

## 1. 巴塞尔协议

### 1.1. RWA

#### 1.1.1. 问题描述: 如题

#### 1.1.2. 题目

Assume a bank determines credit risk-weighted assets (credit RWA) of \$10 million, a market risk charge (MRC) of \$300,000 and an operational risk charge (ORC) of \$500,000. To meet Basel III requirements, the bank has determined it holds \$2.0 million in eligible total (Tier 1 plus Tier 2) regulatory capital. What is the bank's total capital ratio?

- A. 5.0 %
- B. 6.25%
- C. 8.0%
- D. 10.0%

**Correct Answer: D**

解答:

Capital 与 Risk weighted assets 的比例是 1: 12.5

$$\text{RWA} = \$10,000,000 + \$300,000 \times 12.5 + \$500,000 \times 12.5 = \$20,000,000 \text{ RWA};$$

$$\$2 \text{ MM} / \$20 \text{ MM} = 10.0\%$$

### 1.2. Diversification

#### 1.2.1. 问题描述: 如题

#### 1.2.2. 题目

Which of the following statements would be considered a drawback of Basel II/III?

- A. Proyclicality is a concern, and no countercyclical buffer is provided.
- B. It does not consider diversification effects among risk classes.
- C. Level 1 diversification benefits are not acknowledged.
- D. There are no detailed disclosure requirements for risk management policies concerning credit risk.

**Correct Answer: B**

**解答:**

Basel II/III 仅考虑了 Level 1 diversification benefits.

各等级 diversification benefits 如下：

**Level 1**

Within specific class of risk. (考虑风险内部)

Within a specific line of business. (考虑业务条线内部)

**Level 2a**

Within specific class of risk. (考虑风险内部)

Across specific lines of business. (不同业务条线考虑)

**Level 2b:**

Across specific classes of risk. (不同风险之间)

Within a definite legal entity. (一个法律实体内部)

**Level 3:**

Across definite classes of risk. (不同风险之间)

Across legal entities. (不同法律实体之间)

### 1.3. Capital Requirement

#### 1.3.1. 问题描述：如题

#### 1.3.2. 题目

Thrift Bank carries risk-weighted assets (RWA) of \$40.0 billion. In regard to its eligible regulatory capital, the bank holds:

\$2.8 billion of Common Equity Tier 1 Capital ("Core Tier 1")

\$0.2 billion of Additional Tier 1 Capital

\$1.4 billion of Tier 2 Capital ("Gone concern")

Does Thrift Bank meet the Basel III capital requirements?

- A. No, because Tier 1 Capital is not at least 8.5%
- B. No, because Total Capital is not at least 10.5%
- C. Yes, because Tier 1 is at least 4.0%
- D. Yes, because Tier 2 is at least 2.5%

**Correct Answer: A****解答:**

No, because Tier 1 Capital is not at least 8.5%

Basel III requires Core Tier 1 (Common Equity) of 7.0%, Tier 1 of 8.5%, and Total Capital of

10.5%:

Core Tier 1 (Common Equity) ratio of at least  $7.0\% = 4.5\% + 2.5\%$  Conservation Buffer. Thrift Bank holds exactly sufficient Common Equity:  $2.8/40.0 = 7.0\%$ .

Tier 1 (Common Equity + Additional Tier 1) ratio of at least  $8.5\% = 6.0\% + 2.5\%$  Conservation buffer. Thrift Bank only holds Tier 1:  $3.0/40.0 = 7.5\%$

Total Capital ratio of  $10.5\% = 8.0\%$  total capital +  $2.5\%$  Conversation Buffer. Thrift Bank holds Total Capital:  $4.4/40.0 = 11.0\%$

## 1.4. Market Risk Capital Requirements

### 1.4.1. 问题描述: 如题

### 1.4.2. 题目

As a result of the credit crisis, the Basel Committee revised the market risk framework and introduced a stressed VaR requirement. A bank uses the internal models approach for market risk and has generated the following risk measures (in USD million) for the current trading book positions:

| Confidence Level | Latest Available 10-day VaR | Latest Available 10-day Stressed VaR | Average 10-day VaR of Previous 60 Days | Average 10-day Stressed VaR of Previous 60 Days |
|------------------|-----------------------------|--------------------------------------|--|---|
| 95%              | 210                         | 588                                  | 198                                    | 574   |
| 99%              | 407                         | 1275                                 | 390                                    | 1208  |
| 99.9%            | 593                         | 1687                                 | 541                                    | 1566  |

The supervisory authority has set the multiplication factors for both the VaR and Stressed VaR values to three. What is the capital requirement for general market risk?

- A. USD 2,316 million
- B. USD 4,794 million
- C. USD 6,321 million
- D. USD 6,480 million

**Correct Answer: B**

解答:

专业来自10%的投入!

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市场风险资本金度量，度量要求：

除IRC部分，是1年99.9%置信水平外，其余都是10day 99%置信水平。

对于地，仅考虑VaR和Stress VaR的计算公式，

$$\text{Max}(407,3 \times 390) + \text{Max}(1275,3 \times 1208) = 4794$$

## 1.5. Capital Conservation Buffer

### 1.5.1. 问题描述：如题

### 1.5.2. 题目

The capital conservation buffer:

- A. Will provide an extra 2.5% Common Equity Tier 1 capital buffer in times of stress.
- B. Will be used exclusively to protect banks from the losses garnered from OTC derivatives trading.
- C. Is required only for banks with inadequate liquidity coverage and net stable funding source ratios.
- D. Is covered in the increased Common Equity Tier 1 capital to risk-weighted assets ratio that will increase to 4.5% from the current 2% over the next few years.

**Correct Answer: A**

解答：

资本留存超额资本固定是2.5%，该超额资本在经济危机的时候不用交，可以使用。平时不交或少交会根据少交的比例限制股利发放。

## 1.6. Countercyclical Buffer

### 1.6.1. 问题描述：如题

### 1.6.2. 题目

Which is true about the countercyclical buffer?

- A. The countercyclical buffer is primarily a micro-prudential measure
- B. The countercyclical buffer can only be zero (0%) during the phase-in period, as eventually it achieves a constant of 2.5% regardless of environment

C. Its primary goal is to avoid destabilizing losses subsequent to a period of excess credit growth

D. A bank will be required to maintain this buffer if the bank falls under a jurisdiction identified and designated by the Basel Committee

**Correct Answer: C**

解答:

反周期超额资本，0%~2.5%，具体由当局监管层规定，不满足要求会被限制股利发放、股票回购和股权激励。A 错，是一个宏观的度量；B 错，并不是 constant；D 错，由监管当局规定。

## 1.7. Leverage Ratio

### 1.7.1. 问题描述: 如题

### 1.7.2. 题目

The CFO at a bank is preparing a report to the board of directors on its compliance with Basel requirements. The bank's average capital and total exposure for the most recent quarter is as follows:

| REGULATORY CAPITAL                 | USD MILLION |
|------------------------------------|-------------|
| Total Common Equity Tier 1 Capital | 108         |
| Additional Tier 1 Capital          | 28          |
| Prior to regulatory adjustments    | 34          |
| Regulatory adjustments             | 6           |
|                                    |             |
| Total Tier 1 Capital               | 136         |
| Tier 2 Capital                     | 36          |
| Prior to regulatory adjustments    | 45          |
| Regulatory adjustments             | 9           |
|                                    |             |
| Total Capital                      | 172         |
| Total Average Exposure             | 3678        |

Using the Basel III framework, which of the following is the best estimate of the bank's current leverage ratio?

- A. 2.94%
- B. 3.70%
- C. 4.68%
- D. 5.08%

**Correct Answer: B**

解答:

FRM 里面, leverage ratio= Tier 1 Capital/Total Exposure = 136/3,678 = 3.70%

## 1.8. Basel III

### 1.8.1. 问题描述: 如题

### 1.8.2. 题目

Each of the following was both (i) a deficiency or omission of Basel II but is, at the same time, (ii) explicitly addressed by new requirement in Basel III except for

- A. Basel II did not formally include liquidity risk, but Basel III explicitly covers liquidity risk
- B. Basel II could arguably create a procyclical effect, but Basel III explicitly adds a buffer to address this
- C. Basel II did not require external credit ratings, but Basel III seeks to increase the reliance on external ratings
- D. Basel II allowed many banks to show strong risk-based regulatory capital ratios despite high on- and off-balance sheet leverage; Basel III adds a simple leverage ratio to act as a backstop to the risk-based capital ratio

**Correct Answer: C**

解答:

Basel II 在度量信用风险资本金的时候非常依赖外部评级, Basel III 自从经济危机过后,降低对外部评级的依赖。其他都是正确的。

## 1.9. FRTB

### 1.9.1. 问题描述: 如题

### 1.9.2. 题目

Which of the following statements regarding the differences between Basel I, Basel II.5, and the Fundamental Review of the Trading Book (FRTB) for market risk capital calculations is incorrect?

- A. Both Basel I and Basel II.5 require calculation of VaR with a 99% confidence interval.
- B. FRTB requires the calculation of expected shortfall with a 97.5% confidence interval.
- C. FRTB requires adding a stressed VaR measure to complement the expected shortfall calculation.
- D. The 10-day time horizon for market risk capital proposed under Basel I incorporates a recent period of time, which typically ranges from one to four years.

**Correct Answer: C**

解答:

Fundamental Review of the Trading Book (FRTB)在度量市场风险资本金的时候, 将 99% VaR 改成了 97.5% 的 ES。

## 1.10. LCR & NSFR

### 1.10.1. 问题描述: 如题

### 1.10.2. 题目

According to the Basel Committee, “During the early liquidity phase of the financial crisis, many banks--despite adequate capital levels—still experienced difficulties because they did not manage their liquidity in a prudent manner. The crisis again drove home the importance of liquidity to the proper functioning of financial markets and the banking sector. Prior to the crisis, asset markets were buoyant and funding was readily available at low cost. The rapid reversal in market conditions illustrated how quickly liquidity can evaporate and that illiquidity can last for an extended period of time...the Committee has

further strengthened its liquidity framework by developing two minimum standards for funding liquidity.” Consider the following statements:

- I. The two mentioned standards - which aim to strengthen the liquidity framework - are the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR)
- II. The LCR tries to ensure short-term liquidity resilience (one month) while the NSFR promotes longer-term liquidity resilience (one year)
- III. The LCR anticipates an acute stress scenario by defining total net cash outflows under a stress scenario, while the NSFR does not explicitly simulate a stress scenario

Which of the above is (are) true?

- A. None are true
- B. I only
- C. II only
- D. All are true

**Correct Answer: D**

解答:

以上三句话都是正确的，LCR 保证短期流动性，NSFR 保证未来一年的流动性。