UNIVERSITY OF LJUBLJANA,

SCHOOL OF ECONOMICS AND BUSINESS

MASTER THESIS

A COMPREHENSIVE APPROACH TO BANK VALUATION: THE CASE OF GORENJSKA BANKA

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AUTHORSHIP STATEMENT

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

angl. – angleško

AEC – (angl. Agri Europe Cyprus Ltd.); večinski lastnik Gorenjske banke (v 2025 preimenovan v AIK Group).
CAPM – (angl. Capital Asset Pricing Model); model vrednotenja kapitalskih sredstev
CAR – (angl. Capital Adequacy Ratio); količnik kapitalske ustreznosti
CAGR – (angl. Compound Annual Growth Rate); povprečna letna stopnja rasti
CV – (angl. Continuing Value); terminalna (nadaljevalna) vrednost
FCFE – (angl. Free Cash Flow to Equity); prost denarni tok za lastnike
GB – (angl. Gorenjska banka d.d.); –
GDP – (angl. Gross Domestic Product); bruto domači proizvod
IMF – (angl. International Monetary Fund); Mednarodni denarni sklad
LTG – (angl. Long-Term Growth); dolgoročna stopnja rasti
OCI – (angl. Other Comprehensive Income); drugi vseobsegajoči prihodki
P/B – (angl. Price-to-Book Ratio); razmerje tržna/knjigovodska vrednost
P/E – (angl. Price-to-Earnings Ratio); razmerje cena/dobiček na delnico
PV – (angl. Present Value); sedanja vrednost
ROE – (angl. Return on Equity); donosnost lastniškega kapit

1 INTRODUCTION

This thesis conducts a comprehensive valuation of Gorenjska Banka d.d. (GB), a key financial institution in Slovenia's dynamic and compact banking sector. The main goal is to find the best method to value the bank. The methodology section first describes and validates the selected valuation approaches. After that, the narrative shifts to an in-depth exploration of GB, shedding light on its history and operations. The subsequent section provides a macroeconomic and industry analysis, establishes a crucial contextual framework to critically assess the bank's operations. Finally, the thesis conducts a comprehensive financial analysis and valuation of the bank, examining its financial position and performance up to 31.12.2022. The analysis aims to closely link the bank's unique features with its financial position while considering the broader economic and industry environments.

Calculating the value of financial businesses, like banks, is complicated and demands a detailed knowledge of the industry and an understanding of what elements create value. Banks, in particular, are recognised as being among the most complex businesses to value, especially when approached from an external perspective (Koller et al., 2020). The two main methods used to value banks comprise the discounted cash flow (DCF) method and market multiples both with their strengths and limitations. The thesis critically assesses the DCF method, discussing its pros and cons in the context of bank valuation. While combining these methods is often recommended for a more comprehensive evaluation, the lack of consensus in the industry results in challenges for investors and analysts who rely on bank valuations to make informed decisions. (Damodaran, 2013).

The DCF technique is widely adopted in bank valuation, providing a comprehensive framework to quantify the present value of a bank's future cash flows and thereby capture its intrinsic value. Mauboussin and Callahan (2021), emphasise that this approach is a crucial tool in valuing cash-generating assets and is indispensable in offering a comprehensive appraisal of a bank's financial performance. By discounting future cash flows to their present value, the DCF method helps assess the bank's overall financial stability and growth prospects, enabling informed investment decisions for stakeholders.

On the other hand, market multiples are also widely used in the valuation of banks and other financial institutions and are highly regarded in the industry. As extensively studied by Czimér et al. (2022), this approach involves comparing the bank's financial metrics, such as price-to-earnings (P/E) ratios or price-to-book (P/B) ratios, to those of comparable firms in the market. This allows for a relative valuation of the bank, which can provide valuable insights into its market position and growth prospects. As Jumran and Hendrawan (2021) advised, utilising multiple valuation methods can help cross-check results and obtain a more precise valuation.

The methodology of the master's thesis includes five main components. First, a methodology overview of commonly used valuation methods in the banking industry is conducted to provide a theoretical background for these methods. This overview concludes the initial section of the thesis. The subsequent section explores the bank, offering insights into its rich history and profiling the strategies and methodologies that govern its operations. Third, a macroeconomic analysis of Europe generally and Slovenia is carried out to understand the banking sector's operation within a broader economic context. The analysis investigates the macroeconomic factors affecting Europe and their potential impact on the banking industry. As per the European Central Bank (2022), the European banking industry has demonstrated its resilience to withstand macroeconomic shocks such as high levels of uncertainty and significant economic downturns. The fourth component of this thesis investigates the Slovenian banking industry, given its highly competitive and ever-changing landscape. O'Reilly et al. (2022) note that banks face uneven effects from various factors in the vulnerable global economy. To stay caught up, banks must reassess traditional boundaries and embrace change. The fifth component of the thesis focuses on the valuation of GB using the equity DCF method. Data for the valuation is collected from publicly available sources such as the bank's annual reports, GVIN, Bloomberg, Yahoo Finance, Standard & Poor's Capital IQ, and Trading Economics. Microsoft Excel is the primary analysis tool. The analysis outcomes are shown, explained, and discussed to give helpful information to the readers.

Finally, the meaning and importance of the findings from earlier sections are explored and debated. This section analyses the findings from the valuation of GB and their implications for the banking industry. The conclusion of the thesis provides the author's final thoughts on the research conducted and any relevant recommendations for future study. Overall, the methodology of the thesis provides a comprehensive analysis of the banking industry and the valuation of GB using equity DCF. This analysis is conducted within the broader context of the macroeconomic factors impacting Slovenia while also considering the broader economic context of Europe, providing valuable insights for practitioners and academics.

In this thesis, the valuation of Gorenjska Banka is conducted using the Free Cash Flow to Equity (FCFE) method, adapted from Koller et al. (2020) and Damodaran (2013), as the primary approach to determine its intrinsic equity value. This involves detailed financial projections of key balance sheet and income statement items—such as liabilities, loans, deposits, net interest income, and non-interest revenues—based on historical CAGR, pass-through factors for interest rates, and linkage to long-term GDP growth estimates, while incorporating regulatory capital requirements (e.g., maintaining a CAR of 17.66%). The cost of equity is estimated via the CAPM model with a Slovenia-specific risk premium, and the continuing value is calculated using a simplified perpetual growth formula, resulting in a final equity valuation adjusted for illiquidity.

The outcome of this thesis aids in the refinement of bank valuation methods, making them both more precise and reliable. The findings provide a comprehensive understanding of the various techniques and approaches to effectively determine the value of financial institutions, thus enhancing a more informed and sophisticated bank valuation landscape.

This research significantly benefits investors, analysts, and other stakeholders who rely on bank valuations for informed decision-making. It comprehensively explains the various methods for valuing banks and their potential biases and limitations. Furthermore, professionals in the banking sector find this research beneficial as it highlights best practices for valuating banks and the necessary adjustments that may be required to achieve a precise valuation. As An et al. (2022) emphasise, bank stakeholders play a crucial role in maintaining financial stability and assessing the social and environmental impact.

2 METHODOLOGY OVERVIEW

Several scholars, including Damodaran (2013, n.d.b, n.d.c), Horvátová (2010), and Koller et al. (2020), have emphasised the complexity involved in valuing banks. According to financial literature, several methods are commonly used, such as the discounted cash flow to equity (FCFE) method, the dividend discount model (DDM), the residual income valuation (RIV), and market multiples like P/E or P/B ratios. However, banks have unique features, such as their approach to bad debt provisions and the importance of capital constraints (Velasco & Wong, 2013), which require specific valuation methods to account for these unique characteristics.

Building on this, Velasco and Wong (2011) examined 171 studies on the valuation of some of the largest European banks. Their research revealed a discrepancy between the financial literature and the valuation techniques applied by equity analysts in practice. Although these analysts use tools similar to those proposed in the literature, they also vary by using different valuation models and methods. Their study highlights the need for a unified theoretical framework that combines the diverse valuation methodologies common in the banking industry, including techniques used by practitioners and those less covered in academic literature.

Transitioning to more recent research, Dayag and Trinidad (2019) further emphasised the difficulties of valuating financial firms in their paper titled "Bank Valuation in Existing Literature in the Last Decade: A Critical Assessment." They examined the literature on bank valuation from 2009 to 2019 and concluded that it was similar to Deev's study in 2011. They identified four common methods for valuing banks: asset-based or accounting valuation, market or relative valuation, the income approach (DCF), and contingent claim valuation. Echoing Velasco and Wong's research, they highlighted a disconnect between financial literature and real-world bank valuation methods, thus emphasising the need for more research to devise a more accurate model. They proposed that combining these methods offers a more comprehensive valuation, given that no single method can perfectly value banks.

The next section of this literature overview will delve into the four common methods for valuing banks. This analysis will explore each method's specific aspects, applications, and limitations.

2.1 Asset-based valuation

Simply put, the asset-based valuation approach is a process of subtracting a bank's outstanding liabilities from its total assets. While it is widely recognised and utilised for calculating a bank's liquidation value, this approach inherently presents limitations that must be carefully considered in its application.

Deev (2011) explains that while this method can reasonably estimate a bank's tangible assets, it may reflect something other than its actual value. Consider an example where a bank holds an exceptional portfolio of investment securities, which accountants have valued at current market value. This valuation includes the expected future returns of these securities because market values are forward-looking and incorporate both current fundamentals and future potential returns. Therefore, the asset-based method does reflect the future returns from such securities. However, this approach might overlook other significant factors, such as the bank's operational efficiency or market position, leading to an undervaluation of the bank.

Hrdý (2018) suggests that this valuation method is particularly productive when valuing a specific segment of a bank's operations or for tax and accounting purposes. For example, if GB were to conduct an internal audit of its subsidiary, Imobilia d.o.o., to assess the value of its assets for tax reporting purposes, the asset-based valuation method could be employed to calculate a precise value by accounting for the subsidiary's assets and liabilities.

However, Damodaran (2013) argues that asset-based valuation may not be the most suitable method for valuing a bank's overall value. This is because it does not factor in the bank's potential for growth and the surplus profits that can arise from future lending activities. For instance, a bank might be planning to expand its lending in a high-growth industry sector. This future growth potential would not be captured in the asset-based valuation.

Banks often have diverse operations, and the value of their business relies heavily on their ability to generate future cash flows from lending activities, which the asset-based valuation method does not consider. So, while it might be helpful in certain situations, using the asset-based valuation as a standalone method for a bank's valuation could lead to oversights.

Deev (2011) highlights the advantages of the asset-based valuation method in terms of simplicity and ease of use. It avoids speculation and relies on concrete data. However, it requires detailed access to all the bank's internal data, which might only sometimes be possible or practical.

Let us envision a scenario with Bank A to bring the asset-based valuation method to life. This bank has its total assets valued at 100 billion EUR and an outstanding debt of 75 billion EUR. By applying the asset-based valuation, we determine the bank's value by subtracting the debt from the assets. So, in this case, Bank A's value amounts to 25 billion EUR (100 billion EUR in assets minus 75 billion EUR in debt). However, it is crucial to remember that this calculation does not factor in the bank's potential future earnings from its wide-ranging operations. Therefore, if Bank A has significant future earnings prospects, this method could unintentionally undervalue the bank.

In summary, asset-based valuation has its place in the toolbox of bank valuation methods, but it fails to provide a complete picture of a bank's intrinsic value. It is beneficial for specific purposes such as tax and accounting. However, to gain a more comprehensive understanding of a bank's overall value, it would be necessary to consider other valuation methods that incorporate future growth potential and the diverse business areas in which banks operate.

2.2 Relative valuation

The Relative Valuation method, often used in financial industry reports for business valuation, utilises financial multiples to derive value estimates based on real-world data, mirroring market reactions and M&A practices (Forte et al., 2018). Although grounded in actual data, these multiples have complexities and limitations. For instance, inherent assumptions about a bank's projected earnings growth, risk levels, and profit margins may not always accurately reflect reality. In addition, it can be challenging to find suitable comparator companies, and the sheer volume of data to process can be daunting. A specific time estimate basis could also limit this approach as it may not account for changes in business dynamics, competitive landscape, and market characteristics (Deev, 2011).

To illustrate the concept of relative valuation, let us look at a hypothetical Bank B. If Bank B's earnings per share (EPS) stands at 2 EUR and the industry average P/E ratio for similar banks is 15, we can estimate the value of Bank B's stock. By multiplying the P/E ratio by the EPS, we arrive at a stock value of 30 EUR. This calculation provides an initial valuation, but it is essential to remember that it may only partially capture Bank B's unique characteristics or future potential.

Forte et al., (2018) warn about the danger of relying solely on a single key value driver like the P/E ratio in relative valuation, stating that it can compromise the method's reliability. He suggests using this method with other value drivers to paint a more accurate picture. This perspective is reinforced by Hrdý (2018), who recommends using relative valuation only when comparable banks or transactions can be identified.

Venturing deeper into relative valuation, Damodaran (2013) suggests using various multiples, such as earnings multiples, book value multiples, and revenue multiples. However, some multiples like enterprise value (EV) to earnings before interest, taxes, depreciation, and amortisation (EBITDA), or EV to earnings before interest and taxes (EV to EBIT), are considered unsuitable for financial services firms due to the inherent difficulties in estimating their value and operating income. Stewart (2019) supports this argument, proposing economic value added (EVA) as a more fitting measure of investment value for such firms, given its consideration of both the cost of capital and the risk associated with the business.

Focusing on the specifics, Damodaran (2013) sheds light on the P/E ratio, which is derived by calculating the quotient of the stock price and the EPS. Factors like anticipated growth in earnings, payout ratio, and cost of equity significantly influence the P/E ratio. High growth rates and payout ratios, combined with a lower cost of equity, can lead to higher P/E ratios. Nevertheless, provisions for expected expenses, such as bad loan provisions, may impact the reported income and, consequently, the P/E ratio. Finding comparable firms and comparing earnings multiples becomes more challenging when financial firms diversify into multiple business areas with different risk, growth, and return profiles.

Similarly, the P/B ratio, computed by dividing the share price by the book value of equity per share (BVPS), is often used as an essential valuation metric for financial firms. A firm's expected growth in earnings, payout ratios, cost of equity, and return on equity can all influence the P/B ratio. Damodaran (2013) notes that returns on equity have the most substantial impact on the P/B ratio and are less likely to be influenced by accounting decisions. During crises, there tends to be a strong correlation between the P/B ratio and returns on equity, with banks earning higher returns on equity trading at considerably higher P/B ratios. However, it is also vital to consider risk factors and exposure to toxic securities when analysing a firm's P/B ratio.

In conclusion, relative valuation can provide valuable insights but should not be relied upon solely, especially when there is a single value driver (Dayag & Trinidad, 2019). It should be used with other valuation methods to provide a comprehensive view of a bank's value and to account for changes in the firm's business, competition, and market conditions (Forte et al., 2018).

2.3 Income approach (discounted cash flow)

According to Deev (2011), the income approach is a widely recognised standard in valuation practice, with the DCF method being a prominent model within this approach due to its strong theoretical foundation. It seeks to evaluate the present value of future cash flows by incorporating expected returns and associated risks. The predictive nature of this approach can pose challenges, as it relies heavily on the analyst's skill in accurately predicting future economic trends and market risks. Nonetheless, it is greatly respected, particularly during strategic analyses and financial planning stages, providing revealing forecasts of a bank's future potential (Hrdý, 2018).

The income approach offers versatility within the DCF framework, encompassing various methods such as Free Cash Flow to Equity (FCFE), Free Cash Flow to Firm (FCFF), Dividend Discount Model (DDM), and the Residual Earnings Method (REM). It also incorporates future market expectations and performance, often through the lens of excess market returns (Deev, 2011). However, it has its limitations. The need to project future economic benefits and estimate appropriate discount rates can lead to debate and potential controversy. Moreover, improvements in data availability have reduced the limitations of the income approach in emerging markets, although it has traditionally been challenging. Nonetheless, careful examination is necessary to avoid manipulation of valuation results. The FCFF principle is regularly used in valuation models as a firm's intrinsic value benchmark. This principle quantifies a company's cash generated after considering capital expenditures like buildings and equipment, which are crucial to maintaining or growing the business. However, the FCFF principle is unsuitable for bank valuations given banks' high leverage or gearing ratio, as it typically uses WACC, which may not accurately reflect banks’ unique capital structure characteristics. This inconsistency necessitates an alternate method to estimate banks' equity cost.

Despite these challenges, the income approach remains a cornerstone in business valuation. Its practical application can be subjective, but its emphasis on a firm's future performance and potential returns makes it an indispensable tool in financial analysis and strategic planning. Its theoretical soundness and practical utility have solidified its standing in academic research and business valuation.

Horvátová (2010) underscores that predominant valuation models for banking institutions strongly advocate focusing on equity, a viewpoint further supported by Damodaran (2013). Damodaran argues that the valuation of financial service firms, including banks, should focus on equity instead of an overall estimation of the firm's value. Within this framework, dividends emerge as the most measurable and estimable cash flow.

Nevertheless, accurately choosing the right discount factor for bank valuation models is complex, as Horvátová (2010) explains. She highlights various methods to determine the appropriate discount rate, including the calculation of the weighted average cost of capital (WACC). WACC is a fundamental financial concept representing the average rate a company expects to pay to finance its assets. This rate is calculated by looking at the mix of debt and equity in the company's capital structure and the costs of these financing sources. WACC is crucial because it serves as a benchmark for investments, meaning that an investment must exceed the WACC to add value to the company.

Although the WACC concept seems applicable in many scenarios, it is less suitable for valuing financial institutions, especially banks. The reason is that WACC was designed to reflect non-financial firms' average cost of capital (debt and equity). However, the structure and operations of balance sheets are fundamentally different in financial firms like banks. Here, debt (deposits and other borrowings) is not a source of financing but an integral part of their business model. Consequently, the cost of debt becomes a part of the operating costs, making the application of WACC less accurate and less appropriate for financial firms.

Instead, the required rate of return on equity is considered a more appropriate measure for these institutions. To estimate this rate, various models have been suggested, including the Capital Asset Pricing Model (CAPM), averaging profitability, the cost of foreign funds, and the Arbitrage Pricing Theory (APT) model (Horvátová, 2010). Each of these models has its own specific features and application areas:

- CAPM: Determines the expected return on investment by considering its systematic risk, denoted by beta. The formula for CAPM:

$$R_e = R_f + \beta \times \left(R_m - R_f\right) \tag{1}$$

  calculates the expected return by adding the risk-free rate (R_f) to the product of beta and the market risk premium ($\mathrm{R_m - R_f}$). The rate of return on a risk-free investment, such as government bonds, is referred to as the risk-free rate. Beta, on the other hand, measures the systematic risk of an investment and its sensitivity to market movements. Rm represents the expected return of the market, often represented by a market index such as the FTSE 100. The market risk premium $\left(R_m - R_f\right)$ reflects the excess return expected from investing in the market compared to a risk-free investment. For example, if the risk-free rate is 2 percent, the $\beta$of a bank's stock is 1.5 (meaning it is 50 percent more volatile than the market), and the expected market return is 8 percent, then the expected return on the bank's stock would be 2% + 1.5 × (8% – 2%) = 11%. CAPM is most effective in diversified portfolios where unsystematic risk is minimised.

- Averaging profitability: This method takes the average return on equity over a specific period as the expected return. For example, if a bank's return on equity over the past five years were 10 percent, 12 percent, 11 percent, 13 percent, and 14 percent, the average return would be those values in sum divided by 5. The result, 12 percent, would then be the required rate of return on equity using the averaging profitability method. Averaging Profitability is often applied in scenarios where past performance is considered a reliable indicator of future performance.
- Cost of foreign funds: This method estimates the cost of equity by considering the return that investors could expect to receive on equity investments based on the prevailing cost of capital in foreign markets. For example, if the overall cost of capital in a foreign market is 6 percent, this could suggest that investors require a similar or higher return on equity investments in that region. This method is typically employed when a firm sources capital from international markets.
- APT: The APT model is a more complex alternative to the CAPM. It considers multiple factors or risks that might affect the return on an investment. These factors could include inflation, GDP growth, and interest rates. Each factor has its beta coefficient, indicating the stock's sensitivity to that factor. For example, if a bank's stock has a beta of 0.8 with respect to inflation and a beta of 1.2 with respect to interest rates, and assuming the expected return due to inflation is 3 percent and due to interest rates is 4 percent, the expected return on the bank's stock according to the APT model would be (0.8 × 3%) + (1.2 × 4%) = 2.4% + 4.8% = 7.2%. The APT model is usually applied when multiple risk factors need to be considered in the calculation.

In summary, these models offer various methodologies for calculating the required rate of return on equity in banking, each with its application area. Understanding the intricacies of these models can significantly aid in making informed investment decisions.

Echoing Horvátová's (2010) observations, Damodaran (2013) suggests specific approaches to value equity in financial sector entities, including banks, investment banks, and insurance entities. Damodaran advocates for assessing the value of equity by directly discounting the equity cash flows using the cost of equity. This may sound complex, but it essentially means estimating how much cash an investor expects to receive in the future (cash flows) and what that cash is worth today (discounted at the cost of equity).

As previously stated, the valuation of financial institutions is a complex task that incorporates a variety of perspectives and methodologies. One critical element within this process is the estimation of the FCFE. As Horvátová (2010) elaborates, this metric is derived from operating profits after accounting for non-expended costs and necessary operational investments. However, she warns about potential risks in using cash flow as a primary indicator for potential dividend income for bank owners.

She further presents two primary methods of calculating FCFE:

$$FCFE = net\ income - growth\ of\ capital + other\ income \tag{2}$$

It is essential to note that net income and cash flow are different. As a financial institution grows, so should its capital base. An increase in FCFE decreases capital because it shows that the bank reinvests profits into the business that might have otherwise been paid as dividends to owners.

$$\begin{aligned} FCFE\ =\ & resources\ from\ issue\ of\ shares -\ preference\ shares \\ & +\ dividends \\ & -\ capital\ increase\ (+\ decrease\ in\ capital). \end{aligned} \tag{3}$$

This equation recognises that the changes in bank capital arise from the interactions between balance sheets, profit and loss statements, cash flows, and the financial institution's value.

Even though it is useful, adding the starting cash balance to the cash flow value can cause disagreements. This method mixes the yield valuation method with the substance valuation method, which might lead to differences.

Continuing with the thread of FCFE estimation, Koller et al. (2020) lend an additional viewpoint that extends the methodologies Horvátová (2010) mentioned above. They affirm the essence of a comprehensive equity DCF approach in bank valuation. They suggest that the value of equity is given by:

$$Value\ of\ Equity = \sum_{t=1}^{\infty} \frac{FCFE_t}{(1 + k_e)^t} \tag{4}$$

Where $FCFE_t$ signifies the cash flow to equity at time t and k_e marks the cost of equity. Their model also presents a detailed definition of cash flow to equity as follows:

$$FCFE_t =\ NI_t +\ \Delta E_t + OCI_t \tag{5}$$

Where NI_t is net income, at time t, ΔE_t is the increase in the book value of equity, and OCI_t is noncash other comprehensive income.

This perspective could broaden and enhance the FCFE analysis as suggested by Horvatová, especially considering the in-depth approach Koller et al. adopt towards understanding and dissecting equity cash flows.

Building upon this, Deev (2011) and Damodaran (2013) agree on the significance of dividends within the FCFE calculation and offer detailed perspectives. Deev (2011) supports the conventional FCFE method for bank valuation, emphasising its effectiveness in demonstrating how banks generate value from the liability side of their balance sheet. In contrast, Damodaran (2013) promotes a fresh approach that stresses dividends as a reliable representation of equity cash flows. He suggests that firms typically distribute their residual cash as dividends and advocates for a more detailed measure of FCFE that aligns closely with investment decisions. Notably, he highlights the necessity of including excess returns in this measure to gain deeper insights into a firm's potential for value generation.

While the insights from Deev (2011) and Damodaran (2013) highlight varied aspects of dividend significance and the conventional FCFE method, it is essential to circle back to Koller et al. (2020) and their emphasis on understanding and forecasting equity cash flows, thereby enhancing the thoroughness of the bank valuation model. Koller et al. outline the complex web of key value drivers in financial institutions: interest rates, volumes, cost-to-income ratio, capital ratio, cost of equity, growth, and loan losses. This provides a layered view of evaluating cash flows and, by extension, a robust FCFE. Moreover, they introduce a detailed model for estimating continuing value:

$$CV_t = \frac{NI_{t+1}\left(1 - \frac{g}{RONE}\right)}{k_e - g} \tag{6}$$

Where CV_t is the continuing value as of year t, $NI_{t+1}$is the net income in year $t+1$, g equals growth, RONE is the return on new equity investments and k_e is the cost of equity.

The model includes net income projections, growth rates, and return on new equity investments in the valuation framework. This method effectively deals with the many complexities of financial projections by estimating the continuing value based on net income forecasts, the anticipated growth rate, RONE and the cost of equity. These elements collectively shape the value by evaluating the expected future net income, growth prospects, effectiveness in deploying new capital, and the necessary returns for equity investors. It helps us figure out, in an organised way, if banks and other financial institutions will keep doing well in the future by looking at their shares and ownership.

In cases where RONE equals ROE, the formula may be simplified as follows (E is the book value of equity):

$$CV_t = \frac{NI_{t+1}\left(1 - \frac{g}{ROE}\right)}{k_e - g} = E_t\left(\frac{ROE - g}{k_e - g}\right) \tag{7}$$

Alongside FCFE, the DDM, as explained by the CFA Institute (2024, n.d.), is another commonly used methodology for estimating a stock's value. Despite some criticisms for being outdated, DDM retains its popularity, especially for financial services companies where estimating cash flows can be challenging.

The DDM is a central tool in financial analysis. It determines a stock's intrinsic value by adding up the present values of all anticipated future dividends. Here, the underlying assumption is that dividends will continue to be paid out indefinitely, essentially treating equity as perpetual. There is a simplified version of DDM known as the GGM. This is typically used when dividends are predicted to grow steadily and consistently. However, in cases where dividend growth rates start high and then slow down to a more sustainable level, the valuation process becomes slightly more complex. In these cases, the stock value is calculated by summing the present values of dividends during the initial high-growth phase and the present value of the terminal price. Once the growth rate stabilises, this terminal price is calculated using the GGM. Several crucial aspects need careful estimation for the DDM to be applied accurately and consistently. These include the cost of equity, the dividend payout ratio, and the anticipated growth rate in dividends. These factors must align correctly. Furthermore, financial services firms have to consider regulatory requirements, such as maintaining a certain level of equity and adjusting their payout ratio and risk profile accordingly. Speaking of risk, the beta coefficient often complicates the estimation of the cost of equity in financial analysis. This coefficient indicates the firm's risk compared to the overall market risk. A common workaround is to assume that β equals one, signifying that the firm's risk is equivalent to the market's risk. This simplification becomes more justifiable as the firm transitions into a stable growth stage, during which its risk profile aligns more closely with the market, leading to beta that converges towards one. This adjustment is critical to obtaining accurate valuations during stable growth phases. (Damodaran, 2013; Hrdý, 2005).

The formula for the DDM example can be expressed as follows:

$$V_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \cdots + \frac{D_n}{(1+k_e)^n} + \frac{\frac{D_{n+1}}{(k_e - g)^n}}{(1+k_e)^n} \tag{8}$$

Where:

- V_0 is the intrinsic value or estimated stock price.
- D_1, D_2, ..., D_n represent the expected dividends in each period (typically, the next n years).
- k_e is the required rate of return or cost of equity.
- g is the long-term sustainable growth rate of dividends.

The Excess Return Model (ERM), proposed by Damodaran (2013), signifies a significant shift from traditional valuation methodologies by emphasising excess returns. In the ERM, the firm's equity value is the sum of the currently invested equity capital and the expected excess returns from current and future investments. Thus, this model requires predictions about the firm's future investments and the returns they will generate.

To illustrate, Damodaran's ERM can be presented as follows:

$$\begin{aligned} &Value\ of\ equity \\ &= currently\ invested\ equity\ capital \\ &+ present\ value\ of\ expected\ excess\ returns\ to\ equity\ investors \end{aligned} \tag{9}$$

The emphasis on excess returns is the core of this model. A firm yielding a fair market rate of return on its equity investments should observe its equity market value converging with the currently invested equity capital. However, below-average returns may cause the equity market value to fall below the current equity capital.

The ERM also factors in future investments, requiring the analyst to forecast the firm's future investments and their respective returns.

The model primarily requires two inputs: the amount of equity capital currently invested and the expected excess returns from future investments. The book value of equity is typically used to measure the currently invested equity capital. Although an accounting measure, it is usually more reliable for financial services firms whose assets are financial and often market-marked, contrasting with manufacturing firms' tangible assets that may show more significant differences between book and market value.

For instance, consider a hypothetical financial services firm with a book value of equity (currently invested equity capital) of 100 million EUR. If the firm expects an annual excess return of 5 percent over the next five years from these investments, and a discount rate of 10 percent is applied, the present value of these excess returns would be approximately 19 million EUR. Thus, per the ERM, the firm's equity value would be 100 million EUR (currently invested equity capital) + 19 million EUR (present value of expected excess returns) = 119 million EUR. This example illustrates the practical use of the ERM in valuing a financial services firm.

In summary, the DCF method, including various models such as the DDM and FCFE, is crucial in financial analysis, particularly for bank valuations. This approach evaluates the present value of future cash flows, considering the related risks despite its reliance on the accurate prediction of economic trends and market risks. The DDM calculates the intrinsic value of a share based on expected future dividends, making it useful for financial services firms. The FCFE model, on the other hand, evaluates how much cash a company can generate after accounting for capital expenditures, which is crucial for measuring a company's intrinsic value. However, given the high leverage of banks, alternative methods to calculate the cost of equity, like the CAPM, are often used. Moreover, other models like the ERM, which factor in the current capital investment and the present value of projected future excess returns, are also used in financial firm valuation. Despite their complexities and limitations, these models provide invaluable insights for strategic analysis, financial planning, and investment decision-making.

2.4 Contingent claim valuation

Contingent claims valuation, a sophisticated yet powerful technique, is utilised to determine the value of financial derivatives such as options. This valuation is based on the Black-Scholes-Merton model. This equation combines several key variables, including the stock's current price, dividend yield, the option's strike price, the risk-free rate, the time until the option's expiry, and the stock's volatility (Deev, 2011).

This approach differs from other valuation methods, such as the DCF method, which estimates an investment's value based on its expected future cash flows. While DCF is a powerful tool in its own right, its utility can be limited when valuing options and other financial derivatives, where the payoff depends on the future price of another asset. This is where the contingent claim valuation, specifically the Black-Scholes-Merton model, comes into play.

In the context of banks, this model can be extended beyond traditional options to the valuation of bank equity in scenarios where the bank’s future performance has option-like characteristics. For instance:

- Equity as a call option on assets: A bank’s equity can be seen as analogous to a call option on its assets, where equity holders have the right to the residual value of the bank’s assets after debts have been paid off. The value of this 'option' increases with the volatility of the bank’s assets and their expected growth, making the Black-Scholes-Merton model relevant for understanding how changes in asset volatility and market conditions impact the value of equity.
- Convertible securities and contingent capital: Banks often issue convertible bonds or contingent convertible capital instruments that can be converted into equity under certain conditions. Valuation of these instruments requires understanding the option-like features embedded in them, which the Black-Scholes-Merton model can capture effectively.

This approach can reflect the inherent risks and volatilities associated with a bank’s equity, providing insights into potential future values under various scenarios. Thus, the Black-Scholes-Merton model helps understand and manage the dynamic aspects of a bank's equity valuation by capturing the effects of market conditions and financial strategies on equity value.

The Black-Scholes-Merton model, named after economists Fischer Black, Myron Scholes, and Robert Merton, provides a theoretical framework for calculating the price of options, particularly financial derivatives (Hayes, 2023; Miller & Modigliani, n.d.). It uses a mathematical equation integrating variables like the underlying asset's current price, the time until the option's expiration, the strike price, the risk-free interest rate, and the asset's price volatility.

Here is the formula for the Black-Scholes model for a European call option (an option that can only be exercised at expiration):

$$C = S_0 \cdot N(d_1) - X \cdot e^{-rt} \cdot N(d_2) \tag{10}$$

And for a European put option:

$$P = X \cdot e^{-rt} \cdot N(-d_2) - S_0 \cdot N(-d_1) \tag{11}$$

Where:

- C is the call option price

- P is the put option price
- $S_0$is the current price of the underlying stock
- X is the strike price of the option
- r is the risk-free interest rate
- t is the time until the expiration of the option
- $N(\,)$ is the cumulative standard normal distribution function
- e is the base of the natural logarithm, approximately equal to 2,71828
- d_1 and $d_2$are intermediate calculations, defined as:

  - $$d_1 = \frac{\ln\left(\frac{S_0}{X}\right)+\left(r+\frac{\sigma^2}{2}\right)t}{\sigma\sqrt{t}} \tag{12}$$

  - $$d_2 = d_1 - \sigma\sqrt{t} \tag{13}$$

- σ is the standard deviation of the stock's returns (volatility)

Let us put this theoretical model into practice and consider a real-world example: Assume we have a European call option for a stock of Bank Z. The current stock price (S_0) is 50 EUR, the strike price (X) is 55 EUR, the risk-free interest rate (r) is 1 percent per annum, the option expires in 1 year (t), and the stock's volatility (σ) is 30 percent per annum.

First, we calculate d_1 (-0.175) and d_2(-0.475).

Then, we plug these into the formula for the call option:

$$C = 50 \cdot N(-0.175) - 55 \cdot e^{-(0,01*1)} \cdot N(-0.475) \approx 4.08 \tag{14}$$

According to the Black-Scholes-Merton model, the fair price of the call option on Bank Z's stock should be around 4.08 EUR.

It is important to note however, that the example of Bank Z illustrates the valuation of a call option on the bank's shares. This is not the same as valuing the bank's equity as a call option on its assets. In banking, the contingent claim valuation is based on the idea that equity represents a call option on the bank's assets, where the strike price is tied to the bank's debt, which is exactly what Merton's structural model describes (Kenton, 2022).

While the Black-Scholes-Merton model has proven to be a valuable tool in the financial world, it is not without its limitations. For example, it assumes that risk-free rates and volatility remain constant and that there are no transaction costs or taxes. While these assumptions simplify the mathematical model, they may not always hold in the real world, leading to potential inaccuracies in the calculated option prices (Hayes, 2023).

To illustrate this, imagine a scenario where market volatility suddenly spikes due to unforeseen economic events. In this case, the actual price of an option could differ significantly from the price predicted by the Black-Scholes-Merton model, which assumes constant volatility.

Given these limitations, researchers have sought to refine and improve this model. A significant step in this direction was taken by Titko and Lace (2012), who developed a multiple regression model for valuing Latvian banks. Their model, which integrated financial and non-financial metrics, showed a high statistical significance. However, they also highlighted the need for further research to simplify the valuation process, especially in countries with limited capacity to apply such complex methodologies.

In conclusion, while the contingent claim valuation and the Black-Scholes-Merton model in particular provide a robust framework for option pricing, their practical application requires careful consideration of their underlying assumptions and potential limitations. It is crucial to distinguish that Black-Scholes prices standard options on traded assets, whereas Merton's model views a firm's equity as a call option on its assets, with debt as the strike price. This distinction is especially important in the banking sector and other areas of finance where valuation plays a critical role, such as mergers and acquisitions. Future research and improvements to these models will be essential in ensuring their continued relevance and accuracy in the ever-evolving world of finance.

2.5 Methodology overview summary

To summarise, valuing banks requires adaptation of established methods such as DCF and market multiples due to the unique attributes of banks. Recent studies recommend a combined theoretical framework and a combination of valuation methods for a comprehensive evaluation. The asset-based valuation method is simple but has limitations and may be more appropriate for tax purposes. Relative valuation is common but requires consideration of factors such as risk and exposure to high-risk securities. The income approach considers future expectations and market performance but has subjectivity and requires an accurate estimation of the cost of equity and the growth rate. The ERM is suitable for financial services firms with growth potential. Contingent claim valuation, such as the Black-Scholes-Merton model, has limitations but can be helpful when considering non-financial measures and more extended statistical periods. According to recent literature on bank valuation, while analysts tend to rely on the DCF method for valuing banks in M&A

transactions, it is suggested that they also consider utilising financial multiples and subjective judgments to arrive at a more comprehensive estimate of a bank's value.

3 INSTITUTIONAL PROFILE: GORENJSKA BANKA D.D.:

3.1 Historical context

GB (statistics number: 5103061000, tax number SI42780071, share capital EUR 16,188,366.33 EUR), located in the heart of Kranj, Slovenia, is a key player in the nation's banking industry. As a standalone privately-held public limited company, its headquarters are located at Bleiweisova cesta 1, 4000 Kranj, Slovenia. Its history in the Gorenjska province dates back to the 19th century, reflecting its longstanding presence.

Before 1955, the post-World War II banking landscape had changed dramatically, with the collapse of the pre-war banking system and the dominance of the dual-function centralised bank. Only after 1955 did the re-establishment of banking with municipal banks begin (Revija Manager, 2011).

The Gorenjska region's first such bank, which later evolved into GB, was founded in Kranj on May 25, 1955. This institution paved the way for others in Škofja Loka, Radovljica, Tržič, and Bled the following year. This expansion subsequently led to the formation of a consolidated banking entity, which was later integrated into the Ljubljanska banka framework in 1972. Initially operating as a subsidiary, it transitioned on December 27, 1989, to function as a limited entity within the interconnected capital structure of Ljubljanska banka's affiliate banks.

In 1994, GB began strategically selling off parts of the Ljubljanska banka system, influenced by the acquisition of equity holdings previously overseen by Nova Ljubljanska banka d.d., Ljubljana. This financial reorientation was completed in 1996 when the bank decided to liquidate those equity interests. Since then, GB has consistently operated as a privately held public limited company.

While detailed equity distribution from 1996 to 2019 is not transparent in public financial disclosures, it should be noted that in 2019, Serbia's AIK Bank acquired a majority stake in GB. In compliance with the provisions set forth by IFRS 10, GB recognises Agri Europe Cyprus Limited Group, Limassol (AEC), as its controlling entity. Consequently, the Gorenjska banka Group is integrated within the organisational structure of the AEC (Gorenjska banka, n.d.e, n.d.h).

3.2 Core mission and vision

GB has a promising role to play in banking, as its forward-looking mission and vision make clear. This stance builds on its rich history and alignment with the organisational structure of the AEC. The bank's vision is to create a modern and innovative financial institution that prioritises its clients' and employees' needs and convenience. At the heart of this vision lies an unwavering dedication and enthusiasm for innovation, ensuring that the bank remains at the forefront of banking developments.

In line with its vision, GB defines its mission as a financial entity and a proactive partner to its clients. The bank is committed to helping individuals shape their future, emphasising building mutually beneficial partnerships. Based on mutual trust and understanding, this symbiotic relationship ensures that clients view the bank as a reliable companion in their financial journey.

GB's core values align with its mission and vision. In its strategic plan until 2024, the bank prioritises fulfilling client needs with tailored products and excellent services supported by efficient processes and organisation. Motivated, skilled, and dedicated employees are the bedrock of these operations, with a common focus on upholding the business's legal and moral values. The bank's central values include responsibility, innovation, excellence, dedication, and trust. These elements help GB stand out as a trusted and client-centric financial institution.

GB's operations reflect its visionary objectives and adherence to its core values. It has set its strategic trajectory for the upcoming years, focusing on innovation, responsibility, and client-centricity. The bank's strategic goals are centred around sustainable development, environmental responsibility, corporate social responsibility, corporate governance, banking digitalisation, diversified sales segments, and financial objectives.

GB has implemented measures to reduce its direct environmental impact, including energy efficiency initiatives and water and paper consumption reductions. This is reflected in the bank's transition to paperless communication for both internal and external affairs. Additionally, GB has developed business solutions aimed at sustainable development. In 2022, the bank launched an "eco" housing loan to offer favourable financing for environmentally-friendly investments. GB also collaborates with national and EU institutions to finance sustainable projects.

Beyond financial operations, the bank is the first in Slovenia to earn the Socially Responsible Employer certificate. With a focus on employee welfare and contributions such as support for the renovation of the Ljubljana Maternity Hospital, the bank's commitment to the broader community is evident.

In alignment with its dedication, the bank has integrated environmental, social, and governance (ESG) criteria into its operational framework. As part of its ongoing digital transformation efforts, the bank is prioritising improvements to internal decision-making processes, IT infrastructure upgrades, and optimisation of client-centric digital services. Additionally, strategic directives include expanding retail banking operations, facilitating growth in the SME sector, and broadening engagements in specialised financing sectors.

Guided by its foundational value of responsibility, GB's financial strategies highlight capital resilience, liquidity, cost-effectiveness, and maintaining a healthy investment structure, which is evident in a minimal share of non-performing investments. These strategies reflect GB's strong commitment to financial innovation, responsibility, and client-centricity through the expanded observed period from 2015 till 2022 (Gorenjska banka, n.d.a, n.d.b, n.d.c, n.d.d, n.d.e, n.d.f, n.d.g, n.d.h).

3.3 Operational profile

Gorenjska Banka d.d., Kranj, has established a robust hierarchical structure to ensure effective governance and streamlined operations as of the end of 2022. As the only equity stakeholder, AEC holds the ultimate authority in making significant decisions and setting the strategic direction of the bank.

Directly under AEC is the Supervisory Board, which comprises multiple committees to facilitate effective oversight. Key figures within this framework include Aleksander Milostnik, who serves as the President, Ana Živanović, the Deputy Chairwoman, and other members such as Jurij Bajec, Tim Umberger, and Vladimir Sekulić. The Supervisory Board further branches into specialised committees, including the Audit Committee, the Risk Committee, the Remuneration Committee, and the Nomination Committee.

Under the leadership of its President, Mario Henjak, the Management Board oversees the bank's day-to-day operations and strategic direction. Marko Filipčič and Mojca Osolnik Videmšek's contributions further strengthen the board.

The bank's operational management is divided into different functional areas overseen by specific managers. Romina Sabadin oversees retail banking, Natalija Prešern directs development and business support, and Gregor Kaiser is responsible for corporate banking, focusing on small- and medium-sized enterprises (SMEs) and large corporations. Aljoša Bučak Gasser heads risk management, while Marko Filipčič guides the financial and infrastructure area.

The organisational structure of Gorenjska banka Group, as of 31 December 2022, demonstrates its comprehensive portfolio and strategic position in the financial sector. GB functions as the primary entity, overseeing a range of wholly-owned subsidiaries:

- Imobilia-GBK d.o.o. Kranj
  - The company is primarily involved in real estate transactions, including property purchases, sales, and leasing.
  - It handles real estate obtained from debtors in order to maximise the group's profits and increase the value of the real estate.
  - In 2022, it expanded its services to include real estate brokerage for all properties, investment management, significant property maintenance, fleet management, janitorial services, and regular maintenance of buildings and equipment.
  - Nominal amounts: 4,589,000 EUR

- GB Leasing d.o.o. Ljubljana
  - Established in 2016 with permission of the Bank of Slovenia, GB Leasing d.o.o. Ljubljana specialises in financial leasing and provides related non-financial maintenance services for movable assets and operates from its head office in Ljubljana (Dunajska cesta 152, 1000 Ljubljana, Slovenia) and offices in Koper, Kranj, Maribor and Novo mesto.
  - Aligned with GB's policy as a subsidiary, the firm maintains a combative market coverage in the used vehicle segment, constantly focusing on cost efficiency and advancing its digital transformation.
  - Nominal amounts: 3,800,000 EUR

- Hypo Alpe-Adria-Leasing družba za financiranje d.o.o. Ljubljana & Filira poslovne storitve d.o.o. Ljubljana
  - In 2017, GB acquired the entire shareholding in Hypo Alpe Adria Leasing, družba za financiranje d.o.o., Ljubljana. Despite its affiliation with the internationally recognised Hypo Alpe Adria financial group, the company currently has no operational portfolio or staff. In 2022, Hypo Alpe-Adria-Leasing expanded its non-operational holdings by acquiring Filira, poslovne storitve d.o.o., Ljubljana, which also has no active operations or employees.
  - Both entities are planned for discontinuation following the conclusion of their existing leasing agreements.
  - Combined nominal amounts: 16,000 EUR (8,000 EUR + 8,000 EUR)

Below is a summary of the key financial metrics of Gorenjska banka Group's subsidiaries for the year 2022:

Table 1: Gorenjska banka Group's subsidiaries key financial metrics

			(In thousands of EUR)
	GB Leasing	Imobilia-GBK	Hypo Alpe-Adria-Leasing
Assets	13,987	4,355	162
Liabilities	10,022	327	70
Equity	3,965	4,028	92
Loss/Profit	2	140	(1)

Source: Adapted from Gorenjska banka, d.d. (n.d.h).

GB has a strategically expansive branch network spread across diverse regions. This extensive presence signifies GB's commitment to providing efficient services to a broad spectrum of clientele. Furthermore, with an infrastructure encompassing 20 branches, 66 ATMs, and four safe deposit boxes, it underlines its commitment to offering a comprehensive range of banking solutions. The bank's branches are thoughtfully distributed across various business units as follows (Gorenjska banka, n.d.j):

- Kranj Business Unit
  - Kranj, Bleiweisova cesta 1
  - Primskovo, Cesta Staneta Žagarja 69
  - Šenčur, Kranjska cesta 4
  - Cerklje, Trg Davorina Jenka 13
  - Tržič, Trg svobode 1

- Radovljica Business Unit
  - Radovljica, Gorenjska cesta 16
  - Lesce, Rožna dolina 51
  - Bled, Kajuhova cesta 1
  - Bohinjska Bistrica, Trg svobode 2b

- Jesenice Business Unit

- Jesenice, Cesta maršala Tita 8
- Kranjska Gora, Borovška cesta 95

- Ljubljana - Dunajska Vertikala Business Unit
  - Dunajska Vertikala, Dunajska cesta 152
  - Ljubljana Center, Dalmatinova ulica 4
  - Celovška, Celovška cesta 268

- Škofja Loka Business Unit
  - Škofja Loka, Kapucinski trg 7
  - Grenc, Grenc 54
  - Železniki, Na Kresu 26
  - Žiri, Trg svobode 1

- Koper Business Unit
  - Koper, Cesta Zore Perello - Godina 2

- Maribor Business Unit
  - Maribor, Ulica kneza Koclja 22

GB operates under a license pursuant to Article 5 of the Banking Act (Uradni list RS, no. 92/2021 with amendments, referred to as ZBan-3). This license specifically covers banking services, including accepting deposits and other repayable funds from the public and granting credit on its behalf.

In terms of services, GB's license permits a versatile portfolio, ranging from deposit management to a bundle of lending solutions, financial leasing, payment services, and robust trading capabilities. Moreover, GB's endorsement of insurance brokerage and investment fund marketing emphasises its capability to provide comprehensive financial services.

Given the wide range of GB's services and the strategic location of its branches, it is clear that the bank is well equipped to meet the diverse financial needs of its clientele across its operational footprint.

3.4 Shareholder analysis

A closer look at GB's equity structure shows a clear majority ownership by Agri Europe Cyprus Ltd (AEC), holding 91.7 percent of the bank's capital stock. Importantly, this ownership also grants AEC Limited 100 percent of the voting rights, positioning them as the key decision-maker within GB.

The remaining 8.3 percent of the capital is held by GB itself. However, it is important to note that this portion carries no voting rights. This equity distribution showcases the centralised decision-making approach of this privately held public limited company.

Table 2: GB's shareholders as of 31.12.2022

Name of shareholder	Number of ordinary shares	Share capital, in %	Share in voting rights, in %
Agri Europe Cyprus Limited	355,723	91.7	100.0
GB – own shares	32,215	8.3	0.0
Total	387,938	100	100.0

Source: Adapted from Gorenjska banka, d.d. (n.d.h).

Following the equity landscape of GB, AEC emerges as a notable banking holding company in Southeast Europe (SEE). AEC consolidates assets of established financial entities in the region, including GB, AIK Banka, and MV Investment. With a significant presence in SEE, AEC offers a range of financial services. The company's assets total 3.9 billion EUR, with net loans accounting for 2.5 billion EUR. Its deposit portfolio, valued at 3.2 billion EUR, showcases a loan-to-deposit ratio (LDR) of approximately 78 percent, which indicates AEC's financial solidity. In its strategic approach, AEC prioritises sustainable growth, aiming to consolidate its position in SEE and expand its influence in the European market (Agri Europe Cyprus, n.d.).

3.5 GB: A Deep Dive into Financial Metrics for Valuation

From 2018 to 2022, the Slovenian banking system's financial performance and asset composition grew consistently, creating a dynamic competitive landscape in which GB operates. The balance sheet total of the banking system increased to EUR 50.6 billion in 2022, reflecting a compound annual growth rate (CAGR) of approximately 7.8 percent. Within this evolving market context, the Slovenian banking sector comprises 16 credit institutions, of which 11 are active banks, directly competing with GB. This competitive environment has undergone significant restructuring, notably the merger of Abanka d.d. with Nova Kreditna Banka Maribor d.d. (Nova KBM) in 2020, exemplifying the trend towards greater concentration in the industry (Nova KBM, 2016, 2020). Against this backdrop, GB has consistently demonstrated strong financial performance. This review focuses on GB's financial data, specifically the income statement, balance sheet, and key operational metrics.

This analysis aims to understand GB's current financial position and operational performance and lay the foundations for the following equity DCF valuation. This examination provides insight into GB's past performance and provides a basis for forecasting its future in the evolving banking sector. A clear understanding of these financial metrics is essential to determine GB's intrinsic market value and its future direction.

3.5.1 Balance sheet analysis

Assets

Over the examined five-year period, GB's total assets increased from 1.832 billion EUR in 2018 to 2.315 billion EUR in 2022, reflecting a CAGR of 4.35 percent, indicating robust financial health and consistent growth.

During the same period, total loans expanded substantially, from 1.026 billion EUR to 1.499 billion EUR, with a CAGR of 9.22 percent. Domestic loans dominate the composition of the total loans, standing at 1.231 billion EUR in 2022, with foreign loans standing second with 268.059 million EUR (note that the bank had no foreign loans in the analysed years apart from the year 2022), and impaired loans, also known as non-performing loans at 31.198 million EUR. The progression illustrates the bank's strategic focus on lending as a core business driver. A closer look at the key contributing factors reveals:

- Residential mortgage loans: A primary growth driver, this category surged by 101.68 percent, from 107.715 million EUR in 2018 to 217.244 million EUR in 2022. This substantial growth underlines the bank's expertise in capitalising on the housing loan market.
- Consumer loans: Consistently expanding these loans increased by 87.74 percent from 159.297 million EUR in 2018 to 299.058 million EUR in 2022, reflecting the bank's success in diversifying its lending activities.
- Commercial loans: Encompassing corporates and sole proprietorships increased by 30.20 percent, from 743.723 million EUR to 968.327 million EUR. This confirms the bank’s strategic intent to bolster the SME sector.
- Other loans: Decreased by only 2.30 percent, standing at 15.152 million EUR in 2022.

Regarding credit risk management, GB has shown a praiseworthy reduction in non-performing loans (NPLs) over the five-year period. The bank's NPL ratio—a key indicator of asset quality and credit risk—has consistently decreased, from 13.27 percent in 2018 to 2.08 percent in 2022. This decrease in the NPL ratio reflects the improvement in credit quality and GB's ability to monitor credit and take risk mitigation measures. As measured by the European Banking Authority's (EBA) Risk Dashboard, the NPL figures consider the balance sheet exposure of non-performing credits and other financial assets, offering a comprehensive view of the bank's credit risk profile. The persistent decline underscores the bank's strategic measures in managing and recovering distressed assets effectively.

Table 3: GB's non-performing loans (NPLs)

(in thousands of EUR)					
Year	2018	2019	2020	2021	2022
NPL	138,579	64,139	38,140	29,220	31,198
Share of NPL	13.27%	5.87%	3.19%	2.27%	2.08%

Source: Adapted from S&P Capital IQ (n.d.a).

As of 31/12/2022, GB's asset portfolio reflects a clear and intelligent financial strategy defined by a diversified asset composition. Cash and cash equivalents stood at 99.858 million EUR, and restricted cash (representing balances at central banks) stood at 258.336 million EUR. Other key assets include investment securities (390.692 million EUR), gross property, plant and equipment (49.671 million EUR), investment in real estate (47.223 million EUR) and other intangibles (3.270 million EUR). The financial year also highlighted an accumulation of other current assets totalling 5.278 million EUR, with deferred tax assets being a notable component at 4.898 million EUR.

Liabilities

GB’s liabilities have steadily increased over the observed period, with total liabilities rising from 1.627 billion EUR in 2018 to 2.041 billion EUR in 2022. This upward trend reflects the strategic growth of the bank's assets, indicating a balanced financial management approach. The calculated CAGR was 4.11 percent.

- The most significant proportion of GB's liabilities, total deposits, consistently increased from 1.504 billion EUR in 2018 to 1.918 billion EUR by the end of 2022. This reflects a solid foundation and growing trust in the bank's operations. Demand deposits increased, while time deposits (also known as interest-bearing deposits) decreased significantly, possibly reflecting shifts in the saving behaviours of individuals and investment strategies of corporates. The ratio from total time deposits to total deposits fell from 37.96 percent to 14.86 percent.

Table 4: Annual Summary of Demand, Time, and Total Deposits for GB, 2018-2022

(In millions of EUR)					
Year	2018	2019	2020	2021	2022
Demand deposits	933.202	971.727	1,244.202	1,461.769	1.633.308
Time deposits	570.940	594.272	494.242	433.743	285.141
Total deposits	1,504.142	1,565.999	1,738.444	1,895.512	1,918.449

Source: Adapted from S&P Capital IQ (n.d.a).

- Borrowings from Banks and central Banks (long-term debt): This segment shows mixed trends, peaking at 150.830 million EUR in 2020 and adjusting to 96.149 million EUR in 2022. The significant reduction in 'Due to banks' and consistent borrowings from other banks point to GB's ability to adjust its borrowing strategies in response to the ever-changing financial conditions.
- Pension & Other Post-Retirement. Benefits: They stood at 1.186 million EUR in 2022. This figure represents the present value of the bank's obligations to provide employees with pensions and other retirement benefits. Such liabilities are recognised on the balance sheet to account for future payments that the bank is committed to making, based on employee service to date.
- Def. Tax Liability, Non-Curr.: GB made effective use of deferred tax assets and carried forward tax losses from previous years. This strategy successfully reduced the bank's tax liabilities to zero in 2022.
- Other Non-Current Liabilities and Other Current Liabilities: The former did not change much, amounting to 6.946 million EUR in 2018, and ending at 7.094 million EUR in 2022. The latter increased from 2.465 million EUR to 4.699 million EUR.

By carefully managing its liabilities, GB has demonstrated a sustainable expansion strategy that aligns with its assets' growth. This is further proven by the gross loans to total deposits ratio, which increased from 69.11 percent to 78.29 percent, indicating its commitment to maintaining financial stability and long-term growth.

Equity

Over the observed five years, GB has witnessed a significant expansion in its equity landscape, reflecting its robust financial strength and ability to generate value for its parent company, AEC. From 2018 to 2022, GB's total equity increased from 205.520 million EUR to 273.580 million EUR, marking a 6.29 percent CAGR. This notable increase indicates GB's effective earnings reinvestment strategy and consistent profit retention.

GB's equity structure analysis reveals a constant paid-up capital (common stock) of 16.188 million EUR, signifying financial stability under AEC's ownership. Similarly, the share premium (additional paid-in capital) has been consistently maintained at 20.023 million EUR and the treasury stock at -26.007 million EUR, suggesting a period without significant corporate financial restructuring or the issuance of new shares at a premium.

GB's exceptional growth in equity capital and the strategic financial management under AEC's ownership are further reflected in its retained earnings. The bank's reserves steadily increased from 193.423 million EUR to 265.547 million EUR, reinforcing its solid financial defences through careful profit allocation. This strategy has been key in strengthening GB's financial foundation and equity position, focusing on long-term growth and financial stability. Meanwhile, the fluctuations in comprehensive income and other shifting from a positive 1.893 million EUR in 2018 to a deficit of 2.171 million EUR by 2022, reveal GB's agility in adapting to market volatility.

GB's capital adequacy ratios from 2018 to 2022 reflect its skilful capital management and robust risk management practices. With a strong capital adequacy ratio of 16.22 percent in 2018, a pivotal year due to the implementation of IFRS 9, GB navigated significant accounting and regulatory changes. Despite a downward trend in CET1 and T1 ratios, indicating tighter core capital relative to risk-weighted assets, GB's overall capital adequacy steadily increased, reaching 17.66 percent by 2022. This upward trend, especially with the rising total capital ratio, highlights GB's skilful balance of capital components to maintain financial resilience. More importantly, it demonstrates the bank's consistent success in exceeding regulatory capital requirements over the years, reinforcing its commitment to long-term financial stability.

Table 5: Capital Ratios of GB, 2018-2022

Capital ratios (in percent)					
Year	2018	2019	2020	2021	2022
CET1	16.22	15.71	14.88	15.59	14.34
T1	16.22	15.71	14.88	15.59	14.34
Total capital ratio	16.22	15.71	16.48	17.09	17.66

Source: Adapted from S&P Capital IQ (n.d.a).

The ROE figures for GB indicate its resilient and strategic financial management. From 7.35 percent in 2018, GB has achieved an impressive high of 19.85 percent in 2019, driven by a substantial net release of impairments and provisions, significant gains from the sale of financial assets including the divestment of Tuš nepremičnine d.o.o., and increased non-interest and interest income. Despite economic fluctuations, GB maintained a strong performance in the following years with an ROE of 9.82 percent in 2020 and 12.14 percent in 2021. By 2022, the ROE stood at 10.77 percent, slightly lower than the previous year but still indicative of the bank's focused approach to reinvestment and business foundation strengthening.

In conclusion, GB's equity trajectory over the past five years shows steady financial growth and strategic management patterns. The consistent increase in total equity, with a stable capital structure with unchanged paid-up capital and share premium, reflects a balanced approach to financial planning. Notably, GB's ability to navigate market fluctuations and regulatory shifts is evident in its robust capital adequacy ratios, which have consistently remained above regulatory requirements. The significant rise in retained earnings highlights GB's capacity for generating profits and its strategy of reinvesting these earnings into the bank. This approach has strengthened GB's equity base and positioned it for potential strategic expansions and enhanced market competitiveness. GB's financial performance, particularly its resilience in maintaining favourable ROE figures amidst varying economic conditions, underscores its operational effectiveness and strategic judgement. Overall, GB stands out as a resilient financial institution with a solid foundation for continued growth and market presence.

3.5.2 Income statement analysis:

GB has exhibited robust growth and impressive fiscal discipline in the observed half-decade. This period has been marked by a significant increase in key income streams, efficient cost management, and strategic risk management, highlighting the bank's adaptability in a dynamic financial environment.

- Interest income: The primary source of GB's revenue, which is typical for a retail-focused bank according to Koller et al. (2020), increased significantly from 40.881 million EUR in 2018 to 57.921 million EUR in 2022. This notable growth indicates the bank's effective expansion in its loan portfolio and the improvement of asset yields. At the same time, GB maintained careful control over interest expenses, which decreased to 4.218 million EUR in 2022, down from 5.539 million EUR in 2018. The strategic management of interest expenses led to a substantial increase in net interest income, which reached 53.703 million EUR in 2022.

- Non-Interest Income: The bank's total non-interest income has consistently increased from 18.598 million EUR in 2018 to 23.263 million EUR in 2022. This trend reflects GB's improved service offerings and value-added propositions to its clients.
- Trading income: While showing robust gains in the initial years, the bank's investment strategy experienced a slight reversal in 2022. In particular, gains from trading activities peaked in 2020, at 921 thousand EUR, before declining to 291 thousand EUR in 2022. This trend highlights the volatility and inherent risks in the bank's investment operations.
- Operating Efficiency and Cost Management: GB's efforts to improve its operating efficiency are reflected in the significant increase in net interest income, a key performance indicator for banks. Despite fluctuations in other income streams, GB increased its net interest income from 35.607 million EUR in 2018 to 53.447 million EUR in 2022. Regarding cost management, the bank has shown a mixed performance. Selling general and admin expenses, which represent a significant part of expenses, rose steadily from 30.555 million EUR in 2018 to 37.251 million EUR in 2022, indicating an increase in operating expenses, potentially due to the bank's expansion or investments in infrastructure and technology.
- Total revenue: The bank demonstrated notable efficiency in its revenue-generating ability, increasing from 53.971 million EUR to 76.025 million EUR.
- Profitability: The bottom line of GB's income statement reflects robust profitability, with profit before tax (EBT including unusual items) experiencing highs and lows, peaking in 2019 at 53.603 million EUR and stabilising at 31.027 million EUR in 2022. After-tax profits followed a similar pattern, demonstrating GB's resilience and ability to maintain profitability in the face of increased expenses and investment losses.

Table 6: Annual Income and Net Income Breakdown of GB, 2018-2022

					(in thousands of EUR)
Year	2018	2019	2020	2021	2022
Net interest income	35,342	38,787	41,260	43,680	53,703
Income from trading activities	847	673	921	630	291
Total non-interest income	18,598	28,322	22,371	27,288	23,263
Net income	14,957	43,904	22,367	28,352	28,109

Source: Adapted from S&P Capital IQ (n.d.a).

Over the observed five years, GB's financial story has shown that the bank is in growth mode, skilfully balancing its revenue generation with expense and risk management despite fluctuations in investment gains and changing economic conditions.

3.5.3 Cash flow statement analysis:

Having reviewed GB's income statement, which highlighted its robust growth and fiscal soundness over the past half-decade, we now transition to the cash flow statement, a key component that further reveals the bank's financial health. This financial document provides a detailed view of GB's liquidity and cash management expertise. It is not just a representation of earnings but of the bank's ability to convert them into usable capital, finance investments, and sustain operations. When we disclose the complexity of the cash flow statement, we identify how GB's strategic financial decisions have affected its liquidity and overall financial stability.

- Operating Activities: GB maintained a positive net cash flow from operating activities, demonstrating efficiency in generating liquidity from core banking operations, with significant figures of 119.760 million EUR in 2018 and 26.149 million EUR in 2019, indicating strong operational health. A notable shift occurred in 2020 when the net cash flow from operating activities dropped to -78.767 million EUR. This downturn suggests potential cash flow management challenges or large one-off payments. The primary driver appears to be the bank's aggressive lending strategy, negatively impacting cash flow due to cash outflows for new loans issued.
- Investing Activities: Substantial cash outflows from 2018 to 2022 reflect ongoing investments in intangible assets and marketable and equity securities. The constant negative cash flow from investing reflects a strategic decision to invest in growth or technological upgrades. Cash from investing activities stood at -38.942 million EUR in 2022.
- Financing Activities: GB did not repay any long-term debt in the first four analysed periods, but repaid 108 thousand EUR in 2022. The bank paid out dividends in 2018, 2019 and 2020 (0.658 million EUR, 12.006 million EUR and 41.022 million EUR, respectively) but has not paid any in the last two observed periods. Net increase in deposit accounts showed significant fluctuations, starting out negative in 2018 at -43.862 million EUR, peaking at 193.728 million EUR and ending at 14.181 million EUR in 2022. In 2022, the Bank's financing activities generated positive cash flows of 14.073 million EUR, reflecting the combined effect of the non-payment of dividends, debt repayments and changes in deposit accounts.

- Effect of Exchange Rate Changes: GB experienced positive and negative impacts from exchange rate fluctuations. The increase of 745 thousand EUR in 2022 indicates either favourable currency movements or effective foreign exchange risk management.
- Net Increase/Decrease in Cash and Cash Equivalents: Cash and cash equivalents sharply decreased by 238.535 million EUR in 2022, as opposed to constant increases in the previous observed periods, averaging 37.995 million EUR. This decline signals significant outflows that must be carefully considered for their long-term financial impact.

Table 7: Annual Cash Flow Activities and Net Change in Cash for GB, 2018-2022

(In millions of EUR)					
Year	2018	2019	2020	2021	2022
Cash from Ops.	119.760	26.149	-78.767	-47.543	-214.410
Cash from Investing	-43.533	-76.209	-26.158	-25.534	-38.942
Cash from Financing	-44.520	86.567	152.706	104.419	14.073
Foreign Exchange Rate Adj.	2.444	1.025	-0.641	1.816	0.745
Net Change in Cash	34.151	37.532	47.140	33.158	-238.535

Source: Adapted from S&P Capital IQ (n.d.a).

A review of GB's historical financial performance shows some volatility in its FCFE, which has been calculated using Koller et al.'s (2020) formula. For instance, GB's FCFE has fluctuated substantially, reaching 42.38 million EUR in 2020 before declining to negative levels in 2021, primarily due to strategic decisions such as the suspension of dividend payments to strengthen capital adequacy ratios and the adjustment of liquidity management practices. This context provides the foundation for forecasting future FCFE values and GB's overall valuation, which will be further elaborated in Chapter 5 (Valuation of Gorenjska Banka d.d.).

The calculation of GB’s historical FCFE using formula (5) is as follows:

Table 8: Historical FCFE Calculation for GB 2018-2022

(in thousands of EUR)					
Year	2018	2019	2020	2021	2022
Net income	14,957	43,904	22,367	28,352	28,109
(Increase) decrease in equity	3,824	31,277	-18,229	29,955	25,057
Other comprehensive income (loss)	1,893	1,364	1,785	895	-2,171
FCFE	13,026	13,991	42,381	-708	881

Source: Adapted from S&P Capital IQ (n.d.a).

In summary, GB's cash flow dynamics over the observed five years paint a picture of a bank actively steering its growth path amidst a changing economic landscape. The decrease in cash and cash equivalents in 2022 could be interpreted as a strategic investment in the bank's future growth and market presence rather than a sign of distress. Although this approach may create short-term liquidity challenges, it positions GB for a potentially more robust and diversified financial standing in the long run. As with all financial institutions operating in a complex environment, GB's strategies and performance should be viewed as part of a broader, longer-term financial story, rather than as isolated annual events.

4 MARCOECONOMIC CONTEXT

The analysis will start with an overview of key macroeconomic factors, starting with inflation and its important impact on the banking sector. It will then touch upon other key elements such as interest rates, the unemployment rate, gross domestic product (GDP), and the trade balance. This thorough review of macroeconomic trends is essential for deeply understanding GB’s operations and how these broader economic conditions influence them.

4.1 Gross domestic product

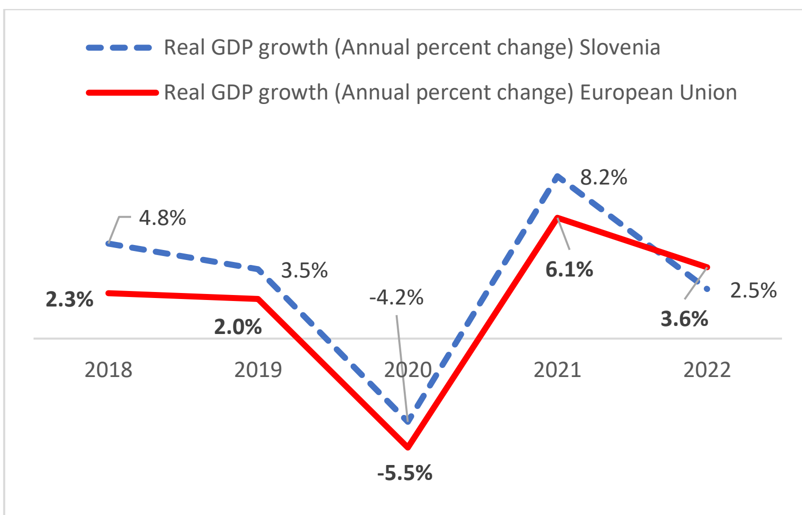
GDP is a critical metric for evaluating economic growth, with higher GDP often indicating stronger economies (Porter, 2022). This metric is extremely important for banks and their valuations, as they play a pivotal role in supporting development and economic growth. Both Slovenia and the European Union (EU) experienced varying growth rates in the observed period. These rates were primarily influenced by the COVID-19 pandemic and the quantitative easing (QE) that followed. These variations can be observed in the table below:

Table 9: Annual GDP in Current Prices for Slovenia and the EU, 2018-2022

Year	Slovenia (Billions of USD)	European Union (Trillions of USD)
2018	54.20	15.99
2019	54.39	15.70
2020	53.69	15.37
2021	61.87	17.32
2022	60.11	16.77

Source: Adapted from World Economic Outlook (n.d.f).

Figure 1: Annual Real GDP Growth: Slovenia compared with the EU 2018-2022



Source: Adapted from World Economic Outlook (n.d.e).

- IMF data shows clear variations in Slovenia's real GDP growth, especially during the times of the pandemic, as stated in the introduction. As observed in the data the country's economy contracted by -4.2 percent in 2020 and successfully rebounded by 8.2 percent in 2021. During the observed period, Slovenia's GDP expressed in current prices increased from 54.20 billion USD in 2018 to 60.11 billion USD in 2022, reaching the highest point of 61.87 billion USD in 2021. Despite challenging times, the CAGR was 2.6 percent, thus indicating a period of economic growth.

- The EU experienced a similar trend. EU's GDP contracted by 5.5 percent, more than Slovenia and rebounded less than Slovenia, by 6.1 percent in 2021. Similarly, the EU's GDP at current prices increased, from 15.99 trillion USD in 2018 to 17.32 trillion USD in 2021, before experiencing a slight decrease to 16.77 trillion USD in 2022. The CAGR was 1.2 percent, indicating modest growth within the EU. Data from MacroTrends (n.d.) further supports this trend.

Trading Economics (n.d.) states that the EU's GDP will experience further growth, reaching around 17 trillion USD in 2023, 17.20 trillion USD in 2024 and 17.35 trillion USD in 2025. These forecasts indicate that the economy is expected to continue to recover and grow further, thus bolstering economic development and stability in the EU region.

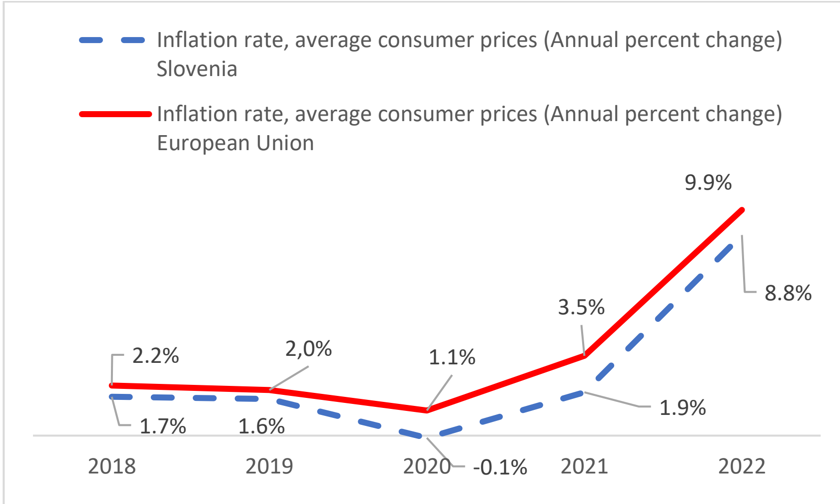
To give further context to Slovenia and how it compares to other EU member states, in 2022, Germany was the largest economy in Europe with a GDP of 3.87 trillion EUR, the UK second, and France third. The smallest European economy was Montenegro, with a GDP of 5.7 billion EUR (Statista Research Department, 2023).

A rising GDP means a growing economy, which tends to be suitable for banks, because economic growth often translates to more business activity and consumer spending. This leads to more borrowing from banks and thus increases their income. A healthy economy can also decrease the risk of loan defaults, which further leads to better financial stability of banks working in the economy. We can gather from the IMF, Statista Research Department and Trading Economics data that the positive GDP trends point to a promising future for European banks.

4.2 Inflation

Before the pandemic, the term inflation was primarily used by economists; however, due to the increasing cost of goods and services, it quickly became a common topic of debate. The historical development of inflation gives further context as to why this has happened. André Alvim, an entrepreneur, and José Miguel Pinto dos Santos, a finance professor, (2022) have done their research and tied the beginning of the European inflation crisis to the monetary policy of the European Central Bank (ECB) over the last decade. They state that a looser monetary policy could have limited the inflationary impact of commodity market and supply chain problems for certain goods, thus making the effects of inflation more manageable.

Figure 2: Annual Inflation Rate Comparison: Slovenia compared with the EU 2018-2022



Source: Adapted from World Economic Outlook (n.d.d).

In 2022, a combination of different factors led to unprecedented inflation. Both the COVID-19 pandemic and the Russian invasion of Ukraine in February 2022 were primary factors that caused disruptions in supply chains, leading to substantial increases in energy and food prices (Statista Research Department, 2023). Another factor that contributed to rising inflation was the ECB's rapid balance sheet expansion, which led to the euro's depreciation and thus further contributed to high inflation (de Cos, 2022).

It is important to note that opinions differ on the issue of high inflation and its primary driver. Some experts argue that the pandemic and geopolitical issues played a more important role, while others argue that it was the ECB's monetary policy.

Moving on to data, EU's inflation rate reached 9.9 percent in 2022, declining by a small margin from the year before (IMF, n.d.g). This broader trend in the EU reflects the smaller economic landscape in which GB operates in Slovenia. The statistical office of the Republic of Slovenia (SURS) published data (n.d.a), which tells a story of a rising inflation rate, where the annual index reached 110.3 by the end of 2022. This indicates rising costs of living within the country, which impact the purchasing power of individuals and businesses alike, that may pose a challenge to economic stability.

High inflation rates pose both a challenge and an opportunity for the banking sector. Inflation can diminish the real value of money, thus reducing demand for loans and increasing the risk of default. However, it is not all bad. Banks can benefit from inflation with higher interest rates that accompany it, thus increasing their net interest margins.

To conclude this segment, Statista Research Department (2023) warns that high inflation rates in combination with uncertainty about economic growth and unemployment rates could potentially lead to a period of stagflation. This economic situation was problematic in the early 1980s because it was characterised by rising inflation, accompanied by rising unemployment rates in a slowing economy. Managing stagflation, or instead trying to get out of it, is very difficult because the policies needed to battle high inflation and unemployment are contradictory. From this, we can gather that accurate forecasting of inflation trends is crucial for banks as they navigate this unpredictable economic environment with their internal strategies and risk management.

4.3 Interest rates

Another crucial factor in any country or region's macroeconomic scenario is interest rates, which are driven by loan demand, interest rate equilibrium, and fiscal policy. Central banks such as the European Central Bank (ECB) set key interest rates. These rates heavily impact consumers, businesses, and governments alike because they play a critical role in determining the cost of borrowing and the appeal of investments.

Since the housing crisis, these key rates have remained low, due to the ECB's accommodating monetary policy. This trend, however, experienced a true reversal in July of 2022 when in response to the high inflation rate of 9.9 percent in the Eurozone forced the ECB to increase its base interest rate for the first time in over a decade (N26, 2024).

The key benchmark for this context in Europe is the Euro Interbank Offered Rate (Euribor), which represents the average rate at which European banks lend to one another. As of December 1, 2022, the Euribor rates were as follows:

- 1-week: 1.398 percent
- 1-month: 1.526 percent
- 3-months: 1.972 percent
- 6-months: 2.405 percent
- 12-months: 2.842 percent (Euribor Rates, n.d.).

There is a close relationship between interest rates and inflation, with interest rates typically reflecting expected inflation to try to slow it down. Unexpected inflation, in turn, can favour debtors, including corporations and governments that issue bonds, but can, on the other hand, be a disadvantage for lenders, bond investors, and wage earners. For example, companies that have set employee wages can benefit from unexpected inflation (Marshall, 2014).

Similarly to inflation, the recent rise in Euribor rates implies a two-sided scenario for banks. While there is a positive side to higher interest rates, as they can increase loan-related earnings, they can, in turn, also increase the cost of liabilities and reduce the value of investment securities held by banks. Thus, banks need to pay close attention to the inverse relationship between bond prices and interest rates, because higher interest rates typically lower the value of fixed-rate bonds they tend to hold as investment securities. Banks can mitigate these risks by diversifying their funding sources and adjusting their structure of held-to-maturity and available-for-sale securities. In addition, banks should also think about reviewing their capital and liquidity plans in order to anticipate potential future stress factors.

The recent U.S. bank failures further highlight the importance of bank interest rate risk management. For further context, in March of 2023, the First Republic Bank, Silicon Valley Bank and Signature Bank all faced interest rate, capital and liquidity management-related difficulties. The failure of First Republic Bank was primarily attributed to its core strategy of soft lending to high-net-worth consumers, all the while holding a high level of uninsured deposits, which forced them to liquidate their mortgage loan portfolio. Silicon Valley Bank's failure was caused by its large investments in long-term government and mortgage bonds, which led to large losses and investor withdrawals when interest rates rapidly rose. Signature Bank was a major player in cryptocurrency lending and was closed by the New York State regulators due to concerns about the stability of the financial system as a whole (Bushard, 2023; Delevingne, 2023; Zahn, 2023).

The Federal Reserve (FED) had to act on these failures and helped by establishing the Bank Term Funding Program (BTFP) in order to support households and American businesses alike by providing additional monetary funding to eligible financial institutions. The BTFP is supported by 12 regional FED banks and 25 billion USD from the US Treasury's Exchange Stabilisation Fund. It offers loans with maturities up to one year, which are backed by high-quality securities and additional recourse security above the pledged collateral. Simply put, this means that the loans are additionally secured by the bank's collateral and other assets. Another key feature of these loans is the fact that they can be repaid early without penalty and that their price is fixed for the duration of the advance. (Federal Reserve Board, 2023; Federal Reserve Bank of Dallas, n.d.; Reuters, 2023).

Conversely, in the European banking sector, March 2023 marked the collapse of a major Swiss bank, Credit Suisse, which also added stress to the European banking sector. Even though stricter regulations, like the Swiss-Finnish rules, were introduced after the 2008 financial crisis, the bank could not prevent its collapse. Analysts state this failure was caused by the bank's excessive risk-taking, poor management decisions, and inadequate internal risk controls. This collapse further highlights the need for sufficient capital buffers and rigorous risk management (Allen, 2023).

To summarise, navigating today's complex macroeconomic landscape necessitates an in-depth understanding and strategic action. Dahl et al. (2023) advise banks to identify their key growth areas and, if need be, potential exits. They add that they need to align their resource allocation with strategic goals in order to maximise their revenue opportunities, make their operating models more efficient, strengthen their risk management and give focus to performance management. In order for banks to be successful, they need to be aware of these challenges and implement fundamental changes to enhance their return on equity (ROE). Banks are characterised by their commitment to performance management and effective strategic planning, which are key factors for their continued success.

4.4 Unemployment rate

The unemployment rate is another crucial macroeconomic metric that indicates a country's economic health; it also influences other macroeconomic factors like interest rates, inflation, GDP, and foreign direct investment (FDI). As a result, it is closely observed by policymakers and economists alike because it measures the vitality of the labour market and the overall health of the economy (Vladi & Hysa, 2019).

As mentioned in the earlier sections of the macroeconomic overview, Slovenia faced severe economic disruption due to the pandemic, thus affecting its labour market. Lockdown procedures, which tried to stop the spread of the virus caused the unemployment rate to peak at 5.1 percent in the last quarter of 2020 (SURS, n.d.b). IMF data (n.d.a), on the other hand reports an annual unemployment rate of 5.0 percent in 2020. The reported data type causes the difference; SURS gave quarterly data, whereas the IMF gave an annual average. Despite this difference, both datasets confirm that the pandemic caused significant problems in Slovenia's labour market.

Much like GDP growth, Slovenia's labour market recovered. SURS (n.d.b) reports that by the fourth quarter of 2021, the unemployment rate dropped to 4.5 percent, further declining to 3.5 percent in 2022. IMF (n.d.c) data further confirms this positive trend, with the annual unemployment rate hitting 4.0 percent in 2022.

To broaden the horizon of focus, Euro area has also proved resilient to the prevailing geopolitical tensions and pandemic effects. Like Slovenia and Germany, the IMF data (n.d.) reports that the Euro area unemployment rate was on a path of decline from 2018 to 2019. However, when the pandemic hit, it spiked upwards, reaching 8.0 percent in 2020, in 2021 it fell from 7.7 percent to 6.7 percent in the following year. Thus, from this, we can assume that the situation in the labour market started to improve in the second year of the pandemic. O'Neill (2023) states that after 18 months, the unemployment rate finally returned to pre-pandemic levels, and that from April 2022 to February 2023, the EU unemployment rate stabilised at around 6 percent.

The following table shows Slovenia's unemployment rate in comparison to Germany and the Euro area:

Table 10: Trends in unemployment rates in Slovenia, Germany and the Euro area 2018-2022

	Unemployment rate (in percent)				
Year	2018	2019	2020	2021	2022
Slovenia	5.1	4.5	5.0	4.7	4.0
Germany	3.2	3.0	3.6	3.6	3.1
Euro area	8.2	7.6	8.0	7.7	6.7

Source: Adapted from World Economic Outlook (n.d.c).

The conclusion gives further context for the implications of the changes in unemployment rates in correlation to the banking sector. A high unemployment rate typically leads to increased loan defaults because unemployed individuals struggle with their financial commitments. Conversely, a lower unemployment rate is usually tied to improved economic conditions, fewer loan defaults and increased consumer and business lending, thus enhancing bank profitability. From this, we can assume that the observed decline in Slovenia and the Euro area is a positive indicator for both the labour market vitality and the banking sector.

4.5 Trade Balance

Another indicator of overall economic health is the trade balance, which by definition measures the disparity between exports and imports. Eurostat data (2021) reports that the pandemic resulted in global trade disruption, which led to a 24.7 billion EUR deficit for the EU in the first half of 2020, while there was a surplus of 103.1 billion EUR during the same period in 2019. Despite this hit, the EU's trade balance managed to rebound in 2021, as it reached a surplus of approximately 55.12 billion EUR (O'Neill, 2023).

However, A change occurred again in 2022, as the trade balance reversed again, with the EU facing a trade deficit of almost 430 billion EUR. This change was primarily driven by the geopolitical tensions of Russia's invasion of Ukraine and the subsequent sanctions that followed on Russian energy exports. The cost of fuel imports more than doubled during this period (McEvoy, 2023).

Table 11: Current Account Balance as a Percentage of GDP for Slovenia, Germany, Euro area, and European Union 2018-2022

	Current account balance (percent of GDP)				
Year	2018	2019	2020	2021	2022
Slovenia	5.9	5.9	7.2	3.3	-1.0
Germany	8.0	8.2	7.1	7.7	4.2
Euro area	2.8	2.4	1.8	2.8	-0.7
European Union	3.1	3.0	2.7	3.7	1.1

Source: Adapted from World Bank (2024)

In continuation of the trade balance, World Bank (2024) reports the EU's current account balance (CAB), which by definition, is the sum of net exports of goods and services, net primary income and net secondary income. The EU's CAB shows the growing trade deficit and rising energy import costs, dropping from 3.7 percent of GDP in 2021, to 1.1 percent in 2022.

Similarly to the EU, Slovenia's CAB experienced a dramatic shift. O'Neill (2022) reports that from 2020 to 2021, Slovenia maintained a substantial trade surplus. External pressures, however, contributed to the shift in CAB, moving it from a 3.3 percent surplus in 2021 to a -1.0 percent deficit in 2022.

Despite this change in CAB, Slovenia's trade volumes surged in 2022, with exports growing by 34.2 percent and imports by 36.6 percent. Even though Slovenia faced a CAB deficit, it improved its export-to-import ratio to 93.2 percent. This indicates the country's ability to use export earnings to finance a significant portion of its imports. Its main trading partners were Switzerland, Germany, and Italy, and the leading trade sectors were chemicals, machinery, and transport equipment (Mesarič & Rojšek, 2023).

Like Slovenia's trade volume surge, intra-EU trade in goods has also increased. Eurostat (2021) reports that the seasonally adjusted value of monthly total exports of goods from EU member states to other member states increased from 120 billion EUR in January 2002 to

363 billion EUR in December 2022. This rise highlights the mutual support among EU member states while facing regular and challenging times.

A healthy trade balance often benefits the banking sector. Increased exports can potentially bring higher earnings for companies and individuals, translating to more bank deposits. Additionally, a healthy CAB can indicate a robust economy, leading to increased lending opportunities for banks. On the other hand, a deficit in CAB suggests less favourable conditions. Given the situation in the EU and Slovenian trade balances, the outlook for their banking sector is uncertain, due to potential risks from rising import costs and CAB deficits.

4.6 Summary

To conclude the macroeconomic overview, we can gather that the EU's macroeconomic landscape is complex and dynamic. It is shaped by key factors described earlier, such as inflation, interest rates, GBD, unemployment rate, and the trade balance. External pressures, such as the impact of the pandemic and geopolitical tensions, make the understanding even more difficult. On a more positive note, with the unemployment rate stabilising and GDP recovering, the EU is showing promising signs of economic strength. The increase in intra-EU trade adds to the evidence of cooperation between member states and adds to the robustness during challenging times. Pro-activeness for policy makers and businesses alike is crucial to manage risks and seize future opportunities as the EU moves forward. The EU's future prosperity ultimately depends on its resilience, flexibility, and collaborative approach, which includes innovation to overcome current and future challenges it may face.

5 INDUSTRY ANALYSIS

5.1. Regulatory framework and oversight

At the heart of the Slovenian banking sector is a robust regulatory framework, carefully designed and supervised by a number of institutions that ensure the smooth and safe functioning of the industry. The Bank of Slovenia, as the central bank of the Republic of Slovenia, assumes a primary role in supervising banks and maintaining financial stability within the robust regulatory framework of the Slovenian banking sector (Ministry of Finance, 2021). It does this by formulating and enforcing prudential regulations that serve as essential guidelines and standards for banks operating in the country, ensuring their resilience and reducing risks to the financial system. These regulations include stringent requirements on capital adequacy, risk management, liquidity and other important areas, thereby enhancing the stability and trustworthiness of banks while protecting depositors (Bank of Slovenia, 2003; Zadravec, 2015).

As a supervisor, the Bank of Slovenia conducts comprehensive inspections in various operational areas to identify credit, liquidity, and operational risks. These inspections play an important role in maintaining the overall health of financial institutions and ensuring price stability within the banking sector. The Bank of Slovenia's active involvement in supervising and regulating the banking sector, enforcing prudential regulations, and conducting regular inspections is essential for preserving the stability and soundness of the Slovenian financial system (Ministry of Finance, 2021; Banka Slovenije, 2003).

As part of the Eurosystem, the Bank of Slovenia also contributes to the implementation of monetary policy decisions set by the ECB to ensure price stability and support the broader economic objectives of the euro area (Damjanović, 2019). Additionally, the institution conducts in-depth research and analysis on various aspects of the economy and financial markets, producing a wide range of publications that focus on analysing the performance of the banking system, financial stability, and statistical reports. These publications serve as valuable resources for gaining insights into the Slovenian economy and the country's financial landscape (Banka Slovenije, n.d.d).

In addition to the Bank of Slovenia, another regulatory body overseeing the banking sector is the Securities Market Agency (ATVP). While the ATVP focuses primarily on the securities market, it also has supervisory functions related to specific aspects of the banking sector, in particular investment services and activities carried out by banks. It strives to promote fair and transparent trading practices, safeguard investors' rights, and enforce the Securities Market Act to ensure transparency, integrity, and investor protection. The agency is authorised to grant permits for establishing the Slovenian Stock Exchange and issues licenses to brokerage companies and banks providing brokerage services within Slovenia. The Bank of Slovenia also regulates the securities market, particularly in supervising central securities depositories (Ministry of Finance, 1999; Banka Slovenije, n.d.b.; Ministry of Finance, n.d.; SSE initiative, n.d.).

The Insurance Supervision Agency (AZN) plays a key role in the supervision and control of the Slovenian insurance industry. Its main task is safeguarding policyholders' interests and ensuring insurance companies' financial stability. The AZN oversees and regulates the insurance sector to ensure the solvency and stability of insurance undertakings while promoting investor protection (International Association of Insurance Supervisors [IAIS], 2022). It is responsible for safeguarding the supervisory authority's independence and providing legal protection and guarantees, as emphasised by the OECD (2011). Additionally, the AZN plays a significant role in driving the growth and advancement of the insurance sector in Slovenia, prioritising the protection of investors (IAIS, 2022)

The Office for Money Laundering Prevention of the Republic of Slovenia, operating under the Ministry of Finance, is responsible for preventing money laundering and terrorist financing within the banking sector. It operates autonomously and independently, implementing rigorous measures to identify and report suspicious transactions. The Office conducts inspections to ensure compliance with relevant regulations and assumes decision-making responsibilities for accepting, analysing, and reporting data to competent authorities. By fulfilling its task, the Office for Money Laundering Prevention contributes to the integrity and stability of the Slovenian financial system, safeguarding it from illegal activities (Office for Money Laundering Prevention of the Republic of Slovenia, 2022). The Slovenian Ministry of Finance, in close cooperation with other regulatory and supervisory authorities, including the Bank of Slovenia, maintains the stability and integrity of the country's financial system, as emphasised by the OECD (n.d.).

The Bank Association (ZBS) serves a crucial role in representing the interests of its members in the banking and financial sector. It acts as a representative for its members and promotes their common interests in interactions with various stakeholders, focusing on regulatory matters related to macroeconomic and monetary policies (ZBS, n.d.). Although ZBS is not a regulatory body, it maintains close collaboration with the regulatory and supervisory authorities in Slovenia, including the Bank of Slovenia, in order to ensure the stability and integrity of the banking system (Banka Slovenije, 2003). Working hand-in-hand with these authorities, ZBS contributes to the promotion of a sound and reliable financial environment that protects the interests of stakeholders.

The Financial Stability Board (FSB) in Slovenia acts as a macro-prudential authority, composed of representatives of the supervisory authorities, including the Bank of Slovenia. Its primary responsibility is to monitor and assess the stability of the country's financial system (Banka Slovenije, n.d.c). By working closely with the Bank of Slovenia and other relevant authorities, the FSB plays a key role in identifying and addressing potential risks that could affect Slovenia's financial stability.

Together, these regulators ensure that the Slovenian banking sector operates with effective governance, regulatory compliance, and ethical behaviour. Their watchful oversight ensures that banks comply with established rules, contributing to a safe and trustworthy banking environment. This is not only crucial for the stability of the banking sector but also plays an important role in Slovenia's overall economic stability. Their combined efforts ultimately build a resilient financial system that benefits the banking sector and the broader economy.

5.2 International standards and EU integration

In addition to the regulatory framework outlined above, the Slovenian banking sector operates within the framework established by international standards and agreements, such as the Basel Accords and EU Directives. These international frameworks, including Basel III, have strongly influenced global banking regulation. They have introduced significant changes to capital requirements and risk management in the banking industry, eliminating Tier 3 capital and increasing the minimum common equity Tier 1 capital ratio to 4.5 percent, along with a minimum capital ratio of 6 percent. Leverage ratios have been implemented, setting a minimum requirement of 3 percent (GB's stood at 8.96 percent in 2022). Furthermore, liquidity regulations have been introduced through liquidity coverage and net stable funding ratios. Revisions in 2017 aimed to reduce variability in risk-weighted assets and imposed higher leverage requirements for global systemically important banks (He, 2021, Bank for International Settlements, 2011).

Within the EU, the regulation of banking capital in Slovenia has been addressed by implementing the Capital Requirements Directive (CRD), followed by adopting the Capital Requirements Regulation (CRR) to align with Basel reforms. The EU established the EU Systemic Risk Board (ESRB) in 2009 to ensure consistent application of Basel III rules and to address specific reforms. The ESRB plays a key role in prudential supervision, risk assessment and risk mitigation advice. Recognising the importance of cross-border cooperation, the EU established the Joint Committee of Financial Conglomerates (JCFC) and transformed the Insurance, Securities, and Banking Regulatory Commission into the European Supervisory Authorities (ESA) to oversee financial regulatory policies. These entities comprise the EU's comprehensive system of financial supervision (He, 2021).

The Bank of Slovenia's compliance with the Basel Core Principles, as confirmed by the Banka Slovenije (2003) and the IMF's publication "Republic of Slovenia: Detailed Assessment of Observance of Basel Core Principles for Effective Banking Supervision" (2012), demonstrates its adherence to international standards through the implementation of appropriate measures. The IMF's assessment underscores the central bank's commitment to adequate banking supervision aligned with international norms. Additionally, the influence of international organisations, notably the IMF, is acknowledged for their recommendations that led to modifications and amendments in the Banking Act, aligning it with EU directives. This collective evidence highlights the substantial impact of international organisations and agreements on the regulatory framework of Slovenia's banking sector. The Bank of Slovenia has effectively implemented measures aligned with international standards for robust banking supervision.

Furthermore, Slovenia's membership in the EU provides valuable access to the European Single Market, allowing banks and financial institutions to operate smoothly in all EU Member States. This membership has opened the door for Slovenia and allowed its financial sector to take advantage of wider opportunities and greater market integration. EU membership allows Slovenian banks and financial institutions to apply the regulatory framework of the European Single Market, which facilitates cross-border business and transactions. They can offer their services and products to clients in other EU countries, thus extending their reach and potentially entering new markets. In addition, Slovenia's EU membership gives its financial sector access to more potential investors and partners in the EU, encouraging cooperation and enhancing capital flows for economic growth and stability. Banks and financial institutions in Slovenia can use this network to attract foreign investment, promote international trade and strengthen their competitiveness. Overall, Slovenia's integration into the EU and its access to the European Single Market have significantly improved the operating environment for banks and financial institutions, creating a platform for increased cross-border activity, economic cooperation, and the growth and development of the financial sector (OECD, 2011).

5.3 Market structure and concentration

The following chapter provides a comprehensive overview of the Slovenian banking system based on the Bank of Slovenia's reports for 2019, 2020, 2021, and 2022. It aims to identify key trends and changes in the industry over the past four years.

The banking system in Slovenia has a pronounced market structure and concentration, as highlighted in the Bank of Slovenia's reports (Banka Slovenije, 2020; Banka Slovenije, 2021; Banka Slovenije, 2022; Banka Slovenije, 2023). At the end of 2022, eleven banks, three savings banks and two branches of foreign banks were operating in the country. Banks hold the largest market share, accounting for 91.9 percent, followed by savings banks at 5.0 percent and foreign bank branches at 3.1 percent. Over time, the industry has experienced a steady consolidation trend, which has reduced the number of banking institutions.

Concentration in the Slovenian banking system is steadily increasing, as evidenced by the Herfindahl-Hirschman Index (HHI) reflecting total assets. In 2021, the HHI surged to 1,395 points, marking a substantial increase of nearly 69 points compared to the previous year, after a larger increase of more than 200 points two years earlier. This figure remained unchanged in 2022. This upward trend reflects the decline in the number of banking institutions over the last decade, with the index at 1,110 points. Notably, the recent acquisition of Sberbank banka d.d. by NLB d.d. in 2022 is expected to further enhance the Slovenian banking system's concentration (NLB d.d., 2022). Moreover, OTP Group (2023) reports the successful completion of the acquisition of Nova KBM Group in Slovenia in 2023, which, combined with the ongoing integration process between Nova KBM and SKB banka, a subsidiary of OTP Bank, is projected to impact the system's concentration.

Examining the Bank of Slovenia’s reports reveals several important trends within the Slovenian banking industry. The decrease in credit institutions, from 12 in 2019 to 11 in 2021, reflects an ongoing consolidation process. As a result, the concentration of the banking system, as measured by the HHI, has consistently increased, reaching its peak in 2021 at 1,395 points. This higher concentration of assets among a smaller number of institutions impacts market competition and the overall dynamics of the industry. A higher HHI indicates reduced competition, potentially limiting consumer choice and pricing competition (CFA Institute, 2022). In addition, institutions with larger market shares gain a more significant influence on market conditions and pricing, affecting the industry's competitiveness. The concentration of assets in a few institutions also poses a systemic risk, as the failure or instability of a major player can have important consequences for the banking system as a whole.

For comparison with the EU, Stephen Kho (2024) analysed the period from 2003 to 2023 and found that the average HHI for the banking sector across euro area countries was 0.12, with values ranging from 0.02 to 0.39. It is important to note that HHI can be reported on different scales. For this particular example, the Bank of Slovenia's HHI value of 1,395 for 2021 is reported on a 0-10,000 scale, which translates to 0.1395 on a 0-1 scale.

5.3.1 Bank closures, mergers, and operational changes

The analysis of the Slovenian banking industry, based on Banka of Slovenia reports, reveals a market structure characterised by consolidation and concentration. In recent years, eight banks have closed down in Slovenia, each in unique circumstances. In particular, Abanka d.d. merged with Nova Kreditna Banka Maribor d.d. (Nova KBM) in September 2020, which was the largest bank merger in Slovenia at that time. This merger and the earlier consolidation of Banka Celje d.d. with Abanka in 2015 have further shaped and consolidated the banking landscape.

Additional closures have been observed, such as the removal of Brüll Kallmus Bank AG, Bančna podružnica v Sloveniji, from the court register on May 29, 2018, indicating the closure of the bank. Factor Banka d.d., which had been winding down since September 2013, was absorbed into the Bank Assets Management Company in February 2016. Furthermore, on January 3, 2017, KBS Banka merged into Nova Kreditna Banka Maribor, with approval from the European Central Bank. The legal merger between Nova KBM and Poštna banka Slovenije was completed on September 1, 2016. Similarly, Probanka, d.d., was absorbed into the Bank Assets Management Company in February 2016. Lastly, on July 4, 2016, Zveza Bank, registrirana zadruga z omejenim jamstvom, Podružnica Ljubljana, was removed from the court register, signifying its closure.

These closures and consolidations reflect the dynamic nature of the banking industry, where mergers and operational challenges can lead to significant changes in the landscape. Despite these changes, the financial performance of the Slovenian banking system has shown consistent growth, driven by non-banking sector deposits and increased lending activity. However, the share of securities in the balance sheet total has declined, reflecting a change in investment preferences in the industry. Understanding these trends is key to understanding the evolving environment and trends in the Slovenian banking sector (Nova KBM, 2016, 2020; Slovenia Times, 2015; AJPES, n.d.a, n.d.b; Nye, 2021).

5.3.2 Authorised financial services offered by banks

The Slovenian banking sector encompasses 16 credit institutions (Banka Slovenije, n.d.a). According to the Banka Slovenije report (2023), 11 banks are currently active in the country. Listed on the Banka Slovenije's website (n.d.a), these entities are Addiko Bank d.d. (Addiko), Banka Intesa Sanpaolo d.d. (Intesa Sanpaolo), Banka Sparkasse d.d. (Sparkasse), Deželna Banka Slovenije d.d. (DBS), Gorenjska Banka d.d. Kranj (GB), N Banka d.d. Ljubljana (N Banka), Nova Ljubljanska Banka d.d. (NLB), SKB Banka d.d. Ljubljana (SKB banka), UniCredit Banka Slovenija d.d. (UniCredit), and Nova Kreditna Banka Maribor d.d. (Nova KBM), and SID-Slovenska izvozna in razvojna banka, d.d. (SID banka).

Each of these 11 institutions holds the necessary legal authorisations to provide a broad array of financial services, as specified in the Banking Act (Official Gazette of the Republic of Slovenia, No. 92/2021, with amendments). These authorisations are granted per the provisions of Articles 5 and 6 of the Slovenian Banking Act (Zakon o bančništvu, ZBan-3).

It is important to note that SID banka requires individual attention. As a promotional, development, and export bank, it is wholly owned by the Republic of Slovenia (SID Banka, n.d.). Operating in compliance with the provisions of the ZBan-3 legislation, SID banka's primary focus is on providing tailor-made financial solutions. These primarily promote export activities and foster development projects in Slovenia. This underlines SID Bank's unique role in stimulating economic growth and supporting companies in their international ventures.

Let us delve into these banks' standard authorised services and highlight any distinctions. According to Banka Slovenije (n.d.d), the authorised financial services offered by these banks encompass:

- Deposits: The banks are authorised to accept deposits and other repayable funds.
- Credit Services: They can provide a diverse range of credit. This includes consumer credit, mortgage credit, factoring operations with or without recourse, and commercial transaction financing. The latter can include export financing based on the discount

purchase of long-term, not-yet-due receivables secured with a financial instrument (forfeiting).

- Payment Services: These institutions offer various payment services to enable customers to transfer funds efficiently. This includes domestic and international payment transactions. For example, a business may rely on these services to pay international suppliers, or an individual might use them to send funds to family members in another country. This service ensures that money can be transferred securely, wherever and whenever needed.
- Issuance and Management of Other Payment Instruments: Besides traditional banking, they are authorised to issue and manage other payment instruments such as travellers' cheques and bankers' drafts. For example, a traveller might purchase travellers' cheques for security on an international trip. This expands the range of payment options available to customers, giving them greater flexibility and convenience in their financial transactions.
- Issuance of Guarantees and Other Commitments: These banks are authorised to issue guarantees and other commitments, providing additional security in business transactions. A bank guarantee, for example, defined by the CFA Institute (2022), is a pledge by a bank to secure a contractual agreement between two parties—the applicant and the beneficiary—against potential default by the applicant. Following this definition, a practical example could be a bank issuing a letter of credit for a client, assuring an international payment supplier. This service reduces risk for all parties involved and promotes trust and confidence in business dealings.
- Trading Operations: They also provide opportunities for themselves and their clients by engaging in various trading activities. They engage in foreign exchange transactions, trading in money market instruments, standardised futures contracts and options, and currency and interest-rate financial instruments. For example, a client interested in investing may use the bank's services to buy foreign currency or invest in the stock market. These trading activities increase market liquidity and provide clients with various investment opportunities.

Additionally, under Article 6 of the ZBan-3 legislation, these financial institutions may extend their range of services to include insurance brokerage in compliance with the existing insurance law. For instance, they can help clients find the most suitable home, car or life insurance policy according to their specific circumstances and needs. This diversification of services allows these banks to address a broader range of their clients' fiscal requirements, which in turn increases customer convenience and satisfaction. By transcending traditional banking boundaries, they provide a one-stop solution for the diverse financial needs of their customers.

Moving on from the common authorisations, the variety of financial services sanctioned under the ZBan-3 legislation establishes noticeable distinctions among the banks under study. These differences become apparent when categorising these banks according to their leasing service capabilities. However, it is essential to note that the differences go beyond their leasing authorisations.

For instance, Article 5 of the ZBan-3 legislation permits certain banks to engage in financial leasing. Banks such as Intesa Sanpaolo, GB, Nova KBM, SKB banka, and UniCredit fall under this category.

Conversely, Article 6 identifies a distinct set of banks, including Addiko, Sparkasse, DBS, N banka, and UniCredit, as sanctioned intermediaries in financial leasing transactions. These institutions serve as the bridge between the lessees and lessors in leasing.

This division of authorisations highlights the banks' different competencies. Group 1 banks have a broader authorisation for financial leasing, while Group 2 banks have extra authorisation explicitly for brokerage activities in leasing. UniCredit emerges as a notable player, holding the authorisation for both. For more information, check table A.1. in the appendix.

Further, NLB and SKB have obtained special authorisations to engage in monetary intermediation in interbank markets, differentiating them within the financial ecosystem and expanding their role beyond traditional banking services. According to a study by Blattner and Swarbrick (2020), the proper functioning of the interbank market is crucial for the overall stability and effectiveness of the monetary system. Banks rely on this market to manage funding needs, navigate liquidity challenges, and maintain a harmonised approach to monetary policy. Therefore, NLB and SKB banks' unique authorisation enhances their ability to facilitate funding flows and contributes to the financial system's stability.

In addition, some banks have been granted the authority to provide investment management advice. This service recognises the value of good advice by offering free professional support, tailored counselling, and investment monitoring. Clients can engage in a confidential dialogue with their consultant through various communication channels, ensuring accessibility and convenience.

Intesa Sanpaolo Bank, for example, offers comprehensive advisory services, providing expert guidance for investment decisions and alternative investment products. Their approach starts with a conversation in which they understand their client's investment objectives and suggest the most appropriate strategies to achieve them (Intesa Sanpaolo Bank, n.d.).

In line with the expanding range of services, some institutions, such as Nova KBM (n.d.a, n.d.b), are authorised to store securities and offer related custodial services. For example, Nova KBM emphasises their dedication to ensuring the safekeeping of securities. This provision further reinforces the role of these institutions as full-service financial service providers by extending their scope of activity beyond mere transactional business. By offering secure storage solutions and custodial services, these institutions demonstrate their commitment to delivering comprehensive financial solutions to their clients.

Credit rating services, including collecting, analysing, and disseminating creditworthiness information, provide a crucial layer of differentiation among authorised banks. These services aid in assessing credit risk, exemplifying the evolving dynamics of the banking sector and its commitment to risk management. Banks establish the basis for loan decisions, limits, and pricing by determining the customer's risk profile through credit ratings. Collaboration between the Credit Risk Assessment sector and commercial sectors supports business activities, enhances investment approval efficiency, and ensures diligent monitoring of the bank's credit portfolio quality. For example, SKB Banka's credit rating system is built on internal rating models, procedural guidelines, and expert judgment, showcasing its dedication to effective risk management. Credit rating services enable banks to strengthen their risk assessment capabilities, offering informed decision-making and risk mitigation strategies. (SKB banka, n.d.).

In addition, a few selected banks still offer, in addition to their basic banking functions, the rental of safety deposit boxes, a service long associated with banking. This often overlooked service is very important as it provides customers with crucial security. Safe deposit boxes, such as those offered by GB, are specially designed safe deposit boxes, usually metal, which are placed in a protected and secure banking area. These boxes are designed to store valuables, securities, important documents and other valuable items. Safes are available in different sizes to suit different customer needs (Gorenjska banka, n.d.e, n.d.i). By offering this service, banks demonstrate their commitment to safeguarding their customers' valuables and provide an additional level of protection and peace of mind.

Some banks are authorised to provide investment services, transactions and ancillary investment services as defined by the Financial Instruments Market Act (ZTFI). These comprehensive services include accepting and executing orders, offering investment advice, and conducting sales of financial instruments. They also offer auxiliary services like safeguarding financial instruments, managing accounts, providing advisory services to companies, conducting investment research, and performing analysis (Nova KBM n.d.a, n.d.b.). With this authorisation, these banks are strengthening their role in facilitating and advising on investments, which further confirms their position at the forefront of financial services.

Under the purview of Article 6 of the ZBan-3 legislation, the table displays an array of additional financial services that banks are authorised to provide. These authorisations cover a wide range of essential financial services, each addressing different banking requirements. For more information, please check the appendix table A.2.

An important service among these is the management of pension funds, as dictated by the law overseeing pension and disability insurance. This key role shows that banks have an important role to play in effectively managing long-term savings and ensuring the financial stability of pensioners. This is demonstrated by Intesa Sanpaolo, which manages the Umbrella Pension Fund Moj Steber (Intesa Sanpaolo Bank, 2021).

Consumer credit brokerage is another vital service that banks, as credit intermediaries, are authorised to offer. According to a report by Allied Market Research (n.d.), credit intermediaries act as intermediaries between lenders and borrowers, proposing and presenting credit agreements to consumers. This role underlines the key role of banks in promoting consumer credit, helping to manage personal finances and stimulating economic activity.

Factoring services, with or without recourse, are another key licence, which Nova KBM illustrates with an example. This service highlights the role that banks play in improving cash flow for businesses, thereby enhancing their financial stability. Nova KBM offers a range of advantages, including non-recourse factoring, financing without additional borrowing and under favourable conditions, improved liquidity and cash flow for exporters, reduced risk of non-payment and exchange rate fluctuations, and the assumption of interest by the bank. By providing factoring services, Nova KBM demonstrates its commitment to supporting businesses by optimising their cash flow and contributing to their overall financial well-being (Nova KBM, n.d.a, n.d.b).

Moreover, UniCredit exemplifies the provision of financial leasing, known as "posredovanje finančnega zakupa," as granted under Article 6. Recently, the bank sold its leasing company, UniCredit Leasing, leasing, d.o.o., to APS Group, ensuring a seamless continuation of services for leasing customers. UniCredit Banka Slovenija d.d. remains committed to offering comprehensive banking solutions, including financial leasing, which enables businesses and individuals to acquire assets through convenient leasing arrangements, enhancing financial flexibility (UniCredit Banka Slovenija d.d., n.d.). This detail provides further context to the earlier discussion on the leasing capabilities of different banks.

Moreover, banks are authorised to market units of investment funds, thus extending the scope of their services to investment management. NLB Skladi is a prime example of this, as the company possesses the necessary licenses from the Securities Market Agency to provide investment fund management services, financial instrument management services, and certain auxiliary services (NLB Skladi, n.d.).

Another notable service is the brokerage of voluntary supplementary pension insurance, which reinforces banks' role in retirement planning and long-term financial security. Additionally, specific banks are authorised to buy and sell investment gold, signalling their expanded involvement in commodity investment and providing customers with diversified investment options.

In conclusion, the breadth of additional services that banks are authorised to provide under Article 6 of the ZBan-3 legislation reflects the multi-faceted nature of the banking sector. As the financial landscape continues to evolve, these authorisations ensure that banks are well-positioned to meet the diverse needs of their customers.

5.3.3 Savings banks and the presence of foreign bank branches in Slovenia

In addition to the eleven banks already mentioned, there are three other reputable savings banks in Slovenia: the Primorska hranilnica Vipava d.d. (PHV), the Delavska hranilnica d.d. Ljubljana (DH) and the Hranilnica Lon d.d., Kranj (HL). Savings banks, also known as savings and loan associations or savings institutions, are financial institutions that provide a comprehensive range of banking services with a primary focus on promoting savings and offering loans to individuals and small businesses. The three savings banks are authorised to provide a wide range of banking services under the regulations in the Banking Act (ZBan-3). They are engaged in core banking services, including accepting deposits, providing loans, and delivering various financial services to their customers. PHV is authorised to provide recognised financial services, such as loans, payments, guarantees, and trading in money market instruments. DH has broader authorisation to trade foreign payment instruments and securities and offer services like insurance representation and financial leasing. LON is authorised to offer multiple payment instruments, credit rating services, and safe deposit box rentals. These savings banks operate within the scope of core and recognised services, with DH having broader trading authorisation and LON offering a more comprehensive range of services. Furthermore, certain banks have been granted additional authorisation to provide services beyond the core and recognised services, such as insurance representation, financial leasing, investment advice, and custodial services. For more information, please check the appendix table A.3.

In addition to the mentioned institutions, Slovenia is home to two branches of foreign banks: RCI Banque Societe Anonyme (RCI Banque S.A.), Bančna podružnica Ljubljana, and BKS Bank AG, Bančna podružnica (BKS Bank). Both banks are recognised as credit institutions in the European Economic Area (EEA), are authorised to operate in Slovenia, and can provide similar core banking services, including deposit acceptance, lending, payment services, leasing, and guarantees. However, BKS Bank is further authorised to provide additional services such as trading, participation in securities issuance, business consultancy, money brokering, asset management, custody services, credit facilities, safe deposit box rental, and services related to financial instruments as per Directive 2014/65/ES (MiFIDII). RCI Banque S.A., on the other hand, is not authorised to offer these services in Slovenia.

In conclusion, the comprehensive examination of the Slovenian banking sector reveals a dynamic landscape shaped by the authorised financial services provided by different banks. The Banking Act (ZBan-3) outlines the framework within which these services are offered.

5.4 Financial performance and asset composition

Over the analysed period, the Slovenian banking system's financial performance and asset composition grew consistently. The balance sheet total experienced a notable increase, reaching 50.6 billion EUR in 2022, a 4.9 percent increase compared to the previous year. Deposits from the non-banking sector significantly contributed to funding, showing a substantial increase of 80 percent, or EUR 2.6 billion. Regarding investments, claims against the central bank witnessed a substantial decrease of 1.1 billion EUR, while loans to the non-banking sector grew by EUR 2.5 billion. These developments point to the positive financial performance of the banking system and the efficient use of the different asset categories.

Against this backdrop of growth, the banking system’s balance sheet total to GDP ratio has been on a downward trend, settling at 86.5 percent in 2022. This trend was influenced by a combination of factors, including an increase in nominal GDP and a slower increase in the balance sheet total, as reflected in banks' reporting of closing accounts on an individual basis.

The banking system has shown steady growth in its balance sheet total, with a 4.9 percent increase in 2022, 8.1 percent in 2021, an 8.3 percent increase in 2020, and a 6.3 percent increase in 2019. Funding sources, primarily deposits by the non-banking sector, played a significant role in driving this growth.

In sum, the change in asset composition within Slovenia's banking system, characterised by these dynamic asset allocation patterns, reflects a strategic response to changing financial landscapes and the bank's commitment to supporting economic growth through targeted lending practices (Banka Slovenije, 2020; Banka Slovenije, 2021; Banka Slovenije, 2022; Banka Slovenije, 2023; Banka Slovenije 2024).

5.5 Summary

In conclusion, this analysis highlights key aspects of the Slovenian banking sector, focusing on its regulatory structure, compliance with international standards, particularly EU integration, and the dynamism of its market structure. The sector exhibits a concentrated market with a few dominant players, a trend reflective of strategic consolidation for operational efficiency.

Despite the sector's evolution, financial performance remains strong, reflecting its resilience. There is a shift in investment preferences with a reduction in equity holdings, suggesting a possible change in risk assessment strategies. The sector has shown resilience in the face of operational changes, including bank closures and mergers, reflecting effective strategic management.

The sector offers a variety of financial services to meet different customer needs. This wide range of services offered by traditional banks, savings banks, and branches of foreign banks strengthens the sector's overall financial capabilities.

The Slovenian banking sector, characterised by sound governance, strategic consolidation, financial resilience, and a wide range of services, is a compelling example of a modern and resilient banking system. This analysis highlights the sector's strategic response to evolving market dynamics and offers valuable insights for academics and policymakers.

6 VALUATION OF GORENJSKA BANKA D.D.

6.1 Introduction

The valuation of GB is supported by a comprehensive review of its business and macroeconomic environment and the institution's financial health. As covered in the previous sections of this thesis, the economic climate between 2018 and 2022 has been volatile, to say at the least. Events like the global COVID-19 pandemic and the geopolitical tensions from the Ukraine conflict have directly influenced the macroeconomic landscape in which GB operates. Before we delve into the valuation, let us recall how drastic these changes were:

- ECB had an accommodating monetary policy before the inflation rate shot up to 9.9 percent in the EU in 2022, which forced its hand to raise its base interest rate for the first time in over a decade. The inflation rate in 2018 stood at 2.2 percent (N26, 2024; IMF, n.d.d).
- Slovenia’s inflation rate stood at 8.8 percent in 2022, up from 1.7 percent in 2018 (IMF, n.d.d)
- As of December 1 2022, the 12-month Euribor stood at 2.842 percent (Euribor rates, n.d.).

- The EU's CAB showed a trade surplus and rising energy import costs, dropping from 3.1 percent of GDP in 2018, to 1.1 percent in 2022 (World Bank, 2024).
- Similarly to the EU, Slovenia's CAB experienced a dramatic shift, as it moved from a 5.9 percent surplus in 2018 to a -1.0 percent deficit in 2022 (World Bank, 2024).
- Despite the challenges, the EU's economy showed resilience by recording a 1.2 percent CAGR of GDP in the observed period. In comparison, the Euro area also reduced unemployment from 8.2 percent in 2018 to 6.7 percent in 2022 (IMF, n.d.c).
- Slovenia has shown even better resilience with a 2.6 percent CAGR, while the unemployment rate decreased notably to 3.5 percent in 2022 (IMF, n.d.c).
- According to the Bank of Slovenia's reports from 2020 to 2023, the country's credit institution system is characterised by high market concentration. Regarding the business environment, GB operates in a credit system dominated by banks, which held a 91.9 percent market share by the end of 2022. At the end of the same year, Slovenia had eleven banks, three savings banks, and two branches of foreign banks operating in the market.
- The future for the EU and Slovenia involves significant challenges; however, with unemployment stabilising and GDP recovering, there are signs of resilience.

Each of the aforementioned segments is essential for applying the practical part of the FCFE method to GB's valuation. This analysis aims to produce practical insights into GB's valuation that reflect the robustness and adaptability of the banking sector, as observed by the ECB (2022). Furthermore, this work aims to enhance the accuracy and depth of bank valuation methods to contribute to a richer understanding of financial valuations in banking - a goal supported by experts such as An et al. (2022).

Let us recall the formula presented by Koller et al. (2020) in chapter 1.3, which states that the equity value of a company is calculated by taking the present value of future FCFE, discounted at the cost of equity:

$$Value\ of\ Equity = \sum_{t=1}^{\infty} \frac{FCFE_t}{(1+k_e)^t} \tag{4}$$

Where $FCFE_t$ represent the free cash flow to equity at time t and k_e denotes the cost of equity. Koller et al.'s model further defines free cash flow to equity as:

$$FCFE_t = NI_t + \Delta E_t + OCI_t \tag{5}$$

Where NI_t is net income, at time t, ΔE_t is the increase in the book value of equity, and OCI_t is noncash other comprehensive income.

The logic behind the formula is that net income represents the earnings theoretically available to shareholders, or AEC, in our case. However, net income by itself for a financial institution is not cash flow, due to regulatory capital requirements. As GB expands, it must increase its equity base, as evidenced by its steadily rising capital adequacy ratio, which stood at 17.66 percent in 2022, well above regulatory capital requirements, ensuring no solvency concerns. These increases in equity reduce GB's total equity cash flow because the money is being transferred into retained earnings instead of being paid out to its sole shareholder. The last step is adding noncash other comprehensive income, which, according to Koller et al. (2020), offsets any noncash adjustments to equity.

The application of the FCFE method to estimate the value of GB is structured as follows:

1. FCFE estimation based on GB's financial data and assumptions about its future operations.
2. Determining the cost of equity using the CAPM model.
3. Discounting the estimated FCFE by the calculated cost of equity, following the formula from Koller et al. (2020), in order to determine the value of GB's equity.

This structured methodology applies the equity FCFE method, which is recognised by finance scholars such as Damodaran, Horvátová, and Koller et al. It is deemed particularly effective for valuing banks due to their unique financial and operational characteristics.

6.2 Estimating FCFE

This chapter estimates GB's FCFE by projecting its key financial metrics. The estimation is based on the bank's historical trends, its economic and regulatory environment, and assumptions about its future performance. We begin the forecasting with the bank's funding sources, starting with liabilities, as these define the bank's capacity to give out loans, which serve as its primary value driver. Since interest income and expense are directly correlated to the structure of loans and deposits, we then forecast those balances in detail. This serves as a baseline for determining interest income and expense in the income statement. Next, we forecast non-interest-related items to complete the net income forecast. We can derive retained earnings and forecast total equity based on this profitability projection. This structure enables us to calculate the FCFE, which forms the foundation of our valuation. Since the balance sheet and income statement are directly correlated, the forecasting process goes back and forth.

To make the model more realistic and in line with the macroeconomic environment, we gradually tie the expected growth rates of key items - namely total liabilities, loans, deposits, non-interest income and operating expense - to the assumed expected GDP growth. Other elements of the model, like net interest income and equity, are not tied to GDP directly but are derived from other items, so they indirectly follow the same growth path. The influence of the expected GDP growth starts at 22.5 percent in 2023 and increases gradually each year. By 2026, the weight reaches 90 percent and remains constant in the terminal year (2027). This gradual transition ensures that the bank's internal performance mainly drives the short-term forecast, while the long-term estimate aligns more with the macroeconomic trends. It also reflects the influence of extreme external factors like COVID-19, the war in Ukraine, and high inflation, which caused abnormal volatility in the observed period.

Specifically, we used nominal GDP data from the IMF database for Slovenia and the EU from 2018 to 2022. We used the most recent historical data to estimate a stable and conservative growth rate, since no official projection for nominal GDP (e.g. from the IMF or ECB) was available for the period after 2022. We calculated respective CAGR's which came at 2.62 percent for Slovenia and 1.20 percent for the EU. The average of the two was used as a conservative long-term growth anchor across the model, 1.91 percent. It is important to note that the decision to use nominal rather than real GDP was intentional because the financial statements and balance sheet items used in the models are also expressed in nominal terms, sourced from S&P Capital IQ, where the data is reported in current/restated euros and is therefore not inflation-adjusted.

We did not apply a fixed growth rate to each key item based on judgment to avoid relying only on a top-down assumption and mitigate the impact of outliers. Instead, we determined the CAGR for each sub-category that makes up its total. Although this method is more complex, it allows us to account for the actual dynamics of each item. In other words, while each individual item was forecasted in a detailed bottom-up method, its growth rates were gradually anchored to macroeconomic trends and the bank's mission and vision.

First, we calculated each sub-category's average share relative to total liabilities over the observed period. These average shares were multiplied by their respective weights from the most recent year (2022) to get their weighted values. The weighted values were then multiplied by their respective CAGRs, and summed to obtain the final expected growth rate for liabilities. For example, the calculated CAGRs came out as 3.0 percent for accounts payable, 1.2 percent for accrued expenses, 12.1 percent for non-interest-bearing deposits, and minus 12.4 percent for interest-bearing deposits. Other categories, like other current liabilities and unearned revenue, showed 27.6 percent and minus 4.3 percent respectively. A few extreme values were also observed, as short-term borrowings grew by 218.5 percent, while deferred tax liabilities and current income taxes payable both had a CAGR of minus 100 percent, because they dropped out entirely during the observed period.

This process was used in all the forecasted key items, with minor tweaks to reflect the specific structure and forecasting logic relevant to each item, such as adjusting the 2022 weights in line with GB's strategic priorities or smoothing out transitions between historical and forecast periods.

During this process, missing data, such as long-term leases and current portion of leases in 2018 (shown as NA in the balance sheet), were replaced with zeros to avoid errors in the formula and ensure consistency across the used dataset. This approach resulted in an expected growth rate for liabilities of 7.3 percent, providing a balanced and reliable growth estimate despite missing data. As previously stated, this expected growth rate, like others that will follow after, was gradually tied to GDP growth estimations to ensure macroeconomic consistency over the long term. The expected growth rate exceeds the historical CAGR (4.11 percent) due to the shift from a prolonged low-interest environment to a period marked by rising interest rates and inflation. In theory, this should provide good incentives to adjust their funding structures.

Table 12: GB's Total liabilities forecast, 2022 Actual, 2023–2027 Forecast

						(In thousands of EUR)
Year	2022 A	2023 FC	2024 FC	2025 FC	2026 FC	2027 FC
Total liabilities	2,041,479	2,166,050	2,271,858	2,355,181	2,412,894	2,472,020

Source: Own work based on S&P Capital IQ (n.d.a).

On average, loans and deposits accounted for 58 percent of GB's total assets over the observed period, while deposits comprised 92 percent of total liabilities. Like with liabilities, we initially applied a normalised approach for loans and deposits by determining subcategory-level CAGR's and historical average shares. However, we recognised that a fully mechanical approach produced abrupt shifts in the composition of loan and deposit subcategories. This showed in the transition from 2022 to the first forecasted year, which would not reflect the bank's strategic direction or operational realism.

To resolve this issue, we manually adjusted the final weights of loan and deposit subcategories to smooth out the year-on-year progression and avoid unrealistic jumps that would appear out of sync with historical data and GB's strategic focus. Commercial lending (5.42 percent CAGR) received the highest weight of 0.65 to reflect GB's focus on lending to SME's, identified as a key growth area, both in historical data and their mission and vision. Consumer loans (13.43 percent CAGR) were assigned the second highest weight at 0.19, to reflect their historical performance. This trend should be sustained as digital banking solutions evolve, allowing such loans to be approved with the click of a button. Given their historically observed significant growth, residential mortgage loans (15.06 percent CAGR) were assigned the weight of 0.15. We assume GB will maintain this segment as a growth driver, especially if it continues to offer eco-friendly housing loans to finance sustainable living, as stated in their annual reports. The lowest weight was assigned to other loans (minus 0.46 percent CAGR) at 0.01 due to its share remaining broadly unchanged and its slight decrease in the observed period. The expected growth rate of total loans was 8.33 percent, which was then tied to GDP. While this figure still came lower than the historical average of 9.22 percent, it reflects a more cautious and stable outlook moving forward, especially considering the shift in the interest rate environment over nearly a decade of near-zero rates.

Table 13: GB's Total Loans forecast, 2022 Actual, 2023–2027 Forecast

(In thousands of EUR)						
Year	2022 A	2023	2024	2025	2026	2027
Commercial loans	968,327	1,041,968	1,098,650	1,142,548	1,171,699	1,201,594
Residential mortgage loans	217,244	240,454	253,535	263,665	270,392	277,291
Consumer loans	299,058	304,575	321,144	333,976	342,497	351,235
Other loans	15,152	16,030	16,902	17,578	18,026	18,486
Total loans	1,499,781	1,603,028	1,690,231	1,757,767	1,802,614	1,848,606

Source: Own work based on S&P Capital IQ (n.d.a).

Similarly for deposits, we divided them into their respective subcategories - demand deposits (11.8 percent CAGR) and time deposits (minus 13.0 percent CAGR). Demand deposits were assigned the dominant weight of 85 percent, reflecting their increasing share in total deposit structure (62 percent in 2017 to 85 percent in 2022) and their alignment with digital banking and liquidity preferences. The remaining 15 percent was assigned to time deposits, reflecting their declining importance while still considering them a stable funding source.

Unlike liabilities and loans, we did not use normalised shares when deriving the expected growth rate. Instead, we used the average historical shares. This decision was made because using normalised weighted values resulted in total deposits exceeding total liabilities, which is logically inconsistent. This approach provided a more realistic and conservative growth rate for deposits that aligns with total liabilities, resulting in an expected growth rate of 4.8 percent, which was then gradually linked to GDP. This percentage came lower compared to the historical CAGR of 5.0 percent, thus further reinforcing the conservative nature of the forecast.

Despite having the same core idea behind the forecasting method for liabilities, loans and deposits, which again is based on normalising growth rates at their subcategory levels, we adjusted the approach slightly in each case to avoid unrealistic results and to fit the data structure. The mechanical method worked without issues for liabilities, so we kept it simple. We adjusted the weights for loans to smooth out the shift from 2022 to 2023 and align the direction with GB's strategy. Deposits were trickier as we were forced to use altered weights for the composition. However, they stuck to the average historical shares when calculating the expected growth rate, since the weighted values led to totals that did not make sense. As a result, the expected growth rates varied: liabilities ended up higher than their historical average due to the bank's stronger financing needs. On the other hand, loans and deposits showed slightly lower expected growth than in the past, reflecting a more conservative outlook, due to tighter credit conditions and slower deposit growth now that the decade of low interest rates has ended. These small changes made the model more consistent with reality, while still sticking to the same core logic behind the projections.

Table 14: GB's Total Deposits forecast, 2022 Actual, 2023–2027 Forecast

(In thousands of EUR)						
Year	2022 A	2023	2024	2025	2026	2027
Demand deposits	1,633,308	1,698,289	1,757,672	1,807,719	1,847,454	1,888,062
Time deposits	285,141	299,698	310,177	319,009	326,021	333,187
Total deposits	1,918,449	1,997,987	2,067,849	2,126,728	2,173,475	2,221,249

Source: Own work based on S&P Capital IQ (n.d.a).

Next, we describe how we arrived at the forecasted main value drivers and main expenses – interest income on loans and interest expense on deposits for GB. We first collected historical data from 2018 to 2022 on loan balances, deposit balances, interest income earned on loans and interest expense on deposits. Based on this data, we determined the historical interest rates on loans and deposits by dividing interest income/expense by their respective average balances. We then determined the loan spread, which was calculated as the difference between the loan interest rate and the 12-month Euribor rate. Similarly, the deposit spread was derived by subtracting the deposit interest rate from the Euribor rate. The spread was calculated to isolate GB from broader market fluctuations, particularly the change in the Euribor. This allowed us to capture better how GB adjusts its pricing strategy. We aimed to isolate the bank instead of just using absolute rates, which would reflect market movements, and not GB's own rate-setting decisions on top of the Euribor baseline.

As the interest rates on the loans and deposits fluctuate with movements in the Euribor, we calculated a pass-through factor to measure the responsiveness of GB's loan interest rates to Euribor changes. While the previously calculated spread shows GB's markup over Euribor, the pass-through factor captures how strongly GB's pricing reacts to changes in Euribor over time. This was done by dividing the change in interest rate on deposits or loans by the change in the Euribor rate. The most appropriate one for loans came in at 87 percent (2022 data) which we used as a constant in our forecast (2021 came in at 3.83 percent and 2020 at 1.72 percent and were thus deemed outliers). This ensures that the changes in Euribor impact lending rates, while maintaining GB's stable pricing policy. We kept the passthrough constant because there was no clear declining trend in the historical data to rely on. Instead, the observed period years showed near-zero responsiveness.

The pass-through factor values were derived during a period characterised by low interest rates and minimal Euribor movement. In contrast, 2022 reflects a shift, capturing GB's actual sensitivity to interest rate normalisation. Using 87 percent, therefore, results in a significant rise in forecasted interest income from 2022 to 2023, which is to be expected, given the sharp Euribor increase and GB's rate adjustment. This jump reflects a necessary adjustment in GB's income dynamics after a long period of low interest rates.

For deposits, the most appropriate pass-through rate was deemed 52.07 percent in 2020, which was used in 2023 and adjusted annually with the following values for subsequent years (2024 – 38.11 percent, 2025 – 27.89 percent, 2026 – 20.41 percent and 2027 – 14.94 percent). This adjustment reflects the trend of banks to pay little or no interest on standard deposits, making an initial rate of 52 percent too high for long-term forecasting. Other historical pass-through factors were significantly higher than expected, with 81.77 percent (2021) and 105.70 percent (2022), and were excluded from the forecast.

Again, even though 87 percent passthrough for loans might seem like a big jump, it tries to reflect how GB reacted in a year of aggressive rate hikes. On the other hand, the declining deposit pass-through mirrors standard industry behaviour, as banks tend to pay little to no interest on retail deposits.

We then used the ECB's 3-month Euribor rate forecasts (European Central Bank, 2022) and added the historical spread between the 3-month and the 12-month Euribor (Euribor Rates, n.d.) to estimate future 12-month Euribor rates for 2023-2025. The weighted spread was 0.449 percent (European Central Bank, 2022; Euribor Rates, n.d.). For 2026 and 2027, we assumed a slight annual decrease of 0.2 percent reflecting the forecast trend as inflation stabilises. Finally, the forecasted lending and deposit rates were then derived by adding a lending spread to the forecasted 12-month Euribor rate:

Table 15: GB's Loan and deposit rate forecast 2023-2027

					(In percent)
Year	2023	2024	2025	2026	2027
ECB 3-month EURIBOR forecast from 2022	2.90	2.70	2.50	2.30	2.10
Forecasted 12-month EURIBOR	3.35	3.15	2.95	2.75	2.55
Forecasted loan rate	5.85	5.68	5.51	5.33	5.16
Forecasted deposit rate	1.25	1.18	1.12	1.08	1.05
Pass through factor Deposits	52.07	38.11	27.89	20.41	14.94
Pass-through factor Loans	87.00	87.00	87.00	87.00	87.00

Source: Own work based on European Central Bank (2022), Euribor Rates (n.d.), and S&P Capital IQ (n.d.a).

After determining the forecasted interest rates on loans and deposits, the next step was to apply these calculated rates to the forecasted loans and deposits. To calculate the average balances for each year, we used the method of averages, which takes the starting and ending balances of the year and calculating their mean. Once the average balances were determined, we forecasted interest income on loans by multiplying the projected average loan balances by the corresponding loan rates.

The remaining part of total interest income represents income on investments, which historically attributed 0.433 percent to total interest income on average. To account for this, we multiplied this average contribution figure by the previously forecasted interest income on loans. Since the contribution was low and barely shifted through the observed period, we figured a simplified approach was the most efficient and realistic way to forecast it.

Similarly, interest expense on deposits was forecasted using forecast deposit interest rates to the projected average deposit balances. Next, we calculated the interest expense on non-deposit funding as the leftover between total liabilities and deposits. In other words, funding GB uses that are not coming directly from its customer base. We used the previously forecasted 12-month Euribor rate to the non-deposit funding balance with a 99 percent pass-through factor. This high factor aims to reflect that this type of funding generally moves in line with the market rate movements. It is important to note here, however, that not all non-deposit funding creates interest expense, as equity funding does not. This method focuses on the portion that actually impacts the income statement. While this is a simplified assumption, it tries to accurately reflect the portion of non-deposit funding that behaves like interest-bearing debt. It is a practical way to forecast non-deposit-based expenses, which is grounded in how these instruments typically operate in financial markets.

The method used to forecast interest income and expenses aims to reflect the relationship between GB's balance sheet growth, the fluctuating Euribor interest rate and macroeconomic conditions. In theory, the historical spreads, Euribor projections, and pass-through factors should be part of a robust estimation process. The goal was to connect GB's profitability with broader economic factors.

Table 16: GB's Net interest income forecast, 2022 Actual, 2023-2027 Forecast

(In thousands of EUR)						
Year	2022 A	2023 FC	2024 FC	2025 FC	2026 FC	2027 FC
Interest income on loans	57,610	93,838	96,002	96,779	96,112	95,348
Interest income on investments	311	406	416	419	416	413
Total interest income	57,921	94,245	96,418	97,199	96,528	95,761
Interest expense on deposits	-	25,026	24,325	23,831	23,467	23,319
Interest expense on non-deposit funding	-	5,574	6,294	6,526	6,297	6,033
Total interest expense	4,218	30,599	30,619	30,356	29,764	29,352
Net interest income	53,703	63,239	65,383	66,423	66,348	65,996

Source: Own work based on European Central Bank (2022), Euribor Rates (n.d.), and S&P Capital IQ (n.d.a).

It's important to note here again that the large increase in both interest income and expense from 2022 to 2023 reflects the sharp rise in Euribor after a decade of near-zero interest rates. GB responded to this sharp rise with upward pricing adjustments. That's also why we applied a more detailed forecasting logic. The forecast shows a peak in net interest income (NII) in 2025, driven by strong loan income, before flattening out due to rising non-deposit funding costs and plateauing Euribor levels.

Moving on from GB's main revenue generators, we now turn to total non-interest income and expense. The forecast for non-interest income was conducted in a mechanical way same as the method used for liabilities. This was computed by first calculating the average composition of subcategories in relation to the total sum (non-interest income), followed by determining their respective CAGRs. Next, we took the average weights, normalising them and finally multiplying them with the CAGR's. These were then summed to arrive at the expected growth rate of 4.9 percent, which was then tied to the GDP growth estimation. The non-normalised calculated CAGR was 4.6 percent, the difference is due to faster-growing subcategories holding stronger weights, which pushed up the final estimate. During this process the weights were not altered, as they already reflected historical performance, and there was no indication in their annual reports that could lead to potential changes.

Table 17: GB's Total non-interest income forecast, 2022 Actual, 2023-2027 Forecast

(In thousands of EUR)						
Year	2022 A	2023 FC	2024 FC	2025 FC	2026 FC	2027 FC
Income from trading activities	291	27	28	29	29	30
Gain (Loss) On Sale of Assets (Rev)	-332	1	1	1	1	1
Gain on Sale of Invest. & Secur (Rev)	-720	850	882	908	929	949
Total other non-interest income	24,024	23,420	24,290	25,012	25,572	26,144
Total non-interest income	23,263	24,298	25,200	25,950	26,530	27,124

Source: Own work based on S&P Capital IQ (n.d.a).

Income from trading activities is assumed to follow trends from the observed period (minus 19.2 percent CAGR). The gain (loss) on sale of assets is anticipated to increase if interest rates stabilise and create good investment conditions, however it carried such a low weight it's almost non-existent in the forecast. This is due to the fact that it varied very much in the observed period and contributed a very little amount to the total (minus 182.3 percent CAGR). Similarly, the gain (loss) on sale of investments and securities should see steady growth unless there's a big factor that could push it higher or lower, the dramatic shift from negative to positive is because in all other years besides 2022 it remained quite stable on the positive side (minus 174.7 percent CAGR). Finally, total other non-interest income much like other sub-categories should stay stable unless GB opts to open new branches (11.8

percent CAGR). Since this wasn't mentioned in their mission or vision the key factors contributing should in theory stay the same.

For non-interest expense forecasting, we followed the same process, but made slight adjustments to the weights of all sub-category items in order to reflect the bank's mission and vision. One challenge encountered was the federal deposit insurance which was not reported in 2018. As with liabilities, the missing value was recorded as 0. The expected growth rate came at 4.3 percent, which was then tied to GDP. The CAGR in the observed period came at 5.7 percent. The discrepancy to the two is linked to the fact that 2022 showed unusually high expense levels. These are expected to stabilise in the future, as GB normalises its cost structure.

Table 18: GB's Total non-interest expense forecast, 2022 Actual, 2023-2027 Forecast

						(In thousands of EUR)
Year	2022A	2023 FC	2024 FC	2025 FC	2026 FC	2027 FC
Occupancy expense	4,834	5,151	5,317	5,460	5,577	5,697
Federal deposit insurance	2,356	2,948	3,043	3,125	3,192	3,261
Selling general & admin exp.	37,251	38,585	39,828	40,898	41,776	42,674
Total other non-interest expense	555	3	3	3	3	3
Total non-interest expense	44,996	46,687	48,192	49,486	50,549	51,635

Source: Own work based on S&P Capital IQ (n.d.a).

The first item in the table, with the second highest weight, occupancy expense should rise steadily as it did in the past (8.6 percent CAGR). The highest weight was assigned to federal deposit insurance, as deposits rise so should the insurance costs (0 percent CAGR due to missing data in 2018). Although future regulation could influence these costs, we based its forecast on a constant historical weight relative to total non-interest expense. Since deposits are expected to grow steadily, this approach ensures a smooth continuation of past trends, without speculating on unannounced policy changes. Next is the selling general and administration expense, as it has been the biggest portion of the total sum in the past (4.0 percent CAGR). This trend is likely to continue with inflation and investments in technology, particularly given GB's focus on improving their digital banking experience. Total other non-interest expenses may fluctuate due to historical performance as it is heavily reliant on unexpected costs like legal fees or consulting, that's why its kept minimal (CAGR of 14.6 percent).

The above-mentioned forecast allows us to calculate the net income. For tax purposes, we found that there were no tax alterations for banks before 31.12.2022 and therefore we applied the average tax rate observed during this period – 11.7 percent:

Table 19: GB's Total net income forecast, 2022 Actual, 2023-2027 Forecast

						(In thousands of EUR)
Year	2022 A	2023 FC	2024 FC	2025 FC	2026 FC	2027 FC
Net operating revenue	31,970	40,850	42,392	42,887	42,330	41,485
Income taxes	2,918	4,789	4,970	5,028	4,963	4,864
Net income	28,109	36,061	37,422	37,859	37,367	36,621

Source: Own work based on S&P Capital IQ (n.d.a).

Net income follows a similar trajectory to net interest income, peaking in 2025, as the operating environment (especially interest rate dynamics and funding structure) begin to normalise, reducing the growth momentum. It's important to note here that the discrepancy between net operating revenue minus income taxes and net income in 2022 arises due to additional other unusual items, that are not shown in the table above (9 million EUR). To ensure a more accurate representation of the bank's core profitability, the table above uses net operating revenue instead of total operating revenue. This approach removes the influence of non-recurring items that might distort future projections. By doing so, the forecast remains conservative and consistent with GB's historical operational trends.

Now that we've arrived at net income we can move on to equity, which was forecasted much differently in comparison to the above-mentioned key items. We tied the bank's retained earnings directly to its net income by applying a 70 percent retention ratio. While not based on regulatory requirements or an explicit dividend policy, this assumption reflects a reasonable estimate considering GB's single-shareholder structure and its above optimal capital ratio's shown in the observed period. Sub-categories such as ordinary shares, additional paid-in-capital and treasury shares have remained unchanged over the observed period and therefore maintained at their historical average contribution of total equity. Other comprehensive income (OCI) was modelled separately based on the historical average and gradually decreased to 0 by 2027. This method allowed us to align the growth of equity with the bank's profitability which is more realistically than forecasting it through a normalised CAGR.

Table 20: GB's Total Equity forecast, 2022 Actual, 2023-2027 Forecast

(In thousands of EUR)						
Year	2022 A	2023 FC	2024 FC	2025 FC	2026 FC	2027 FC
Common stock	16,188	16,188	16,188	16,188	16,188	16,188
Additional paid in capital	20,023	20,023	20,023	20.023	20,023	20,023
Retained earnings	265,547	296,423	323,215	350,314	377,068	403,301
Treasury stock	-26,007	-26,007	-26,007	-26,007	-26,007	-26,007
Year	2022 A	2023 FC	2024 FC	2025 FC	2026 FC	2027 FC
Comprehensive Inc. and Other	-2,171	2,390	1,792	1,195	597	0
Total Equity	273,580	298,822	325,018	351,519	377,676	403,311

Source: Own work based on S&P Capital IQ (n.d.a).

Beyond retained earnings, which were previously highlighted, the most notable item in the table above in the change in OCI. While OCI was negative in 2022, it turns positive in the forecasted period, reflecting the average level seen in the observed period. This was done in order for us to smooth out the effect of short-term market fluctuations that likely caused the negative turn in 2022. The gradual reduction of OCI to zero by 2027 reflects a conservative approach that assumes no significant gains or losses from valuation effects moving forward.

Merging all of the above, resulted in the forecasted balance sheet:

Table 21: GB's Balance sheet forecast, 2022 Actual, 2023-2027 Forecast

						(In thousands of EUR)
Year	2022 A	2023 FC	2024 FC	2025 FC	2026 FC	2027 FC
Total assets	2,315,059	2,464,872	2,596,875	2,706,700	2,790,570	2,875,332
Loans	1,499,781	1,603,028	1,690,231	1,757,767	1,802,614	1,848,606
Deposits	1,918,449	1,997,987	2,067,849	2,126,728	2,173,475	2,221,249
Total liabilities	2,041,479	2,166,050	2,271,858	2,355,181	2,412,894	2,472,020
Equity	273,580	298,615	324,416	349,930	375,741	401,615

Source: Own work based on European Central Bank (2022), Euribor Rates (n.d.), and S&P Capital IQ (n.d.a).

All the forecasted items above contribute to the calculation of the forecasted FCFE, which includes the following items:

Table 22: GB's FCFE forecast, 2022 Actual, 2023-2027 Forecast

						(In thousands of EUR)
Year	2022 A	2023 FC	2024 FC	2025 FC	2026 FC	2027 FC
Net income	28,109	36,061	37,422	37,859	37,367	36,621
Required capital increase	7,121	26,457	23,312	19,395	14,811	14,969
Free cash flow to equity	20,988	9,603	14,110	18,464	22,556	21,653

Source: Own work based on European Central Bank (2022), Euribor Rates (n.d.), and S&P Capital IQ (n.d.a).

The forecasted FCFE is calculated as net income minus the required capital increase. The original approach followed the Koller et. al. (2020) formula ($FCFE_t = NI_t + \Delta E_t + OCI_t$), but it was adjusted within the ΔE_t component in order to better fit the specifics of bank valuation – their regulatory capital requirements. Instead of taking the change in equity directly as the difference between two forecasted years, the required capital increase is now estimated based on the already forecasted asset growth and a constant capital adequacy ratio (CAR) of 17.66 percent. This value represents a long-term assumption based on the bank's historical performance and its actual CAR in 2022. Over the observed period, GB's CAR gradually increased from 16.22 percent to 17.66 percent, with the largest year-on-year increase of 0.77 percent from 2019 to 2020. Using the 2022 CAR enables us to use the most recent value, which reflects GB's actual behaviour, as there were no signs of lowering capital buffers (by adopting a more aggressive dividend policy, as an example).

Since, the required capital increase is now estimated directly and no longer derived from equity growth, the original link between NI and reinvestments (as implied in Koller's formula) has been redefined, not removed. In this adjusted model, reinvestment is no longer taken simply as the difference in equity, but is instead determined by regulatory capital needs. That is as before mentioned by the asset growth and the target CAR. As a result, the long-term FCFE growth rate is based solely on the normalised growth rate of NI, which is 0.91 percent. Required capital growth is excluded, because it's driven by GB's balance sheet expansion and not their profitability. OCI is also excluded, as it fades out to 0 in the forecast and does not represent a recurring cash flow.

6.3 Calculating the cost of equity

Moving on to the cost of equity, which we'll be calculating using the CAPM model:

$$k_e = R_f + \beta \times (R_m - R_f) \quad (1)$$

Note: k_e denotes the required return on equity (also commonly written as R_e).

Where we use a beta of 0.755 – the beta was computed as an average between the Koller et al. (2020) assumption of 1.0 and Damodaran's data (n.d.a) on European regional banks – 0.51. To refine the comparison, we also considered the average beta for banks operating in developed Europe, from the Damodaran dataset (n.d.a). For instance, the average beta for money centre banks is 1.19. So the middle point was used.

In addition to this analysis, we examined the beta of GB's publicly traded peer and Slovenia's largest bank by assets, NLB, which had a beta of 1.01 in 2022 (S&P Capital IQ, n.d.) However, it is important to recognise the differences in size and leverage ratios between GB and NLB.

Koller et al. (2020) highlight that adjusting equity betas for leverage is unnecessary when banking peers have similar coverage ratios. In GB's case:

Table 23: Comparison of Key Capital Ratios for GB and NLB 2022

		(in 2022)
	GB	NLB
Tier 1 Common Capital (CET1) ratio (%)	14.32	15.07
Tier 1 ratio (%)	14.32	15.67
Total Capital ratio (%)	17.62	19.15
Basel III Leverage ratio (%)	8.96	9.10

Source: Adapted from S&P Capital IQ (n.d.a, n.d.b).

In nominal terms these differences appear small, but it wouldn't be appropriate to use the beta of GB's largest publicly traded peer. In addition, while the percentage differences in capital ratios appear small, these changes can represent large nominal differences – given the size disparity between the two banks.

For the market risk premium, we used Slovenia's equity risk premium of 6.90 percent (Damodaran, n.d.a.). The risk-free rate is based on the 10-year Slovenian government bond yield on 31.12.2022, which was 3.776 percent (World government bonds, n.d.). To ensure a broader perspective, we also looked at Bank of Slovenia's report on bonds (Bank of Slovenia, 2024), where they state that the 10-year government bond yield averaged 3.4 percent across the year, up just over 1 percentage point on the previous year.

While it is common practice to use risk-free rates and market risk premiums from stable markets like the U.S. or Germany, applying Slovenia-specific data ensures a more accurate reflection of GB's local economic and market conditions, aligning the valuation with the specific risks of the Slovenian market.

The following formula shows the calculation of cost of equity, using the before mentioned data on the chosen beta, market risk premium and the chosen risk-free rate:

$$k_e = R_f + \beta \times (R_m - R_f) = 3.78\% + 0.755 \times 6.90\% = 8.99\% \tag{15}$$

6.4 Continuing value and final equity valuation

Next, we use the simplified formula proposed by Koller et al. (2020) as GB does not report RONE to determine our continuing value (CV). This calculation helps us determine the value of GB beyond the forecasted period. In other terms CV helps us determine the long-term value by assuming the bank will operate in perpetuity under stable conditions:

$$CV_t = \frac{NI_{t+1}\left(1 - \frac{g}{ROE}\right)}{k_e - g} \tag{7}$$

Where CV_t is the continuing value as of year t, $NI_{t+1}$is the net income in year $t+1$, g equals growth, ROE is return on equity, and k_e is the cost of equity.

Table 24: Projected FCFE and PV of CV Calculation for GB 2023-2027

					(Base data in percent)
LTG	0.91				
Cost of equity	8.99				
ROE	10.77				
					(In thousands of EUR)
Year	2023E	2024E	2025E	2026E	2027E
FCFE estimation	9,603	14,110	18,464	22,556	21,653
Discount factor	$= \frac{1}{(1+k_e)^n}$ *(16)*				
Continuing Value	418,982				
PV of future FCFE	8,812	11,879	14,263	15,988	14,082
PV of CV	272,491				

Source: Own work based on S&P Capital IQ (n.d.a), Damodaran (2022), and ECB (2022).

Given GB's FCFE projected growth rate of 0.91 percent per year and the continuation of a 10.77 percent ROE for its new business investments, its continuing value as of 2027 would be calculated based on these figures:

$$CV_t = \frac{36.6\, million\, EUR \left(1 - \frac{0.91\%}{10.77\%}\right)}{8.99\% - 0.91\%} = 418.982\, million\, EUR \qquad (17)$$

$$PV\ of\ CV = \frac{418.982\ million\ EUR}{\frac{1}{(1+8.99)^5}} = 272.491\ million\ EUR \tag{18}$$

Table 25: Equity Value, Shares Outstanding, and Value per Share for GB

Equity Value	337,514,844.85 EUR
Shares outstanding	35,572
Value per Share	948.81 EUR
Book value per share (in EUR) 2022: 769.08	

Source: Own work based on S&P Capital IQ (n.d.a).

The valuation is conducted as of 31 December 2022, meaning all inputs and assumptions are based solely on information available up to that date.

Based on the discounted cash flow calculation for GB's cash flows to equity, as shown in the figure, the present value of GB's equity stands at 337.51 million EUR. This valuation leads to a P/B ratio of 1.23 and a price-to-earnings P/E ratio of 12.01. The P/B ratio above 1 indicates that GB is not just maintaining but adding value on top of its book value of equity, aligning with a sustained ROE of 10.77 percent, surpassing the cost of equity, at 8.99 percent. This indicates an effective generation of shareholder value, with a value per share of 948.81 EUR.

For reference NLB showcased a P/B ratio of 0.55 and a P/E ratio of 2.79 in 2022 according to the Ljubljana Stock Exchange (n.d.). The big difference is a reflection of different ownership structures and market valuations between the two banks. Like mentioned before GB operates under a single shareholder – AEC, which affects its long-term value creation. This is further reflected in its high P/B ratio of 1.21, which showcases GB's ability to generate value well above its book equity. In contrast NLB's publicly traded status exposes it to broader public market sentiment, which is in turn reflected in lower ratios.

Part of the difference in valuation can also be explained by the investor's perspective. GB's value reflects the position of a controlling shareholder, while NLB stock is traded on the stock market and therefore valued from the minority shareholder point of view. The key difference between the two is their ability to steer the bank strategically, where the controlling position justifies a higher multiple.

Additionally, we performed a sensitivity analysis by adjusting the long-term FCFE growth rate. For the low scenario, we subtracted 0.5 percent of the existing growth rate, which brought it to 0.41 percent. For the high scenario, we increased it by 1.0 percent, resulting in 1.91 percent. The low-growth scenario produced a value per share of 936.98 EUR, while the high-growth scenario gave 976.19 EUR. This range showcases how sensitive the valuation is to long-term growth assumptions.

Given that AEC is the sole equity stakeholder in GB and holds ultimate authority over the bank’s strategic direction, this valuation is based on the perspective of a majority shareholder. As such, no discount for lack of control or marketability has been applied, as AEC fully controls key decisions, including dividend policies, capital allocation, and future growth strategies.

7 CONCLUSION

In this master's thesis, we conduct a comprehensive and empirically grounded valuation of Gorenjska Banka (GB) using the Free Cash Flow to Equity (FCFE) method. In building the model, we rely on theoretical concepts from Koller et al. (2020) and Damodaran (2013), as well as on my own financial projections for GB, which I develop with the support of my supervisor. The model also incorporates the effects of regulation, macroeconomic trends, and the characteristics of the Slovenian banking market, all of which influence the bank's ability to create value.

In the first chapter, we review various valuation methods used in practice. Similar to Velasco and Wong (2011), we find that there is no single, simple approach universally used to value banks like GB. Based on that, we develop a methodological framework tailored to the specifics of the banking sector. These include limitations in interpreting net income as actual free cash flow to shareholders due to capital requirements, investment cycles, and the regulatory environment.

The second chapter is dedicated to the financial and operational analysis of GB. We thoroughly examine the movement of income and expenses, profitability indicators, capital adequacy, profit distribution strategy, and changes in the structure of the balance sheet. At the same time, we also focus on the basic characteristics of the bank itself – its history, ownership structure, and business model. GB is headquartered in Kranj and employs around 500 people. At the end of 2022, it had 20 branches across Slovenia (25 including GB Leasing, which operated 5). As an independent joint-stock company with AEC (Agri Europe Cyprus) as the majority owner, referred to throughout the thesis as AEC for clarity, it operates as part of a larger banking group. It is classified as a mid-sized Slovenian bank. It is also important to note that AEC was renamed AIK Group in 2025 (AIK Group, n.d.). This allows us to understand better how the organisational structure and strategic direction impact financial indicators and the bank's long-term stability, which we then use as a foundation for forecasting and valuation modelling.

In the third chapter, we carry out a macroeconomic analysis of the EU and Slovenia for the period 2018–2022. We focus on GDP growth, inflation, changes in interest rates, unemployment, and the trade balance. These factors significantly influence interest income, funding costs, and banks' liquidity needs, which is why I incorporate them into the valuation model for GB.

At the industry level (Chapter 4), I examine the institutional and regulatory framework of the Slovenian banking system, how the bank complies with Basel III standards, and the roles of supervisory institutions such as Banka Slovenije, ATVP, and AZN. We also compare GB's financial services offering with those of other banks in Slovenia.

In the final chapter, we build a complete valuation model for GB, based on detailed financial projections that consider both internal characteristics and the broader macroeconomic environment. We use an analytical and data-driven approach, modelling key balance sheet and operating items from the bottom up, while gradually linking their growth to the long-term expected nominal GDP growth. This ensures that the model is not static but realistically reflects the interplay of historical trends, the bank's strategic direction, and macroeconomic conditions. The entire process allows us not only to calculate the value of the bank but also to understand better the mechanisms that affect its long-term performance.

Since GB is a privately held bank with limited market liquidity, we include a 20 percent illiquidity discount in the final valuation, adjusting the equity value to real market conditions. As a result, the estimated P/E ratio decreases from 12.01 to 9.61, and the final equity value amounts to 270,011,875.88 EUR. The calculated share price reaches 759.05 EUR, slightly below the 2022 book value of 769.08 EUR, mainly due to the effect of the applied discount.

While widely used and practical, the FCFE method has important limitations when applied to banks. These include the challenge of modelling reinvestment needs due to regulatory capital constraints, the difficulty in estimating future net cash flows given frequent changes in monetary policy and economic cycles, and the sensitivity of results to assumptions about long-term growth and discount rates. Nevertheless, when combined with in-depth institutional analysis and realistic projections, the method remains one of the most robust tools for valuing financial institutions.

In reflecting on the overall approach to valuing Gorenjska Banka using the FCFE method, I find it both insightful and challenging, as it bridges theoretical frameworks with practical financial projections while accounting for regulatory and macroeconomic nuances. However, a key drawback lies in the method's high sensitivity to assumptions, such as long-term growth rates and discount factors, which can lead to varied outcomes based on slight changes in inputs, potentially overstating or understating the bank's intrinsic value in an unpredictable economic landscape. Additionally, the external perspective limits access to internal data, making forecasts more speculative than precise. Despite these limitations, this process has enhanced my appreciation for the interplay between bank operations and broader environments, underscoring the value of hybrid methods for more resilient valuations in future research.

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APPENDICES

Appendix 1

POVZETEK

V magistrski nalogi sem pripravil model vrednotenja Gorenjske banke (GB) z metodo diskontiranega prostega denarnega toka za lastnike (FCFE). Pri izbiri metode sem upošteval specifičnosti bančnega sektorja, kjer kapitalske zahteve, regulativni okvir in struktura bilance stanja narekujejo drugačen pristop kot pri klasičnih (nefinančnih) podjetjih. V model sem vključil notranje značilnosti banke in makroekonomske razmere, ki vplivajo na njeno sposobnost ustvarjanja vrednosti za lastnike.

Naloga obsega pet delov. Najprej sem pregledal metode vrednotenja v bančni industriji, vključno z vrednotenjem na podlagi sredstev, relativnim vrednotenjem z uporabo tržnih kazalnikov, pristopom na podlagi diskontiranih denarnih tokov (model prostega denarnega toka za lastnike – FCFE in model diskontiranih dividend) ter modelom odvisnih terjatev, ki temelji na Black-Scholes-Mertonovi opcijski teoriji. Nato sem analiziral GB, njeno zgodovino, organizacijsko strukturo, poslovno strategijo in finančne kazalnike. GB poudarja inovativnost, trajnost in stranke, kar se odraža v digitalizaciji, okolju prijaznih finančnih produktih in družbeni odgovornosti. V tretjem delu sem proučil makroekonomske razmere v EU in Sloveniji (2018–2022), s poudarkom na gospodarski rasti, inflaciji, obrestnih merah, brezposelnosti in trgovinski bilanci, ki vplivajo na bančne prihodke, stroške financiranja in likvidnost. Četrti del obravnava slovensko bančno industrijo, regulativni okvir in vlogo nadzornih institucij, kot so Banka Slovenije, ATVP in AZN, ter primerja GB z drugimi bankami glede storitev in tržnega položaja. V zadnjem delu sem zgradil FCFE model z projekcijami, prilagojenimi rasti BDP in kapitalskim zahtevam. Strošek lastniškega kapitala sem izračunal z modelom CAPM, z beta koeficientom, prilagojenim za GB na slovenskem trgu, kar je prineslo 8,99 %. Končna vrednost lastniškega kapitala GB je 270.011.875,88 EUR, z 20-odstotnim diskontom za nelikvidnost, ki izhaja iz zasebne lastniške strukture, pa cena delnice znaša 759,05 EUR. Razmerji P/B (1,23) in P/E (12,01) brez diskonta ter ROE (10,77 %) kažejo, da banka ustvarja vrednost nad knjigovodsko. Občutljivost modela sem preveril z analizo sprememb predpostavk o rasti.

Vrednotenje poudarja pomen regulativnega okvira in makroekonomskih dejavnikov pri uporabi FCFE. Kljub robustnosti metode obstajajo omejitve, kot so občutljivost na predpostavke o rasti in reinvesticijah, ki so področje za nadaljnje raziskave. Naloga prispeva k razvoju metodologij vrednotenja finančnih institucij z uporabo prilagojenega FCFE pristopa ter nudi praktičen vpogled za vlagatelje, analitike in odločevalce v bančnem sektorju, hkrati pa odpira možnosti za nadaljnje raziskave specifik bančnega vrednotenja.

Appendix 2

Table 26: A.1. Banking Institutions and Financial Services Under Article 5 of ZBan-3

	May perform the following mutually recognised financial services under Article 5 of the ZBan-3:							
Bank name:	Financial leasing	M&a	Interbank money brokerage	Investment advisory services	Safekeeping of securities	Credit rating services	Safe deposit boxes	Investment services and activities
Addiko						X	X	
Intesa Sanpaolo	X			X	X		X	X
Sparkasse						X		
DBS					X	X		
GB	X				X		X	
N Banka								
Nova KBM	X	X		X	X		X	X
NLB		X	X	X	X	X	X	X
SKB banka	X	X	X		X	X	X	X
UniCredit	X	X						X

Source: Adapted from Banka Slovenije (n.d.a).

Appendix 3

Table 27: A.2. Overview of Additional Financial Services Offered by Slovenian Banks under Article 6 of ZBan-3

	May perform the following additional financial services under Article 6 of the ZBan-3:							
Bank name:	Pension fund management	Custodian services for investment funds	Credit brokerage	Factoring services with or without recourse	Brokerage of financial leasing	Investment funds marketing services	Voluntary supplementary retirement insurance brokerage	Sale and purchase of investments in gold
Addiko					X			
Intesa Sanpaolo	X	X				X		
Sparkasse			X		X			
DBS					X	X		
GB						X		
N Banka					X	X		
Nova KBM		X	X	X		X	X	
NLB		X	X		X			X
SKB banka			X					
UniCredit		X			X			X

Source: Adapted from Banka Slovenije (n.d.a).

Appendix 4

Table 28: A.3. Financial Services Provided by Slovenian Savings Banks under Articles 5 and 6 of ZBan-3

	Article 5 of the ZBan-3:			Article 6 of the ZBan-3:			
Saving bank name:	Payment instrument issuance & management	Credit rating services	Safe deposit boxes	Insurance agency services	Credit brokerage	Financial lease representation	Investment funds administrative and marketing services
DH	X			X		X	X
LON	X	X	X	X	X		X
PHV							

Source: Adapted from Banka Slovenije (n.d.a).

Appendix 5

Table 29: A.4. Gorenjska Banka, d.d. Financial Highlights, 2018-2022

					(Expressed in EUR and thousands)
S&P Capital IQ - Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
	Current/Restated	Current/Restated	Current/Restated	Current/Restated	Current/Restated
Period ended	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022
Financial filing date	5/6/2020	4/30/2021	4/27/2022	4/29/2023	4/29/2023
Spot exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
Average exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
Balance sheet (€000)					
Total assets	1.832.664	1.970.097	2.140.197	2.274.739	2.315.059
Net loans	971.949	1.070.377	1.178.166	1.268.913	1.481.362
Total deposits	1.504.142	1.565.999	1.738.444	1.895.512	1.918.449
Total common equity	205.520	236.797	218.568	248.523	273.580
Total equity	205.520	236.797	218.568	248.523	273.580
Gross loans / total deposits (%)	69,11	69,83	68,79	68,05	78,29
Net loan loss/ total deposits (%)	64,62	68,35	67,77	66,94	77,22
Avg. Common equity / avg. Assets (%)	11,00	11,63	11,08	10,58	11,38
Avg. Total equity / avg. Assets (%)	11,00	11,63	11,08	10,58	11,38
Equity + Allowance for Loan Losses / Loans (%)	26,27	23,78	19,75	20,89	19,58
Income statement (€000)					
Total interest income	40.881	44.605	46.810	49.157	57.921
Total interest expense	5.539	5.818	5.550	5.477	4.218
Net interest income	35.342	38.787	41.260	43.680	53.703
Total non-interest income	18.598	28.322	22.371	27.288	23.263
Revenue before loan losses	53.940	67.109	63.631	70.968	76.966
Total revenue	54.971	93.507	62.438	71.221	76.025
Ebt excl unusual items	20.942	55.327	24.219	30.809	31.029
Earnings from Cont. Ops.	14.957	43.904	22.367	28.352	28.109
NI to Common Incl Extra Items	14.957	43.904	22.367	28.352	28.109

It continues

(Expressed in EUR and thousands)					
S&P Capital IQ - Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Cash from Ops.	119.760	26.149	(78.767)	(47.543)	(214.410)
Cash from Investing	(43.533)	(76.209)	(26.158)	(25.534)	(38.942)
Cash from Financing	(44.520)	86.567	152.706	104.419	14.073
Foreign exchange rate adj.	2.444	1.025	(641)	1.816	745
Misc. Cash flow adj.	NA	NA	NA	NA	(1)
Net Change in Cash	34.151	37.532	47.140	33.158	(238.535)
Profitability (%)					
Return on Assets	0,81	2,31	1,09	1,28	1,23
Return on Equity	7,35	19,85	9,82	12,14	10,77
Return on Common Equity	7,35	19,85	9,82	12,14	10,77
Net interest margin	1,97	2,08	2,03	1,92	2,33
Net interest income / total revenues	64,29	41,48	66,08	61,33	70,64
Ebt excluding non-recurring items margin	38,10	59,17	38,79	43,26	40,81
Earnings from Cont Ops Margin	27,21	46,95	35,82	39,81	36,97
Net income margin	27,21	46,95	35,82	39,81	36,97
Efficiency ratio	62,63	55,67	59,07	57,07	57,44
EBT + Int. Exp. / Int. Exp. (x)	4,35	10,21	5,32	6,76	8,36
Asset quality (%)					
Nonperforming loans / total loans	13,27	5,87	3,19	2,27	2,08
Nonperforming loans / total assets	7,53	3,26	1,78	1,29	1,35
Nonperforming Assets / Loans and OREO	13,27	5,87	3,19	2,27	2,08
Allow. For credit losses / nonperf. Loans	49,01	36,19	46,22	71,50	65,80
Capital adequacy					
Tier 1 capital	175.195	184.810	186.809	208.157	216.618
Tier 2 capital	0	NA	20.000	20.000	50.000
Total capital	175.195	184.810	206.809	228.157	266.618

(table continues)

(continued)

(Expressed in EUR and thousands)					
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Core tier 1 capital ratio (%)	16,22	15,71	14,88	15,59	14,34
Tier 1 capital ratio (%)	16,22	15,71	14,88	15,59	14,34
Total capital ratio (%)	16,22	15,71	16,48	17,09	17,66
Coverage ratio (%)	60,60	48,39	75,24	71,50	65,80
Interbank ratio (%)	257,59	203,07	133,04	124,08	80,12
Per share information (€)					
Book Value per Share	577,75	665,68	614,43	698,64	769,08
Book Value per Share, As Reported	578,00	666,00	614,00	699,00	769,00
Tangible Book Value per Share	565,84	654,09	603,13	686,93	759,89
Dividends per Share	NA	115,32	NA	NA	NA
Basic EPS	42,05	123,42	62,88	79,70	79,02
Diluted eps incl. Extra items	42,05	123,42	62,88	79,70	79,02
Weighted Avg. Basic Shares Out. (actual)	355.723	355.723	355.723	355.723	355.723
Weighted Avg. Diluted Shares Out. (actual)	355.723	355.723	355.723	355.723	355.723

Source: Adapted from S&P Capital IQ (n.d.a).

Table 30: A.5. Gorenjska Banka, d.d. Income Statement, 2018-2022

					(Expressed in EUR and thousands)
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
	Current/Restated	Current/Restated	Current/Restated	Current/Restated	Current/Restated
Period ended	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022
Financial filing date	5/6/2020	4/30/2021	4/27/2022	4/29/2023	4/29/2023
Spot exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
Average exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
(€000)					
Interest income on loans	40.770	44.492	46.716	48.713	57.610
Interest income on investments	111	113	94	444	311
Total interest income	40.881	44.605	46.810	49.157	57.921
Interest on deposits	5.539	5.818	5.550	5.477	4.218
Total interest expense	5.539,00	5.818,00	5.550,00	5.477,00	4.218,00
Net interest income	35.342,00	38.787,00	41.260,00	43.680,00	53.703,00
Income from trading activities	847,00	673,00	921,00	630,00	291,00
Gain (loss) on sale of assets (rev)	879,00	(656,00)	(40,00)	1.063,00	(332,00)
Gain on Sale of Invest. & Secur (Rev)	3.089,00	10.370,00	2.611,00	4.390,00	(720,00)
Total other non-interest income	13783	17935	18879	21205	24024
Total non-interest income	18.598	28.322	22.371	27.288	23.263
Revenue before loan losses	53.940	67.109	63.631	70.968	76.966
Provision for loan losses	(1.031)	(26.398)	1.193	(253)	941
Total revenue	54.971	93.507	62.438	71.221	76.025
Occupancy expense	3.193	4.184	4.373	4.534	4.834
Federal deposit insurance	0	1.956	1.666	1.789	2.356
Selling general & admin exp.	30.555	31.643	31.330	35.205	37.251
Total other non-interest expense	281	397	850	(1.116)	555
Total non-interest expense	34.029	38.180	38.219	40.412	44.996

(table continues)

(continued)

(Expressed in EUR and thousands)					
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Total other non-interest income					
Restructuring charges	(351)	(866)	NA	(1.060)	(500)
Asset writedown	(1.857)	(858)	(409)	1.797	507
Total legal settlements	(206)	NA	188	18	NA
Other unusual items	NA	NA	(43)	NA	(9)
Ebt incl. Unusual items	18528	53603	23955	31564	31.027
Income tax expense	3.571	9.699	1.588	3.212	2.918
Earnings from Cont. Ops.	14957	43904	22367	28352	28109
Net Income to Company	14.957,00	43.904,00	22.367,00	28.352,00	28.109,00
Net income	14.957,00	43.904,00	22.367,00	28.352,00	28.109,00
NI to Common Incl Extra Items	14.957,00	43.904,00	22.367,00	28.352,00	28.109,00
NI to Common Excl. Extra Items	14.957,00	43.904,00	22.367,00	28.352,00	28.109,00
Per share items (€)					
Basic EPS	42,05	123,42	62,88	79,70	79,02
Basic eps excl. Extra items	42,05	123,42	62,88	79,70	79,02
Weighted Avg. Basic Shares Out. (actual)	355.723,00	355.723,00	355.723,00	355.723,00	355.723,00
Diluted eps incl. Extra items	42,05	123,42	62,88	79,70	79,02
Diluted eps excl. Extra items	42,05	123,42	62,88	79,70	79,02
Weighted Avg. Diluted Shares Out. (actual)	355723	355723	355723	355723	355723
Normalized basic eps	36,80	97,21	42,55	54,13	54,52
Normalized diluted eps	36,80	97,21	42,55	54,13	54,52
Dividends per Share	NA	115,32	NA	NA	NA
Payout ratio (%)	4,40	27,35	183,40	NA	NA

(table continues)

(continued)

(Expressed in EUR and thousands)					
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Supplemental items (€000)					
Effective tax rate (%)	19	18	7	10	9
Total current taxes	1.888	4557	2.172	2.671	2.770
Total deferred taxes	1.683	5.142	(584)	541	148
Normalized net income	13.088,75	34.579,38	15.136,88	19.255,63	19.393,13
Non-cash pension expense	112,00	94,00	88,00	84,00	41,00
Ciq restatement type code	RC	RC	RC	RC	O
Ciq calculation type code	REP	REP	REP	REP	REP

Source: Adapted from S&P Capital IQ (n.d.a).

Table 31: A.6. Gorenjska Banka, d.d. Balance Sheet, 2018-2022

(Expressed in EUR and thousands)

S&P Capital IQ – Bank	**2017 FY**	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Period ended	Current/Restated 12/31/2017	Current/Restated 12/31/2018	Current/Restated 12/31/2019	Current/Restated 12/31/2020	Current/Restated 12/31/2021	Current/Restated 12/31/2022
Financial filing date	4/26/2019	5/6/2020	4/30/2021	4/27/2022	4/29/2023	4/29/2023
Spot exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000	1,000000
Average exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000	1,000000
Reported currency code	EUR	EUR	EUR	EUR	EUR	EUR
Assets (€000)						
Cash and Equivalents	152.274	95.887	165.959	146.627	159.372	99.858
Investment securities	424.210	343.006	323.753	340.492	358.971	390.692
Trading asset securities	NA	150	127	377	NA	NA
Total investments	424.210	343.156	323.880	340.869	358.971	390.692
Gross loans	1.040.206	1.039.554	1.093.591	1.195.794	1.289.806	1.501.889
Allowance for loan losses	(86.985)	(67.605)	(23.214)	(17.628)	(20.893)	(20.527)
Net loans	953.221	971.949	1.070.377	1.178.166	1.268.913	1.481.362
Gross property, plant & equipment	39.551	42.002	44.985	44.504	45.692	49.671
Accumulated depreciation	-25117	-23765	-25877	-26631	-26536	-27861
Net property, plant & equipment	14.434	18.237	19.108	17.873	19.156	21.810
Other intangibles	4.094	4.239	4.124	4.021	4.165	3.270
Investment in Real Estate	45.734	39.783	63.504	63.284	50.343	47.223
Other receivables	1.825	5.195	7.618	7.792	2.812	2.190
Restricted cash	250.274	340.733	308.220	374.659	395.170	258.336
Other current assets	6.978	2.794	2.210	1.494	11.065	5.278
Deferred tax assets, lt	11.405	10.076	4.474	4.896	4.517	4.898
Other long-term assets	6.432	615	623	516	255	142
Total assets	1.870.881	1.832.664	1.970.097	2.140.197	2.274.739	2.315.059

(table continues)

(continued)

(Expressed in EUR and thousands)

S&P Capital IQ – Bank	2017 FY	2018 FY	2019 FY	2020 FY	2021 FY	2022 FY
Liabilities (€000)						
Accounts payable	4.619	3.316	3.419	1.747	2.376	5.347
Accrued exp.	4.007	4.561	7.478	5.905	3.755	4.254
Interest bearing deposits	552.978	570.940	594.272	494.242	433.743	285.141
Non-interest-bearing deposits	923.545	933.202	971.727	1.244.202	1.461.769	1.633.308
Total deposits	1.476.523	1.504.142	1.565.999	1.738.444	1.895.512	1.918.449
Short-term Borrowings	6	37	62	12.535	40.007	1.966
Current Portion of Leases	0	0	230	277	262	298
Long-term debt	101.194	101.416	140.222	150.830	69.277	96.149
Long-term leases	0,00	0,00	966,00	861,00	527,00	313,00
Curr. Income taxes payable	604,00	627,00	3.208,00	0,00	840,00	0,00
Other current liabilities	1.387,00	2.465,00	1.816,00	1.539,00	3.333,00	4.699,00
Unearned revenue, non-current	2.153,00	1.577,00	1.165,00	1.134,00	750,00	1.724,00
Pension & other post-retire. Benefits	1.098,00	1.142,00	1.158,00	1.168,00	1.181,00	1.186,00
Def. Tax liability, non-curr.	1.873,00	915,00	320,00	252,00	196,00	0,00
Other non-current liabilities	75.721,00	6.946,00	7.257,00	6.937,00	8.200,00	7.094,00
Total liabilities	1.669.185	1.627.144	1.733.300	1.921.629	2.026.216	2.041.479
Equity (€000)						
Common stock	16188	16188	16188	16188	16188	16188
Additional paid in capital	20.023	20.023	20.023	20.023	20.023	20.023
Retained earnings	180.921	193.423	225.229	206.579	237.424	265.547
Treasury stock	(26.007)	(26.007)	(26.007)	(26.007)	(26.007)	(26.007)
Comprehensive Inc. And Other	10.571	1.893	1.364	1.785	895	(2.171)
Total common equity	201696	205520	236797	218568	248523	273580
Total equity	201.696	205.520	236.797	218.568	248.523	273.580
Total liabilities and equity	1.870.881	1832664	1.970.097	2.140.197	2.274.739	2.315.059

(table continues)

(Expressed in EUR and thousands)						
S&P Capital IQ – Bank	**2017 FY**	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Supplemental items (€)						
ECS Total Shares Outstanding on Filing Date (actual)	355.723	355.723	355.723	355.723	355.723	355.723
ECS Total Common Shares Outstanding (actual)	355.723	355.723	355.723	355.723	355.723	355.723
Book Value per Share	567,00	577,75	665,68	614,43	698,64	769,08
Book Value per Share, As Reported	567,00	578,00	666,00	614,00	699,00	769,00
Tangible book value	197.602	201.281	232.673	214.547	244.358	270.310
Tangible Book Value per Share	555,494	565,836	654,085	603,129	686,933	759,889
Total debt	101.200	101.453	141.480	164.503	110.073	98.726
Interest bearing cash deposits	342.084	385.504	428.934	470.817	500.692	260.453
Net debt	-51,074	5.416	-24.606	17.499	-49.299	-1.132
Full Time Employees (actual)	457	475	491	482	479	497
Number of Branches (actual)	NA	NA	NA	NA	25	25
Ciq restatement type code	NC	NC	NC	RC	RC	O
Ciq calculation type code	REP	REP	REP	REP	REP	REP
Loss carry forward related items (€000)						
Nol carryforward, after five years	220.697	211.889	187.144	174.674	158.150	142.589
Total nol carryforward	220.697	211.889	187.144	174.674	158.150	142.589
Interbank data (€000)						
Federal Funds Sold & Related Trans. W/ Other Banks	151.612	82.213	144.293	124.331	135.595	78.613
Federal Funds Purch & Rel Trans. With Other Banks	31.410	31.916	71.056	93.453	109.284	98.115

(table continues)

(continued)

(Expressed in EUR and thousands)						
S&P Capital IQ – Bank	**2017 FY**	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Fair value measurements (€000)						
Level 1 assets - quoted prices	441.473	458.149	409.089	472.940	465.547	330.405
Level 2 assets - observable prices	397.903	328.064	363.977	377.972	437.743	358.495
Level 3 assets - unobservable prices	986.844	1.001.662	1.148.812	1.247.037	1.301.987	1.520.944
Fair Value of Assets	1.826.220	1.787.875	1.921.878	2.097.949	2.205.277	2.209.844
Level 2 liabilities - observable prices	1.657.345	1.616.933	1.715.898	1.910.629	2.014.818	2.023.724
Level 3 liabilities - unobservable prices	NA	307	NA	NA	NA	NA
Fair Value of Liabilities	1.657.345	1.617.240	1.715.898	1.910.629	2.014.818	2.023.724
Fair Value Change Included in Earnings	NA	881	8.394	122	4.365	-717

Source: Adapted from S&P Capital IQ (n.d.a).

Table 32: A.7. Gorenjska Banka, d.d. Cash Flow Statement, 2018-2022

					(Expressed in EUR and thousands)
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
	Current/Restated	Current/Restated	Current/Restated	Current/Restated	Current/Restated
Period ended	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022
Financial filing date	5/6/2020	4/30/2021	4/27/2022	4/29/2023	4/29/2023
Spot exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
Average exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
Operating activities (€000)					
Net income - cf	14.957	43.904	22.367	28.352	28.109
Depreciation & amort.	2.090	2.961	3.025	3.137	3.448
Depreciation & amort., total	2.090	2.961	3.025	3.137	3.448
Other amortization	1.103,00	1.223,00	1.348,00	1.397,00	1.386,00
Change in Trad. Asset Securities	118.042,00	61.143,00	17.555,00	(5.085,00)	(618,00)
Change in Other Net Operating Assets	(19.300,00)	(60.652,00)	(120.507,00)	(73.490,00)	(250.662,00)
Other operating activities	2.868,00	(22.430,00)	(2.555,00)	(1.854,00)	3.927,00
Cash from Ops.	119.760,00	26.149,00	(78.767,00)	(47.543,00)	(214.410,00)
Investing activity (€000)					
Capital expenditures	(13.537)	(28.270)	(17.465)	(7.284)	(9.235)
Sale of Property, Plant and Equipment	14.001	NA	15.288	6.788	6.232
Purchase/Sale of Intangible Assets	(1.247)	(1.109)	(1.477)	(1.774)	(617)
Invest in Marketable & Equity Secur	(42.750)	(46.830)	(22.504)	(23.264)	(35.322)
Cash from Investing	(43.533)	(76.209)	(26.158)	(25.534)	(38.942)

(table continues)

(continued)

					(Expressed in EUR and thousands)
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Financing activity (€000)					
Long-term debt repaid	NA	NA	NA	NA	(108)
Total debt repaid	NA	NA	NA	NA	(108)
Common dividends paid	(658)	(12.006)	(41.022)	NA	NA
Total dividends paid	-658	-12006	-41022	NA	NA
Net Incr. In Deposit Accounts	(43.862)	98.573	193.728	104.419	14.181
Cash from Financing	(44.520)	86.567	152.706	104.419	14.073
Other cash flow (€000)					
Foreign exchange rate adj.	2.444	1.025	(641)	1.816	745
Misc. Cash flow adj.	NA	NA	NA	NA	(1)
Net Change in Cash	34.151	37.532	47.140	33.158	(238.535)
Supplemental items (€000)					
Cash interest paid	5.539,00	5.802,00	5.537,00	5.467,00	4.218,00
Cash taxes paid	1.393,00	1.916,00	6.607,00	652,00	3.501,00
Net debt issued	NA	NA	NA	NA	(108,00)
Ciq restatement type code	RS	NC	RS	NC	O
Ciq calculation type code	REP	REP	REP	REP	REP

Source: Adapted from S&P Capital IQ (n.d.a).

Table 33: A.8. Gorenjska Banka, d.d. Performance Analysis, 2018-2022

					(Expressed in EUR and thousands)
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
	Current/Restated	Current/Restated	Current/Restated	Current/Restated	Current/Restated
Period ended	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022
Financial filing date	5/6/2020	4/30/2021	4/27/2022	4/29/2023	4/29/2023
Spot exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
Average exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
Reported currency code	EUR	EUR	EUR	EUR	EUR
Profitability (%)					
Return on Assets	1	2	1	1	1
Return on Equity	7	20	10	12	11
Return on Common Equity	7,35	19,85	9,82	12,14	10,77
Shareholders value added (€000)	(9.256,59)	17.906,23	(4.954,90)	989,04	(2.904,68)
Margin analysis (%)					
Sg&a margin	59,93	37,62	56,21	54,91	54,52
Net interest income / total revenues	64,29	41,48	66,08	61,33	70,64
Ebt excluding non-recurring items margin	38,096	59,169	38,789	43,258	40,814
Earnings from Cont Ops Margin	27	47	36	40	37
Net income margin	27	47	36	40	37
Net Inc. Avail. For Common Margin	27	47	36	40	37
Normalized net income margin	24	37	24	27	26
Net interest margin	2	2	2	2	2
Efficiency ratio	63	56	59	57	57
Fixed Charges Coverage(x)					
Ebt + int. Exp. / int. Exp.	4	10	5	7	8

(table continues)

(continued)

(Expressed in EUR and thousands)					
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Growth over prior year (%)					
Net interest income, 1 yr. Growth	5,935	9,748	6,376	5,865	22,946
Non-interest income, 1 yr. Growth	20	52	(21)	22	(15)
Provision for loan losses, 1 yr. Growth	NM	NM	NM	NM	NM
Total revenues, 1-year growth	25	70	(33)	14	7
Earnings from cont. Operations, 1 yr. Growth	114	194	(49)	27	(1)
Net income, 1 yr. Growth	114,499	193,535	-49,055	26,758	(1)
Normalized net income, 1 yr. Growth	84	164	(56)	27	1
Diluted eps before extra, 1-year growth	114,4987	193,5348	-49,0548	26,7581	-0,8571
Gross loans, 1 yr. Growth	(0,06)	5,20	9,35	7,86	16,44
Allowance for loan losses, 1 yr. Growth	(22,28)	(65,66)	(24,06)	18,52	(1,75)
Net loans, 1 yr. Growth	1,97	10,13	10,07	7,70	16,74
Non-performing loans, 1 yr. Growth	(11,73)	(53,51)	(40,54)	(23,39)	6,77
Non-performing assets, 1 yr. Growth	(11,73)	(53,51)	(40,54)	(23,39)	6,77
Total assets, 1-year growth	(2,04)	7,50	8,63	6,29	1,77
Total deposits, 1 yr growth	1,87	4,11	11,01	9,04	1,21
Tangible book value, 1 yr. Growth	1,86	15,60	(7,79)	13,90	10,62
Common equity, 1 yr. Growth	1,90	15,22	(7,70)	13,71	10,08
Total equity, 1 yr. Growth	1,90	15,22	(7,70)	13,71	10,08
Compound annual growth rate over two years (%)					
Net interest income, 2 yr. CAGR	12,43	7,82	8,05	6,12	14,09
Non-interest income, 2 yr. CAGR	8,39	34,90	9,68	(1,84)	1,97
Provision for loan losses, 2 yr. CAGR	(41,62)	133,23	7,57	(90,21)	(11,19)
Total revenues, 2 yr. CAGR	16,13	45,66	6,58	(12,73)	10,35
Earnings from cont. Operations, 2 yr. CAGR	50,825	150,924	22,287	-19,64	12,103
Net income, 2 yr. CAGR	51	151	22	(20)	12
Normalized net income, 2 yr. CAGR	36	120,34	8	(25)	13

(table continues)

(continued)

(Expressed in EUR and thousands)					
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Compound annual growth rate over two years (%)					
Diluted eps before extra, 2 yr. CAGR	51	151	22	(20)	12
Gross loans, 2 yr. CAGR	5,61	2,53	7,25	8,60	12,07
Allowance for loan losses, 2 yr. CAGR	(15,24)	(48,34)	(48,94)	(5,13)	7,91
Net loans, 2 yr. CAGR	7,70	5,97	10,10	8,88	12,13
Non-performing loans, 2 yr. CAGR	(15,96)	(35,94)	(47,42)	(32,50)	(9,56)
Non-performing assets, 2 yr. CAGR	-15,958	-35,936	-47,419	-32,504	-9,557
Total assets, 2 yr. CAGR	10,033	2,617	8,065	7,454	4,005
Total deposits, 2 yr CAGR	10,784	2,985	7,507	10,019	5,05
Tangible book value, 2 yr. CAGR	0,784	8,512	3,243	2,48	12,246
Common equity, 2 yr. CAGR	0,868	8,353	3,126	2,446	11,879
Total equity, 2 yr. CAGR	0,868	8,353	3,126	2,446	11,879
Compound annual growth rate over three years (%)					
Net interest income, 3 yr. CAGR	5,102	11,53	7,339	7,316	11,456
Non-interest income, 3 yr. CAGR	14,1	21,399	12,858	13,632	-6,349
Provision for loan losses, 3 yr. CAGR	-50,623	105,881	-37,356	-37,393	-67,089
Total revenues, 3 yr. CAGR	16,915	31,884	12,313	9,016	-6,667
Earnings from cont. Operations, 3 yr. CAGR	58,715	88,308	47,479	23,76	-13,812
Net income, 3 yr. CAGR	58,715	88,308	47,479	23,76	-13,812
Normalized net income, 3 yr. CAGR	41,2	69,671	28,569	13,733	-17,534
Diluted eps before extra, 3 yr. CAGR	49,82	88,308	47,479	23,76	-13,812
Gross loans, 3 yr. CAGR	4,37	5,47	4,756	7,455	11,155
Allowance for loan losses, 3 yr. CAGR	-22,097	-37,285	-41,262	-32,391	-4,018
Net loans, 3 yr. CAGR	8,009	8,5	7,318	9,294	11,44
Non-performing loans, 3 yr. CAGR	-20,799	-31,008	-37,507	-40,39	-21,356
Non-performing assets, 3 yr. CAGR	-20,799	-31,008	-37,507	-40,39	-21,356
Total assets, 3 yr. CAGR	8,071	9,182	4,585	7,469	5,526

(table continues)

(continued)

(Expressed in EUR and thousands)					
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Compound annual growth rate over three years (%)					
Total deposits, 3 yr CAGR	10,41	8,514	5,594	8,014	7,001
Tangible book value, 3 yr. CAGR	3,427	5,498	2,78	6,678	5,125
Common equity, 3 yr. CAGR	3,552	5,441	2,714	6,538	4,931
Total equity, 3 yr. CAGR	3,552	5,441	2,714	6,538	4,931
Compound annual growth rate over five years (%)					
Net interest income, 5 yr. CAGR	-0,63	1,959	6,271	9,334	9,989
Non-interest income, 5 yr. CAGR	28,589	2,616	12,309	11,506	8,371
Provision for loan losses, 5 yr. CAGR	-61,71	-1,75	-32,579	-39,119	-27,97
Total revenues, 5 yr. CAGR	-8,018	24,502	12,664	11,807	11,522
Earnings from cont. Operations, 5 yr. CAGR	-33,568	75,957	42,996	33,948	32,156
Net income, 5 yr. CAGR	-33,568	75,957	42,996	33,948	32,156
Normalized net income, 5 yr. CAGR	-28,429	74,454	26,628	22,155	22,181
Diluted eps before extra, 5 yr. CAGR	-35,828	69,972	38,132	33,948	32,156
Gross loans, 5 yr. CAGR	-2,738	2,319	5,514	6,712	7,623
Allowance for loan losses, 5 yr. CAGR	-21,998	-33,674	-34,207	-25,993	-25,084
Net loans, 5 yr. CAGR	0,243	6,148	8,84	8,652	9,218
Non-performing loans, 5 yr. CAGR	-21,271	-29,654	-32,769	-31,61	-27,548
Non-performing assets, 5 yr. CAGR	-21,271	-29,654	-32,769	-31,61	-27,548
Total assets, 5 yr. CAGR	3,262	6,455	8,069	8,487	4,353
Total deposits, 5 yr CAGR	7,305	8,211	9,239	9,113	5,376
Tangible book value, 5 yr. CAGR	4,341	4,808	3,353	4,28	6,467
Common equity, 5 yr. CAGR	4,4	4,846	3,381	4,233	6,286
Total equity, 5 yr. CAGR	4,4	4,846	3,381	4,233	6,286

Source: Adapted from S&P Capital IQ (n.d.a).

Table 34: A.9. Gorenjska Banka d.d., Loan and Deposit Composition, 2018-2022

					(Expressed in EUR and thousands)
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
	Current/Restated	Current/Restated	Current/Restated	Current/Restated	Current/Restated
Period ended	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022
Financial filing date	5/6/2020	4/30/2021	4/27/2022	4/29/2023	4/29/2023
Spot exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
Average exchange rate	1,000000	1,000000	1,000000	1,000000	1,000000
Reported currency code	EUR	EUR	EUR	EUR	EUR
Composition of Loans (€000)					
Commercial loans	743.723	741.231	798.831	857.010	968.327
Residential mortgage loans	107.715,00	119.885,00	134.726,00	157.933,00	217.244,00
Consumer loans	159.297,00	198.964,00	230.949,00	259.857,00	299.058,00
Other loans	15.508,00	16.143,00	13.910,00	14.775,00	15.152,00
Total loans	1.026.243,00	1.076.223,00	1.178.416,00	1.289.575,00	1.499.781,00
Domestic loans	1.026.243	1.076.223	1.178.416	1.289.575	1.231.722
Foreign loans	NA	NA	NA	NA	268.059
Impaired loans	111.556	47.969	23.429	29.220	31.198
Commercial loans / total loans (%)	72	69	68	66	65
Total consumer loans / total loans (%)	16	18	20	20	20
Foreign loans / total loans (%)	NA	NA	NA	NA	18
Total real estate loans / total loans (%)	10	11	11	12	14
Other loans / total loans (%)	2	2	1	1	1

(table continues)

(continued)

(Expressed in EUR and thousands)					
S&P Capital IQ – Bank	**2018 FY**	**2019 FY**	**2020 FY**	**2021 FY**	**2022 FY**
Composition of Deposits (€000)					
Demand deposits	933.202	971.727	1.244.202	1.461.769	1.633.308
Time deposits	570.940	594.272	494.242	433.743	285.141
Total deposits	1.504.142	1.565.999	1.738.444	1.895.512	1.918.449
Domestic deposits	1.504.142	1.565.999	1.738.444	1.895.512	1.918.449
Non-cd deposits	933.202	971.727	1.244.202	1.461.769	1.633.308
Total time deposits / total deposits (%)	37,96	37,95	28,43	22,88	14,86
Non-cds / Total Deposits (%)	62,04	62,05	71,57	77,12	85,14

Source: Adapted from S&P Capital IQ (n.d.a).