AND PURPOSE OF PROBLEMS (CONTINUED)

Problem 14-6 (Time 20-25 minutes)

Purpose—to provide the student with a series of transactions from bond issuance, payment of bond interest, accrual of bond interest, amortization of bond discount, and bond retirement. Journal entries are required for each of these transactions.

Problem 14-7 (Time 20-25 minutes)

Purpose—to provide the student the same opportunity as those given in Problem 14-6 except that the effective interest method will be used. The student will be required to calculate the effective interest rate on the bond using either a financial calculator or Excel function. The preparation of a partial effective interest table is also required.

Problem 14-8 (Time 15-25 minutes)

Purpose—to provide the student with an opportunity to become familiar with the exchange of notes for cash or property, goods, or services. This problem requires the preparation of the necessary journal entries concerning the exchange of a non-interest-bearing long-term note for a computer software system, and the necessary adjusting entries relative to amortization. The student should construct the relevant schedule of note discount amortization to support the respective entries.

Problem 14-9 (Time 20-25 minutes)

Purpose—to provide the student with an opportunity to become familiar with the exchange of a note, which is payable in equal instalments, for machinery. This problem requires the preparation of the necessary journal entries concerning the exchange and the annual payments and interest. A schedule of note discount amortization should be constructed to support the respective entries.

TIME AND PURPOSE OF PROBLEMS (CONTINUED)

Problem 14-10 (Time 40-50 minutes)

Purpose—to provide the student with the opportunity to contrast the terms of a long-term note given in exchange for the purchase of land. The discussion of risk and financial statement disclosure is included as part of the required for this question. The preparation of effective interest tables for both alternatives is intended to draw the student's attention to the differences in the treatment of principal and interest between a regular note and an instalment note payable. Journal entries and adjusting journal entries and balance sheet disclosure must also be prepared under both alternatives. This is a comprehensive question.

Problem 14-11 (Time 20-30 minutes)

Purpose—to provide the student with an understanding of how interest rates can be used to deceive a customer. The problem is challenging because for the first year of this transaction, the interest expense exceeds the payments and so the excess is added to the principal balance.

Problem 14-12 (Time 15-20 minutes)

Purpose—to provide the student with an understanding of the relevant journal entries which are necessitated when there is a bond issuance and bond retirement. This problem also provides an opportunity for the student to learn the income statement treatment of the loss from retirement and the footnote disclosure required.

Problem 14-13 (Time 30-40 minutes)

Purpose—to provide the student with a loan impairment situation that requires entries by both the debtor and the creditor and an analysis of the loss on impairment.

Problem 14-14 (Time 15-25 minutes)

Purpose—to provide the student with a troubled debt situation that requires calculation of the creditor's loss on restructure, entries to recognize the loss, and discussion of GAAP relating to this situation.

TIME AND PURPOSE OF PROBLEMS (CONTINUED)

Problem 14-15 (Time 40-50 minutes)

Purpose—to provide the student with four independent and different restructured debt situations where losses or gains must be computed and journal entries recorded on the books of the creditor and the debtor.

Problem 14-16 (Time 40-50 minutes)

Purpose—to provide the student with a restructuring of a troubled debt situation requiring computation of the creditor's loss and entries by both the debtor and creditor before and after restructuring along with an amortization schedule.

Problem 14-17 (Time 30-35 minutes)

Purpose—to provide the student with a situation where troubled debt is sold to another creditor. The student must prepare entries on the books of both creditors and debtors after computing any gains or losses.

Problem 14-18 (Time 40-50 minutes)

Purpose—to provide the student with a complex troubled debt situation that requires two amortization schedules, computation of loss on restructure, and entries at different times on both the creditor's and debtor's books.

SOLUTIONS TO PROBLEMS

PROBLEM 14-1

(a) Wilkie Inc.

Selling price of the bonds ($4,000,000 X 103%)	$4,120,000
Accrued interest from January 1 to February 28, 2012 ($4,000,000 X 9% X 2/12)	60,000
Total cash received from issuance of the bonds	4,180,000
Less: Bond issuance costs*	27,000
Net amount of cash received	$4,153,000

*** When a note or bond is issued, it should be recognized at the fair value adjusted by any directly attributable issue costs. However, note that where the liabilities will subsequently be measured at fair value (e.g., under the fair value options or because they are derivatives), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed at the time of issuance) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].**

(b) Langley Ltd.

Carrying amount of the bonds on 1/1/11	$469,280
Effective interest rate (10%)	X 0.10
Interest expense to be reported for 2011	$ 46,928

Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

PROBLEM 14-1 (Continued)

(c) Chico Building Inc.

2013	$400,000	2016	$200,000
2014	350,000	2017	350,000
2015	200,000	Thereafter	300,000

(d) Czeslaw Inc.

Since three bonds reported by Czeslaw Inc. are secured by either real estate, securities of other corporations, or plant equipment, there are no debenture bonds outstanding for the company.

PROBLEM 14-2

(a) The bonds were sold at a discount of $5,651. Evidence of the discount is the January 1, 2004 carrying amount of $94,349, which is less than the maturity value of $100,000 in 2013.

(b) The interest allocation and bond discount amortization are based upon the effective interest method; this is evident from the increasing interest charge. Under the straight-line method the amount of interest would have been $11,565.10 [$11,000 + ($5,651 ÷ 10)] for each year of the term of the bonds.

Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

(c) The stated rate is 11% ($11,000 ÷ $100,000). The effective rate is 12% ($11,322 ÷ $94,349).

PROBLEM 14-2 (Continued)

(d)	January 1, 2004		
	Cash	94,349	
	Bonds Payable		94,349
(e)	December 31, 2004		
	Bond Interest Expense	11,322	
	Bonds Payable		322
	Interest Payable		11,000
(f)	January 1, 2012 (Interest Payment)		
	Interest Payable	11,000	
	Cash		11,000
	December 31, 2012		
	Bond Interest Expense	11,797	
	Bonds Payable		797
	Interest Payable		11,000

PROBLEM 14-3

(a) The present value of the future cash flows totals $2,061,440. The applicable Excel formula follows:

Excel formula =PV(rate,nper,pmt,fv,type)

=PV(.10,10,-210,000,-2,000,000,0) where .10 designates the interest rate (Rate), the 10 is for the term (Nper), the outflow of $210,000 is the annuity payment (Pmt) based on the 10.5% interest rate, the outflow of $2,000,000 is future value (Fv), and the zero designates that the annuity is a regular annuity (Type).

Using tables:

Present value of the principal	
$2,000,000 X .38554 ($PV_{10, 10\%}$)	**$771,080**
Present value of the interest payments	
$210,000* X 6.14457 ($PVOA_{10, 10\%}$)	**1,290,360**
Present value (selling price of the bonds)	**$2,061,440**

***$2,000,000 X 10.5% = $210,000**

Using a financial calculator:

PV	**$?**	**Yields $2,061,446**
I	**10%**	
N	**10**	
PMT	**$ (210,000)**	
FV	**$ (2,000,000)**	
Type	**0**	

Cash	**2,011,440**	
Bonds Payable ($2,000,000 + $61,440 – $50,000)		**2,011,440**

PROBLEM 14-3 (Continued)

(b)

Date	Cash Payment 10.5%	Interest Expense 10.4053%	Discount Amortization	Carrying Amount of Bonds
1/1/10				$2,011,440
1/1/11	$210,000	$209,296	$704	2,010,736
1/1/12	210,000	209,223	777	2,009,959
1/1/13	210,000	209,142	858	2,009,101
1/1/14	210,000	209,053	947	2,008,154
1/1/15	210,000	208,954	1,046	2,007,108

(c)

Carrying amount as of 1/1/13	$2,009,101
Less: Amortization of bond premium ($947 ÷ 2)	474
Carrying amount as of 7/1/13	$2,008,627
Reacquisition price	$1,065,000
Carrying amount as of 7/1/13 of bond ($2,008,627 ÷ 2)	(1,004,314)
Loss on Redemption	$ 60,686

Entry for accrued interest

Interest Expense	52,263	
Bonds Payable ($947 X 1/2 X 1/2)	237	
Cash ($210,000 X 1/2 X 1/2)		52,500

PROBLEM 14-3 (Continued)

(c) (continued)

Entry for reacquisition

Bonds Payable	1,000,000	
Loss on Redemption of Bonds	60,686	
Bonds Payable*	4,314	
Cash		1,065,000

*Premium as of 7/1/13 to be written off
($2,008,627 – $2,000,000) X 1/2 = $4,314

(d)

By choosing to carry the bonds at fair value and expense the costs of issuing the bond in the amount of $50,000, the premium on bonds payable would increase at the date of issuance by the $50,000 expensed at issue. Correspondingly, the interest expense recorded each year would be lower by the amount charged to expense using the effective interest method for the amortization of the additional $50,000 (the effective interest rate would be 10% instead of the 10.4953% required due to the capitalization of the bond issue costs). In total, the periodic expense would be lower over the 10-year term of the bond by $50,000, equal to the expense recognized at issuance. The total costs would be ultimately charged to income. The only difference would be that the charge would be completely expensed in the year the bond was issued as opposed to spread over the ten-year term of the bond.

Note: When a note or bond is issued, it should be recognized at the fair value adjusted by any directly attributable issue costs. However, note that where the liabilities will subsequently be measured at fair value (e.g., under the fair value options or because they are derivatives), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].

PROBLEM 14-4

1. Munchousen Inc.

3/1/11	Cash		1,888,352	
	Bonds Payable			1,888,352

Maturity value of bonds payable		$2,000,000
Present value of $2,000,000 due in 7 periods at 6% ($2,000,000 X .66506)	$1,330,120	
Present value of interest payable Semiannually at 6% ($100,000 X 5.58238)	558,238	
Proceeds from sale of bonds		(1,888,358)
Discount on bonds payable		$111,642

Using a financial calculator:

PV	$?	Yields $1,888,352
I	6%	
N	7	
PMT	$ (100,000)	
FV	$ (2,000,000)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

A more accurate result is obtained compared to using factors from tables as there are a limited number of decimal places in the tables.

9/1/11	Interest Expense		113,301	
	Bond Payable.....			13,301
	Cash			100,000
12/31/11	Interest Expense		76,066	
	Bonds Payable..... ($14,099 X 4/6)			9,399
	Interest Payable ($100,000 X 4/6)..			66,667

PROBLEM 14-4 (Continued)

3/1/12	Interest Expense	38,033	
	Interest Payable	66,667	
	Bonds Payable		4,700
	($14,099 X 2/6)		
	Cash		100,000
9/1/12	Interest Expense	114,945	
	Bonds Payable		14,495
	Cash		100,000
12/31/12	Interest Expense	77,228	
	Bonds Payable		10,561
	($15,842 X 4/6)		
	Interest Payable		66,667

Schedule of Bond Discount Amortization
Effective Interest Method
10% Bonds Sold to Yield 12%

Date	Cash Paid	Interest Expense	Discount Amortized	Carrying Amount of Bonds
3/1/11				$1,888,352
9/1/11	$100,000	$113,301	$13,301	1,901,654
3/1/12	100,000	114,099	14,099	1,915,753
9/1/12	100,000	114,945	14,945	1,930,698
3/1/13	100,000	115,842	15,842	1,946,540
9/1/13	100,000	116,792	16,792	1,963,332
3/1/14	100,000	117,800	17,800	1,981,132
9/1/14	100,000	118,868	18,868	2,000,000

PROBLEM 14-4 (Continued)

2. Ducharme Ltd.

6/1/11	Cash	6,193,896	
	Bonds Payable		6,193,896

The present value of the future cash flows totals $6,193,896.38. The applicable Excel formula follows:

=PV(.05,8,-330,000,-6,000,000,0) where .05 designates the interest rate (Rate), the 8 is for the term (Nper), the outflow of $330,000 is the annuity payment (Pmt), the outflow of $6,000,000 is future value (Fv) the zero designates that the annuity is a regular annuity (Type).

Using present value tables:

Maturity value of bonds payable		$6,000,000
Present value of $6,000,000 due in 8 periods at 5% ($6,000,000 X .67684)	$4,061,040	
Present value of interest payable semiannually ($330,000 X 6.46321)	2,132,859	
Proceeds from sale of bonds		6,193,899
Premium on bonds payable		$ 193,899

Using a financial calculator:

PV	$?	Yields $6,193,896
I	5%	
N	8	
PMT	$ (330,000)	
FV	$ (6,000,000)	
Type	0	

Excel formula =PV (rate, nper, pmt, fv, type)

PROBLEM 14-4 (Continued)

12/1/11	Interest Expense	309,695	
	Bonds Payable	20,305	
	Cash ($6,000,000 X .11 X 6/12)		330,000
12/31/11	Interest Expense ($308,680 X 1/6) ...	51,447	
	Bonds Payable	3,553	
	($21,320 X 1/6)		
	Interest Payable ($330,000 X 1/6) .		55,000
6/1/12	Interest Expense ($308,680 X 5/6) ...	257,233	
	Interest Payable	55,000	
	Bonds Payable	17,767	
	($21,320 X 5/6)		
	Cash		330,000
10/1/12	Interest Expense	41,015	
	($307,614 X .2* X 4/6)		
	Bonds Payable	2,985	
	($22,386 X .2 X 4/6)		
	Cash		44,000
	($330,000 X .2* X 4/6)		
	*$1,200,000 ÷ $6,000,000 = .2		
10/1/12	Bonds Payable	1,200,000	
	Bonds Payable	27,469	
	Loss on Redemption of Bonds	128,531	
	Cash		1,356,000

Reacquisition price		
($1,400,000 – $44,000)		$1,356,000
Net carrying amount of bonds redeemed:		
Par value	$1,200,000	
Unamortized premium		
[(.2 X ($193,896–$20,305–$21,320)] – $2,985	27,469	(1,227,469)
Loss on redemption		$ 128,531

PROBLEM 14-4 (Continued)

12/1/12	Interest Expense ($307,614 X .8*)	246,091	
	Bonds Payable ($22,386 X .8).....	17,909	
	Cash ($330,000 X .8)		264,000
	*($6,000,000 – $1,200,000) ÷ $6,000,000 = .8		
12/31/12	Interest Expense	40,866	
	($306,494 X .8 X 1/6)		
	Bonds Payable	3,134	
	($23,506 X .8 X 1/6)		
	Interest Payable		44,000
	($330,000 X .8 X 1/6)		
6/1/13	Interest Expense ($306,494 X .8 X 5/6)..	204,329	
	Interest Payable	44,000	
	Bonds Payable	15,671	
	($23,506 X .8 X 5/6)		
	Cash ($330,000 X .8)		264,000
12/1/13	Interest Expense ($305,319 X .8).....	244,255	
	Bonds Payable ($24,681 X .8).....	19,745	
	Cash ($330,000 X .8)		264,000

Date	Cash Paid	Interest Expense	Premium Amortized	Carrying Amount of Bonds
6/1/11				$6,193,896
12/1/11	$330,000	$309,695	$20,305	6,173,591
6/1/12	330,000	308,680	21,320	6,152,271
12/1/12	330,000	307,614	22,386	6,129,885
6/1/13	330,000	306,494	23,506	6,106,379
12/1/13	330,000	305,319	24,681	6,081,698
6/1/14	330,000	304,085	25,915	6,055,783
12/1/14	330,000	302,789	27,211	6,028,572
6/1/15	330,000	301,428	28,572	6,000,000

PROBLEM 14-5

(a)

May 1, 2011		
Cash	763,000	
($700,000 X 105%) + ($700,000 X 12% X 4/12)		
Bonds Payable ($763,000 – $28,000)		735,000
Interest Expense ($700,000 X 12% X 4/12)		28,000
December 31, 2011		
Interest Expense ($700,000 X 12%)	84,000	
Interest Payable		84,000
Bonds Payable	2,414	
Interest Expense		2,414
($35,000 X 8/116* = $2,414)		
*(12 X 10) – 4 = 116		
January 1, 2012		
Interest Payable	84,000	
Cash		84,000
April 1, 2012		
Bonds Payable	543	
Interest Expense		543
($35,000 X 3/116 X .60*)		
*$420,000 / $700,000 = .60		
Bonds Payable	439,009*	
Interest Expense ($420,000 X .12 X 3/12)	12,600	
Cash ($432,600 + $12,600)		445,200
Gain on Retirement of Bonds		6,409**

* next page

**[($420,000 + $19,009) – $420,000 X 103%)] – next page

PROBLEM 14-5 (Continued)

(a) (continued)

Reacquisition price (including accrued interest) ($420,000 X 103%) + ($420,000 X 12% X 3/12)	**$445,200**
Net carrying amount of bonds redeemed:	
Par value	**420,000**
Unamortized premium [$35,000 X ($420,000 ÷ $700,000) X 105/116]	**19,009**
Net carrying amount of bonds redeemed*	**(439,009)**
Accrued interest ($420,000 X 12% X 3/12)	**(12,600)**
	(451,609)
Gain on redemption	**$ (6,409)**

	December 31, 2012	
Interest Expense ($280,000 X .12)	**33,600**	
Interest Payable		**33,600**
Bonds Payable	**1,448**	
Interest Expense		**1,448**

Amortization per year on $280,000 ($35,000 X 12/116 X .40*)..... **$1,448**

*** ($700,000 – $420,000) ÷ $700,000 = .40**

(b)

If Pfaff were to follow IFRS, then the effective interest method must be used to amortize any discounts or premiums. Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

PROBLEM 14-6

(a)

4/1/12	Cash (12,000 X $1,000 X 97%)	11,640,000	
	Bonds Payable		11,640,000

(b)

10/1/12	Bond Interest Expense	672,000	
	Cash		660,000*
	Bonds Payable		12,000**

*$12,000,000 X .11 X 6/12 = $660,000

**$360,000 ÷ 180 months X 6 months = $12,000

(c)

12/31/12	Bond Interest Expense	336,000	
	Interest Payable		330,000
	($660,000 X 3/6)		
	Bonds Payable		6,000
	($2,000 X 3 months)		

(d)

3/1/13	Interest Payable ($330,000 X ¼)	82,500	
	Bond Interest Expense	56,000	
	Cash		137,500*
	Bonds Payable		1,000**

*Cash paid to retiring bondholders: $3,000,000 X .11 X 5/12 = $137,500

**$2,000/mo. X 2 months X ¼ of the bonds = $1,000

PROBLEM 14-6 (Continued)

At March 1, 2013 the carrying amount of the retired bonds is:

Bonds payable	$3,000,000
Less: unamortized discount	84,500*
Bond carrying amount	$2,915,500

***$2,000/mo. X 169 months X ¼ of the bonds = $84,500**

The reacquisition price: 100,000 shares X $31 = $3,100,000.

The loss on extinguishment of the bonds is:

Reacquisition price	$3,100,000
Less: carrying amount	2,915,500
Loss	$ 184,500

The entry to record extinguishment of the bonds is:

Bonds Payable	2,915,500	
Loss on Redemption of Bonds	184,500	
Common Shares		3,100,000

PROBLEM 14-7

Using either a financial calculator or Excel the effective interest rate on the bonds is calculated as follows:

Excel formula =RATE(nper,pmt,pv,fv,type)

Using a financial calculator:

PV	$ 11,640,000	
I	? %	Yields 5.7113 %
N	30	
PMT	$ (660,000)	
FV	$ (12,000,000)	
Type	0	

Schedule of Bond Discount Amortization
Effective Interest Method
5.5% Semi-annual Bonds Sold to Yield 5.7113%

Date	5.5% Cash Paid	5.7113% Interest Expense	Discount Amortized	Carrying Amount
April 1 '12				$11,640,000.00
Oct. 1 '12	660,000.00	664,790.20	4,790.20	11,644,790.20
April 1 '13	660,000.00	665,063.78	5,063.78	11,649,853.97

(a)

4/1/12	Cash (12,000 X $1,000 X 97%)	11,640,000	
	Bonds Payable		11,640,000

PROBLEM 14-7 (Continued)

(b)

10/1/12	Bond Interest Expense	664,790.20	
	Cash.....		660,000.00
	Bonds Payable.....		4,790.20

(c)

12/31/12	Bond Interest Expense	332,531.89	
	Interest Payable.....		330,000.00
	($660,000 X 3/6)		
	Bond Payable.....		2,531.89
	($5,063.78 X 3/6 = $2,531.89)		

(d)

3/1/13	Interest Payable ($330,000 X ¼) .	82,500.00	
	Bond Interest Expense	55,421.98**	
	Cash.....		137,500.00*
	Bonds Payable.....		421.98***

* Cash paid to retiring bondholders:
($3,000,000 X .11 X 5/12) = $137,500
** ($665,063.78 X 2/6 X ¼) = $55,421.98
*** ($5,063.78 X 2/6 X ¼) = $421.98

At March 1, 2013 the carrying amount of the retired bonds is:

Bonds payable	$3,000,000.00
Less: unamortized discount	87,747.50*
Bonds carrying amount	$2,912,252.50

*Balance of Discount	100%		25%
Balance at issuance	$360,000.00		
Amortization Oct. 1, 2012	(4,790.20)		
Accrual December 31, 2012	(2,531.89)		
Balance December 31, 2012	$352,677.92	X ¼ =	$88,169.48
March 1, 2013 for 25%			(421.98)
Balance March 1, 2013			$87,747.50

PROBLEM 14-7 (Continued)

The reacquisition price: 100,000 shares X $31 = $3,100,000.

The loss on extinguishment of the bonds is:

Reacquisition price	$3,100,000.00
Less: carrying amount of bonds	2,912,252.50
Loss	$ 187,747.50

The entry to record extinguishment of the bonds is:

Bonds Payable	2,912,252.50	
Loss on Redemption of Bonds	187,747.50	
Common Shares		3,100,000.00

PROBLEM 14-8

(a)

	December 31, 2011		
Computer Software System		409,806	
Notes Payable			409,806
(Computer capitalized at the present value of the note—$600,000 X .68301)			

Using a financial calculator:

PV	$?	Yields $409,808
I	10%	
N	4	
PMT	$ 0	
FV	$ (600,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

(b)

	December 31, 2012		
Depreciation Expense.....		67,961	
Accumulated Depreciation—			
Computer Software System			67,961
[($409,806 – $70,000) ÷ 5]			
Interest Expense		40,981	
Notes Payable			40,981

Schedule of Note Discount Amortization

Date	Debit, Interest Expense Credit Notes Payable	Carrying Amount of Note
12/31/11		$409,806.00
12/31/12	$40,980.60	450,786.60
12/31/13	45,078.66	495,865.26
12/31/14	49,586.53	545,451.79
12/31/15	* 54,548.21	600,000.00

*** $3.03 adjustment due to rounding**

PROBLEM 14-8 (Continued)

(c)	December 31, 2013		
	Depreciation Expense	67,961	
	Accumulated Depreciation—Computer Software System		67,961
	Interest Expense	45,079	
	Notes Payable		45,079

PROBLEM 14-9

(a)
(1)

12/31/11	Machinery	182,485	
	Cash		50,000
	Notes Payable		132,485
	[To record machinery at the present value of the note plus the immediate cash payment:		
	PV of $40,000 annuity @ 8% for 4 years ($40,000 X 3.31213)		$132,485
	Down payment		50,000
	Capitalized value of machinery		$182,485

Using a financial calculator:

PV	$?	Yields $132,485
I	8%	
N	4	
PMT	$ (40,000)	
FV	$ 0	
Type	0	

Schedule of Note Discount Amortization

Date	Debit, Interest Expense Credit, Notes Payable	Credit Cash	Carrying Amount of Note
12/31/11			$132,485
12/31/12	$10,599	$40,000	103,084*
12/31/13	8,247	40,000	71,331
12/31/14	5,706	40,000	37,037
12/31/15	2,963	40,000	—

*$103,084 = $132,485 + $10,599 – $40,000.

PROBLEM 14-9 (Continued)

(2)			
12/31/12	**Notes Payable**	**40,000**	
	Cash		**40,000**
	Interest Expense	**10,599**	
	Notes Payable		**10,599**
(3)			
12/31/13	**Notes Payable**	**40,000**	
	Cash		**40,000**
	Interest Expense	**8,247**	
	Notes Payable		**8,247**
(4)			
12/31/14	**Notes Payable**	**40,000**	
	Cash		**40,000**
	Interest Expense	**5,706**	
	Notes Payable		**5,706**
(5)			
12/31/15	**Notes Payable**	**40,000**	
	Cash		**40,000**
	Interest Expense	**2,963**	
	Notes Payable		**2,963**

(b) From the perspective of the lender, an instalment note provides for a reduced risk of collection when compared to an interest-bearing note. In the case of the interest-bearing note, the principal amount is due at the maturity of the note. Further, the instalment note provides a regular reduction of the principal balance in every payment received annually and therefore reduces the lender's investment in the receivable, freeing up the cash for other purposes. This is demonstrated in the schedule of discount amortization provided above for the instalment note.

PROBLEM 14-10

(a) **The value of the land should be recorded at the present value of the future cash flows of the note given in exchange for the land. The asking price for the land is higher than the real purchase price. There is some flexibility to negotiate a reduction in the asking price for the land for sale by Silverman Corporation. The relevant interest rate to impute on the note is the interest rate to MacDonnell who is the borrower in this case. The relevant interest rate is therefore 10%. The interest rate called for in the note of 4% in very low in relation to a fair market rate of interest.**

(b) **A mortgage note involves the registering of a charge against the property, in this case land, whereas a promissory note alone offers no reduction of risk to Silverman Corporation. Should MacDougall fail to pay the note within the terms, Silverman Corporation can obtain recourse through the court and obtain the asset, or the proceeds from the resale of the asset, as satisfaction for the outstanding principal and interest owing on the mortgage note. A promissory note alone does not offer this potential relief to the creditor and is therefore a higher credit risk to Silverman Corporation.**

(c) **The land is capitalized at the present value of a single payment at the end of five years of $300,000 plus the annuity interest payments of $12,000 per year for 5 years, imputed at 10% interest. Using present value tables:**

$300,000 X .62092 =	**$186,276**
$12,000 X 3.79079 =	**45,490**
Present value	**$231,766**

PROBLEM 14-10 (Continued)

Using a financial calculator:

PV	$?	Yields $231,766
I	10%	
N	5	
PMT	$ (12,000)	
FV	$ (300,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

Mortgage Note Payable – interest paid at 4%

Date	4% Cash Paid	10% Interest Expense	Discount Amortized	Note Carrying Amount
June 1 2011				$231,765.84
June 1 2012	$12,000.00	$23,176.58	$11,176.58	242,942.42
June 1 2013	12,000.00	24,294.24	12,294.24	255,236.66
June 1 2014	12,000.00	25,523.67	13,523.67	268,760.33
June 1 2015	12,000.00	26,876.03	14,876.03	283,636.36
June 1 2016	12,000.00	28,363.64	16,363.64	300,000.00
		$128,234.16	$68,234.16	

(d)

	June 1, 2011	
Land	231,766	
Notes Payable		231,766

PROBLEM 14-10 (Continued)

(e)

December 31, 2011		
Interest Expense	**13,519.67**	
Notes Payable		**6,519.67**
Interest Payable		**7,000.00**

($23,176.58 X 7/12 = $13,519.67)
($11,176.58 X 7/12 =$6,519.67)

June 1, 2012		
Interest Expense	**9,656.91**	
Interest Payable	**7,000.00**	
Notes Payable		**4,656.91**
Cash		**12,000.00**

($23,176.58 X 5/12 = $9,656.91)
($11,176.58 X 5/12 =$4,656.91)

(f) 1. Using the alternative of the instalment note, the land is capitalized at the present value of the annuity payment at the end of each of the next five years which will correspond to the same value as that arrived at for the mortgage note, imputed at 10% interest. The present value is $231,766.

Using tables:

$231,766 ÷ 3.79079 ($PVOA_{5, 10\%}$) = $61,139.23

Using a financial calculator:

PV	**$ 231,766**	
I	**10%**	
N	**5**	
PMT	**$?**	**Yields $(61,139.24)**
FV	**$ 0**	
Type	**0**	

Excel formula =PMT(rate,nper,pv,fv,type)

PROBLEM 14-10 (Continued)

2.

Instalment Note Payable

Date	Cash Paid	10% Interest Expense	Discount Amortized	Note Carrying Amount
June 1 2011				$231,765.84
June 1 2012	$61,139.24	$23,176.58	$37,962.66	193,803.18
June 1 2013	61,139.24	19,380.32	41,758.93	152,044.25
June 1 2014	61,139.24	15,204.43	45,934.82	106,109.43
June 1 2015	61,139.24	10,610.94	50,528.30	55,581.13
June 1 2016	61,139.24	5,558.11	55,581.13	0.00
		$73,930.38	$231,765.84	

3.

	June 1, 2011		
Land		231,766	
Notes Payable			231,766

4.

December 31, 2011		
Interest Expense	13,519.67	
Interest Payable		13,519.67
($23,176.58 X 7/12 = $13,519.67)		
June 1, 2012		
Interest Expense	9,656.91	
Interest Payable	13,519.67	
Notes Payable	37,962.66	
Cash		61,139.24

PROBLEM 14-10 (Continued)

5.

The balance sheet classification of Mortgage Note at December 31, 2011:

Current liabilities:	
Interest payable	**$7,000**
Mortgage note payable, current portion	**11,177**
Non-current liabilities:	
Mortgage note payable, due June 1, 2016 ($231,766 – $11,177)	**220,589**

The balance sheet classification of Instalment Note at December 31, 2011:

Current liabilities:	
Interest payable	**$13,519**
Instalment note payable, current portion	**37,963**
Non-current liabilities:	
Instalment note payable, (due in annual payments of $61,139 ending June 1, 2016) ($231,766 – $37,963)	**193,803**

6. Silverman Corporation would insist on the instalment note in order to secure stronger cash inflows during the term of the note and to reduce the risk of having to collect the note principal in the case of a default by MacDougall.

PROBLEM 14-11

(a)

Date	Cash Paid	Interest Expense	Excess of Interest Cost over Payment	Carrying Amount of Note
1/1/11				$32,000
4/1/11	$400	$640	$240	32,240
7/1/11	400	645	245	32,485
10/1/11	400	650	250	32,735
1/1/12	400	655	255	32,990

(b) At this point, we see that the customer owes $32,990 or $990 more than at the beginning of the year.

(c) To earn 8% over the next two years the quarterly payments must be $4,503 computed as follows:

Excel formula =PMT(rate,nper,pv,fv,type)

The applicable Excel formula follows:
=PMT(.02,8,-32990,0) where .02 designates the interest rate (Rate) per quarter, the 8 is for the term (Nper) of 2 years times 4 quarters, the outflow of $32,990 is the present value (Pv), the zero designates that the annuity is a regular annuity (Type).
Using tables:

$32,990 ÷ 7.32548 ($PVOA_{8,\ 2\%}$) = $4,503

Using a financial calculator:

PV	$ (32,990)	
I	2%	
N	8	
PMT	$?	Yields $4,503.46
FV	$ 0	
Type	0	

PROBLEM 14-11 (Continued)

(d)

Date	Cash Paid	Interest Expense	Amorti-zation	Carrying Amount of Note
1/1/12				$32,990
4/1/12	$4,503	$660	$3,843	29,147
7/1/12	4,503	583	3,920	25,227
10/1/12	4,503	505	3,998	21,229
1/1/13	4,503	425	4,078	17,151
4/1/13	4,503	343	4,160	12,991
7/1/13	4,503	260	4,243	8,748
10/1/13	4,503	175	4,328	4,420
1/1/14	4,503	83 *	4,420	0

* rounded

(e) The new sales gimmick may bring people into the showroom the first time but will drive them away once they learn of the amount of their year 2 and year 3 payments. Many will not have budgeted for these increases, and will be in a bind because they owe more on their car than it's worth. One should question the ethics of a dealer using this tactic. This is one of the approaches to lending that led to the "subprime mortgage" scandal and subsequent failures in US financial markets beginning in 2008.

PROBLEM 14-12

(a)
Entry to record the issuance of the 11% bonds on December 18, 2011:

Cash	4,080,000	
Bonds Payable		4,080,000

Entry to record the retirement of the 9% bonds on January 2, 2012:

Bonds Payable	2,940,000	
Loss on Redemption of Bonds	180,000	
Cash ($3,000,000 x 104%)		3,120,000

At January 2, 2012 the carrying amount of the retired bonds is:

Bonds payable	$3,000,000
Less unamortized discount ($150,000 X 10/25)	60,000
Bond carrying amount	$2,940,000

(b)

Income from operations	$3,200,000
Loss from liquidation of debt (Note 1)	180,000
Income before taxes	3,020,000
Income taxes	1,208,000
Net income	$1,812,000
Earnings per share:	
Net income	$1.21

Note 1. Bond Redemption:
A loss of $180,000 occurred from the redemption and retirement of $3,000,000 of the Corporation's outstanding bond issue due in 2022. The bonds were redeemed at 104% as provided for in the bond indenture. The funds used to purchase the mortgage bonds represent a portion of the proceeds from the sale of $4,000,000 of 11% debenture bonds issued December 18, 2011 and due in 2031.

PROBLEM 14-13

(a) The entries for the issuance of the note on January 1, 2011:

The present value of the note is: $1,200,000 X .68058 = $816,700 (Rounded by $4).

Using a financial calculator:

PV	$?	Yields $816,700
I	8%	
N	5	
PMT	$ 0	
FV	$ (1,200,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

Batonica Limited (Debtor):

Cash	816,700	
Note Payable		816,700

Northern Savings Bank (Creditor):

Note Receivable	816,700	
Cash		816,700

PROBLEM 14-13 (Continued)

(b) The amortization schedule for this note is:

SCHEDULE FOR INTEREST AND DISCOUNT AMORTIZATION—EFFECTIVE INTEREST METHOD
$1,200,000 NOTE ISSUED TO YIELD 8%

Date	Cash Interest	Effective Interest	Discount Amortized	Carrying Amount
1/1/11				$ 816,700
12/31/11	$0	$ 65,336*	$ 65,336	882,036**
12/31/12	0	70,563	70,563	952,599
12/31/13	0	76,208	76,208	1,028,807
12/31/14	0	82,305	82,305	1,111,112
12/31/15	0	88,888	88,888	1,200,000
Total	$0	$383,300	$383,300	

*$816,700 X 8% = $65,336.
**$816,700 + $65,336 = $882,036.

(c) The note can be considered to be impaired only when it is measurable and likely that, based on current information and events, Northern Savings Bank will be unable to collect all amounts due (both principal and interest) according to the contractual terms of the loan.

PROBLEM 14-13 (Continued)

(d) The loss is computed as follows:

Carrying amount of loan (12/31/11)	$882,036[a]
Less: Present value of $800,000 due in 4 years at 8%	(588,024)[b]
Loss due to impairment	$294,012

[a]See amortization schedule from answer (b)
[b]$800,000 X .73503 = $588,024.

Using a financial calculator:

PV	$?	Yields $588,024
I	8%	
N	4	
PMT	$ 0	
FV	$ (800,000)	
Type	0	

December 31, 2011

Batonica Limited (Debtor):
No entry.

Northern Savings Bank (Creditor):

Bad Debt Expense	294,012	
Allowance for Doubtful Accounts ...		294,012

PROBLEM 14-14

(a) It is a troubled debt restructuring.

(b)

1. Perkins Inc.: No entry necessary.

2.

Bad Debt Expense	197,759*	
Allowance for Doubtful Accounts ...		197,759

***Calculation of loss.**

Pre-restructure carrying amount		$600,000
Present value of restructured cash flows:		
Present value of $600,00 due in 10 years at 12%, interest payable annually; ($600,000 X .32197)	$193,182	
Present value of $30,000 interest payable annually for 10 years at 12% ($30,000 X 5.65022)	169,507	(362,689)
Creditor's loss on restructure		$237,311

Using a financial calculator:

PV	$?	Yields $362,691
I	12%	
N	10	
PMT	$ (30,000)	
FV	$ (600,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

(c) Losses are now calculated based upon the discounted present value of future cash flows; thus, this fairly approximates the economic loss to the lender. The debtor's gain is still calculated using the undiscounted cash flows. This may not fairly state the economic benefits derived by the debtor as a result of the restructuring.

PROBLEM 14-15

(a)

On the books of Shahani Corporation:

Notes payable	3,000,000	
Common Shares		2,200,000
Gain on Restructuring of Debt		800,000

Fair value of equity	$2,200,000
Carrying amount of debt	3,000,000
Gain on restructuring of debt	$ 800,000

On the books of Bajwa National Bank:

Investment in Sandro	2,200,000	
Allowance for Doubtful Accounts (or Bad Debt Expense)	800,000	
Notes Receivable		3,000,000

(b)

On the books of Shahani:

Notes Payable	3,000,000	
Land		1,050,000
Gain on Disposition of Real Estate		1,450,000
Gain on Restructuring of Debt		500,000

Fair value of land	$2,500,000
Carrying amount of land	1,050,000
Gain on disposition of real estate	$1,450,000

Note payable (carrying amount)	$3,000,000
Fair value of land	2,500,000
Gain on restructuring of debt	$ 500,000

PROBLEM 14-15 (Continued)

On the books of Bajwa National Bank:

Investment in Land	2,500,000	
Allowance for Doubtful Accounts (or Bad Debt Expense)	500,000	
Notes Receivable		3,000,000

(c)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 10% for consistency and comparability.

Present value of old debt is $3,000,000.
Present value of new debt is calculated as follows:
Using tables:

		10% Factor	Present Value
Single amount	$ 3,000,000	0.75132	$ 2,253,960

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $2,253,944
I	10%	
N	3	
PMT	$ 0	
FV	$ (3,000,000)	
Type	0	

PROBLEM 14-15 (Continued)

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $3,000,000, the renegotiated debt is considered a settlement and a gain is recorded by Shahani as calculated below:

The amount of the new debt is recorded at the new cash flows at the market rate of interest, which is 12%

Using a financial calculator:

PV	$?	Yields $2,135,341
I	12%	
N	3	
PMT	$ 0	
FV	$ (3,000,000)	
Type	0	

Note Payable	3,000,000	
Gain		864,659
Note Payable		2,135,341

On the books of Bajwa National Bank:

Bad Debt Expense.....	746,040*	
Allowance for Doubtful Accounts.....		746,040

***Calculation of loss:**

Pre-restructure carrying amount	$3,000,000
Less: Present value of restructured cash flows:	
Present value of $3,000,000 due in 3 years at 10% ($3,000,000 X .75132)	2,253,960
Creditor's loss on restructure	$ (746,040)

PROBLEM 14-15 (Continued)

(d)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 10% for consistency and comparability.

Present value of old debt is $3,000,000.
Present value of new debt is calculated as follows:

Using present value tables:

		10% Factor	Present Value
Single amount	$ 2,300,000	0.75132	$ 1,728,036
Interest payments for three years	207,000	2.48685	514,778
(reduce for first year)	(207,000)	.90909	(188,182)
			$2,054,632

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $3,000,000, the renegotiated debt is considered a settlement and a gain is recorded by Shahani as set out below:

The amount of the new debt is recorded at the new cash flows at the market rate of interest, which is 12%

PROBLEM 14-15 (Continued)

Using present value tables:

		12% Factor	Present Value
Single amount	$ 2,300,000	0.71178	$ 1,637,094
Interest payments for three years	207,000	2.40183	497,179
(reduce for first year)	(207,000)	.89286	(184,822)
			$1,949,451

Note Payable	3,000,000	
Gain		1,050,549
Note Payable		1,949,451

On the books of Bajwa National Bank:

Bad Debt Expense	945,368*	
Allowance for Doubtful Accounts		945,368

*Calculation of loss:

Pre-restructure carrying amount		$3,000,000
Present value of restructured cash flows:		
Present value of $2,300,000 due in 3 years at 10%, ($2,300,000 X .75132)	$1,728,036	
Present value of $207,000 interest payable annually for 3 years at 10%, ($207,000 X 2.48685)	514,778	
Less first year payment:		
Present value of $207,000 interest due in 1 year at 10% ($207,000 X .90909)	(188,182)	(2,054,632)
Creditor's loss on restructure		$ (945,368)

PROBLEM 14-16

(a) The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 15% for consistency and comparability.

Present value of old debt is $250,000 + accrued interest of $37,500 for a total of $287,500.
Present value of new debt is calculated as follows:
Using present value tables:

		15% Factor	Present Value
Single amount, 4 years	$ 150,000	0.57175	$ 85,763
Interest annuity, 4 years ($150,000 X 6 %)	9,000	2.85498	25,695
			111,458
Shares given 60,000 X $1.40			84,000
			$195,458

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $287,500, the renegotiated debt is considered a settlement and a gain is recorded by Dilemma as follows:

2011
Entries by Dilemma Inc.:

Interest Payable	37,500	
Notes Payable	250,000	
Notes Payable		111,458
Common Shares		84,000
Gain on Restructure		92,042

PROBLEM 14-16 (Continued)

The note payable now has a balance of $111,458, which equals the present value of the future cash flows to be paid.

Date	6% Cash Interest	15% Effective Interest	Increase in Carrying Amount	Carrying Amount of Note
12/31/11				$111,458
12/31/12	$9,000[a]	$16,719[b]	$ 7,719[c]	119,177
12/31/13	9,000	17,877	8,877	128,054
12/31/14	9,000	19,208	10,208	138,262
12/31/15	9,000	20,738*	11,738	150,000

[a]$9,000 = $150,000 X .06
[b]$16,719 = $111,458 X 15%
[c]$7,719 = $16,719 – $9,000
*Adjusted due to rounding.

Dec. 31, 2012:		
Interest Expense	16,719	
Notes Payable		7,719
Cash		9,000
Dec. 31, 2013:		
Interest Expense	17,877	
Notes Payable		8,877
Cash		9,000
Dec. 31, 2014		
Interest Expense	19,208	
Notes Payable		10,208
Cash		9,000
Dec. 31, 2015		
Interest Expense	20,738	
Notes Payable		11,738
Cash		9,000
Notes Payable	150,000	
Cash		150,000

PROBLEM 14-16 (Continued)

(b)

To record the restructuring on the books of Stauskas Bank:

Bad Debt Expense	92,042*	
Investment in Dilemma Inc.	84,000	
Allowance for Doubtful Accounts		92,042
Notes Receivable (1)		
($250,000 – $203,500)		46,500
Interest Receivable		37,500

(1) Face value of old debt		$250,000
Net carrying amount of old debt (below)	$203,500	
Less: face value of new debt	150,000	53,500
		$196,500

*Calculation of loss:

Pre-restructure carrying amount		
($250,000 + $37,500)		$287,500
Less: settlement consideration (shares)		84,000
Net carrying amount		203,500
Less: Present value of restructured cash flows:		
Present value of $150,000 due in 4 years at 15%, ($150,000 X .57175)	$85,763	
Present value of $9,000 interest payable annually for 4 years at 15% ($9,000 X 2.85498)	25,695	111,458
Creditor's loss on restructure		$ (92,042)

PROBLEM 14-16 (Continued)

Date	6% Cash Interest	15% Effective Interest	Increase in Carrying Amount	Carrying Amount of Note
12/31/11				$111,458
12/31/12	$9,000[a]	$16,719[b]	$ 7,719[c]	119,177
12/31/13	9,000	17,877	8,877	128,054
12/31/14	9,000	19,208	10,208	138,262
12/31/15	9,000	20,738*	11,738	150,000

[a] $9,000 = $150,000 X .06
[b] $16,719 = $111,458 X 15%
[c] $7,719 = $16,719 – $9,000
* Adjusted due to rounding.

To record interest revenue in the periods subsequent to the restructuring:

Dec. 31, 2012:		
Cash	9,000	
Allowance for Doubtful Accounts	7,719	
Interest Revenue		16,719
Dec. 31, 2013:		
Cash	9,000	
Allowance for Doubtful Accounts	8,877	
Interest Revenue		17,877
Dec. 31, 2014:		
Cash	9,000	
Allowance for Doubtful Accounts	10,208	
Interest Revenue		19,208
Dec. 31, 2015:		
Cash	9,000	
Allowance for Doubtful Accounts	11,738	
Interest Revenue		20,738
Cash	150,000	
Allowance for Doubtful Accounts	53,500	
Notes Receivable		203,500

PROBLEM 14-17

(a) September 30, 2011

Thornton:

Interest Receivable ($300,000 X .12 X 9/12)	27,000	
Interest Revenue		27,000
Loss on Sale of Note	47,000	
Cash	280,000	
Interest Receivable		27,000
Note Receivable		300,000

This would not be a troubled debt restructuring.

Shutdown: No entry. Shutdown does not have a troubled debt restructuring.

Orsini:

Interest Revenue*	27,000	
Note Receivable	253,000	
Cash		280,000

***A debit to Interest Receivable is also appropriate. This would not be a troubled debt restructuring.**

PROBLEM 14-17 (Continued)

(b) December 31, 2011

Shutdown:

Interest Expense ($300,000 X .12)	36,000	
Interest Payable		36,000
Note Payable	300,000	
Interest Payable	36,000	
Cost of Goods Sold	240,000	
Inventory		240,000
Gain on Restructured Debt		21,000
Sales		315,000

This would be a troubled debt restructuring for Shutdown, since the settlement, $315,000, is less than the carrying amount of the debt, $336,000.

Orsini:

Interest Receivable ($300,000 X .12)	36,000*	
Interest Revenue		36,000
Inventory	315,000	
Note Receivable		253,000
Interest Receivable		36,000
Gain on Investment		26,000

*Only $9,000 reported as interest revenue because $27,000 of accrued interest was purchased in September.

This would not be a troubled debt restructuring.

(Note to instructor: This problem indicates that symmetry may not always be achieved between the debtor and creditor and that the debtor may have a restructuring but the creditor, if changed, may not.)

PROBLEM 14-18

(a)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 10% for consistency and comparability.

Present value of old debt is $110,000 + $11,000 = $121,000.
Present value of new debt is calculated as follows:
Using present value tables:

		10% Factor	Present Value
Single amount, 3 years	$ 100,000	0.75132	$ 75,132
Interest annuity, 3 years	10,000	2.48685	24,868
			$100,000

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $100,000
I	10%	
N	3	
PMT	$ (10,000)	
FV	$ (100,000)	
Type	0	

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $121,000 the renegotiated debt is considered a settlement and Mazza Corp will record a gain.

PROBLEM 14-18 (Continued)

The effective interest rate subsequent to restructure:

Using a financial calculator:

PV	$ 121,000	
I	?%	Yields 2.6288 %
N	3	
PMT	$ (10,000)	
FV	$ (100,000)	
Type	0	

Excel formula =RATE(nper,pmt,pv,fv,type)
Yield a rate of 2.6288%

The rate could be computed by trial and error using the assumed partial present value tables based on the present value of $100,000 (new principal) plus $10,000 (interest per year) for three years to equal $121,000.

Try 2 1/2%		
($100,000)(.92859)	=	$ 92,859
($10,000)(2.85602)	=	28,560
PV	=	$121,419

Try 2 5/8%		
($100,000)(.92521)	=	$ 92,521
($10,000)(2.84913)	=	28,491
PV	=	$121,012

Try 2 3/4%		
($100,000)(.92184)	=	$ 92,184
($10,000)(2.84226)	=	28,423
PV	=	$120,607

Therefore, the approximate effective rate is 2 5/8%.

PROBLEM 14-18 (Continued)

(b)

Mazza Corp.
SCHEDULE OF DEBT REDUCTION AND INTEREST EXPENSE AMORTIZATION

Date	Cash Interest	Effective Interest	Discount Amortized	Carrying Amount
12/31/11				$121,000
12/31/12	$10,000	$3,181*	$ 6,819	114,181
12/31/13	10,000	3,002	6,998	107,182
12/31/14	10,000	2,818	7,182	100,000
12/31/14	100,000		100,000	-0-

*$3,181 = $121,000 X 2.6288%

(c)
Calculation of loss:

Pre-restructure carrying amount	$121,000
Present value of restructured cash flows:	100,000
Tsang Corp.'s loss on restructure	$ (21,000)

Tsang Corp.

Date	Cash Interest	Effective Interest	Change in Carrying Amortized	Carrying Amount of Note
12/31/11				$100,000
12/31/12	$ 10,000[a]	$10,000[b]	$ 0	100,000
12/31/13	10,000	10,000	0	100,000
12/31/14	10,000	10,000	0	100,000
12/31/14	100,000	0	100,000	0

[a] $10,000 = $100,000 X 10%.
[b] $10,000 = $100,000 X 10%.

PROBLEM 14-18 (Continued)

(d) Mazza Corp. entries:

December 31, 2011		
Interest Payable	11,000	
Notes Payable		11,000
December 31, 2012		
Interest Expense	3,181	
Notes Payable	6,819	
Cash		10,000
December 31, 2013		
Interest Expense	3,002	
Notes Payable	6,998	
Cash		10,000

(e) Tsang Corp. entries:

December 31, 2011		
Bad Debt Expense	21,000	
Allowance for Doubtful Accounts		21,000
December 31, 2012, 2013		
Cash	10,000	
Interest Revenue		10,000

TIME AND PURPOSE OF WRITING ASSIGNMENTS

WA 14-1 (Time 25–30 minutes)

Purpose—to provide the student with some familiarity with the economic theory that relates to the accounting for a bond issue. The student is required to discuss the conceptual merits for each of the three different balance sheet presentations for the same bond issue as well as the merits of utilizing the nominal rate versus the effective rate at date of issue in the computation of the carrying value of the obligations arising from a bond issue.

WA 14-2 (Time 10–15 minutes)

Purpose—to provide the student with an understanding of the various accounts which are generated in a bond issue and their proper classifications on the balance sheet. Included in this case, is non-market rate bonds related to government loans, and debt exchanged for assets. Justification must be provided for the treatment accorded these accounts in relation to the specifics of this case.

WA 14-3 (Time 20–25 minutes)

Part I: Purpose—to provide the student with an understanding of the significance of the difference between the effective interest method of amortization and the straight-line method of amortization.

Part II: Purpose—to provide the student with some familiarity with the various methods of accounting for gains and losses from the early extinguishment of debt, and of the justifications for each of the different methods.

WA 14-4 (Time 20-25 minutes)

Purpose—to provide students with an opportunity to understand the differences between PE GAAP and IFRS and the conceptual reasons for these differences.

WA 14-5 (Time 25-30 minutes)

Purpose—to provide students the opportunity to research issues regarding using credit risk adjusted discount rates in measuring liabilities

SOLUTIONS TO WRITING ASSIGNMENTS

WA 14-1

(a) 1. This is a common balance sheet presentation and has the advantage of being familiar to users of financial statements. Although the face, or maturity value, of $1,000,000 is not shown in an obvious manner, the total of $1,075,230 is the objectively determined exchange price at which the bonds were issued. It represents the fair market value of the bond obligations given. Thus, this is in keeping with the generally accepted accounting practice of using exchange prices as a primary source of data.

2. This presentation indicates the dual nature of the bond obligations. There is an obligation to make periodic payments of $65,000 and an obligation to pay the $1,000,000 at maturity. The amounts presented on the balance sheet are the present values of each of the future obligations discounted at the initial effective rate of interest.

   The proper emphasis is placed upon the accrual concept, that is, that interest accrues through the passage of time. The emphasis upon premiums and discounts is eliminated, and this might be useful supplemental information at the time of issuance of the bonds.

3. This presentation shows the total liability, which is incurred in a bond issue, but it ignores the time value of money. This would be a fair presentation of the bond obligations only if the effective interest rate were zero.

WA 14-1 (Continued)

When an entity issues interest-bearing bonds, it normally accepts two types of obligations: (1) to pay interest at regular intervals and (2) to pay the principal at maturity. The investors who purchase Branagh Limited bonds expect to receive $65,000 each January 1 and July 1 through January 1, 2031, plus $1,000,000 principal on January 1, 2031. Since this ($65,000) is more than the 12% per annum ($60,000 semiannually) that the investors would be willing to accept on an investment of $1,000,000 in these bonds, they are willing to bid up the price—to pay a premium for them.

The amount that the investors should be willing to pay for these future cash flows depends upon the interest rate that they are willing to accept on their investment(s) in this security which in turns, depends on the current market conditions when the bonds are issued and the prevailing rates for similar risk investments.

(b) The amount that the investors are willing to pay (and the issuer is willing to accept), $1,075,230, is the present value of the future cash flows discounted at the rate of interest that investors will accept.

Another way of viewing this is that the $1,075,230 is the amount that, if invested at an annual interest rate of 12% compounded semiannually, would allow withdrawals of $65,000 every six months from July 1, 2009, through January 1, 2031, and include $1,000,000 on January 1, 2031.

WA 14-1 (Continued)

Even when bonds are issued at their maturity value, the price paid is equal to the maturity value because the coupon rate is equal to the effective rate. If the bonds had been issued at their maturity value, the $1,000,000 would be the present value of future interest and principal payments discounted at an annual rate of 13% compounded semiannually.

Here the effective rate of interest is less than the coupon rate, so the price of the bonds is greater than the maturity value. If the effective rate of interest was greater than the coupon rate, the bonds would sell for less than the maturity value.

(c) 1. The use of the coupon rate for discounting bond obligations would give the face value of the bond at January 1, 2011, and at any interest-payment due thereafter. Although the coupon rate is readily available while the effective rate must be computed, the coupon rate may be set arbitrarily at the discretion of management so that there would be little or no support for accepting it as the appropriate discount rate.

WA 14-1 (Continued)

2. The effective interest rate at January 1, 2011, is the market rate to Branagh Limited for long-term borrowing. This rate gives a discounted value for the bond obligations, which is the amount that could be invested at January 1, 2011, at the market rate of interest. This investment would provide the sums needed to pay the recurring interest obligation plus the principal at maturity. Thus, the effective interest rate is objectively determined and verifiable.

The market or yield rate of interest at the date of issue should be used throughout the life of the bond because it reflects the interest obligation which the issuer accepted at the time of issue. The resulting value at the date of issue was the current value at that time and is similar to historical cost. Also, this yield rate is objectively determined in an exchange transaction.

The continued use of the issue-date yield rate results in a failure to reflect whether the burden is too high or too low in terms of the changes that may have taken place in the interest rate.

(d) Using a current yield rate produces a current value, that is, the amount that could currently be invested to produce the desired payments. When the current yield rate is lower than the rate at the issue date (or than at the previous valuation date) the liabilities for principal and interest would increase. When the current yield is higher than the rate at the issue date (or at the previous valuation date) the liabilities would decrease. Thus, holding gains and losses could be determined. If the debt is held until maturity, the total of the interest expense and the holding gains and losses under this method would equal the total interest expense using the yield rate at issue date.

WA 14-2

(a)i. Machine purchased as an instalment sale. In this case, this is a debt instrument exchanged for the machine. The fair value of the debt must be determined discounting the cash flows required on the debt at the appropriate rate to reflect the credit risk of Thompson. Because this is a private company, with no credit rating, we would not be able to observe market risk assessment rates for this company. We have used unobservable data that is particular to this company only, which would be level 3 in the fair value hierarchy. We are told that the company could have borrowed funds at 7% to 7.5% from the bank for this same purchase. If we use 7.0% rate to discount the cash flows on the debt, the present value can be determined as follows:

Payment Jan 1, 2011	$ 240,000
Present value of 4 annual payments of 240,000 at 7%	
240,000 X 3.3872	812,928
Total	$1,052,928

This fair value determination would be a “soft” value.
However, we are also told that the fair value of the machine is only $1,050,000. This is an observable market rate for similar assets. As such, this input is a level 2 fair value hierarchy. And again, this fair value would be considered a “soft” value.

The question becomes, what fair value should be used – the fair value of what is given up (the debt) or the fair value of what has been received (the machine). PE GAAP and IFRS recommend that the fair value of the consideration given up should be used to determine the value of the transaction unless the fair value of the item received is more reliable and more clearly evident. In this case, both of the fair values, as discussed above, are both estimates, and one is not more reliable than the other.

WA 14-2 (Continued)

As such, the value of the debt which has been given up is determined to be reliably determinable and is used to value the transaction. The treatment under PE GAAP and IFRS would be the same.

January 1, 2011 - Record purchase of the machine as follows:

Machine	1,052,928	
Cash		240,000
Note Payable - Machine		812,928

December 31, 2011
Record the depreciation on the machine assuming 10 years useful life

Depreciation Expense ($1,052,928 / 10)	105,293	
Accumulated Depreciation – Machine		105,293

December 31, 2011
Record accrued interest for 2011 using 7%

Interest Expense (7% X $812,928)	56,905	
Intererest Payable		56,905

Under PE GAAP, the company could use the straight-line method rather than the effective interest rate method for the loan. This would cause the annual interest to be:
4 X $240,000 payments = $960,000
Total interest over the 4 years = $960,000 – $812,928 = $147,072
Interest on bonds $147,072 / 4 = $36,768

WA 14-2 (Continued)

ii. Government loan – The government loan has been given at an interest rate substantially below market. The company would normally have had to pay 6% given its credit risk, but the government is charging 1%. To record the loan, we must determine the loan discounted at 6% and compare to the loan discounted at 1%.

	1% $	6% $	Difference $
PV of 500,000 in 5 years	475,733	373,629	
PV of 5,000 annual payments for 5 years	24,267	21,062	
	500,000	394,691	105,309

Journal entry to record the government funding December 31, 2011

Cash	500,000	
Note Payable – Government	394,691	
Technology equipment – government grant		105,309

WA 14-2 (Continued)

The grant of $105,309 will be amortized to net income on the same basis as the plant technology in order to offset the depreciation. Or alternatively, the grant can be directly netted against the plant technology equipment purchased and a smaller amount of depreciation will be recorded each year.

The note payable – government will be amortized to interest expense over the five years, so that at the end of 5 years, the balance will be $500,000. Under IFRS, the effective interest rate of 6% will be used. Again, this rate is likely not observable in the market place since the company has no credit rating for comparison purposes. Consequently, this value is a level 3 in the fair value hierarchy. Under PE GAAP, either the straight-line method of the effective interest rate method could be used. If the straight-line method is used, then each year the interest would be:

($500,000 – $394,691) / 5 = $21,062.

(b) 1. Use of the asset requires a depreciation charge in each year of use. This in turn requires carrying the equipment as an asset as the risk and rewards of ownership have passed, although the company does not have legal title to the asset. The company has contracted to purchase the equipment and, thus, has a real liability which affects financial condition and must be shown. As such, the fair value of the liability that the company owes must be set up along with the fair value of the asset that has been received in return for the liability. There is an imputed interest rate built into the payments over the 5 years that must be recorded. Since the fair value of the machine is only $1,050,000, then we cannot show a higher than fair value amount. Effectively, the difference between the total payments being made and the fair value of the machine is the interest to be paid over the 5 year period.

WA 14-2 (Continued)

2. The obligation of a company is to its bondholders, not to the trustee. Until the bondholders have received payment, the company still has a liability.

   Note to instructor: The student may have difficulty with this statement because this type of situation was not discussed in the chapter. It therefore provides an opportunity to emphasize that payment to an agent or trustee does not constitute payment of the liability for bond interest. When the trustee dispenses the funds to bondholders, the liability should be reduced. A separate Bond Interest Fund account, similar to a "Sinking" fund is established at the time payment is made to the trustee. This fund is shown as a long-term investment in the asset section of the balance sheet.

3. Repurchased bonds are not an asset. A company cannot owe or own itself. Thus, these bonds are different from investments in bonds of other companies. Repurchased bonds should be reported as a deduction from bonds payable.

WA 14-2 (Continued)

4. There are two points here. First of all, we obtained very favourable financing from the government, since we only must pay 1% on the loan and not 6% that we would have paid on borrowed funds. Consequently, this concession must be given separate treatment in our books. It is as though the government is forgiving 5% interest each year. The loan is recorded as though it was charging 6%, and therefore the payments we will make of $5,000 each year for the next 5 years and then the $500,000 repayment are part principal and part interest payments. An amount of $105,309 will be charged as interest over the 5 year period. The second point is what to do about this concession. The benefit of this will be treated as a government grant (i.e., forgiven amount of interest). As a grant, the amount is recorded either in a separate account or as a reduction against the equipment purchased. In either case, the "grant" is amortized into income over the life of the asset. Consequently, we will also have a lower depreciation charged to net income as a result. Over the five year, this reduction in the depreciation will be offset by the additional interest expense charged on the loan.

WA 14-3

Part I

(a) The effective interest method of amortization of bond discount or premium applies a constant interest rate to the carrying value of debt. The straight-line method applies a constant dollar amount over the life of the debt resulting in a changing effective interest rate incurred that is based on the carrying value of the debt. Either method, however, computes the total premium or discount to be amortized as the difference between the par value of the debt and the proceeds from the issuance.

(b) Before the effective interest method can be used, the effective yield or interest rate of the bond must be computed. The effective yield rate is the interest rate that will discount the debt instrument to the amount received at issuance. The two components in the value of a bond are the present value of the principal amount due at the end of the bond term and the present value of the annuity represented by the periodic interest payments during the life of the bond. Interest expense using the effective interest method is based upon the effective yield or interest rate multiplied by the carrying value of the bond (par value adjusted for unamortized premium or discount). The amount of amortization is the difference between recognized interest expense and the interest actually paid (par value multiplied by nominal rate). When a premium is being amortized, the dollar amount of the periodic amortization will increase over the life of the instrument. This is due to the decreasing carrying value of the bond instrument multiplied by the constant effective interest rate, which is subtracted from the amount of cash interest paid. In the case of a discount, the dollar amount of the periodic amortization will increase over the life of the bond. This is due to the increasing carrying value of the bond instrument

WA 14-3 (Continued)

multiplied by the constant effective interest rate from which is subtracted the amount of cash interest paid.

The varying amounts of interest occur because of the changing carrying value of the bond over the life of the instrument. In contrast, the straight-line method yields a constant dollar amount of interest based upon the life of the instrument regardless of effective yield rates demanded in the marketplace.

WA 14-3 (Continued)

Part II

(a) 1. **Gain or loss to be amortized over the remaining life of old debt.** The basic argument supporting this method is that if refunding is done to obtain debt at a lower cash outlay (interest cost), then the gain or loss is truly a cost of obtaining the reduction in cash outlay. As such, the new rate of interest alone does not reflect the cost of the new debt, but a portion of the gain or loss on the extinguishment of the old instrument must be matched with the nominal interest to reflect the true cost of obtaining the new debt instrument. This argument states that this matching must continue for the unexpired life of the old debt in order to reflect the true nature of the transaction and cost of obtaining the new debt instrument.

2. **Gain or loss to be amortized over the life of the new debt instrument.** This argument states that the gain or loss from early extinguishment of debt actually affects the cost of obtaining a new debt instrument. However, this method asserts that the effect should be matched with the interest expense of the new debt for the entire life of the new debt instrument. This argument is based on the assumption that the debt was refunded to take advantage of new lower interest rates or to avoid projected high interest rates in the future, and that any gain or loss on early extinguishment should be reflected as an element of this decision and total interest cost over the life of the new instrument should be stated to reflect this decision.

3. **Gain or loss recognized in the period of extinguishment.** Proponents of this method state that the early extinguishment of debt to be refunded actually does not differ from other types of extinguishment of debt where the consensus is that

WA 14-3 (Continued)

any gain or loss from the transaction should be recognized in full, in current net earnings. The early extinguishment of the debt is prompted for the same reason that other debt instruments are extinguished; namely, that the value of the debt instrument has changed in light of current financial circumstances and early extinguishment of the debt would produce the most favourable results. Also, it is argued that any gain or loss on the extinguishment is directly related to market interest fluctuations related to prior periods.

If the true market interest rate had been known at the time of issuance, there would be no gain or loss at the time of extinguishment. Also, even if market interest rates were not known but the carrying value of the bond was periodically adjusted to market, any gain or loss would be reflected at the interim dates and not in a future period.

The call premium paid on extinguishment and any unamortized premium or discounts are actually adjustments to the actual effective interest rate over the outstanding life of the bond. As such, any gain or loss on the early extinguishment of debt is related to prior-period valuation differences and should be recognized immediately.

(b) The immediate recognition principle is the only acceptable method of reflecting gains or losses on the early extinguishment of debt, and that these amounts, if material, must be reflected as unusual items outside of operations with other revenues and gains or other expenses and losses.

WA 14-4

Generally, PE GAAP has been designed to reduce complexity in the recognition and measurement of items, to reduce disclosure requirements and to make the information useful for the main user, who has been defined as creditors. Given this, we will see the impact of this in the discussion below of the differences between PE GAAP and IFRS.

There are few differences between IFRS and PE GAAP in this chapter.

a. Generally, liabilities (primarily debt in this chapter) are measured at amortized cost using the effective interest rate method under IFRS. PE GAAP allows either the effective interest rate method, or alternatives, which would normally be in practice, the straight-line method. The reason for this difference relates to complexity. The effective rate of interest is more complicated and costly to implement, in that it requires that first of all the effective rate of interest be determined using current market rate information. Secondly, at each reporting period, the effective interest rate will be applied on the current balance of outstanding debt. This complicates the measurement and recording of interest expense and the related debt on the balance sheet. The straight-line method is much easier (and less costly to implement) as the total amount of interest to be recognized over the period is simply divided by the term of the debt. This gives the amount of interest to be recognized each period. There is no need to determine market rates of return from market data.

WA 14-4 (Continued)

b. Under PE GAAP, long term debt that is being refinanced can be shown as long term at the reporting date provided that the agreement with the creditor is in place prior to the release of the financial statements. This differs with IFRS, which would require the agreement to be in place prior to the year end report date. The main reason for this difference is to continue with normal Canadian practice that has been in place for many years prior to adoption of IFRS. It also means that there is some time prior to issue to get the financing documents in order to properly show the current versus non-current classification.
c. With respect to capital disclosures – IFRS requires detailed capital disclosure notes which include information on:
    - Company's objectives, policies and processes to manage its capital (being cash, debt and equity)
    - What specifically is included in the company's definition of capital
    - Whether or not there are externally imposed restrictions on this capital, and if so, if the company is in compliance with these.

Under PE GAAP, the only disclosure required is whether or not the company is in compliance with covenants on the debt.
The main reason for these differences is that private companies tend to not have very complex capital arrangements. Generally, there might be debt that is outstanding to the bank, and small amounts of equity issued to the manager-shareholders of the company. As the creditors are the primary users of the financial statements, they would already be familiar with restrictions put on the balance sheet of the company. Given these facts, it was thought to be too costly for private enterprises to prepare and disclose this data and that the costs would not justify the benefits.

WA 14-5

The "non-performance risk" refers to the risk that the obligation will not be settled. Credit risk related to the obligor is a component of non-performance risk. The credit risk may differ depending on the obligation being fulfilled – i.e. is settlement to be in cash or in goods and services or are there any terms of credit enhancements related to the liabilities?

Below are the arguments for incorporating credit risk into the measurement of a liability:

1. Consistency of initial recognition - Since credit risk is incorporated into the effective interest rate used to measure the bonds payable at initial recognition, in order to be consistent, this same basis should be used at each reporting period. Additionally, to be consistent, all liabilities, regardless of their nature should incorporate credit risk in the assessment of the appropriate discount rate to be used. Currently, the discount rates used for valuing other liabilities such as warranties, pension obligations and asset retirement obligations are all different.

2. Wealth transfer – A second argument is that as the credit risk of the entity deteriorates, there is a transfer of wealth from the bondholders (debt is declining) to the shareholders. Even though this might reverse over time as the liability to the bondholders is settled, proponents of this explanation argue that all changes in relative claims should be reflected on the balance sheet, not just some.

WA 14-5 (Continued)

3. Accounting mismatch – The final argument is that when credit risk is not incorporated into the value of liabilities, there is a mismatch between asset and liability measurements. The assets measured at fair value are impacted by credit risk assessments related to the assets. However, if the liabilities do not incorporate for credit risk changes, then there is a mismatch and comprehensive income becomes distorted.

Arguments to support that credit risk should not be incorporated into the liability measurement are as follows:

1. Counter-intuitive results – An increase in the credit risk of an entity, will result in the decrease in the value of the liability, which will result in a gain. This is not intuitively appealing, since normally we would expect gains to be realized on improvements in the entity's financial position, not with deterioration. This would result in misleading and distorted profits.

2. Accounting mismatch – This argument considers the fact that including the credit risk changes also leads to accounting mismatches since not all assets are being valued at fair market values. A decline in the entity's credit quality might indicate that some of the capital and intangible assets and goodwill have also declined in value. However, as these assets are not reported at fair market values, these declines would not be recorded. So we have a decline in liabilities, with no decline in assets as a result of the same external condition.

WA 14-3 (Continued)

3. Realization – The final argument against changing the discount rate for changes in credit quality is that realization is not critical in accounting for some asset values. Whereas assets are sold all the time, liabilities are rarely sold since often it is not practicable, or it requires the counter party's permission. Consequently if the entity cannot benefit from realization of the liability, why should the liability be measured at current values? Some liabilities must be measured using current information, but credit risk need not be incorporated into this value since shareholders may not gain or lose from this change.

Finally, the alternatives being discussed to determine the appropriate measure of liabilities are:

1. Use the risk-free rate of interest, excluding any default risk and report any impact of changes immediately to profit or loss in the period they arise.

2. Use the risk-free rate of interest, excluding any default risk, and report any impact of changes to equity and amortize over the life of the liability.

3. Measure liabilities that relate to an exchange of cash at the amount of the cash proceeds (as is currently done using the current market rate of return). Liabilities that are not an exchange of cash should be measured at their present value of future cash flows using a current discount rate that excludes credit risk changes.

CASES

Note: See the Case Primer on the Student website, as well as the Summary of the Case Primer in the front of the text. Note that the first few chapters in volume 1 lay the foundation for financial reporting decision making.

CA 14-1 Pitt Corporation

Overview

- Company produces pop and is looking to obtain a steady supply of cans. It is considering entering into a project financing arrangement with ACC: its present can supplier, since the company has experienced financial difficulties and does not want to use conventional financing.
- ACC will be a user and will want to assess the financial position of the company.
- As controller, concerned about adding additional debt to balance sheet.
- GAAP likely a constraint since ACC would likely want to assess PC's ability to pay as would the bank—GAAP would provide more useful information. As a private entity, the company can choose to use ASPE or IFRS.

CA 14-1 (Continued)

Analysis and recommendations

Issue: How to account for the project financing arrangement

Purchase commitment	Liability
- Executory contract. - Would not record as is simply a purchase commitment and a liability only arises once the cans are shipped. - Should note disclose only. - The building—even though on PC property – is owned by ACC for the first 20 years—PC does not have access to it nor control over it. - Does not affect debt on balance sheet.	- Is this really a project financing? - ACC is simply providing construction services for the building—which is really PC's building. - These services are being paid for over time (debt service component of the price of the cans) instead of upfront. - Since the plant ownership reverts to PC at the end and is on their land, it is likely an asset of PC. - Regardless of the above, PC has an obligation to pay the debt service cost shortfalls. - The bank (who is financing the building of the plant) is looking to the purchase commitment for repayment of the loan - Risk that the company may be accused of having off balance sheet debt. - May also be seen as a financial guarantee which must be recognized if measurable.

CA 14-1 (Continued)

This is a tough issue since the arrangement is complicated. A case exists to note disclose only. If PC records a liability, it must also record an asset. The building is the property of ACC and since PC does not have control over it, it does not meet the definition of an asset. The liability to pay debt service is really a contingent liability since it would appear that ACC would be able to sell the cans even without PC at a good price sufficient to repay the debt. GAAP would be similar under IFRS and ASPE.

IC 14-1 Great Canadian Gaming Corporation

Overview

- Public company since its shares list on the TSX (see annual report for the company)
- Users include analysts such as Veritas Investment Research, which is following the company and is critical of its accounting policies. Users also include the government, which makes funding decisions based on the statements. They need information that shows the real costs of running the business and of expansion.
- Management may have a bias to overstate revenues/profits (since they get to keep additional percentage of revenues or gaming wins for new venues). There might also be a bias to overstate costs of expansion since as noted, they get to keep a certain amount of profits/revenues that would have otherwise been paid to the government until the investment has been recouped.
- As an independent analyst, would be more critical of accounting choices and look for aggressive accounting that does not reflect reality.

Analysis and recommendations

Issue: The company is entitled to receive funds from the government or keep revenues/profits that would otherwise be paid to the government. The amount is calculated as a percentage of revenues (gaming wins) as long as the company makes certain capital expenditures to improve or upgrade or expand its facilities.

Revenues	Government assistance
- Recognize as revenues when earned from the customers/clients (become payable to the company after company has met criteria i.e. provided gambling facility to customer). - This reflects the economic substance as the company earns a share of the "win" and this is just an increased share of the "win". - The company earns the extra share by investing/expanding facilities.	- Accrue when expansion approved by government. - Related cost of asset or operating expense reduced. - The substance is that this is government assistance. The government would like the company to expand its operations and this is an inducement to do so.

IC 14-1 (Continued)

Conclusion: It is likely more conservative to account for this as government assistance and therefore credit the extra amount to offset expenses or cost of asset.

Issue: Marketing fees

Expense	Prepaid
- Future benefit not quantified—difficult to argue that advertising has a tangible benefit that can be measured. Some advertising works against the company.	- Paid into government fund and treated as prepaid until government spends the funds on advertising—therefore it better reflects reality. - Able to recover from government if not paid.

Conclusion: More conservative to expense.

Issue: Agreement regarding construction of parking garage. GCGC gets land and cash from TL/CL in return, they build a parking garage and make parking spaces available to TL/CL.

Financing arrangement	Other
- Recognize asset and liability. GCGC already has title to portion of land and will receive title to remaining portion once approved by government. In substance, it is their asset as the deal has been signed. - This is really just a financing arrangement with TL/CL providing the financing (cash and land). - Even thought the company does not need to repay the cash/pay for the land, in	- The company is being paid to build a parking lot – so this is like construction revenues. The requirement to provide parking spots is an executory contract that does not need to be recognized yet. It is not clear whether the parking spots are to be provided for free (or whether customers will have to pay). Therefore dr. cash/land (where title has passed) and cr. land (government assistance) and construction revenues.

essence, they have a liability since they are committed to providing a certain number of dedicated parking spaces. - An obligation to provide parking spaces currently exists contractually	- The substance of the arrangement is that the government wants infrastructure built (parking lots) and they are paying to subsidize the construction of such parking lots. - The legal title to the land still rests with the other party and so cannot recognize that potion of land as an asset. - If certain conditions are met, the ownership of the parking lot reverts back to the other party. Therefore, is it really a government parking lot to begin with?

Conclusion: More transparent to recognize the asset (at least where title has passed) and liability for providing future parking spots.

IC 14-2 Finishing International Enterprise (FIE)

Overview

- Bank would like audited statements and debt covenant requires a debt/equity ratio of no more than 1/1. Therefore the statements must follow GAAP (may use ASPE or IFRS) and debt and equity are sensitive numbers – may be a bias to ensure that the debt covenant is not broken since they need to loan for expansion into US.
- Tony will look to the statements to assess financial position and performance.
- Formerly income tax minimization would have been the objective, since FIE is a private company. As such, FIE was not legally bound by GAAP. However, an audit is now required and there will be a bias to ensure that the debt covenants are met. As auditors must ensure that the statements are transparent.

Analysis and recommendations - MEMO

To: Tony and Heather
From: Senior Accountant, Lento and Partners
Re: Establishment of new accounting policies for Finishing International Enterprises

Introduction

The following report has been prepared to analyze and recommend accounting policies, consistent with GAAP (IFRS or ASPE), for FIE. FIE has a choice to follow ASPE of IFRS. The accounting recommendations were made while keeping the debt-to-equity ratio in mind although ensuring fair presentation is the key goal. Differences in the accounting treatment between ASPE and IFRS are noted below.

Warranty Expense

Issue Analysis: The cash method of accounting for warranty costs is acceptable when the costs are not material or when the warranty period is relatively short. It may also be acceptable when the amount of the liability cannot be reasonably estimated or if future costs are not likely to be incurred. However, the current warranty expense is

IC 14-2 (Continued)

material and can be estimated, therefore, the cash method is not acceptable.

FIE currently has recorded only $180,000 in expense for the warranty, however, the total estimated associated with the current year sales is $760,000 (2,000 x $380), therefore, liabilities are understated by $580,000. FIE has recorded the following entry:

Dr. Warranty expense $180,000
Cr. Cash, Inventory, Payroll $180,000
Under ASPE and IFRS, the warranty should be recorded as unearned revenue and recognized as revenues when earned.

The following additional entry is required to adjust revenues for the warranty service that is yet to be provided:

Dr. Revenues $580,000
Cr. Unearned revenues $580,000

Implication on D/E: This negatively impacts the ratio as debt will increase by $580,000, but, it is required for GAAP compliance.

Contingent Liability

Issue Analysis: The loss should be accrued since both criteria (it is likely that a loss is incurred and the amount of the loss can be reasonably determined) for recording the contingency are met. When there is a range of estimates and no point estimate is more likely than another ($500,000 to $750,000), the lower end of the range is to be accrued under ASPE with the range disclosed. Therefore, $500,000 should be accrued.
However, given that the loss is covered by insurance, except for the $250,000 deductible, only the $250,000 should be accrued. Under IFRS, the amount to be accrued would be the probability weighted expected value of the loss (information not provided in the case).

Implication on D/E: This negatively impacts the ratio as debt will increase by $250,000, but, it is required for GAAP compliance.

IC 14-2 (Continued)

Interest Free Loan
Issue Analysis: Long-term debt is recorded at the present value (fair value) of the stream of payments. Currently, FIE has recorded the liability at $2.5 million; however, this represents the undiscounted amount, and therefore, both assets and liabilities are overstated. The present value of the payments, discounted at 9%, is equal to $1,944,850 (PVIFA = 3.8897 x PMT = $500,000). The original entry should have been:

Dr. Capital Asset $1,944,850
Cr. Long-term liability $1,944,850

The first payment was likely recorded as follows:

Dr. Long-term liability $500,000
Cr. Cash $500,000

However, the loan should be amortized, with a portion of the payment going to interest expense and a portion to the principal repayment as follows:

Dr. Long-term liability $324,966
Dr. Interest expense $175,034
Cr. Cash $500,000

The following loan amortization table has been prepared:

Beginning Period	Balance	Principle Interest	Payment	Reduction	Ending Balance
(a)	(b) = (a) x 9%	(c)	(d) = (c) - (b)	= (a) - (d)	
1	1,944,826	175,034	500,000	324,966	1,619,860
2	1,619,860	145,787	500,000	354,213	1,265,647
3	1,265,647	113,908	500,000	386,092	879,556
4	879,556	79,160	500,000	420,840	458,716
5	458,716	41,284	500,000	458,716	0

The capital asset should be amortized based on this value, as opposed to the full $2,500,000. Based on a seven year useful life, amortization expense should be $277,835 as opposed to $357,152, an overstatement of expenses of $79,311.

IC 14-2 (Continued)

Implication on D/E: There are many implications on the D/E ratio, summarized as follows:

Long-term liability decrease by: $880,140 (2,500,000 – 1,619,860)
Equity decrease by interest expense: $175,034
Equity increases by decreased amortization expense: ($79,311)
Net decrease in equity $95,724

Asset Retirement Obligation
Issue Analysis: The ARO should be recorded at the present value of the future obligation. At the beginning of the year when the ARO was incurred, FIE should have capitalized the asset retirement cost and record the ARO as follows:

Dr. Warehouse (ARO) $136,000 (rounded)
Cr. ARO Liability – Warehouse $136,000 (rounded)

Each year of the lease term the company would allocate asset retirement costs capitalized as follows:

Dr. Depreciation Expense – Warehouse $27,200
Cr. Acc Amort – Warehouse [136,000 / 5] $27,200

Each year of the lease term the company would recognize increase in ARO and related operating expense due to passage of time as follows:

Year	Balance	Accretion (8%)
1	$136,000	$10,900
2	$136,000 + 10,900 = 146,900	$11,800
3	$146,900 + 11,800 = 158,700	$12,700
4	$158,700 + 12,700 = 171,400	$13,700
5	$171,400 + 13,700 = 185,100	$14,900

Balance of ARO at end of lease term = $200,000

IC 14-2 (Continued)

Implication on D/E: There are many implications on the D/E ratio, summarized as follows:

ARO liability decrease by present value factor: ($64,000) (200,000 – 136,000)
ARO liability increase by accretion expense: $22,700
Net decrease in liabilities: (41,300)
Equity decrease by ARO amortization expense: ($54,400) (27,200 x 2)
Equity decreases by accretion expense: ($22,700)
Net decrease in equity: ($77,100)

Redeemable and Retractable Shares
Issue Analysis: FIE issued 30,000 redeemable and retractable preferred shares at a value of $10 per share. FIE has classified the shares as equity, however, GAAP requires the financial instruments to be recorded based on the substance of the instrument as opposed to the legal form.

Elements of Equity

- Dividends are to be declared on a discretionary period after 2012.
- Dividends after 2012 are not cumulative.

Elements of Debt

- Mandatory dividend payment of $2 per share requires the delivery of cash for the first five years.
- The shares are retractable at the discretion of the holder, therefore, requiring FIE to deliver cash. The likelihood of the holders retracting the shares is high given that after 5 years, the retraction period expires and dividends are no longer mandatory or cumulative.

Based on the substance of the transaction, ASPE/IFRS provides guidance on when preferred shares establish a contractual obligation to deliver cash indirectly through the terms and conditions, such as these preferred shares. These shares should be classified as a financial liability. As such, the dividend of $600 that went through the

IC 14-2 (Continued)

retained earnings should go through the income statement as interest expense. I have made the appropriate adjustments to the net income to reflect the substance of the financial instrument.

Implication on D/E: The debt is understated by $300,000 as it is currently reclassified as equity; furthermore, the dividends of $60,000 should be classified as interest expense, although this will not impact the total equity.

Payment of Dividend on Common Shares
Issue Analysis: Prior to paying the $800,000 dividend, Tony should be aware that the debt-to-equity ratio will change significantly from the current 0.56:1 after all of the required GAAP adjustments.

I have prepared Exhibit I to summarize the GAAP adjustments and the impact on the D/E ratio. After making all of the GAAP adjustments, the debt-to-equity ratio will be 1.16:1, slightly in violation of compliance with the covenants. Once the dividend is paid, equity will decrease by $800,000, and the ratio will decrease to 2.42:1, which will be in violation of the covenant.

Exhibit 1 - Recalculation of D/E Ratio

Debt		**Equity**
Preliminary	1,600,000	2,850,000
Debt-to-equity ratio	0.56	: 1
GAAP Adjustments		
1) Warranty expense	580,000	(580,000)
2) Contingent liability	250,000	($250,000)
3) Interest free loan	(880,140)	(95,724)
4) Asset Retirement	(41,300)	(77,100)
5) Redeemable shares	300,000	(300,000)
Pre-dividend balances	1,808,560	1,547,176
Debt-to-equity ratio	1.16	: 1
Dividend		(800,000)
Adjusted balance	1,808,560	747,176
Adjusted D/E ratio	**2.42**	: 1

IC 14-2 (Continued)

It is recommended that Tony does not pay the dividend, and that the Company seeks an alternative to avoid the covenant violation and classification of the long-term debt as current. For example, if the preferred shares are restructured such that they are considered debt, and not equity, the covenant will not be in violation.

RESEARCH AND FINANCIAL ANALYSIS

RA14-1

1. For 2008, the loss on debt settlement was US$153,893 and in 2007, the gain on debt settlement was US$144,619.

As per Note 9 and 11, the gains (losses) for 2008 are disclosed as follows:

(US$)	Series A unsecured debenture (note 9(a))	Series F convertible (note 9(b))**
Balance owing before settlement Note 9	$500,000	
Cash settlement	(250,000)	
Accrued interest Note 9	303,842	
4,140,278 common shares issued Note 11 (b)	(537,055)	
2,070,140 warrants issued (note 11(b)	(149,356)	
Unreconciled difference	11,666	
Loss on settlement	(120,903)	$3,430

**Note: Based on the information in Note 9 we are unable to reconcile how the loss on debt settlement was determined.

The information above totals a loss of US$117,473 ($120,903 – $3,430). The amount reported on the consolidated statement of loss was US$153,893, representing an undisclosed difference of US$36,420.

RA14-1 (Continued)

2. From Note 5, the gain on debt settlement related to the Discontinued Operations was US$535,806. This gain arose from the settlement of two loans: Innovations Norway loan for US $469,565 and loans with corporations controlled by two significant shareholders (short term credit facility) of US $66,241. Using the information from notes 5 and 11, the details of the gains are explained and reconciled below:

(US$)	Innovations Norway	Short term credit facility
Balance October 31, 2007 (note 5a)	$1,669,407	$1,985,800 (note 5(b)
Cash deposit – note 5(a) – value at Oct 31, 2007	(556,483)	
Proceeds on transfer of facility (note 5(d)	(468,352)	
Cash payment Note 5(a)	(47,780)	
3,658,988 Common shares issued to lender (note 11)	(389,480)	
Accrued interest and foreign exchange differences – not disclosed but estimated to reconcile	262,253 Estimated	(note 5) 293,234
14,814,814 common shares issued – note 11 (b)		(2,206,336)
Unreconciled difference		(6,457)
Gain on settlement – Note 5 (a)	469,565	66,241

The Innovations Norway loan was partially repaid using the proceeds from sale of the Oslo facility. As disclosed in Note 5 (d), a gain of $468,352 was recognized when the lender took over the facility.

RA14-2 EASTERN PLATINUM LIMITED.

	December 31, 2009	December 31, 2008
(In thousands US$)		
Total liabilities (1)	77,338	84,823
Total assets (2)	706,850	593,358
Net cash from continuing operations (4)	(9,287)	53,512
Finance costs (5)	1,691	3,725
Income before finance costs and taxes (6)	1,290	(294,504)
Liabilities to total assets (1) / (2)	0.11	0.14
Cash debt coverage (4) / (1)	Negative cash so NA	0.63
Times interest earned (6) / (5)	0.76X	negative

The above ratio analysis indicates that Eastplat has very volatile results over the years examined. Over the period from December 31, 2008 to December 31, 2009, the financial flexibility of the company has worsened significantly. This is primarily caused by a reduction in operating cash. December 31, 2008 had large losses reported for the year, which resulted in the company having no earnings coverage for its interest payments. However, positive operating cash flow was generated for 2008. Although profits were generated in the year ended December 31, 2009, which improved the times interest earned ratio, the operating cash flows deteriorated to be negative. This resulted in no cash being available to cover the finance costs. The only improvement over the period is that the amount of liabilities has been declining in relation to the assets, from 0.14 in December 2008 to 0.11 in December 2009. These are very low ratios of liabilities to assets, and likely are due to the volatility

RA14-2 EASTERN PLATINUM LIMITED. (Continued)

that the company has in its earnings and cash flows. Being a commodity producer, Eastplat's results are very dependent on commodity prices, over which they have no control. Consequently, the company must keep low debt balances in order to ensure that it can cover any payments required. Having high business risk, the company tries to maintain a low financial risk with low debt. In fact, the company has little interest bearing debt, totaling only $3,776,000 ($926,000 + $2,850,000 for finance leases) at December 31, 2009 which represents only 0.53% of total assets.

RA14-3 LOBLAW VERSUS EMPIRE

(a) The following are the debt to total assets and times interest earned ratios for the companies:

millions	Loblaw anuary 3, 2009	Empire May 2, 2009
Total liabilities	$8,155	$3,214.5
Total assets	13,985	5,898.0
Debt to asset ratio	0.58	0.54
Earnings before interest and taxes	1,046	470.9
Interest expense	263	80.6
Times interest earned	3.98	5.84

From the above analysis, it appears that Loblaw has slightly more debt than Empire in its capital structure. This results in its times interest earned ratio also being less than Empire. However, Empire has significant operating leases that would also need to be considered in preparing a full analysis. In this case, many of Empire's assets and obligations are off the balance sheet as a result of using operating leases. (See discussion below in part (c).)

(b) The following ratios are highlighted in the Management Discussion and Analysis for reach company:

	Loblaw	Empire
Funded debt to capital ratio		32.7%
Net funded debt to capital ratio		28.5%
Funded debt to EBITDA		1.64X
EBITDA to interest		9.84X
Interest coverage	3.7:1	
Net debt to equity	0.54:1	

RA14-3 (Continued)

As can be seen from the above table, both companies use different ratios to measure their debt levels. Since these are non-GAAP measures, there is some detail provided as to how these ratios have been calculated. However, an analyst would likely calculate their own ratios so that the two companies could be compared employing the same ratios.

(c) Reviewing the long term debt (note 12) of Empire, the company has medium term notes coming due between 2018 to 2036, debentures coming due between 2009 and 2016, credit facilities due in 2010 and some capital lease obligations. Empire had a credit rating of negative, which by the end of the year had been upgraded to stable. Subsequent to the end of the year, the credit rating was increased to positive from stable. The primary reason driving these changes was that the company had issued some equity and also paid down some of its debt, thereby improving its debt to asset ratio.

Loblaw, in note 16, outlines that its debt is primarily made up of notes payables which mature on various dates from 2009 to 2043. It also has some private placement US$ debt maturing in 2013 and 2015. Finally, it has a small amount of VIE loans payable and capital lease obligations. On Page 11 of the MD&A, Loblaw outlines its credit ratings from DBR and S&P. During 2008, the company's credit ratings were downgraded twice to negative. However, the current credit ratings are now stable for its commercial paper and negative (BBB) for its long term debt.

RA14-3 (Continued)

The companies have similar debt ratings even though Loblaw is seen to have more debt on its balance sheet than Empire. We would have anticipated that Loblaw would have the worse credit rating since it has more debt than Empire. The fact that Empire and Loblaw have the same credit rating is likely due to the amount of leases that Empire (annual obligation of $308.4 million and $3,105.5 million in total) has in comparison to Loblaw ($207 million annually and $1,623 million in total). These lease obligations require cash flow from Empire that is in addition to its debt obligations. Credit analysts would consider all obligations both on and off the balance sheet in order to assess financial risk.

(d) Note 15 outlines Empire's capital disclosures. The company's objectives in managing its capital are: to ensure ongoing liquidity, minimize its cost of capital, maintain an optimal capital structure to ensure financial flexibility and to maintain an investment grade credit rating. Total capital for the company includes all interest bearing debt (funded debt) net of cash and cash equivalents, and equity. The total capital being managed is $3,754.8 million. The key ratios being monitored are: funded debt to capital; funded debt to EBITDA and EBITDA to interest. Empire had two covenants to maintain for which they were in compliance: (1) Adjusted total debt to EBITDA and (2) debt service coverage ratio.

In Note 21, Loblaw outlines its capital disclosure. It has 4 objectives in managing its capital: to ensure sufficient liquidity to pay its obligations, to maintain financial capacity and the ability to access capital as needs arise; to minimize its cost of capital; and to utilize short term funding to manage working capital and long term funding to finance long term assets. The company has two key ratios it monitors: interest coverage and net debt to

RA14-3 (Continued)

equity ratios. The total net debt being managed is $3,287 million (no equity is included in this total). The company has two covenants that must be maintained: an interest coverage ratio and a leverage ratio. It also has certain capital requirements to be met as a result of its banking services which are imposed by OSFI.

(e) Empire has two types of variable interest entities that are disclosed in Note 29. The company has 271 franchise affiliates where the agreements deem Empire to be the primary beneficiary of expected losses and residual returns. As a result, all of these entities are consolidated in Empire's consolidated financial statements. The second entity involves a Warehouse and Distribution agreement with an independent entity. This agreement also qualifies to be consolidated in the statements for Empire, as Empire is deemed to be the primary beneficiary of any expected losses or residual returns.

In note 28, Loblaw explains it's VIE's. The company has a variety of franchise agreements involving sale of goods and services and financing and leasing arrangements. There were 154 of the company's independent franchise stores that meet the requirements to be consolidated as a VIE because Loblaw is deemed to be the primary beneficiary of these arrangements. The company also has a variety of warehouse and distribution agreements with third party providers. Due to the nature of these agreements, Loblaw is deemed to be the primary beneficiary, and these entities have been consolidated and included in Loblaw's financial statements.

RA14-4 DBRS

a) Dominion Bond Rating Service Limited (DBRS) uses the following approach in rating food retailer companies:

1. General business risk profile includes analysis of:
    a) Economic environment
    b) Legislative and regulatory environment
    c) Competitive environment
    d) Country risk
    e) Industry cyclicality
    f) Management, and
    g) Corporate governance.

2. General financial risk factors include:

(a) Earnings: gross margins, return on common equity, return on capital and EBIT margin and EBITDA margin.

(b) Cash flow/Coverage: EBIT interest coverage and EBITDA interest coverage; EBIT fixed charges coverage; cash flow/total debt and cash flow/adjusted total debt; cash flow/capital expenditures; capital expenditures /depreciation; debt/EBITDA and dividend payout ratio.

(c) Balance sheet and financial flexibility considerations: current ratio; receivables turnover; inventory turnover; asset coverage; Total debt to capital; adjusted total debt to capital; net debt to capital.

RA14-4 (Continued)

3. Industry specific factors that are considered include:
(a) brand name – same store sales growth is an indicator of brand strength
(b) formats and banners
(c) operational efficiency
(d) relative size
(e) private label brands
(f) diversification
(g) understanding /adapting to consumer trends
(h) real estate – owned versus leased
(i) locations
(j) labour

(b) Loblaw has been given a rating of BBB on its medium term notes and debentures, and a rating of R-2 middle for its commercial paper. All trends on its debt are stable.
Empire's debt ratings have been discontinued; however Sobey's senior unsecured debt is still rated as BBB with a stable outlook. This is the same as Loblaw.

(c) These ratings for Loblaw and Empire are the same. This is likely due to the fact that both Loblaw and Sobeys are in the same industry and therefore face similar business risks.

(d) It is possible to have different ratings on different debt instruments within the same company, as is illustrated by the different ratings assigned by DBRS to the various instruments for Loblaw as discussed in part (b). This is due to the nature of the debt (long term versus short term) and whether or not the debt is secured or unsecured. Since different ratings firms use different scales, it is also possible for there to be differences between the ratings of various instruments for a particular company assigned by different rating firms.

RA14-5 VARIABLE INTEREST ENTITIES

1. A variable interest entity is an entity that is created for a narrow or single purpose involving accessing financing (accounts receivable securitizations), isolating certain assets from the entity for lease arrangements (for example a pipeline) or providing services to the entity (for example warehousing and distribution services or research and development). VIE's may take the form of a corporation, trust, partnership or other unincorporated entity. Generally, there are strict limits on governance and decision making powers. The problems arise in trying to determine how remote these VIE's really are from the entity. Because VIEs are generally not corporations with voting shares or governing bodies, the assessment of control becomes difficult. It is also not simple to determine if these VIEs are really "separate" from the entity or not.

Three examples of VIEs are as follows:

Bombardier – Note 27 – has VIE's related to financing structures related to sales of regional aircraft to lease to airlines; partnership arrangements to provide manufactured rail equipment, engineering services, operation and maintenance services on railway equipment.

Empire – has franchisee agreements and warehouse and distribution agreements that quality as VIE's and are consolidated.

Air Canada – has aircraft leasing arrangements and fuel facility arrangements.

2. Currently, the standard under IFRS requires consolidation where "the substance of the relationship between an entity and the VIE indicates that the VIE is controlled by the entity." (SIC 12). However, there is little guidance on what control means. PE

RA14-5 (Continued)

GAAP (Accounting Guideline 15) requires consolidation when the entity "*absorbs a majority of the entity's expected losses, receives a majority of the entity's expected residual returns, or both*". If this is the case, then the entity is deemed to be the "primary beneficiary".

The IASB is now addressing this and has proposed new guidance on what "control" means for structured entities in its ED "Consolidation" issued in December, 2008. A structured entity is defined as one for which control cannot be assessed by voting rights or control of the governing body. This proposal clarifies that an entity has a controlling financial interest in a VIE if:

(a) it has the power to direct the activities of the VIE that significantly impact its economic returns; and

(b) it has a right to receive these returns from the VIE and is exposed to variations in these returns.

This means that the entity must be exposed to variability in the future returns in the VIE, and that the returns can be positive or negative.

The Exposure draft suggests that additional factors need to be considered in trying to assess control and might include:

- The nature of the arrangements for sharing returns;
- How decisions are made in the VIE;
- All facts and circumstance must be considered such as:
  - The purpose and design of the VIE;
  - Reporting entity's involvement with the VIE;
  - The activities of the VIE and how these are directed;
  - The reporting entity's ability to change restrictions or directions of the VIE;

Whether the reporting entity acts as an agent.

CUMULATIVE COVERAGE (Chapters 13-14)

Solution:
Part a:

		DR	CR
1	Wage and salary expense	460,000	
	Employee Income Tax deductions payable		110,000
	Employee EI premiums payable (1.98% x 460,000)		9,108
	Employee CPP premiums payable (4.95% x 460,000)		22,770
	Wages payable		318,122
	(employees wages and employee deductions)		
	Payroll tax expense – EI Premiums	12,751	
	Payroll tax expense – CPP Premiums	22,770	
	EI payable (9,108 x 1.4)		12,751
	CPP payable		22,770
	(employer portions of payroll taxes (i.e. an expense to the company))		
Record wages payable at June 30.			
2	Wage and salary expense	26,000	
	Vacation pay payable		26,000
Vacation pay accrual = (70 x 40,000 x 4% ÷ 12) + (20 x $125,000 x 8% ÷ 12)			
3	Somewhat possible does not mean that it is likely there is a liability. In order to accrue a contingent liability, the company must think it is likely that the liability will become payable. Disclosure that the company has been sued and may face a possible loss is necessary, although the practice is generally to provide scant details. It would conclude with a note “in the opinion of legal council”, and contain a statement agreed with legal council (as there is a joint agreement between the CICA and the CBA governing such communications).		
4	The amount that the company may collect as a result of this legal action represents a contingent receivable. Contingent assets do not meet the definition of an asset, and they should not be recorded. As this item has likely been reported in the media, note disclosure may help to provide clarification but must be very cautious in tone and content. See above.		
5	Equipment	90,000	
	Due to shareholder		30,000
	Note payable		60,000
	Interest expense (60,000 X 8% X 5/12)	2,000	
	Interest payable		2,000
Record purchase of equipment and interest payable on note.			
6	Cash	4,383,800	
	Bond payable		4,383,800

Bond issue price = 4,200,000 x .78120 + (4,200,000 x 3%) x 8.75206 = 4,383,800			
	Interest expense (4,383,800 X 5% X 5/12)	91,329	
	Bond payable	13,671	
	Interest payable (4,200,000 X 6% X 5/12)		105,000
Record interest payable on bond at year end.			
Interest may also be computed in this manner: Interest payment due August 1 = 126,000, multiply by 5/6 to recognize partial period = 105,000 Interest expense at August 1 = $4,383,800 x 2.5% = 109,595, multiply by 5/6 = 91,329 Premium amortization to June 30 = 105,000-91,329 = 13,671			
7	Rent/lease expense	2,730	
	Rent/lease payable		2,730
additional Rent/lease payable based on excess sales over lease threshold = (1,523,000-1,250,000) x 1% = $2,730			
8	Promotion expense	24,000	
	Spice container / promotion/coupon liability		6,000
	Spice container inventory		18,000
Estimated unredeemed coupons: Coupons issued = 100,000 Redemption rate = 60% Total coupons that are expected to be redeemed = 60% x 100,000 = 60,000 Total promotion expense = (60,000 coupons ÷3 coupons/ spice container) x $1.20 per container = $24,000 Less: coupons redeemed during the year = 45,000 (this solution assumes the redemption has not been recorded, and removes the spice containers, given in exchange for coupons, from inventory) Therefore, an estimated 15,000 coupons may be retired in the future. 15,000 coupons can be redeemed for spice containers, 3 are required per spice container, so up to 5,000 spice containers may be given away. They cost $1.20, so total liability is 1.20 x 5,000 = $6,000.			

CUMULATIVE COVERAGE (Chapters 13-14) [Continued]

Part b:
Amortization table for bond to August 1, 2012:

	Cash – CR	Interest Expense (2.5%) DR	Premium Amortization DR	Bond Carrying Value
February 1, 2011				4,383,800
August 1, 2011	126,000	109,595	16,405	4,367,395
February 1, 2012	126,000	109,185	16,815	4,350,580
August 1, 2012	126,000	108,765	17,235	4,333,345
February 1, 2013	126,000	108,334	17,666	4,315,679

Early retirement occurs August 31, 2012, and 40% is retired early at 1.03

Carrying amount August 1, 2012 for 40%	40% x 4,333,345	1,733,338
Amortization of premium to August 31	17,666 x 40% ÷ 6 months	1,178
Carrying amount of bond August 31, 2012		1,732,160
Price paid to redeem early	4,200,000 x 40% x 1.03	1,730,400
Gain on early retirement		1,760
Cash for interest due	126,000*.4*1/6 = 8,400	

Entry to record early retirement:

	DR	CR
Interest expense (4,333,345 X 5% X 1/12 X 40%)	7,222	
Bond payable	1,178	
Cash		8,400
Bond payable	1,732,160	
Cash		1,730,400
Gain on early retirement		1,760