

## 1. 信用风险

### 1.1. Probability of Default

#### 1.1.1. 问题描述: 如题

#### 1.1.2. 题目

Risk-neutral default probability and real-world (or physical) default probability are used in the analysis of credit risk. Which one of the following statements on their uses is correct?

- A. Real-world default probability should be used in scenario analyses of potential future losses from defaults, and real-world default probability should also be used in valuing credit derivatives.
- B. Real-world default probability should be used in scenario analyses of potential future losses from defaults, but risk-neutral default probability should be used in valuing credit derivatives.
- C. Risk-neutral default probability should be used in scenario analyses of potential future losses from defaults, and risk-neutral default probability should also be used in valuing credit derivatives.
- D. Risk-neutral default probability should be used in scenario analyses of potential future losses from defaults, but real-world default probability should also be used in valuing credit derivatives.

**Correct Answer: B**

**解答:**

real world PD 是在求  $d1$  和  $d2$  即违约概率时, 用 asset return 作为折现的  $r$ , 所以适用于情景分析, 即针对不同资产特有的违约情况。

risk neutral PD 是在求  $d1$  和  $d2$  即违约概率时, 用 risk free rate 作为折现的  $r$ , 所以使用于估值。因为对于资产的估值, 一般用 rf rate 折现。

### 1.2. Exponential distribution

#### 1.2.1. 问题描述: 此题为什么不能用无记忆性或者条件概率

#### 1.2.2. 题目

An analyst estimates that the hazard rate for a company is 0.1 per year. The probability of survival in the first year followed by a default in the second year is closest to:

- A. 8.61%
- B. 9.00%
- C. 9.52%
- D. 19.03%

**Correct Answer: A**

**解答:**

此题意思是计算第一年存活且第二年违约的联合概率。

followed by 是紧接着, 基本是同时发生的意思。

given by 是有条件的发生, 此时才是求条件概率, 才可以用无记忆性。

### 1.3. Credit Exposure

#### 1.3.1. 问题描述: 如题

#### 1.3.2. 题目

1. The credit exposure of an interest rate swap differs from that of a bond in that:
    - I. The swap can be terminated by novation.
    - II. The principal amount of the swap is not at risk
    - III. Swaps benefit from higher recovery rates
    - IV. The full coupon amounts in the swap are not at risk
- A. I and III
  - B. II and IV
  - C. II, III and IV
  - D. I, II, III and IV

**Correct Answer: B**

**解答:**

这道题问的其实就是利率互换与 bond 相比在信用风险问题上的优势。主要是因为利率互换的本金是不用交换的, 换的是利息, 那么其实它的 exposure 就只有浮动利息和固定利

息的差额部分。I 和 III 是 bond 也同样有的优势。

#### 1.4. Credit Exposure

##### 1.4.1. 问题描述: 如题

##### 1.4.2. 题目

When a bank decides to lend amount of money to borrowers, several considerations must be taken into account, based on the following statement which one is incorrect.

- A. Outstanding represent the total credit available to the borrower.
- B. Borrowers in distress often draw down on their unused commitment, so the adjusted exposure is outstanding plus usage given default times unused commitment.
- C. Credit optionality denotes the call option the borrower has purchased on the commitment for “a commitment fee”.
- D. Collateral and seniority are the two most important factors in assessing recovery rates.

**Correct Answer: A**

**解答:**

commitment 是总的授信额度。

outstanding 是已经用的授信额度。

比如 commitment 是 10 万, outstanding 是 2 万, 那么还有 8 万的额度未用。

#### 1.5. Credit Exposure

##### 1.5.1. 问题描述: 如题

##### 1.5.2. 题目

Assume that swap rates are identical for all swap tenors. A swap dealer entered into a plain-vanilla swap one year ago as the receive-fixed party, when the price of the swap was 7%. Today, this swap dealer will face credit risk exposure from this swap only if the value of the swap for the dealer is

- A. Negative, which will occur if new swaps are being priced at 6%
- B. Negative, which will occur if new swaps are being priced at 8%

- C. Positive, which will occur if new swaps are being priced at 6%
- D. Positive, which will occur if new swaps are being priced at 8%

**Correct Answer: C**

**解答:**

价值是正的才会存在信用风险敞口。所以是 positive。

swap price 的利率是 fix rate

之前签订 swap 是收到 7% 的固定利息。过了一段时间同类 swap 变成只能收到 6% 的利息了，那么相当于这个人签的可以收到 7% 利息的 swap 是有利的，价值是正的。

## 1.6. Credit Exposure

### 1.6.1. 问题描述: 如题

### 1.6.2. 题目

A credit loss on market-driven instruments such as swaps and forwards arises if:

- A. Market rates move in your favor.
- B. Market rates move against you.
- C. Market rates move against you and the counterparty defaults.
- D. Market rates move in your favor and the counterparty defaults.

**Correct Answer: D**

**解答:**

题目问的是对于例如互换或者远期这种市场导向的金融工具什么时候信用损失会增大？

D 选项说的是当利率对我方有利【会增大 exposure】并且对手方违约时。

C 选项的意思当利率对我方不利，那么我的盈利敞口会减小，所以不如 D 选项符合题意。

## 1.7. CCP

### 1.7.1. 问题描述: 什么是 CCP 的 procyclicality?

**解答:**

顺周期性。

经济好的时候 CCP 锦上添花，经济差的时候 CCP 雪上加霜。

这里主要指的差的时候。

差的时候 member 本来就赔钱，CCP 为了风险管理还让 member 交钱，比如保证金等。使得 member 更没钱。

## 1.8. Counterparty Risk

### 1.8.1. 问题描述：如题

### 1.8.2. 题目

How many of the following statements regarding wrong-way risk and right way risk are correct?

- I. Co-movement in risk exposure and default probability producing a decline in overall risk is an example of wrong-way risk.
  - II. Co-movement in risk exposure and default probability producing an increase in overall counterparty risk is an example of right-way risk.
  - III. Co-movement in risk exposure and default probability producing neither a decline nor an increase in the overall counterparty risk is an example of wrong-way risk.
  - IV. Co-movement in risk exposure and default probability producing a decline in risk exposure but an increase in counterparty default probability is an example of right-way risk.
- A. None
  - B. All
  - C. Two
  - D. Three

**Correct Answer: A**

**解答：**

rwr 严格的定义是两个条件：PD 和 exposure 负相关且会 reduce counterparty risk。四选项没有说 counterparty risk 情况。wwr 严格的定义是两个条件：PD 和 exposure 负相关且会 increase counterparty risk。

## 1.9. CVA

### 1.9.1. 问题描述：如题

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### 1.9.2. 题目

Local Company, a frequent user of swaps, often enters into transactions with Global Bank, a major provider of swaps. Recently, Global Bank was downgraded from a rating of AA+ to a rating of A, while Local Company was downgraded from a rating of A to a rating of A-. During this time, the credit spread for Global Bank increased from 20 bps to 150 bps. While the credit spread for Local Company increased from 130 bps to 170 bps. Which of the following is the most likely action that the counterparties will request on their credit value adjustment (CVA)?

- A. The credit qualities of the counterparties have changed, but not enough to justify amending existing CVA arrangements.
- B. Global Bank requests an increase in the CVA charge it receives.
- C. Local Company requests a reduction in the CVA charge it pays.
- D. CVA is no longer a relevant factor, and the counterparties will use other mitigants of counterparty risk.

**Correct Answer: C**

#### 解答:

低评级给高评级的付 CVA charge, 高评级的信用风险恶化的多, 所以收的比以前少  
这道题有很多中理解方式, 你挑一个你好理解的就好, 我这里和你说两种。

方法 1: 两家公司的评价有高低, 低的一家向高的一家支付 CVA 作为担保, 或者理解为定价加上 CVA, 用来弥补低的公司对高的公司可能造成的违约损失。两家公司原来的违约 spread 相差  $114-36=78$  bps, 现在相差  $156-144=12$  bps。

两家公司的风险差距在变小。原来需要支付 78bps 的 CVA, 现在只要支付 12bps 的 CVA, 因此答案是 CVA 在缩小。

方法 2: 这道题考的是 CVA 的净流向。如果你想改成 BCVA 的话, 也可以, 就是 BCVA 减少, 前面不要加 local 或者 global 哦, 因为  $BCVA=CVA_{local}-CVA_{global}$ 。

### 1.10. CVA

#### 1.10.1. 问题描述: 如题

#### 1.10.2. 题目

Mary assigns to John a long position in an at-the-money (ATM) call option with a one year term and strike a price of \$100.00. The current stock price is \$100.00 with volatility of 60.0%.

The risk-free rate is 3.0% with continuous compounding.  $N(d1) = 0.64$  and  $N(d2) = 0.40$ . The present-valued expected exposure (EE) to the counterparty, who holds the short option position, is \$23.00 with a probability of counterparty default of 5.0% and loss given default (LGD) of 75.0%. Which is nearest to John's payment for the long option position, if his cost includes a credit valuation adjustment (CVA)?

- A. \$6.15
- B. \$19.37
- C. \$24.32
- D. \$26.04

**Correct Answer: C**

**解答:**

如果不考虑 CVA, John 要花 25.182 来买这个 option

如果考虑了对手方的 CVA, 这个 option 只需要花 24.32 就可以买到。相当于把对手方的 CVA 与期权的买价做了一个 netting 的调整。

买方是要面对信用风险的。

卖方无需面对信用风险。

### 1.11. Wrong-Way Risk

#### 1.11.1. 问题描述: 如题

#### 1.11.2. 题目

A hedge fund manages a portfolio of equity options. Among them are options written by a financial institution on its own stock. Assuming that all of the following options have the same expiration date and each of them corresponds to 1 share of the underlying stock of that financial institution, which of the long position in those options would give the highest wrong-way risk to the hedge fund?

- A. An in-the-money call option
- B. An in-the-money put option
- C. An out-of-the-money call option
- D. An out-of-the-money put option

**Correct Answer: D**

**解答:**

我用排除法做的，首先排除 call，因为 option 由金融机构自己创设，如果金融机构业绩好，则股价上涨，call 无论是否处于 ATM 或 ITM 或 OTM 都有实力行权，如果股价跌则都不需要行权，所以 right way risk 而 put 不一样，股价下跌时，put 要行权，股价下跌，但是此时金融机构的业绩一定变差，ITM 的 put 行权价较高，所以股价轻微下跌时，金融机构还能应付行权，OTM 的 put，必须在股价深度下跌才能行权，这时，金融机构财务状况一定很差了，所以无法兑付给购买 put 的 hedge fund，所以是 wrong way risk。

## 1.12. Mitigation of Counterparty Risk

### 1.12.1. 问题描述: 如题

### 1.12.2. 题目

What are the benefits of novation?

- A. Both parties are allowed to walk away from the contract in the event of default.
- B. In a bilateral contract, it is specified that on default, the non-defaulting party nets gains and losses with the defaulting counterparty to a single payment for all covered transactions.
- C. Financial market contracts can be terminated upon an event of default prior to the bankruptcy process.
- D. Obligations are amalgamated with others.

**Correct Answer: D**

**解答:**

novation 的意思是: Cancellation of several contracts between the two parties, resulting in a replacement contract with new, net payments

用新的替代旧的，合同义务重新 netting 组合的过程。

这题问的是 novation 的好处。D 选项意思是用新合约替代旧合约的一种组合的过程。

## 1.13. Mitigation of Counterparty Risk

### 1.13.1. 问题描述: 如题

### 1.13.2. 题目



Which of the following reduce(s) a credit exposure by shortening the effective maturity of a position?

- I. Liquidity put
- II. credit trigger
- A. Both I and II
- B. I only
- C. II only
- D. Neither I nor II

**Correct Answer: A**

**解答:**

liquidity put 就是一个对流动性的看跌期权。【A contract allowing one party to compel the other to buy an asset under certain circumstances. It ensures that there will be a buyer for otherwise illiquid asset. 允许某一方在特定情况下强迫另一方购买资产, 这可以确保非流动资产有个买家来接盘】所以它可以缩短一个头寸的期限。

即 liq put 的含义就是投资者对手中头寸的不确定性不看好, 所以如果一旦此头寸真的流动性变差, 就可以行权, 找 liq put 的 short 方来对此流动性不好的头寸接盘, 这样子可以缩短投资者对此头寸的持有期限。否则, 就可能会一直无法脱手。

credit trigger 信用触发机制, 【即因为发生了可能会影响到投资人利益的事情, 会加速清偿】所以它可以缩短一个头寸的期限。

## 1.14. Mitigation of Counterparty Risk

### 1.14.1. 问题描述: 如题

### 1.14.2. 题目

Global Bank has a series of FX forward and swap agreements with European Financial Services Inc. that is subject to a master netting agreement where close-out netting is permitted. It is currently weighing whether to enter into additional hedging agreements with European Financial to hedge a new material FX exposure it has recently discovered or whether it should establish a new relationship with New Firm Financial to offset the FX exposure. New Firm Financial's credit rating is A, European Financial's is BBB and collateral will be posted with the chosen counterparty. Any hedge transaction with New Firm Financial would be subject to

a master netting agreement with close-out netting permitted. Global Bank's traders have come to you, the chief risk officer, and asked your view on which firm to deal with, although they have only given you these few facts on which to base your decision. You strongly recommend dealing with \_\_\_\_\_ for the following reasons.

- A. European Financial because if it declares bankruptcy you can be assured that the collateral used to support your derivative contracts will immediately be subject to a stay by the bankruptcy court, providing you with the confidence that your losses will be limited.
- B. New Firm Financial because its credit rating is stronger than European Financial's, meaning your firm will take less of a hit to its balance sheet, and since New Firm wants to establish this relationship with you, the collateral you will have to post with New Firm will be significantly less than that posted for any new position with European Financial.
- C. European Financial because you can terminate the swap agreements in the event of its insolvency and create an immediate claim for compensation, even if there is a dispute over valuation of the contracts and their cost of replacement.
- D. New Firm Financial because you can accelerate the amount owed under the new FX swap agreement in the event of its insolvency and collect those funds and the collateral posted to support the position faster and with more certainty than having to deal with offsetting arrangements and terminating contracts would be an issue with European Financial.

**Correct Answer: B**

**解答:**

这个文章提到了一个问题，有一个外汇头寸需要分控，要不找原公司对冲，要不找新公司。这两个公司评级不同，都允许 netting。A 提到了 collateral，但是两家公司都有；C 提到了 termination，D 提到了加速结束，这两项两家公司都没提到。只有 B 选项说到的理由可以作为选择新公司的理由，因为它评级高，信用风险低。

## 1.15. Mitigation of Counterparty Risk

### 1.15.1. 问题描述: 如题

### 1.15.2. 题目

Ondine Financial Inc. (Ondine) uses a variety of techniques to manage counterparty risk. It has

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entered into an interest rate swap with Scarbo Inc. (Scarbo). Currently, Ondine's position in the swap has a -\$1 million mark-to-market value. Based on the information provided, which of the following credit risk mitigation techniques would be most advantageous to Ondine if Scarbo defaults?

- A. Close-out.
- B. Collateralization.
- C. Netting.
- D. Walkaway.

**Correct Answer: D**

**解答:**

对于互换来说, 有些在交割时要真得进行互换, 此题说的就是这种情况。也就是比如 online 是在浮动利率市场投资, scarbo 在固定利率市场投资, 到期互换投资收益。

此时互换双方都有权利和义务。

如果使用 walkaway 条款, 那么当对手方违约, 我方的义务也不用履行, 并且此时我本来履约的义务就相对更多些, 对我来说使用 walkaway 更有利。

## 1.16. Mitigation of Counterparty Risk

### 1.16.1. 问题描述: 如题

### 1.16.2. 题目

You are the credit risk manager for a bank and are looking to mitigate counterparty credit risk exposure to ABCD, an A-rated firm. Currently your bank has the following derivatives contracts with ABCD:

| Contract | Contract Value (HKD) |
|----------|----------------------|
| A        | 20,000,000           |
| B        | 30,000,000           |
| C        | 14,000,000           |
| D        | 1,000,000            |

With the information provided, what is the most appropriate credit risk mitigation technique in this case?

- A. Implement a netting scheme
- B. Use credit triggers.

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- C. Sell credit default swaps on ABCD
- D. Increase collateral.

**Correct Answer: D**

**解答:**

题目问那种最适合进行信用风险缓释

A 选项错误是因为已经条件给出的交易敞口都是正的, 所以 netting 并不能减少敞口,, 有正有负才能减少。

B 选项是信用触发事件, 当事件触发时, 可以提前结束合约。这属于提前执行合约, 不是风险缓释。

C 选项应该是买 CDS

D 增加抵押品可以减少风险敞口, 起到信用风险缓释的作用。

## 1.17. CDS

### 1.17.1. 问题描述: 如题

### 1.17.2. 题目

In pricing a first-to-default credit basket swap, which of the following is true, all else being equal?

- A. The lower the correlation between the assets of the basket, the lower the premium.
- B. The lower the correlation between the assets of the basket, the higher the premium.
- C. The higher the correlation between the assets of the basket, the higher the premium.
- D. The correlation between the assets has no impact in the premium of a first-to- default credit basket swap.

**Correct Answer: B**

**解答:**

这题实际上考察 first to default CDS 和 nth to default 的保费比较。

first to default 第一个违约即赔付。nth to default 第 n 个违约才赔第 n 个

当相关性低时, first to default 明显高。当相关性高, 二者趋同。

## 1.18. CDS

### 1.18.1. 问题描述: 如题

### 1.18.2. 题目

A six-year CDS on an AA-rated issuer is offered at 150bp with semiannual payments while the yield on a six-year semiannual coupon bond of this issuer is 8%. There is no counterparty risk on the CDS. The annualized LIBOR rate paid every six months is 4.6% for all maturities. Which strategy would exploit the arbitrage opportunity? How much would your return exceed LIBOR?

- A. Buy the bond and the CDS with a risk-free gain of 1.9%.
- B. Buy the bond and the CDS with a risk-free gain of 0.32%.
- C. Short the bond and sell CDS protection with a risk-free gain of 4.97%.
- D. There is no arbitrage opportunity as any apparent risk-free profit is necessarily compensation for being exposed to the credit risk of the issuer.

**Correct Answer: A**

**解答:**

首先看一下对这个 bond 是 long, 还是 short, 题目告诉我们债券的收益率是 8%, 当前市场的利率是 4.6%, 所以买这个 bond 是合适的。

那么所获得的净利差, 为  $8\% - 4.6\% = 3.4\%$ , 此处 libor 代替 risk free rate

然后为了风控, 又买了个 CDS 预防 bond 的违约风险, 所以, 要扣除保费。  $3.4\% - 1.5\% = 1.9\%$ 。

### 1.19. CDS

#### 1.19.1. 问题描述: 如题

#### 1.19.2. 题目

The Big Bank Corp has securitized a large pool of 100 mortgages as follows: \$75 million in senior AAA notes, \$20 million in mezzanine BB notes, and \$5 million in equity tranche. Big Bank Corp would like to provide a credit enhancement to the issue. Which of the following strategies would most effectively reinforce the credit rating of the AAA notes?

- A. 26th-to-default basket.
- B. Standard basket.
- C. Senior basket with \$25 million loss level.
- D. Subordinated basket with \$25 million loss level.

**Correct Answer: C**

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**解答：**

题目问的是 most effective 所以要做避险和成本的权衡。

A 是第 26 个违约，赔付第 26 个。是把 100 个 mortgage 分成 100 个 basket。只管第 26 份 basket，其他的不管，所以会给 senior 造成损失。

B 是第一个违约就开始赔，它可以避险，但成本太高。

C 就是当损失大于 25 时才开始赔付，保护 senior。

D 是小于 25 时就赔付，保护 mezzanine 和 equity。

**1.20. CDS****1.20.1. 问题描述：**如题**1.20.2. 题目**

You are currently long \$10,000,000 par value, 8% XYZ bonds. To hedge your position, you must decide between credit protection via a 5-year CDS with 60bp annual premiums or digital swap with 50% payout with 50bp annual premiums. After one year, XYZ has defaulted on its debt obligations and currently trades at 60% of par. Which of the following statements is true?

- A. The contingent payment from the protection buyer to the protection seller is greater under the single-name CDS than the digital swap.
- B. The contingent payment from the protection buyer to the protection seller is less under the single-name CDS than the digital swap.
- C. The contingent payment from the protection seller to the protection buyer is greater under the single-name CDS than the digital swap.
- D. The contingent payment from the protection seller to the protection buyer is less under the single-name CDS than the digital swap.

**Correct Answer: D**

**解答：**

single name CDS: 发生违约，赔付损失的部分。也就是损失多少，保险公司赔付多少。

digital CDS: 赔付原值的 50%，无论损失多少。

**1.21. MBS****1.21.1. 问题描述：**如题

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**1.21.2. 题目**

How would you describe the typical price behavior of a low premium mortgage pass-through security?

- A. It is similar to a U.S. Treasury bond
- B. It is similar to a plain vanilla corporate bond
- C. When interest rates fall, its price increase would exceed that of a comparable duration U.S. Treasury.
- D. When interest rates fall, its price increase would lag that of a comparable duration U.S. Treasury.

**Correct Answer: D**

**解答:**

因为 Pass-through structures 具有提前偿付的属性, 所以它其实是相当于 callable bond (一级第四门涉及的), 具有负凸性, 当利率下降时, callable bond 的价格相对于普通债券的价格上升更加缓慢滞后 (lag), 而 duration 就是衡量利率变动对债券价格的影响的。

**1.22. Structured Finance and Securitization****1.22.1. 问题描述:** 如题**1.22.2. 题目**

Continuously increasing default probability (while holding default correlation constant) will most likely have what effect on the credit VaR of mezzanine and equity tranches?

- | Equity VaR  | Mezzanine VaR          |
|-------------|------------------------|
| A. Increase | Increase then decrease |
| B. Increase | Decrease then increase |
| C. Decrease | Increase then decrease |
| D. Decrease | Decrease then increase |

**Correct Answer: C**

**解答:**

VaR 是一种在险价值, 表示的是不确定性, 本质上是标准差。

当违约持续显著提高时, equity 的违约是具有必然性的, 也就是它大概率必然会违约, 所

以 uncertainty 就小了，方差减小标准差减少。

而 mezz 的不确定性更大一些，因为它可能违约可能不违约，违约损失多少也是不确定的，所以标准差大。

答案那句话就是说虽然 PD 上升使得 equity 受损失，这种损失会波及 sub，所以整体上，损失的方差是小的。

### 1.23. CDO

#### 1.23.1. 问题描述：如题

#### 1.23.2. 题目

Which of the following is not a potential benefit from a balance sheet CDO transaction?

- A. Decrease regulatory capital.
- B. Increase transparency of assets.
- C. Raise WACC from decreasing agency costs.
- D. Reduce the size of the balance sheet.

**Correct Answer: C**

**解答：**

下面哪个选项对于表内的 CDO 交易是不利的？

A 选项是资本金的要求数额，这个数额是风险加权 capital 乘以 8%，capital 小了，自然数额小了。

B 选项交易透明度提高是有利于交易的。C 选项 agency cost，代理成本，一种融资成本。WACC 是股权与债券的加权融资成本。成本增加，不利于交易。

### 1.24. CDO

#### 1.24.1. 问题描述：为什么卖出 put option, 没有风险敞口？

**解答：**

卖出期权在不考虑期权费的情况下是只亏不盈的，只有盈利才用信用风险敞口。

### 1.25. CDS

#### 1.25.1. 问题描述：如题

#### 1.25.2. 题目

When an institution has sold exposure to another institution (i.e., purchased protection) in a

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CDS, it has exchanged the risk of default on the underlying asset for which of the following?

- A. Default risk of the counterparty
- B. Default risk of a credit exposure identified by the counterparty
- C. Joint risk of default by the counterparty and of the credit exposure identified by the counterparty
- D. Joint risk of default by the counterparty and the underlying asset

Correct Answer: D

**解答:**

CDS 的买方的风险受两方联合违约概率的影响, 所持有的标的资产违约情况和 CDS 卖方的信用情况。如果只是单一一方违约, CDS 的买方不会受到信用损失。因为如果只是标的资产违约, 有 CDS 偿付做补偿。如果只是 CDS 的卖方违约, 标的资产不违约自然也不涉及卖方偿付。

## 1.26. CDS

### 1.26.1. 问题描述: 如题

### 1.26.2. 题目

A risk manager is advising the trading desk about entering into a digital credit default swap as a way to obtain credit protection. Which cash flow and delivery requirement will the desk most likely experience in the event of a default of the underlying reference asset?

- A. Receive the pre-agreed cash payment; delivering nothing.
- B. Receive  $[(\text{Par Value}) - (\text{Market Value of Reference Asset})]$ ; deliver the reference asset.
- C. Receive  $[(\text{Par Value}) - (\text{Market Value of Reference Asset})]$ ; deliver nothing.
- D. Receive the pre-agreed cash payment; deliver the reference asset.

Correct Answer: A

**解答:**

cash settlement, 而不是实物交割。所以什么都不用交割, 即 nothing。

## 1.27. CLN

### 1.27.1. 问题描述: 如题

**1.27.2. 题目**

Which of the following statements about credit-linked notes is true?

- A. The borrower receives an enhanced coupon.
- B. The borrower receives a reduced coupon.
- C. The lender receives an enhanced coupon.
- D. The lender receives a reduced coupon.

**Correct Answer: C**

**解答:**

CLN 的投资者可以获得的收益是“加强版”利息。

“加强版”利息就是加了杠杆的利息。

**1.28. Structured Products****1.28.1. 问题描述:** 如题**1.28.2. 题目**

An endowment fund has sold default protection on the most senior tranche of a CDO. If the default correlation between assets held in the CDO decreases sharply from the correlation used in pricing the CDO tranches, assuming everything else is unchanged, how will the position of the endowment fund be impacted?

- A. It will either increase or decrease, depending on the pricing model used and the market conditions.
- B. It will gain significant value, since the probability of exercising the protection falls.
- C. It will lose significant value, since the protection will gain value.
- D. It will neither gain nor lose value, since only expected default losses matter and correlation does not affect expected default losses.

**Correct Answer: D**

**解答:**

senior 变得安全了, short CDS 相当于卖保险的保险公司, 当标的安全时, 就不会触发赔付, 保险公司净赚保费。

## 1.29. Structured Products

### 1.29.1. 问题描述: 如题

### 1.29.2. 题目

A standard synthetic CDO references a portfolio of 10 corporate names. Assume the following. The total reference notional is  $X$ , and the term is  $Y$  years. The reference notional per individual reference credit name is  $X/10$ . The default correlations between the individual credit names are all equal to one. The single-name CDS spread for each individual name is 100 bp, for a term of  $Y$  years. The assumed recovery rate on default for all individual reference credits is zero in all cases. The synthetic CDO comprises two tranches, a 50% junior tranche priced at a spread  $J$ , and a 50% senior tranche priced at spread  $S$ . All else constant, if the default correlations between the individual reference credit names are reduced from 1.0 to 0.7, what is the effect on the relationship between the junior tranche spread  $J$  and the senior tranche spread  $S$ ?

- A. The relationship remains the same
- B.  $S$  increases relative to  $J$
- C.  $J$  increases relative to  $S$
- D. The effect cannot be determined given the data supplied

**Correct Answer: C**

**解答:**

这个题目问的就是当违约相关性下降的时候, tranche 的保费怎么变。那么当违约相关性下降的时候, senior tranche 的价值相对上升, junior 相对下降 (因为原来违约相关性为 1 时,  $s$  和  $j$  要死一起死, 要活一起活, 没什么大区别, 违约相关性下降了的话, 当  $j$  违约时,  $s$  可能还是活着的), 那么对应着保费就是 junior 相对上升, 也就是因为它更加危险了, 保费上升。

## 1.30. Structured Products

1.30.1. 问题描述: 为什么 Covered bond 特别强条他的证券化产品的利息是由 Issuer 支付的, 所有证券化产品的利息不都是由 issuer 支付的吗?

### 1.30.2. 题目

**解答:**

这里其实说的是偿付现金流来源。

在 MBS 交易中，基础资产池产生的现金流是投资人本息偿付的唯一来源；而在 Covered bond 交易中，发行人的一般现金流是 CB 本息的偿付来源，掩护池中的抵押贷款仅用来向投资人提供担保。

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