CHAPTER 1
RISK REPORTING

Related Assignment Materials			
	Illustrations*	**Problems***	**Other assignments***
LO1. Appreciate the broader economic context in which accounting information interacts with risks, valuation, and operating and financial strategies			
LO2. Understand the interactions between uncertainty, risks, strategy, valuation and information		P1.1	CQ1.1, CQ1.5
LO3. Compare the different modes of reporting – financial statement reporting, discretionary management disclosures and summary metrics		P1.2, P1.3, P1.4, P1.5	CQ1.2, CQ1.3, CQ1.4
LO4. Review an example of a financial risk metric		P1.2	CQ1.2, CQ1.3, CQ1.4

* See additional information on next page that pertains to these illustrations, problems and other assignments

Additional Information on Related Assignment Material

Narrated PowerPoint Correlation Guide	
Learning Objective	**Slides**
LO1	3-4
LO2	5-10, 52 – 55 (Appendix 1A)
LO3	11 - 37
LO4	38 - 51

Chapter Outline

Notes

I. Introduction – Financial reporting has traditionally focused on the financial performance and financial position of an enterprise

In recent years, scope of financial reporting has expanded to include the risks faced by business enterprises. Firms' challenge is balancing risks rather than eliminating risks altogether. Thus the focus of business firms is not so much on risk reduction as it is on risk management.

II. Uncertainty, Risk and Exposure - The term "uncertainty" and "risk" are often used interchangeably, although they refer to different phenomena

A. Definition of uncertainty:
   1. Future possible states or occurrence/non-occurrence of future events
   2. Unpredictability of organizational and environmental variables that give rise to risk

B. Definition of Risk
   1. Probability of loss incurred or variability in outcome

C. Perspectives of risk
   1. Downside risk
      i. Views risk as the probability of a loss incurred because of management decisions
      ii. One-tail perspective
   2. Volatility risk
      i. Variability in outcome, both upside and downside
      ii. Two-tailed perspective
      iii. IAS 37 *Provisions, Contingent Liabilities and Contingent Assets* adopts this perspective

D. Risk exposure: Risk exists only if there is exposure to uncertainty
   1. Example: Firms with no debt have no direct exposure to interest rate risks

E. Risk Analysis - Investors require information to analyze the risks affecting a firm's business and assess the strategies and risk management policies

Chapter Outline **Notes**

1. Two types of risk in finance theories – Systematic risks and unsystematic risks
2. Better measurement of risk leads to better management. Examples of measurements include:
   i. Accounting measures (e.g. contingency provisions or probability weighted measures such as fair value)
   ii. Accounting ratios
   iii. Non-accounting measures (summary metrics or Value at Risk metrics)

III. Risk Reporting – Firms generally tend to focus on performance and business opportunities in their financial reports and are less open to discussion of business and financial risks

A. Several reasons for risk reporting –
   1. Better assessment and management of risk
   2. Affects cost of capital
   3. Level playing field
   4. Enhanced management accountability
   5. Better risk management

B. There are certainly interactions between uncertainty, risk, information and cost of capital (firm value)
   1. Summarized in figure 1.1 (Chapter 1)

C. Modes of risk reporting – 3 categories of risk information
   1. Accounting-based information (for example: statement of financial position disclosures, cash flow impact and footnote disclosures)
   2. Summary metrics (Value at Risk, Sensitivity Analysis, Financial ratios)
   3. Descriptive information (Discretionary disclosures, Other regulatory disclosure)

D. Standards that require information for risk assessment (Accounting-based information)
   1. IFRS 8 *Operating Segments*
      i. Key features: Applies to equity or debt securities that are traded in a public market or an over-the-counter market or are in the process of issuing equity or debt securities in the public securities market, Segment information needs to be presented for consolidated financial statements, Requires identification of the operating segment, Uses internal reports regularly reviewed by the entity's chief operating decision maker & Uses qualitative criteria

Chapter outline

ii. Steps for reporting: Identifying operating segment > Determine reportable operating segment (*Revenue test, Profit or loss test, Asset test)* > Apply management discretion > Additional segments (75% of entity's revenue test) > Practical limits

2. IAS 24 *Related Party Disclosures*
   - **i. In categories:** Presence of control (subsidiaries), Presence of significant influence (Associates), Presence of joint-control (Joint ventures), Position as key management personnel (IAS 23: include non-executive directors), Close family member of related party & Party in post-employment benefit plan
   - **ii. Disclosures:**
     a) Related party relationships
     b) Information required to understand potential effect of relationships (Nature, information, relationships between parents and subsidiaries, name of parent and ultimate controlling party, compensation of key management personnel and arm's length terms)
   - **iii. Exemptions:** with a related party that is a government and has control, join control, or significant influence over the reporting entity, or another entity that is subject to the control, joint control or significant influence of the same government
3. IAS 37 *Provision, Contingent Liabilities and Contingent Assets* – Information provided alerts user to possibility of a loss occurring in some period as a result of some past event(s)
   i. **Probable Loss** – Make provision, liability recognized on statement of financial position (balance sheet)
   ii. **Possible, but not probable or remote** – Note disclosure required that includes an estimation of financial effects
4. IFRS 7 *Financial Instruments: Disclosures*
   - **i. Disclosures**
     a) Specific risk related to financial instrument – [Qualitative and Quantitative information]
     b) Risk management policies and hedging activities

Notes

Chapter Outline

ii. Discussion of management's policies for controlling risks associated with financial instruments is also important

a) Hedging of risk exposure

b) Avoidance of undue concentrations of risk

c) Requirements for collateral to mitigate credit risk

IV. Summary metrics – Summary metrics provide a quantitative measure of risk, usually in a single composite figure.

A. **Value at risk** - Probabilistic measure of the potential loss that could be incurred by a firm's portfolio as a result of market risk.

1. Estimates the maximum loss that can be suffered on a portfolio under **normal** market conditions over specified time interval and a given confidence level

2. Information required:

i. Expected mean change in portfolio value

ii. Distribution of portfolio values

iii. Expected standard deviation

3. VaR Framework

i. Distribution of values of risk factors (Historical simulation, Normal distribution or Monte Carlo simulation)

ii. Distribution of values of individual assets

iii. Distribution of values of a portfolio of assets

4. Portfolio risk can be reduced through:

i. Combining assets with a low covariance or

ii. By having a large number of assets

5. Variants of VaR

i. Uses among non-financial institutions is less common

ii. Variants like earnings at risk and cash flow at risk, are often used

iii. VaR measures loss based on the present value of all future cash flow

B. **Sensitivity analysis** - method of measuring exposure to market risks

1. Sensitivity analysis measures the potential loss (or gain) in future earnings, fair values, or cash flows of market-sensitive instruments resulting from hypothetical changes in

i. Interest rates

ii. Foreign exchange rates

iii. Commodity prices

iv. Other market rates or prices

Notes

Chapter outline

C. **Credit risk**
   1. Summarized into loan provisions and impaired loans by:
      i. types of customers
      ii. Countries
      iii. Industries
      iv. Single-name groups

D. **Liquidity risk** - The assets and liabilities can be tabulated by contractual cash flow maturity bands
   1. The following funding sources are disclosed:
      i. Short-term funding
      ii. Long-term debt issuance
      iii. Secured (collateralized) funding

E. **Multivariate model** – There are models that use financial ratios to predict bankruptcy
   1. Compare the profiles of actual bankrupt and non-bankrupt firms to determine a critical value of a financial attribute/ ratio (e.g. debt-equity ratio) that clearly separate these firms
   2. Weights are assigned to each attribute through a statistical process called multiple discriminant analysis (e.g. Altman's original Z-score)

ALTERNATE DEMONSTRATION PROBLEM

Chapter 1

Sensitivity analysis

The table provides a sub-set of the financial assets and financial liabilities of Dall Finance Limited on 31 December 20x3.

Assets	Re-pricing in 20x4	Re-pricing in 20x5	Re-pricing in 20x6	Total book value
Assets:				
Variable rate loans	$1,250,000	$152,000	$212,000	$1,614,000
Average re-pricing interest rate	9.45%	9.60%	9.80%	9.70%
Liabilities:				
Time deposits (variable rate)	$49,800	$290,000	$0	$339,800
Average re-pricing interest rate	5.80%	6.00%		
Long-term debt (variable rate)		$350,000		$350,000
Average re-pricing interest rate		4.70%		4.70%

Requirements

a. Discuss the nature of interest rate risks facing Dall Finance Limited.
b. Carry out a sensitivity analysis the possible effects of 50 basis-point interest rate increase in 20x4, 100 basis-point interest rate increase in 20x5 and 150 basis-point interest rate increase in 20x6 on cash flows of Dall Finance Limited. Assume the increase is the same across all tenure and the same for assets and liabilities.

SOLUTION: ALTERNATE DEMONSTRATION PROBLEM

Chapter 1

a. Discuss the nature of the interest rate risks facing Dall Finance Limited

Changes in interest rates may affect earnings and/or economic/fair values of a firm.

Dall Finance Limited faces the risk of changes in cash flows and earnings on both its variable rate assets and variable rate liabilities when they are re-priced at different interest rates.

In terms of economic values, Dall Finance Limited faces interest rate risks on fixed rate assets and fixed rate liabilities. When fixed rate assets and/or fixed rate liabilities are carried at fair values, changes in interest rates also affect Dall Finance Limited's earnings.

b. Sensitivity analysis

While sensitivity analysis can be performed for both cash flows and fair value changes, there is not enough information to do a sensitivity analysis for fair value changes. So the computations are for cash flow changes and apply to variable rate assets and liabilities.

	Re-pricing in 20x4	**Re-pricing in 20x5**	**Re-pricing in 20x6**	**Total**
Variable rate assets	$1,250,000	$152,000	$212,000	$1,614,000
Variable rate liabilities	-$49,800	-$640,000	$0	-$689,800
	$1,200,200	-$488,000	$212,000	$924,200
50 bp increase	$6,001			
100 bp increase		-$4,880		
150 bp increase			$3,180	

Total cash flow impact = $6,001 - $4,880 + $3,180 = $4,301

This is a simplified example. In practice, one should determine the tenure of assets and liabilities to be re-priced at each date and determine the forecasted interest rates in each tenure bucket to be applied to the assets and liabilities. The re-pricing dates and the re-pricing rate at each date needs to be determined (if not exact date, at least for the month to be more accurate than for the year). The re-pricing rates may differ between assets and liabilities.

Fixed rate assets and liabilities have not been covered in this example.

Sensitivity analysis

The table below summarizes the financial assets and financial liabilities of PL Banking Corporation in a tabular format

Assets	Maturing in 20x1	Maturing in 20x2	Maturing in 20x3	Total book value	Fair value
Assets:					
Fixed rate loans	$1,280,000	$890,000	$560,000	$2,730,000	$2,838,000
Average interest rate	7.50%	7.80%	8.02%	7.70%	
Variable rate loans	$990,000	$480,000	$250,000	$1,720,000	$1,720,000
Average interest rate	8.28%	8.50%	8.60%	8.38%	
Liabilities:					
Savings (fixed rate)	$1,800,000	$0	$0	$1,800,000	$1,800,000
Average interest rate	2.50%			2.50%	
Time deposits (fixed rate)	$2,080,000	$290,000	$80,000	$2,450,000	$2,380,000
Average interest rate	4.50%	4.80%	5.00%		
Time deposits (variable rate)	$300,000	$180,000	$0	$480,000	
Average interest rate	6.50%	6.70%			
Long-term debt (variable rate)		$500,000		$500,000	$500,000
Average interest rate		5.40%		5.40%	

Required:

Discuss the nature of the interest rate risks facing PL Banking Corporation
Based on the information given, calculate, using sensitivity analysis, the effect of (a) a 50 basis-point increase in interest rate and (b) a 100 basis-point increase in interest rate on the earnings of the institution

Answers

PL Banking Corporation faces interest risk on both its variable rate assets and variable rate liabilities and on its fixed rate assets.

A change in interest rate will affect cashflows on its variable rate assets and liabilities. A change in interest rate will also affect fixed rate assets if these are carried at fair values. (Fixed rate liabilities are usually carried at cost and so will not be affected by interest rate changes).

	1BP = 0.01%	1BP = 0.01%
	50BP = 0.5%	100BP = 1%
	0.5	1

(2) Sensitivity analysis

Note: While sensitivity analysis can be performed for both cash flows and fair value changes, there is not enough information to do a sensitivity analysis for fair value changes. So the computations are for cash flow changes and apply to variable rate assets and liabilities.

	Maturing in 20x1	**Maturing in 20x2**	**Maturing in 20x3**	**Total**
Variable rate assets	$990,000	$480,000	$250,000	$1,720,000
Variable rate liabilities	-$300,000	-$680,000	$0	-$980,000
	$690,000	-$200,000	$250,000	$740,000
50 bp increase	$3,450	-$1,000	$1,250	$3,700
100 bp increase	$6,900	-$2,000	$2,500	$7,400

A disclosure on sensitivity analysis will appear as follows:

A 50 basis points increase in interest rate will increase earnings by $3.7 million.
A 100 basis points increase in interest rate will increase earnings by $7.4 million.

Sensitivity analysis

The table below summarizes the financial assets and financial liabilities of Dall Finance Limited in a tabular format

Assets	Maturing in 20x4	Maturing in 20x5	Maturing in 20x6	Total book value	Fair value
Assets:					
Fixed rate loans	$5,725,000	$389,000	$240,000	$6,354,000	$6,450,000
Average interest rate	5.25%	5.40%	5.85%	5.50%	
Variable rate loans	$1,250,000	$152,000	$212,000	$1,614,000	$1,614,000
Average interest rate	9.45%	9.60%	9.80%	9.70%	
Liabilities:					
Savings (fixed rate)	$2,225,000	$0	$0	$2,225,000	$1,800,000
Average interest rate	1.25%			2.50%	
Time deposits (fixed rate)	$3,456,000	$482,000	$133,000	$4,071,000	$3,954,000
Average interest rate	3.80%	3.95%	4.10%		
Time deposits (variable rate)	$49,800	$290,000	$0	$339,800	
Average interest rate	5.80%	6.00%			
Long-term debt (variable rate)		$350,000		$350,000	$350,000
Average interest rate		4.70%		4.70%	

Required:

Discuss the nature of the interest rate risks facing Dall Finance Limited
Based on the information given, calculate, using sensitivity analysis, the effect of (a) a 100 basis-point increase in interest rate and (b) a 150 basis-point increase in interest rate on the earnings of the institution

Answers

Dall Finance Limited faces interest risk on both its variable rate assets and variable rate liabilities and on its fixed rate assets.

A change in interest rate will affect cashflows on its variable rate assets and liabilities. A change in interest rate will also affect fixed rate assets if these are carried at fair values. (Fixed rate liabilities are usually carried at cost and so will not be affected by interest rate changes).

1BP = 0.01%	1BP = 0.01%
100BP = 1%	150BP = 1.5%
	1 1.5

(2) Sensitivity analysis

Note: While sensitivity analysis can be performed for both cash flows and fair value changes, there is not enough information to do a sensitivity analysis for fair value changes. So the computations are for cash flow changes and apply to variable rate assets and liabilities.

	Maturing in 20x1	**Maturing in 20x2**	**Maturing in 20x3**	**Total**
Variable rate assets	$1,250,000	$152,000	$212,000	$1,614,000
Variable rate liabilities	-$49,800	-$640,000	$0	-$689,800
	$1,200,200	-$488,000	$212,000	$924,200
50 bp increase	$12,002	-$4,880	$2,120	$9,242
100 bp increase	$18,003	-$7,320	$3,180	$13,863

A disclosure on sensitivity analysis will appear as follows:

A 100 basis points increase in interest rate will increase earnings by $9.242 million.
A 150 basis points increase in interest rate will increase earnings by $13.863 million.