# Group Project

**Course : Credit Risk Management**

**Ahmed Amine Naouar**

**Study year : 2024/2025**

**Table of content**



**Table of figure**

# 1-Executive Summary

This report presents an overview of credit risk conditions in the European Union (EU27), combining macroeconomic trends and banking sector risk indicators. Using official data from Eurostat and the European Banking Authority (EBA), we evaluate the economic backdrop and observed risk exposures in Q4 2023.

Key findings include:

- Inflation and unemployment across the EU are gradually returning to normal levels as 2024 comes to a close.
- Economic growth has slowed to a steady, moderate pace following the strong post-pandemic recovery in 2021.
- Credit risk trends vary significantly from one country to another, with some showing higher rates of defaults and losses than others.

These trends are essential for credit risk professionals to monitor when assessing capital adequacy, expected losses, and lending strategy going forward.

## 2- Macroeconomic Environment and Market Sentiment

The macroeconomic environment plays a central role in shaping credit risk in the banking sector. In this section, we examine the evolution of **GDP growth**, **unemployment**, and **inflation** in the EU27 from 2021 to 2024, providing context for the risk indicators observed in bank portfolios.

### 2.1 GDP Growth

The EU27 experienced significant fluctuations in annual GDP growth during the 2021–2024 period. Following the sharp recovery in 2021 after the COVID-19 pandemic, growth rates began to normalize as the effects of fiscal support and monetary stimulus waned.

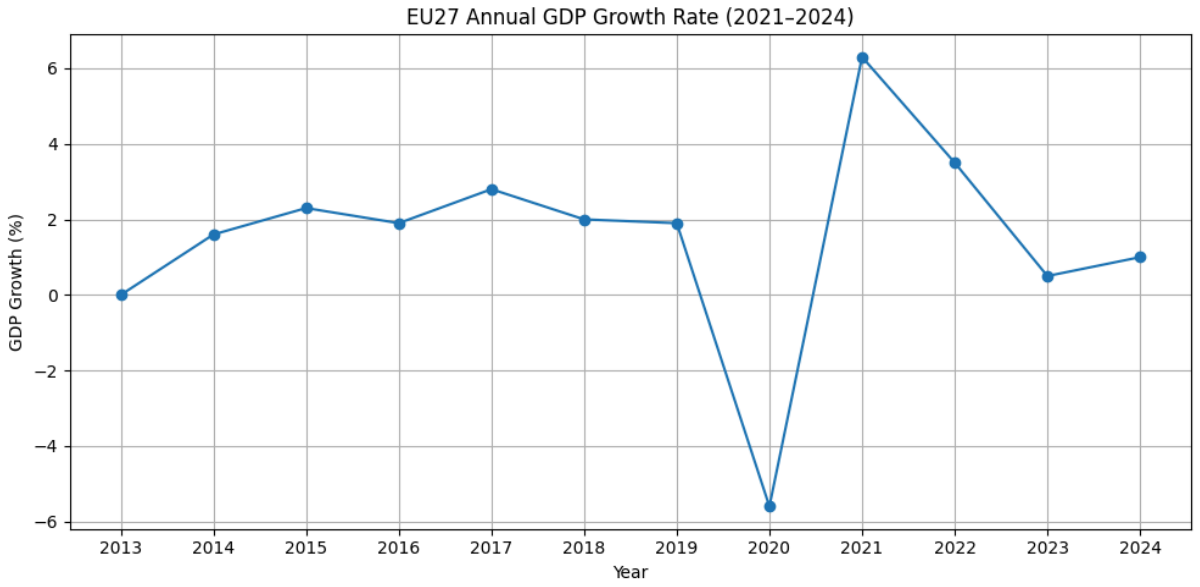


**Figure 1: EU27 Annual GDP Growth Rate (2021–2024)**

Growth remained positive, albeit modest, with increasing signs of slowdown by 2023 due to tighter monetary policy and global uncertainties. This moderation in growth has implications for borrower income, investment appetite, and thus credit demand and repayment capacity.

## 2.2 Unemployment Rate

The unemployment rate in the EU27 showed a steady decline over the period, reflecting a resilient labor market despite rising interest rates and external shocks. After averaging above 7% in 2021, the rate gradually dropped to around 5.9% by 2024.


**Figure 2: EU27 Annual Unemployment Rate (2021–2024)**

The improving employment situation supports lower default probabilities, particularly for retail and SME borrowers. However, pockets of labor market weakness remain in certain countries and sectors, requiring ongoing monitoring.

## 2.3 Inflation Dynamics

EU27 inflation, measured by the Harmonised Index of Consumer Prices (HICP), surged in 2021 and peaked near 11% in mid 2022 due to energy price shocks and supply disruptions. Since then, monthly inflation rates have gradually declined, stabilizing between 2.5% and 3% toward the end of 2024.

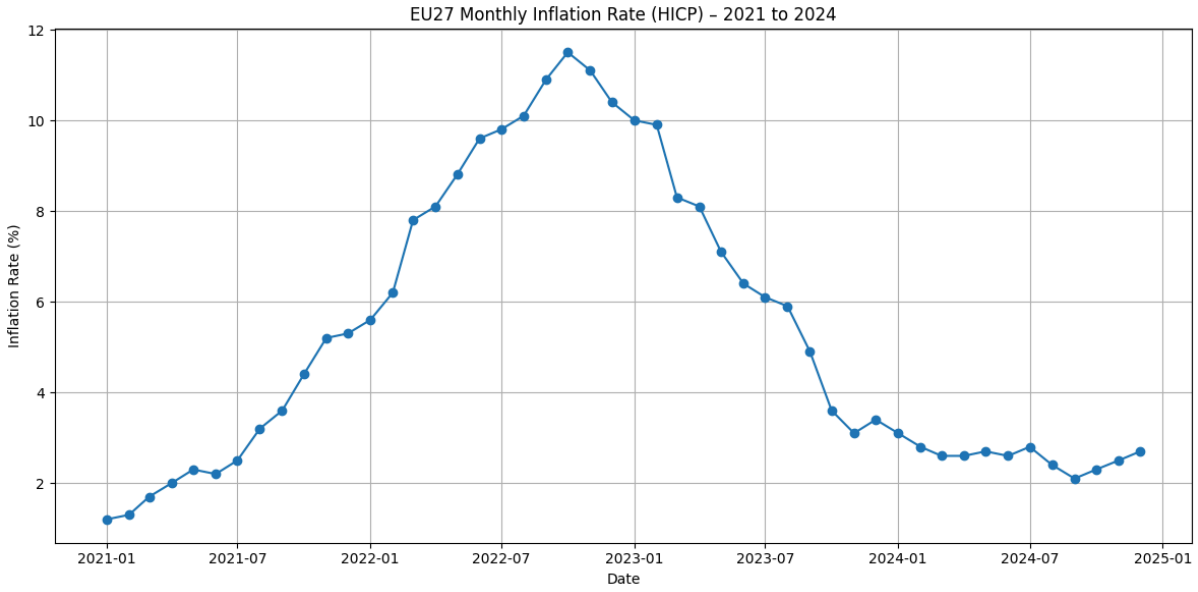


**Figure 3: EU27 Monthly Inflation Rate (HICP) – 2021 to 2024**

The normalization of inflation suggests that monetary tightening by the European Central Bank (ECB) has had the intended effect. However, elevated prices during 2022–2023 may have contributed to short-term financial stress for households and small businesses, with potential lagged effects on loan performance.

## 2.4 Conclusion

The overall macroeconomic environment supports a view of moderate credit risk as of late 2024: growth is stable, unemployment is low, and inflation is returning toward target levels. These conditions reduce systemic stress, but credit portfolios remain sensitive to further inflationary shocks or macroeconomic slowdowns.

# 3- Banks' Assets Evolution

## 3.1 Volume and composition

Although we did not have access to total bank asset volumes or full balance sheet breakdowns, our EBA dataset allows us to focus specifically on corporate lending portfolios.

Corporate credit is a significant exposure class in European bank books, especially in countries with large SME sectors or reliance on specialized lending. Given the sensitivity of this segment to business cycles, interest rates, and sector-specific shocks, it provides a strong proxy for understanding broader asset risk exposure.

We observed national-level breakdowns that include not only general corporate exposures but also "Of Which: SME" and "Specialised Lending", suggesting that banks across the EU manage differing levels of concentration within the corporate portfolio. This variation has implications for portfolio diversification and credit performance.

## 3.2 Asset Quality

Using Q4 2023 EBA risk data, we compared weighted averages of:

- Default Rate (likelihood of borrowers failing to repay)
- Loss Rate (actual financial loss realized)
- LGD (expected loss in case of default)

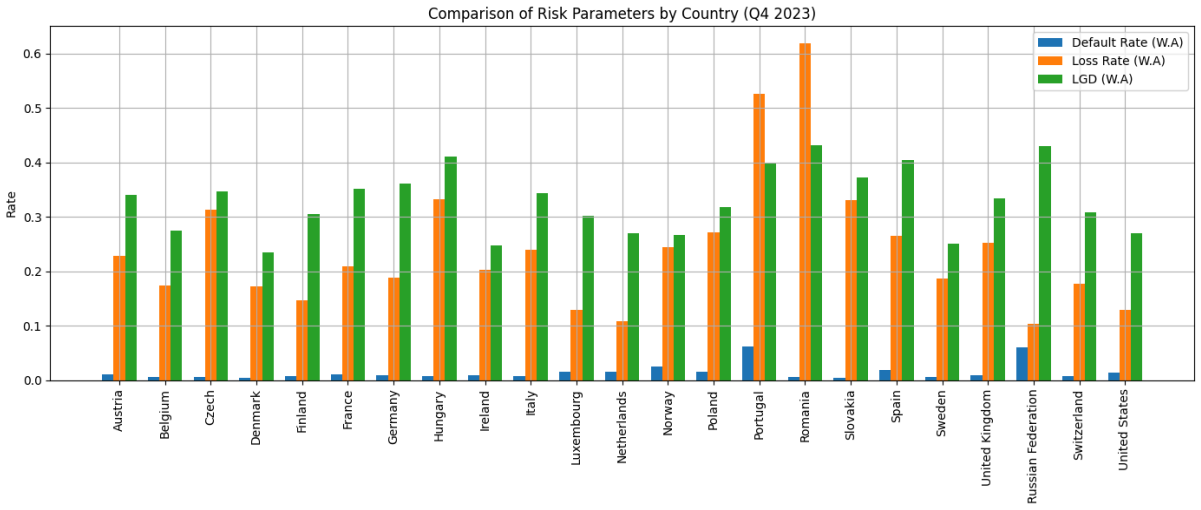


**Figure 4: Comparison of Risk Parameters by Country (Q4 2023)**

Countries such as **Portugal** and **Romania** show higher weighted average loss rates and LGD, highlighting greater credit risk exposure or weaker recovery processes. Other countries such as **Germany**, **Denmark**, and **Belgium** present lower values, indicating relatively better asset quality and collection performance.

These differences reflect not only macroeconomic disparities but also institutional factors such as legal frameworks, collateral structures, and provisioning policies.

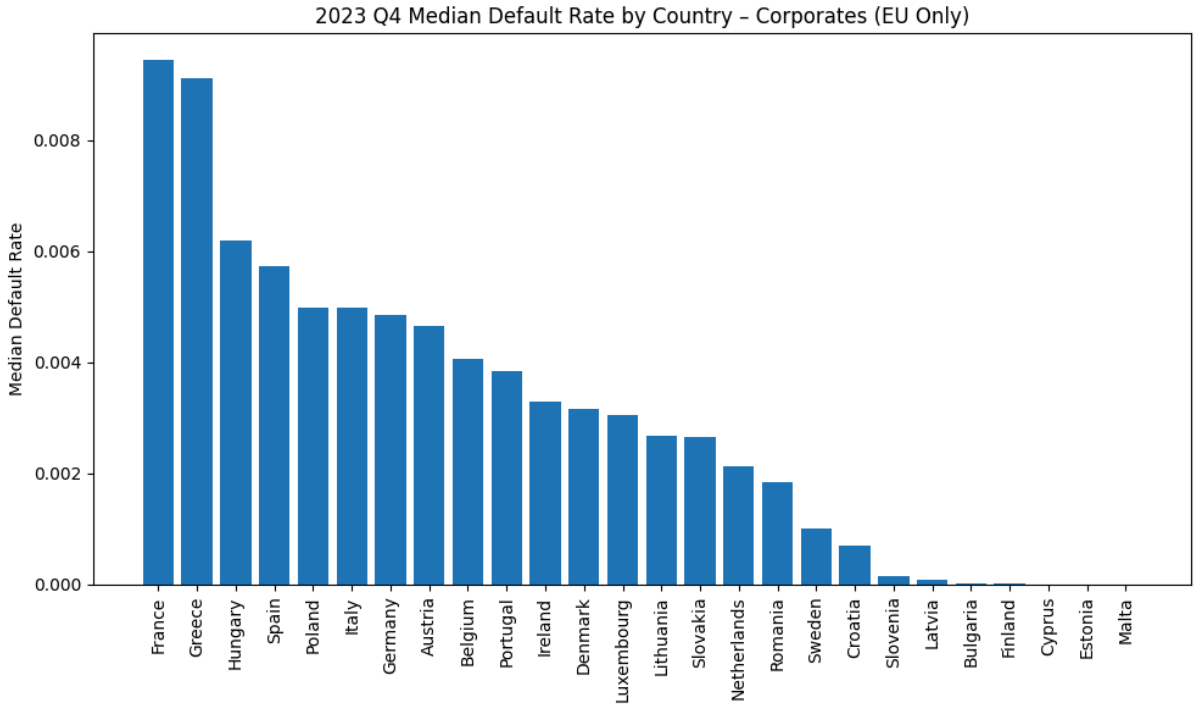


**Figure 5: Median Loss Rate by Country – Corporates (Q4 2023)**

In addition to weighted averages, we examined the median loss rates across countries. This provides a robust view of asset quality across the corporate loan portfolios. Countries like **Romania** and **Slovakia** again appear at the high end of the distribution, confirming broader loss severity concerns.

# 4- Credit Risk and Capital

This section interprets how credit risk indicators relate to regulatory capital requirements, especially under frameworks like Basel III and the IRB (Internal Ratings-Based) approach. While we don’t have direct CET1 or RWA values, we can still meaningfully reflect on the relationship between the risk metrics we analyzed and their impact on banks' capital buffers.

## 4.1 Interpretation (Based on our Risk Parameters)

Although capital ratios such as CET1 or Total Capital Ratio are not included in the dataset, we can draw connections between Default Rate, LGD, and the capital that banks must hold to cover unexpected losses.

In particular:

- Higher default rates (PD) imply greater expected credit losses (ECL), leading to higher provisioning needs and a potential drag on capital adequacy.
- Higher LGD values indicate that when defaults occur, losses are significant meaning that banks must hold more capital to remain solvent during stress.
- Countries with both high PD and high LGD (e.g., Romania, Portugal) may face greater capital pressure, especially if these risk metrics persist or deteriorate.

## 4.2 Conceptual Link to IRB Models

Under IRB approaches, capital requirements are directly influenced by:

- PD (Probability of Default)
- LGD (Loss Given Default)
- EAD (Exposure at Default)

  ... all components of the formula for unexpected loss.

Our dataset provides PD and LGD proxies, which suggest that:

- Some countries are likely to have higher capital charges due to elevated LGD.
- Countries with low PD but high LGD still pose a risk to capital if a large loss event occurs.

# 5- Credit Risk and Profitability

This section connects credit risk metrics to banks' financial performance particularly their profitability, cost of risk, and ability to generate returns in a high-risk environment.

## 5.1 Limitations of the Dataset

The dataset used does not include explicit profitability indicators such as:

- Return on Equity (ROE)
- Return on Assets (ROA)
- Net Interest Margin (NIM)
- Cost of Risk

However, we can still interpret how the observed risk parameters (Default Rate, Loss Rate, LGD) would affect bank profitability.

## 5.2 Interpretation of Risk Impact on Profitability

High Default Rates lead to an increase in loan loss provisions, directly reducing net income.

- High LGD values imply that recoveries from defaulted loans are poor, meaning the bank suffers a higher net loss per default, further compressing profitability.
- High Loss Rates (which combine PD and LGD) serve as a direct indicator of deteriorating asset performance and expected future income erosion.

Countries such as **Portugal** and **Romania**, which show high weighted average Loss Rates and LGDs, are likely to experience higher credit costs and lower net profitability from lending.

Meanwhile, countries with lower credit risk exposure, such as **Germany**, **Austria**, or **Denmark**, can maintain healthier margins and return profiles due to lower provisioning needs and better asset recovery rates.

## 6- Conclusion

The overall credit risk outlook for banks across the EU27 looks relatively stable as we reach the end of 2024. This is largely thanks to a supportive economic environment and signs that asset quality is slowly improving. In this report, we combine data from Eurostat and detailed risk indicators from the European Banking Authority (EBA) to highlight some important findings.

On the economic front, conditions have continued to improve since the post-COVID recovery. While GDP growth has been modest, it remains in positive territory. Unemployment has been falling steadily, and inflation has mostly returned to target levels. Together, these factors reduce the likelihood of widespread credit issues in both consumer and business lending.

When we look at the quality of corporate loans, there are clear differences between EU countries. Key indicators like default rates, loss rates, and LGD (loss given default) show that stronger economies like Germany, Denmark, and the Netherlands are maintaining healthier loan books. In contrast, countries such as Romania, Portugal, and Slovakia are seeing higher levels of credit risk. These gaps likely reflect differences in economic fundamentals and how each country handles debt recovery and enforcement.

In terms of capital and profitability, higher credit risk in some regions suggests banks may need to set aside more funds to cover potential losses, which could strain their capital buffers. Although we don’t have direct figures for CET1 ratios or profitability, the data on LGD and loss rates points to meaningful credit costs especially in economies with weaker recovery systems.