Tutorial Letter 202/2/2016
Fundamentals of Operational and Financial Risk

RSK2602

Semester 2

Department of Finance, Risk Management and Banking

This tutorial letter contains the suggested solution to the second compulsory and self-assessment assignments.

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CONTENTS

Please note / important notes:

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1 INTRODUCTION

Dear Student

The purpose of this tutorial letter is to provide you with guidelines on answering the second compulsory and self-evaluation assignments.

2 GUIDELINES FOR ANSWERING ASSIGNMENT 02

Question 1: Correct option 4

Refer to Chapter 5, p91, in the prescribed book.

Process Flow analysis is a qualitative approach to operational risk measurement. It is a bottom-up approach to evaluating operational risk. Because it reflects staff's perceptions, it is considered too subjective. Process Flow analysis can be used to compile a risk map.

Question 2: Correct option 3

Refer to Chapter 5, p91, in the prescribed book.

The risk exposure of a specific business activity before the control measures to reduce the potential effect of that activity are taken into account is referred to as inherent risk.

Question 3: Correct option 4

Refer to Chapter 5 in the prescribed book.

Quantitative approaches to risk evaluation include amongst others, database modelling, stochastic modelling and Causal modelling. Scenario formulation and analysis is a qualitative approach to risk evaluation.

Question 4: Correct option 4

Refer to Chapter 5 in the prescribed book.

Motor vehicle accidents for a business with a motor fleet may typically be classified as low frequency/high severity losses, and best dealt with through third-party insurance. Proper control measures should also be put in place to prevent or reduce accidents.

Question 5: Correct option 3

Refer to Chapter 5, p98, in the prescribed book.

Key risk indicators are main components of a data model for operational risk. Stochastic modelling aims to calculate the **Operational Value-at-Risk** for an organisation. The Poisson distribution is used to estimate the frequency of operational risk events in the future. The Monte Carlo simulation model is used to arrive at the **aggregated loss distribution**, which gives the probability of the loss amount and is used to determine both the expected and unexpected losses, given some confidence level.

Question 6: Correct option 4

Refer to Chapter 4, p72, in the prescribed book.

Fraud is a downside of risk and requires reactive management.

Question 7: Correct option 2

Refer to Chapter 1, p21, in the prescribed book.

Risk factors that are related to operational risk are internal fraud, key person dependency and data theft. Movement in prices of commodities is regarded a financial risk factor.

Question 8: Correct option 2

Refer to Chapter 6, p107, in the prescribed book.

Control methods for operational risk include information security risk and business continuity management.

<u>Question 9: Correct option 1</u>

Refer to Chapter 5, p91, in the prescribed book.

Residual risk = inherent risk – controls.

<u>Question 10: Correct option 2</u>

Refer to Chapter 6, p117, in the prescribed book.

Senior management should be provided with a report on the risk profile of the organisation on a **monthly** basis. The disclosure of the effectiveness of the organisation's risk management strategy should preferably be reported to stakeholders on an annual basis. Information on short- and long term business opportunities should be provided to **executive management** on a quarterly basis. Key risk issues should be reported to line managers and risk officials on a **daily** basis.

<u>Question 11: Correct option 1</u>

Refer to Chapter 7 in the prescribed book and Study unit 7 in the Unisa guide.

Insurance costs may include, amongst others, costs associated with statutory insurance and insurance premiums. The costs associated with self-insurance and captives are regarded as **internal funding.**

<u>Question 12: Correct option 1</u>

Refer to Chapter 7 in the prescribed book and Study unit 7 in the Unisa guide.

Captives are considered as internal insurance. Losses falling within the low frequency/high impact bracket are most suited to be financed through **insurance**. Risk retention is considered a **pre-loss** financing strategy. Risk appetite is the maximum financial amount a business is **prepared** to accept and tolerate in terms of losses.

<u>Question 13: Correct option 3</u>

Refer to Chapter 1, p10, in the prescribed book.

When the repro rate is increased by the government the money supply in the country is **decreased**. It normally has a **dampening** effect on the economy. Consumers will have less money to spend on durables and investments. The economy of the country will normally receive a boost when the repo rate is **reduced**.

<u>Question 14: Correct option 2</u>

Refer to Study unit 4 in the Unisa guide.

Sources of information external to an organisation that can be used to identify risks include, amongst others, external audits and changes in legislation and regulations. Financial statements and staff fraud are **internal** to the organisation.

Question 15: Correct option 4

Refer to Chapter 1, p10, in the prescribed book.

Intermediate monitoring of the operational risk management process is done via, amongst others, internal audits and activity analysis. **Continuous monitoring** is usually conducted by means of, amongst others, supervisory activities and reconciliation. It is an ongoing process and focuses directly on the effectiveness of control measures. It is done to identify problems on a real-time basis and encourages immediate corrective action.

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3 GUIDELINES FOR ANSWERING ASSIGNMENT 03

This is a self-assessment assignment. You must complete the assignment and use the following guidelines to assess your answers. Please note that the exam paper comprises of Multiple-choice questions, True/False questions and longer paragraph and essay questions.

Question 1 (10 marks)

NOTE:

When answering true/false questions you must indicate whether the statement is true or false. This must be followed by a proper motivation which supports your initial answer. **In the exam, no marks will be awarded for a true or false answer without a proper motivation.** A motivation can be approached in two ways. For a false statement, first motivate why the answer is false and then indicate what would be the correct statement or fact(s). For correct statements, emphasise why the answer is considered correct.

1.1 There is no upside to operational risk.

False.

Refer to Chapter 4 in the prescribed book.

Risk has both an upside and downside. Operational risk mostly involves the downside of risk as a result of the uncertainty of the outcomes of operational risk events√. Operational risk managers often try to reduce the variance between anticipated outcomes and actual results. In the light of this, one can regard the upside of operational risk as an investment in effective control measures to prevent losses.√ A reduction in losses can be regarded as a positive outcome of the investment.

1.2 Where a bank is unable to meet unexpected demands for cash it means that the bank is illiquid and insolvent.

False.

Refer to Chapter 1 in the prescribed book.

Liquidity refers to the ability of an organisation to meet expected and unexpected demands for cash. Should the organisation not be able to do so, it does not necessarily mean that the organisation is insolvent.√ The bank might have more assets than liabilities but it might find it difficult to liquidate the assets at the time. Insolvency implies that the liabilities of the bank are more than the assets. √

1.3 Risk appetite refers to the financial capacity of an organisation.

False.

Refer to Chapter 7 in the prescribed book.

Risk appetite is the financial amount that an organisation is prepared to accept and tolerate√ as a financial loss in a given time period. Financial capacity refers to the financial strength of the organisation√.

1.4 Expected losses such as a shortfall in petty cash should be financed through internal funding.

False.

Refer to Chapter 5 in the prescribed book.

These losses are normally of a low severity/low frequency nature and are most suited to be financed as part of operations and part of the risk tolerance – thus an operating loss which is accepted and written off by the organisation√. Internal funding will apply when provision is specifically made for losses by means of, for example, reserves.√

1.5 The investment in preventative controls can be considered as an upside of operational risk.

True

Refer to Chapter 4 in the prescribed book.

Operational risk managers often try to reduce the variance between anticipated outcomes and actual results. In the light of this, one can regard the upside of operational risk as an investment in effective control measures to prevent losses.√ A reduction in losses because of the implementation of the control measures can be regarded as a positive outcome of the investment√.

<u>Question 2 (10 marks)</u>

List and explain the **cost components** that comprise the overall **cost of risk** for a business organisation.

Suggested solution:

Refer to Chapter 7 in the prescribed book and pages 42 and 43 in the Unisa guide.

The overall cost of risk can be the sum of the following:

- **Maintenance and management costs or administrative costs**: This comprises the administration expenses involved and budgeted for operational risk√. This include the staff cost of operational risk practitioners and their travel and accommodation expenses, operational risk system costs, external consultancy services and other general expenses√. It also include clerical cost in the handling of insurance matters, handling of self-insured losses, reporting and investigating loss occurrences and cost of an in-house risk management function.
- **Internal control (risk control) and loss prevention expenses**: Internal controls are one of the most important aspects of risk management. Cost associated with internal controls include cost of segregation of duties, cost of hardware and software, cost of external evaluation programmes to determine the effectiveness of processes and procedures, cost of procedure manuals and cost of training supervisors√. Loss prevention costs include staff costs, loss prevention system costs, cost of reporting and reward schemes√. You could also have referred to depreciation costs on major capital costs to reduce risks, cost of time assumed in identifying and evaluation of risk, subscriptions to safety journals, and management time invested in risk control.√
- **Unreimbursed and unrecovered operational losses**: These refer to losses that had to written off as irrecoverable losses√. It also refer to excesses provided on insurance premiums, inadequate sums insured, repudiation of claims due to breach of policy warrantees and conditions, uninsurable losses and losses not paid due to insolvency of the insurer√.
- **Internal funding or self-funding:** Internal funding is the provision of funds for predetermined potential losses due to normal operating procedures√. Internal funding can be on a funded basis through reserves and captives or a non-funded basis, where the loss is funded as an operational expense√.
- **External insurance premiums:** Insurance cost comprises of both direct insurance cost and opportunity cost. Direct costs involve the total of all premiums, the tax implications of premiums and claims and the cost of capital relatively to the value of claims. Statutory insurance premiums should also be added. Direct costs are reduced by claim payments. Opportunity cost refers to the money spend on insurance premiums instead of investing those funds to improve production and thereby foregoing the opportunity to generate more profit for the organisation.

Question 3 (5 marks)

Explain the **nature** and **functions** of derivatives in the financial markets and **list three** groups/types of derivatives.

Suggested solution:

Refer to Chapter 1 in the prescribed book.

Derivatives serve a valuable purpose in providing a means of managing financial risks. √ Derivatives can transfer, at a price, any undesirable risk to another party who want either to assume risk or have another offsetting risk.√ Derivatives are contracts between counterparties and aim to cover interest rates, foreign exchange rates, commodities and equities.√ **max 2**

Derivatives are divided into three main groups:

- Forwards and Futures√ which are used mainly as anticipatory hedges – having to buy or sell a specific asset/commodity in the future. √
- Options√ which are used to provide leverage or gearing √
- Swaps √ which allows investors to transform current commitments in an attempt to match up with changing circumstances and expectations. √

Question 4 (10 marks)

Identify and discuss the **four primary operational risk factors** that face business organisations. In your answer define each primary risk factor and explain its main drivers or components. Use examples to highlight your answer.

Suggested solution:

Refer to Chapter 1 in the prescribed book.

The four main risk factors of operational risk include:

- **Processes:** The processes operated by the organisation√. Driven by incorrect data input, inadequate processes leading to time delays and inefficiencies√.
- **People**: The people employed by the organisation to help operate and manage the processes√. Drivers include human errors, fraud, and dependency on key staff. Also low morale, working culture, ill-informed decision-making, incompetent staff. It also includes the inability of an organisation to recruit, train and retain the correct mix of skilled people. **Any** √√

- **Systems**: The systems used to support the processes√, driven by system failures, system integrity, outdated systems, system suitability and system support√.
- **External factors**: The risk resulting from the external environment in which the organisation operates√. Drivers include business interruption, changes in regulations, contractual failures, Acts of God, crime, suppliers, information security, financial reporting and external fraud. **Any** √√

4 CONCLUDING REMARKS

We trust that you have found the study of this module both interesting and rewarding. We wish you all of the best with your preparations for the examination.

Please keep in mind that Mrs de Swardt is on sabbatical leave. Please address your enquiries of an academic nature to Miss Mare.

Best wishes

MRS CECILE DE SWARDT (AJH 5-115)
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