

Subject F207|B200 — Banking Fellowship Applications

EXAMINERS REPORT

NOVEMBER 2025

QUESTION 1

You are the Head of Credit Risk for the mortgage portfolio at Brown Bank, a large retail and commercial bank operating across multiple jurisdictions. The following table shows the portfolio-level credit risk appetite thresholds for the mortgages portfolio:

Metric	Threshold	Measurement is calculated as:
Loan-to-Value (LTV) Ratio	80%	the mortgage amount divided by the appraised value of the property
Debt-to-Income (DTI) Ratio	35%	total monthly debt payments divided by gross monthly income
Probability of Default (PD)	2%	an estimate using historical data and credit scoring models
Loss Given Default (LGD)	40%	the potential loss in the event of default, after accounting for recovery rates
Exposure at Default (EAD)	\$500 million	the total outstanding balance of the mortgage portfolio
Non-Performing Loans (NPL) Ratio	3%	the proportion of loans that are in default or close to being in default
Credit Loss Ratio (CLR)	1.5%	the total credit losses divided by the total loan amount

The CEO of the mortgages business has challenged the current risk appetite practice, highlighting that the measures considered are biased towards past performance on the portfolio, and has suggested that the risk appetite be enhanced to consider more forward-looking measures.

- i. Comment on the CEO's suggestion, highlighting advantages and disadvantages of incorporating forward-looking measures into risk appetite for the mortgage portfolio.

[8]

Model Answer

General comments:

- The nature of the mortgages portfolio needs to be taken into account when considering the proposed changes. Mortgages are typically long-dated and the mortgage market is typically competitive on price.
- The practical impact on origination practices would need to be considered, as taking a forward-looking rather than a through-the-cycle view could lead to greater volatility in the set of loans that the bank is willing to approve.
- Any regulatory guidelines or requirements for setting of credit risk appetite would need to be considered before making changes to the approach.

Advantages:

- *Proactive Risk Management:* Forward-looking measures allow for the anticipation of potential risks before they materialize, enabling more proactive management of the mortgage portfolio.
- *Enhanced Predictive Capabilities:* By considering economic forecasts, market trends, and other predictive data, the risk appetite can be aligned more closely with future expectations and uncertainties.
- *Improved Resilience:* Incorporating forward-looking measures can help build a more resilient mortgage portfolio by identifying emerging risks and adjusting strategies accordingly.
- *Dynamic Adjustments:* The ability to dynamically adjust risk appetite based on changing market conditions can lead to more flexible and responsive risk management practices.
- *Competitive Advantage:* Institutions that effectively implement forward-looking risk measures may gain a competitive edge by demonstrating sophisticated and forward-thinking risk management capabilities.
- *Holistic View:* Forward-looking measures provide a more holistic view of the risk landscape, incorporating both historical performance and future projections.

Disadvantages:

- *Data Reliability:* Forward-looking measures rely heavily on forecasts and predictive models, which can be subject to inaccuracies and uncertainties, potentially leading to misguided risk assessments. This could be of particular concern given the long-dated nature of the mortgage portfolio.
- *Complexity:* Implementing forward-looking measures can add complexity to the risk assessment process, requiring

advanced analytical tools and expertise.

- *Cost: Developing and maintaining forward-looking risk assessment models can be costly, involving significant investment in technology, data, and skilled personnel.*
- *Model Risk: The reliance on predictive models introduces model risk, where incorrect assumptions or data inputs can lead to flawed outcomes.*
- *Overemphasis on Projections: An overemphasis on forward-looking measures may lead to underappreciation of historical performance and established risk trends.*
- *Implementation Challenges: Integrating forward-looking measures into existing risk appetite frameworks can be challenging, requiring organizational buy-in and potential changes to processes and systems.*
- *Potential for Overreaction: Forward-looking measures may prompt overreaction to predicted risks, leading to overly conservative risk appetite settings that could stifle growth and innovation.*

Brown Bank's risk office has developed a climate risk management framework, which requires that metrics measuring exposure to climate risk on lending portfolios are considered in risk appetite.

- ii. Suggest risk appetite metrics that can be used to measure and monitor exposure to climate risk on lending portfolios and explain how each of these metrics can be calculated.

[10]

Model Answer

Financed Emissions:

- *Sum of the CO2 emissions associated with all exposures within the portfolio, typically measured in metric tons of CO2 equivalent (CO2e).*
- *This involves collecting data from borrowers on their CO2 emissions and aggregating this information.*
- *Where this information is not available, analytical models can be used to estimate emissions based on characteristics of the asset being financed and aggregated data regarding emissions for similar assets, proportions/ attributions factors may also be used.*

Green Asset Ratio:

- *Ratio of green or sustainable loans to total loans within the portfolio.*
- *This involves identifying and categorizing green assets based on established criteria, and calculating their proportion relative to the entire portfolio.*
- *The criteria for identification of green assets need to be clearly defined and consistently applied over time.*

High-risk sector concentration:

- *Percentage of the portfolio exposed to sectors highly vulnerable to climate risks (e.g., fossil fuels, agriculture).*
- *This is calculated by categorizing each loan according to sector and summing the exposure amounts for high-risk sectors.*

Geographic concentration:

- *Assessment of the geographical distribution of the portfolio and the potential physical climate risks (e.g., flood, drought) associated with those locations).*
- *This requires mapping loan locations to climate risk data and aggregating exposure values.*

Transition Risk Score:

- *Evaluate the potential financial impact of transitioning to a low-carbon economy on borrowers within the portfolio.*
- *This involves assessing borrowers' readiness and capacity to adapt to regulatory and market changes related to climate policy.*
- *An appropriate scorecard taking into account factors such as emissions, emission plans & targets, investment in green technology, etc. could be developed.*

Climate-Adjusted Expected Credit Losses:

- *Estimate potential credit losses considering climate risk factors such as physical damage from climate events or financial impact due to regulatory changes.*
- *This involves adjusting traditional expected credit loss models to incorporate climate-related stress scenarios and*

borrower vulnerability to climate risks.

- iii. Suggest strategic initiatives that could be employed to reduce climate risk exposure, as reflected in these metrics, over time.

Model Answer

Financed Emissions:

- *The bank could offer preferential rates for new housing developments that are ‘green’.*
- *The bank could deploy educational initiatives to support borrowers in transitioning to more climate-friendly practices.*

Green Asset Ratio:

- *The bank could implement targeted marketing strategies to drive growth in sustainable financing products.*
- *The bank could place a limit on the granting of non-sustainable loans.*

High-risk sector concentration:

- *The bank could identify high-risk sectors and place limits on its lending into high-risk sectors.*
- *Initiatives to support clients in high-risk sectors could be implemented to reduce the risk of the sector overall (e.g. support for sustainable agriculture practices). (1/2)*

Geographic concentration:

- *The bank could place limits on financing of assets and industries based in high-risk geographies.*
- *The bank could require risk mitigation measures to be implemented for assets funded in high-risk geographies e.g. installation of barriers to reduce flooding risk.*

Transition Risk Score:

- *Offer preferential terms to borrowers with low transition risk scores*
- *Provide education and advisory services to customers to help them improve their transition risk scores.*
- *Social implications of reducing exposures in geographies/industries*

[5]

[Total 23]

Examiners comments

Question 1 presented a set of portfolio-level credit risk appetite thresholds for a mortgage portfolio. Part i) asked candidates to evaluate advantages and disadvantages in incorporating forward looking measures into credit risk appetite management (8 marks).

Performance on this question was good. Some candidates did not display the required understanding of risk appetite and its use in origination and portfolio management that was required to perform well on this question. Candidates that focused their responses on measurement of portfolio performance against appetite rather than considering the risk appetite setting process performed less well. Most candidates considered how the measures provided in table could be adjusted and better candidates proposed alternative measures that could be included in the appetite statement. Some candidates strayed from risk appetite specific comments into other areas like impairments for which marks were not awarded.

Part ii) asked candidates to suggest metrics to measure and monitor exposure to climate risk to on lending portfolios in general (10 marks).

This question was poorly answered; many candidates did not address lending portfolios in general and limited themselves to mortgages specifically which led to a limited number of valid measures put forward. Most candidates mentioned geographic concentration, high-risk areas and “green” mortgages but failed to include measures on financed emissions, transition risk measures and high-risk sectors.

Part iii) asked candidates to suggest initiatives to reduce exposure to climate risk in context of the suggested metrics

(5 marks).

Candidates who scored well in part ii) scored better in this question and most candidates were able to recommend initiatives to improve on the measures identified in the previous question. Candidates that included proposals related to incentivizing improvement in addition to limiting exposure received credit for these proposals. Some candidates included measures to reduce own emissions initiatives, here, credit was not given as this did not align with the question.

QUESTION 2

- i. Outline the elements (as defined under the Basel accords) that may contribute to the total capital requirement for a global systemically important bank (G-SIB).

[3]

Model answer

Minimum capital requirements are defined in terms of Pillar 1 and Pillar 2 requirements described in the Basel III framework.

- Pillar 1 provides quantitative rules and formulae to quantify a minimum capital requirement for credit, market, and operational risks.*
- Pillar 2 describes the oversight process in term of which regulators assess banks' internal risk management and may require extra capital.*
- A g-sib bank would need to hold a capital conservation buffer of 2.5% of total risk weighted assets (RWA), with RWA as defined under Pillar 1.*
- The local regulator may require a countercyclical buffer of up to 2.5% of RWA.*
- A g-sib may also be required to hold a systemic buffer of up to 3.5% of RWA set by the financial stability board.*
- Total Loss-absorbing capacity applies also applies to G-SIBs.*
- Requires banks to hold a minimum amount of capital and eligible liabilities to support resolution in case of failure TLAC minimum requirements is 18% of RWA.*

- ii. Explain the objectives, from the regulator's point of view, for the inclusion of hybrid instruments as eligible instruments in the capital structure, and outline how the features of hybrid instruments support or detract from these objectives.

[10]

Model Answer

Objectives:

- To enhance loss absorption capacity, certain hybrid instruments would provide a buffer before insolvency.*
- To improve capital flexibility, hybrid instruments offer banks a way to raise capital without issuing common equity. This helps maintain capital adequacy without immediate shareholder dilution.*
- Add to Tier 1 capital as "going-concern capital" that can absorb losses while a bank is still operating, specifically, instruments that do not trigger a default event.*
- Maintain financial stability by allowing a broader range of instruments to strengthen banking sector resilience*

You are an Actuary working within Balance Sheet Management at Too Big To Fail Bank (TBTF Bank). The bank has recently updated its capital adequacy assessments. Recent periods have been disappointing from a profitability perspective, and financial forecasts point to losses in the near term. This expectation, as well as changes in the minimum capital requirements within the jurisdiction, indicates that the bank is likely to dip below its regulatory capital requirements within the next financial year.

- iii. Discuss considerations and options to improve the capital adequacy of the bank over the short and medium term.

Model Answer

The reasons for the poor financial performance and expectation are critical to understand, and specifically whether it is due to systemic economic circumstance or whether it is specific to TBTF bank

If the subdued profitability performance is specific to TBTF bank, ring-fencing of loss-making activities, together with a credible turn-around plan would be a minimum requirement to ensure the necessary support from the regulator and capital markets.

It is important to understand how far below the regulatory minimum the bank is expecting to go and whether it will breach only some of the regulatory add-ons (for example counter cyclical buffers) or will it breach the baseline regulatory Pillar 1 requirements. The severity of the expected breach will help determine likely actions.] It would be valuable to determine what regulatory changes were made to the required minima and if these are expected to be short or longer-term changes.

If these changes themselves are the primary reason for the likely upcoming breach this could be discussed with the regulator as there might be a grace period over which the bank can operate below the new minima without being sanctioned in any way (a transition period of sorts)

There are several steps that the bank can take to enhance their capital position however the viability of each of these options depends on:

- *how much capital is required in absolute terms as the larger the absolute value the more challenging it may be to source the funding*
- *how much capital is required relative to the current capital base, as proportionally large changes could change the ownership structure of the bank significantly and result in other unintended consequences*
- *whether the shortfall can be covered by alternative capital instruments other than equity*

The possible options are as follows:

Issuing new equity:

- *The bank can raise additional capital by issuing new shares via a rights issue*
- *However, equity investors would need to be convinced that the bank's outlook in terms of profitability is much improved, failing which this would not be a viable option*
- *This would potentially dilute the ownership percentage of existing shareholders (depending on who takes up the rights issue) but it will increase the bank's total equity and stabilise the base.*

Issuing sub-ordinated debt or hybrid instruments into the market:

- *The bank can issue subordinated debt or other types of bonds (for example convertible bonds). Depending on the type of bond they could be converted into equity down the line (under certain predetermined conditions) and can be structured to qualify as regulatory capital (AT1) depending on the requirements and where there is an expected shortfall*

Retaining earnings:

- *Instead of paying out dividends, the bank can retain its earnings over the next couple of financial periods, using its own profits to boost the capital position of the bank (however shareholders may be disappointed to not receive dividends or receive reduced dividends, and this may not be well received by the market)*
- *One caveat here is that the bank is expected periods of loss. Unless there is a sound turnaround strategy to start turning a profit this is currently not an option*

Reducing risk-weighted assets:

- *By reducing the amount of high-risk loans or investments, a bank can lower the risk-weighted assets on its balance sheet, which can improve its capital ratios*
- *This could be achieved by selling or securitising part of their portfolio (shorter term solution) and reducing new business / renewals on high-risk clients (medium term solution)*

Optimizing capital allocation:

- *Efficient management of capital can help a bank use its reserves more effectively, potentially freeing up capital for*

other uses

- The bank could review its current models in place (PD / LGD / EAD) to ensure they are not overly conservative (or inaccurate) resulting in an overstatement of the RWA's and hence the minimum capital requirements

Selling non-core assets:

- Banks can sell off non-essential assets or business units to raise capital. This might include selling investments, real estate, or other non-core holdings

- Raising funds through a joint venture or strategic partnership: The bank might enter a joint venture that brings in capital from another bank or entity

Increasing capital requirements compliance:

- The bank can adjust its operations to improve the capital ratios in line with regulatory requirements. For example, by improving their operational risks there may be an opportunity to reduce requirements in that pillar (thus reducing overall capital requirements)

[Total 29]

Examiners comments

Question 2 presented a bank that is under performance pressure, facing some changes in minimum capital requirements from a profitability point of view, resulting in the prospect of dropping below minimum capital requirement levels.

Part i) asked candidates to outline the elements of the total capital requirement for a G-SIB bank (3 marks). This question was well answered with many candidates receiving full marks.

Part ii) asked candidates to explain what objectives a regulator would have for the inclusion of hybrid instruments as eligible instruments in the capital structure, linking how the features of hybrid instruments would support or de-tract from these objectives (10 marks).

This question was poorly answered by most candidates with some not realizing that the bank will be the entity issuing these securities as opposed to the one investing in them. Many candidates did not know what hybrid instruments or their features are, and performed poorly as a result.

Some candidates looked at objectives from the perspective of a bank and not the regulator as required by the question. Candidates who scored better were able to contrast the pros and cons of hybrid instruments by considering the regulatory purpose for holding capital and contrasting the features against common equity / retained earnings being the most preferred (from a regulatory view point) form of capital.

Part iii) asked candidates to discuss the consideration and options that bank may have to improve capital adequacy over the short and medium terms (16 marks).

This question was better answered than the previous one but still presented some difficulty to less prepared candidates, and consequently marks varying considerably. Candidates who considered both the operational performance as well as the regulatory changes in their responses fared better.

In general, candidates provided good coverage of actions that could be taken but not of considerations that would need to be applied in determining the course of action (e.g. issuing of new equity will be unlikely to succeed given the prospective performance).

QUESTION 3

Quartz Bank is a full-service retail bank and is currently reviewing its current account pricing structures. This includes a review of monthly account fees charged as well as fees charged per transaction.

- i. Outline factors that banks should consider in setting current account pricing.

[4]

Model Answer

The internal operational costs involved in maintaining current accounts would need to be considered. This would include the cost of transaction processing, customer service, and account maintenance.

- *Drivers of cost that depend on customer behaviour (for example the need for cash-handling) is important to understand to encourage more efficient use of resource (cost appropriate pricing/ avoidance of cross-subsidy)*
- *External costs, for example payment system costs when transacting across banks*
- *Expected operational losses inherent to all activities, and associated drivers*
- *The balance between fixed monthly account fees and transaction fees needs to be determined, considering which costs are fixed per account and which are linked to the number of transactions undertaken.*
- *The pricing structures of competitor banks should be considered to ensure that the bank remains competitive in the market.*
- *The differing needs and usage patterns of various customer segments should be considered, pricing tailored accordingly.*
- *This should include consideration of the financial sophistication and price sensitivity of different customer groups.*
- *Compliance with relevant banking regulations and guidelines that may impact fee structures and pricing transparency should be ensured.*
- *The potential benefits of bundling current accounts with other banking products and services and offering incentives or discounts for bundled services should be assessed.*
- *The costs and benefits of technological advancements and digital banking solutions and the impact on transaction costs should be considered.*
- *Pricing strategies should be aligned with the bank's overall revenue and profitability objectives, ensuring a balance between generating income and providing value to customers.*
- *This should include consideration of customer lifetime value, providing, for example, cheaper accounts to entry-level customers on the expectation that they will grow into more profitable accounts later.*
- *This should also include consideration of overall customer profitability – customers with an entrenched current account could be cross-sold more profitable products such as loans.*
- *Feedback and insights from customers regarding their preferences and pain points related to account fees and transaction costs should be considered and incorporated.*

The following tables contain the details of Quartz Bank's current pricing structure for a selection of current account transactions:

Transaction Type	Fee (in \$)
Withdrawal (native ATM)	1.90 per 100 withdrawn
Withdrawal (other ATM)	9 + 1.90 per 100 withdrawn
Withdrawal (branch)	60 + 1.90 per 100 withdrawn
Deposit (ATM)	0.95 per 100 deposited
Deposit (branch)	60 + 2.10 per 100 deposited
Payments (card)	Free
Payments (internal)	3.75 per payment
Payments (external)	4.25 per payment
Debit order	3.75 per debit order

The CEO of the bank has stated that the current pricing structures are too complex, and has suggested that a fixed monthly account fee, varying by account type, is charged instead and that all transactions are free of charge.

- ii. Outline the advantages and disadvantages of the CEO's suggestion.

[5]

Model Answer

Benefits:

- *The current fee structure is complex. Reducing complexity will make it easier for customers to understand fees.*
- *Improved transparency in fees will make it easier for customers to know exactly what their fees will be without needing to calculate them.*
- *Operational implementation and maintenance of a simpler fee structure would be less complex and costly, with the associated operational risk reduced.*
- *Customers may experience increased satisfaction due to the predictability and simplicity of their account fees.*
- *A fixed monthly fee structure can foster greater trust between the bank and its customers, as it eliminates the perception of hidden or surprise charges.*
- *The bank could potentially attract new customers who are seeking straightforward and transparent banking solutions.*

Drawbacks:

- *Loss of revenue from transaction fees will necessitate a higher fixed monthly fee to compensate. This will need to be clearly communicated to customers who are used to the existing fee structure.*
- *Fixed monthly fees will need to be determined based on estimates of monthly transaction volumes. If these estimates are not accurate, then fees could be too high, leading to customer dissatisfaction, or too low, leading to losses for the bank.*
- *If fees cannot be reviewed regularly (e.g. fees are only reviewed annually), these problems could persist for some time before they can be rectified.*
- *Fixed fees might not account for the varying levels of account activity, potentially disadvantaging either light or heavy users.*
- *Some customers may feel they are paying more than they use, leading to dissatisfaction.*
- *There could be costs associated with changing the pricing structure and updating systems and communicate.*

Selenite Bank, a competitor of Quartz Bank, has recently published its revised current account pricing. Under this structure, no monthly account fees are payable, and transactions are priced as per the following table:

Transaction Type	Fee (in \$)
Withdrawal (any ATM)	10 per 1000 withdrawn
Deposit (ATM)	1 per 100 deposited
Payments (card)	Free
Payments (internal)	1 per payment
Payments (external)	2 per payment
Debit order	3 per debit order

- iii. Discuss Selenite Bank's pricing structure and the possible competitive implications for Quartz Bank.

[11]

Model Answer

Selenite Bank's fee structure is relatively simple, with fees quoted in round numbers.

- *Customers should find this fee structure easy to understand and interpret.*
- *The withdrawal fees quoted for any ATM are around half of what Quartz Bank's fees are, and there is no penalty for withdrawing at a non-native ATM.*
- *Customers would therefore not need to look for a Selenite Bank (SB) ATM if they want to save on fees, which could increase convenience especially if the bank's ATM footprint isn't large.*
- *This could reduce customer demand for native ATM withdrawals, which would allow SB to reduce the size of their ATM footprint and associated costs.*
- *No branch withdrawal fees are quoted, indicating that branch withdrawals may not be a service offered by SB. This could help reduce branch costs as cash management facilities and staff would not be required.*
- *Branch deposit fees are also not quoted, lending support to the point above.*
- *ATM deposit fees are roughly on par with those charged by Quartz Bank (QB), with the difference likely due to rounding to maintain the simplicity of the quoted fees.*
- *Card payments are free, with the cost of card transactions likely passed on to merchants. This is in line with QB and is likely standard practice in the jurisdiction in which these banks operate.*

- The cost of internal payments is significantly lower than that charged by QB, at L\$1 compared to L\$3.75.
- This could indicate that SB is significantly more cost efficient than QB when processing internal payments, or that QB's pricing reflects legacy costs and has not been adjusted to account for efficiencies gained through adoption of digital processes.
- It is also possible that SB is down-pricing internal payments to drive word-of-mouth encouragement via customers that make large volumes of payments for recipients to move their accounts to SB.
- External payments attract fees of L\$2 compared to QB's L\$4.75, which is also significantly cheaper. Previous comments on cost efficiency of associated processes apply.
- SB charges a fee of L\$3 for debit orders, compared to the L\$3.75 charged by QB, which is again cheaper. This could be due to greater cost efficiency in processing of debit orders, or due to a smaller margin being added to costs when determining transaction fees.
- Overall, SB's pricing structure is both simpler and less expensive than QB's, and would appeal to customers that are price sensitive and/or are attracted to banking products that offer flexibility but are easy to understand.
- If this pricing approach is significantly different to that followed by other banks operating in the same market, which is likely, then this could cause significant disruption.
- QB would need to consider the pricing structure published by QB in reviewing its own pricing.
- If it cannot profitably match the fees charged by SB, then QB would need to innovate around ways in which it can improve the cost efficiency of the processes that support these transaction types to remain competitive.
- In the short term, QB is likely to lose highly price-sensitive customers to SB, as these customers would want to switch banks to take advantage of SB's lower prices.
- QB would need to consider strategies that it can roll out to retain such customers while it is in the process of revising its own pricing.

[Total 20]

Examiners Comments

Question 3 presented candidates with a current account pricing structure. Part i) asked candidates outline factors to consider in setting pricing for a current account (4 marks).

This question was well answered with many candidates receiving full marks; the question provided many valid points for the number of marks available and some candidate potentially wasted some time by elaborating too much for the number of marks available.

Part ii) asked candidates to outline the advantages and disadvantages of an alternative (simplified) pricing structure (5 marks).

Performance on this question was good. Most candidates could come up with relevant advantages and disadvantages, and many gaining full marks.

Part iii) Introduced a new competitor with yet another pricing structure. Candidates were asked to evaluate this pricing structure and discuss potential competitive implications.

This question was fairly well answered, though some candidates did not appreciate the extent of the pricing differentials for some of the items and missed out on marks for the competitive implications for Quartz bank. Better candidates commented on underlying cost structures of the banks and consequent influence on fees charged. Better candidates covered both observations and higher-level insights in their responses, and incorporated consideration of the broader competitive environment.

QUESTION 4

A large retail bank, AlphaBank, is considering securitising \$5 billion of its portfolio of unsecured loans. The proposed structure involves creating a special purpose vehicle (SPV) that will issue four asset-backed securities (notes) with different levels of seniority (senior, mezzanine, subordinated and equity respectively).

The senior note is expected to receive an AAA credit rating, the mezzanine note an A rating and the subordinated

note a BB rating whilst the equity note will remain unrated. AlphaBank will be contracted by the SPV as servicer to administer the underlying assets on behalf of the SPV.

The bank has engaged a credit rating agency to provide an opinion on the transaction. You are part of the risk team tasked with evaluating the proposal.

- i. Discuss the potential advantages and disadvantages to AlphaBank of securitising unsecured loans, considering both strategic and financial perspectives.

[7]

Model Answer

Benefits (up to 3 marks)

- Securitising a portion of the portfolio will reduce the amount of assets on the balance sheet of AlphaBank, this will reduce the risk weighted assets (RWA) and associated credit capital required which could improve the overall return on equity (ROE) for the bank.
- Securitising the credit card receivables can provide access to more diversified funding sources, for example institutional investors with a mandate for high quality investment grade instruments can invest in the senior tranche at a AAA credit rating, likely to be superior to that of the bank's own debt instruments.
- The securitisation will transfer all credit risk to investors in the structure (assuming the bank does not opt to retain some exposure to the structure). This will reduce the overall expected credit losses for the bank as well as earnings volatility due to cyclical credit losses from its card portfolio.
- The transaction could reduce the utilization of the overall risk capacity (as measured by the overall targeted credit loss rate) for AlphaBank leaving room to expand lending in other product lines or to bring expected losses back within the targeted range if the card portfolio was expected to contribute to a breach of this range.
- The securitization can thus allow the bank to leverage its origination systems, skills and expertise by increasing the volume of transactions that pass through its systems.
- The overall liquidity position of the bank will improve as the transaction will provide an immediate cash injection for the bank.
- These funds could be deployed to pursue capital light activities with higher returns that could further improve overall return on equity (ROE) for AlphaBank.
- The asset / liability profile will likely improve as a result with longer dated illiquid assets converted to cash, the securitization can thus be used as a tool to manage interest rate risk for the bank.
- AlphaBank will receive a fee from the SPV for administering the assets which will be a source of additional revenue for the bank.
- A securitization program will provide market feedback on the quality of the card portfolio (through price discovery) which will reward disciplined underwriting and pricing practices longer term.

Drawbacks (up to 3 marks)

- Setting up the SPV structure will incur costs such as legal, rating agency and arranger fees for doing due diligence and placing the securities with potential investors which will reduce the overall returns.
- The transaction introduces complexity for AlphaBank with ongoing monitoring, reporting and compliance required in its role as administrator of the assets.
- There is a risk that the underlying assets can perform poorly which will harm the reputation of AlphaBank and its ability to securitize additional assets at a reasonable price.
- AlphaBank will still be exposed to credit losses from the portfolio if it retains a stake in the structure, typically through retention of the equity tranche.
- The market might interpret the action as a sign that the bank is concerned about its liquidity position or the quality of the business originated in its card portfolio, negatively impacting the valuation of these securities or others issued by the bank.
- For the capital relief to be affected certain conditions imposed by the regulator will have to be met, for example the disclosure of underwriting standards applied to potential investors, and satisfying the regulator that this is a "true sale" with risk transferred to the purchaser. This will incur additional costs and scrutiny from the regulator.

Marking note: Award 0.5–1 mark per well-explained point. Balance between benefits and drawbacks expected for full marks.

- ii. Outline and explain the key factors that a credit rating agency is likely to consider when assigning ratings to the different notes of this securitisation.

[7]

Model Answer

The overall characteristics of the portfolio of assets to be securitized, particularly historic performance on PD and LGD, average age of the advances (typically a minimum age cut-off will be applied for inclusion in the structure).

- *The underwriting standards applied (often a metric such as average or minimum credit scores for the portfolio will be considered) and consistency of underwriting standards applied over the origination period for the assets.*
- *Limit management practices to ensure stability in EAD assumptions*
- *Concentration risk through measures such geographic, sectoral, borrower rating and facility size concentration within the portfolio.*
- *Credit enhancements applied to the structure such as over-collateralization (issuing securities with a principal value lower than the value of card accounts receivable)*

Subordination (the seniority of the tranche when cashflows from the assets are allocated)

o excess spread (the positive difference between the interest yield on the underlying assets net of servicing costs and the interest yield on the securities issued) o reserve funds (a cash collateral amount set aside by the SPV to cover potential future credit losses)

- *The parameters applied to the cash flow waterfall, governing how the cash flows from the underlying assets are distributed to the tranches in a securitisation such as priority in receiving cash flows, allocation of credit losses, triggers and priority for access to reserved funds (if any).*
- *The quality of the servicer, particularly the track record of AlphaBank in collecting payments from the card portfolio and their operational capacity to continue to do so effectively.*
- *Legal structure, particularly bankruptcy remoteness (default of any tranche will not legally impact going concern status of AlphaBank and conversely default by AlphaBank will not imply a default on the securities).*
- *The level of stress testing the tranche can endure in the proposed structure before the underlying assets will fail to service it or yields are reduced in the face of a negative macro-economic scenario or when PG, LGD, recovery and correlation values are stressed.*

Marking note: Award 0.5–1 mark per factor, emphasis on breadth.

In securitisation, loss attachment and detachment points define the boundaries of loss exposure for a given note in a structured finance deal.

The “loss attachment point” is the minimum level of cumulative losses at which a note begins to absorb losses. For example, if the attachment point is 5%, the note will not suffer any losses until the underlying asset pool has lost more than 5% of its value.

The “loss detachment point” is the maximum level of cumulative losses that a note can absorb before the next seniority will be affected. If the detachment point is 10%, the note will not carry any future value should cumulative losses reach or exceed 10%.

- iii. Describe the potential modelling approaches you can use in your task of determining the loss attachment and detachment points for each note as well as key assumptions that would underpin the outcome.

[8]

Model Answer

Models (up to 4 marks)

In order for the loss attachment and detachment points to be set the proposed model used must provide an estimate of the cumulative losses for the portfolio of assets at various levels of confidence. Marks should be awarded for sensible approaches to estimate cumulative credit losses under a range of outcomes.

- *Models that measure the PD, EAD and LGD for a portfolio of assets by using the PD and LGD of each asset along with*

an assumed correlation structure for the portfolio. Examples of such a model would be the one-factor Gaussian model for Basel minimum capital requirements where the factor represents the level of systemic risk. For the purposes of determining the loss attachment and detachment points the losses can be evaluated at various confidence levels or factor values. Such a model can be enhanced by varying the factor loading (correlation) and LGD depending on the value of the factor to provide a range of correlation and LGD outcomes in benign and stressed periods.

- *Using a cashflow modelling approach where cashflows from the underlying assets and flow of these through the waterfall are explicitly modelled to inform the cashflows that will be received by each tranche. These cashflows are then discounted at a suitable discount rate (based on the rating for a specific tranche) to inform the net present value of that tranche. For each underlying asset the default probability, default timing and recovery rate is estimated (existing models used for IFRS provisioning can be used as starting inputs) and evaluated under various scenarios or using a Monte Carlo simulation approach*

- *Loss distribution models used for the bank's internal capital adequacy assessments or economic capital estimations for the card portfolio can also be used to estimate the expected credit losses for each tranche at various loss attachment and detachment points.*

- *Typically loss distribution approaches will be used to value the senior tranches whilst cashflow based approaches will be used for the equity and lower rated tranches*

Key assumptions (up to 4 marks)

- *PD (Probability of Default) and PD term structure: Based on historical data and forward-looking adjustments.*
- *LGD (Loss Given Default): Considering unsecured nature of credit cards, recovery rates, and legal processes.*
- *Default correlation: Linked to macroeconomic cycles and borrower characteristics.*
- *Prepayment and utilisation rates: Affecting cash inflows/outflows.*
- *Macroeconomic indicators: Interest rates, inflation, unemployment, GDP trends etc.*
- *Excess spread assumptions: Income from the asset pool after paying senior expenses and interest.*

Marking note: Candidates should integrate the link between model assumptions and tranche structuring for full marks.

- iv. Evaluate how actual performance outcomes may differ from initial expectations by discussing the likely impact on note yields and the distribution of losses between notes if:
 - The macroeconomic environment turns out to be more or less favourable for consumer finances than anticipated; and
 - The default correlations between individual unsecured loans are higher or lower than initially assumed.

[6]

Model Answer

Macroeconomic environment (up to 3 marks)

More benign than expected:

- o *Lower defaults → higher excess spread → quicker repayment of senior tranches.*
- o *Junior tranches may be repaid in full, investors receive higher realised IRRs.*
- o *Potential rating upgrades over time.*

Worse than expected:

- o *Higher defaults → excess spread eroded → junior tranches absorb more losses.*
- o *Possible loss leakage into mezzanine/senior tranches.*
- o *Lower investor yields, potential rating downgrades.*

Default correlations (up to 3 marks)

The impact of default correlations will only manifest under periods of economic stress

· Lower correlations than assumed:

o Losses more idiosyncratic → diversification benefit higher.

o Loss distribution is less likely to take on extreme values

o Attachment points more protective than needed; yields may exceed expectations under stress circumstances .

o Favourable outcome for senior tranches

Higher correlations than assumed:

o Losses more systemic → tranches breached sooner than modelled under stress

o Losses cascade faster through tranches, senior investors impacted earlier.

o Negative mark-to-market impacts and investor confidence issues.

Marking note: Award marks for clear linkage between scenario change → impact on losses → impact on tranche yields and ratings. Stronger candidates will integrate both macro and correlation effects

[Total 28]

[Grand Total 100]

Examiners Comments

Question 4 presented candidates with a retail bank that is contemplating securitising a part of its unsecured loans portfolio.

Part i) asked candidates to discuss advantages and disadvantages of securitising loans, from both a strategic and a financial perspective (7 marks).

Performance on this question was good, with candidates covering a good range of advantages and drawbacks. Some candidates did not realize that the transaction will not impact the relationship with the customers and mentioned irrelevant points on customer retention.

Part ii) asked candidates to explain the key factors a rating agency is likely to consider when assigning ratings to different note sin a securitisation structure (7 marks).

Performance on this question was varied. Most candidates covered points related to assessing credit risk. Better candidates also covered points related to legal structure, level of credit enhancement and waterfall preference, quality of servicer, and stress testing.

Part iii) asked candidates to describe modelling approaches and assumptions in setting loss attachment points in a securitisation structure (8 marks).

This question posed some difficulty with many candidates not able to identify more than 1 approach to modelling the expected losses on the portfolio. Both cashflow simulation approaches (typically used for equity / junior tranches) and loss percentile approaches (typically used for senior tranches) are valid, and marks were given for relevant points. Coverage of methodology was generally better than coverage of assumptions. Candidates that were specific

on the methodology that would be applied did better than those that described the approach in general terms.

Part iv) Asked candidates to evaluate how actual performance may differ from the initial expectations under different economic conditions, and should default correlations between debtors be different than assumed (6 marks).

Performance on this question was good, with most candidates performing well. The distribution of losses between tranches was generally not covered well, with only better candidates recognising the linkage between the economy deteriorating and the degree of correlation.

Analysis of marks per question reveal Q1 part 2, Q2 part 2 and Q4 part 2 to have been the most challenging questions.