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可信赖的财经培训专家

金程教育FRM上海强化班讲义

信用风险强化习题

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Measuring credit risk

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- **2006FRM**
- 73. The bid ask spread is a determinant of liquidity risk reflecting the cost of the supply of immediacy in a market .Which of the following are not variable cost to dealers of supplying immediacy ?(Variable costs mean that the cost to dealers rises as the number of transactions or the demand for immediacy rises)

A. Processing order flow costs

B. Credit surveillance costs for counterparty creditworthiness

C. Inventory carrying costs

D. Hedging costs.

Answer: B

信用监督成本是必须支付的固定成本。

其他项都是可变的，随着总量的变化而变化。

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- **2005FRM**
- 95. What will be the least effective stress test for credit risk?

A. Changing default correlations between obligors
B. Changing market rates, such as interest rates and foreign exchange rates
C. Changing liquidity factors, such as average trading volumes and bid offer spreads
D. Changing credit spreads and volatility

Answer: B

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Probability of default (PD)

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- **2007FRM**
- 60. The spread on a one-year BBB-rated bond relative to the risk-free treasury of similar maturity is 2%. It is estimated that the contribution to this spread by all noncredit factors (e.g., liquidity risk, taxes) is 0.8%. Assuming the loss given default rate for the underlying credit is 60%, what is, approximately, the implied default probability for this bond?

A. 3.33%
B. 5.00%
C. 3.00%
D. 2.00%

Answer: B

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- **2005FRM**
- 41. Consider a portfolio of six equally weighted bonds. Each bond has a default probability of 4% per annum, and the defaults are independent of each other. What is the probability that this portfolio will see its first default by the end of the second year? Assume the same default probabilities for first and second years for the surviving bonds.

A. 43%
B. 39%
C. 78%
D. 24%

Answer: D

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Exposure at default (EAD)

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- **2007FRM**
- 52. Beta Bank owns a portfolio of 10 AA-rated bonds from 10 different issuers with a total value of USD 200 million. The one-year probability of default for each issuer is 5%, and the recovery rate for each issue equals 40%. The one-year expected loss of the portfolio is

A. USD 5.0 million.
B. USD 8.0 million.
C. USD 6.0 million.
D. USD 4.0 million.

Answer: C

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- **2007FRM**
- 66. Suppose the rate on Company A's one-year zero-coupon bond is 10.0% and the one-year T-bill rate is 8.0%. assume the T-bill is riskless and the probability of default of Company A's bond is 10%. What is the loss given default of Company A' bond?

A. 18.2%
B. 81.8%
C. 20.0%
D. 80.0%

Answer: A

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- **2006FRM**
- 90. Under the comprehensive approach for the foundation internal Ratings Based approach under Base 2,which of the following methods is used for calculating the effective loss given default (LGD)where

· LGD is the effective loss given default (considering risk mitigation measures)

· LGD is that of the senior unsecured exposure before recognition of collateral (45%)

· E is the current value of the exposure (i. e. cash lent or securities lent or posted).

· E*is the exposure value after risk mitigation

A. LGD*=LGD×(E*/E)

B. LGD*=LGD×(E*)* (E)

C. LGD*=LGD×(E*+E)

D. LGD*=LGD×(E*-E)

Answer: A

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- **2006FRM**
- 122. Consider two portfolios. One with USD 100 million credit exposure to a single B-rated counterparty. The second with USD 100million in credit exposure split evenly between 50 B-rated counterparties. Which of the following is correct?

A. The expected loss of the first portfolio is greater than the expected loss of the second portfolio AND the unexpected loss of the first portfolio is greater than the unexpected loss of the second portfolio.

B. The expected loss of the first portfolio is greater than the expected loss of the second portfolio AND the unexpected loss of the first portfolio is equal to the unexpected loss of the second portfolio.

C. The expected loss of the first portfolio equal to the expected loss of the second portfolio AND the unexpected loss of the first portfolio is equal to the unexpected loss of the second portfolio.

D. The expected loss of the first portfolio equal to the expected loss of the second portfolio AND the unexpected loss of the first portfolio is greater than the unexpected loss of the second portfolio.

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- **Answer:** D
- 如果信用产品的相关性下降，则信用风险下降。

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- **2005FRM**
- 139. Suppose Bank A sells exposure in a mortgage portfolio to Bank B. In order to determine the credit risk of such a transaction, all of the following must be taken into account except

A. Probability of default of the mortgage portfolio.
B. Probability of default of Bank B.
C. Correlation between the default of Bank B and the mortgage portfolio.
D. Correlation between Bank A and Bank B.

Answer: D

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- **2005FRM**
- 114. You have a credit exposure to Bank Three. Which of the following actions will not reduce his? exposure?

A. Shorting the bonds of Bank Three.
B. Buying puts on the equity of Bank Three.
C. Entering a credit default swap with Bank Three
D. Obtaining collateral from Bank Three.

Answer: C

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ISDA

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- **2006FRM**
- 102. Which of the following is not considered an event of default on the reference asset underlying a credit default swap, with the 2003 ISDA documentation?

A. Bankruptcy
B. Restructuring
C. Rating agency downgrade
D. Obligation acceleration

Answer: C

Rating downgrade不是信用风险。

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Recovery rate

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- **2007FRM**
- 49. The management of a bank wants to limit the credit loss to a specific sector within 5%. Concentration limit is the maximum loss as a percentage of capital divided by the inverse of the loan loss rate. With an estimated recovery rate of 60%, what should the concentration limit to that sector be as a percentage of capital?

A. 5%

B. 12.5%

C. 8.33%

D. 3%

Answer: C

$$\frac{5\%}{60\%} = 8.33\%$$

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- **2006FRM**
- 116. Which of the following is not a commonly used method for generating a recovery rate function?

A. Nonparametric kernel estimation.
B. Cubic SPLINE estimation.
C. Assume the recovery rate follows a beta distribution
D. Estimate conditional densities with generalized method of moments

Answer: B

Cubic SPLINE估计是画出yield curve使用的方法。

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Cumulative and Marginal default rates

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- **2007FRM**
- 51. Mr. Rosenqvist, asset manager at BCD Bank, holds a portfolio of SEK 200 million. The portfolio consists of BBB-rated bonds. Assume that the one-year probability of default is 4%, the recovery rate is 60%, and default are uncorrelated over years. What is the two-year cumulative expected credit loss on Mr. Rosenqvist's Portfolio?

A. SEK 6.40 million
B. SEK 6.35 million
C. SEK 9.60 million
D. SEK 9.48 million

Answer: B

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- **2006FRM**
- 15. Assume the marginal monthly default rates (conditional on no previous default)for a firm are 2% each month during the first year and 3%each month during the second year. What is the marginal probability of defaulting over the the second year, conditional on not having defaulted the first year ?

A. Insufficient information to answer the question

B. 30.6%

C. 36.0%

D. 47.4%

Answer: B

$(1-2\%)^{12} \times (1-3\%)^{12} = (1-2\%)^{12} \times (1-d)$ (survival rate)

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Credit rating

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- **2006FRM**
- 103. Which of the following is not modeling approach to credit scoring?

A. K-nearest neighbor classifier models
B. Logit and Profit models
C. Fisher linear discriminates analysis
D. Bayesian vector auto regression

Answer: D
第四种不是信用评分的方式。

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- **2006FRM**
- 111. Which of the following is not a correct statement about internal credit ratings?

A. The “at-the-point-in-time” approach makes heavy use of econometric modeling that relates current financial variables to estimated default risk.

B. The “through-the-cycle” approach is forward looking and attempts to incorporate future economic scenarios into current default risk estimates .

C. “At-the-point-in-time” credit scores volatility is much higher than “through-the-cycle”score volatility.

D. A sound internal system uses “at-the-point-in-time” scoring for small-to medium-sized companies and private firms and “through-the-cycle”scoring for large firms.

Answer: B

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- **2005FRM**
- 79.With regard to evaluating sovereign risk, which of the following statements is incorrect?

A. Bankruptcy law does not typically protect investors from sovereign risk.

B. Debt repudiation is a postponement of all current and future foreign debt obligations of a borrower.

C. Debt rescheduling occurs when a group of creditors declares a moratorium on debt obligations and seeks to reschedule terms.

D. Sovereign risk can be a cause of default in a non-governmental borrower of high credit quality.

Answer: B

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- **2005FRM**
- 74. Moody's estimates the average recovery rate for senior unsecured debt to be nearest to

A. 20%
B. 40%
C. 60%
D. 80%

Answer: A

The recovery rate on loans is typically higher than that on bonds. Hence, the credit rating, if it involves both probability of default and recovery, should be higher for loans than for bonds.

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- **2005FRM**
- 59. Assuming the 1-year T-bill rate of 4.25% and the rate on 1-year zero-coupon corporate bonds is 7.75%, which of the following numbers is closest to the probability that a corporate loan will be repaid fully (assuming that the credit spread is due to firm-specific credit risk alone)?

A. 96.75%
B. 3.25%
C. 96.21%
D. 3.79%

Answer: A

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Transition matrix

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- **2007FRM**
- 87. Consider the following one-period transition matrix:

		Next Period State		
		A	*B*	*Default*
Initial Period State	**A**	95%	5%	0%
	B	10%	80%	10%
	Default	0%	0%	100%

If a company is originally in State A, what is the probability that the company will have defaulted strictly before the fourth transition period from now?

A. 0.500%

B. 1.875%

C. 1.375%

D. 0.875%

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Answer: C

A-A-B-D 0.95*0.05*0.1=0.0048

A-B-B-D 0.05*0.8*0.1=0.004

A-B-D-D 0.05*0.1=0.005

SO A-D probability =0.00480.004+0.005=1.375%

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The Merton Model

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- **2005FRM**
- 101. Which of the following statements about the term structure of credit spreads in Merton's model is correct?

A. The term structure of credit spreads depends on the initial leverage of the firm: those with the highest leverage could have a downward-sloping credit yield curve, while relatively safe firms would have an upward-sloping curve.

B. The term structure of credit spreads depends on the Treasury term structure when the Treasury curve is steep, the expected increase in rates makes the present value of coupons smaller and reduces the value of the debt in future periods, making the credit term structure upward sloping.

C. The term structure of credit spreads is always upward-sloping because bondholders can never receive more than par but might lose due to default and those expected losses increase with the bond's maturity.

D. The term structure of credit spreads is flat because Merton's model assumes a constant interest rate.

Answer: C 专业来自百分百的投入

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KMV Model

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- **2007FRM**
- 111. You don't have access to KMV's data. Your boss wants you to estimate the probability of default of a credit. To do so, you use the Merton model because the credit you are considering has no systematic risk. In Merton's model, the distance to default and expected default frequency are:

A. negatively and linearly related.
B. positively and linearly related.
C. negatively and nonlinearly related.
D. positively and nonlinearly related.

Answer: C

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- **2006FRM**
- 49. Company Y has assets valued at USD 205 million. The value of its short-term debt is USD 28 million, the book value of its long-term debt is USD 115 million, and the volatility of its assets is USD 58 million. Calculate the distance to default using the KMV approach.

A. 1.07
B. 1.47
C. 1.55
D. 3.05

Answer: A

KMV＝(V-K)/sigma(V)=205-115-28)/58=1.07

根据Handbook定义，债券的价值＝长期债券的价值×0.5＋短期债券的帐面价值，

KMV＝205-115×1/2-28)/58=2.06

在本题中，GARP协会采用了不除以2的做法。

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- **2005FRM**
- 56. Which of the following variables is not used in the KMV model to estimate a firm's probability of default?

A. The book value of the firm's equity
B. The 1itm's stock price volatility
C. The market value of the firm's equity
D. The market value of the firm's debt

Answer: A

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- **2005FRM**
- 108. The KMV model produces a measure called Expected Default Frequency. Which of the following statements about this variable is correct?

A. It decreases when the leverage of the firm falls.
B. It increases when the stock price of the firm has been rising.
C. It is the risk-neutral probability of default from Merton's model.
D. It tells investors how the default risk of a bond is correlated with the default risk of other bonds in the portfolio.

Answer: A

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Distribution of credit exposure

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- **2005FRM**
- 9. In the CreditRisk+ model, default events are assumed to follow a Poisson distribution. Assume the average number of defaults in a portfolio is equal to five. What is the probability that four defaults will occur over the next year?

A. 15.63%
B. 17.55%
C. 9.54%
D. Not enough information to answer the question

Answer: B

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- **2005FRM**
- 53. In the CreditRisk+ model, the loss distribution for a broadly diversified portfolio is derived by

A. Separating losses into bands, with the level of exposure in each band represented by a range of amounts.
B. Separating losses into bands, With the level of exposure in each band represented by a single number.
C. Separating losses into bands based on the probability of default for each obligor over one year.
D. Separating losses into bands based on the default-rate volatility for each obligor.

Answer: A

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Expected credit exposure

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- **2007FRM**
- 79. As part of a currency hedging strategy, a US portfolio manager entered a one-year forward contract with a bank to deliver EUR 5,000,000 for USD at the end of the year. At the beginning of the year, the one-year forward rate was 0.9216 USD/EUR. Six months into the contract, the spot rate is 0.9201 USD/EUR, the USD interest rate is 6.5%, and the EUR interest rate is 6.25%. If the current spot rate (0.9201 USD/EUR) were to continue for the next six months, what is the credit risk that the portfolio manager would bear at maturity?

A. USD 7,264

B. USD 7,042

C. USD 7,500

D. USD 7,273

Answer: C 信用暴露风险=(0.9216-0.9201)*5000000=7500

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- **2006FRM**
- 20. 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

Answer: A

I和II都是要求提前归还现金，则Maturity（到期时间）减少。

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Credit exposure modifiers

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- **2005FRM**
- 14. Sylvia, a portfolio manager, established a Yankee bond portfolio. However, she wants to hedge the credit and interest rate risk of her portfolio. Which of the following derivatives will best fit Sylvia's need?

A. A total return swap
B. A credit default swap
C. A credit-spread option
D. A currency swap

Answer: A

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- **2005FRM**
- 91. You have a USD 50 million short at-the-money EUR/USD put option position and a short at-the-money USD 50 million FX forward EUR/USD position with ABC bank. Which position adds more credit risk?

A. The FX option
B. The FX forward
C. They both have approximately the same credit risk as the notional amount and the counterparty are the same
D. There is not enough information to come to a conclusion

Answer: B

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- **2005FRM**
- 96. Which of the following statements correctly describes the impact of signing a netting agreement with a counterparty?

A. It will increase or have no effect on the total credit exposure.
B. It will decrease or have no effect on the total credit exposure.
C. It will increase exposure if exposure is net long and decrease exposure if it is net short.
D. Its impact is impossible to determine based on the available information.

Answer: B

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Hedging & Pricing the credit derivatives

- **2007FRM**
- 45. Bank B has a EUR 100million loan portfolio and has set aside a reserve to cover the first EUR 20 million in default-related losses. If the bank wants to acquire protection for the remaining EUR 80 million in risk exposure, which of the following solutions would work and would expose the bank to the least amount of counterparty risk?

A. Issue a credit-linked note in which interest and principal may be withheld from investors to cover up to EUR 80 million in losses above the first EUR 20 million on the loan portfolio.

B. Buy credit protection in a senior subordinated credit default swap that covers EUR 80 million in losses above the first EUR 20 million.

C. Buy credit insurance for losses up to EUR 80 million in excess of EUR 20 million on the loan portfolio.

D. All three of the above choices work and expose the bank to the same amount of counterparty risk.

Answer: A

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- **2007FRM**
- 55. Suppose the return on US Treasuries is 3% and a risky bond is currency yielding 15%. A trader you supervise claims that he would be able to make an arbitrage earning 5% using US Treasuries, the risky bond, and the credit default swap. Which of the following could be the trader's strategy, and what is the credit default swap premium? Assume there are no transaction costs.

A. Go long the Treasury, short the risky bond, and sell the credit default swap with premium of 7%.

B. Go long the Treasury, short the risky bond, and buy the credit default swap with premium of 6%.

C. Short the Treasury, invest in the risky bond, and buy the credit default swap with premium of 7%.

D. Short the Treasury, invest in the risky bond, and sell the credit default swap with premium of 6%.

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Answer: C

首先，概念上，买入风险债券=买入无风险债券+卖出CDS，卖出风险债券=卖出无风险债券+买入CDS，则B、D排除，剩下A、C；

再判断三者之间的收益情况，（C）中：无风险债券空头则收益率为-3%，风险债券多头收益率为+15%，买入CDS收益为-7%，则总收益为+5%，符合题意。

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- **2007FRM**
- 110. Bank A makes a USD 10 million five-year loan and wants to offset the credit exposure to the obligor. A five-year credit default swap (CDS) with the loan as the reference asset trades on the market at a swap premium of 50 basis points paid quarterly. In order to hedge its credit exposure, Bank A

A. sells the five-year CDS and receives a quarterly payment of USD 50,000.
B. buys the five-year CDS and makes a quarterly payment of USD 12,500.
C. buys the five-year CDS and receives a quarterly payment of USD 12,500.
D. sells the five-year CDS and makes a quarterly payment of USD 50,000.

Answer: B

in order to hedge ,bank A needs to buy CDS, then used 12500 paid a quarter.

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- **2007FRM**
- 74. A trader whose risk you are monitoring tells you that he wants to benefit from a credit spread widening due to a recession. Which of the following would be good trades for his strategy?

A. Short risky bonds and go long risk-free bonds at the beginning of the recession.

B. Go long risky bonds and short risk-free bonds at the beginning of the recession.

C. Sell credit default swaps on bonds with low credit quality and go long low credit quality bonds.

D. Sell credit default swaps on bonds with a low credit quality and buy credit default swaps on bonds with a higher credit quality at the beginning of the recession.

Answer: A 在recession时，价差变大，risky bonds的价格下降，risk-free bonds的价格上升

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- **2006FRM**
- 39. 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.

Answer: D

Novation中所有的负债可以累积在一起计算净额.

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- **2006FRM**
- 42. Wallace, an emerging market bond trader, is holding a 5-year USD Malaysian corporate bond in his book. He is concerned about the risk of his position. Which of the following statements concerning the risk of his position is incorrect?

A. The corporate bond could be upgraded so that it would have a higher rating than Malaysian sovereign debt, but it is highly unlikely.

B. Buying protection with a CDS would hedge the corporate bond position against some risks but it would do a poor job of hedging the position if there is a drop in liquidity for emerging market sovereign bonds.

C. A short position in Ringgits sovereign bond from Malaysia would always help hedge the corporate bond against currency risk if the corporation is an exporter.

D. A short position in a 5-year U.S. treasury and buying protection on the corporate bond using a CDS would be a better hedge than just buying protection on the corporate bond.

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Answer: C

一个债券的收益=无风险收益率+(国家风险+信用风险)= 无风险收益率+(国家风险+信用风险)(注:无外汇风险因为是美元标明面值的)

（a）选项正确，企业债的信用级别很可能比国家信用级别高，但是，我们优先考虑的是国家信用级别（Notes 3-P.33）；（b）选项正确，CDS仅是转移了信用风险，而流动性下降不属于信用风险，所以，此时的风险仍然很大；（c）选项不正确，Short Ringgits sovereign，则转移了信用风险，同时外汇风险也对冲了（是出口商Long in Ringgits，Short Ringgits sovereign债券，short in Ringgits），但是企业债与当地国债相比较还有一个信用风险溢价，此部分的风险还存在；（d）选项正确，购买了CDS转移了信用风险，同时如果short Treasury bond，转移了无风险收益率，即转移了利率风险，则是一个更有效的对冲。

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Structure products

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- **2007FRM**
- 30. Your bank has chosen to use the advanced Internal Rating Based Approach under Basel II. The bank is contemplating a large securitization of low-quality loans that are currently on its balance sheet. You are concerned about whether the securitization will provide you with regulatory capital relief. Which one of the following approaches would be the most efficient in reducing the bank's regulatory capital?

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A. The bank sets up an Special Purpose Vehicle (SPV) that issues securities. All proceeds from selling these securities are invested in a portfolio of equities. The SPV sells protection to the bank through a credit default swap on the loans in the bank's portfolio.

B. The bank sells the loans to an SPV and keeps an equity piece representing 8% of the value of the loans.

C. The bank sells the loans to an SPV that issues securities. These securities issued are then sold to third-party investors. The bank indicates to some investors that if credit quality of the loans declines significantly, the bank will try to help the investors, but specifies that the bank is unwilling to provide a contractual guarantee.

D. The bank forgoes the securitization and buys a credit default swap on the loans from an AAA-rated provider.

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Answer: C

A中Bank set up a SPV形成了实际参股，要合并报表，对于减少监管资本没有帮助

B中Bank持有了8%的Equity Tranches，是SPV中最有风险的部分，最减少监管资本的帮助不大

C中Bank将手中的Loan完全卖出，形成了True Sale，完全不持有头寸，直接从资本中扣除，可以实际减少监管资本。故正确

D中Bank放弃了证券化，单买了一个CDS，Loan仍然还在资产负债表中。随然通过CDS可以减少监管资本的要求，但是仍然没有C中的完全出售Loan来的多。

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- **2007FRM**
- 136. A three-year, credit-linked note (CLN) with underlying Company Z has a LIBOR+60 bps semi-annual coupon. The face value of the CLN is USD 100. LIBOR is 5% for all maturities. The current three-year credit default swap spread for Company Z is 90 bps. The fair value of the CLN is closest to

A. USD 100.00
B. USD 111.05
C. USD 101.65
D. USD 99.19

Answer: D N=6, I/Y=2.5%, PMT=(5+0.6-0.9)/2, FV=100, PV=99.19

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- **2006FRM**
- 110. Which of the following is not a distinction between cash CDOs and synthetic CDOs?

A. The assets are actually sold to the SPV in a cash CDO but are not in a synthetic CDO

B. The cash CDO provides exposure to actual assets, whereas a synthetic CDO provides a similar economic exposure through credit derivatives.

C. Cash raised from the issuance of securities is used to finance the purchase of the assets in a cash CDO and to collateralize the CDS in a synthetic CDO.

D. Cash CDOs can have at most one layer of subordination, whereas synthetic CDOs can issue many subordinated tranches of securities.

Answer: D

合成CDO是通过CDS和无风险债券投资来合成一个信用资产

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- **2007FRM**
- 21. Synthetic collateralized debt obligation (CDO) tranches are structured securities whose performance depends on the number of defaults in a portfolio of credit default swaps (CDS) .A typical synthetic CDO with an equity, mezzanine, senior tranche, and super senior tranche is shown below. Each of the tranches receives a contractual spread in exchange for absorbing losses in the portfolio. For instance, the equity tranche receives a 1,250 bps running spread in exchange for absorbing losses form 0% to 3%.

CDO tranche size and structure

	Tranche	*Size*	*Notional (in millions USD)*	*Spread over LIBOR*
Equity	0%-3%	3%	30	12.50%
Mezzanine	3%-6%	3%	30	2.50%
Senior	6%-9%	3%	30	0.90%
Super Senior	9%-100%	91%	910	0.20%

Which of the following statements is correct?

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A. The equity tranche holder is short a call option with a strike price of USD 30 million written on the value of the portfolio of CDS.

B. The super senior tranche holder is short a put option with a strike price of USD 90 million written on the value of the portfolio of CDS.

C. The mezzanine tranche holder is short a put option with a strike price of USD 60 million written on the value of the portfolio of CDS.

D. The senior tranche holder is long a put option with a strike price of USD 60 million written on the value of the portfolio of CDS.

Answer: B

各个Tranches的收益率分布图都是一个Long put的分布，执行价格应为在其之下的各Tranches的名义本金之和。

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- **2006FRM**
- 35. A department store chain has a B1 rating from Moody's and a B+ rating from S&P. Its balance sheet reflects a large number of receivables from shoppers who use the chain's private label credit card. The firm has decided to raise much needed funds for renovation by securitizing these receivables. Which of the following scenarios is the most likely outcome?

A. The bond issued in the securitization will be B1/B+ rated because the department store chain is rated B1/B+.

B. The asset-backed security (ABS)will have a senior tranche that is rated investment grade and whose face value is lower than the value of the receivables that were on the firm's balance sheet.

C. The asset-backed security (ABS)will be overcollateralized with the receivables that had been on the firm's balance sheet and are now a liability of the special purpose entity (SPE).

D. The securitization will result in a bond with two tranches: one that is senior and receives a Ba3/BB-rating and another that is junior and receives a B2/B.

Answer: C

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- **2007FRM**
- 23. Consider the following homogeneous reference portfolio in a synthetic collateralized debt obligation:

·Number of reference entities: 100

·Credit default swap (CDS) spread: 150 bps

·Recovery rate in case of default: 50%

Assume that defaults are independent. On a single name the annual default probability is constant over five years and obeys the relation:

CDS Premium = (1- Recovery rate) * Annual Default Probability

What is the expected number of defaulting entities over the next five years, and which of the following tranches would be entirely wiped out (loses 100% of the principal invested) by the expected number of defaulting entities?

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A. 14 defaults and a [3% - 14%] tranche would be wiped out
B. 3 defaults and a [0% - 1%] tranche would be wiped out
C. 7 defaults and a [2% -3%] tranche would be wiped out
D. 14 defaults and a [6% -7%] tranche would be wiped out

Answer: D

由于Recovery Rate高达50%，而wiped out所需要达到的条件是loses 100% of the principal invested）所以default的资产数目应该在wiped out的资产数目的2倍左右，“D”正确。

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- **2005FRM**
- 111. You enter into a credit default swap with bank B that settles based upon the performance of company C. Assuming that bank B and company C have the same initial credit rating and everything else remains the same, what is the impact on the value of your credit default swap if bank B buys company C?

A. The credit default swap value increases.
B. The credit default swap value remains the same.
C. The credit default swap value decreases.
D. Impossible to determine based in the information provided.

Answer: C

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- **2005FRM**
- 78. A bank that sells a credit default swap will:

I. increases the bank's total risk.

II. receive investment income without any funding cost.

III. makes a regular payment in exchange for payment if a specific credit occurs.

IV. receive investment income in exchange for promising to make a payment if a specific credit event occurs.

A. I and IV only.

B. III and IV only.

C. IV only.

D. I only.

Answer: A

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- **2005FRM**
- 65. Which of the following statements is incorrect about a credit event in relation to a credit default swap (CDS)?

A. When a technical default based on a financial ratio calculation occurs, a credit event is said to have occurred.

B. A credit event is defined as an actual default if the firm misses a coupon principal payment.

C. For the protection buyer to receive a payment from a CDS, a credit event has to occur.

D. If a credit event takes place, the buyer of the CDS will make a final cash payment.

Answer: A

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Credit VAR

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- **2006FRM**
- 128. You are hired as the credit risk manager for a large bank. You find that the bank's credits are poorly diversified. The bank has an extremely large exposure to one firm with a BB rating All its other loans have equivalent of an AAA rating. You recommend that the bank diversify its credit exposure. After the bank follows your advice, you are summoned to the CEO's office and fired. The CEO says that they followed your advice ,acquired many small exposure to firms with BB rating to replace the large exposure, and all it did was to make the bank riskier because its credit VaR increased. The bank measures its credits VaR as the maximum loss of principal over one year at the 1% level. You seek advice from a consultant to make sure not to repeat the mistake you made. Which of the following explanations provided by the consultant is correct?

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A. VaR necessarily falls as diversification increases. Consequently, the bank's software to compute VaR must be flawed.

B. The bank did not diversify since it replaced one exposure with a BB rating with multiple exposures with a BB rating.

C. The VaR would not have increased had the bank measured it as a shortfall relative the expected of the banking book.

D. The VaR would not have increased had the bank not used the normal distribution for the portfolio return.

Answer: A

如果分散化，则VAR一定是下降的。

如果现在的VAR上升，所以，一定是模型出现了问题。

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- **2005FRM**
- 122. You are the credit risk manager for Bank Happy. Bank Happy holds Treasuries for USD 500 million, one large loan that has a positive probability of default for USD 400 million and another loan that has a positive probability of default for USD 100 million. The defaults are uncorrelated. The bank computers a credit VaR by the analyst who works for you is necessarily wrong?

A. The VaR can be equal to zero.
B. The expected loss on the portfolio exceeds the VaR.
C. The expected loss on the portfolio is necessarily smaller than the VaR.
D. None of the above statements is wrong.

Answer: B

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- **2005FRM**
- 126. You just joined Great Bookkeeping Bank as a credit risk analyst. GBB has just decided to bite the bullet and build a credit VaR model for the bank. You are invited to join a discussion where the decision of which system to build is debated. Being new to the firm, you mostly listen. Which of the following statements you hear is correct?

A. GBB holds its loans to maturity. Consequently, the only way it can be adversely affected by a loan is if default takes place. It should therefore use a system like CreditRisk+.

B. CreditMetrics is only relevant for banks that contemplate selling loans before maturity because the mark-to-market value of a loan is an estimate of what the bank could get if it sold its loans.

C. An important reason to use CreditRisk+ is that the bank has no access to capital markets.

D. It would be possible for the bank to exceed a CreditMetrics VaR even though it has had no credit losses due to default.

Answer: A

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Portfolio credit models

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- **2006FRM**
- 69. Which of the following model(s) calculates the change in portfolio value due to rating migration of the underlying instruments?

A. CreditRisk+
B. CreditMetrics
C. KMV
D. Both ‘A’ and ‘C’

Answer: B

CreditMetrics使用了信用转移矩阵。

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- **2005FRM**
- 50. Which of the following statements is incorrect?

A. In CreditMetrics, credit risk is computed on a comparable basis with market risk.

B. In CreditMetrics, each credit quality migration must be weighted by its likelihood.

C. CreditMetrics was introduced as a Value-at-Risk framework for loans and bonds.

D. CreditMetrics assumes the probability of default for the next period is random.

Answer: D

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- **2005FRM**
- 36. Which of the following credit risk models uses the option theoretic approach for modeling correlation between the credit risky assets?

A. CreditRisk+
B. CreditMetrics
C. KMV for public firms
D. Both CreditMetrics and KMV for public firms

Answer: D

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