Learning Module 19: Mortgage Backed Security (MBS) Instrument and Market Features

Q.28 Which of the following statements is *least likely* correct regarding mortgage-back securities?

A. The risk of prepayment typically occurs in declining rate environments.

B. When you invest in a mortgage-backed security, you are indirectly lending money to a homebuyer or business.

C. Commercial mortgage-backed securities tend to be less volatile and complex than residential mortgage-backed securities.

The correct answer is **C.**

Commercial mortgage-backed tends to be more complex and volatile than RMBS due to the underlying properties being more diverse and having more complex financing structures. Commercial mortgage-backed securities also tend to have higher default rates than residential mortgage-backed securities, as commercial properties are more sensitive to economic and market conditions.

A is incorrect. The risk of prepayment occurs when borrowers refinance their mortgages or sell their homes, which tends to happen more frequently in declining rate environments.

B is incorrect. When investors buy mortgage-backed security, they are buying a portion of the cash flows from a pool of mortgages. These mortgages are usually issued to homebuyers or businesses and are backed by real estate property as collateral.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.956 From which of the following sources can a lender *most likely* recover money in the case of default in non-recourse commercial mortgage loans?

A. Borrower’s other assets.

B. Equity shares owned by the borrower.

C. Proceeds from the sale of the mortgaged property.

The correct answer is **C.**

A non-recourse loan is a Loan in which the lender does not have a shortfall claim against the borrower, so the lender can look only to the property to recover the outstanding mortgage balance. In the case of non-recourse type loans, lenders can recover money only out of the proceeds from the sale of the property. Since the mortgaged property is the collateral in a commercial mortgage loan, it is the only asset the lender can go after. If it were a recourse loan, the lender would have gone after both the mortgaged property and the borrower’s equity shares; this is because recourse loans allow a lender to go after a borrower’s other assets if the collateral fails to settle the loan amount.

A is incorrect. The support tranche in a CMO plays a secondary role to the PAC tranche. Its primary function is to absorb the variability in prepayment rates that exceed the predefined bands protecting the PAC tranche. By doing so, the support tranche takes on additional prepayment and extension risk, ensuring that the PAC tranche's cash flow remains more stable and predictable. This additional risk exposure typically results in a higher yield for the support tranche compared to the PAC tranche, compensating investors for the increased uncertainty in cash flow timing.

B is incorrect. A floating rate tranche in a CMO offers a coupon rate that adjusts periodically based on a reference interest rate, such as the London Interbank Offered Rate (LIBOR) or the Secured Overnight Financing Rate (SOFR). This feature makes the floating rate tranche appealing to investors who are concerned about interest rate risk, as the periodic adjustments in the coupon rate help to mitigate the impact of changes in market interest rates.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (b) Describe fundamental features of residential mortgage loans that are securitized.

Q.959 Which of the following tranche *most likely* has the highest priority in receiving the repayment of the principal amount from the collateral in the case of a Collateralized Mortgage Obligation (CMO)?

A. Support tranche.

B. Floating rate tranche.

C. Planned amortization class.

The correct answer is **C.**

The planned amortization class has the priority over all other classes for the repayment of the principal from the collateral.

A is incorrect. A support tranche is a tranche that provides payment support to a PAC tranche. In case of any extension or contraction risks, the support tranche will absorb them.

B is incorrect. A floating rate tranche is a CMO tranche in which the monthly coupon rate is typically set equal to a reference rate such as LIBOR. It is mainly designed to attract investors who prefer to buy variable rate securities.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.961 Which of the following are *most likely* considered as weights while determining the weighted average maturity of a mortgage pass-through security?

A. Original mortgage balance.

B. Outstanding mortgage balance.

C. Time to maturity as a percentage of the total life of the security.

The correct answer is **B.**

The weighted average maturity is simply the weighted average amount of time until the maturity of the mortgage-backed security. It is determined by weighting the remaining number of months to maturity for each mortgage loan by the amount of the outstanding mortgage balance.

A is incorrect. Using the original mortgage balance to determine the weighted average maturity of a mortgage pass-through security does not accurately reflect the current state of the mortgage pool. Over time, mortgage holders make principal repayments, and some may prepay their mortgages entirely. These actions reduce the outstanding balance of the mortgages, which should be considered when calculating the WAM. The original mortgage balance does not account for these changes, making it a less accurate measure for determining WAM.

C is incorrect. While the time to maturity as a percentage of the total life of the security might seem like a logical way to calculate the weighted average maturity, it does not accurately reflect the impact of principal repayments and prepayments on the maturity profile of the mortgage pool. This method overlooks the fact that the outstanding balance of each mortgage in the pool can significantly influence the overall maturity. Mortgages with larger outstanding balances that are closer to maturity can have a more substantial impact on the WAM than those with smaller balances or longer times to maturity.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.962 A mortgage that starts at a fixed rate initially and is converted to a different fixed rate at a later date is *most likely* referred to as a:

A. Hybrid mortgage.

B. Rollover mortgage.

C. Convertible mortgage.

The correct answer is **B.**

A mortgage that starts out with a fixed rate and converted to a fixed rate later is referred to as a rollover or renegotiable mortgage. These are often used in Canada, Germany, Denmark, etc.

A is incorrect. If the mortgage starts at a fixed rate and is later converted into an adjustable rate mortgage, then we would say this is a hybrid mortgage.

C is incorrect. A convertible mortgage is an adjustable-rate loan that gives the borrower the option to convert the loan to a fixed-rate mortgage.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.2209 A mortgage that has an interest rate that changes based on a market-determined reference rate such as Libor is *most likely* called a (an):

A. Convertible mortgage.

B. Variable-rate mortgage.

C. Index-referenced mortgage.

The correct answer is **B.**

A variable-rate mortgage or adjustable-rate mortgage (ARM) has an interest rate that changes based on a market-determined reference rate such as the Libor.

A is incorrect. A convertible mortgage, also called an adjustable mortgage rate, allows a borrower the option of converting from a variable-rate to a fixed-rate mortgage after some time.

C is incorrect. In an index-referenced mortgage the mortgage rate is periodically reset based on some refence rate or index predetermined at the lender's discretion.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.2210 If the lender has no claim against the assets of the borrower except for the collateral property, the loan is *most likely* a:

A. Recourse loan.

B. Nonrecourse loan.

C. Non-negotiable loan.

The correct answer is **B.**

Some mortgage loans are nonrecourse loans, which means the lender has no claim against the assets of the borrower except for the collateral property itself.

A is incorrect. A recourse loan gives the issuer the right to go after the borrower's other assets, not just the asset used as collateral.

C is incorrect. A non-negotiable loan is a loan that is not transferable between parties, for example, a government savings bond.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (b) Describe fundamental features of residential mortgage loans that are securitized.

Q.2211 An investor in mortgage-backed securities (MBS) who is interested in long-term gains should *most likely* invest in:

A. Tranche I.

B. Tranche III.

C. Any of the tranches since mortgage-backed securities have long durations.

The correct answer is **B.**

Tranche III has the least amount of prepayment risk. Thus, there is a chance that the investor will be able to hold on to the investment for a longer time horizon. Tranche one absorbs prepayment risk before it gets to the senior tranches. An investor investing in tranche one may not be able to hold on to the investment for long.

A is incorrect. Investing in tranche I of mortgage-backed securities is not the most suitable option for an investor seeking long-term gains. Tranche I is typically the first to absorb prepayment risk. This means that in periods of declining interest rates, when prepayments increase, tranche I investors are the first to receive these prepayments. While this might seem advantageous, it actually reduces the duration of the investment, as the principal is returned faster than expected.

C is incorrect. They have long durations is misleading. While it's true that MBS can have long durations, the impact of prepayment risk varies significantly across different tranches. Tranches are structured to distribute prepayment risk in a way that affects their duration and yield differently. Therefore, not all tranches are equally suitable for investors seeking long-term gains.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (a) Define prepayment risk and describe time tranching structures in securitizations and their purpose.

Q.2213 A financial website presents the following information: “The pass-through rate (i.e., the coupon rate on the mortgage-backed security (MBS), also called its net interest or net coupon) is always lower than the mortgage rate of the underlying mortgages in the pool.” Is the statement accurate?

A. Yes.

B. No, because pass-through rates are always equal to the mortgage rates.

C. No, because pass-through rates are always higher than the mortgage rates.

The correct answer is **A.**

The statement is accurate. The pass-through rate (i.e., the coupon rate on the MBS, also called its net interest or net coupon) is always lower than the mortgage rate of the underlying mortgages in the pool. The pass-through rate is lower because of the deductions of management and other fees from the interest paid on mortgages.

B is incorrect. It suggests that pass-through rates are always equal to the mortgage rates of the underlying mortgages. This overlooks the deductions for servicing and management fees, adjustments for credit risk, and the effects of MBS structuring, all of which contribute to the pass-through rate being lower than the mortgage rates.

C is incorrect. It asserts that pass-through rates are always higher than the mortgage rates of the underlying mortgages. This is contrary to the operational reality of MBS, where the pass-through rate is reduced due to various deductions and adjustments, making it lower than the mortgage rates of the underlying assets.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.2214 The risk that prepayments on an MBS will be slower than expected is *most likely* called:

A. Default risk.

B. Extension risk.

C. Contraction risk

The correct answer is **B.**

The risk that prepayments will be slower than expected is called extension risk.

A is incorrect. Default risk is the risk that a borrower will not make the required payments on their debt obligation.

C is incorrect. tThe risk that prepayments will be more rapid than expected is called contraction risk.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (d) Describe characteristics and risks of commercial mortgage-backed securities.

Q.2216 During periods of falling interest rates, the refinancing of mortgage loans will *most likely*:

A. Accelerate prepayments and reduce the average life of the MBS.

B. Decelerate prepayments and increase the average life of the MBS.

C. Accelerate prepayments, but the average life of the MBS remains unchanged.

The correct answer is **A.**

During periods of falling interest rates, the refinancing of mortgage loans will accelerate prepayments and reduce the average life of the MBS.The average life decreases because homeowners will want to refinance their loans more when the interest rates are lower.

B is incorrect. With rising interest rates, prepayments will be lower than expected and this will increase the average life of the MBS.

C is incorrect. Accelerated prepayments will have an impact on the average life of the MBS and it will therefore not remain unchanged.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.2217 Identify the structure of the Collateralized Mortgage Obligation (CMO) associated with the following. “There are two tranches. Both tranches receive interest payments at a specified coupon rate, but all principal payments (both scheduled payments and prepayments) are paid to Tranche I until its principal is paid off.”

A. Floating Rate CMO.

B. Sequential Pay CMO.

C. Planned Amortization Class CMO.

The correct answer is **B.**

One way to reapportion the prepayment risk inherent in the underlying pass-through MBS is to separate the cash flows into tranches that are retired sequentially (i.e., create a sequential pay CMO). The given is an example of a sequential pay CMO.

In a sequential pay CMO, a tranche will receive interest payments provided that its principal has not been completely paid off. Principal repayments are made in order of seniority (the principal of the senior-most tranche has to be settled before that of a junior tranche can be settled.)

A is incorrect. A floating-rate CMO has a variable interest rate. The interest rate set at a basis point spread over LIBOR is usually reset quarterly.

C is incorrect. A planned amortization class CMO is a way of protecting investors from prepayment risk; this is done by coming up with a steady payment schedule in advance.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.2218 In a planned amortization class (PAC) collateralized mortgage obligation (CMO), when compared to the underlying mortgage-backed security, the planned amortization class (PAC) tranches:

A. Have reduced extension risk.

B. Have reduced contraction risk.

C. Have both reduced contraction risk and reduced extension risk.

The correct answer is **C.**

A planned amortization class (PAC) tranche is a sub-type of asset-backed security that is designed to protect investors from prepayment risk and extension risk. It is structured to make predictable payments, regardless of actual prepayments to the underlying MBS. The PAC tranches have both reduced contraction risk and reduced extension risk compared to the underlying MBS. Extension risk is the risk that when interest rates rise, prepayments will be lower than expected and contraction risk the risk that when interest rates decline homeowners will then refinance at the available lower interest rates.

A is incorrect. While it is true that PAC tranches have reduced extension risk, stating that they only have reduced extension risk overlooks the equally important benefit of reduced contraction risk. PAC tranches are specifically engineered to mitigate both types of prepayment risk, offering a more balanced protection to investors against the unpredictability of prepayment behaviors.

B is incorrect. Similar to option A, this choice only acknowledges the reduction in contraction risk, neglecting the simultaneous reduction in extension risk provided by PAC tranches. The unique structure of PAC tranches is designed to shield investors from both the acceleration and deceleration of prepayment speeds, ensuring a more predictable and stable investment outcome.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.2219 A method for addressing a decrease in the level of credit protection provided by junior tranches as prepayments or defaults occur in a senior/subordinated structure is called:

A. Credit tranching.

B. Credit enhancements.

C. Shifting interest mechanism.

The correct answer is **C.**

A shifting interest mechanism is a method for addressing a decrease in the level of credit protection provided by junior tranches as prepayments or defaults occur in a senior/subordinated structure. We will use the example below to understand better the shifting interest mechanism.

Suppose we have a tranche structure of: senior - $50, subordinate - $15.

The percentage of credit enhancements to the senior tranche (subordinate interest),

$$\frac{\$15}{\$(50+15)} = 23\%$$

Now assume that the firm suffers losses of $5. Since the loss is less than $15, it will be absorbed by the subordinate tranche. The structure will, therefore, change to: Senior - $50, subordinate - $10.

The percentage of credit enhancement to the senior tranche (subordinate interest),

$$\frac{\$10}{\$(50+10)} = 16.67\%$$

The percentage of credit enhancement to the senior tranche (subordinate interest) has decreased (20% to 16.67%) implying that the senior tranche now has less protection. To bring the protection back up to 20%; the senior tranche amount will have to be paid down (reduce a loan over time by making partial payments towards it).

The point of a shifting interest mechanism is to maintain a certain level of protection to the senior tranche by reducing their loan amount over time (paying them down) earlier than perhaps would have occurred.

Note: subordinate interest is simply an acknowledgment that one party’s interests will be higher than another one’s in the event of liquidation of the borrower’s assets.

A is incorrect. Credit tranching is a structuring technique used in the securitization of assets where different tranches or slices of debt are created with varying degrees of risk and return. While credit tranching plays a crucial role in determining the initial credit enhancement levels for each tranche, it does not directly address changes in credit protection levels due to prepayments or defaults.

B is incorrect. Credit enhancements are methods used to improve the creditworthiness or reduce the risk of a financial transaction, thereby making securities more attractive to investors. Examples of credit enhancements include over-collateralization, insurance, or guarantees from third parties. While credit enhancements contribute to the initial structuring of credit protection in a securitization, they do not specifically describe the process of adjusting credit protection in response to changes in the asset pool's performance.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.2220 A Planned Amortization Class (PAC) tranche may have an initial collar given as 100 - 300 PSA. This means:

A. The PAC tranche will make its scheduled payments to investors unless the actual prepayment experience is below 100 PSA.

B. The PAC tranche will make its scheduled payments to investors unless actual prepayment experience is above 300 PSA or below 100 PSA.

C. If the prepayment rate is outside of 100-300 PSA, and payments to a PAC tranche are either sooner or later than promised, the PAC tranche is referred to as a breached PAC.

The correct answer is **B.**

A PAC has an initial collar given as 100 - 300 PSA. This means the PAC will make its scheduled payments to investors unless actual prepayment experience is outside of these bounds (i.e., above 300 PSA or below 100 PSA). If the prepayment rate is outside of these bounds and payments to a PAC tranche are either sooner or later than promised, the PAC tranche is referred to as a broken PAC.

A is incorrect. It only addresses the scenario where prepayment speeds fall below 100 PSA, suggesting that only in this case will the PAC tranche fail to make its scheduled payments. This interpretation is incomplete as it does not consider the upper limit of the collar. The PAC tranche is designed to protect against both faster and slower than expected prepayment speeds, as long as they fall within the specified collar of 100 - 300 PSA.

C is incorrect. It introduces the term "breached PAC," which is not a standard term used in the context of PAC tranches. The option also fails to clearly state that the PAC tranche aims to make its scheduled payments unless prepayment speeds fall outside the 100 - 300 PSA range. The focus on the consequences of breaching the collar without explaining the protective mechanism of the collar itself makes this option misleading.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.2221 A director at a large Wall Street bank made the following comment on a renowned business channel: “Support tranches have both more contraction risk and more extension risk than the underlying mortgage-backed security (MBS), and have a lower promised interest rate than the planned amortization class (PAC) tranche.” Which of the following statements is most accurate?

A. The director's comment is accurate.

B. The director's comment is inaccurate; support tranches have only more extension risk than the underlying mortgage-backed security (MBS), and have a lower promised interest rate than the planned amortization class (PAC) tranche.

C. The director's comment is inaccurate; support tranches have both more contraction risk and more extension risk than the underlying mortgage-backed security (MBS), and have a higher promised interest rate than the planned amortization class (PAC) tranche.

The correct answer is **C.**

Support tranches have both more contraction risk and more extension risk than the underlying mortgage-backed security (MBS), and have a higher promised interest rate than the planned amortization class (PAC) tranche.

PAC tranches have lower interest rates because they have a scheduled principal paydown that provides investors cash flow certainty and specific average life. Support tranches lack this certainty that is compensated for by a higher interest rate.

Note: Extension risk occurs when interest rates are high, making borrowers take long to pay back debts. On the other hand, contraction risk occurs when interest rates are low, making borrowers pay back loans quickly than anticipated.

A is incorrect. In reality, the increased risks associated with support tranches—both contraction and extension risks—are compensated by a higher interest rate, not a lower one, compared to PAC tranches.

B is incorrect. This option inaccurately suggests that support tranches only have more extension risk than the underlying MBS and maintain a lower promised interest rate compared to PAC tranches. However, support tranches are exposed to both more contraction and extension risks due to their role in absorbing prepayment variability to protect PAC tranches.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.2222 A mortgage where a lender can go back to the borrower personally in an attempt to collect any excess of the loan amount above the net proceeds from foreclosing on and selling the property is *most likely* known as a:

A. Residential mortgage with recourse.

B. Residential mortgage without recourse.

C. Commercial mortgage without recourse.

The correct answer is **A.**

The essential difference between a recourse and non-recourse loan has to do with which assets a lender can go after if a borrower fails to repay a loan. Recourse loans allow the lender to go after a borrower’s other assets if the collateral fails to pay off the entire loan. On the other hand, non-recourse loans forbid lenders from going after a borrower’s other assets and allow them to only go after the asset(s) used as collateral. As a matter of principle, borrowers almost always favor non-recourse loans, while lenders almost always favor recourse loans.

Therefore, in a residential mortgage with recourse the lender can go back to the borrower personally in an attempt to collect any excess of the loan amount above the net proceeds from foreclosing on and selling the property.

B is incorrect. Suggesting that a residential mortgage without recourse would allow a lender to pursue the borrower personally for any shortfall following the sale of the property is a misunderstanding of the term "without recourse." In a non-recourse loan, the lender's ability to recover the loan amount is strictly limited to the proceeds from the sale of the collateral property.

C is incorrect. A commercial mortgage without recourse similarly restricts the lender's ability to recover the loan amount to the proceeds from the sale of the collateral property. In commercial mortgages without recourse, the lender cannot go after the borrower's other assets in the event of a shortfall following the foreclosure and sale of the property.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (b) Describe fundamental features of residential mortgage loans that are securitized.

Q.2223 From the perspective of the MBS investor, a higher debt service coverage ratio is:

A. Favorable.

B. Unfavorable.

C. Neither favorable nor unfavorable.

The correct answer is **A.**

The Debt service coverage ratio is a measure of a firm’s available cashflows to pay its current debt obligations.

It is calculated as:

$$\text{Debt service coverage ratio} = \frac{\text{Property's annual net operating income}}{\text{debt service (interest and principal payments)}}$$

It indicates greater protection to the lender when it is higher. Debt service coverage ratios below one indicate that the borrower is not generating sufficient cash flow to make the debt payments and is likely to default.

From the perspective of both the lender and the MBS investor, the higher the ratio the better.

B is incorrect. Suggesting that a higher DSCR is neither favorable nor unfavorable overlooks the fundamental importance of this ratio in assessing the financial health of the property and the associated risk for MBS investors. A higher DSCR directly translates to lower risk and higher security for the investors, making it a critical factor in investment decisions.

C is incorrect. This option fails to recognize the significance of the DSCR in evaluating the risk and stability of cash flows from mortgage-backed securities. A higher DSCR is unequivocally favorable for MBS investors as it indicates a strong capacity of the underlying properties to generate income sufficient to cover debt obligations, thereby reducing the risk of default and enhancing the attractiveness of the investment.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (b) Describe fundamental features of residential mortgage loans that are securitized.

Q.2224 Given a current mortgage amount of $500,000 and a current appraised value of $1,000,000, the loan to value ratio is *closest to*:

A. 0.25

B. 0.5

C. 2

The correct answer is **B.**

The Loan-to-value ratio compares the loan amount on the property to its current fair market or appraisal value.

$$\text{LTVR} = \frac{\text{Current mortgage amount}}{\text{Current appraised value}} = \frac{500,000}{1,000,000} = 0.5$$

A is incorrect. This option suggests an LTVR of 0.25, which would imply that the current mortgage amount is only 25% of the property's appraised value. This is not accurate based on the given figures. An LTVR of 0.25 would require either a lower mortgage amount or a higher property value than those provided in the scenario.

C is incorrect. This option suggests an LTVR of 2, which would imply that the mortgage amount is twice the value of the property. An LTVR of 2 would indicate severe negative equity, where the borrower owes significantly more on the mortgage than the property is worth, which is not the case here.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (b) Describe fundamental features of residential mortgage loans that are securitized.

Q.3291 In a commercial mortgage-backed security structure, the first loss on the collateral is *most likely* absorbed by the:

A. Equity owners.

B. Unrated tranche.

C. High-yield CMBS.

The correct answer is **A.**

The equity owners in a CMBS structure are the investors who hold the most subordinate and highest-risk tranche of the security. They have the first claim on the cash flows generated by the underlying collateral, and they absorb any losses that occur if the cash flows are insufficient to cover all of the payments due to the more senior tranches.

B is incorrect. The senior tranches of a CMBS are typically rated and have lower credit risk, while the more subordinate tranches are unrated and have higher credit risk. The unrated tranches are more likely to absorb losses after the equity owners, but they still have some protection from losses due to the credit enhancement mechanisms built into the CMBS structure, such as reserves, over-collateralization, and subordination.

C is incorrect. High-yield CMBS refers to a specific type of subordinate tranche that typically offers higher yields to compensate for the higher credit risk. However, the high-yield tranche is not necessarily the first to absorb losses in a CMBS structure. The specific order of loss allocation depends on the terms of the deal and the performance of the underlying collateral.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (b) Describe fundamental features of residential mortgage loans that are securitized.

Q.3889 A financial website presents the following information: “The pass-through rate (i.e., the coupon rate on the mortgage-backed security (MBS), also called its net interest or net coupon) is always lower than the mortgage rate of the underlying mortgages in the pool.” Is the statement accurate?

A. Yes.

B. No, because pass-through rates are always equal to the mortgage rates.

C. No, because pass-through rates are always higher than the mortgage rates.

The correct answer is **A.**

The statement is accurate. The pass-through rate (i.e., the coupon rate on the MBS, also called its net interest or net coupon) is always lower than the mortgage rate of the underlying mortgages in the pool. The net interest on a securitized asset, in this case, mortgage-backed security, is lower than the interest charged on the mortgage because of the fee deductions, for example, management fee, from the paid interest.

B is incorrect. In reality, the pass-through rate is lower than the mortgage rates of the underlying mortgages due to the deduction of various fees and expenses. The equality between pass-through rates and mortgage rates would imply that there are no costs associated with managing and guaranteeing the MBS, which is not the case in practice. The process of securitizing mortgages and managing MBS involves costs that are ultimately borne by the investors, leading to a lower net interest rate received compared to the gross mortgage rates.

C is incorrect. This misunderstanding could arise from a confusion between the gross interest collected from borrowers and the net interest passed through to MBS investors. The gross mortgage rate is the rate charged to borrowers, which includes the interest intended to cover the risk, costs, and profit margins of the lending and securitization process.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.

Q.4215 Which of the following is *most likely* true regarding mortgage-backed securities?

A. Mortgage-backed securities are direct investments in specific properties.

B. Prepayment fees are not charged if a borrower sells the property before the maturity of the mortgage.

C. The issuer creates a special purpose vehicle (SPV) that buys mortgages from lenders and other mortgage owners to form a diversified mortgage pool.

The correct answer is **C.**

Mortgage-backed securities (MBS) are created when an issuer buys a pool of mortgages from lenders and other mortgage owners and then securitizes them by issuing bonds collateralized by the underlying mortgages. This process creates a diversified pool of mortgages with varying interest rates, terms, and creditworthiness, providing investors with a range of risk and return profiles.

A is incorrect. Mortgage-backed securities are not typically direct investments in specific properties. Instead, they are backed by pools of mortgage loans that have been bundled together.

B is incorrect. Prepayment fees are usually charged if a borrower sells the property before the maturity of the mortgage. When a borrower prepays a mortgage, the investor who purchased the mortgage-backed security loses out on future interest payments.

CFA Level I, Fixed Income, Learning Module 19: Mortgage-Backed Security (MBS) Instrument and Market Features, LOS (c) Describe types and characteristics of residential mortgage-backed securities, including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type.
