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Subject: Basel

Chapter: Unit 1, 2, 3 & 4

Category: Assignment solutions

Answer 1.

Exposure = (1.15 x 150) - (0.75 x 125) = 172.5 - 93.75 = $78.75

The risk weight for an unrated corporate counterparty based on Figure 57.3 in the reading is 100%.

Applying the 100% risk weight, risk-weighted assets are:

Risk-weighted assets = 1.0 x 78.75 = $78.75 million

Answer 2:

For BI bucket 1 banks (€0 billion–€1 billion):

SMA Capital = BIC

In this case, the BI component is computed as:

$0.12 \times BI = 0.12 \times 750 \text{ million} = 90.00 \text{ million}.$

Answer 3.

(1) With netting, the current exposure portion of the credit equivalent amount is 5 for the first counterparty (i.e., the —5 exposure on the first interest rate derivative is netted against the 10 exposures on the foreign exchange derivative) and 0 for the second, for a total of 5. Note that current exposure may not be less than zero, and the — 1 0 market value on the wheat option may only be netted against positive exposures at the second counterparty, not at the first counterparty.

(2) In this case, NRR = 0.5 because the numerator of NRR is the current exposure of 5 and the denominator is the sum of the positive exposures (i.e., 10).

(3) The add-on for potential future exposure must be calculated separately for each type of derivative, multiplying the total notional value for each type by the add-on factor to obtain values of Dj.

For the interest rate derivatives, 200 X 0.5% yields a value of 1, while for the remaining types in the table D is 10, 10, and 30 for the foreign exchange, equity, and wheat types, respectively.

Applying the formula for CEA,

CEA = 5 + (0.4 x 1 + 0.6 x 1 x .5) + (0.4 x 10+0.6 x 10 x .5) + (0.4 x 10+0.6 x 10 x.5) + (0.4 x 30+0.6 x 30 x.5)

= 5 + .7 + 7 + 7 + 21

= 40.7

Answer 4:

D. Review and approval of the ORMF is the responsibility of the Board, while the other three are the responsibility of senior management. See the Principles.

Answer 5:

A. True: I = Internal loss data; II = Key Risk Indicators (KRIs); III = Business Process Mapping; IV= Scenario Analysis. See the Principles for full descriptions.

Here are summary descriptions of the tools used to identify and assess operational risks:

(a) Audit Findings: While audit findings primarily focus on control weaknesses and vulnerabilities, they can also provide insight into inherent risk due to internal or external factors.

(b) Internal Loss Data Collection and Analysis: Internal operational loss data provides meaningful information for assessing a bank's exposure to operational risk and the effectiveness of internal controls. Analysis of loss events can provide insight into the causes of large losses and information on whether control failures are isolated or systematic ... (from the BIS Review of the Principles, BCBS 292: "Most of the banks have a well-established process to collect internal operational loss data, with some collecting loss data above a threshold (eg $10,000 or €10,000), while some banks collect data on all operational losses, and have not established an internal threshold.")

(c) External Data Collection and Analysis: External data elements consist of gross operational loss amounts, dates, recoveries, and relevant causal information for operational loss events occurring at organisations other than the bank. External loss data can be compared with internal loss data, or used to explore possible weaknesses in the control environment or consider previously unidentified risk exposures;

(d) Risk Assessments: In a risk assessment, often referred to as a Risk Self Assessment (RSA), a bank assesses the processes underlying its operations against a library of potential threats and vulnerabilities and considers their potential impact. A similar approach, Risk Control Self Assessments (RCSA) ... (see next question)

(e) Business Process Mapping: Business process mappings identify the key steps in business processes, activities and organisational functions. They also identify the key risk points in the overall business process. Process maps can reveal individual risks, risk interdependencies, and areas of control or risk management weakness. They also can help prioritize subsequent management action;

(f) Risk and Performance Indicators: Risk and performance indicators are risk metrics and/or statistics that provide insight into a bank's risk exposure. Risk indicators, often referred to as Key Risk Indicators (KRIs), are used to monitor the main drivers of exposure associated with key risks. Performance indicators, often referred to as Key Performance Indicators (KPIs), provide insight into the status of operational processes, which may in turn provide insight into operational weaknesses, failures, and potential loss. Risk and performance indicators are often paired with escalation triggers to warn when risk levels approach or exceed thresholds or limits and prompt mitigation plans;

(g) Scenario Analysis: Scenario analysis is a process of obtaining expert opinion of business line and risk managers to identify potential operational risk events and assess their potential outcome. Scenario analysis is an effective tool to consider potential sources of significant operational risk and the need for additional risk management controls or mitigation solutions. Given the subjectivity of the scenario process, a robust governance framework is essential to ensure the integrity and consistency of the process;

(h) Measurement: Larger banks may find it useful to quantify their exposure to operational risk by using the output of the risk assessment tools as inputs into a model that estimates operational risk exposure. The results of the model can be used in an economic capital process and can be allocated to business lines to link risk and return; and
(i) Comparative Analysis: Comparative analysis consists of comparing the results of the various assessment tools to provide a more comprehensive view of the bank's operational risk profile. For example, comparison of the frequency and severity of internal data with RCSAs can help the bank determine whether self assessment processes are functioning effectively. Scenario data can be compared to internal and external data to gain a better understanding of the severity of the bank's exposure to potential risk events."

Answer 6:

D. True: The use of technology related products, activities, processes and delivery channels exposes a bank to strategic, operational, and reputational risks and the possibility of material financial loss. From the Principles: "51. Effective use and sound implementation of technology can contribute to the control environment. For example, automated processes are less prone to error than manual processes. However, automated processes introduce risks that must be addressed through sound technology governance and infrastructure risk management programs.
52. The use of technology related products, activities, processes and delivery channels exposes a bank to strategic, operational, and reputational risks and the possibility of material financial loss. Consequently, a bank should have an integrated approach to identifying, measuring, monitoring and managing technology risks. Sound technology risk management uses the same precepts as operational risk management and includes:
(a) governance and oversight controls that ensure technology, including outsourcing arrangements, is aligned with and supportive of the bank's business objectives;
(b) policies and procedures that facilitate identification and assessment of risk;
(c) establishment of a risk appetite and tolerance statement as well as performance expectations to assist in controlling and managing risk;
(d) implementation of an effective control environment and the use of risk transfer strategies that mitigate risk; and
(e) monitoring processes that test for compliance with policy thresholds or limits."
In regard to (A), (B) and (C) each is false.
In regard to false (A), according to the Principles: "54. Outsourcing is the use of a• third party--either an affiliate within a corporate group or an unaffiliated external entity--to perform activities on behalf of the bank. Outsourcing can involve transaction processing or business processes. While outsourcing can help manage costs, provide expertise, expand product offerings, and improve services, it also introduces risks that management should address. The board and senior management are responsible for understanding the operational risks associated with outsourcing

arrangements and ensuring that effective risk management policies and practices are in place to manage the risk in outsourcing activities."
In regard to false (B), according to the Principles: "56. Because risk transfer is an• imperfect substitute for sound controls and risk management programs, banks should view risk transfer tools as complementary to, rather than a replacement for, thorough internal operational risk control." Risk transfer tools are a replacement (aka, substitute) for internal operational risk control."
In regard to false (C), according to the Principles: "55. In those circumstances where• internal controls do not adequately address risk and exiting the risk is not a reasonable option, management can complement controls by seeking to transfer the risk to another party such as through insurance."

Answer 7:
Two events motivated creation of Basel I.

- First, the growth of cross-border finance continued after Her- statt's failure and it was evident that the G10 nations had a common interest in ensuring that banks had enough equity to absorb large losses.
- Second, international banks were competing vigorously in each other's home countries. However, minimum levels of required capital varied significantly across nations, creating a perception that banks headquartered in countries with low minimums had a competitive advantage. In response, members of the BCBS decided to develop a global minimum standard to "level the playing field" and avoid a race to the bottom. That is, while the Basel Accord was partly about ensuring safety and soundness, negotiations also had an element of maneuvering for perceived competitive advantage.

Limitations:

1. First, all corporate loans were treated the same (i.e., a risk weight of 100%) regardless of the creditworthiness of the borrower. A firm with an AAA credit rating was treated the same as a borrower with a C rating.
2. Basel I also ignored the benefits of diversification (i.e., there was no model of default correlation).

Answer 8:

Operational risk is any risk that arises from your company's business processes and could result in financial loss or disruption to your ability to serve customers.

Operational risk is inherent in all banking products, activities, processes and systems, and the effective management of operational risk has always been a fundamental element of a bank's risk management programme.

Operational risk management (ORM) is the art of protecting your company from such risks and minimizing any damage that may occur.

Risk management generally encompasses

- the process of identifying risks to the bank,
- measuring exposures to those risks (where possible),
- ensuring that an effective capital planning and monitoring programme is in place,
- monitoring risk exposures and corresponding capital needs on an ongoing basis,
- taking steps to control or mitigate risk exposures
- reporting to senior management and the board on the bank's risk exposures and capital positions.

Answer 9:

For a financial entity like a bank, it may face several types of risks. Some of them are related with the market environment, some related with its internal operations and some related with non-availability of cash. The following are those risks:

Credit Risk

- Credit risk refers to the probability of a borrower not repaying the loan and other contractual obligations. Delays in the payment of the loan also comes under credit risk.

Market risk

- Market risk refers the probability of occurrence of losses on financial investments caused by adverse price movements. Decline in the price of shares bought by a bank is an example for market risk.

Operational Risk

- Operational risk refers to the risk of losses related with the weak or faulty operations of the bank. Internal fraud as happened in the case of Punjab National Bank or faulty governance practices etc. may bring losses to the bank and thus are examples for operational risk.

Answer 10:

A

Reason –

Under the advanced measurement approach, each bank would use their own internal loss data to calculate the capital charge within standards set by the supervisor.

Answer 11:

D

Reason –

Under Basel II, a bank can use Basic Indicator Approach (BIA) for calculating capital charge for operational risk.

Answer 12:

Areas of digital bank and associated risk
Mitigation measures for the identified risk

Answer 13:

Basics of Basel II and Basel III
Crisis in 2008 leading to liquidity risk
Monitoring of Liquidity Risk in the Banks
Beyound modelling in Basel III

Answer 14:

According to Basel II, banks should disclose:
The entities (banks and other businesses such as securities irms in Europe) to which Basel II rules are applied.
A description of the characteristics, terms, and conditions of all the capital instruments held by the bank.
A list of the instruments comprising the bank's Tier 1 capital. The amount of capital provided by each instrument should also be disclosed.
A list of the instruments comprising the bank's Tier 2 capital.
The capital requirements for each type of risk covered under Basel II: credit, market, and operational risks.
Information about other bank risks.
Information about the bank's risk management function, how it is structured, and how it operates

Answer 15:

Tier 1 capital (or core capital) includes:

- Common equity including retained earnings (called Tier 1 equity capital or Tier 1 common capital).
- A limited amount of unrealized gains and losses and minority interest.

Tier 2 capital (or supplementary capital) is designed to absorb losses after failure. It is meant to protect depositors and other creditors. It includes:

- Debt subordinated to depositors with an original maturity of five years or more.
- Some preferred stock, such as cumulative perpetual preferred.
- General loan loss reserves, not allocated to absorb losses on specific positions. Reserves may not exceed 1.25% of standardized approach risk-weighted assets (RWAs), or 0.6% of IRB RWAs.