# Part I

Net worth for UniCredit is 54,572 million euros and Banco BPM’s net worth is 14,038,092 thousand euros.

In case that the ECB has a reserve requirement ratio of 2.5% Banco BPM would still be compliant. This is because the reserve requirement is calculated through customer deposits. With 50% of the funding being from client's deposits, this amounts to 50,930,982 thousand euros. Based on this the 2.5% required reserve is 1,273,275 thousand euros. Banco BPM’s available capital is 14,038,092 thousand euros, which is well over the requirement. Methods and corresponding disadvantages Banco BPM could have been: To instantly become compliant, the bank could use its cash and cash equivalents, however, this will reduce the banks liquidity buffer and cash could have been used for profitable lending or investments. Another option would be to sell its other financial assets and hedging derivatives with the disadvantage that these assets may be sold at a loss instead of fair value. This would also affect the banks income statement negatively, as the loss will be documented, which may affect investor perception and/or stock price.

The ROA of UniCredit 1.21% and Banco BPM’s is 0.63%, the ROEs are 17.41% and 9.01% for UniCredit and Banco BPM respectively. UniCredit is more profitable as it has a higher ROA (higher returns per 100 euros worth of assets) and ROE (meaning they use shareholder equity more efficiently to create profit). Additionally, UniCredit is more profitable in absolute terms too with 9,507 million euros in net profit, compared to Banco BPM’s 1,264,051 thousand euros.

UniCredit has a lower cost-to-income ratio (43.5% compared to 51.5%) demonstrating that UniCredit is more effective than Banco BPM at controlling operating costs relative to income. Furthermore, UniCredit’s revenue efficiency is 2.30 and Banco BPM’s is 1.94. This demonstrates that UniCredit is generating €2.30 in income per €1 of operating cost, compared to Banco BPM’s €1.94. Due to UniCredit outperforming in both cost-to-income ratio and revenue efficiency, it can be deduced that the bank has a greater ability to generate income from ordinary activities. It generated more revenue per unit of cost and retains more income after covering operational expenses.

If before the merger 6% of UniCredit’s loan portfolio and 8% of Banco BPM’s loans enter into distress and become worthless the consequence to their net worth would be 5,272,623.28 thousand euros for Banco BPM and 26,438.84 million euros for UniCredit.

The equity multiplier for UniCredit is 14.38 and 14.40 for Banco BPM, the combined equity multiplier is 14.39. The equity adjustment needed to achieve the multiplier of 15 the bank needs to increase leverage either by reducing equity or by increasing total assets. Increased leverage can be achieved through s**hare buybacks,** repurchasing its own shares to reduce the total equity base. Increasing total assets can be achieved by acquire new investments, or by take on more debt.

The combined market share of the two banks is around 19%. As there are still competitive rivals like Intesa Sanpaolo with 20% market share, the merged banks do not possess an excessive amount of market power.

# Part II

The leverage adjusted duration gap for UniCredit is 7.90 years, and 8.13 years for Banco BPM. Consequently, Banco BPM is exposed to a higher rising interest rate risk. This is because a positive duration gap implies that if interest rates rise, the value of assets drop more than liabilities, decreasing net worth. If they fall, assets value increases more than liabilities.

If interest rates on assets decreased by 0.25% and 0.15% for liabilities the equity value of the banks would change. UniCredit’s predicted change in equity would be: +13.72 billion euros. Banco BPM: +3.56 billion euros. Both banks benefit from decreasing interest rate levels due to their positive leverage adjusted duration gap. As Banco has a larger leverage adjusted duration gap, it is more sensitive to interest changes, leading to higher predicted changes in equity relative to its size (assets).

For stress testing change in market interest rates scenario i., an increase of 100 bps (due to a spike in inflation) would result in a predicted change in equity: -55,450 million euros (UniCredit), and –13,827,759 thousand euros (Banco BPM). ii. A decrease of 50 bps (to stimulate the economy) would result in: +27,725 million euros (UniCredit), and +6,913,879 thousand euros (Banco BPM).

# Part III

In the event where the banks are forced to liquidate to meet unforeseen withdrawals banks would sell their assets not at fair market value but at a discount. Banco BPM would discount at 40% if the bank has to sell them in less than 3 days, at 8% if the bank could wait for 5 days, no discount if the bank could wait for a week. In case of a bank run (payment required in 1 day) with deposits representing 50% of the banks direct funding from customers. The amount that they would be able to receive would be 21% of 50.9 million euros deposits. If demand to be paid within the first week Banco could cover 36% or 18,084,707.00 euros (only fair-value securities).

The bank that is more exposed to liquidity risk based on the balance sheet statement is UniCredit. This is supported by its lower cash-to-deposit ratio (12.31% against the 17.96%) and its lower liquid assets-to-deposits ratio (UniCredit: 23.86%, Banco: 36.32%) compared to Banco BPM’s (36.32%). This indicates that UniCredit holds a small proportion of readily available funds and liquid assets compared to its deposits. This limits their ability to meet sudden withdrawal demand through for example bank runs. UniCredit does have a lower loan-to-deposit ratio (82.73% vs. Banco BPM’s 88.68%), implying that UniCredit is more flexible in funding. But with the factors of lower cash-to-deposit ratio means they have less cash per €1 of deposits, making it less able to meet sudden withdrawal demands on short notice. The liquid assets-to-deposit ratio shows the UniCredit has fewer liquid assets per deposit compared to Banco BPM.