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Subject: Basel

Chapter: Unit 3

Category: Practice questions solutions

Answer 1:

(0.2 × 80) + (1.5 × 20) = $46 million risk-weighted assets

Answer 2:

b = $[0.11852 - 0.05478*\ln(PD)]^2$ = 0.137

MA=1/(1-1.5*0.137) = 1.26

RWA = 12.5*100*.3*(0.14—0.01)*1.26 = $61.4 million.

Answer 3:

Exposure = (1.15 × 150) − (0.75 × 125) = 172.5 − 93.75 = $78.75

The risk weight for an unrated corporate counterparty based on Figure 53.5 in the reading is 100%. Applying the 100% risk weight,

Risk-weighted assets are: risk-weighted assets = 1.0 × 78.75 = $78.75 million

Answer 4:

Basel II is an international standard, governing "internationally active banks." There are three pillars under Basel II as follows:

1. Pillar 1 – minimum capital requirements. This pillar involves calculating capital based on the riskiness of the bank, taking into consideration credit risk, market risk, and operational risk.

2. Pillar 2 – supervisory review. A primary goal of Basel II is to achieve overall consistency in the application of the capital requirements across countries while, at the same time, giving supervisors discretion to consider market conditions in their own countries.

3. Pillar 3 – market discipline. Banks are required to disclose more information about the risks they take and the capital allocated to those risks. According to Basel II, if banks must share more information with shareholders (and potential shareholders), they will make better risk management decisions.

Answer 5:

1) C

Reason - Basel 2.5 required banks to calculate two VaRs, the usual VaR, using the historical simulation method, and a stressed VaR, using a 99% conidence level, 250-day period of stressed market conditions. The total market risk capital charge is the sum of the usual bank VaR and the stressed VaR. Initially, regulators thought the year 2008 would be ideal for stressed market conditions. However, banks are now required to identify a one-year period when their portfolios performed poorly. This means the stressed period may be different across banks.

2) A

Reason - As part of the incremental risk charge (IRC) calculation, banks are required to estimate a liquidity horizon for each instrument in the portfolio. For example, assume an AA+-rated bond in the portfolio has a liquidity horizon of three months. If, at the end of three months, the bond has defaulted or has been downgraded, it is assumed that the bank will replace the bond with an AA+-rated bond comparable to the one held at the start of the period. This rebalancing is assumed at the end of each three-month period (or six months, nine months, etc., depending on the estimated liquidity horizon). Rebalancing allows banks to take losses as instruments are downgraded but generally allows the bank to avoid defaults.

3) B

Reason –

Under the advanced IRB approach, the bank uses its own internal measures of credit risk and exposure in capital calculations.

4) D

Reason –

The requirement to operate above minimum regulatory capital ratios is a requirement laid out in Pillar II regarding the interaction of supervisors and internationally active banks. Note that Pillar III relates to market discipline and disclosure.

5) B

Reason –

Under the Basel II Accord, loans considered past due are risk weighted at 150% to reflect their greater risk profile.

6) 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.