NOVA SCHOOL OF BUSINESS & ECONOMICS

Course: Banking [2206] **Fall Semester 2022**

Mid-term test **October 7, 2022**

Student number: ____________________

Instructions for the exam:

- Start by putting your number on this first page
- You have 1h30 (one and a half) hours to complete the exam
- The exam is worth 20 points
- The score for each group is divided equally between the questions in that group
- You should answer all groups in the answer sheets provided
- For Group II, please reply to the questions chosen in a maximum of 12 lines per question
- At the end of the exam, please hand in both this statement and the answer sheets
- You are not allowed to have anything with you except for pen/pencil, drinks/snacks and a non-graphic calculator
- Points can only be provided for material that can be read, understood and interpreted. Consequently, you should try your best to express your ideas clearly and concisely, and to highlight key arguments. Also, please make sure your handwriting is clear and understandable.

Part I [10/20]

In this first part of the mid-term test, you need to select a single answer (identified as a, b, c or d) in each of the 10 questions presented below. You will not be penalized for a wrong answer.

1. The Banking Union - the current banking framework at the EU level - has several distinctive features when compared to the previous framework. Which of the following sentences correspond to a (true) feature of the Banking Union?

a) The ECB does not have an important role in deciding whether a bank is failing or likely to fail;
b) The Single Resolution Fund is financed by contributions from the different governments of the EU;
c) The "less significant" institutions continued to be supervised by their national supervisors, in close cooperation with the ECB.
d) The resolution costs do not have to be borne first by the bank's shareholders and creditors.

2. When your bank grants you a loan:

a) There is money creation as this operation expands the quantity of money available in the economy;
b) There is no money creation as the central bank did not increase the quantity of base money;
c) There is no money creation as the bank has to comply with capital requirements;
d) There is no money creation as the bank must comply with liquidity requirements.

3. Concerning banks' capital and respective prudential requirements, which of the following sentences is false?

a) Capital is a key ingredient for safe and sound banks;
b) Capital allows banks to be able to absorb losses;
c) The larger the risks incurred by banks, the more capital they need;
d) Banks do not need to continuously assess the risks they are exposed to and the losses they may incur if (and only if) the combined risk buffers requirement is fulfilled.

4. Consider a bank with the following financial indicators: Core Equity Tier I of 150 m€, Total Capital of 300 m€, Risk-Weighted Assets of 3000 m€ and Assets of 4000 m€. From a prudential perspective, what can you conclude about the fulfillment of the Pilar 1 requirements: Common Equity Tier 1 (CET1) ratio and the Total Capital ratio?

a) Both ratios are fulfilled;
b) None of the ratios is fulfilled;
c) The CET1 ratio is fulfilled, while the Total Capital ratio is not;
d) The Total Capital ratio is fulfilled, while the Total Capital ratio is not.

5. Concerning foreign exchange risk, which of the following sentence is correct?

a) Foreign exchange risk arises with the portfolio or direct investment in foreign currency markets;
b) The stock of foreign currency for trading in a bank suffers from market risk, not foreign exchange risk;
c) The visible effect of this type of foreign exchange risk is the "translation risk", the accounting effect of disclosing earnings made abroad in home currency;
d) All the above are correct.

6. Now, consider sovereign risk. Which of the following sentence is correct?

a) Sovereign risk arises from the possibility of expropriations, capital export restrictions and difficulties to deal with foreign legal systems;
b) Foreign operations of a client may expose a bank to sovereign risk;
c) The client may have the will and the money to pay but is restricted to do so due to foreign capital flow rules;
d) All the above are correct.

7. Consider a client that asks for a loan of **10.000** euros, one year maturity. According to the credit analysis of the bank, the client has a 4% probability of default, in which case the bank may lose 60% of the loan amount. The bank faces 50 euros annually of operating costs to deal with this loan. The Treasury department of the bank quotes liquidity at bid/ask of 1,25% - 1,5%. Considering that the adjustment for the capital charge shall be 0,5%, what is the minimum rate that the bank will charge to this client?

a) 4,5%;
b) **4,9%; (1.5+2.4+0.5+0.5)**
c) 10,4%;
d) 1,35%.

8. For most banks, loans are the largest and most obvious source of credit risk. Which sentence is true?

a) As the expected losses on the credit portfolio should be covered by provisions, a potential materialization of that losses will not impact that year's P&L (income statement), as the impact occurred in the year the provison has been made;
b) The unexpected loss in loans can be very damaging as not even own funds requirements are intended to cover them;
c) Credit losses are expectedly constant over the bussiness cycle;
d) None of the above.

9. Suppose the bank has a 1Y deposit and a 10Y fixed rate loan. Which kind of repricing risk is the bank incurring in? If in one year there is a parallel upward shift of 200bp in the interest rate curve, how was the repricing risk materialized in terms of its impact on the NII?

a) Reinvestment risk; a positive impact on the NII;
b) Refinancing risk; a positive impact on the NII;
c) Reinvestment risk; a negative impact on the NII;
d) Refinancing risk; a negative impact on the NII.

10. Consider a bank with Assets = 1000; Liabilities = 800 (thus capital = 200); Duration of Assets is 2 years and Duration of Liabilities is 1,5 years. Please calculate the Duration Gap and the Duration of Capital. Which of the following sentences is correct?

a) Duration Gap= 0,8 years and Duration of Capital = 4 years;
b) Duration Gap= 0,65 years and Duration of Capital = 6.5 years;
c) Duration Gap= 1,2 years and Duration of Capital = 12 years;
d) Duration Gap= 4,1 years and Duration of Capital = 3.2 years.

Group II **[10/20]**

In this second part of the exam, you must answer three questions out of the five presented below. You are free to choose the three you want to answer to. Each question is worth 1/3 of the 10 points assigned to this group. If you reply to more than three questions, only the first three answered will be considered for grading purposes. Please answer the questions chosen in a maximum of 12 lines per question.

1. The current banking framework at the European level - the **Banking Union** - is currently equipped with two pillars: the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM). The two pillars rest on the foundation of the single rulebook. Please elaborate on the main features and objectives of this framework.

[40%]

- SSM: system of banking supervision for Europe (since Nov. 2014).
- ECB and national supervisory authorities of participating countries.
- Significant institutions directly supervised by the ECB; the "less significant" institutions by their national supervisors, in cooperation with the ECB.

[40%]

- SRM: applies to banks covered by the SSM and ensures that a bank failure does not harm the broader economy or cause financial instability.
- The SRB ensures swift decision-making procedures for bank resolution which is carried out without recourse to national taxpayers' money.
- Resolution costs first borne by the bank's shareholders and creditors, and only then by the Single Bank Resolution Fund (funded by banks) (if needed)

[20%]

- Single rulebook: set of prudential standards for banks in all EU countries. Ensured by the banking union thus creating a level playing field.

2. Elaborate on the **supervisory domains** that are currently part of the competences (supervisory and regulatory) of the competent authorities at the European and national levels, independently of the structure/organization that is in force in each member-state. When elaborating on these domains, do not forgot to include the role of these authorities in conducting macroprudential policy.

[25%]
<u>Micropudential supervision</u>: Application, monitoring and enforcement of rules such as capital and liquidity requirements to promote the safety of funds entrusted to banks. Under the responsibility of the SSM.

[25%]
<u>Macroprudential supervision</u> Ensure that the financial system is resilient to risk absorption, based on the interactions between financial institutions and these and the real economy, through instruments such as the capital buffers. Under the responsibility of the national authorities following ESRB's guidance and warnings.

[25%]
<u>Conduct supervision</u>: Promote the transparency and correctness of the information provided to bank customers and the marketing of retail banking products and services. Under the responsibility of national authorities.

[25%]
<u>Anti-money laundering and counter-terrorism financing (AML/CFT)</u>: Imposed by the EU and the UN which ensure that these are covered in a robust manner.

<u>Payment systems</u>: promoting the proper functioning of payment systems.

3. Please describe the **capital requirements** (micro and macro) that banks must hold according to the current European legislation, including also the combined buffer capital requirement.

[30%]
Minimum capital requirements known as Pillar 1 requirements: CET1 + CE + TC, with corresponding requirements of 4.5%, 6% e 8%. They just differ on the instruments eligible for the numerator; the denominator is always RWA.

[10%]
Additional capital requirement, known as the Pillar 2 requirement

[50%]
Buffer requirements: (i) Capital conservation buffer (CCoB) that amounts to 2.5% of a bank's total exposures; ii) The countercyclical capital buffer (CCyB) designed to counter procyclicality in the financial system; iii) Global systemically important institutions (G-SIIs) and, subject to national discretion, other systemically important institutions (O-SIIs) must fulfil supplementary requirements concerning the amount of Common Equity Tier 1 capital; iv) The systemic risk buffer (SyRB) aims to address systemic risks that are not covered by other capital requirements.

[10%]
In addition to these three sets of capital requirements, supervisors expect banks to reserve certain amounts of capital for times of stress, the Pillar 2 guidance.

4. According to the **repricing model**, for a given gap period, the impact on the *net interest income* (NII) depends i) on the size of the gap between sensitive assets and sensitive liabilities and ii) on the direction of the change in interest rates.

Against this, please elaborate on: i) the underlying rationale of the repricing model, and on ii) the sign of the expected impact on the NII for an increase and a decrease in interest rates (a matrix may be useful for presenting your arguments). In your answer, please also refer whether you are considering a net reinvestment or a net refinancing.

[40%]
A bank's exposure to interest rate risk results from the different sensitivities of assets and liabilities to changes in market rates with effect on the interest margin. Every asset and liability are classified by its sensitivity to interest rate fluctuations in a given period (the gap period. SA/SL: will mature or be repriced during the gap period; NSA/NSL: will not be repriced during the gap period.

[60%]
Explanation of how the repricing model works, including the reference to reinvestment/refinancing in this context.

	Positive Gap (net reinvestment)	Negative Gap (ner refinancing)
Higher rates	NII increases	NII decreases
Lower rates	NII decreases	NII increases

5. Using as a reference the articles present below, please explain the **decision of dividends suspension on March 2020**, its impact in banks and lending and the following actions.

[50%]
The decision in March 2020 aimed at preserving banks' capital in a framework of significant uncertainty. Retained profits is one of the elements of capital eligible for supervisory requirements - the regular basis reinforcement of capital.

[30%]
This decision accompanies other measures that have been introduced providing some flexibility to banks in achieving regulatory capital requirements – it aimed at allowing banks to continue providing credit to the economy.

[20%]
In June 2021, this temporary measure has not been extended as a consideration that the more unstable times had passed, although European institutions asked banks to remain prudent when deciding on dividends, dully considering the possibility of credit risk materialization.

European regulator urges banks to comply with dividend ban

Payout policy should support local and European economies in time of crisis, says EBA

Matthew Vincent MARCH 31 2020 3

Europe's banking regulator has demanded that all EU lenders stop their planned dividend payments and share buybacks — stepping up its guidance in line with the latest call for a payout freeze during the coronavirus pandemic by the European Central Bank.

European banks back suspension of dividends and buybacks

Industry group says it should preserve firepower for lending to virus-hit customers

David Crow in New York and **Stephen Morris** in London MARCH 26 2020 33

The European Banking Federation has said the region's lenders should stop hoarding capital for dividend payouts and refrain from share buybacks this year so they can lend more to companies and consumers hit by coronavirus.

In a letter to the eurozone's top financial supervisor, seen by the Financial Times, the region's main trade association said "listed banks should not accrue dividends or undertake share buybacks" for all of 2020 in order to "maintain maximum capital preservation".

PRESS RELEASE

ECB decides not to extend dividend recommendation beyond September 2021

23 July 2021

- Current ECB recommendation on dividends to expire on 30 September 2021
- Supervisors to return to pre-pandemic way of assessing banks' capital and dividend plans
- Banks to remain prudent, not underestimate credit risk when they decide on dividends

The European Central Bank (ECB) today decided not to extend beyond September 2021 its recommendation that all banks limit dividends. Instead, supervisors will assess the capital and distribution plans of each bank as part of the regular supervisory process.