CHAPTER 16

COMPLEX FINANCIAL INSTRUMENTS

ASSIGNMENT CLASSIFICATION TABLE

Topics	Brief Exercises	Exercises	Problems	Writing Assignments
1. Understanding derivatives	1, 2, 3	1, 2, 5	1, 2, 3, 4	6, 7, 8, 9
2. How to account for derivatives	1, 2, 3, 4, 5	1, 2, 3, 4, 5	1, 2, 3, 4, 5, 6	9
3. Accounting for hybrid/compound instruments	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	5, 6, 7, 8, 9, 10, 11, 12, 13, 14	5, 6, 7, 8, 9	1, 2,
4. Stock compensation plans	17, 18		10	
5. Share-based compensation	19	15, 16, 17	5, 6, 10	2, 5
6. Differences between ASPE and IFRS	2, 9, 10, 11, 12, 14, 16, 20, 21	3, 5, 7, 19, 20	6, 7, 12	4, 5, 7
*7. Derivative instruments for hedging		5	11, 12	3, 4, 5, 9
*8. Hedge accounting		18, 19, 20	11, 12	6
*9. SARS	20, 21, 22	21, 22, 23		
*10. Options pricing models	23			

*This material is dealt with in an Appendix to the chapter.

ASSIGNMENT CLASSIFICATION TABLE (Continued)

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)
E16-1	Derivative transaction.	Simple	10-15
E16-2	Derivative transaction.	Simple	10-15
E16-3	Purchase Commitment	Simple	10-15
E16-4	Derivatives Involving Entity's Own Shares	Simple	10-15
E16-5	Issuance and conversion of bonds.	Moderate	20-25
E16-6	Issuance and conversion of bonds.	Moderate	20-25
E16-7	Conversion of bonds.	Moderate	20-25
E16-8	Conversion of bonds.	Simple	10-20
E16-9	Conversion of bonds and expired rights	Simple	10-20
E16-10	Conversion of bonds	Moderate	20-25
E16-11	Conversion of bonds.	Simple	10-20
E16-12	Conversion of bonds.	Complex	30-40
E16-13	Issuance of bonds with detachable warrants.	Simple	10-15
E16-14	Issuance, exercise, and termination of stock options.	Moderate	25-35
E16-15	Issuance, exercise, and termination of stock options.	Moderate	10-15
E16-16	Issuance of bonds with detachable warrants.	Simple	10-15
E16-17	Issuance and exercise of stock options.	Moderate	15-25
*E16-18	Cash Flow Hedge.	Moderate	15-20
*E16-19	Cash Flow Hedge.	Moderate	15-20
*E16-20	Fair Value Hedge.	Complex	20-25
*E16-21	Stock appreciation rights.	Moderate	15-25
*E16-22	Stock appreciation rights.	Moderate	15-25
*E16-23	Stock appreciation rights.	Moderate	25-30
P16-1	Call option contract – purchased.	Moderate	30-40
P16-2	Call option contract – written.	Moderate	30-40
P16-3	Put option contract – derivative instrument.	Moderate	30-40
P16-4	Derivatives Involving Entity's Own Shares	Moderate	30-40
P16-5	Entries for various financial instruments.	Moderate	35-40
P16-6	Correction of issuance of bond, calculate yield.	Moderate	35-40
P16-7	Issuance of notes with warrants.	Simple	15-20
P16-8	Bonds, warrants, conversion rights.	Moderate	30-35
P16-9	Loan, CSOP, and forward contract	Moderate	30-35
P16-10	Stock option plan.	Moderate	30-35
*P16-11	Fair value hedge interest rate swap.	Complex	35-45
*P16-12	Cash flow hedge – futures contract.	Complex	40-50
*P16-13	Fair value hedge – put option.	Complex	40-50

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 16-1

Saver Rio Ltd. should account for the call option at the cost to acquire it ($500) and record it as Derivatives – Financial Assets/Liabilities. Saver Rio Ltd. is not obligated to exercise the option and buy the shares. The investment would be measured at fair value at the reporting date with a gain or loss, if any, recognized in net income for the difference between the cost and the market value.

This call option results in additional counterparty/credit risk (risk that the other party will fail to fulfil their side of the bargain) and liquidity risk (risk that Saver will not be able to come up with the money to exercise the contract if the contract is in the money). If the option was purchased on an exchange, the counterparty risk disappears. In addition, there is still a risk that the options will lose value (price risk). Note that since this is a purchased option, Saver has the right but not the obligation to exercise the option although it would want to exercise it if the contract was in the money at the exercise date.

BRIEF EXERCISE 16-2

(a) This purchase commitment is an executory contract that can be settled on a net basis by paying cash as opposed to taking delivery of the apples. Under IFRS, because Daily Produce Ltd. intends on taking delivery of the apples, the contract is designated as 'expected use' and not accounted for as a derivative; rather, the transaction is not recognized until delivery of the apples takes place. On April 1, 2014, Daily Produce records:

Inventory	**1,000**	
Accounts Payable		**1,000**

(b) Under ASPE, a purchase commitment is generally accounted for as an unexecuted contract and is not recognized until the underlying non-financial item is delivered. Therefore Daily Produce Ltd. would not account for the contract as a derivative; rather, the transaction would not be recognized until delivery of the apples takes place. On April 1, 2014, Daily Produce records:

Inventory	**1,000**	
Accounts Payable		**1,000**

(c) This contract results in a price risk for Daily Produce since they have locked in a price and the value of the apples may change. The contract fixes the cash flows however, so there is no cash flow risk. It also exposes the entity to a counterparty/credit risk (the risk that the supplier will not be able to fulfill the contract) and a liquidity risk (the risk that Daily Produce will not be able to come up with the funds to pay the supplier).

BRIEF EXERCISE 16-3

(a)

January 1, 2014

No journal entry necessary since the fair value of the forward contract would be $0.

January 15, 2014

Derivatives – Financial Assets/Liabilities ...	**35**	
Gain.....		**35**

(b) This contract results in a price risk (since Ginseng has agreed to pay a fixed price for the $US and the value of the $US may change), credit/counterparty risk (since the other party to the contract may not be able to fulfil its side of the bargain, which is delivering the $US) and liquidity risk (the risk that Ginseng will not be able to come up with the funds to settle their side of the contract i.e., delivery of $C5,280) Note that the contract eliminates cash flow risk since the entity knows exactly what it will pay for the $US.

BRIEF EXERCISE 16-4

January 1, 2014

Deposits	**25**	
Cash		**25**

January 15, 2014

Derivatives – Financial Assets/Liabilities	**35**	
Gain		**35**

BRIEF EXERCISE 16-5

Pacer Ltd. is faced with a presentation issue: should the $1,000 cost of the option be treated as an investment, similar to the cost of an option to purchase the shares of another company? In this transaction, Pacer Ltd. has agreed to buy back a fixed number of the company's own shares for a fixed amount of consideration.

IAS 32 states that this type of "fixed for fixed" transaction would be presented as a reduction from shareholders' equity and not as an investment. This is, effectively, the prospective retirement of shares (or acquisition of treasury shares, if that is permitted).

BRIEF EXERCISE 16-6

These bonds are considered to be a perpetual debt obligation. Jamieson is obligated to provide to the holder payments on account of interest at fixed dates extending into the indefinite future, and a principal payment for the face value of the bond very far into the future. The bonds would be reported on Jamieson's statement of financial position at the present value of the annuity of interest payments over the term of the bond, calculated at the market rate of interest (at the date of issue), ignoring the future value of the principal payment. Because the perpetual bond's value is driven solely by the contractual obligation to pay interest it would be classified as a long-term debt on the statement of financial position. It would not be remeasured annually unless designated under the fair value option, in which case it would be revalued at fair value and gains/losses booked to net income.

BRIEF EXERCISE 16-7

Under the terms of the agreement with the preferred shareholders, it is highly likely that Silky Limited will redeem the preferred shares before the dividend rate doubles after five years. Accordingly, failure to do so would result in Silky paying an extremely high dividend to the preferred shareholders. Silky has little or no discretion to avoid paying out the cash to redeem the shares before the end of the fifth year and this likely obligation to deliver cash creates a liability. Consequently, the preferred shares should be classified as long-term debt on the statement of financial position.

Because the preferred shares are classified as long-term debt on the statement of financial position, the dividends declared and paid to preferred shareholders would be classified as interest expense on the statement of income. It might be desirable to separate the amount of dividends (reported as interest expense) paid on the preferred shares with the interest paid on other debt.

BRIEF EXERCISE 16-8

Under IFRS, the preferred shares would be recorded as a liability because the contingent settlement provision is based on an event outside the company's control.

However, under ASPE, the preferred shares would be accounted for as a liability only when it is highly likely that the firm's net income will drop below $500,000 in a future fiscal period. If the triggering event is unlikely, then the preferred shares would be accounted for as equity.

BRIEF EXERCISE 16-9

The solution is the same for IFRS and ASPE.

When a preferred share provides for mandatory redemption by the issuer for a fixed or determinable amount at a fixed or determinable future date or gives the holder the right to require the issuer to redeem the share at or after a particular date for a fixed or determinable amount, the instrument meets the definition of a financial liability. Consequently, the preferred share should be classified as long-term debt on the statement of financial position.

BRIEF EXERCISE 16-10

(a)

PV annuity 3 years, 9%, $50,000	**$ 126,565**
PV $1,000,000, in 3 years, 9%	**772,180**
PV of the debt component by itself	**$ 898,745**

(b) Under IFRS, the proceeds are allocated to the liability and equity components under the residual method, with the debt component measured first (generally at the present value of future cash flows).

Total proceeds at par	**$ 1,000,000**
PV of the debt component by itself	**(898,745)**
Incremental value of option	**$ 101,255**

Cash	**1,000,000**	
Bonds Payable		**898,745**
Contributed Surplus – Conversion Rights		**101,255**

(c) Under ASPE, the equity component may be measured at $0. In this case, the journal entry would be:

Cash	**1,000,000**	
Bonds Payable		**1,000,000**

Alternatively, measure the component that is most easily measurable first (often the debt component), and apply the residual to the other component. This option is consistent with the required treatment under IFRS.

BRIEF EXERCISE 16-11

(a)

Cash (500 X $1,000 X 1.03)	515,000	
Bonds Payable		485,000
Contributed Surplus—Conversion Rights		30,000

Under IFRS, the residual method is applied whereby cash is allocated to the value of the debt instrument first, and the residual is allocated to equity. The debt value is calculated as follows: 500 x $1,000 x 0.97. This assumes that the warrants are accounted for as equity instruments.

(b)

Under ASPE (3856.20 and .21) one option is to measure the component that is most easily measurable first (often the debt component), and apply the residual to the other component. This option is consistent with the required treatment under IFRS, and the journal entry would be the same as under IFRS. In this case, the warrant is also easily measurable so the entity could record the transaction as follows:

Cash (500 X $1,000 X 1.03)	515,000	
Bonds Payable		502,500
Contributed Surplus—Conversion Rights		12,500

Another option is to measure the equity component at $0. In this case, the journal entry would be:

Cash (500 X $1,000 X 1.03)	515,000	
Bonds Payable		515,000

BRIEF EXERCISE 16-12

Bonds Payable	510,000	
Common Shares		510,000

BRIEF EXERCISE 16-13

Preferred Shares	**80,000**	
Contributed Surplus—Conversion Rights	**8,000**	
Common Shares		**88,000**

BRIEF EXERCISE 16-14

(a) A puttable share contains a written put option that requires the company to pay cash or other assets if the option is exercised. The holder has the right to exercise the option, which is beyond the company's control. For these reasons, puttable shares are normally classified as a liability. However, under IFRS, the shares may be classified as equity if the shares are "in-substance" equity instruments. Because the puttable common shares entitle the holder to a pro rata share of Davison's net assets upon liquidation, because the shares do not have preferred rank or dividend preference, and because there are no other common shares, Davison's puttable common shares may be classified as equity under IFRS.

(b) Under ASPE, the criteria for classification of puttable shares as equity are similar to the IFRS criteria. Therefore under ASPE, Davison's puttable common shares may also be classified as equity.

BRIEF EXERCISE 16-15

(a) These are mandatorily redeemable preferred shares, which must be classified as a liability under IFRS. The mandatory redemption imposes a contractual obligation to deliver cash or other assets upon redemption, which represents a financial liability.

(b) Under ASPE, mandatorily redeemable preferred shares (also referred to as high/low preferred shares) are required to be classified as equity.

(c) This type of transaction involving preferred shares is labelled an "estate freeze" because the fair value of the business's assets is frozen at a point in time (by freezing the redemption value of the preferred shares at a value equal to fair value of the business's assets at the time of transition). The successive owners then purchase common shares in the new corporation at a nominal amount, which allows them to benefit from subsequent increases in the business's value.

BRIEF EXERCISE 16-16

(a) Under IFRS, a liability exists since the contingent settlement provision (based on the fair value of the company's common shares) is based on an event outside the company's control. The preferred shares are required to be classified as a liability.

(b) Under ASPE, the preferred shares would be classified as a liability only if the contingency is highly likely to occur. In this case, it is considered unlikely that Parker's common shares will exceed a fair value of $100 per share, and therefore unlikely that the contingency will occur. The preferred shares would be classified as equity.

BRIEF EXERCISE 16-17

Four common stock compensation plans are:

1. **Compensatory stock option plans (CSOPs)**
2. **Direct awards of stock**
3. **Stock appreciation rights plans (SARs)**
4. **Performance-type plans**

BRIEF EXERCISE 16-18

The main difference between an employee stock option plan (ESOP) and a compensatory stock option plan (CSOP) is that with ESOPs, the employee usually pays for the options (either fully or partially). Thus ESOP transactions are recognized as capital transactions (charged to equity accounts). The employee is investing in the company.

However, CSOPs, on the other hand, are primarily seen as an alternative way to compensate particular, often senior, employees for their services, like a barter transaction. The services are rendered by the employee in support of the act of producing revenues. Thus CSOP transactions are recognized on the income statement (charged to an expense account).

BRIEF EXERCISE 16-19

1/1/14	**No entry**		
12/31/14	**Compensation Expense**	**53,000**	
	Contributed Surplus—Stock Options		**53,000**
12/31/15	**Compensation Expense**	**53,000**	
	Contributed Surplus—Stock Options		**53,000**

[$53,000 = $106,000 X 1/2]

*BRIEF EXERCISE 16-20

(a)

Under ASPE, a cash-settled plan is measured at intrinsic value.

2014: [5,400 X ($22 – $20)] X 50% = $5,400

2015: [5,400 X ($34 – $20)] – $5,400 = $70,200

(b)

Under IFRS, a cash-settled plan is measured at the fair value of the SARs plan, which is estimated using an options pricing model and incorporates both intrinsic value and time value.

BRIEF EXERCISE 16-21

(a)	**December 31, 2014**		
Compensation Expense		**75,000**	
Liability under Stock-Appreciation Rights Plans			**75,000**
($150,000 X 50%)			

(b)	**December 31, 2014**		
Compensation Expense		**50,000**	
Liability under Stock-Appreciation Rights Plans			**50,000**
(($30 – $20) X 10,000) X 50%			

BRIEF EXERCISE 16-22

Performance-type plans award specified executives common shares (or cash) if specified performance criteria are attained during the performance period (generally three to five years). A performance-type plan's compensation cost is measured by the fair value of shares (or cash) issued on the exercise date. The company must use its best estimates to measure the compensation cost before the date of exercise, and allocate the compensation cost over the performance period using the percentage approach.

Under other compensatory plans, options are valued at the date of grant using an options pricing model such as Black-Scholes, and their value is allocated evenly over the period of required service.

BRIEF EXERCISE 16-23

Fair value is most readily determined where there is an active market with published prices. Where this is not the case, a valuation technique is used. For options, option pricing models are useful for calculating fair value.

The inputs to the model include:

1. **The exercise price. This is the price at which the option may be settled. It is agreed upon by both parties to the contract.**
2. **The expected life of the option. This is the term of the option. It is agreed upon by both parties to the contract. Some options may only be settled at the end of the term (known as European options) while others may be settled at points during the term (known as American options).**
3. **The current market price of the underlying stock. This is readily available from the stock market.**
4. **The volatility of the underlying stock. This is the magnitude of future changes in the market price. Volatility looks at how the specific stock price moves relative to the market.**
5. **The expected dividend during the option life.**
6. **The risk-free rate of interest for the option life. In general, government bonds carry a return that is considered to be the risk-free return.**

SOLUTIONS TO EXERCISES

EXERCISE 16-1 (10-15 minutes)

(a)	**January 2, 2014**		
Derivatives – Financial Assets/Liabilities		**350**	
Cash			**350**
(b)	**March 31, 2014**		
Derivatives – Financial Assets/Liabilities		**15,150**	
Gain			**15,150**

($15,500 – $350)

(c) The gain increases net income for the period by $15,150.

(d) As no information is provided as to other investments or exposures that Jackson may have, it appears that the company has used the option for speculative purposes. Jackson appears not to be hedging to minimize the risk of a current or future transaction.

(e) This derivative will expose the company to a price risk , as the price of the underlying is a variable that may change the value of the option. In addition, there is a credit/counterparty risk (the risk that the other party to the contract will not honour their side of the contract) and a liquidity risk (the risk that Jackson will not be able to honour its side of the contract). Since this is a purchased option, Jackson has the right but not the obligation to exercise the option. If the option is in the money, Jackson would want to exercise it.

EXERCISE 16-2 (10-15 minutes)

(a)	**April 1, 2014**		
Derivatives – Financial Assets/Liabilities		**150**	
Cash			**150**
(b)	**June 30, 2014**		
Derivatives – Financial Assets/Liabilities		**4,850**	
Gain			**4,850**
($5,000 – $150)			
(c)	**July, 1, 2014**		
FV-NI Investments		**17,250***	
Loss		**250**	
Cash (500 X $25)			**12,500**
Derivatives–Financial Assets/Liabilities			**5,000**
*** 500 X $34.50**			

(d) Recall that the fair value of a call option is based on the intrinsic value and the time value. The option is a 6-month option and it was exercised after three months. Because the option was exercised (with three months remaining), Petey would not be able to recover the time value portion of the option's fair value.

EXERCISE 16-3 (10-15 minutes)

(a) Under IFRS, this purchase commitment is an executory contract that can be settled on a net basis by paying cash as opposed to taking delivery of the oranges. However, because Fresh Juice fully intends to take delivery of the oranges, the contract is designated as 'expected use' and not accounted for as a derivative; rather, the contract is not recognized until delivery of the oranges takes place.

Therefore, there are no journal entries required at either January 1 or January 31. A journal entry will be recorded when Fresh Juice actually takes delivery of oranges.

(b) If Fresh Juice does not intend to take delivery of the oranges, then the executory contract will be viewed as a derivative because it can be settled on a net basis. Therefore, the contract would be recorded at fair value.

Because there was no cost to enter into the contract, there would be no initial entry on January 1.

However, the contract will be marked to market and will change as the price of oranges change. Therefore the following journal entry will be made on January 31:

Loss (10,000 X (0.50 – 0.49))	**100**	
Derivatives–Financial Assets/Liabilities		**100**

(c) Under ASPE, this purchase commitment contract would not be accounted for as a derivative because this agreement is not exchange traded. Therefore, the contract would not be recognized until delivery of oranges takes place.

EXERCISE 16-4 (10-15 minutes)

(a) The derivative is considered a fixed-for-fixed derivative in an entity's own shares as the option stipulates that the entity will purchase (buy back) a fixed number of shares for a fixed amount of consideration. IFRS states that this transaction would be presented as a reduction from shareholders' equity and not as an investment. This is, effectively, the prospective retirement of shares (or acquisition of treasury shares, if that is permitted).

Equity – Fixed-for-fixed Derivative	**250**	
Cash		**250**

(b) Because the option allows a choice in how the option will be settled, the instrument is a financial asset or liability (derivative) by default under IFRS unless all possible settlement options result in it being an equity instrument. In this case, one settlement option is the delivery of cash. Therefore, it will be classified as a financial asset (derivative).

EXERCISE 16-5 (15 – 25 minutes)

	Type of financial instrument	Timing of recognition	Measurement	Gains or Losses
1.	Financial derivative – forward contract	When fair value fluctuates. Value at acquisition is $nil.	PV of future cash flows	Net Income
2.	Non-financial derivative – exchange- traded futures	When fuel prices fluctuate. Value at acquisition is $nil.	PV of future cash flows	Net Income
3.	This is not a financial instrument	N/A	N/A	N/A
4.	This is a purchase commitment (and therefore not exchange traded)	As these are not exchange traded and the company intends to take delivery of the steel, these are not recognized in the financial statements under either ASPE or IFRS	Not recognized unless onerous	N/A
5.	Contra equity - this is a purchased call option that is settleable only in the entity's own equity instruments (fixed for fixed)	When options are purchased and cash is paid	Cash paid	N/A
6.	Non-financial derivative – exchange- traded futures	Initial margin is similar to a bank account.	Cash deposited on margin	Net Income
7.	Liability. Increase in redemption amount makes it highly likely company will redeem, and imposes a liability to deliver cash or other assets at the time of redemption.	When shares are issued	PV of future cash flows	Net Income

EXERCISE 16-5 (Continued)

	Type of financial instrument	Timing of recognition	Measurement	Gains or Losses
8.	Hybrid instrument. Warrants are written call options, and debt is a liability.	When debt is issued	IFRS – debt at PV of future cash flows and rest to equity ASPE – may allocate $0 to the warrant or may bifurcate the initial amount between debt and equity allocating the more easily measurable first with the residual to the other component	Net Income for debt component including interest and gains/losses upon extinguishment
9.	Hybrid instrument – conversion option is a written call option and is equity since a fixed number of shares will be issued.	When debt is issued	IFRS – debt at PV of future cash flows and rest to equity ASPE– may allocate $0 to the conversion feature or may bifurcate the initial amount between debt and equity allocating the more easily measurable first with the residual to the other component	Net Income for debt component including interest and gains/losses upon extinguishment
10.	Liability – these are puttable shares and since the option to put the shares back to the company is beyond the control of the entity, they are liabilities unless certain specific conditions are met.	When instruments are issued	Amount received	Net Income for debt component including interest and gains/losses upon extinguishment

EXERCISE 16-6 (20-25 minutes)

1. Fair value of bonds without warrants is $285,000 ($300,000 X .95)

Cash ($300,000 X 1.04)	312,000	
Bonds Payable		285,000
Contributed Surplus—Stock Warrants		27,000

2. Under ASPE, the first option is to measure the component that is most easily measurable first (often the debt component), and apply the residual to the other component. The second option is to measure the equity component at $0. The entries under these two approaches are, respectively, as follows:

Cash ($10,000,000 X .97)	9,700,000	
Bonds Payable		9,300,000
Contributed Surplus—Conversion Rights		400,000

Cash ($10,000,000 X .97)	9,700,000	
Bonds Payable		9,700,000

3. Under ASPE, the first option is to measure the component that is most easily measurable first, and apply the residual to the other component.

Cash	19,600,000	
Bonds Payable		18,400,000
Contributed Surplus—Stock Warrants		1,200,000

Value of bonds plus warrants ($20,000,000 X .98)	$19,600,000
Value of warrants (200,000 X $6)	1,200,000
Value of bonds	$18,400,000

EXERCISE 16-6 (Continued)

The second option is to measure the equity component at $0.

Cash	**19,600,000**	
Bonds Payable		**19,600,000**

4.	**Loss on Redemption of Bonds**	**30,000***	
	Retained Earnings	**35,000****	
	Bonds Payable	**9,925,000**	
	Contributed Surplus—Conversion Rights	**270,000**	
	Common Shares		**10,195,000**
	Cash		**65,000**

*** $9,955,000 – ($10,000,000 – $75,000)**
**** $65,000 – $30,000**

5.	**Fair value of bonds without warrants ($500,000 X .95)**	**$475,000**	

Cash ($500,000 X 1.03)	**515,000**	
Bonds Payable		**475,000**
Contributed Surplus—Stock Warrants		**40,000**

The warrants are equity instruments since they are fixed for fixed.

EXERCISE 16-7 (20-25 minutes)

(a)	Cash	5,970,000**	
	Bonds Payable ($6,000,000 X .97)		5,820,000
	Interest Payable		90,000*
	Contributed Surplus—Conversion Rights		60,000

* ($6,000,000 X 9% X 2/12)
** [($6,000,000 X .98) + $90,000]

(b)	Interest Payable	90,000	
	Interest Expense	186,102	
	Bonds Payable		6,102
	Cash ($6,000,000 X 9% ÷ 2)		270,000

Calculations:

Par value	$6,000,000
Issuance price @ .97	5,820,000
Total discount	$ 180,000

Months remaining	118
Discount per month ($180,000 ÷ 118)	$1,525
Discount amortized (4 X $1,525)	$6,102

EXERCISE 16-7 (Continued)

(c)	Bonds Payable ($1,500,000 – $41,186)	1,458,814	
	Contributed Surplus—		
	Conversion Rights	15,000	
	Common Shares		1,473,814

Calculations:

Discount related to 25% of the bonds ($180,000 X .25)	$45,000
Less discount amortized [($45,000 ÷ 118) X 10]	3,814
Unamortized bond discount	$41,186

Actual proceeds when bonds sold	$5,880,000
Value of bonds only	5,820,000
Value of conversion rights	60,000
Proportion converted	25%
Value of rights converted	$15,000

(d) Under ASPE, there are two options in accounting for hybrid/compound instruments. The first option is to measure the component that is most easily measurable first (often the debt component), and apply the residual to the other component. This option is consistent with the required treatment under IFRS. If Daisy chooses this option, the journal entry to record the issuance of the convertible bonds on June 1, 2014 is the same as in part (a).

The second option is to measure the equity component at $0. If Daisy chooses this option, the journal entry to record the issuance of the convertible bonds on June 1, 2014 is:

Cash	5,970,000**	
Bonds Payable		5,880,000
Interest Payable		90,000*

* ($6,000,000 X 9% X 2/12)
** [($6,000,000 X .98) + $90,000]

EXERCISE 16-7 (Continued)

(e) The bondholders would only be motivated to convert bonds into common shares if they perceived an increase in the value of their investment, and if they would get common shares with a fair value higher than the fair value of the bonds that were given up in the conversion. The book value of what they gave up at the time of conversion is shown in the entry above as $1,473,814 for 30,000 common shares. This works out to slightly over $49 per share. Likely the common shares are trading at an amount higher than $49 by a good margin. There should be an excess over the book value of $49 as the bondholders are giving up a steady cash inflow from the interest income obtained from the bonds in exchange for shares, which might not yield any dividends. This is especially true as continuing to hold the bonds provides a return in the form of interest, yet the option feature locks in the stock appreciation in favour of the holder – so the immediate opportunity for a gain must be considerable.

EXERCISE 16-8 (10-20 minutes)

(a)	**Bonds Payable ($2,400,000 + $44,500)**	**2,444,500**	
	Contributed Surplus—		
	Conversion Rights	**22,200**	
	Preferred Shares		**2,466,700**

(b) The advantages of bonds from the perspective of the bondholder are principally security and steady cash flows from the interest and the return of capital at the maturity date of the bonds. The advantages of preferred shares would be similar to bonds as to the cash flows from dividends received, particularly if the preferred shares are cumulative and the company has a strong history of dividend paying ability. Whereas the bonds have a fixed maturity date, typically the preferred shares do not. The lack of a maturity date or a date at which the preferred shareholder can get his capital investment returned at a fixed amount might be perceived as a disadvantage. This might also be the perception because the issuing company has no plans to redeem the preferred shares, although this perceived disadvantage is alleviated significantly if the preferred shares are actively traded. The conversion from bonds might be precipitated by a rise in interest rates, causing the market value of the bonds to drop, leading to a lower return on investment if sold. Other considerations might be that the dividend rate on the preferred shares outpaces the return of the bonds. Finally the tax treatment of the revenue type (interest versus dividends) might be another motive for the conversion by bondholders; the effect of the dividend tax credit can increase the after-tax yield significantly for an individual, and inter-corporate dividends attract no net tax in a corporation.

EXERCISE 16-9 (10-20 minutes)

(a)

Bonds Payable	963,000	
Contributed Surplus—		
Conversion Rights	135,000	
Common Shares.....		1,098,000

Premium as of July 31, 2014 for $3,000,000 of bonds	$210,000
Face value of bond converted	3,000,000
Carrying value of bond converted	$3,210,000

$$\frac{\$900,000}{\$3,000,000} \times \$3,210,000 = \$963,000$$

$$\frac{\$900,000}{\$3,000,000} \times \$450,000 = \$135,000$$

(b)

Contributed Surplus—		
Conversion Rights	315,000	
Contributed Surplus—		
Conversion Rights Expired		315,000

($450,000 – $ 135,000)

EXERCISE 16-10 (20-25 minutes)

(a)	Cash	10,800,000	
	Bonds Payable		8,500,000
	Contributed Surplus—Conversion Rights		2,300,000

(To record issuance of $10,000,000 of 8% convertible debentures for $10,800,000. The bonds mature in 20 years, and each $1,000 bond is convertible into 5 common shares)

(b)	Bonds Payable (Schedule 1)	2,595,000	
	Contributed Surplus—Conversion Rights (2,300,000 X 30%)	690,000	
	Common Shares		3,285,000

(To record conversion of 30% of the outstanding 8% convertible debentures after giving effect to the 2-for-1 stock split)

Schedule 1
Computation of Carrying Value of Bonds Converted

Discount on bonds payable on January 1, 2014		$1,500,000
Amortization for 2014 ($1,500,000 ÷ 20)	$75,000	
Amortization for 2015 ($1,500,000 ÷ 20)	75,000	150,000
Discount on bonds payable on January 1, 2016		1,350,000
Bonds converted		30%
Unamortized discount on bonds converted		405,000
Face value of bonds converted		3,000,000
Carrying value of bonds converted		$2,595,000

EXERCISE 16-10 (Continued)

(c) Computation of Common Shares Resulting from Conversion

Number of shares convertible on January 1, 2014:	
Number of bonds ($10,000,000 ÷ $1,000)	**10,000**
Number of shares for each bond	**X 5**
	50,000
Stock split on January 1, 2015	**X 2**
Number of shares convertible after the stock split	**100,000**
% of bonds converted	**X 30%**
Number of shares issued	**30,000**

(d) From the perspective of Hammond Corp., the conversion from bonds to common shares has the following advantages:

1. **No obligation (or more flexibility) to pay dividends, as opposed to fixed cash outflows for interest payments, reducing financial risk.**
2. **No obligation to repay principal at maturity date of bonds.**
3. **Increased income from reduced interest costs (to be computed on an after-tax basis).**
4. **Depending on Hammond's financial structure, the effect of the conversion might be a positive or negative effect on earnings per share.**
5. **Positive effect on debt to equity ratio.**

The disadvantages of the conversion to Hammond Corporation include:

1. **Dilution of earnings for existing shareholders might make shareholders unhappy; offset at least in part by higher income because less interest is paid.**
2. **Existing shareholders will conceivably pressure the company not to dilute their ownership and power to vote (this may actually be unlikely, as the fact of the**

EXERCISE 16-10 (Continued)

conversion feature would have been fully disclosed since the initial issuance of the bonds, and the possibility of conversion would be fully reflected in the price of the shares).

3. Pressure from new shareholders for dividend payout.

EXERCISE 16-11 (10-20 minutes)

Bonds Payable	**1,125,000**	
Contributed Surplus—		
Conversion Rights	**9,000**	
Common Shares		**1,134,000**

Discount as of June 30, 2014 for $8,000,000 of bonds	**$500,000**
Face value of all bonds	**8,000,000**
Carrying value of all bonds	**$7,500,000**

Carrying amount of bonds converted:

$$\frac{\$1,200,000}{\$8,000,000} \text{ X } \$7,500,000 = \$1,125,000$$

Carrying amount of rights exercised on conversion:

$$\frac{\$1,200,000}{\$8,000,000} \text{ X } \$60,000 = \$9,000$$

EXERCISE 16-12 (30-40 minutes)

(a) (1) December 31, 2015

Interest Expense	204,000	
Bonds Payable ($120,000 X 1/20)	6,000	
Cash ($6,000,000 X 7% X 6/12)		210,000

(2) January 1, 2016

Bonds Payable	406,400	
Contributed Surplus—Conversion Rights	8,000*	
Common Shares		414,400

*[1.04 less 1.02 = 2% X $6 million X 6.667%]

Total premium ($6,000,000 X .02)	$120,000
Premium amortized ($120,000 X 2/10)	24,000
Balance	$96,000
Bonds converted ($400,000 ÷ $6,000,000)	6.667%
Related premium ($96,000 X 6.667%)	$6,400
Face value of bond redeemed	400,000
Carrying value of bond redeemed	$406,400

(3) March 31, 2016

Interest Expense	6,800	
Bonds Payable ($120,000 / 10 X 3/12 X 6.667%)	200	
Interest Payable ($400,000 X 7% X 3/12)		7,000

EXERCISE 16-12 (Continued)

	March 31, 2016	
Bonds Payable	406,200	
Contributed Surplus— Conversion Rights	8,000	
Common Shares		414,200

Premium as of January 1, 2016 for $400,000 of bonds	$6,400
$6,400 ÷ 8 years remaining X 3/12	(200)
Premium as of March 31, 2016 for $400,000 of bonds	6,200
Face value of bond converted	400,000
Carrying value of bond converted	$406,200

(4)

June 30, 2016		
Interest Expense	176,800	
Bonds Payable	5,200	
Interest Payable ($400,000 X 7% X 3/12)	7,000	
Cash		189,000*

[Premium to be amortized: ($120,000 X 86.667%) X 1/20 = $5,200, or $83,200** ÷ 16 (remaining interest and amortization periods) = $5,200]

*Total to be paid: ($5,200,000 X 7% ÷ 2) + $7,000 = $189,000

**Original premium	$120,000
2014 amortization	(12,000)
2015 amortization	(12,000)
Jan. 1, 2016 write-off	(6,400)
Mar. 31, 2016 amortization	(200)
Mar. 31, 2016 write-off	(6,200)
	$83,200

EXERCISE 16-12 (Continued)

(b) Bondholders would be motivated to hold off converting their investment in bonds into common shares to continue to take advantage of the security and steady cash flows from the interest and the return of capital at the maturity date of the bonds. Should the value of the common shares continue to climb higher, the opportunity to convert is still available until the conversion right expires. On the other hand, if the fair value of the common shares declines, the bondholder can continue to hold the bonds to their maturity and receive the face value of the bond, and collect interest payments to maturity.

The risk in postponing the conversion lies in the volatility of the fair value of the common shares. If the bondholder does not convert when the common share fair value is high, the bondholder cannot realize a gain on the resale of the shares. Subsequently, if the fair value of the common shares declines the bondholder will not be able to sell the bond at a substantial gain since the incentive to convert to common shares is now non-existent and the conversion right is worthless.

EXERCISE 16-13 (10-15 minutes)

(a)

ASPE allows for two options: 1) to allocate the entire issuance to the debt component; or 2) to use the residual method.

Residual method:

The residual method under ASPE allows for the first allocation to be to the component that is more easily measurable, in this case, the equity component:

OXFORD CORP.
Journal Entry
September 1, 2014

Cash ($5,304,000 + $117,000)	5,421,000	
Bonds Payable—Schedule 1.....		5,252,000
Contributed Surplus—Stock Warrants—Schedule 1.....		52,000
Interest Payable—Schedule 2.....		117,000
(To record the issuance of the bonds)		

Schedule 1
Premium on Bonds Payable and Value of Stock Warrants

Sales price (5,200 X $1,000 X 1.02)	$5,304,000
Deduct value assigned to stock warrants (5,200 X 2 = 10,400 X $5)	52,000
Bonds payable	$5,252,000

Schedule 2
Accrued Bond Interest to Date of Sale

Face value of bonds	$5,200,000
Interest rate	9%
Annual interest	$ 468,000
Accrued interest for 3 months – ($468,000 X 3/12)	$ 117,000

EXERCISE 16-13 (Continued)

Allocation of zero to equity

A second option is available under ASPE whereby the entire issuance is allocated to the debt.

OXFORD CORP.
Journal Entry
September 1, 2014

Cash ($5,304,000 + $117,000)	5,421,000	
Bonds Payable		5,304,000
Interest Payable—Schedule 1		117,000

Schedule 1
Accrued Bond Interest to Date of Sale

Face value of bonds	$5,200,000
Interest rate	9%
Annual interest	$ 468,000
Accrued interest for 3 months – ($468,000 X 3/12)	$ 117,000

(b)

A lower debt to total assets ratio indicates better debt-paying ability and long-run solvency. Allocating the entire issuance to the debt component (and therefore zero to equity) results in a higher debt to total assets ratio compared to using the residual method. The creditor may also analyze that the underlying financial instrument is the same under each option, and that the company's accounting choice is affecting this calculated ratio.

EXERCISE 16-14 (15-25 minutes)

a) Under ASPE, financial liabilities that are indexed to an entity's performance are measured at the higher of the amortized cost and the amount owing at the statement of financial position date given the feature. Therefore, the journal entry upon issuance is recorded at the issue amount.

Cash ($1,000 x 100 x 1.03).....	**103,000**	
Bonds Payable.....		**103,000**

(b) The bond amortized carrying amount should be compared to the potential cash outflow under the indexing feature to determine its year-end carrying amount.

	Amortized cost	Indexed feature	Higher of two options
Dec. 31, 2014	**$102,400 ($103,000 – $600*)**	**$75,000 ($250 x 3 x 100)**	**$102,400**
Dec. 31, 2015	**$101,800 ($102,400 – $600)**	**$105,000 ($350 x 3 x 100)**	**$105,000**
Dec. 31, 2016	**$101,200 ($101,800 – $600)**	**$135,000 ($450 x 3 x 100)**	**$120,000****

*** The amortization of the premium is calculated as follows:**

Bond Premium:	**$3,000**
Years to Maturity:	**5**
Amortization per year:	**$600**

**** Although the indexed feature calculates a redemption feature at $135,000, the bond agreement states that the bonds cannot be redeemed for more than $1,200 per bond.**

EXERCISE 16-15 (15-25 minutes)

(a)

1/2/14	**No entry (total compensation cost is $550,000)**		
12/31/14	**Compensation Expense**	**275,000**	
	Contributed Surplus—Stock Options		**275,000**
	[To record compensation expense for 2014 (1/2 X $550,000)]		
4/1/15	**Contributed Surplus—Stock Options**	**21,389**	
	Compensation Expense		**21,389**
	($275,000 X 3,500/45,000)		
	(To record termination of stock options held by resigned employees)		
12/31/15	**Compensation Expense**	**253,611**	
	Contributed Surplus—Stock Options		**253,611**
	[To record compensation expense for 2015 (1/2 X $550,000) – 21,389]		
1/3/16	**Cash (31,500 X $42)**	**1,323,000**	
	Contributed Surplus—Stock Options	**385,000**	
	($550,000 X 31,500/45,000 or $507,222 X 31,500/41,500)		
	Common Shares		**1,708,000**
	(To record issuance of 31,500 shares upon exercise of options at option price of $42)		

EXERCISE 16-15 (Continued)

(Note to instructor: The fair value of the shares has no relevance in this entry and the following one.)

5/1/16	**Cash (10,000 X $42)**	**420,000**	
	Contributed Surplus—Stock Options	**122,222**	
	($550,000 X 10,000/45,000 or $507,222 X 10,000/41,500)		
	Common Shares		**542,222**

(To record issuance of 10,000 shares upon exercise of remaining options at option price of $42)

(b) The pricing model may not take into account forfeitures because they cannot be reasonably estimated. The objective of offering stock options is to attract, motivate, and remunerate selected individuals in the organization. Including a reduction of the expected expenditure by an arbitrary amount of forfeitures is contrary to the goal and does not reflect management's intention. Had forfeitures been included in the estimate at the time of the grant of the options the total compensation expense would be proportionately reduced, based on management's best estimate.

(c) Four common compensation plans are:

1. **Compensatory stock option plans (CSOPs)**
2. **Direct awards of stock**
3. **Stock appreciation rights plans (SARs)**
4. **Performance-type plans**

These different plans are used to compensate employees and especially management. It is generally agreed that effective compensation programs:

EXERCISE 16-15 (Continued)

1. **Motivate employees to high levels of performance.**
2. **Help retain executives and recruit new talent.**
3. **Base compensation on employee and company performance.**
4. **Maximize the employee's after-tax benefit and minimize the employer's after-tax cost.**
5. **Use performance criteria that the employee can influence.**

(d) The main difference between an employee stock option plan (ESOP) and a compensatory stock option plan (CSOP) is that with ESOPs, the employee usually pays for the options (either fully or partially) and there may be a very large number of participants across the company. Thus ESOP transactions are recognized as capital transactions (charged to equity accounts). The employee is investing in the company.

CSOPs, on the other hand, are primarily seen as an alternative way to compensate particular, often senior, employees for their services, like a barter transaction. The services are rendered by the employees in the act of producing revenues. Thus CSOP transactions are recognized on the income statement (charged to an expense account).

EXERCISE 16-16 (25-35 minutes)

(a)

1/1/14	**No entry**		
12/31/14	**Compensation Expense**	**375,000**	
	Contributed Surplus— Stock Options		**375,000**
	($750,000 X 1/2)		
12/31/15	**Compensation Expense**	**375,000**	
	Contributed Surplus— Stock Options		**375,000**
5/1/16	**Cash (8,000 X $25)**	**200,000**	
	Contributed Surplus— Stock Options	**300,000***	
	Common Shares		**500,000**
	***($750,000 X 8,000/20,000)**		
12/31/17	**Contributed Surplus— Stock Options**	**450,000**	
	Contributed Surplus – Expired Stock Options		**450,000**
	($750,000 – $300,000)		

(b) The market price of the Harwood shares at the date of grant would likely be lower than the exercise price. The objective of issuing the stock options is principally to motivate employees to work at enhancing the market value of the company's shares. The options have a service period, typically of more than one year. Consequently, the company would want to allow for an upward movement in the share price to justify the remuneration of key employees whose work would have led to the increase in the market value of the shares. If the market value of the shares at the date of grant was at or greater than the exercise price, the incentive would be substantially removed, and so the plan would be less effective.

EXERCISE 16-16 (Continued)

(c) The market price of the Harwood shares at May 1, 2016 of $31 is not used in recording the exercise of the stock options. From an accounting perspective, the market price is not relevant. It is nonetheless relevant to the executives in making their decision to exercise their stock options. The market price is mentioned to indicate that the timing of the exercise is justified, or at least makes sense. The market price of the shares exceeds the carrying value of the stock options plus the cash paid. Executives exercising a stock option would have paid $25 and could resell the shares immediately for $31, for a gain of $6 per share.

(d) During 2017 the market price of the shares likely fell below $25 per share. This would explain why no additional stock options were exercised, and were left to lapse, as there was no benefit to be gained by the executives in exercising them. They could not recover the cash required to exercise the stock option through the resale of the shares if the stock price was below the exercise price of $25 per share.

(e) The executives holding the stock options might delay the exercise of the options to postpone the requirement of obtaining the necessary cash to exercise the option. Often executives must sell the shares obtained on the exercise of stock options to pay off bank loans secured to obtain the necessary cash required. Proceeds from the sale of the shares are also used for the payment of the personal income tax that is assessed on the income for tax purposes realized on the sale of the shares obtained through the exercise of stock options.

EXERCISE 16-17 (10-15 minutes)

(a) **January 1, 2014**

No entry

(b) **December 31, 2014**

Compensation Expense.....	12,500	
Contributed Surplus—		
Stock Options		12,500
(5,000 X $10 X 1/4)		

(c) **January 1, 2019**

Cash (4,000 X $62).....	248,000	
Contributed Surplus—		
Stock Options.....	40,000*	
Common Shares		288,000
*(5,000 X $10 X 4,000 / 5,000)		

(d) **December 31, 2021**

Contributed Surplus—		
Stock Options	10,000*	
Contributed Surplus –		
Expired Stock Options		10,000
*(5,000 X $10 X 1,000 / 5,000)		

*EXERCISE 16-18 (15-20 minutes)

(a)

June 30, 2014	Note	Rate	Amount
Interest paid	$ 100,000	3.35%*	$ 3,350
Cash received on swap			(350)**
Interest expense	$ 100,000	3%	$ 3,000

* [(5.7 % + 1%) X 6/12]

** [(5.7 % + 1%) – 6%] X $100,000 X 6/12

December 31, 2014	Note	Rate	Amount
Interest paid	$ 100,000	3.85%***	$ 3,850
Cash received on swap			(850)****
Interest expense	$ 100,000	3%	$3,000

*** [(6.7 % + 1%) X 6/12]

**** [(6.7 % + 1%) – 6%] X $100,000 X 6/12

(b)

	June 30, 2014	
Interest Expense	3,350	
Cash		3,350
Cash	350	
Interest Expense		350

	December 31, 2014	
Interest Expense	3,850	
Cash		3,850
Cash	850	
Interest Expense		850

(c) The interest rate swap is a cash flow hedge because the hedge is entered into to protect Thompson against variations in future cash flows caused by the changes in the prime interest rate. At the time of entering into the contract, Thompson had not yet incurred the interest charges for the note. The cash flows are therefore related to future interest payments. Consequently the hedge cannot be a fair value hedge.

*EXERCISE 16-19 (15-20 minutes)

(a)

December 31, 2014	Note	Rate	Amount
Interest paid	$ 10,000,000	5.8%	$ 580,000
Cash paid on swap			20,000*
Interest expense	$ 10,000,000	6%	$ 600,000

* (6% – 5.8%) X $10,000,000

December 31, 2015	Note	Rate	Amount
Interest paid	$ 10,000,000	6.6%	$ 660,000
Cash received on swap			(60,000)**
Interest expense	$ 10,000,000	6%	$ 600,000

** (6.6% – 6%) X $10,000,000

(b)

	December 31, 2014	
Interest Expense	580,000	
Cash		580,000
Interest Expense	20,000	
Cash		20,000
	December 31, 2015	
Interest Expense	660,000	
Cash		660,000
Cash	60,000	
Interest Expense		60,000

***EXERCISE 16-19 (Continued)**

(c) The interest rate swap is a cash flow hedge because the hedge was entered into to protect Yellowknife against variations in future cash flows caused by the changes in the LIBOR rate of interest. At the time of entering into the contract, Yellowknife had not yet incurred the interest charges for the note. The cash flows are therefore related to future interest payments. Consequently the hedge cannot be a fair value hedge.

(d) If the company follows hedge accounting under IFRS, the swap would be recognized, remeasured to fair value at each reporting date, and gains and losses in fair value would be booked to OCI under hedge accounting. As the interest cash flows actually occur, the gains/losses in OCI are transferred to net income.

*EXERCISE 16-20 (20-25 minutes)

(a)	**December 31, 2014**		
Interest Expense		**75,000**	
Cash			**75,000**
($1,000,000 X 7.5%)			
(b)	**December 31, 2014**		
Cash		**13,000**	
Interest Expense			**13,000**
(c)	**December 31, 2014**		
Derivatives – Financial Assets/Liabilities		**48,000**	
Unrealized Gain or Loss			**48,000**
(d)	**December 31, 2014**		
Unrealized Gain or Loss		**48,000**	
Bonds Payable			**48,000**

(e) Fair value hedge accounting can be applied to this hedge because the exposure is from a recognized liability, (the fixed-rate bond payable). The company is concerned that the interest rates will decline and therefore that the bond will become onerous (fair value will increase).

(f) Under ASPE, the first two entries would be recorded but the bond would not be revalued and the swap would not be recognized (nor remeasured).

*EXERCISE 16-21 (15-25 minutes)

(a)

	Fair Value	Pre-estab. Price	Difference	Number of Rights	Total Compensation	Accrual Entry	Balance of Liability	
2014	$36	$32	$4	40,000	$160,000	$40,000	$40,000	25%
2015	40	32	8	40,000	320,000	120,000	160,000	50%
2016	45	32	13	40,000	520,000	230,000	390,000	75%
2017	36	32	4	40,000	160,000	(230,000)	160,000	100%
2018	48	32	16	40,000	640,000	480,000	640,000	

(b)

December 31, 2014		
Compensation Expense	40,000	
Liability under Share Appreciation Rights Plans		40,000
December 31, 2017		
Liability under Share Appreciation Rights Plans	230,000	
Compensation Expense		230,000
December 31, 2018		
Compensation Expense	480,000	
Liability under Share Appreciation Rights Plans		480,000

(c)

June 1, 2019		
Liability under Share Appreciation Rights Plans	320,000	
Cash [20,000 X ($46 – $32)]		280,000
Compensation Expense		40,000

***EXERCISE 16-21 (Continued)**

(d) If Barrett applies IFRS, the procedure is almost identical to the steps taken in part (a). The only difference is that the column headed up "Total Compensation" in the table would not be calculated at the intrinsic value of the SARs outstanding. Instead, this column would be completed by inserting the fair value of the SARs determined using an option pricing model. The procedure of how the total is applied to expense each year is the same as under ASPE.

(e) Under ASPE, SARs plans are recognized at their intrinsic value at each financial statement date, and compensation expense is affected by the fair value of the company's shares at each financial statement date. The fair value of the company's shares may change due to events that were beyond the control or influence of the executive employee in the SARs program, and Barrett's compensation expense may or may not reflect the value of the services provided by Murfitt in the year. As well, if fair value of the company's shares fluctuate significantly, compensation expense may also fluctuate significantly, and calculated profit may not be an accurate reflection of the company's performance in the year. An investor should carefully consider the effects of the SARs program when analyzing Barrett's profit.

*EXERCISE 16-22 (15-25 minutes)

(a) Schedule of Compensation Expense - Stock Appreciation Rights (200,000)

Date	Fair Value	Pre-established Price	Cumulative Compen-sation Recognizable	Percen-tage Accrued	Compen-sation Accrued to Date	Expense 2015 $	Expense 2016 $	Expense 2017 $	Expense 2018 $
12/31/15	$15	$12	$ 600,000	25%	$ 150,000	150,000			
					(150,000)				
12/31/16	11	12	0	50%	0				
							(150,000)		
12/31/17	21	12	1,800,000	75%	1,350,000			1,350,000	
					50,000				50,000
12/31/18	19	12	1,400,000	100%	$1,400,000				

(b)	Compensation Expense	50,000	
	Liability under Share Appreciation Rights Plans		50,000
(c)	Liability under Share Appreciation Rights Plans	1,400,000	
	Cash [200,000 X ($19 – $12)]		1,400,000

(d) Compensation expense for 2016 reflects a drop in the fair value of the shares, but it does not reflect the drop in fair value of the shares to below the pre-established price of $12 per share. On December 31, 2016, a debit of $150,000 to Liability Under Stock-Appreciation Rights Plans and a credit of $150,000 to Compensation Expense would be recorded, resulting in a zero balance in Liability Under Stock-Appreciation Rights Plans. If fair value of the shares drops below the pre-established price of $12, the SARs are out-of-the-money and would not be exercised by the officers in the program. Thus compensation expense should not reflect a drop in fair value of the shares to below the pre-established price of $12 per share.

*EXERCISE 16-23 (25-30 minutes)

(a) Schedule of Compensation Expense - Share Appreciation Rights (50,000)

Date	Fair Value	Pre-established Price	Cumulative Compensation Recognizable	Percentage Accrued	Compensation Accrued to Date	Expense 2014	Expense 2015	Expense 2016	Expense 2017	Expense 2018
12/31/14	$36	$32	$200,000	25%	$50,000	$50,000				
					125,000		$125,000			
12/31/15	39	32	350,000	50%	175,000					
					312,500			$312,500		
12/31/16	45	32	650,000	75%	487,500					
					(287,500)				$(287,500)	
12/31/17	36	32	200,000	100%	200,000					
					600,000					$600,000
12/31/18	48	32	800,000	—	$800,000					

(b)

2014		
Compensation Expense	50,000	
Liability under Share Appreciation Rights Plans		50,000
2017		
Liability under Share Appreciation Rights Plans	287,500	
Compensation Expense		287,500
2018		
Compensation Expense	600,000	
Liability under Share Appreciation Rights Plans		600,000

***EXERCISE 16-23 (Continued)**

(c) From the perspective of the employee, the characteristics of the SAR and the stock option are very different. Although both provide a form of compensation based on the increase in the fair value of the shares of the employer, the differences in the features to the employee are important.

In the case of the exercise of stock options the employee must provide cash and the options to obtain shares in the company. In order to recover the cash, the shares obtained from the stock option need to be sold. On the other hand the employee need not pay any cash to the company in exercising a SAR. The latter seems more attractive on this basis alone.

(d) Performance-type compensation plans award the executives common shares (or cash) if specified performance criteria are attained during the performance period (generally three to five years).

An example of a performance-type plan is the award of cash if the return on assets or equity increases to meet a certain threshold. Other targets include growth in sales, growth in earnings per share (EPS), or a combination of these factors.

TIME AND PURPOSE OF PROBLEMS

Problem 16-1 (Time 30-40 minutes)

Purpose—the student calculates and records the purchase and the transactions concerning a call option contract for shares over two accounting periods and also records the ultimate settlement of the call option.

Problem 16-2 (Time 30-40 minutes)

Purpose—the student calculates and records the writing of a call option contract for shares over two accounting periods and also records the ultimate settlement of the call option.

Problem 16-3 (Time 30-40 minutes)

Purpose—the student calculates and records the purchase and the adjustments concerning a put option contract for shares over two accounting periods and also records the ultimate write-off of the put option as the market value never falls below the strike price.

Problem 16-4 (Time 35-45 minutes)

Purpose—the student analyzes a derivative that involves an entity's own shares, and provides the alternative accounting treatment under ASPE and IFRS.

Problem 16-5 (Time 35-40 minutes)

Purpose—to provide the student with an opportunity to prepare entries to properly account for a series of transactions involving the issuance and exercise of common stock rights and detachable stock warrants, plus the granting and exercise of stock options. The student is required to prepare the necessary journal entries to record these transactions and the shareholders' equity section of the statement of financial position as at the end of the year.

TIME AND PURPOSE OF PROBLEMS (CONTINUED)

Problem 16-6 (Time 10-15 minutes)

Purpose—to provide the student with an opportunity to analyze three separate financial instruments: 1) a financial liability (loan); 2) a compensatory stock option plan; and 3) forward contract.

Problem 16-7 (Time 35-40 minutes)

Purpose—to provide the student with the opportunity to experience a situation in which the initial recording of a convertible bond was incorrectly done in a prior year. Based on the incorrect treatment, the student must revise the accounting of the issuance of the convertible bond, and prepare a correcting entry after calculating the appropriate yield to apply to the calculation of the bond using the effective interest method. Finally, comment on the effect if the correction on the debt-to-equity ratio is required in the problem.

Problem 16-8 (Time 15-20 minutes)

Purpose—to provide the journal entry of the issuance of a note payable sold together with a warrant. The incremental method applies in this case. The student must then prepare the related amortization table for the note and some adjusting journal entries.

Problem 16-9 (Time 30-35 minutes)

Purpose—to provide the student with an opportunity to record the issuance of bonds with detachable warrants and conversion rights. Underwriting fees incurred in the issuance of the bonds are also recorded in the problem. The student must calculate the effective yield rate for the bonds, prepare an amortization table, and prepare journal entries for the issuance, conversion, and exercise of warrants. Finally some analysis concerning the likely value of the shares issued in the conversion is discussed.

Problem 16-10 (Time 30-35 minutes)

Purpose—to provide the student with an understanding of the entries to properly account for a stock option plan over a period of years. The student is required to prepare the journal entries when the stock option plan was adopted, when the options were granted, when the options were exercised, and when the options expired.

TIME AND PURPOSE OF PROBLEMS (CONTINUED)

*Problem 16-11 (Time 35-45 minutes)

Purpose—the student calculates and records the transactions concerning a fair value hedge interest rate swap, over two accounting periods and also provides partial statement of financial position and statement of income disclosure at three points in time over the term of the swap.

*Problem 16-12 (Time 40-50 minutes)

Purpose—the student calculates and records the transactions concerning a cash flow hedge concerning the purchase of gold, over two accounting periods and also provides partial statement of financial position and statement of income disclosure at two points in time over the term of the futures contract.

SOLUTIONS TO PROBLEMS

PROBLEM 16-1

(a)	**July 7, 2014**		
Derivatives – Financial Assets/Liabilities		**240**	
Cash			**240**
(b)	**September 30, 2014**		
Derivatives – Financial Assets/Liabilities		**1,100**	
Gain ($1,340 – $240)			**1,100**
(c)	**December 31, 2014**		
Loss ($1,340 – $825)		**515**	
Derivatives–Financial Assets/Liabilities			**515**
(d)	**January 4, 2015**		
Cash [200 X ($75 – $70)]		**1,000**	
Gain			**175**
Derivatives – Financial Assets/Liabilities			**825**

July 7, 2014	**$ 240**
Sept. 30, 2014	**1,100**
Dec. 31, 2014	**(515)**
Balance	**$825**

The option is "in the money" at the exercise date since Hing Wa (the option holder) can purchase the shares for $70 when they are worth $75.

PROBLEM 16-2

(a)	**July 7, 2014**		
Cash		**240**	
Derivatives – Financial Assets/Liabilities			**240**
(b)	**September 30, 2014**		
Loss ($1,340 – $240)		**1,100**	
Derivatives – Financial Assets/Liabilities			**1,100**
(c)	**December 31, 2014**		
Derivatives – Financial Assets/Liabilities		**515**	
Gain ($1,340 – $825)			**515**
(d)	**January 4, 2015**		
Derivatives – Financial Assets/Liabilities		**825**	
Loss		**175**	
Cash [200 x ($75 – $70)]			**1,000**

July 7, 2014	**$ 240**
Sept. 30, 2014	**1,100**
Dec. 31, 2014	**(515)**
Balance	**$ 825**

The option is "in the money" (for the holder) at the exercise date since the holder of the option can purchase the shares for $70 when they are worth $75. Hing Wa loses because they must sell the shares at a price below the current market value.

PROBLEM 16-3

(a) July 7, 2014

Derivatives – Financial Assets/Liabilities.....	480	
Cash		480

(b) September 30, 2014

Loss ($480 – $250).....	230	
Derivatives – Financial Assets/Liabilities..		230

(c) December 31, 2014

Loss ($250 – $100).....	150	
Derivatives – Financial Assets/Liabilities..		150

(d) January 31, 2015

Put option is not exercised as the market price of Mykia shares exceeds $50, the strike price.

Loss.....	100	
Derivatives – Financial Assets/Liabilities..		100

July 7, 2014	$ 480
Sept. 30, 2014	(230)
Dec. 31, 2014	(150)
Balance	$ 100

PROBLEM 16-4

(a) The derivative is considered a fixed-for-fixed derivative in an entity's own shares as the option stipulates that the entity will issue a fixed number of shares for a fixed amount of consideration. IFRS states that this transaction would be presented as a reduction from shareholders' equity and not as an investment. This is, effectively, the prospective retirement of shares (or acquisition of treasury shares, if that is permitted).

Equity – Fixed-for-fixed Derivative	**750**	
Cash		**750**

(b) Because the option allows a choice in how the option will be settled, the instrument is a financial asset/liability (derivative) by default under IFRS unless all possible settlement options result in it being an equity instrument. If this call option contract allows both parties a choice to settle the option by either exchanging the shares or settling on a net basis, one settlement option is the delivery of cash, and the call option will be classified as a derivative.

(c) ASPE is silent about the accounting for derivatives involving the entity's own shares; however, the treatment of similar items would support presenting the option as a contra equity item because it clearly does not meet the definition of an asset. Therefore, the conclusion will not change.

PROBLEM 16-5

(a) 1. Memorandum entry made to indicate the number of rights issued including full details as to characteristics.

2.	**Cash**	**200,000**	
	Bonds Payable ($200,000 x 0.96)		**192,000**
	Contributed Surplus—Stock Warrants		**8,000**
3.	**Cash ***	**288,000**	
	Common Shares		**288,000**

***[(100,000 – 10,000) rights exercised] ÷ (10 rights/share) X $32 = $288,000**

4.	**Contributed Surplus—Stock Warrants ($8,000 X 80%)**	**6,400**	
	Cash*	**48,000**	
	Common Shares		**54,400**

***.80 X $200,000/$100 per bond = 1,600 warrants exercised; 1,600 X $30 = $48,000**

5.	**Compensation Expense***	**50,000**	
	Contributed Surplus – Stock Options		**50,000**

***$10 X 5,000 options = $50,000**

PROBLEM 16-5 (Continued)

6. **For options exercised:**

Cash (4,000 X $30)	120,000	
Contributed Surplus—Stock Options... (80% X $50,000)	40,000	
Common Shares.....		160,000

For options lapsed:

Contributed Surplus—Stock Options...	10,000	
Compensation Expense*		10,000

*(Note to instructor: This entry provides an opportunity to indicate that a credit to Compensation Expense occurs when the employee fails to fulfill an obligation, such as remaining in the employ of the company, performing certain job functions, etc. However, if a stock option lapses because the share price is lower than the exercise price, then a credit to Contributed Surplus—Expired Stock Options occurs.)

(b)

Shareholders' Equity:		
Share Capital:		
Common Shares, authorized 1,000,000 shares, 314,600 shares issued and outstanding	$4,102,400	
Contributed Surplus—Stock Warrants*	1,600	$4,104,000
Retained Earnings		750,000
Total Shareholders' Equity		$4,854,000

* $8,000 – $6,400

Calculations:

	Common Shares	
	Number	Amount
At beginning of year	300,000	$3,600,000
From stock rights (entry #3 above)	9,000	288,000
From stock warrants (entry #4 above)	1,600	54,400
From stock options (entry #6 above)	4,000	160,000
Total	314,600	$4,102,400

PROBLEM 16-5 (Continued)

(c) Expiration of stock options does not make it incorrect to have recorded compensation expense related to the expired stock options, during the service period. The right to exercise the stock options was earned by the executive during the service period, and the company benefited from the executive's services during the service period. Therefore, compensation expense was properly recorded in the service period (and need not be reversed in the event of expiration of the stock options). The accounting treatment resulted in recording of compensation expense in the years that related revenue was earned.

If the executive had fulfilled the employment contract and the stock options expired, the following journal entry would be recorded for the expiration.

Contributed Surplus—		
Stock Options.....	10,000	
Contributed Surplus –		
Expired Stock Options		10,000

PROBLEM 16-6

(a)

Financial Instrument #1

This is a hybrid financial instrument. Under ASPE, the company can allocate the proceeds between the liability and the equity portion, or allocate 100% to the liability, as is required in this case. Under IFRS, the company must always measure the debt component first (generally at the present value of the cash flows), and assign the rest of the value to equity since it is a residual item.

	ASPE		IFRS	
	Debit	Credit	Debit	Credit
Cash	5,000,000		5,000,000	
Notes Payable		5,000,000		4,567,072
Contributed Surplus - Conversion Rights				432,928
To record issue of convertible debt. $5,000,000 X .78353 (table A2) + $150,000 x 4.32948 (Table A4) = $4,567,072.				
Interest Expense	150,000		228,354	
Notes Payable				78,354
Interest Payable		150,000		150,000
To record interest expense for year $4,567,072 x 5% = $228,354				

PROBLEM 16-6 (Continued)

Financial Instrument #2:

This is a compensatory stock option plan. The entries are the same under ASPE and IFRS.

	ASPE		IFRS	
	Debit	Credit	Debit	Credit
Compensation Expense	550,000		550,000	
Contributed Surplus – Stock Options		550,000		550,000
To record annual compensation expense related to CSOP				
Cash	250,000		250,000	
Contributed Surplus – Stock Options*	55,000		55,000	
Common Shares		305,000		305,000
To record one employee exercising options and purchasing shares.				

*** $550,000 X 1/10**

Financial Instrument #3:

This is a forward contract. The entries are the same under ASPE and IFRS.

	ASPE		IFRS	
	Debit	Credit	Debit	Credit
Derivatives – Financial Assets/Liabilities	70,000		70,000	
Gain		70,000		70,000
To record gain on forward contract.				

PROBLEM 16-6 (Continued)

(b)

Balances at December 31, 2014:

Account	Balance under ASPE	Balance under IFRS
Derivatives – Financial Assets	$70,000 Dr	$70,000 Dr
Interest Payable	150,000 Cr	150,000 Cr
Notes Payable	5,000,000 Cr	4,645,426 Cr
Contributed Surplus – Stock Options	495,000 Cr	495,000 Cr
Contributed Surplus – Conversion Rights		432,928 Cr

Note to instructor:
It may be useful to illustrate the following "proof":

Notes Payable under IFRS		4,645,426 Cr
Contributed Surplus – Conversion Rights		432,928 Cr
Subtotal		5,078,354 Cr
Less: Amortization to date of note discount		(78,354) Dr
Balance under ASPE		5,000,000 Cr

PROBLEM 16-7

(a) Entry at January 1, 2014 should have been:

Cash ($1,000,000 X 1.08)	**1,080,000**	
Bonds Payable ($1,000,000 X .98)..		**980,000**
Contributed Surplus—		
Conversion Rights		**100,000**

At the issuance of the convertible bond, the bookkeeper should have recognized the debt (bond) and conversion right (equity) components separately in the accounts.

As the company is compliant with IFRS, the residual method, as illustrated in the corrected entry above, should have been used. Under IFRS, the debt component is measured first, with the residual value assigned to equity since it is a residual item.

(b) ASPE does have an option to allow for the equity portion to be allocated zero, with all the proceeds being allocated to the debt component. If this option was available, the bookkeeper would be correct. However, this is an optional treatment and the correction noted in part (a) above is still in order as the company is a publicly accountable enterprise and must prepare financial statements in accordance with IFRS.

PROBLEM 16-7 (Continued)

(c) 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	$ 980,000	
I	? %	Yields 10.53482 %
N	5	
PMT	$ (100,000)	
FV	$ (1,000,000)	
Type	0	

(d)

Schedule of Bond Discount Amortization
Effective Interest Method
10% Bonds Sold to Yield 10.53482%

Date	10% Cash Paid	10.53482% Effective Interest	Discount Amort.	Carrying Amount
Jan. 1, 2014				$980,000
Dec. 31, 2014	$100,000	$103,241	$3,241	983,241
Dec. 31, 2015	100,000	103,583	3,583	986,824
Dec. 31, 2016	100,000	103,960	3,960	990,784
Dec. 31, 2017	100,000	104,377	4,377	995,161
Dec. 31, 2018	100,000	104,839*	2008,839	1,000,000
	$500,000	$520,000	$20,000	

*** rounded $1**

(e)

January 1, 2015

Retained Earnings ($103,241 – $86,400).....	16,841	
Bond Payable ($1,066,400 – $983,241).....	83,159	
Contributed Surplus— Conversion Rights		100,000

PROBLEM 16-7 (Continued)

(f)

	December 31, 2015	
Interest Expense	**103,583**	
Bonds Payable		**3,583**
Cash		**100,000**

(g) The debt to equity ratio, following the correction in part (e) above, will be substantially improved as $100,000 previously classified as part of debt is now correctly classified as equity. This will have a significant effect on the debt to equity ratio, as both the change to the numerator and the change to the denominator lead to a decrease in the ratio. The improvement in the ratio is reduced by the charge to Retained Earnings for correction in the error in interest expense from 2014.

PROBLEM 16-8

(a) The entry for the issuance of the notes on January 1, 2014:

The present value of the note is: $1,200,000 X .56743 (factor for a single payment in 5 years at 12%) = $680,912 (Rounded by $4).

Using a financial calculator:

PV	$?	Yields $680,912
I	12%	
N	5	
PMT	$ 0	
FV	$ (1,200,000)	
Type	0	

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

	January 1, 2014	
Cash	1,000,000	
Notes Payable		680,912
Contributed Surplus—Stock Warrants..		319,088

PROBLEM 16-8 (Continued)

(b)
The amortization schedule for the zero interest bearing note is:

Schedule For Interest And Discount Amortization—
Effective Interest Method
$1,200,000 note issued to yield 12%

Date	Cash Interest	Effective Interest	Discount Amortized	Carrying Amount
1/1/14				$ 680,912
12/31/14	$0	$ 81,709*	$ 81,709	762,621**
12/31/15	0	91,515	91,515	854,136
12/31/16	0	102,496	102,496	956,632
12/31/17	0	114,796	114,796	1,071,428
12/31/18	0	128,572	128,572	1,200,000
Total	$0	$519,088	$519,088	

*$680,912 X 12% = $81,709
**$680,912 + $81,709 = $762,621

(c)

December 31, 2014		
Interest Expense	81,709	
Notes Payable.....		81,709

(d)

January 1, 2017		
Cash (500,000 x $20)……	10,000,000	
Contributed Surplus – Stock Warrants.....	159,544	
Common Shares.....		10,159,544
($ 319,088 X ½ = $159,544)		

PROBLEM 16-9

(a)

	September 30, 2014:	
Cash	**4,600,000**	
Bonds Payable		**4,200,000**
Contributed Surplus—Stock Warrants		**240,000***
Contributed Surplus—Conversion Rights		**160,000**

***($4,000,000 / 1,000 X 20 warrants X $3)**

(b)

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	**$ 4,200,000**	
I	**? %**	**Yields 3.6436 %**
N	**20**	
PMT	**$ (160,000)**	
FV	**$ (4,000,000)**	
Type	**0**	

PROBLEM 16-9 (Continued)

(c)

Schedule of Bond Premium Amortization
Effective Interest Method
8% Semi-annual Bonds Sold to Yield 7.2872%

Date	4% Cash Paid	3.6436% Effective Interest	Premium Amort.	Carrying Amount
Sept. 30, 2014				$4,200,000
Mar. 31, 2015	$160,000	$153,031	$6,969	4,193,031
Sept. 30, 2015	160,000	152,777	7,223	4,185,808
Mar. 31, 2016	160,000	152,514	7,486	4,178,322
Sept. 30, 2016	160,000	152,241	7,759	4,170,563
Mar. 31, 2017	160,000	151,959	8,041	4,162,522
Sept. 30, 2017	160,000	151,666	8,334	4,154,188
Mar. 31, 2018	160,000	151,362	8,638	4,145,550
Sept. 30, 2018	160,000	151,047	8,953	4,136,597
Mar. 31, 2019	160,000	150,721	9,279	4,127,318
Sept. 30, 2019	160,000	150,383	9,617	4,117,701

(d)

December 31, 2014

Interest Expense	76,516	
Interest Payable		76,516

($153,031 X 3/6 = $76,516)

March 31, 2015

Interest Expense	76,515	
Interest Payable	76,516	
Bonds Payable	6,969	
Cash		160,000

Note to instructor: It would be entirely reasonable to record one half of the amortization of the bond premium at the year end, December 31. This would increase the current interest payable to be equal to the cash interest payable of $80,000.

PROBLEM 16-9 (Continued)

(e)

March 23, 2017:		
Cash	**600,000***	
Contributed Surplus—		
Stock Warrants ($240,000 X ½)	**120,000**	
Common Shares		**720,000**

Number of warrants exercised: ($4,000,000 / $1,000 X 20 warrants X 1/2 = 40,000)
Number of common shares issued: 40,000 warrants X 1 = 40,000
***(40,000 X $15 = $600,000)**

(f)

September 30, 2019:		
Bonds Payable	**4,117,701**	
Contributed Surplus—		
Conversion Rights	**160,000**	
Common Shares		**4,277,701**

(g) Number of common shares issued: ($4,000,000 / $1,000 X 80 common shares = 320,000)

The bondholders would only be motivated to convert bonds into common shares if they perceived an increase in the value of their investment, and if they would get common shares with a market value higher than the fair value of the bonds that were given up in the conversion. The carrying amount of what they gave up at the time of conversion is shown in the entry above as $4,277,701 for 320,000 common shares. This works out to slightly below $13.37 per share. Likely the common shares are trading at an amount higher than $13.37 by a good margin. There should be an excess over the carrying amount of $13.37 as the bondholders are giving up a steady cash inflow from the interest income obtained from the bonds in exchange for shares, which might not yield any dividends.

PROBLEM 16-10

2014. No journal entry would be recorded at the time the stock option plan was adopted. However, a memorandum entry in the journal might be made on November 30, 2014, indicating that a stock option plan had authorized the future granting to officers of options to buy 70,000 common shares at $8 a share.

2015 January 2
No entry

December 31

Compensation Expense.....	209,524	
Contributed Surplus—Stock Options.		209,524
(To record compensation expense attributable to 2015—22,000 options)		

Pro-rata calculation:	2015	2016	Total
President	15,000	13,000	28,000
Vice-President	7,000	7,000	14,000
Total options	22,000	20,000	42,000
Compensation Expense	$ 209,524*	$ 190,476**	$400,000

* 22,000 / 42,000 X $400,000 = $209,524
** 20,000 / 42,000 X $400,000 = $190,476

2016 December 31

Compensation Expense.....	190,476	
Contributed Surplus—Stock Options.		190,476
(To record compensation expense attributable to 2016—20,000 options)		

Contributed Surplus—Stock Options	209,524	
Contributed Surplus—Expired Stock Options.....		209,524
(To record lapse of president's and vice-president's options to buy 22,000 shares)		

PROBLEM 16-10 (Continued)

2017	December 31		
Cash (20,000 X $8)		160,000	
Contributed Surplus—Stock Options		190,476	
	Common Shares		350,476
	(To record issuance of 20,000 common shares upon exercise of options at $8)		

*PROBLEM 16-11

(a) (1) December 31, 2014

No entry required at the date of the swap because the fair value of the swap at inception is zero.

(2) June 30, 2015		
Interest Expense	**400,000**	
Cash		**400,000**
($10,000,000 X 8% X 6/12)		

(3) June 30, 2015		
Cash	**50,000**	
Interest Expense		**50,000**
[$10,000,000 X (8% – 7%) X 6/12]		

	Interest Received (Paid)
Swap receivable (8% X $10,000,000 X 1/2)	**$ 400,000**
Payable at LIBOR (7% X 10,000,000 X 1/2)	**(350,000)**
Cash settlement	**50,000**

(4) June 30, 2015		
Notes Payable	**200,000**	
Unrealized Gain or Loss		**200,000**

(5) June 30, 2015		
Unrealized Gain or Loss	**200,000**	
Derivatives–Financial Assets/Liabilities		**200,000**

***PROBLEM 16-11 (Continued)**

(b)

Master Corp.
Statement of Financial Position (partial)
December 31, 2014

Long-term liabilities	
Notes payable	**$10,000,000**

Income Statement (partial)
For the Year Ended December 31, 2014

No items to report

(c)

Master Corp.
Statement of Financial Position (partial)
June 30, 2015

Current liabilities	
Derivatives – Financial Liabilities	**$200,000**
Long-term liabilities	
Notes payable	**$9,800,000**

Statement of Income (partial)
For the Six Months Ended June 30, 2015

Interest expense ($400,000 – $50,000)	**$350,000**
Other revenues and gains:	
Unrealized gain – Notes payable	**$200,000**
Unrealized loss – Swap contract	**(200,000)**
	0

***PROBLEM 16-11 (Continued)**

(d)

Master Corp.
Statement of Financial Position (partial)
December 31, 2015

Other assets	
Derivatives – Financial Assets	**$60,000**
Current liabilities	
Notes payable	**$10,060,000**

Income Statement (partial)
For the Year Ended December 31, 2015

Income Statement		
Interest expense		
First six months	**$ 350,000**	**[as shown in (c)]**
Next six months	**375,000***	**(see below)**
Total	**$ 725,000**	
Unrealized Gain—Swap	**$ 60,000**	
Unrealized Loss—Notes Payable	**(60,000)**	
Total	**$ 0**	
***Swap receivable**		
(8% X $10,000,000 X 1/2)	**$ 400,000**	
Payable at LIBOR		
(7.5% X $10,000,000 X 1/2)	**375,000**	
Cash settlement	**$ 25,000**	
Interest expense unadjusted		
June 30–December 31, 2014	**$ 400,000**	
Cash settlement	**(25,000)**	
	$ 375,000	

*PROBLEM 16-12

(a) April 1, 2014
No entry required

(b) June 30, 2014

Derivatives-Financial Assets/Liabilities.....	5,000	
Unrealized Gain or Loss - OCI		5,000

(c) September 30, 2014

Derivatives-Financial Assets/Liabilities.....	2,500	
Unrealized Gain or Loss - OCI		2,500

(d) October 31, 2014

Raw Materials	157,500	
Cash (500 ounces X $315).....		157,500
Cash	7,500	
Derivatives-Financial Assets/Liabilities...		7,500

(e) December 20, 2014

Accounts Receivable/Cash.....	350,000	
Sales Revenue		350,000
Cost of Goods Sold.....	200,000	
Finished Goods Inventory		200,000
Unrealized Gain or Loss - OCI	7,500	
Cost of Goods Sold		7,500

***PROBLEM 16-12 (Continued)**

(f)

Statement of Financial Position (partial)
June 30, 2014

Current assets	
Derivatives-Financial Assets/Liabilities	**$5,000**
Shareholders' Equity	
Accumulated Other Comprehensive Income	**$5,000**

Statement of Comprehensive Income (partial)
For the Six Months Ended June 30, 2014

Other Comprehensive Income:	
Unrealized holding gain – Futures contract	**$5,000**

(g) Statement of Comprehensive Income (partial)
For the Year Ended December 31, 2014

Sales	**$350,000**
Cost of goods sold ($200,000* - $7,500)	**192,500**
Gross profit (included in net income)	**$157,500**
Other comprehensive income:	
Unrealized holding gains on cash flow hedge	**7,500**
Realized gain on cash flow hedge transferred to net income	**(7,500)**
OCI, year ended December 31, 2014	**-0-**

***Note that the $200,000 cost of goods sold includes the $157,500 paid for the gold. IFRS also permits the amount in OCI to be netted with the asset inventory when it is acquired.**

***PROBLEM 16-12 (Continued)**

(h)
Under ASPE and using hedge accounting, the futures contract would not be recognized in the accounts until the hedged item (the gold inventory) was acquired and recognized on the balance sheet. The gold would be purchased at $315 per ounce (total $157,500) and the previously unrecognized future is settled with the company receiving $7,500 cash which is credited against the inventory cost. This brings the inventory cost to $150,000, which reflects the locked in price of $300 per ounce under the futures contract.

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 16-1 AIR CANADA

Overview

- The industry is a challenging one with many bankruptcies and significant competition.
- The company's main expense is fuel which accounts for significant amount of total costs of the company—the need is to manage cost .
- Air Canada uses a hedging strategy to fix its fuel costs. Hedges are complex and there are operational risks (risks in implementing and managing the hedges).

Analysis and recommendations

Issue: Accounting for hedge of fuel

Apply hedge accounting	Do not
- The hedged item is the anticipated fuel acquisitions and the hedging items are the derivatives used to lock in the prices on these. - From an economic perspective, these financial instruments will fix or cap the price for a significant percentage of fuel acquisitions and so this is an economic hedge. -	- Hedge accounting is optional. - There is a cost associated with applying hedge accounting (accountants must prepare documentation and assess effectiveness and all this must be audited). - Hedge accounting has risks associated with it as the transactions and accounting are very complex. - Could note disclose the existence of the hedge instead. - Other.

CA 16-1 (Continued)

Apply hedge accounting	Do not
- Under IFRS, the anticipated fuel acquisitions will not be recognized in the financial statements but the hedging items (derivatives) will be since they meet the accounting definition of derivatives. They will be measured at fair value at each reporting date; the gains/losses will otherwise be reflected in net income. Thus—even though there is an economic hedge in place with no further risk of loss, gains/losses will be booked through net income and introduce volatility. This is not reflective of the fact that the company has taken steps to protect itself and get rid of the volatility from an economic perspective. - One option is to use hedge accounting. This will result in the gains/losses from the revaluation of the derivatives to be booked through other comprehensive income thus shielding the net income number. The gains/losses will be reclassified to net income when the fuel is actually used. This has the effect of remeasuring the fuel costs to reflect the locked-in prices. This would generally be treated as a cash flow hedge as it is a hedge of a future transaction and related cash flows. - The company will have to identify the hedging relationship and assess the effectiveness of the hedge. Other.	

CA 16-1 (Continued)

Recommendation:

Hedge accounting makes sense in this case as it provides greater transparency and allows users to see the impact of the actions management has taken to protect the company.

CA 16-2 COACH CORPORATION

Overview

- The company uses performance-based compensation plans that are based on net income.
- Subjective estimates of bad debt expense affect the calculation.
- Net income is therefore a key number.
- IFRS is a constraint since this is a public company.

Analysis and recommendations

- Subjectivity of income is affecting compensation of executives.
- Controller faces ethical issue.
- As long as bad debt expense is calculated using best estimates, it should not change just because of the compensation plan.
- Accounting should be neutral and unbiased.

IC 16-1 ON-LINE DEALS

Overview

-Growing company thinking of going public
-GAAP is a constraint – due to FI agreement requiring audited financials – also thinking of going public so best to use GAAP and in particular IFRS
-May be a bias to make statements look better in order to increase initial share price – senior management is compensated with stock options and will stand to benefit greatly from higher share prices.
-As auditor would be cautious and conservative due to increased risk associated with potentially going public.

Analysis and recommendations

Issue: Revenues

Gross	Net
-Must examine whether they are acting as a principal (e.g. selling things for a profit) or agent – providing a service of selling -In this case – where they are buying blocks of rooms or flights, they have the risks and rewards of ownership and stand to lose if they do not sell the whole block -They are acting as principals – selling assets that they have legal title to (blocks of rooms and flights) -Other	-Looks like they are providing a service of putting sellers and buyers together -The revenue is therefore a type of commission and should be shown on a net basis -Would have to analyze carefully but for many of the items where they are putting buyers and sellers together – there is no risk of loss to them. If the item is not sold then the loss rests with the airline or hotel company -Other

Recommendation: Would have to analyze carefully as there are multiple types of transactions. Safer to show on a net basis until more info can be obtained regarding whether they take legal title of the rooms/flights and whether they are at risk of loss.

IC 16-1 (Continued)

Issue: Website costs

Capitalize	Expense
-The website is a critical asset that will provide future benefit by providing the platform by which ODI interacts with its customers -Without this – no sales or future cash inflows can occur -The website is owned and controlled by the company -Other	-Seems like the website is pretty critical to the business and it is important to continuously invest in it – therefore it is an ordinary, ongoing cost of doing business -Even if this is seen as an asset – given the problems this year regarding the hacking incident, might want to write off or impair any costs capitalized and understand that costs being incurred going forward are only good until there is a breach. Computer hacking is a big risk in this business and as soon as new security features are in place, someone is trying to breach them. -Other

Recommendation: Treat as expenses.

Issue: Lawsuit

Recognize	Do not
-There is definitely an obligation or duty to deal with this problem -It was caused by a breach that Jay and Wen know about. Part of the breach was due to their own website and even for the SAI problem – Jay and Wen were the ones that contracted with SAI -Jay and Wen have publicly apologized and promised to make things right. This creates a constructive obligation. -The lawyers have noted that for similar companies and situations – there have been significant lawsuit losses so a loss is likely. -Other	-Very difficult to measure -Even though the lawyers feel that there are similar cases, each case is different -Plan to sue SAI and so the net losses may be insignificant -Other

IC 16-1 (Continued)

Recommendation: Accrue a liability

Issue: FI

Debt	Equity
-An obligation to deliver cash exists because of the triggering event -This triggering event is outside the control of the company as it will depend on sales from customers -The company will obviously have a goal to grow as large as possible and would not limit growth just to preclude the triggering event happening -This is a more conservative view and given the significant growth and the continuing growth of this type of industry – growth is inevitable -Other	-Legally equity since pays dividends and has no due date -Looks like permanent financing since the triggering event is not likely to happen (is not genuine). Revenues are so huge currently because of the accounting policy to recognize on a gross basis. It makes more sense to recognize on a net basis and this will decrease revenues significantly and make the target more difficult to achieve (assuming the target is based on the historically recognized gross revenues) -The level of revenues might be seen to be within the control of the company – especially since it depends on an accounting policy choice and also on management decisions as to how much they would like to grow -Other

Recommendation: Debt – more conservative

Issue: Stock options

Recognize as salary expense	Do not recognize
-This represents a cost of doing business -Management is providing a service to the company which must be captured so that the business model is more transparent – otherwise profits are overstated -Other	-Difficult to measure since this is a private company and also since it is fairly new – there is not much history -Difficult to measure the value of the contribution and/or the value of the company -Other

IC 16-1 (Continued)

Recommendation: Accrue

Issue: Self-constructed asset

Capitalize construction costs	Expense
-May capitalize costs such as salaries and other costs to build the facility – Jay and Wen spend a significant amount of time on the design – all adds future value and is directly related to the construction activity -Proper design is critical and Jay and Wen have significant insight into the key risks of the company including the risks associated with protecting customer information -Other	-Jay and Wen own and work for the company – their compensation is an ordinary cost of doing business -It is very difficult to separate the value that they add to the business every day from the value they are adding to this particular asset -Other

Recommendation: either way 'Other'.

IC 16-2 SALTWORKS INC (SI)

Overview

- Public company looking to buy out, therefore IFRS a constraint as public company has asked for IFRS to evaluate and in case they buy it (at which point would be more useful for consolidation). Will use the statements to make a decision to buy or not
- Role – as accountant – will want to be transparent but make the company look good so as to maximize value.

Analysis and recommendations

Issue: Mines 1 and 2 – costs incurred to build mine

Capitalize costs	Expense
- Allowed to capitalize exploration and evaluation costs under IFRS 6. Costs that can be capitalized include studies, exploratory drilling, sampling and those related to establishing technical feasibility and commercial viability.	- Unsure of future benefit (uncertainty as to value of potential salt find). - This is especially the case for mine 3 as not sure of quality of salt – may not be a market. - Other.

Continued

IC 16-2 (Continued)

Capitalize costs	Expense
- Development costs must be analyzed under IAS 38 (intangible assets). For mine 2 costs – more likely developmental costs and may capitalize if technically feasible, intent to complete, ability to mine, existing market for output, availability of resources and ability to measure costs. In this case, not much information however, the company has certainly displayed intent to complete and assuming the salt is the same quality as mine 1 – a market exists for the mine 2 salt. The company appears to have the resources to carry on with the development. - If capitalize – then must test for impairment. Other.	

Recommendation:

Probably best to expense the costs for mine 3 as there is too much uncertainty. Costs for mine 2 may be capitalized assuming criteria for capitalization is met. More data may need to be gathered.

IC 16-2 (Continued)

Issue: Revenue recognition – logging rights

Recognize revenues	Defer
- Paid up front for access to trees. - Revenue not dependent upon how many trees cut down. - Access immediately granted – may log the whole thing immediately or over time. - May want to expense replanting costs against any revenue recognized so that profits are not overstated. - Other.	- Access over three years therefore recognize over three years. - The other company is paying for the right to cut down a certain number of the trees over a three-year period. Just because they paid upfront does not mean that the entity can recognize the revenues upfront. - Other.

Recommendation:

Better to defer revenues as more reflective of economic reality. As trees are cut down, recognizing obligation to replant as a constructive obligation exists.

IC 16-2 (Continued)

Issue: Roads

Capitalize costs	Expense
- Future value since may use after logging complete. - Weather derivative will cover losses. - Other.	- Impaired since washed out and must be rebuilt. - If hedge accounting not used (no information given as to whether used or not) then the derivative would have been booked with gains being recognized in income (as long as derivative was measurable). Thus, the gains and losses will offset. - Other.

Recommendation:

It is likely more transparent to recognize impairment.

Issue: Weather derivative/hedging

- Must decide whether contract meets the definition of a derivative and therefore whether derivative accounting would be used as discussed above.
- Likely the case as long as measurable.
- No mention of whether hedge accounting used or not. Would consider using hedge accounting as long as costs outweigh the benefits.

IC 16-3 GREAT CANADIAN GAMING CORPORATION

Overview

- As a public company, GAAP is a constraint.
- As an analyst looking to see the impact of switching to IFRS.
- Note that the business has not changed – just the basis of accounting.
- Will be looking to see which accounting is more transparent to the business model.

Analysis and recommendation

There are several reconciling items as follows:

1. Impairments

Pre-changeover GAAP	IFRS
- Recoverable amount is an undiscounted amount and so is higher. - This is the same as ASPE.	- Recoverable amount is the higher of value in use (a discounted amount) and fair value less costs of disposal. - This is a more realistic measure of the current worth of the asset and results in earlier recognition of impairments. - It is more transparent.

IC 16-3 (Continued)

2.Contingent consideration relating to business combinations (note that this topic is covered in advanced accounting classes but is included here for completeness).

Pre-changeover GAAP	IFRS
- Contingent consideration is recognized only if estimable and the outcome determinable. - Subsequent adjustments are booked through goodwill. - ASPE is currently aligned with IFRS.	- Contingent consideration is measured at fair value at the acquisition date. Any subsequent changes are booked through income. - It is better to attempt to measure and record the contingent consideration as it forms part of what the acquiring company is giving up. - Subsequent adjustments are booked through income and are not buried in goodwill. This helps reduce potential manipulation of subsequent net income. - More transparent.

3.Amortization – this adjustment is a result of the impairment expense being booked under IFRS (the carrying value is lower and therefore amortization must be recalculated.

IC 16-3 (Continued)

4.Foreign currency adjustment - (this is beyond the scope of the course and will be covered in advanced accounting classes. It is covered here for the sake of completeness). As noted in the statements, as a concession, IFRS 1 allows companies to make certain elections and one-time write-offs when IFRS is first adopted. This is a cost benefit concession on the part of the IASB to ease the transition to IFRS. In this case, accumulated foreign currency gains/losses on the translation of the financial statements of certain foreign subs were allowed to be written down to zero. This allows for a fresh start and is clearly measured and reflected in the reconciliation so it is transparent.

IC 16-3 (Continued)

5.Stock-based compensation

Pre-changeover GAAP	IFRS
- The cost of certain share-based awards is recognized on a straight-line basis over the expected life of the stock option. - In addition, forfeitures are recognized as they occur. - Finally, individuals are determined to be employees if certain conditions are met. Goods and services from non-employees are initially measured at the grant date and subsequently adjusted if needed.	- An attempt is made to measure the fair value of each additional grant of options and then this is recognized through income over the service period. Assuming fair value is measurable, this is more transparent as the cost is recognized as it is incurred and over the service life. - For forfeitures, an attempt is made to estimate the forfeitures and reflect in the cost of compensation. This is subsequently adjusted if needed. This is more transparent and it reflects the best estimate of the costs. - Individuals are considered to be employees under a different definition. Goods and services from non-employees are measured at the date that the company receives the goods or services. This is a difficult one to assess and requires significant judgement.

IC 16-3 (Continued)

6. Income taxes – in addition to the items below, all other changes noted in the reconciliation were also tax affected.

Pre-changeover GAAP	IFRS
- Where an acquired asset's tax base was different from its tax base, the carrying value of the asset was adjusted for.	- Acquired assets are recognized at their laid down cost. This is reflective of the amount paid and is therefore more reliable.
- Changes in tax balances due to changes in tax laws or rates are included in income regardless of whether the tax balances relate to items previously booked through equity.	- All changes in tax balances relating to equity items are booked through equity. This is more consistent and leaves less room for judgement or potential manipulation.

7. IFRS 1 permits a company to record assets at fair value in the opening balance sheet and to deem this the new cost on a going forward basis. This is done to reduce the burden of transitioning to IFRS and because it is clearly noted, is acceptable.

Note that the above relate to the items in the reconciliation. There are other IFRS 1 elections made as noted in Note 31 to the financial statements. In addition, note that there are also some presentation changes that do not affect the reconciliation of income or equity but do affect the balance sheet accounts.

TIME AND PURPOSE OF WRITING ASSIGNMENTS

WA 16-1 (Time 15–20 minutes)

Purpose—to provide the student with an understanding of the proper accounting and conceptual merits for the issuance of stock warrants to three different groups: existing shareholders, key employees, and purchasers of the company's bonds. This problem requires the student to explain and discuss the reasons for using warrants, the significance of the price at which the warrants are issued (or granted) in relation to the current market price of the company's shares, and the necessary information that should be disclosed in the financial statements when stock warrants are outstanding for each of the groups.

WA 16-2 (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to understand the use of the Black Scholes option pricing model and to understand how it is used in determining fair values, the inputs required and the impact on compensation costs if the inputs are varied for CSOPs.

WA 16-3 (Time 25–30 minutes)

Purpose—to have the students identify various financial risks using "real-life" examples and explain why it is important for a company to manage risk. Students are asked to describe derivatives and how they are used to hedge various risks and to explain the difference between hedging from an economic perspective and hedge accounting.

WA 16-4 (Time 25–30 minutes)

Purpose—to develop an understanding of executory contracts and derivative contracts. Students are required to explain how purchase commitments and futures contracts are measured and reported under IFRS and ASPE.

TIME AND PURPOSE OF WRITING ASSIGNMENTS (Continued)

WA 16-5 (Time 25–30 minutes)

Purpose—to have the student distinguish between various treatments of derivatives used as economic hedges for three different transactions. The student must identify when hedge accounting would be appropriate and how this is accomplished under IFRS and ASPE.

WA 16-6 (Time 25–30 minutes)

Purpose – to have students explain why instruments settleable in the entity's own shares cause accounting issues.

WA 16-7 (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to understand the differences between ASPE and IFRS and the conceptual reasons for any differences.

WA 16-8 (Time 10–15 minutes)

Purpose—to provide students with an opportunity to explain the purpose and accounting for a put option.

WA 16-9 (Time 15–20 minutes)

Purpose—to have students compare speculating to hedging.

SOLUTIONS TO WRITING ASSIGNMENTS

WA 16-1

(a) 1. The objective of issuing options and warrants to existing shareholders on a pro-rata basis is to raise new equity capital. This method of raising equity capital may be used because of pre-emptive rights on the part of a company's shareholders and also because it is likely to be less expensive than a public offering.

2. The purpose of issuing options and warrants to certain key employees, usually in the form of a nonqualified stock option plan, is to increase their interest in the long-term growth and income of the company and to attract new management talent. Also, this issuance of warrants to key employees under a stock option plan frequently constitutes an important element in a company's executive compensation program. Though such plans result in some dilution of the shareholders' equity when shares are issued, the plans provide an additional incentive to the key employees to operate the company efficiently.

3. Warrants/options to purchase common shares may be issued to purchasers of a company's bonds in order to stimulate the sale of the bonds by increasing their speculative appeal and by aiding in overcoming the objection that rising price levels cause money invested for long periods in bonds to lose purchasing power. The use of warrants /options in this connection may also permit the sale of the bonds at a lower interest cost.

(b) 1. Because the purpose of issuing warrants/options to existing shareholders is to raise new equity capital, the price specified in the warrants must be sufficiently below the current market price to reasonably assure that they will be exercised. Because the success of the offering depends entirely on the current market price of the company's shares in relation to the exercise price of the warrants/options, and because the objective is to raise capital, the length of time over which the warrants/options can be exercised is very short, frequently 60 days.

2.Warrants/options, except for incentive stock option plans, may be offered to key employees below, at, or above the market price of the shares on the day the rights are granted. If a stock option plan is to provide a strong incentive, warrants that can be exercised shortly after they are granted and expire quickly, say, within one or two years, usually must be exercisable at or near the market price at the date of the grant. Warrants/options that cannot be exercised until a number

WA 16-1 (Continued)

of years after they are granted or those that do not lapse for a number of years after they become exercisable may, however, be priced somewhat above the market price of the shares at the date of the grant without eliminating the incentive feature.
This does not upset the principal objective of stock option plans: heightening the interest of key employees in the long-term success of the company.
Income tax laws penalize the issuance of warrants and stock options at prices below market price on the day the rights are granted by taxing them as part of employment income.

3. Income tax laws impose no restrictions on the exercise price of warrants/options issued to purchasers of a company's bonds. The exercise price may be above, equal to, or below the current market price of the company's shares. The longer the period of time during which the warrant/option can be exercised, however, the higher the exercise price can be and still stimulate the sale of the bonds because of the increased speculation appeal. Thus, the significance of the length of time over which the warrants can be exercised depends largely on the exercise price (or prices). A low exercise price in combination with a short exercise period can be just as successful as a high exercise price in combination with a long exercise period.

(c) 1. Financial statement information concerning outstanding stock warrants issued to a company's shareholders should include a description of the shares being offered for sale, the option price, the time period during which the rights may be exercised, and the number of rights needed to purchase a new share.

2. Financial statement information concerning stock warrants issued to key employees should include the following: status of these plans at the end of periods presented, including the number of shares under option; the prices at which the warrants/options may be exercised; the time periods and conditions under which they may be exercised; and the number of warrants exercised and forfeited during the year.

3. Financial statement disclosure of outstanding stock warrants/options that have been issued to purchasers of a company's bonds should include the prices at which they can be exercised, the length of time they can be exercised, and the total number of shares that can be purchased by the bondholders.

WA 16-2

(a) The Black-Scholes model is used to determine the fair value of options. Consequently, any financial instrument that is an option or has an option embedded in it, will require that some form of option pricing model be used.

i. Derivatives that are options used by companies to manage risk (hedging or speculation) will require the Black-Scholes model to determine the fair value;
ii. Convertible bonds issued by the entity have an option to convert embedded in the bond that must be separately measured;
iii. Compensatory stock option plans (CSOP) are plans where employees are given stock options in the company as payment for employment services to be provided. The fair value of these plans must be determined using the Black-Scholes option pricing model.

Under IFRS, the following standards apply:

i. Derivatives have to be measured at fair value initially and at each subsequent reporting period.
ii. Convertible bonds contain both a liability and an equity component which are classified separately on the initial issuance of the bonds. Under IFRS, the residual method is used whereby the fair value of the debt component is measured first, and then any residual amount is allocated to the equity component. The amount classified to equity is not changed during the life of the bond, so does not need to be subsequently remeasured.
iii. CSOPs are measured at fair value at the time of the grant of the options to the employees. The fair value of the options must be determined using some option pricing model (generally the Black-Scholes option pricing model). This value is used to measure the compensation expense at the time of the grant, and does not change throughout the life of the options.

Under ASPE, the following standards apply to each of the above:

i. Derivatives generally have to be measured at fair value initially and at each subsequent reporting period. However, if the derivative is required to be settled in the company's shares and the fair value of these shares cannot be readily determined, then the derivative is measured at cost.
ii. Convertible bonds contain both a liability and an equity component which should be classified separately. However, under ASPE, at the time of issuance, the company has a choice to either recognize the equity portion at zero (allocating all the proceeds on issue to the liability component) or determine the value of the component that is the more readily measurable first and any residual is allocated to the other component. The equity component does not change value throughout the life of the bond.
iii. CSOPs are measured at fair value at the time of the grant. The fair value of the options must be determined using some option pricing model (generally the Black-Scholes option pricing model). This value is used to measure the

WA 16-2 (CONTINUED)

compensation expense at the time of the grant, and does not change throughout the life of the options.

(b) The inputs into the Black-Scholes model include:
i. the exercise price
ii. the expected life of the option
iii. the current market price of the underlying share
iv. the volatility of the price of the underlying shares
v. expected dividend during the life of the option
vi. the risk-free rate of interest over the life of the option.

The difficulty for private enterprises is in determining the volatility of the shares, since the entity's shares are not publicly traded. However, the private company must still make an attempt to estimate what this volatility would be by looking at similar company shares in the market. The other input that is more difficult to determine is the current market price of the shares, since again, the shares are not publicly traded. For a public company, this information would be readily available.

(c) Assuming all other inputs remain unchanged:
i. an increase in the risk-free rate will increase the fair value of the options granted since the time value of money has increased;
ii. a decrease in the volatility will decrease the fair value of the options granted since the likelihood of being able to exercise at higher prices is reduced;
iii. an increase in the expected life of the options will increase the fair value of the options since there is a longer time period before they need to be exercised which increases the time value component of the price.

(d) The major differences between exchange-traded options and stock options granted under employee benefit plans are the following:
i. employee stock options have a vesting period during which they cannot be exercised and during which the options are forfeited if the employee leaves;
ii. employee stock options tend to have much longer periods to maturity (often up to 10 years from the date of grant) which normal exchange-traded options do not;
iii. new shares are issued by the company when the employee stock options are exercised; this is not the case with exchange-traded options where the shares are already issued and outstanding by the company.

As a result of these significant differences, some believe that the Black-Scholes formula is not the correct model to use. However, even given these weaknesses, it is still believed to be the best alternative available to estimate the fair value of options under employee stock option plans.

WA 16-3

(a) The business model of Barrick Gold Corporation and its financial risk profile can be a good example. The company engages in the production and sale of gold, as well as in related activities such as exploration and mine development. It produces some copper and holds interests in oil and gas properties in Canada. Its mining operations are concentrated in its four regional business units: North America, South America, Africa, and Australia Pacific. It sells its gold and copper production into the world market.

This business model exposes the company to various risks such as commodity price risk (the risk associated with the fluctuation of prices of various commodities), foreign exchange risk (risk associated with fluctuations in foreign currency exchange rates), and interest rate risk (the risk associated with changes in interest rates).

In addition, the company is exposed to credit risk (the risk that a third party might fail to fulfill its performance obligations under the terms of a financial instrument). As the company uses derivatives, it is exposed to another risk called market liquidity risk, which is the risk that a derivative cannot be eliminated quickly by either liquidating it or by establishing an offsetting position.

If a company focuses solely on minimizing risk it could end up minimizing value, since risk creates opportunities and opportunities translate into value. In creating shareholder value it is important for a company to manage risk for various reasons. A company with better risk management strategies in place is consistently able to manage its price-value ratios better than its competitors, get better value for investments, and score higher ratings with the customer base.

(b) Derivatives as defined by the accounting standards are: "*financial instruments that create rights and obligations that have the effect of transferring, between parties to the instrument, one or more of the financial risks that are inherent in an underlying primary instrument. They transfer risks that are inherent in the underlying primary instrument without either party having to hold any investment in the underlying.*" (*CICA Handbook-Accounting*, Part II, ASPE Section 3856.05 and IAS 39.9). They derive their value due to the underlying instrument, require little or no upfront investment, and are settled in the future. Examples of derivatives are options, futures, forward contracts, and swaps.

WA 16-3 (Continued)

(c) Companies that are exposed to financial risks might choose to reduce their exposure to these risks. Hedging is when derivatives are used to mitigate or offset these risks. In a perfectly hedged transaction, there should be no economic loss to the company. In other words, the loss of the hedged item is offset with any gain on the hedging item (the derivative). From an economic perspective, the hedge should reduce or limit the potential for loss. Hedging adds value for a company since it reduces the risk and volatility of the cash flows for a company.

Hedge accounting is an option that is available under accounting standards to report and measure hedges. The key point to note is that hedge accounting is optional. A company can still be using hedging from an economic perspective and decide not to use hedge accounting to report and measure the hedged and hedging items. However, hedge accounting can only be used when the company is engaged in actual hedging practices. The company can also apply hedge accounting to some of its hedging practices and not to others.

There is no need for hedge accounting if there is symmetry in the reporting of gains and losses on the asset or liability that has a market risk and the derivative that is used to mitigate that risk. That is, in both cases, the gains and losses may both be reported to the earnings, and therefore are automatically offset. Where hedge accounting is useful is where there might be a mismatch in the reporting of these gains and losses, or the derivative is for a future transaction that has not yet been recognized. An example of a mismatch in reporting of the gains and losses would be where the change in the fair value of an investment is recorded to other comprehensive income, and the change in the derivative used to hedge that investment is reported into current earnings. Hedge accounting would allow both the changes in fair value of the asset and of the derivative to be reported in current earnings, so the economic offset is properly reflected in the accounting records. Similarly, if a company has hedged a future transaction, then the changes in the fair value of the derivative can be recorded into other comprehensive income until the transaction impacts the earnings. At this time, the cumulative gains and losses on the derivative used to hedge the transaction would also be reported in current earnings. In this way the net economic gain or loss (which should be minimal) would be properly reported in the accounting earnings for the company. As hedge accounting is an exception to the usual rules for financial instruments, there are strict criteria that must be met before it can be used. Management must identify, document, and test the effectiveness of those transactions for which it wishes to use hedge accounting. The criteria to achieve hedge accounting are onerous and will have systems implications for all entities. Therefore, management should always consider the costs and benefits when deciding whether to use it. Especially for small or medium-sized companies, the costs can be significantly higher than the benefits. Also, management should think about the needs of its financial information users when it makes the decision about using hedge accounting. If a derivative becomes ineffective, then it no longer qualifies for hedge accounting and any gains or losses would be immediately reported into current earnings.

WA 16-4

(a) The first contract for the Papula Mine is a sales contract to deliver copper at a fixed price and a fixed volume (fixed by the annual production of the mine). This sale commitment is not traded on an exchange and is an executory contract. No money has changed hands at the beginning of the contract and cash will be received as delivery is made. This contract cannot be net settled in cash since delivery of the copper must be made. In this case, the contract is treated as an unexecuted contract, meaning that it does not need to be measured at fair value at each reporting period. Instead, the sale is recorded at the fixed committed price when delivery of the copper is made. This is true under IFRS and ASPE.

The exchangetraded options for the Minera Mine are non-financial derivatives. The premium paid for the options is the fair value paid at the time the options are purchased. Under ASPE, even though the options are exchange traded, they are not futures contracts and are therefore initially recorded at fair value (amount paid) but not remeasured.

Under IFRS, these options are a non-financial derivative which can be settled on a net basis. If the intent of the company is to make physical delivery of the copper, then the option can be designated as "expected use" and the company need not account for the options as a derivative instrument (FV-NI). They would initially record the option at fair value (amount paid) but not remeasured. Alternatively, if the company's intent is to settle on a net cash basis at some time during the term of the options, then the option is treated as a derivative. As such, the options would be measured and reported at fair value at each reporting period.

(b) If the sale commitment contract was able to be settled net in cash, rather than making delivery of the copper, it would still be recorded when executed under ASPE since it is not an exchange-traded futures contract. However, under IFRS, the company would have to assess the likelihood of making delivery of the copper or settling on a net basis. If the company intends to deliver the copper, then the contract is designated as "expected use" and can be recorded when the delivery is made as a sale. If the company intended to settle on a net basis, then the contract would be treated as a derivative and would be measured and reported at fair value at every reporting period.

WA 16-5

1. The investment in the publicly traded shares is recorded at fair value under both IFRS and ASPE. Under ASPE, the gain or loss on the change in fair value is directly reported to current earnings. The option is a derivative, and since it is exchange traded, it is also measured at fair value at each reporting period with the changes reported in the current earnings. This results in symmetric reporting and a netting of the gains and losses on the hedged item and the hedging item in the profit or loss for the period. There is no need to use hedge accounting under ASPE in this case.

   Under IFRS, the company has a choice to classify the investment as FV-NI, or FV-OCI. The derivative must be recorded at fair value through profit or loss. If the company chooses to report the investment at fair value through profit or loss, then this would match the treatment of the option derivative. Similar to ASPE above, there would be no need for hedge accounting since the gains and losses on the hedged item and hedging item would be offset in the current earnings. However, if the company chooses to report the investment at fair value through OCI, then there is a mismatch because changes in the derivative will be reported in the profit or loss for the period, whereas changes in the investment are reported in OCI. Consequently, the company could adopt fair value hedge accounting and designate the investment as the hedged item and the option as the hedging item. The gains and losses on the investment would be recorded in the profit or loss for the period and would be offset against the gains and losses on the option derivative. In this case, the company might as well just use FV-NI accounting for the investment in the first place to avoid the complexities of hedge accounting.

2. Under IFRS and ASPE, the US dollar receivable must be translated into the equivalent Canadian dollars at each reporting period. Any foreign exchange gain or loss is recognized in the profit or loss for the period. The forward contract, which is a derivative, also must be reported at fair value with the gains and losses reported to net earnings. This accounting treatment results in symmetric reporting of the gains and losses, showing a net impact in the current earnings. Therefore, no hedge accounting is required and any gains and losses will offset.

3. The forward contracts to buy Australian dollars are to hedge anticipated future transactions. In this case, the hedged item has not yet occurred, but the purchase of the derivative has. The derivative would have to be reported at fair value at each reporting period, with gains and losses reflected in the current earnings. However, this results in a mismatch, since the anticipated future transaction has not yet taken place. The company should then consider hedge accounting.

   Under ASPE (CICA 3856.A63 Part II), a foreign currency forward contract that meets the criteria to qualify for hedge accounting will be accounted for as follows:

WA 16-5 (Continued)

The forward contract can be designated as a hedge only if:

- the forward contract is for the same amount and same currency as the anticipated future transaction;
- the forward contract matures within two weeks of the anticipated hedged transaction;
- it is probable that the future transaction will occur;
- the fair value of the forward contract is zero at the time it is entered into.

If so, the derivative is not recognized until it actually matures – in six months, and the loss on exchange is reported in the financial statements in the same period as the future transactions. Leon Price would emphasize to the CEO the strict requirements enabling hedge accounting to be used in this situation, and explain that only a true hedging arrangement can be recorded with hedge accounting. When the anticipated transaction actually occurs, the gain or loss on the forward contract will be adjusted to the carrying amount of the anticipated future transaction.

Under IFRS, the same mismatch as described above would result if the forward contracts were reported at fair value at each reporting period. Under IFRS, the forward contract may qualify as a cash flow hedge assuming all the criteria are met. The forward contracts are still reported at fair value at each reporting period except that the gains and losses are now reported in OCI until the future transaction impacts the earnings. When this happens, the accumulated gains and losses in OCI related to the forward contract are transferred to profit or loss and reported in the same account as the anticipated transaction. In designating the derivative as a cash flow hedge, the company must document the hedging relationship, the hedged item, and the hedging item, and test for effectiveness at each reporting period. If the hedge becomes ineffective, then gains and losses on the forward contract must be immediately transferred out of OCI into profit and loss. Again, care must be taken to ensure that the hedge accounting criteria are met before using hedge accounting.

WA 16-6

The main issue that arises for instruments that require settlement in the entity's own shares is whether the instrument should be presented as equity, a financial liability, or a financial asset. Generally, going back to basic principles is required to determine the appropriate presentation. However, there is some guidance that IFRS has noted in the standard:

- "fixed for fixed principle" – where the number of shares and the consideration required to settle the instrument are both fixed, this will be presented as equity. An example of this is a written call option giving the holder the right to buy a fixed number of shares for a fixed amount of consideration with no choice for cash settlement. Purchased put or call options that give the entity to right to sell or buy a fixed number of shares for a fixed amount of consideration is equity, since there is no contractual obligation on the company's part to pay cash.
- An obligation to pay cash (or other assets) is required to be presented as a liability. A written put option where the holder has the right to sell a fixed number of shares to the company, or a forward contract to buy a fixed number of shares for a fixed amount of cash may obligate the entity to pay out cash. These will be recorded as financial liabilities.
- A choice in settlement – Anytime there is a choice for cash settlement (or other assets) by either party, the instrument is a financial liability. (Only in cases where all the possible choices resulted in shares being issued would the instrument be recorded as equity.) Under ASPE, if the company can make a choice and avoid settling in cash or other assets, then this instrument would be recorded as equity. Contracts that will be net settled in cash or shares are financial assets or liabilities since either cash or a variable number of shares will be used for settlement.

WA 16-7

There are many differences between IFRS and ASPE with respect to measurement and reporting for complex financial instruments. Primarily, ASPE has been written to keep recognition and measurement issues simple and therefore requiring less cost and time to calculate and report. Also, ASPE has been designed with the creditor as the primary user, rather than outside shareholders and creditors. Given that creditors generally have access to management; the disclosure has also been simplified.
These differences are highlighted below:

a) Generally, purchase commitments are treated as executory contracts under ASPE, which simplifies the identification and measurement of these contracts. Under IFRS, if these contracts can be net settled in cash, and the entity is not likely to take delivery, then the purchase commitment must be reported at fair value, similar to other derivatives.
b) ASPE would generally not require compound instruments that have components of both debt and equity to be separated. Under ASPE, it can be assumed that equity components are equal to zero (or if readily determinable, then these values can be used). Under IFRS, the liability and equity component must be separately classified. Again, ASPE has made the accounting treatment simpler without having to determine the values of the separate components unless the entity chooses to do so.
c) Certain tax efficient preferred shares that are used extensively by private enterprises for estate planning can be shown as equity even if they are puttable for a certain amount of cash consideration. ASPE deems these to be “in-substance” equity, and since they are used regularly by private enterprises, this keeps the reporting less complicated. Under IFRS, these puttable shares would be reported as liabilities unless certain criteria are met for equity presentation.
d) Instruments that have a choice to be settled in cash are always reported as liabilities under IFRS. Under ASPE, if the contingent settlement in cash is highly likely to occur, these instruments must be reported as liabilities.
e) For instruments that can be settled using the entity’s own shares, ASPE has less guidance on how to treat these instruments. In these cases, a review of the basic principles is necessary to determine whether the instrument should be reported as a financial liability or equity. Private companies are less likely to use complicated instruments related to their own shares, since the shares are not easily transferrable. IFRS provides more guidance stating that only when there is a fixed number of shares to issue for a fixed consideration and there is no choice for cash settlement, can the instrument be presented as equity. In all other cases, the instrument would likely be classified as a financial liability.

WA 16-7 (Continued)

f) Where the private enterprise has historically bought back the shares after the employee has exercised, the CSOP can be reported as a liability rather than equity. Because there is no ready market for these shares, the buying back of the shares by private enterprises happens more often so that employees can realize the value of these options. Under IFRS, CSOPs are reported as equity. In determining the fair value of the CSOP, a private enterprise will have to estimate a measurement of volatility, whereas this can be readily measured for publicly traded entities.

g) SARs are reported at fair value under IFRS and at intrinsic value under ASPE. The main reason for this is the difficulty in determining the fair value of a SAR on shares that are not publicly traded.

h) Hedging under IFRS is a lot more complex, with a choice between designating a cash flow hedge or a fair value hedge. Derivatives are still fair valued, but hedge designation will result in different reporting requirements for the gains and losses on the derivative and the hedged item. For cash flow hedges, the gains and losses on the hedging item can be reported in OCI. Under ASPE, if the company qualifies for hedge accounting for anticipated transactions, the derivative does not need to be recorded until settled. This is done for two reasons – first of all ASPE has no OCI, so there is no mismatch for fair value type hedges. And since there is no OCI, there is no other alternatives for reporting the income on the derivatives, and so the company does not have to report them at all until settled, eliminating any mismatch.

i) Finally, the disclosure under ASPE is greatly reduced in comparison to IFRS. The reason for this is the nature of the limited users for private company reports.

WA 16-8

(a)The put option contract is entered into to protect from a potential loss on an investment. By purchasing the put option for SIT Ltd. shares, RIT Co. can protect itself against the risk of a decrease in the share price. RIT Co. is effectively locking in the share price at $100 per share and therefore its investment cannot fall below $500,000. This is a hedge.

(b) RIT Co. would record an asset of $10,000 on the balance sheet for the put option. The option is a derivative that will be recorded at FV-NI.
When the share price falls to $90 per share, RIT Co. would revalue the put option and recognize a gain (through net income).

(c)The accounting is transparent since the risk of loss in the value of the investment is offset by the potential for gain on the option. There is a hedge. The gains and losses on the investment will be offset by corresponding but opposite gains and losses on the put (through net income if ASPE is followed).

Under IFRS, the result would be the same if the company were to use FV-NI accounting for the investment. The company has the option of using FV-OCI for the investment but then might want to use hedge accounting to reflect the hedge. The hedge accounting would allow the gains/losses on the investment to be booked through income. However, hedge accounting is costly and therefore if possible, the company would use FV-NI accounting for the investment right from acquisition.

WA 16-9

Hedging and speculation both involve taking a position in a derivative which will result in fluctuating values dependent on future events or results. Hedgers will usually undertake the derivative as an opposite position to another derivate they are trying to hedge against. The purpose of hedging is to try to eliminate the future volatility caused by price fluctuation in the hedged item. In an ideal scenario, any price changes in the derivative will fully offset the changes in the underlying hedged item, thus protecting the hedger from any future price fluctuations.

Speculation undertakes a derivative in order to gain from future market fluctuations. The speculator will invest in an asset with the anticipation of market changes and will profit when the market moves in the desired direction. Speculators will be at risk if market conditions move in the opposite direction. This is because the derivatives they invest in are not matched or 'hedged' by an offsetting derivative in their portfolio.

Overall, the actions of speculators and hedgers are the same, investing in derivatives dependent on future market conditions, however the intent of the actions are different, speculators betting on future economic fluctuations and hedgers eliminating the risk of future fluctuations.

RESEARCH AND FINANCIAL ANALYSIS

RA16-1 POTASH CORPORATION OF SASKATCHEWAN Inc.

(a)
Stock Option Plans

a) Who is eligible?	Designated senior executives, employees, and designated directors
b) Required to buy shares to access benefits?	Yes for stock based settled plans – company issues new shares to settle the options
c) What is the benefit or compensation based on?	Share price
d) Vesting period	Performance Option Plans vest, if at all, on the three-year average excess of the company's consolidated cash flow return on investment over the weighted average cost of capital Directors, Officers and Employee Plans - one half vested one year from date of grant, and the other half vesting in the following year
e) Expiry period	Term is 10 years
f) How is compensation expense determined?	Uses Black-Scholes formula to determine the fair value of the options
g) Offsetting amount	To contributed surplus
h) When is compensation expense recorded?	Over the vesting period

RA16-1 (Continued)

Deferred Share Unit Plans

a) Who is eligible?	Non-employee directors
b) Required to buy shares to access benefits?	No - settled in cash - based on the common share price at the time
c) What is the benefit or compensation based on?	Share price of the units, and performance of shares relative to market peers
d) Vesting period	Fully vest upon award, but not distributed until directors leave
e) Expiry period	Cash payable when directors leave the Board
f) How is compensation expense determined?	Uses market value of the share units (i.e., share price X number of DSUs)
g) Offsetting amount	To liabilities
h) When is compensation expense recorded?	Immediately when issued and adjusted until cash is settled

RA16-1 (Continued)

Performance Unit Incentive plan

a) Who is eligible?	Senior executives and other key employees
b) Required to buy shares to access benefits?	No - settled in cash based on the common share price at the time
c) What is the benefit or compensation based on?	Share price of the units, and some incentive award based on meeting targets
d) Vesting period	One half of the vesting of awards is based on increases in the total return to shareholders over the three-year performance period ending December 31, 2011 The other half vests to the extent that total shareholder return matches or exceeds that of a peer group Shareholders' return is the capital appreciation of the share price plus dividends paid.
e) Expiry period	Payable in cash when performance period ends
f) How is compensation expense determined?	Uses market value of the share units
g) Offsetting amount	To liabilities
h) When is compensation expense recorded?	Over the three-year performance period and is adjusted as required based on meeting performance targets

(b) As explained in Note 23 of the financial statements, the stock-based compensation plans are reported at fair values. The compensation expense is charged to earnings, and the offsetting entry is either to contributed surplus for equity settled plans or liabilities for cash settled plans. Any consideration received on the exercise of options is recorded to share capital, along with the contributed surplus related to the options. As per note 23,

RA16-1 (Continued)

$24 million was charged to compensation expense for the year for all the plans. As per the Consolidated Statements of Changes in Equity, contributed surplus was decreased by $9 million due to stock-based plans. The remaining amount of $33 million would be included in liabilities.

(c) The fair value of stock option plans is determined using the Black-Scholes option pricing model. Inputs to this option pricing model are subject to estimates and include: the expected dividend, expected volatility, risk-free rate, and the expected life of the options. The table below outlines how these inputs have changed over time:

	2011	2010	2009	2008
Expected dividend	$.28	$.13	$.13	$.13
Expected volatility	52%	50%	48%	34%
Risk-free rate	2.29%	2.61%	2.53%	3.30%
Expected life of the options	5.5	5.9	5.9	5.8

In Note 23, the company comments that the expected dividend is based on the annualized dividend at the grant date; the expected volatility is based on historical data over the expected life of the options; the risk-free rate is based on the implied yield on zero-coupon government bonds issued with a remaining term equal to the expected life of the options; and based on past experience, the expected life of the options is estimated.

Holding all other inputs constant, the following would be the impact on the compensation expense for changes in each input:

(a) increases in the dividend rate will reduce the value of the option since as dividends are paid, the share price declines;

RA16-1 (Continued)

(b) increases in the expected volatility will increase the value of the option since there is now a greater chance that a higher price can be realized;

(c) decreases in the risk-free rate will decrease the value of the option; and

(d) decreases in the expected life of the options will decrease the value of the options since there is less time for the share price increases to be realized.

RA16-2 CANADIAN TIRE CORPORATION

(a) Read MD&A.

(b) The company is exposed to a number of different business risks.
Seasonality risk refers to the risk associated with the sales of items which have a seasonal market, and the demand of which can be affected by weather. Supply chain disruption risk refers to the potential disruptions due to foreign supplier failures, geopolitical risk, labour disruption or insufficient capacity at ports, and risks of delays or loss of inventory in transit. Environmental risk refers to the risks associated with handling gas, oil, propane, and recycling things such as tires, paint, oil, and lawn chemicals.

The company is also exposed to financial risks. Credit risk comprises two items—risk exposure from receivables from dealers and exposure with respect to hedges and similar financial instruments. The first one represents the loss that would be incurred if the company's counterparties were to default and includes consumer credit risk (the risk of non-collection associated with offering customers sales on credit terms). Foreign exchange risk is the risk associated with fluctuations in US dollar currency exchange rates due to global sourcing for merchandise. Commodity price risk refers to the risk associated with the fluctuation of petroleum prices which can also impact the company's earnings. Interest rate risk is the risk associated with changes in interest rates which impact the company's investments.

(c) To manage foreign exchange risk, the company sets ranges of future US dollar purchases that must be hedged. Historically, the company has been able to achieve some stability since some US dollar purchases were hedged at exchange rates more favourable than spot rates at the time of the transactions.
To manage interest rate risk, the company uses interest rate swaps. The company has a policy to maintain a minimum of 75% of its long-term debt in fixed rate debt versus variable.

RA16-2 (Continued)

(d) As per note 3, the derivative instruments used by the company to hedge its risks are interest rate swap contracts, foreign exchange contracts, and equity contracts.

As further explained in Note 3, the company has both fair value hedges and cash flow hedges. Fair value hedges are used for certain interest rate swaps. Cash flow hedges are used for foreign currency contracts for future purchases of inventory-related items. When the inventory is recognized, the value of the merchandise inventory is adjusted by the accumulated gains and losses on these foreign currency contracts. Equity derivative contracts are also cash flow hedges used to hedge various future stock-based compensation. As the stock-based plans vest, the amount of accumulated gains and losses on these equity derivatives is transferred to income.

(e) As explained in Note 39, the company measures the fair value of the derivatives using Level 2 inputs. Total derivatives represented as assets were $20.2 million and as liabilities were $6.7 million. These values are designated as cash flow hedges and fair value hedges as follows:

$ millions	Cash flow hedges	Fair value hedges	Not designated	Total
Assets	14.6	5.6	0.0	20.2
Liabilities	1.8	4.9	0.0	6.7

RA16-3 LOBLAW COMPANIES LIMITED

(a) Note 19 describes the Second Preferred shares as follows:

- 9 million shares issued
- Face value of $225 million, and originally issued at $218 million
- Non-voting;
- 5.95% dividend – fixed cumulative dividend of $1.4875 per share per annum (if declared) payable quarterly;
- After July 31, 2013, the company may, at its option, redeem the shares for cash at the price of $25.75 per share on or after July 31, 2013; $25.50 on or after July 31, 2014; and $25.00 on or after July 31, 2015.
- After July 31, 2013, the company may also convert, at its option, the preferred shares into the number of common shares determined by taking the required redemption price divided by the greater of $2.00 and 95% of the then current market price of the common share price.
- The second preferred shares rank after the first preferred shares and rank in priority to the common shares with respect to dividends and dissolution of the company.

  The company has recorded these shares as a liability since they may be redeemed for cash. The company has used the effective interest rate method to measure these securities.

(b) The shares were originally issued for $218 million as per note 19. At December 31, 2011, the shares were measured at $222 million and are classified as Capital Securities on the statement of financial position. Effectively, the discount is being amortized until the face value is reached in 2013.

(c) As per note 3, the dividends paid on these capital securities were included in "Interest and other financing charges". The total amount paid during the year for the dividends as per note 19 was $13.3875 million ($1.4875 X 9 million shares). $14 million was recorded in interest expense, which would represent the actual amount paid plus the amortization of the discount to reflect the effective interest on the preferred shares.

(d) As per note 20, the company includes these preferred shares as equity in its determination of capital. As a result, in calculating its Debt to Equity, Interest Coverage and Net Debt to EBITDA ratios, the Capital Securities are excluded from debt, and included in equity.

RA16-4 LUFTHANSA AG

(a) Lufthansa AG is an international airline, headquartered in Germany. It flies passengers and freight around the world. During 2011, the company flew 100.6 million passengers and 2.1 million tonnes of freight on 1,050 thousand flights.

(b) The company is exposed to fuel price risk, interest rate risk, and foreign currency risk. The company monitors and manages these risks in a conservative and systematic manner. Lufthansa uses derivatives to manage these risks with the primary aim to reduce earnings volatility due to fuel price and foreign exchange rate fluctuations. Interest rate hedging is used to reduce and minimize fluctuations in the company's interest expense. Fuel costs represent 20.6% of total costs. Therefore the company hedges fuel costs for up to the next 24 months, with 85% of the next 6 months hedged and 70% of the 2012's forecasted usage being hedged. The company uses primarily option combinations for these fuel price hedges.
Foreign currency risk arises from international tickets sales and purchases of fuel, aircraft, and spare parts. The company deals in 80 different currencies of which 20 are managed, primarily being the US dollar, the Japanese yen, and British sterling. Interest rate risk is managed using swaps to ensure that 85% of the debt rates are floating.

(c) From Note 46, the following percentages of the risks are hedged:

- Currency exposure for operating expenses: US dollar – 40%; yen 45% and sterling 75%;
- Currency exposure for new capital expenditures varies from 85% to as high as 92% during the forecasted years for 2012 to 2016;
- Interest rate risks are hedged to 15%;
- Fuel price risk is hedged 70.3% for 2012 and 24.9% for 2013.

RA16-4 (Continued)

(d) The following table identifies the type of derivative and its designation as either a cash flow hedge or a fair value hedge.

In millions of Euros	Fair Value hedge	Cash flow hedge
Interest rate swaps	119	
Spread options for fuel hedging		1
Hedging combinations for fuel hedging		139
Futures contracts for foreign currency hedging	-2	-120
Spread options for fuel hedging		45

The fuel hedges and foreign currency hedges are all designated as cash flow hedges since they relate to anticipated future transactions related to purchases of fuel, operating costs, operating income and aircraft costs. The interest rate swaps are fair value hedges since the swap is on existing debt that is outstanding at the report date.

(e) As explained in the Risks and Opportunities Report, the following explanations are provided as to how the market values of the derivatives have been determined:

- All derivatives are valued at the price an independent party would pay (or receive) to take on the rights and /or obligations of the derivatives.
- Interest rate swaps are measured using a discounted cash flow.
- Currency derivatives are discounted based on their future rates and the corresponding interest rate yield curves.
- Fuel price options are valued using option pricing models.

(f) As per the Risks and Opportunities Report, during the year:

- EUR 800 million was moved from equity to fuel costs,
- For the foreign currency derivatives EUR 414 million was moved from equity to other operating income, EUR 516 million to other operating expenses, and EUR 63 to capital expenditures for aircraft.

LEGAL NOTICE