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NEW QUESTION: 1

The difference between true severity and the best approximation of the true severity is called:

- A. Approximation error
- B. Fitting error
- C. Total error
- D. Estimation error

Answer: (SHOW ANSWER)

Explanation

This question relates to fitting a distribution to the true severity of the operational risk loss we are trying to model. The quality of the fit, or the precision of the fit, has two elements to the difference between the severity as represented by our model and the true severity. To understand this, consider the three data points below:

- a. The true severity,
 - b. The best approximation of the true severity in the model space, and
 - c. The fit based on the dataset.
- True severity is what we are trying to model.
 - The model space refers to the collection of analytical distributions (log-normal, burr etc) that we are considering to arrive at the estimate of the severity.
 - The 'best approximation of the true severity in the model space' is reached by estimating the parameters of the distribution that optimizes the risk functional.
 - The 'fit' is the actual parameter estimates we settle for with the distribution we have determined best fits the true estimate of our severity. When estimating parameters, we have various methods available for estimation - the least squares method, the maximum likelihood method, for example, and we can get different estimates depending upon the method we choose to use.

Our severity model will be different from the true severity, and the total difference can be split into two types of errors:

1. Fitting error, represented by 'c - b' above: The difference between the fit based on the dataset and the best approximation of the true severity is called 'fitting error', ie, a measure of the extent to which we could have estimated the parameters better.
2. Approximation error, represented by 'b - a' above: Approximation error is the difference between the true severity, and the best approximation of the true severity that can be achieved within the model space is called 'approximation error'.

One can reduce the approximation error by expanding the model space by adding more distributions. This will reduce the approximation error, but generally has the effect of increasing the fitting error because the complexity of the model space increases, and there are more ways to fit to the true severity.

NEW QUESTION: 2

The probability of default of a security over a 1 year period is 3%. What is the probability that it would have defaulted within 6 months?

- A. 98.49%
- B. 3.00%
- C. 1.51%
- D. 17.32%

Answer: C (LEAVE A REPLY)

Explanation

The question is asking for the probability of default over a 6 month period when the probability of annual default is known. If we let the 6 month probability of default be 'd', then the probability of survival at the end of

1 year would be $(1 - d)^2$. This we know is equal to $1 - 3\% = 0.97$. Therefore we can calculate 'd' to be equal to 1.51%. Choice 'c' is the correct answer, the others are incorrect. Note that an exam question may ask for probability of the security having survived after 6 months, in which case the answer might be $1 - 1.51\%$. Also note that such questions will always require you to use the probability of survival ($1 - \text{probability of default}$) for doing the calculations. That is because the probabilities of survival can be multiplied over periods of time, but not probabilities of default as the first default in any period is the 'game-over' event after which neither survival nor defaults mean anything. Therefore you generally always have to get the probability of survival till a point in time, and use that for any other calculations.

NEW QUESTION: 3

When compared to a medium severity medium frequency risk, the operational risk capital requirement for a high severity very low frequency risk is likely to be:

- A. Higher

- B. Lower
- C. Zero
- D. Unaffected by differences in frequency or severity

Answer: (SHOW ANSWER)

Explanation

High frequency and low severity risks, for example the risks of fraud losses for a credit card issuer, may have high expected losses, but low unexpected losses. In other words, we can generally expect these losses to stay within a small expected and known range. The capital requirement will be the worst case losses at a given confidence level less expected losses, and in such cases this can be expected to be low.

On the other hand, medium severity medium frequency risks, such as the risks of unexpected legal claims,

'fat-finger' trading errors, will have low expected losses but a high level of unexpected losses. Thus the capital requirement for such risks will be high.

It is also worthwhile mentioning high severity and low frequency risks - for example a rogue trader circumventing all controls and bringing the bank down, or a terrorist strike or natural disaster creating other losses - will probably have zero expected losses & high unexpected losses but only at very high levels of confidence. In other words, operational risk capital is unlikely to provide for such events and these would lie in the part of the tail that is not covered by most levels of confidence when calculating operational risk capital.

Note that risk capital is required for only unexpected losses as expected losses are to be borne by P&L reserves. Therefore the operational risk capital requirements for a low severity high frequency risk is likely to be low when compared to other risks that are lower frequency but higher severity.

Thus Choice 'c' is the correct answer.

NEW QUESTION: 4

The cumulative probability of default for a security for 4 years is 11.47%. The marginal probability of default for the security for year 5 is 5% during year 5. What is the cumulative probability of default for the security for 5 years?

- A. 16.47%
- B. 5.00%
- C. 15.90%
- D. None of the above

Answer: C (LEAVE A REPLY)

Explanation

The cumulative probability of default for the security for the 5 years is $[1 - (1 - \text{probability of default upto year 4}) \times (1 - \text{probability of default in year 5})]$. An easier way to think about this is that the

Probability of survival till year 5 = (Probability of survival till year 4 * Probability of survival

during year 5). Using the relationship that probability of default = 1 - probability of survival, we can calculate the required probability in all cases.

In this case, the cumulative probability of default for the security for 5 years = $1 - (1 - 11.47\%)(1 - 5\%) = 15.8695\%$, therefore Choice 'c' is the correct answer.

NEW QUESTION: 5

Which of the following need to be assumed to convert a transition probability matrix for a given time period to the transition probability matrix for another length of time:

- I. Time invariance
- II. Markov property
- III. Normal distribution
- IV. Zero skewness

- A. I, II and IV
- B. III and IV
- C. I and II
- D. II and III

Answer: C (LEAVE A REPLY)

Explanation

Time invariance refers to all time intervals being similar and identical, regardless of the effects of business cycles or other external events. The Markov property is the assumption that there is no ratings momentum, and that transition probabilities are dependent only upon where the rating currently is and where it is going to.

Where it has come from, or what the past changes in ratings have been, have no effect on the transition probabilities.

Rating agencies generally provide transition probability matrices for a given period of time, say a year. The risk analyst may need to convert these into matrices for say 6 months, 2 years or whatever time horizon he or she is interested in. Simplifying assumptions that allow him to do so using simple matrix multiplication include these two assumptions - time invariance and the Markov property. Thus Choice 'c' is the correct answer. The other choices (normal distribution and zero skewness) are non-sensical in this context.

NEW QUESTION: 6

For a given mean, which distribution would you prefer for frequency modeling where operational risk events are considered dependent, or in other words are seen as clustering together (as opposed to being independent)?

- A. Binomial
- B. Gamma
- C. Negative binomial
- D. Poisson

Answer: C (LEAVE A REPLY)

Explanation

An interesting property that distinguishes the three most used distributions for modeling event frequency is that for a given mean, their variances differ. The ratio of variance to mean (the variance-mean ratio, calculated as variance/mean) can then be used to decide the kind of distribution to use. Both the variance and the mean can be estimated from available data points from the internal or external loss databases, or the scenario exercise. The variance-mean ratio reflects how dispersed a distribution is. (In the PRMIA handbook, the variance to mean ratio has been described as the "Q-Factor".) The Poisson distribution has its mean equal to its variance, and therefore the variance to mean ratio is 1. For the negative binomial distribution, this ratio is always greater than 1, which means there is greater dispersion compared to the mean - or more intervals with low counts as well as more intervals with high counts. For the binomial distribution, the variance to mean ratio is less than one, which means it is less dispersed than the Poisson distribution with values closer to the mean.

In a situation where operational risk events are seen as clustering together, or dependent, the variance will be higher and it would be more appropriate to use the negative binomial distribution.

NEW QUESTION: 7

Which of the following statements are true:

- I. Pre-settlement risk is the risk that one of the parties to a contract might default prior to the maturity date or expiry of the contract.
- II. Pre-settlement risk can be partly mitigated by providing for early settlement in the agreements between the counterparties.
- III. The current exposure from an OTC derivatives contract is equivalent to its current replacement value.
- IV. Loan equivalent exposures are calculated even for exposures that are not loans as a practical matter for calculating credit risk exposure.

- A.** II and IV
- B.** III and IV
- C.** I, II, III and IV
- D.** II and III

Answer: C (LEAVE A REPLY)

Explanation

Pre-settlement risk is the risk that one of the counterparties defaults prior to the date for the maturity of the transaction in question. This may be an unrelated default, in fact there may have been no default on that particular contract, but the party may have defaulted on its other obligations, or filed for bankruptcy. To deal with such cases and to protect the interests of both the parties, it is common to provide for immediate termination of positions and settlement based on the current replacement value of the contracts. Therefore statements I and II are correct.

Statement III is correct as well - the exposure from an OTC derivative contract derives from its current replacement value, and not the notional. If the current replacement value is negative, then the credit exposure is considered equal to zero.

Statement IV is correct as it is quite common to restate all exposures - those from credit lines, OTC derivatives etc - in loan equivalent terms prior to estimating credit risk.

NEW QUESTION: 8

Which of the following statements is true:

- I. When averaging quantiles of two Pareto distributions, the quantiles of the averaged models are equal to the geometric average of the quantiles of the original models based upon the number of data items in each original model.
- II. When modeling severity distributions, we can only use distributions which have fewer parameters than the number of datapoints we are modeling from.
- III. If an internal loss data based model covers the same risks as a scenario based model, they can be combined using the weighted average of their parameters.
- IV. If an internal loss model and a scenario based model address different risks, the models can be combined by taking their sums.

- A.** II and III
- B.** III and IV
- C.** I and II
- D.** All statements are true

Answer: D (LEAVE A REPLY)

Explanation

Statement I is true, the quantiles of the averaged models are equal to the geometric average of the quantiles of the original models.

Statement II is correct, the number of data points from which model parameters are estimated must be greater than the number of parameters. So if a distribution, say Poisson, has one parameter, we need at least two data points to estimate the parameter. Other complex distributions may have multiple parameters for shape, scale and other things, and the minimum number of observations required will be greater than the number of parameters.

Statement III is true, if the ILD data and scenarios cover the same risk, they are essentially different perspectives on the same risk, and therefore should be combined as weighted averages.

But if they cover completely different risks, the models will need to be added together, not averaged - which is why Statement IV is true.

NEW QUESTION: 9

Which of the following belong in a credit risk report?

- A.** Exposures by country
- B.** Exposures by industry

- C. Largest exposures by counterparty
- D. All of the above

Answer: (SHOW ANSWER)

Explanation

All the listed variables are relevant to management monitoring the credit risk profile of an institution, therefore Choice 'd' is the correct answer.

NEW QUESTION: 10

CreditRisk+, the actuarial model for calculating portfolio credit risk, is based upon:

- A. the Poisson distribution
- B. the normal distribution
- C. the exponential distribution
- D. the log-normal distribution

Answer: A (LEAVE A REPLY)

NEW QUESTION: 11

For a corporate bond, which of the following statements is true:

I. The credit spread is equal to the default rate times the recovery rate II. The spread widens when the ratings of the corporate experience an upgrade III. Both recovery rates and probabilities of default are related to the business cycle and move in oppositedirections to each other IV. Corporate bond spreads are affected by both the risk of default and the liquidity of the particular issue

- A. I, II and IV
- B. III and IV
- C. III only
- D. IV only

Answer: (SHOW ANSWER)

Explanation

The credit spread is equal to the default rate times the loss given default, or stated another way, default rate times (1 - recovery rate). It is not equal to the default rate times the recovery rate. Therefore statement I is not correct.

When ratings are upgraded by rating agencies, the spread contracts and not widens. Therefore statement II is not correct.

Both recovery rates and probabilities of default are related to the business cycle, and they move in opposite directions. Economic recessions witness an increase in the default rate and a decrease in the recovery rate, and economic expansions result in a decrease in the default rate and an increase in the recovery rates when default does happen. Therefore statement III is correct.

Bond spreads incorporate both the risk of default, but also considerations of liquidity in the case of corporate bonds. Hence statement IV is correct.

NEW QUESTION: 12

For a back office function processing 15,000 transactions a day with an error rate of 10 basis points, what is the annual expected loss frequency (assume 250 days in a year)

- A. 3750
- B. 0.06
- C. 37500
- D. 375

Answer: A (LEAVE A REPLY)

Explanation

An error rate of 10 basis points means the number of errors expected in a day will be 15 (recall that 100 basis points = 1%). Therefore the total number of errors expected in a year will be $15 \times 250 = 3750$. Choice 'a' is the correct answer.

NEW QUESTION: 13

Credit exposure for derivatives is measured using

- A. Current replacement value
- B. Notional value of the derivative
- C. Forward looking exposure profile of the derivative
- D. Standard normal distribution

Answer: C (LEAVE A REPLY)

Explanation

Current replacement values are a very poor measure of the credit exposure from a derivative contract, because the future value of these instruments is unpredictable, ie is stochastic, and the range of values it can take increases the further ahead in the future we look. Therefore it is common for credit exposures for derivatives to be measured using forward looking exposure profiles, which are distributions of the expected value of the derivative at the time horizon for which credit risk is being measured. To be conservative, a high enough quintile of this distribution is taken as the 'loan equivalent value' of the derivative as the exposure. Choice 'c' is the correct answer.

The notional value of derivative contracts generally tends to be quite high and unrelated to their economic value or the counterparty exposure. Therefore notional value is irrelevant.

NEW QUESTION: 14

If the marginal probabilities of default for a corporate bond for years 1, 2 and 3 are 2%, 3% and 4% respectively, what is the cumulative probability of default at the end of year 3?

- A. 8.74%
- B. 9.58%
- C. 9.00%
- D. 91.26%

Answer: A (LEAVE A REPLY)

Explanation

Marginal probabilities of default are the probabilities for default for a given period, conditional on survival till the end of the previous period. Cumulative probabilities of default are probabilities of default by a point in time, regardless of when the default occurs. If the marginal probabilities of default for periods 1, 2... n are $p_1, p_2...p_n$, then cumulative probability of default can be calculated as $C_n = 1 - (1 - p_1)(1-p_2)...(1-p_n)$. For this question, we can calculate the probability of default for year 3 as $=1 - (1-2\%)*(1-3\%)*(1-4\%) = 8.74\%$

NEW QUESTION: 15

For creditrisk calculations, correlation between the asset values of two issuers is often proxied with:

- A. Credit migration matrices
- B. Transition probabilities
- C. Equity correlations
- D. Default correlations

Answer: C (LEAVE A REPLY)

Explanation

Asset returns are relevant for credit risk models where a default is related to the value of the assets of the firm falling below the default threshold. When assessing credit risk for portfolios with multiple credit assets, it becomes necessary to know the asset correlations of the different firms. Since this data is rarely available, it is very common to approximate asset correlations using equity prices. Equity correlations are used as proxies for asset correlation, therefore Choice 'c' is the correct answer.

NEW QUESTION: 16

Which of the following statements are true:

- I. Heavy tailed parametricdistributions are a good choice for severity modeling in operational risk.
- II. Heavy tailed body-tail distributions are a good choice for severity modeling in operational risk.
- III. Log-likelihood is a means to estimate parameters for a distribution.
- IV. Body-tail distributions allow modeling small losses differently from large ones.

- A. I and IV
- B. II and III
- C. II, III and IV
- D. All of the above

Answer: D (LEAVE A REPLY)

Explanation

When modeling for operational risk, we are generally concerned with tail losses - this isbecause the horizon for operational risk is 1 year at the 99.9th percentile. Since the 99.9th percentile is in the tail region, we would like to ensure that the tails are modeled as

accurately as possible. Operational risk distributions are modeled using heavy tailed distributions.

Heavy tailed parametric distributions such as log-normal, pareto and others are therefore a good choice for modeling risk severity, therefore statement I is correct.

Body-tail distributions are combinations of parametric distributions, with different types of distributions being used to model the body and the tail - this provides flexibility because small and medium losses up to a threshold can be modeled using one distribution, and losses beyond the threshold can be modeled using a different distribution that is a better estimate of the tail. Statement II is therefore correct.

A log-likelihood function simplifies the optimization of a regular likelihood function. We generally maximize (or minimize the risk functional) a likelihood function with a view to estimating the parameters of the underlying distribution. If the likelihood function is complex, it may sometimes make it mathematically easier to optimize the log of the function - as that changes exponents and multiplications to additions, while behaving in the same way as the underlying function. Therefore statement III is correct, log-likelihood is a means to estimate parameters for a distribution.

Statement IV is correct as body-tail distributions allow modeling different parts of the distribution differently from each other.

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NEW QUESTION: 17

Financial institutions need to take volatility clustering into account:

- I. To avoid taking on an undesirable level of risk
- II. To know the right level of capital they need to hold
- III. To meet regulatory requirements
- IV. To account for mean reversion in returns

A. II, III and IV

B. I & II

C. I, II and III

D. I, II and IV

Answer: B (LEAVE A REPLY)

Explanation

Volatility clustering leads to levels of current volatility that can be significantly different from long run averages. When volatility is running high, institutions need to shed risk, and when it is running low, they can afford to increase returns by taking on more risk for a given amount of capital. An institution's response to changes in volatility can be either to adjust risk, or capital, or both. Accounting for volatility clustering helps institutions manage their risk and capital and therefore statements I and II are correct.

Regulatory requirements do not require volatility clustering to be taken into account (at least not yet).

Therefore statement III is not correct, and neither is IV which is completely unrelated to volatility clustering.

NEW QUESTION: 18

Calculate the 1-year 99% credit VaR of a portfolio of two bonds, each with a value of \$1m, and the probability of default of 1% each over the next year. Assume the recovery rate to be zero, and the defaults of the two bonds to be uncorrelated to each other.

A. 1980000

B. 0

C. 980000

D. 20000

Answer: C (LEAVE A REPLY)

Explanation

This question requires the calculation of the credit VaR of the bonds - note that in the real exam the question may not refer to 'credit' VaR, but that can be inferred from the context, ie because the probability of default is provided, it can only be asking for the credit VaR.

(Note the difference from the market risk VaR which is driven by interest rate changes affecting the value of the bonds - there are other questions addressing that calculation).

Credit VaR = Expected Value - Worst case portfolio value at the selected percentile (ie the confidence level) Thus if we know the distribution of the portfolio value in the future, we can find out the value at the required percentile (in this case 99%), and the VaR will be the difference between this value and the expected value of the portfolio.

An important piece of information provided is that the defaults are independent, ie they are not correlated. This means joint probabilities of default or survival can be easily found by multiplying the relevant probabilities.

The following outcomes are possible:

1. Both bonds default: Probability = $1\% * 1\% = 0.01\%$. Portfolio value = \$0 (because both bonds have defaulted & there is zero recovery)

2. One bond defaults and the other survives: Probability = $2 * 1\% * 99\% = 1.98\%$. Portfolio value = \$1m (because one bond survives with a value of \$1m and the defaulted bond has a value of \$0). (Note that because there are two ways in which this can happen, ie bond 1 defaults, bond 2 survives; and bond 1 survives, bond 2 defaults, we need to multiply the probability by 2).

3. Both bonds survive: Probability = $99\% * 99\% = 98.01\%$. Portfolio value = \$2m. Expected value is therefore \$1.98m (which is equal to $2 * \$1m * (1 - 1\%)$, or alternatively can also be obtained by multiplying the probabilities in the above three outcomes with the value associated with each).

The future distribution of the value of the portfolio can be constructed from the three outcomes outlined above:

a. Up to the 98.01th percentile the value of the portfolio is \$2m, and the VaR is zero (being greater than the expected value, so there is nothing to lose) b. From the 98.01th percentile to the 99.99th percentile (98.01+the next 1.98%), the value of the portfolio is \$1m. VaR in this range is \$0.98m ($=\$1.98m - \$1m$)

c. From the 99.99th to the 100th percentile the value of the portfolio is \$0, and the VaR is \$1.98m.

Since the question is asking for VaR at the 99% confidence level, it lies in the range in 'b' above, and therefore the VaR is \$0.98m.

Therefore Choice 'c' is the correct answer and the rest are incorrect.

NEW QUESTION: 19

If the default hazard rate for a company is 10%, and the spread on its bond over the risk free rate is 800 bps, what is the expected recovery rate?

- A. 40.00%
- B. 20.00%
- C. 8.00%
- D. 0.00%

Answer: B (LEAVE A REPLY)

Explanation

The recovery rate, the default hazard rate (also called the average default intensity) and the spread on debt are linked by the equation Hazard Rate = Spread / (1 - Recovery Rate). Therefore, the recovery rate implicit in the given data is $= 1 - 8\%/10\% = 20\%$.

NEW QUESTION: 20

Under the credit migration approach to assessing portfolio credit risk, which of the following are needed to generate a distribution of future portfolio values?

- A. The forward yield curve
- B. A specified risk horizon
- C. A rating migration matrix
- D. All of the above

Answer: D (LEAVE A REPLY)

Explanation

The credit migration approach to assessing portfolio credit risk involves obtaining a distribution of future portfolio values from the ratings migration matrix. First, the frequencies in the matrix are used as probabilities, and expected future values of the

securities belonging to each rating category are calculated. These are then discounted to the present using the discount rate appropriate to the 'future' rating category. This gives us a forward distribution of the value of each security in the portfolio. These are then combined using the default correlations between the issuers. The default correlation between the issuers is often proxied using asset returns, and recognizing that default occurs when asset values fall below a certain threshold. A distribution for the future value of the portfolio is generated using simulation, and from this distribution the Credit VaR can be calculated.

Thus, we need the migration matrix, the risk horizon from which the present values need to be calculated, and the forward yield curve or the discount curve for each rating category for the risk horizon. Thus, Choice 'd' is the correct answer.

NEW QUESTION: 21

A corporate bond has a cumulative probability of default equal to 20% in the first year, and 45% in the second year. What is the monthly marginal probability of default for the bond in the second year, conditional on there being no default in the first year?

- A. 3.07%
- B. 2.60%
- C. 15.00%
- D. 31.25%

Answer: A (LEAVE A REPLY)

Explanation

Note that marginal probabilities of default are the probabilities for default for a given period, conditional on survival till the end of the previous period. Cumulative probabilities of default are probabilities of default by a point in time, regardless of when the default occurs. If the marginal probabilities of default for periods 1, 2... n are $p_1, p_2 \dots p_n$, then cumulative probability of default can be calculated as $C_n = 1 - (1 - p_1)(1 - p_2) \dots (1 - p_n)$.

For this question, we can calculate the marginal probability of default for year 2 by solving the equation $[1 - (1 - 20\%)(1 - P_2) = 45\%]$ for P_2 . Solving, we get the marginal probability of default during

year 2 as 31.25%.

Since this is the annual marginal probability of default, we will need to convert it to a monthly number, which we can do by solving the following equation where M_1 is the monthly marginal probability of default.

$$1 - 31.25\% = (1 - M_1)^{12}, \text{ implying } M_1 = 3.07\%$$

NEW QUESTION: 22

Which of the following statements are correct:

- I. A training set is a set of data used to create a model, while a control set is a set of data is used to prove that the model actually works
- II. Cleansing, aggregating or ensuring data integrity is a task for the IT department, and is not a risk manager's responsibility
- III. Lack

of information on the quality of underlying securities and assets was a major cause of the collapse in the CDO markets during the credit crisis that started in 2007 IV. The problem of lack of historical data can be addressed reasonably satisfactorily by using analytical approaches

- A. II and IV
- B. I, III and IV
- C. I and III
- D. All of the above

Answer: (SHOW ANSWER)

Explanation

Statement I is correct. Data is often divided into two sets - a 'training set' that is used to create and fine-tune the model while the 'control set' is used to prove that the model works on sample data. Back testing is then performed using actual data that becomes available over time, or may already be available as historical data.

Statement II is incorrect. A risk manager often spends a great deal of time in managing data, and ensuring that the data being used is accurate enough for the purpose it is being used for. A risk manager can expect to spend a good part of his or her team's time in cleansing data. While he or she can try to get the IT processes and systems to produce correct data in the first place so it requires minimal subsequent cleansing or validation, this task is likely to remain a key part of a risk manager's role for quite some time in the future given the challenges nearly all organizations face in managing risk data.

Statement III is correct. There was not enough granular data available on the underlying components of some of the derivative debt securities whose markets dried up during the crisis that began in 2007. This was because investors became increasingly unsure of what the value of these securities, such as CDOs was, leading to market seizure and fire sale prices.

Statement IV is not correct. There is no easy solution to the lack of enough historical data, which is used to create as well as test models, and construct stress scenarios. Analytical approaches are not a good enough substitute for real market data. During the recent crisis, many instruments had rather short histories and there was not enough data available, and risk managers and portfolio managers relied upon analytical approaches to value and price them. Many of the assumptions that underpinned these approaches were untested in the real world and turned out to be incorrect.

Therefore Choice 'c' is the correct answer and the rest are incorrect.

NEW QUESTION: 23

Which of the following is not a credit event under ISDA definitions?

- A. Restructuring
- B. Obligation accelerations
- C. Rating downgrade
- D. Failure to pay

Answer: C (LEAVE A REPLY)

Explanation

According to ISDA, a credit event is an event linked to the deteriorating credit worthiness of an underlying reference entity in a credit derivative. The occurrence of a credit event usually triggers full or partial termination of the transaction and a payment from protection seller to protection buyer. Credit events include

- bankruptcy,
- failure to pay,
- restructuring,
- obligation acceleration,
- obligation default and
- repudiation/moratorium.

A rating downgrade is not a credit event.

NEW QUESTION: 24

The frequency distribution for operational risk loss events can be modeled by which of the following distributions:

- I. The binomial distribution
- II. The Poisson distribution
- III. The negative binomial distribution
- IV. The omega distribution

- A.** I, II and III
- B.** I and III
- C.** I, III and IV
- D.** I, II, III and IV

Answer: A (LEAVE A REPLY)

Explanation

The binomial, Poisson and the negative binomial distributions can all be used to model the loss event frequency distribution. The omega distribution is not used for this purpose, therefore Choice 'a' is the correct answer.

Also note that the negative binomial distribution provides the best model fit because it has more parameters than the binomial or the Poisson. However, in practice the Poisson distribution is most often used due to reasons of practicality and the fact that the key model risk in such situations does not arise from the choice of an incorrect underlying distribution.

NEW QUESTION: 25

Which of the following belong to the family of generalized extreme value distributions:

- I. Frechet
- II. Gumbel
- III. Weibull
- IV. Exponential

- A. IV
- B. I, II and III
- C. II and III
- D. All of the above

Answer: (SHOW ANSWER)

Explanation

Extreme value theory focuses on the extreme and rare events, and in the case of VaR calculations, it is focused on the right tail of the loss distribution. In very simple and non-technical terms, EVT says the following:

1. Pull a number of large iid random samples from the population,
2. For each sample, find the maximum,
3. Then the distribution of these maximum values will follow a Generalized Extreme Value distribution.

(In some ways, it is parallel to the central limit theorem which says that the the mean of a large number of random samples pulled from any population follows a normal distribution, regardless of the distribution of the underlying population.) Generalized Extreme Value (GEV) distributions have three parameters: (shape parameter), (location parameter) and (scale parameter). Based upon the value of α , a GEV distribution may either be a Frechet, Weibull or a Gumbel. These are the only three types of extreme value distributions.

NEW QUESTION: 26

Which of the following statements are correct in relation to the financial system just prior to the current financial crisis:

- I. The system was robust against small random shocks, but not against large scale disturbances to key hubs in the network
- II. Financial innovation helped reduce the complexity of the financial network
- III. Knightian uncertainty refers to risk that can be quantified and measured
- IV. Feedback effects under stress accentuated liquidity problems

- A. I, II and IV
- B. II and III
- C. I and IV
- D. III and IV

Answer: (SHOW ANSWER)

Explanation

Statement I is correct. The financial system proved to be stable against small shocks and disturbances, or shocks of a particular type (eg, the dotcom crash, the wars in the Persian Gulf); but rather fragile against other types of shocks, including disturbances to key market participants caused by a worsening of mortgage defaults. Statement II is incorrect.

Financial innovation, in particular the slicing and dicing of 'risk' through securitization, significantly increased interrelationships, dependence on the same risk factors, and the complexity of the system as a whole. Statement III is incorrect. A distinction is sometimes made between risk that is knowable, measureable, and quantifiable through parameters;

and uncertainty, where the parameters are not known at all. The latter is called 'Knightian uncertainty' after the name of the scholar who came up with the distinction between the two. Statement IV is correct. Feedback effects had the greatest impact on liquidity which was tended to be hoarded, and on asset prices that tumbled as market participants tried to sell assets to become more liquid. Thus, choice is a the correct answer.

NEW QUESTION: 27

Which of the following statements is true:

I. Basel II requires banks to conduct stress testing in respect of their credit exposures in addition to stress testing for market risk exposures
II. Basel II requires pooled probabilities of default (and not individual PDs for each exposure) to be used for credit risk capital calculations

- A. I
- B. I & II
- C. II
- D. Neither statement is true

Answer: (SHOW ANSWER)

Explanation

The correct answer is choice 'b'

Both statements are accurate. Basel II requires pooled probabilities of default to be applied to risk buckets that contain similar exposures. Also, stress testing is mandatory for both market and credit risk.

NEW QUESTION: 28

Which of the following are valid criticisms of value at risk:

I. There are many risks that a VaR framework cannot model
II. VaR does not consider liquidity risk
III. VaR does not account for historical market movements
IV. VaR does not consider the risk of contagion

- A. I, II and IV
- B. I and III
- C. II and IV
- D. All of the above

Answer: A (LEAVE A REPLY)

Explanation

Risks such as abrupt changes to a firm's business model caused by legislation, or the introduction of capital controls in foreign countries where a firm is invested, geo-political risks etc are not modelable in the traditional sense. These risks cannot be modeled using VaR. Therefore statement I is correct.

VaR indeed does not consider liquidity risk, it is only concerned with the standard deviation of portfolio returns. Statement II is a valid criticism.

Statement III is not correct, as VaR can consider historical price movements.

Statement IV is correct, as VaR does not consider systemic risk or the risk of contagion.

NEW QUESTION: 29

Which of the following statements are true:

I. Credit risk and counterparty risk are synonymous

II. Counterparty risk is the contingent risk from a counterparty's default in derivative

transactions III. Counterparty risk is the risk of a loan default or the risk from moneys lent

directly IV. The exposure at default is difficult to estimate for credit risk as it depends upon market movements

A. II and III

B. I and II

C. II

D. III and IV

Answer: C (LEAVE A REPLY)

Explanation

Credit risk is the risk from a borrower defaulting on moneys lent. Counterparty risk, on the other hand, is the risk that a counterparty to a derivative transaction will be unable to pay at the time the transaction is in-the-money.

Credit risk therefore relates more to the banking book, counterparty risk relates more to the trading book.

Credit risk and counterparty risk differ in that for counterparty risk, the amount at risk fluctuates for counterparty risk depending upon the value of the underlying derivative.

Counterparty risk generally starts at zero, for most swaps and other derivatives are near zero value at inception. Over time, as the prices of the underlying instruments move, one party ends up owing money to the other. A deterioration in the financial situation of the party owing moneys may lead to a loss to the other party, resulting in counterparty risk.

Counterparty risk can also arise from stock lending operations and repo trades.

Credit risk on the other hand is the traditional risk of default by a borrower, or a bank's customer who has taken a loan or has an overdraft or other credit facility.

Statement I is therefore incorrect as credit risk and counterparty risks are different.

Statement II is correct as counterparty risk is 'contingent' in the sense it arises only if the transaction with the counterparty ends up being in-the-money, and the counterparty defaults.

Statement III is incorrect. The statement describes credit risk.

Statement IV is incorrect, as the exposure is known for moneys lent. Derivative exposures for the future are difficult to estimate, they can even turn from moneys owed to moneys due as the value of the underlying changes.

NEW QUESTION: 30

Under the standardized approach to calculating operational risk capital, how many business lines are a bank's activities divided into per Basel II?

- A. 7
- B. 15
- C. 8
- D. 12

Answer: (SHOW ANSWER)

Explanation

In the Standardized Approach, banks' activities are divided into eight business lines:

corporate finance, trading

& sales, retail banking, commercial banking, payment & settlement, agency services, asset management, and retail brokerage. Therefore Choice 'c' is the correct answer.

NEW QUESTION: 31

The sensitivity (delta) of a portfolio to a single point move in the value of the S&P500 is \$100. If the current level of the S&P500 is 2000, and has a one day volatility of 1%, what is the value-at-risk for this portfolio at the 99% confidence and a horizon of 10 days? What is this method of calculating VaR called?

- A. \$14,736, parametric VaR
- B. \$4,660, Monte Carlo simulation VaR
- C. \$14,736, historical simulation VaR
- D. \$4,660, parametric VaR

Answer: A (LEAVE A REPLY)

Explanation

If the current level of the S&P 500 is 2000, and a single day volatility is 1%, and the delta (ie change in portfolio value from a one point change) is \$100, then the 1 day volatility for the portfolio in dollars is $2000 * 1\% * \$100 = \$2,000$.

$1\% * \$100 = \$2,000$.

At the 99% confidence level, the value of the inverse cumulative density function for the normal distribution is

2.33 (=NORMSINV(99%), in Excel). Therefore the 1 day VaR will be $2.33 * \$2000 = \$4,660$. Extending it to

10 days using the square root of time rule, we get the 10 day VaR as equal to $\text{SQRT}(10) * 4660 = \$14,736$.

Since this method of calculating VaR relies upon a delta approximation of a risk factor (in this case the S&P500), it is the parametric approach to calculating VaR (the other methods being historical simulation, and Monte Carlo simulation).

The

2015 Handbook provides an excellent example of parametric (and other) VaR calculations in Chapter 3 of Volume III of Book 3. The spreadsheet used for the illustration can be downloaded from

<http://www.prmia.org/prm-exam/handbook-resources>.

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NEW QUESTION: 32

Which of the formulae below describes incremental VaR where a new position 'm' is added to the portfolio?

(where p is the portfolio, and V_i is the value of the i-th asset in the portfolio. All other notation and symbols have their usual meaning.)

A) $VaR_{p+a} - VaR_p$

B)

$MVaR_i V_i$

C)

$\delta \gamma$

D)

$\sum_{i=1}^n CVaR_i = VaR_p$

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A (LEAVE A REPLY)

Explanation

Incremental VaR is the change in portfolio VaR resulting from a change in a single position. This is accurately described by $VaR_{(p+a)} - VaR_p$. The other answers are incorrect, and describe other concepts.

It is important to know and understand the ideas behind MVaR (marginal VaR), CVaR (component VaR) and iVaR (incremental VaR), and the differences between them.

NEW QUESTION: 33

The probability of default of a security over a 1 year period is 3%. What is the probability that it would not have defaulted at the end of four years from now?

- A. 11.47%
- B. 88.53%
- C. 12.00%
- D. 88.00%

Answer: B (LEAVE A REPLY)

Explanation

The probability that the security would not default in the next 4 years is equal to the probability of survival raised to the power four. In other words, $= (1 - 3\%)^4 = 88.53\%$. Choice 'b' is the correct answer.

NEW QUESTION: 34

For a 10 year interest rate swap, what would be the worst time for a counterparty to default (in terms of the maximum likely credit exposure)

- A. 10 years
- B. Right after inception
- C. 2 years
- D. 7 years

Answer: D (LEAVE A REPLY)

Explanation

'Right after inception' is incorrect as the interest rate swap (IRS) would be valued at close to zero right after inception and the credit risk would be minimum. Choice 'a' (ie 10 years, at maturity) is incorrect as at maturity there would be no more cash flows to exchange, and the replacement value of the contract would again be close to zero.

Therefore the worst time for the counterparty to default is somewhere between inception and maturity - in fact the range of possible outcomes for the contract increases with the passage of time, and we should find the worst time to default to be a later date. However, towards maturity, the value of the contract starts to go towards zero again, and the maximum value is reached around 7 years. 2 years is too early for the maximum to be reached for the 10 year IRS, and therefore choice a is the correct answer.

NEW QUESTION: 35

Which of the following statements is true

- I. If no loss data is available, good quality scenarios can be used to model operational risk
- II. Scenario data can be mixed with observed loss data for modeling severity and frequency estimates
- III. Severity estimates should not be created by fitting models to scenario generated loss data points alone
- IV. Scenario assessments should only be used as modifiers to ILD or ELD severity models.

- A. I
- B. I and II
- C. III and IV
- D. All statements are true

Answer: B (LEAVE A REPLY)

Explanation

There are multiple ways to incorporate scenario analysis for modeling operational risk capital - and the exact approach used depends upon the quantity of loss data available, and the quality of scenario assessments.

Generally:

- If there is no past loss data available, scenarios are the only practical means to model operational risk loss distributions. Both frequency and severity estimates can be modeled based on scenario data.
- If there is plenty of past data available, scenarios can be used as a modifier for estimates that are based solely on data (for example, consider the MAX of the loss estimates at the desired quantile as provided by the data, and as indicated by scenarios)
- If high quality scenario data is available, and there is sufficient past data, one could mix scenario assessments with the loss data and fit the combined data set to create the loss distribution. Alternatively, both could be fitted with severity estimates and then the two severities could be parametrically combined.

In short, there is considerable flexibility in how scenarios can be used.

Statement I is therefore correct, and so is statement II as both indicate valid uses of scenarios.

Statement III is not correct because it may be okay to create severity estimates based on scenario data alone.

Statement IV is not correct because while using scenarios as modifiers to other means of estimation is acceptable, that is not the only use of scenarios.

NEW QUESTION: 36

A cumulative accuracy plot:

- A.** is a measure of the correctness of VaR calculations
- B.** measures the accuracy of credit risk estimates
- C.** measures accuracy of default probabilities observed empirically
- D.** measures rating accuracy

Answer: D (LEAVE A REPLY)

Explanation

A cumulative accuracy plot measures the accuracy of credit ratings assigned by rating agencies by considering the relative rankings of obligors according to the ratings given. Choice 'd' is the correct answer.

NEW QUESTION: 37

The 99% 10-day VaR for a bank is \$200mm. The average VaR for the past 60 days is \$250mm, and the bank specific regulatory multiplier is 3. What is the bank's basic VaR based market risk capital charge?

- A.** \$250mm

- B. \$200mm
- C. \$750mm
- D. \$600mm

Answer: C (LEAVE A REPLY)

Explanation

The current Basel rules for the basic VaR based charge for market risk capital set market risk capital requirements as the maximum of the following two amounts:

1. 99%/10-day VaR,
2. Regulatory Multiplier x Average 99%/10-day VaR of the past 60 days

The 'regulatory multiplier' is a number between 3 and 4 (inclusive) calculated based on the number of 1% VaR exceedances in the previous 250 days, as determined by backtesting.

- If the number of exceedances is ≤ 4 , then the regulatory multiplier is 3.
- If the number of exceedances is between 5 and 9, then the multiplier = $3 + 0.2*(N-4)$, where N is the number of exceedances.
- If the number of exceedances is ≥ 10 , then the multiplier is 4.

So you can see that in most normal situations the risk capital requirement will be dictated by the multiplier and the prior 60-day average VaR, because the product of these two will almost often be greater than the current 99% VaR.

The correct answer therefore is = $\max(200\text{mm}, 3*250\text{mm}) = \750mm .

Interestingly, also note that a 99% VaR should statistically be exceeded $1\%*250 \text{ days} = 2.5$ times, which means if the bank's VaR model is performing as it should, it will still need to use a reg multiplier of 3.

NEW QUESTION: 38

Altman's Z-score does not consider which of the following ratios:

- A. Market capitalization to debt
- B. Sales to total assets
- C. Net income to total assets
- D. Working capital to total assets

Answer: C (LEAVE A REPLY)

Explanation

A computation of Altman's Z-score considers the following ratios:

- Working capital to total assets
- Retained earnings to total assets
- EBIT to total assets
- Market cap to debt
- Sales to total assets

It does not consider Net Income to total assets, therefore Choice 'c' is the correct answer.

This makes sense as net income is after interest and taxes, both of which are not relevant for considering the cash flows for debt servicing.

NEW QUESTION: 39

The Basel framework does not permit which of the following Units of Measure (UoM) for operational risk modeling:

- I. UoM based on legal entity
- II. UoM based on event type
- III. UoM based on geography
- IV. UoM based on line of business

- A. I and IV
- B. III only
- C. II only
- D. None of the above

Answer: D (LEAVE A REPLY)

Explanation

Units of Measure for operational risk are homogenous groupings of risks to allow sensible modeling decisions to be made. For example, some risks may be fat-tailed, for example the risk of regulatory fines. Other risks may have finite tails - for example damage to physical assets risk (DPA) may be limited to the value of the asset in the question. Additionally, risk reporting may need to be done at the line of business, legal entity or regional basis, and in order to be able to do, so the right level of granularity needs to be captured in the risk modeling exercise. The level of granularity applied is called the 'unit of measurement' (UoM), and it is okay to adopt all of the choices listed above as the dimensions that describe the unit of measure.

Note that it is entirely possible, even likely, to use legal entity, risk type, region, business and other dimensions simultaneously, though doing so is likely to result in an extremely large number of UoM combinations. That can be addressed by then subsequently grouping the more granular UoMs into larger UoMs, which may ultimately be used for frequency and severity estimation.

NEW QUESTION: 40

If the annual default hazard rate for a borrower is 10%, what is the probability that there is no default at the end of 5 years?

- A. 39.35%
- B. 50.00%
- C. 59.05%
- D. 60.65%

Answer: D (LEAVE A REPLY)

Explanation

A default hazard rate is the rate of default in a continuous time setting. This question is asking for probability of survival at the end of 5 years. The formula to calculate the

probability of survival at the end of t years where the default hazard rate is $e^{-\lambda t}$ (or in Excel, $=\exp(-\lambda t)$). Therefore the correct answer is Choice 'd'.

(It may be tempting to infer that if the probability of survival at the end of 1 year is 90% (1 - 10%), then the probability of survival in 5 years would be $90\%^5$. However this reasoning is not correct for the reason that the given rate is not the discrete rate of default, but the hazard rate which is nothing but the continuously compounded rate of default.)

NEW QUESTION: 41

Which of the following formulae describes CVA (Credit Valuation Adjustment)? All acronyms have their usual meanings (LGD=Loss Given Default, ENE=Expected Negative Exposure, EE=Expected Exposure, PD=Probability of Default, EPE=Expected Positive Exposure, PFE=Potential Future Exposure)

- A. $LGD * ENE * PD$
- B. $LGD * EPE * PD$
- C. $LGD * EE * PD$
- D. $LGD * PFE * PD$

Answer: (SHOW ANSWER)

Explanation

The correct definition of CVA is $LGD * EPE * PD$. All other answers are incorrect.

CVA reflects the adjustment for counterparty default on derivative and other trading book transactions. This reflects the credit charge, that needs to be reduced from the expected value of the transaction to determine its true value. It is calculated as a product of the loss given default, the probability of default and the average weighted exposure of future EPEs across the time horizon for the transaction.

The future exposures need to be discounted to the present, and occasionally the equations for CVA will state that explicitly. Similarly, in some more advanced dynamic models the correlation between EPE and PD is also accounted for. The conceptual ideal though remains the same: $CVA=LGD * EPE * PD$.

NEW QUESTION: 42

Which of the following statements is NOT true in relation to the recent financial crisis of 2007-08?

- A. An intention to diversify from their core activities led all market participants to the same activities, which though appearing diversified at the bank's level, created a concentration risk at the systemic level
- B. The existence of central counterparties could have limited the damage caused by the financial crisis
- C. Central banks had data on the interconnections between institutions, but poor understanding and analysis meant this data was never analyzed
- D. Counterparty risk was difficult to gauge as it was impossible to know who the counterparty's counterparties were

Answer: C (LEAVE A REPLY)

Explanation

Counterparty risk was difficult to gauge as it was impossible to know who the counterparty's counterparties were - this is true as the chain of financial transactions became excessively long with no central transparency of who owed who what. Bank A's credit depended upon the health of its counterparties, whose health in turn depended upon other counterparties. Thus Choice 'd' is a correct statement.

In an attempt to diversify, banks became more like each other - chasing yield, they piled into securitized products, and chasing diversification, they piled into different types of securitized products. The system as a whole became susceptible to small shocks in the assets underlying this vast edifice of structured products.

Therefore Choice 'a' represents a correct statement.

Choice 'c' does not represent a correct statement. Central banks had little data on the interconnections between institutions. They were aware of the large volumes of OTC transactions, but had no data to figure out who was connected to who, and who had what kind of exposures.

Choice 'b' represents a correct statement. Most transactions, other than exchange cleared futures trades (which were a tiny fraction of all trades) were cleared on a bilateral basis. The existence of central counterparties (CCPs) could have limited the impact of the crisis significantly as market participants would not have lost trust in each other, and the 'collateral damage' that was witnessed from a fall in housing prices, and thereby mortgage assets, would have been more contained.

NEW QUESTION: 43

There are two bonds in a portfolio, each with a market value of \$50m. The probability of default of the two bonds are 0.03 and 0.08 respectively, over a one year horizon. If the probability of the two bonds defaulting simultaneously is 1.4%, what is the default correlation between the two?

- A. 0%
- B. 100%
- C. 40%
- D. 25%

Answer: D (LEAVE A REPLY)

Explanation

Probability of the joint default of both A and B =

Probability of the joint default of both A and B =

$$P(A \text{ defaults} \cap B \text{ defaults}) =$$

$$(\text{Default Correlation of A\&B}) * \sqrt{(P(A)(1 - P(A)))(P(B)(1 - P(B)))} + P(A)P(B)$$

We know all the numbers except default correlation, and we can solve for it.

$$\text{DefaultCorrelation} * \text{SQRT}(0.03 * (1 - 0.03) * 0.08 * (1 - 0.08)) + 0.03 * 0.08 = 0.014.$$

Solving, we get default correlation = 25%

NEW QUESTION: 44

Which of the following situations are not suitable for applying parametric VaR:

I. Where the portfolio's valuation is linearly dependent upon risk factors
II. Where the portfolio consists of non-linear products such as options and large moves are involved
III. Where the returns of risk factors are known to be not normally distributed

- A. I and II
- B. II and III
- C. I and III
- D. All of the above

Answer: B (LEAVE A REPLY)

Explanation

Parametric VaR relies upon reducing a portfolio's positions to risk factors, and estimating the first order changes in portfolio values from each of the risk factors. This is called the delta approximation approach.

Risk factors include stock index values, or the PV01 for interest rate products, or volatility for options. This approach can be quite accurate and computationally efficient if the portfolio comprises products whose value behaves linearly to changes in risk factors. This includes long and short positions in equities, commodities and the like.

However, where non-linear products such as options are involved and large moves in the risk factors are anticipated, a delta approximation based valuation may not give accurate results, and the VaR may be misstated. Therefore in such situations parametric VaR is not advised (unless it is extended to include second and third level sensitivities which can bring its own share of problems).

Parametric VaR also assumes that the returns of risk factors are normally distributed - an assumption that is violated in times of market stress. So if it is known that the risk factor returns are not normally distributed, it is not advisable to use parametric VaR.

NEW QUESTION: 45

Which of the following statements is true:

- A. Both total expected losses and total unexpected losses are less than the sum of expected and unexpected losses on underlying exposures respectively
- B. Total expected losses are equal to the sum of individual underlying exposures while total unexpected losses are greater than the sum of unexpected losses on underlying exposures
- C. Total expected losses are equal to the sum of expected losses in the individual underlying exposures while total unexpected losses are less than the sum of unexpected losses on underlying exposures
- D. Total expected losses are greater than the sum of individual underlying exposures while total unexpected losses are less than the sum of unexpected losses on underlying exposures

Answer: C (LEAVE A REPLY)

Explanation

Total expected losses which are average and anticipated are equal to the sum of expected losses in the underlying exposures. Total unexpected losses, which are the excess of worst case losses at a certain confidence level over the expected losses, benefit from the diversification effect and are lower than the sum of unexpected losses of the underlying exposures. Therefore Choice 'c' is the correct answer. The other choices are incorrect.

NEW QUESTION: 46

Which loss event type is the loss of personally identifiable client information classified as under the Basel II framework?

- A. Technology risk
- B. Clients, products and business practices
- C. Information security
- D. External fraud

Answer: B (LEAVE A REPLY)

Explanation

Choice 'b' is the correct answer. All other answers are incorrect.

Refer to the detailed loss event type classification under Basel II (see Annex 9 of the accord). You should know the exact names of all loss event types, and examples of each.

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NEW QUESTION: 47

If P be the transition matrix for 1 year, how can we find the transition matrix for 4 months?

- A. By calculating the cube root of P
- B. By numerically calculating a matrix M such that $M \times M \times M$ is equal to P
- C. By dividing P by 3
- D. By calculating the matrix $P \times P \times P$

Answer: B (LEAVE A REPLY)

Explanation

Assuming time invariance and the Markov property, it is easy to calculate the transition matrix for any time period as P^n , where P is the given transition matrix for one period and n the number of time periods that we need to compute the new transition matrix for.

However, when the new time period is less than the time period the matrix is available for, the only way to deriving a transition matrix for a partial period is to numerically calculate a matrix M such that $M^n = P$.

Therefore Choice 'b' is the correct answer. Taking cube roots of a matrix is not a possible operation, dividing by 3 gives a matrix meaningless in this context, and $P \times P \times P$ will give us the transition matrix for 3 years, not 1/3rd of a year.

NEW QUESTION: 48

Which of the following statements are true:

- I. Credit VaR often assumes a one year time horizon, as opposed to a shorter time horizon for market risk as credit activities generally span alonger time period.
- II. Credit losses in the banking book should be assessed on the basis of mark-to-market mode as opposed to the default-only mode.
- III. The confidence level used in the calculation of credit capital is high when the objective is tomaintain a high credit rating for the institution.
- IV. Credit capital calculations for securities with liquid markets and held for proprietary positions should be based on marking positions to market.

- A. I and III
- B. I, III and IV
- C. I and II
- D. II and III

Answer: B (LEAVE A REPLY)

Explanation

Statement I is correct as credit VaR calculations often use a one year time horizon. This is primarily because the cycle in respect of credit related activities, such as loan loss reviews, accounting cycles for borrowers etc last a year.

Statement II is false. There are two ways in which loss assessments in respect of credit risk can be made:

default mode, where losses are considered only in respect of default, and no losses are recognized in respect of the deterioration of the creditworthiness of the borrower (which is often expressed through a credit rating transition matrix); and the mark-to-market mode, where losses due to both defaults and credit quality are considered. The default mode is used for the loan book where the institution has lentmoneys and generally intends to hold the loan on its books till maturity. The mark to market mode is used for traded securities which are not held to maturity, or are held only for trading.

Statement III is correct. The confidence interval, or the quintile of losses used for maintaining credit ratings tends to be very high as the possibility of the institution's default needs to be remote.

Statement IV is correct too, for the reasons explained earlier.

NEW QUESTION: 49

Loss from a lawsuit from an employee due to physical harm caused while at work is categorized per Basel II as:

- A. Employment practices and workplace safety
- B. Execution delivery and process management
- C. Unsafe working environment
- D. Damage to physical assets

Answer: A (LEAVE A REPLY)

Explanation

Choice 'a' is the correct answer. Refer to the detailed loss event type classification under Basel II (see Annex 9 of the accord). You should know the exact names of all loss event types, and examples of each.

NEW QUESTION: 50

When pricing credit risk for an exposure, which of the following is a better measure than the others:

- A. Expected Exposure (EE)
- B. Notional amount
- C. Potential Future Exposure (PFE)
- D. Mark-to-market

Answer: A (LEAVE A REPLY)

Explanation

Exposure for derivative instruments can vary significantly over the lifetime of the instrument, depending upon how the market moves. The potential future exposure represents the extremes, not the most likely outcome.

The expected exposure is the most suitable measure for pricing the credit risk. Over time, as multiple transactions are entered into, the expectation (or the mean) will be realized - though individual transactions may have more or less by way of exposure.

The notional amount may not be relevant, though for loans it may be the most important contributor to the expected exposure. Mark-to-market will represent the exposure at a given point in time, but cannot be predicted nor be used to price the credit risk.

NEW QUESTION: 51

Which of the following are valid approaches to calculating potential future exposure (PFE) for counterparty risk:

- I. Add a percentage of the notional to the mark-to-market value
- II. Monte Carlo simulation
- III. Maximum Likelihood Estimation
- IV. Parametric Estimation

A. III and IV

B. I, III and IV

C. I and II

D. All of the able

Answer: (SHOW ANSWER)

Explanation

When a derivative position is entered into, its mark-to-market value is generally close to zero (though the notional may be high). With the passage of time, the derivative's value fluctuates in an unpredictable way, creating a counterparty exposure that may be difficult to estimate and risk manage. Counterparty risk in such cases is estimated based on Potential Future Exposure, which may be calculated using either:

a) Take the mark-to-market at present, and add a certain percentage of the notional, or b) Perform a Monte Carlo simulation, capturing the stochastic nature of the PFE.

Therefore I and II are valid choices. MLE and parametric estimation are not methods for calculating PFE.

NEW QUESTION: 52

Which of the following steps are required for computing the total loss distribution for a bank for operational risk once individual UoM level loss distributions have been computed from the underlying frequency and severity curves:

I. Simulate number of losses based on the frequency distribution

II. Simulate the dollar value of the losses from the severity distribution III. Simulate random number from the copula used to model dependence between the UoMs IV. Compute dependent losses from aggregate distribution curves

A. None of the above

B. III and IV

C. I and II

D. All of the above

Answer: C (LEAVE A REPLY)

Explanation

A recap would be in order here: calculating operational risk capital is a multi-step process. First, we fit curves to estimate the parameters to our chosen distribution types for frequency (eg, Poisson), and severity (eg, lognormal). Note that these curves are fitted at the UoM level - which is the lowest level of granularity at which modeling is carried out. Since there are many UoMs, there are many frequency and severity distributions. However what we are interested in is the loss distribution for the entire bank from which the 99.9th percentile loss can be calculated. From the multiple frequency and severity distributions we have calculated, this becomes a two step process:

- Step 1: Calculate the aggregate loss distribution for each UoM. Each loss distribution is based upon and underlying frequency and severity distribution.

- Step 2: Combine the multiple loss distributions after considering the dependence between the different UoMs. The 'dependence' recognizes that the various UoMs are not completely independent, ie the loss distributions are not additive, and that there is a sort of

diversification benefit in the sense that not all types of losses can occur at once and the joint probabilities of the different losses make the sum less than the sum of the parts. Step 1 requires simulating a number, say n , of the number of losses that occur in a given year from a frequency distribution. Then n losses are picked from theseverity distribution, and the total loss for the year is a summation of these losses. This becomes one data point. This process of simulating the number of losses and then identifying that number of losses is carried out a large number of times to get the aggregate loss distribution for a UoM.

Step 2 requires taking the different loss distributions from Step 1 and combining them considering the dependence between the events. The correlations between the losses are described by a 'copula', and combined together mathematically to get a single loss distribution for the entire bank. This allows the 99.9th percentile loss to be calculated.

NEW QUESTION: 53

Changes in which of the following do not affect the expected default frequencies (EDF) under the KMV Moody's approach to credit risk?

- A. Changes in the debt level
- B. Changes in the risk free rate
- C. Changes in asset volatility
- D. Changes in the firm's market capitalization

Answer: (SHOW ANSWER)

Explanation

EDFs are derived from the distance to default. The distance to default is the number of standard deviations that expected asset values are away from the default point, which itself is defined as short term debt plus half of the long term debt. Therefore debt levels affect the EDF. Similarly, asset values are estimated using equity prices.

Therefore market capitalization affects EDF calculations. Asset volatilities are the standard deviation that form a place in the denominator in the distance to default calculations.

Therefore asset volatility affects EDF too.

The risk free rate is not directly factored in any of these calculations (except of course, one could argue that the level of interest rates may impact equity values or the discounted values of future cash flows, but that is a second order effect). Therefore Choice 'b' is the correct answer.

NEW QUESTION: 54

A zero coupon corporate bond maturing in an year has a probability of default of 5% and yields 12%. The recovery rate is zero. What is the risk free rate?

- A. 5.26%
- B. 7.00%
- C. 5.00%
- D. 6.40%

Answer: D (LEAVE A REPLY)

Explanation

The probability of default would make the expected value of the future cash flows from both the corporate bond and the risk free bond identical. If p be the probability of default, the cash flows from the risky corporate bond would be

= (cash flows in the event of default x probability of default) + (cash flows without default x (1 - probability of default))

=> $5\% \cdot 0 + (1 - 5\%) \cdot (1 + 12\%) = (1 + R_f)$.

therefore $R_f = 6.4\%$

(In reality investors would demand a 'credit risk premium' over and above the expected default loss rate. They are unlikely to be happy with just being compensated with exactly the expected default loss rate plus the risk-free rate because the expected default loss rate itself is uncertain. They would demand some premium over and above what the default rate alone might mathematically imply above the risk free rate. In this question, this credit risk premium is ignored.)

NEW QUESTION: 55

If the odds of default are 1:5, what is the probability of default?

- A. 16.67%
- B. 20.00%
- C. 12.00%
- D. 50.00%

Answer: (SHOW ANSWER)

Explanation

Odds are the ratio between the probability of the occurrence of an event to the probability that the event does not occur.

If odds are H , then $p = H/(1 + H)$ and $H = p/(1-p)$. In this case the odds are 1:5, or $1/5$, therefore the correct answer is Choice 'a', equal to $(1/5)/(1 + 1/5) = 1/6 = 16.67\%$. All other choices are incorrect.

NEW QUESTION: 56

Which of the following best describes economic capital?

- A. Economic capital is the amount of regulatory capital mandated for financial institutions in the OECD countries
- B. Economic capital is the amount of regulatory capital that minimizes the cost of capital for firm
- C. Economic capital reflects the amount of capital required to maintain a firm's target credit rating
- D. Economic capital is a form of provision for market risk losses should adverse conditions arise

Answer: C (LEAVE A REPLY)

Explanation

Economic capital is often calculated with a view to maintaining the credit ratings for a firm. It is the capital available to absorb unexpected losses, and credit ratings are also based upon a certain probability of default.

Economic capital is often calculated at a level equal to the confidence required for the desired credit rating. For example, if the probability of default for a AA rating is 0.02%, and the firm desires to hold an AA rating, then economic capital maintained at a confidence level of 99.98% would allow for such a rating. In this case, economic capital set at a 99.8% level can be thought of as the level of losses that would not be exceeded with a 99.8% probability, and would help get the firm its desired credit rating.

Choice 'c' is the correct answer. Economic capital does not target minimizing the cost of capital, nor is it a provision for losses arising from market risk. The concept of economic capital is unrelated to where an institution or firm is based, therefore Choice 'a' is incorrect as well.

NEW QUESTION: 57

Which of the following is NOT an approach used to allocate economic capital to underlying business units:

- A. Stand alone economic capital contributions
- B. Marginal economic capital contributions
- C. Fixed ratio economic capital contributions
- D. Incremental economic capital contributions

Answer: (SHOW ANSWER)

Explanation

Other than Choice 'c', all others represent valid approaches to allocate economic capital to underlying business units. There is no such thing as 'fixed ratio economic capital contribution'

NEW QUESTION: 58

Which of the following is not true about the ISDA master agreement (ISDA MA):

- A. All transactions under the ISDA MA are considered separate obligations
- B. The ISDA MA describes the close out process
- C. The CSA (Credit Support Annex) is one of the parts of the ISDA MA
- D. The ISDA MA describes events of default, and termination events

Answer: A (LEAVE A REPLY)

Explanation

The ISDA MA provides a template that can be used by market participants to document derivative transactions.

It has a core section that applies always, and various schedules that can be agreed to by the parties. The ISDA MA considerably facilitates closing transactions once the ISDA MA has been negotiated, without requiring a renegotiation each time.

A key feature of the ISDA MA is that it binds all transactions into a single net obligation.

The ISDA Master

2002 states that "All transactions are entered into in reliance on the fact that this Master Agreement and all Confirmations form a single agreement between the parties ... and the parties would not otherwise enter into any Transactions." Therefore transactions under the ISDA MA are not considered separate obligations.

The ISDA MA does indeed define close out processes, default and termination events, and the CSA is one of the parts of the MA that describes the collateral related agreement.

NEW QUESTION: 59

Under the internal ratings based approach for risk weighted assets, for which of the following parameters must each institution make internal estimates (as opposed to relying upon values determined by a national supervisor):

- A.** Probability of default
- B.** Effective maturity
- C.** Loss given default
- D.** Exposure at default

Answer: A (LEAVE A REPLY)

Explanation

Regardless of the approach being followed by a bank (ie, whether foundation IRB or advanced IRB), it must make its own estimates for the probability of default. Banks following the foundation IRB approach may use values set by the supervisor for the other three parameters, though those following the advanced IRB approach may use their own estimates for all four inputs. (This is also the difference between advanced IRB and the foundation IRB approaches.) Therefore Choice 'a' is the correct answer.

Also note the four difference elements that go as inputs to the internal ratings based approach in the choices provided.

NEW QUESTION: 60

When modeling operational risk using separate distributions for loss frequency and loss severity, which of the following is true?

- A.** Loss severity and loss frequency are considered independent
- B.** Loss severity and loss frequency distributions are considered as a bivariate model with positive correlation
- C.** Loss severity and loss frequency are modeled using the same units of measurement
- D.** Loss severity and loss frequency are modeled as conditional probabilities

Answer: A (LEAVE A REPLY)

Explanation

When modeling operational loss frequency distribution (which, for example, may be based upon a Poisson distribution) and a loss severity distribution (for example, based upon a lognormal distribution), it is assumed that the frequency of losses and the severity of the

losses are completely independent and do not impact each other. Therefore Choice 'a' is correct, and the others are not valid assumptions underlying the operational loss modeling. Once each of these distributions has been built, a random number is drawn from each to determine a loss scenario. The process is repeated many times as part of a Monte Carlo simulation to get a the loss distribution.

NEW QUESTION: 61

Which of the following statements are true:

- I. The three pillars under Basel II are market risk, credit risk and operational risk.
- II. Basel II is an improvement over Basel I by increasing the risk sensitivity of the minimum capital requirements.
- III. Basel II encourages disclosure of capital levels and risks

- A. III only
- B. I only
- C. I and II
- D. II and III

Answer: D (LEAVE A REPLY)

Explanation

The three pillars under Basel II are minimum capital requirements, supervisory review process and market discipline. Therefore statement I is false. The other two statements are accurate. Therefore Choice 'd' is the correct answer.

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NEW QUESTION: 62

Which of the following techniques is used to generate multivariate normal random numbers that are correlated?

- A. Simulation
- B. Markov process
- C. Cholesky decomposition of the correlation matrix
- D. Pseudo random number generator

Answer: (SHOW ANSWER)

Explanation

A PRNG (pseudorandom number generators of the kind included in statistical packages and Excel) is used to generate random numbers that are not correlated with each other, ie they are random. A Markov process is a stochastic model that depends only upon its current state. Simulation underlies many financial calculations.

None of these directly relate to generating correlated multivariate normal random numbers. That job is done utilizing a Cholesky decomposition of the correlation matrix.

Specifically, a Cholesky decomposition involves the factorization of the correlation matrix into a lower triangular matrix (a square matrix all of whose entries above the diagonal are zero) and its transpose. This can then be combined with random numbers to generate a set of correlated normal random numbers. This technique is used for calculating Monte Carlo VaR.

NEW QUESTION: 63

Which of the following is not a parameter to be determined by the risk manager that affects the level of economic credit capital:

- A. Risk horizon
- B. Confidence level
- C. Probability of default
- D. Definition of credit losses

Answer: C (LEAVE A REPLY)

Explanation

Three parameters define economic credit capital: the risk horizon, ie the time horizon over which the risk is being assessed; the confidence level, ie the quintile of the loss distribution; and the definition of credit losses, ie whether mark-to-market losses are considered in addition to default-only losses. The probability of default is not a parameter within the control of the risk manager, but an input into the capital calculation process that he has to estimate. Therefore Choice 'c' is the correct answer.

NEW QUESTION: 64

Which of the following is not an approach proposed by the Basel II framework to compute operational riskcapital?

- A. Basic indicator approach
- B. Factor based approach
- C. Standardized approach
- D. Advanced measurement approach

Answer: B (LEAVE A REPLY)

Explanation

Basel II proposes three approaches to compute operational risk capital - the basic indicator approach(BIA), the standardized approach (SIA) and the advanced measurement approach (AMA). There is no operational risk approach called the factor based approach.

NEW QUESTION: 65

Which of the following data sources are expected to influence operational risk capital under the AMA:

- I. Internal Loss Data (ILD)
- II. External Loss Data (ELD)
- III. Scenario Data (SD)
- IV. Business Environment and Internal Control Factors (BEICF)

- A. I and II
- B. I, II and III only
- C. III only
- D. All of the above

Answer: D (LEAVE A REPLY)

Explanation

All four data sources are expected to be utilized as inputs as appropriate for operational risk calculations under the advanced measurement approach. Of these, the last one, BEICF, is slightly different from the rest as it does not yield data points that become the basis of curve fitting or other statistical computations underlying capital calculations. It includes items such as KRIs, risk assessments etc and allow the risk manager to assess the qualitative aspects of loss data.

NEW QUESTION: 66

Under the actuarial (or CreditRisk+) based modeling of defaults, what is the probability of 4 defaults in a retail portfolio where the number of expected defaults is 2?

- A. 4%
- B. 18%
- C. 9%
- D. 2%

Answer: C (LEAVE A REPLY)

Explanation

The actuarial or CreditRisk+ model considers default as an 'end of game' event modeled by a Poisson distribution. The annual number of defaults is a stochastic variable with a mean of 2 and standard deviation equal to 2.

The probability of n defaults is given by $(\lambda^n e^{-\lambda}) / n!$, and therefore in this case is equal to $(2^4 * \exp(-2)) / \text{FACT}(4) = 0.0902$.

Note that CreditRisk+ is the same methodology as the actuarial approach, and requires using the Poisson distribution.

NEW QUESTION: 67

Which of the following credit risk models relies upon the analysis of credit rating migrations to assess credit risk?

- A. KMV's EDF based approach

- B. The CreditMetrics approach
- C. The actuarial approach
- D. The contingent claims approach

Answer: B (LEAVE A REPLY)

Explanation

The correct answer is Choice 'b'. The following is a brief description of the major approaches available to model credit risk, and the analysis that underlies them:

1. CreditMetrics: based on the credit migration framework. Considers the probability of migration to other credit ratings and the impact of such migrations on portfolio value.
2. CreditPortfolio View: similar to CreditMetrics, but adds the impact of the business cycle to the evaluation.
3. The contingent claims approach: uses option theory by considering a debt as a put option on the assets of the firm.
4. KMV's EDF (expected default frequency) based approach: relies on EDFs and distance to default as a measure of credit risk.
5. CreditRisk+: Also called the 'actuarial approach', considers default as a binary event that either happens or does not happen. This approach does not consider the loss of value from deterioration in credit quality (unless the deterioration implies default).

NEW QUESTION: 68

A Bank Holding Company (BHC) is invested in an investment bank and a retail bank. The BHC defaults for certain if either the investment bank or the retail bank defaults. However, the BHC can also default on its own without either the investment bank or the retail bank defaulting. The investment bank and the retail bank's defaults are independent of each other, with a probability of default of 0.05 each. The BHC's probability of default is 0.11. What is the probability of default of both the BHC and the investment bank? What is the probability of the BHC's default provided both the investment bank and the retail bank survive?

- A. 0.0475 and 0.10
- B. 0.11 and 0
- C. 0.08 and 0.0475
- D. 0.05 and 0.0125

Answer: D (LEAVE A REPLY)

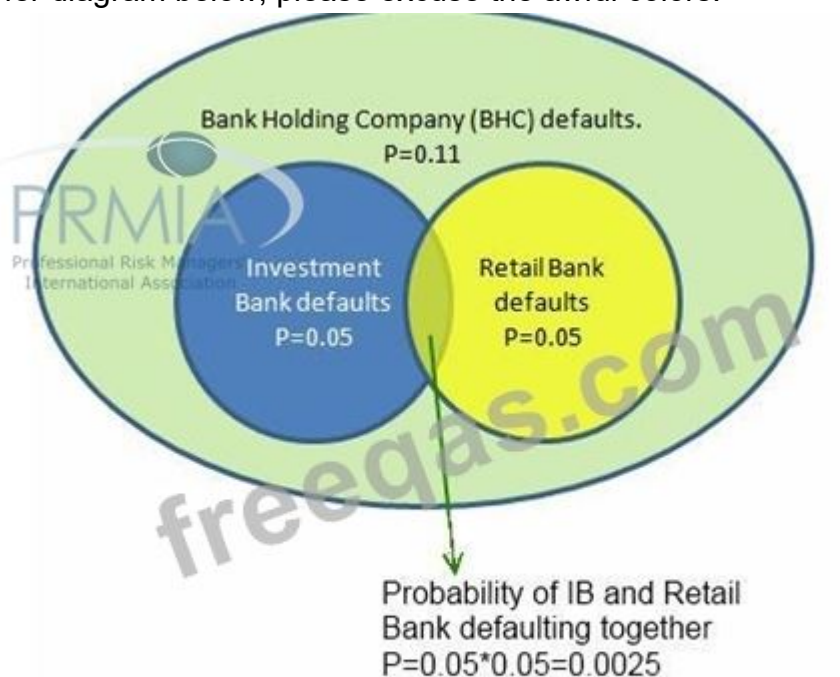
Explanation

Since the BHC always fails when the investment bank fails, the joint probability of default of the two is merely the probability of the investment bank failing, ie 0.05.

The probability of just the BHC failing, given that both the investment bank and the retail bank have survived will be equal to $0.11 - (0.05 + 0.05 - 0.05 * 0.05) = 0.0125$. (The easiest way to understand this would be to consider a venn diagram, where the area under the largest circle is 0.11, and there are two intersecting circles inside this larger circle, each with an area of 0.05 and their intersection accounting for $0.05 * 0.05$. We need to calculate

the area outside of the two smaller circles, but within the larger circle representing the BHC).

Refer diagram below, please excuse the awful colors.



The green shaded area (ie outside the smaller inner circles but inside the largest circle) represents the probability that the BHC alone defaults. This is equal to $0.11 - (0.05 + 0.05 - 0.0025) = 0.0125$.

NEW QUESTION: 69

What is the risk horizon period used for credit risk as generally used for economic capital calculations and as required by regulation?

- A. 1-day
- B. 1 year
- C. 10 years
- D. 10 days

Answer: B (LEAVE A REPLY)

Explanation

The credit risk horizon for credit VaR is generally one year. Therefore Choice 'b' is the correct answer.

NEW QUESTION: 70

A risk management function is best organized as:

- A. integrated with the risk taking functions as risk management should be a pervasive activity carried out at all levels of the organization.
- B. report independently of the risk taking functions
- C. reporting directly to the traders, as to be closest to the point at which risks are being taken

D. a part of the trading desks and other risk taking teams

Answer: B (LEAVE A REPLY)

Explanation

The point that this question is trying to emphasize is the independence of the risk management function. The risk function should be segregated from the risk taking functions as to maintain independence and objectivity.

Choice 'd', Choice 'c' and Choice 'a' run contrary to this requirement of independence, and are therefore not correct. The risk function should report directly to senior levels, for example directly to the audit committee, and not be a part of the risk taking functions.

NEW QUESTION: 71

Which of the following risks and reasons justify the use of scenario analysis in operational risk modeling:

I. Risks for which no internal loss data is available

II. Risks that are foreseeable but have no precedent, internally or externally III. Risks for which objective assessments can be made by experts IV. Risks that are known to exist, but for which no reliable external or internal losses can be analyzed

V. Reducing the complexity of having to fit statistical models to internal and external loss data VI. Managing the capital estimation process as to produce estimates in line with management's desired capital buffers.

A. I, II and III

B. I, II, III and IV

C. V

D. All of the above

Answer: B (LEAVE A REPLY)

Explanation

All the reasons and risks presented above are valid reasons for using scenario analysis, except V and VI - ie, the need to reduce the complexity of calculations is not a valid reason for using scenario analysis. Similarly, making operational risk capital estimates match management's desired capital allocation targets is also not a valid reason. Capital calculations are intended to provide adequate capital for managing the risk from operations, regardless of what management may desire them to be.

NEW QUESTION: 72

The probability of default of a security during the first year after issuance is 3%, that during the second and third years is 4%, and during the fourth year is 5%. What is the probability that it would not have defaulted at the end of four years from now?

A. 12.00%

B. 88.53%

C. 88.00%

D. 84.93%

Answer: (SHOW ANSWER)

Explanation

The probability that the security would not default in the next 4 years is equal to the probability of survival at the end of the four years. In other words, $= (1 - 3\%)(1 - 4\%)(1 - 4\%)(1 - 5\%) = 84.93\%$. Choice 'd' is the correct answer.

NEW QUESTION: 73

Concentration risk in a credit portfolio arises due to:

- A. A high degree of correlation between the default probabilities of the credit securities in the portfolio
- B. A low degree of correlation between the default probabilities of the credit securities in the portfolio
- C. Issuers of the securities in the portfolio being located in the same country
- D. Independence of individual default losses for the assets in the portfolio

Answer: (SHOW ANSWER)

Explanation

Concentration risk in a credit portfolio arises due to a high degree of correlation between the default probabilities of the issuers of securities in the portfolio. For example, the fortunes of the issuers in the same industry may be highly correlated, and an investor exposed to multiple such borrowers may face 'concentration risk'.

A low degree of correlation, or independence of individual defaults in the portfolio actually reduces or even eliminates concentration risk.

The fact that issuers are from the same country may not necessarily give rise to concentration risk - for example, a bank with all US based borrowers in different industries or with different retail exposure types may not face practically any concentration risk. What really matters is the default correlations between the borrowers, for example a lender exposed to cement producers across the globe may face a high degree of concentration risk.

NEW QUESTION: 74

When fitting a distribution in excess of a threshold as part of the body-tail distribution method described by the equation below, how is the parameter 'p' calculated.

$$F_T(x) = \begin{cases} p + (1 - p)F_{Tail}(x) & x > T \\ pF_{Body}(x) & x < T \end{cases}$$

Here, $F(x)$ is the severity distribution. F_{Tail} and F_{Body} are the parametric distributions selected for the tail and the body, and T is the threshold in excess of which the tail is considered to begin.

- A. p is a function of the reporting threshold and determined by the log-likelihood functional
- B. If there are K observations up to the tail threshold, then $p = k/n$

C. p is a parameter estimated using either the sum of least squares or maximum likelihood estimation

D. If there are N observations, of which K are up to T , then $p = k/N$

Answer: D (LEAVE A REPLY)

Explanation

$p = k/N$. If there are N observations of which K are up to T , then $p = k/N$ allows us to have a continuous unbroken curve which gets increasingly weighted towards the distribution selected for the tail as we move towards the 'right', ie the higher values of losses.

The other choices are incorrect and mostly nonsensical.

NEW QUESTION: 75

Which of the following is not a tool available to financial institutions for managing credit risk:

A. Collateral

B. Cumulative accuracy plot

C. Third party guarantees

D. Credit derivatives

Answer: (SHOW ANSWER)

Explanation

Collateral, limits to avoid credit exposure concentrations, termination rights based upon credit ratings, third party guarantees and credit derivatives are all tools or instruments that financial institutions use to manage their credit risk. A cumulative accuracy plot measures the accuracy of ratings, and is not a tool for managing credit risk. Therefore Choice 'b' represents the correct answer.

NEW QUESTION: 76

If F be the face value of a firm's debt, V the value of its assets and E the market value of equity, then according to the option pricing approach a default on debt occurs when:

A. $F > V$

B. $V < E$

C. $F < V$

D. $F - E < V$

Answer: A (LEAVE A REPLY)

Explanation

According to the option pricing approach developed by Merton, the shareholders of a firm have a put on the assets of the firm where the strike price is equal to the face value of the firm's debt. This is just a more complicated way of saying that the debt holders are entitled to all the assets of the firm if these assets are insufficient to pay off the debts, and because of limited liability of the shareholders of a corporation this part payment will fully extinguish the debt.

A firm will default on its debt if the value of the assets falls below the face value of the debt. Therefore Choice

'a' is the correct answer. All other choices are incorrect.

(There are two ways to consider this sort of optionality, and I have mentioned only one for this question:

1. The equity holders can sell the assets of the firm to the debt holders at a price equal to the face value of the debt, ie a put. (ie they can extinguish their liability to the debt holders in full by handing them the assets of the firm, effectively selling them the assets at the value of the debt)

2. The equity holders have a long position in a call option where they can keep the assets of the firm by paying a price equal to the face value of the debt (ie, they can pay off the debt holders and keep the assets) For this question, perspective 1 applies but you should be aware of the second one too as a question may reference that view point.)

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NEW QUESTION: 77

Which of the following statements are true:

I. A high score according to Altman's Z-Score methodology indicates a lower default risk II. A high score according to the Probit or Logit models indicates a higher default risk III. A high score according to Altman's Z-Score methodology indicates a higher default risk IV. A high score according to the Probit or Logit models indicates a lower default risk

- A. III and IV
- B. II and III
- C. I and IV
- D. I and II

Answer: D (LEAVE A REPLY)

Explanation

A high score under the probit and logit models indicates a higher default risk, while under Altman's methodology it indicates a lower default risk. Therefore Choice 'd' is the correct answer.

NEW QUESTION: 78

Which of the following is not one of the 'three pillars' specified in the Basel accord:

- A. Market discipline
- B. Supervisory review
- C. National regulation
- D. Minimum capital requirements

Answer: C (LEAVE A REPLY)

Explanation

The three pillars are minimum capital requirements, supervisory review and market discipline. National regulation is not a pillar described under the accord. Choice 'c' is the correct answer.

NEW QUESTION: 79

Which of the following statements is true:

I. Confidence levels for economic capital calculations are driven by desired credit ratings II. Loss distributions for operational risk are affected more by theseverity distribution than the frequency distribution III. The Advanced Measurement Approach (AMA) referred to in the Basel II standard is a type of a Loss Distribution Approach (LDA) IV. The loss distribution for operational risk under the LDA (Loss Distribution Approach) is estimated by separately estimating the frequency and severity distributions.

- A. I and II
- B. I, III and IV
- C. I, II and IV
- D. III and IV

Answer: C (LEAVE A REPLY)

Explanation

Statement I is correct. Economic capital is the capital available to absorbunexpected losses, and credit ratings are also based upon a certain probability of default. Economic capital is often calculated at a level equal to the confidence required for the desired credit rating. For example, if the probability of default for a AA rating is

0.02%, then economic capital maintained at a 99.98% would allow for such a rating.

Economic capital set at a

99.8% level can be thought of as the level of losses that would not be exceeded with a 99.8% probability.

Loss distributions are the product of the severity and frequency distributions, each of which are estimated separately. The total loss distribution is affected far more by the severity distribution than by the frequency distribution, therefore statement II is correct.

The Loss Distribution Approach (LDA) is one of the ways in which the requirements of the AMA can be satisfied, and not the other way round. Therefore statement III is incorrect.

Statement IV is correct as the total loss distribution is estimated using separate estimatesof loss frequency and distributions.

NEW QUESTION: 80

Which of the following objectives are targeted by rating agencies when assigning ratings:

- I. Ratings accuracy
- II. Ratings stability
- III. High accuracy ratio (AR)
- IV. Ranked ratings

- A. II and III
- B. III and IV
- C. I and II
- D. I, II and III

Answer: C (LEAVE A REPLY)

Explanation

Rating agencies target both accuracy and stability when they assign ratings. These two objectives can sometimes conflict, so a balance needs to be struck between the two.

Rating agencies do not target any particular 'accuracy ratio' or rankings. Therefore Choice 'c' is the correct answer.

NEW QUESTION: 81

The VaR of a portfolio at the 99% confidence level is \$250,000 when mean return is assumed to be zero. If the assumption of zero returns is changed to an assumption of returns of \$10,000, what is the revised VaR?

- A. 260000
- B. 240000
- C. 273260
- D. 226740

Answer: (SHOW ANSWER)

Explanation

The exact formula for VaR is $-(Z \times \sigma) + \mu$, where Z is the z-multiple for the desired confidence level, σ is the standard deviation, and μ is the mean return. Now Z is always a negative number, or at least will certainly be provided the desired confidence level is greater than 50%, and is often assumed to be zero because generally for the short time periods for which market risk VaR is calculated, its value is very close to zero.

Therefore in practice the formula for VaR just becomes $-Z \times \sigma$, and since Z is always negative, we normally just multiply the Z factor without the negative sign with the standard deviation to get the VaR.

For this question, there are two ways to get the answer. If we use the formula, we know that $-Z \times \sigma = 250,000$ (as $\mu = 0$), and therefore $-Z \times \sigma = 250,000 - 10,000 = \$240,000$.

The other, easier way to think about this is that if the mean changes, then the distribution's shape stays exactly the same, and the entire distribution shifts to the right by \$10,000 as the mean moves up by \$10,000. Therefore the VaR cutoff, which was previously at

-250,000 on the graph also moves up by 10k to -240,000, and therefore \$240,000 is the correct answer.

The other choices are intended to confuse by multiplying the z-factor for the 99% confidence level with 10,000 etc.

NEW QUESTION: 82

When compared to a low severity high frequency risk, the operational risk capital requirement for a medium severity medium frequency risk is likely to be:

- A.** Zero
- B.** Lower
- C.** Higher
- D.** Unaffected by differences in frequency or severity

Answer: C (LEAVE A REPLY)

Explanation

High frequency and low severity risks, for example the risks of fraud losses for a credit card issuer, may have high expected losses, but low unexpected losses. In other words, we can generally expect these losses to stay within a small expected and known range. The capital requirement will be the worst case losses at a given confidence level less expected losses, and in such cases this can be expected to be low.

On the other hand, medium severity medium frequency risks, such as the risks of unexpected legal claims,

'fat-finger' trading errors, will have low expected losses but a high level of unexpected losses. Thus the capital requirement for such risks will be high.

It is also worthwhile mentioning high severity and low frequency risks - for example a rogue trader circumventing all controls and bringing the bank down, or a terrorist strike or natural disaster creating other losses - will probably have zero expected losses & high unexpected losses but only at very high levels of confidence. In other words, operational risk capital is unlikely to provide for such events and these would lie in the part of the tail that is not covered by most levels of confidence when calculating operational risk capital.

Note that risk capital is required for only unexpected losses as expected losses are to be borne by P&L reserves. Therefore the operational risk capital requirements for a low severity high frequency risk is likely to be low when compared to other risks that are lower frequency but higher severity.

Thus Choice 'c' is the correct answer.

NEW QUESTION: 83

Under the standardized approach to determining operational risk capital, operations risk capital is equal to:

- A.** a fixed percentage of the latest gross income of the bank

B. a varying percentage, determined by the national regulator, of the gross revenue of each of the bank's business lines

C. 15% of the average gross income (considering only the positive years) of the past three years

D. a fixed percentage (different for each business line) of the gross income of the eight specified business lines, averaged over three years

Answer: D (LEAVE A REPLY)

Explanation

Choice 'd' is the correct answer, as laid down in the Basel II document. The other choices are incorrect.

NEW QUESTION: 84

If a borrower has a default probability of 12% over one year, what is the probability of default over a month?

A. 12.00%

B. 1.00%

C. 2.00%

D. 1.06%

Answer: D (LEAVE A REPLY)

Explanation

Let the probability of default over a month be p . Therefore the probability of survival at the end of 12 months would be $(1 - p)^{12}$. Since the one year probability of default is 12%, we know that the probability of survival is 88%. Putting $(1 - p)^{12} = 88\%$ and solving for p , we get $p = 1.06\%$. Therefore Choice 'd' is the correct answer.

NEW QUESTION: 85

Which of the following statements is true in respect of a non financial manufacturing firm?

I. Market risk is not relevant to the manufacturing firm as it does not take proprietary

positions II. The firm faces market risks as an externality which it must bear and has no

control over III. Market risks can make a comparative assessment of profitability over time

difficult IV. Market risks for a manufacturing firm are not directionally biased and do not

increase the overall risk of the firm as they net to zero over a long term time horizon

A. III only

B. IV only

C. I and II

D. III and IV

Answer: A (LEAVE A REPLY)

Explanation

A non-financial firm such as a manufacturing company faces market risks similar to those faced by financial firms, except perhaps for not being exposed to risks from the equity markets. Non financial firms commonly face interest rate risks in respect of their debts,

commodity price risks in respect of their inputs and products, and foreign currency risks in respect of their overseas operations. It is therefore not correct to say that the manufacturing firm does not face market risk because it does not take proprietary positions. While decisions on positions may not be actively taken, positions in foreign exchange (eg, through overseas debtors owing foreign currency, or liabilities in foreign currencies to overseas suppliers), commodities (through exposure to the need for raw material and inventory of finished goods) and interest rates (through debt financed, whether at fixed or floating rates) exist and create market risk much in the same way as they would for a proprietary position. Therefore statement I is incorrect.

While the firm faces market risks as an externality (as do financial firms for that matter, though often they seek such exposure to profit from their view on which way the externality will express itself), it is incorrect to say that these risks must be borne. They can be measured and hedged. Therefore statement II is incorrect.

The results of a manufacturing firm will include gains and losses arising from exposure to market risk, and will cloud the true profitability of the business. A firm with significant unhedged overseas sales may show vastly different results across time periods due to the FX gains and losses, making comparative assessment of profitability difficult. Therefore statement III is correct.

Market risks for a manufacturing firm may be directionally biased in terms of exposure, ie there may be a consistent 'long' position in a particular commodity that the firm produces, and a consistent 'short' position in the commodities consumed. In the same way, directional biases may exist in FX or interest rate exposures too.

Regardless of the bias, the existence of market risk exposures increase the volatility of the income stream and make the firm more risky, even though the long term expected returns from such exposures is zero (ie, returns may be zero but standard deviation is not).

Therefore statement IV is not correct as market risks from non financial firms do increase the overall risk of the firm.

NEW QUESTION: 86

When building a operational loss distribution by combining a loss frequency distribution and a loss severity distribution, it is assumed that:

- I. The severity of losses is conditional upon the number of loss events
- II. The frequency of losses is independent from the severity of the losses
- III. Both the frequency and severity of loss events are dependent upon the state of internal controls in the bank

- A. I, II and III
- B. II
- C. II and III
- D. I and II

Answer: B (LEAVE A REPLY)

Explanation

When a operational loss frequency distribution (which, for example, may be based upon a Poisson distribution) and a loss severity distribution (for example, based upon a lognormal distribution), it is assumed that the frequency of losses and the severity of the losses are completely independent and do not impact each other. Therefore statement II is correct, and the others are not valid assumptions underlying the operational loss distribution.

NEW QUESTION: 87

Under the KMV Moody's approach to calculating expected default frequencies (EDF), firms' default on obligations is likely when:

- A. expected asset values one year hence are below total liabilities
- B. asset values reach a level below short term debt
- C. asset values reach a level below total liabilities
- D. asset values reach a level between short term debt and total liabilities

Answer: D (LEAVE A REPLY)

Explanation

An observed fact that the KMV approach relies upon is that firms do not default when their liabilities exceed assets, but when asset values are somewhere between short term liabilities and the total liabilities. In fact, the 'default point' in the KMV methodology is defined as the short term debt plus half of the long term debt. The difference between expected value of the assets in one year and this 'default point', when expressed in terms of standard deviation of the asset values, is called the 'distance-to-default'.

Therefore Choice 'd' is the correct answer. The other choices are incorrect.

NEW QUESTION: 88

According to the implied capital model, operational risk capital is estimated as:

- A. Operational risk capital held by similar firms, appropriately scaled
- B. Total capital less market risk capital less credit risk capital
- C. Capital implied from known risk premiums and the firm's earnings
- D. Total capital based on the capital asset pricing model

Answer: (SHOW ANSWER)

Explanation

Operational risk capital estimated using the implied capital model is merely the capital that is not attributable to market or credit risk. Therefore Choice 'b' is the correct answer. All other responses are incorrect.

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