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Doctoral Dissertation

PERFORMANCE AND FINANCIAL SOUNDNESS OF FRENCH, SPANISH AND ITALIAN COOPERATIVE BANKS: A COMPARATIVE ANALYSIS

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Abstrakt

Niniejsza praca analizuje odporność finansową i efektywność banków spółdzielczych we Francji, Hiszpanii i Włoszech w obliczu dwóch głównych kryzysów: globalnego kryzysu finansowego z 2008 roku oraz pandemii COVID-19. Banki spółdzielcze, charakteryzujące się własnością członkowską, demokratycznym zarządzaniem i ukierunkowaniem na społeczność lokalną, są często postrzegane jako bardziej stabilne niż banki komercyjne w czasach wstrząsów systemowych. Jednak brakuje kompleksowych, porównawczych badań empirycznych obejmujących różne kraje i okresy. Celem pracy jest wypełnienie luki badawczej poprzez porównawcze badanie trzech ważnych dla ruchu spółdzielczego krajow: Francji, Włoch i Hiszpanii, z wykorzystaniem danych panelowych obejmujących lata 2008–2023. W pracy oceniane są kluczowe wskaźniki mierzące wyniki finansowe banków spółdzielczych, szczególnie w okresach stresu finansowego. Zarówno analizy teoretyczne jak i cześć empiryczna wskazują, że banki spółdzielcze w analizowanych krajach wykazywały trwałą odporność i kontynuowały akcję kredytową, zwłaszcza wobec MŚP, nawet wtedy, gdy banki komercyjne ją ograniczały. Analiza uwzględnia znaczenie struktur instytucjonalnych, ram regulacyjnych i modeli zarządzania, które różnicowały reakcje na kryzys w poszczególnych krajach. Wyniki analizy modelowej potwierdzają, że banki spółdzielcze utrzymywały solidną pozycję kapitałową i efektywność operacyjną. Wnioski zawarte w pracy wspierają argumenty na rzecz różnorodności instytucjonalnej w sektorze bankowym oraz dostarczają wskazówek dla polityki regulacyjnej wspierającej bardziej stabilny i inkluzyjny system finansowy.

Abstract

This thesis investigates the financial resilience, efficiency, and performance of cooperative banks in France, Spain, and Italy across two major economic disruptions: the 2008 global financial crisis and the COVID-19 pandemic. Cooperative banks, characterized by member ownership, democratic governance, and community focus, are often regarded as more stable than commercial banks during systemic shocks. However, empirical evidence across countries and time periods remains limited. This study addresses that gap by employing a comparative, cross-country, and longitudinal approach using panel regression analysis over the period 2008–2023. The research evaluates key indicators to assess cooperative bank performance. Results show that cooperative banks consistently demonstrated strong resilience and continued lending activity, particularly to SMEs, even as commercial banks contracted. The analysis highlights the significance of institutional structures, regulatory frameworks, and governance models in shaping outcomes across the three countries. The empirical investigation, testing both performance and stability during each crisis, confirms that cooperative banks maintained solid capital positions, operational efficiency, and community engagement during both crises. Moreover, the thesis reveals that their member-focused business model, local knowledge, and conservative risk profiles contributed significantly to systemic stability and financial inclusion. The study concludes by emphasizing the continued relevance of cooperative banking in promoting resilient and inclusive financial systems. It provides policy insights for regulators considering differentiated supervision and supports theoretical arguments for institutional banking diversity. Ultimately, the thesis reinforces the cooperative model as a viable and responsible alternative in the evolving landscape of European finance.

Table of Contents

Chapter 1 Introduction

1.1 Background and motivation 9

1.2 Research problem, gap, and questions 11

1.3 Objectives of the study and hypotheses 14

1.4 Methodological overview, scope, and limitations 16

1.5 Theoretical contribution and significance 19

1.6 Thesis structure 21

Chapter 2 Historical development of the European cooperative banking

2.1 The cooperative principles in a historical context 25

2.2 The structural and organizational characteristics of the cooperative banks 29

2.3 The impact of 2008 crisis on the banking sector 37

2.4 The impact of the Covid-19 pandemic on the cooperative sector 49

Chapter 3 The characteristics of the southern European cooperative banking model

3.1 The role and importance of cooperative banks 58

3.2 Business models for the cooperative sector 70

3.3 The French model 76

3.4 The Italian banking model 81

3.5 Spanish cooperative banking model 83

Chapter 4 Post-2008 crisis reforms and the cooperative banking sector

4.1 Bank capital adequacy regulations - Basel 3 Agreement 86

4.1.1 Minimum Capital Requirements 86

4.1.2 Leverage Ratio 87

4.1.3 Liquidity Requirements 88

4.2 The Impact of Basel 3 Agreement 88

4.3 Financial Stability Board and the regulation of systemically important banks 90

4.3.1 The post-crisis too-big-to-fail (TBTF) reforms 90

4.3.2 Global and domestic systemically important banks 91

4.3.3 Enhanced supervision 93

4.4 Banking Union Project and cooperative banking sector 95

4.5 Regulatory innovation for the cooperative sector: Institutional Protection Scheme (IPS) 101

Chapter 5 Post-2008 legal and organizational reforms in the southern cooperative ..... sectors

5.1 Structural and organizational framework in French banking.....106

5.2 Structural and organizational framework in Italian banks 111

5.3 Structural and organizational framework in Spanish Banks 120

5.4 The performance of cooperative banks in France, Italy, and Spain 127

Chapter 6 Measuring bank performance

6.1 Bank performance: efficiency and stability 136

6.2 Risk management 140

6.3 Performance and risk in cooperative banks 144

6.4 Measuring bank efficiency 145

6.4.1 Efficiency in cooperative banks 145

6.4.2 Parametric and non-parametric methods of measuring bank efficiency 148

6.4.3 Historical background of the measurement of efficiency 150

6.5 Methods of measuring bank stability: Z-score index 154

6.5.1 Altman Z-Score model 154

6.5.2 Z-score in banking..... 155

Chapter 7 Comparison of cooperative banks' stability in France, Spain, and Italy

7.1 Cooperative bank stability in France.....159

7.2 Cooperative bank stability in Spain 160

7.3 Cooperative bank stability in Italy 161

Chapter 8 Cooperative bank performance and stability: empirical investigation

8.1 Underlining concepts 165

8.2 Descriptive statistics 168

8.3 Regression results.....172

8.4 Interpretation of results from the regression models.....177

8.5 Discussion of Hypothesis.....178

Chapter 9 Conclusion

9.1 Theoretical contributions and policy implications 187

9.2 Methodological reflections and study limitations 190

9.3 Avenues for future research.....194

9.4 Final reflection and summary.....197

Abbreviations

ACPR	Autorité De Contrôle Prudentiel Et De Résolution
BBC	Banche Di Credito Cooperativo
BCA	Baseline Credit Assessment
BCBS	Basel Committee On Banking Supervision
BCC	Banche Di Credito Cooperativo
BCPs	Basel Core Principles
BNP	Banque Nationale De Paris
BPCE	Banque Populaire Caisse Epragne
BPS	Basis Points
BRRD	Bank Recovery And Resolution Directive
CAR	Capital Adequacy Ratio
CB	Cooperative Banks
CBG	Cooperative Banking Groups
CBS	Cooperative Banking System
CCP	Central Counterparty
CDS	Credit Default Swap
CET1	Common Equity Tier 1
CIR	Cost-To-Income Ratio
CM	Crédit Mutuel
CNMV	Comisión Nacional Del Mercado De Valores
CRAs	Counterparty Risk Assessments
CRR	Capital Requirements Regulation
CRRs	Counterparty Risk Ratings
CSR	Corporate Social Responsibility
D-SIB	Domestic Systemically Important Banks
DA	Depostis To Assets
DEA	Data Envelopment Analysis
DFA	Distribution-Free Approach
DMUs	Decision-Making Units
DSGE	Dynamic Stochastic General Equilibrium
EACB	European Association Of Cooperative Banks
EBA	European Banking Authority
ECB	European Central Bank
ESG	Environmental, Social, And Governance
FCs	Financial Cooperatives
FDI	Foreign Direct Investment
FGDCC	Fondo De Garantía De Cooperativas De Crédito
FGDEC	Fondo De Garantía De Depósitos De Entidades De Crédito
FROB	Fondo De Reestructuración Ordenada Bancaria
FSAP	Financial Sector Assessment Program
FSB	Financial Stability Board

G-SIBs	Global Systemically Important Banks
GAAP	Generally Accepted Accounting Principles
GDP	*Gross Domestic Product*
GOV SEC	Goverment Securities
HHI	*Herfindahl-Hirschman Index*
HICP	*Harmonised Index Of Consumer Prices*
ICA	International Co-Operative Alliance
ICCREA	Istituto Centrale Delle Casse Rurali Ed Artigiane
IMF	International Monetary Fund
IPS	Institutional Protection Schemes
IR	Interest Rate
KPIs	Key Performance Indicators
LA	Liquid Assets
LATA	Liquid Assets To Total Assets
LCR	Liquidity Coverage Ratio
LDR	Loans To Deposit Ratio
ln TA	Ln Total Assets
LRMES	Long-Run Marginal Expected Shortfall
M&A	Mergers And Acquisitions
MBs	Mutual Banks
MDA	Multiple Discriminant Analysis
MLPS	Multi-Level Performance Score
MTBF	Mean Time Between Failure
NIM	Net Interest Margin
NPAs	Non-Performing Assets
NPLs	Non-Performing Loans
NRAs	National Resolution Authorities
NSFR	Net Stable Funding Ratio
NW	Net Worth
OECD	Organisation For Economic Co-Operation And Development
PONV	Point Of Non-Viability
ROA	Return On Assets
ROAA	Return On Average Assets
ROAE	Return On Average Equity
ROE	Return On Equity
RRPs	Recovery And Resolution Plans
RWA	Risk-Weighted Assets
SD	Standard Deviation
SEM	Structural Equation Modeling
SFA	Stochastic Frontier Approach
SFDR	Sustainable Finance Disclosure Regulation
SIBs	Systemically Important Banks
SIFIs	Systemically Important Financial Institutions

SME	Small And Medium-Sized Enterprise
SRB	Single Resolution Board
SRF	Single Resolution Fund
SRISK	Systemic Risk
SRM	Single Resolution Mechanism
SSM	Single Supervisory Mechanism
T1R	Tier 1 Ratio
TA	Total Assets
TBTF	Too-Big-To-Fail
TC/TR	Total Cost To Total Revenue
TCR	Total Capital Ratio
TE/TA	Total Equity To Total Assets
TFA	Thick Frontier Approach
TLAC	Total Loss-Absorbing Capacity
TLTROs	Targeted Long-Term Refinancing Operations
TR	Total Return
VAR	Vector Autoregression

Chapter 1 Introduction

1.1 Background and motivation

The global financial system has experienced recurrent episodes of instability, with crises exposing structural weaknesses in banking models and challenging the resilience of financial institutions. Among the most pivotal moments in recent economic history were the global financial crisis of 2008 and the COVID-19 pandemic beginning in 2020—two major disruptions that tested the stability and adaptability of the banking sector across different institutional models. During such periods, cooperative banks have drawn increasing attention from scholars, regulators, and policymakers for their distinctive role within national banking systems and their apparent ability to weather systemic shocks with greater stability and continuity than their commercial counterparts (Ayadi et al., 2021). Cooperative banks differ fundamentally from shareholder-based commercial banks. Rooted in principles of mutualism, democratic governance, and service to members rather than the pursuit of shareholder profit, cooperative banks have long been embedded in the local and regional economies of many European countries. France, Spain, and Italy in particular host strong cooperative banking traditions, each reflecting their unique socio-economic histories and institutional frameworks. Across these three countries, cooperative banks maintain sizable market shares, especially in retail banking and the financing of small and medium-sized enterprises (SMEs). Their organizational logic, emphasizing long-term relationships, local knowledge, and profit reinvestment into member communities, positions them as crucial actors in the broader debate on financial inclusion, resilience, and sustainability.

The financial crisis of 2008 prompted widespread banking sector failures, loss of public trust, and the introduction of far-reaching regulatory reforms, including Basel III. Commercial banks, many of which were heavily exposed to complex financial instruments and interbank liquidity dependencies, required public bailouts in multiple jurisdictions. In contrast, cooperative banks demonstrated relative resilience. Their conservative business models, close customer relationships, and limited exposure to speculative markets shielded them from the worst consequences of the crisis (Cornée et al., 2018). Subsequent empirical investigations highlighted that cooperative banks in countries such as France, Spain, and Italy continued lending throughout the downturn, thereby supporting local economies when credit from commercial banks dried up (Poli, 2019). Twelve years later, the outbreak of the COVID-19 pandemic created another stress scenario for global finance, this time arising from an exogenous

health shock with immediate real-sector impacts. Lockdowns, disrupted supply chains, and abrupt changes in consumer behavior created sharp declines in economic activity. Although the policy response during COVID-19 differed from 2008—emphasizing liquidity injections, state guarantees, and moratoria—banks again found themselves at the center of crisis response mechanisms. Cooperative banks' structural conservatism, deep local integration, and countercyclical behavior were again placed under scrutiny, particularly in the context of their ability to support vulnerable households, rural economies, and SMEs during prolonged economic disruptions (Demirgüç-Kunt et al., 2021).

While policymakers and researchers have often praised cooperative banks for their crisis-time performance, there remains a notable gap in comparative, multi-country analysis of their behavior across different crisis episodes. Existing literature is often fragmented, focusing on individual countries or institutions, or limited to specific crisis contexts. Furthermore, there is a need to evaluate whether cooperative banks' positive performance is attributable to their institutional structure, business model, governance practices, or regulatory treatment—or a combination of these factors. This complexity warrants a robust empirical investigation that moves beyond descriptive narratives and toward a structured, data-driven comparison of cooperative banking across distinct national systems and economic contexts.

The motivation for this thesis arises from the intersection of these intellectual, empirical, and policy concerns. By examining cooperative banks in France, Spain, and Italy across two crises—the 2008 financial crisis and the COVID-19 pandemic—this research addresses both an academic gap and a pressing policy question: are cooperative banks structurally more resilient than commercial banks, and how do regulatory and institutional environments mediate this resilience? Answering this question requires not only historical and theoretical understanding but also empirical validation using comparative methods and longitudinal data. The selection of France, Spain, and Italy is deliberate and significant. These countries represent some of the largest cooperative banking markets in Europe and offer institutional diversity within a shared regulatory framework. France is home to Crédit Agricole and BPCE, two large cooperative groups with integrated internal mechanisms resembling Institutional Protection Schemes (IPS). Italy has undergone significant restructuring of its cooperative sector, with the consolidation of Banche di Credito Cooperativo (BCCs) under ICCREA and Cassa Centrale Banca, creating a more centralized governance and risk-sharing structure. Spain's rural cooperatives, grouped under entities such as Grupo Caja Rural, continue to operate under a decentralized but coordinated system of mutual guarantees and solidarity mechanisms. These

differences provide fertile ground for analyzing how national structures and reforms impact the behavior and outcomes of cooperative banks in times of crisis (Cornée et al., 2018).

Moreover, this research is motivated by the evolving debate around the role of banks in promoting inclusive, sustainable, and resilient economies. As climate risks, digitalization, and inequality dominate the economic agenda, there is growing interest in banking models that go beyond short-term profit maximization and align more closely with long-term social goals. Cooperative banks, through their member-based governance and reinvestment practices, are increasingly viewed as part of the financial ecosystem capable of contributing to these broader goals. However, such contributions must be supported by empirical evidence that demonstrates the financial viability and systemic stability of these banks under adverse conditions. In this context, the thesis contributes to an urgent need to reassess traditional metrics of bank performance and reconsider what constitutes a resilient and responsible banking model. It provides a timely response to post-crisis evaluations, regulatory transitions, and policy efforts that seek to balance financial innovation with institutional trust and long-term stability. More importantly, it challenges the dichotomy often drawn between commercial and cooperative banks by empirically testing their comparative behavior and outcomes in high-stress environments.

By grounding its analysis in robust financial indicators—including profitability, capital adequacy, loan quality, and funding stability—across two decades of data (2008 – 2023), this thesis offers one of the few longitudinal and cross-country empirical studies focused exclusively on cooperative banks. The dual crisis framework enables a stress-test of sorts, allowing for a comparison between the internal strengths of cooperative banks and the external constraints they face, whether regulatory, market-driven, or crisis-induced.

1.2 Research problem, gap, and questions

Despite the renewed attention cooperative banks have received in policy debates and academic research, significant gaps remain in understanding their performance, stability, and strategic responses to systemic financial crises. Although many studies have acknowledged the contribution of cooperative banking to financial inclusion, credit continuity, and local economic resilience, much of the literature remains either anecdotal or limited in scope—focusing on single institutions, national contexts, or isolated variables (Poli, 2019). Few empirical investigations offer cross-country comparative insights, particularly across distinct regulatory environments and economic episodes such as the global financial crisis of 2008 and the

COVID-19 pandemic. This lack of comprehensive empirical work has limited the generalizability of cooperative banking performance narratives and their integration into broader financial stability assessments.

The traditional justification for cooperative banks' resilience - rooted in their member-owned structure, local engagement, and conservative risk profile - has often been taken at face value. However, the financial landscape in which these banks operate has evolved significantly over the last two decades. Regulatory reforms such as Basel III, the increasing complexity of financial instruments, competition from digital banking platforms, and new macroprudential supervisory mechanisms have introduced dynamics that may test or even alter the very advantages that cooperative banks have historically relied upon (Billiet et al., 2021). As a result, empirical validation is required to determine whether cooperative banks continue to demonstrate superior resilience and stability, particularly when measured against standardized performance indicators. Moreover, the performance of cooperative banks cannot be properly evaluated without understanding the institutional and regulatory contexts in which they operate. France, Spain, and Italy differ significantly in the legal structures, market concentration, and integration of cooperative banking within their national financial systems. While French cooperative groups like Crédit Agricole and BPCE are characterized by centralized models with internal solidarity mechanisms, Italy has moved from a decentralized cooperative landscape to a more consolidated system following legal reforms in 2016 and 2017 (Cornée et al., 2018). Spain, by contrast, continues to maintain a fragmented cooperative banking system centered around rural savings institutions under the umbrella of Grupo Caja Rural. These variations imply that cooperative banks' responses to crisis are not solely attributable to their model but are mediated by institutional and regulatory frameworks. Nonetheless, most cross-country studies fail to account for these differences in a structured and data-driven manner. Furthermore, existing studies often emphasize descriptive metrics—such as number of branches, membership growth, or loan volume—without conducting deeper econometric analysis of profitability, capital adequacy, asset quality, or systemic risk indicators. Even fewer works evaluate these factors across multiple crises using panel data approaches that account for fixed effects, time variation, or unobserved heterogeneity. This methodological limitation undermines the ability of researchers to draw robust conclusions about cooperative banks' comparative performance. Consequently, policymakers and regulators lack the necessary empirical evidence to support differentiated regulatory treatment or targeted support for the

cooperative banking sector, especially in stress-testing scenarios or crisis-resolution frameworks.

This thesis responds to these research gaps by offering a multi-crisis, cross-country comparative analysis of cooperative banking performance in France, Spain, and Italy over a twenty-year period (2008 – 2023). By focusing on two major financial crises (the 2008 financial crisis and the COVID-19 pandemic) it investigates whether cooperative banks have systematically exhibited greater financial resilience, superior efficiency, and stronger performance outcomes compared to commercial banks. The study also examines whether regulatory reforms introduced between these two crises have materially affected cooperative banks' capital, liquidity, and profitability metrics. Crucially, it places these findings within the specific institutional settings of each country, acknowledging the heterogeneity of cooperative structures and their interactions with national legal and supervisory systems.

Through the use of panel regression models applied to cooperative banking data across three jurisdictions and two crises, this thesis brings methodological rigor to a field often dominated by descriptive or narrative analyses. It employs key financial indicators, including return on assets (ROA), return on equity (ROE), total capital ratio (TCR), and Tier 1 capital ratio (CET1), to measure performance, while also considering asset quality, liquidity, and macroeconomic conditions as control variables. This empirical strategy enables a more granular understanding of how cooperative banks react to economic shocks and whether their performance is consistent, replicable, and structurally distinct from that of commercial banks (Billiet et al., 2021).

Given these considerations, the thesis is guided by the following central research questions:

- To what extent did cooperative banks in France, Spain, and Italy demonstrate financial resilience and stability during the global financial crisis of 2008? This question investigates whether cooperative banks maintained better capital positions, continued lending activity, and avoided the extreme losses experienced by many commercial banks.
- How did cooperative banks in these three countries perform in terms of efficiency and profitability during the 2008 crisis? This explores whether the cooperative model translated into better financial performance under stress, using standardized measures such as ROA, ROE, and capital ratios.
- What was the performance and stability profile of cooperative banks during the COVID-19 pandemic, and how did it differ from the 2008 crisis context? This seeks to

understand how the different nature of the COVID-19 crisis—external, sudden, and government-mediated—affected cooperative banks' resilience and ability to serve local economies.

- Did cooperative banks maintain operational efficiency and profitability during the COVID-19 pandemic? This final question assesses whether the cooperative banking model remains financially viable in the face of modern challenges and evolving regulatory expectations.

By answering these questions, the thesis aims to provide robust evidence on the structural and contextual factors that shape cooperative bank performance during crises. It also contributes to the broader literature on banking diversity and financial system stability, arguing for the continued relevance of cooperative models in an era marked by uncertainty, regulation, and digital transformation.

1.3 Objectives of the study and hypothesis

Building on the research problem and questions outlined in the previous section, this study sets out a clear and structured agenda aimed at empirically evaluating the financial resilience, performance, and efficiency of cooperative banks in France, Spain, and Italy across two major crises: the 2008 global financial crisis and the COVID-19 pandemic. The main objective is to assess whether the cooperative banking model demonstrates superior stability and performance compared to commercial banks, and whether this resilience is consistent across different macroeconomic and regulatory contexts. To achieve this, the study adopts a comparative cross-country perspective supported by quantitative empirical analysis, aiming to contribute to both academic literature and policy discussions concerning banking diversity and systemic financial stability.

The uniqueness of this research lies in its temporal and geographical scope. Covering (2008 - 2023), the study captures both the pre- and post-crisis behavior of cooperative banks and situates them within the changing financial and regulatory landscape in three major European economies. France, Spain, and Italy offer ideal case studies not only because of their sizeable cooperative banking sectors but also due to their contrasting institutional configurations, regulatory responses, and levels of economic development. These contrasts enable a detailed assessment of how structural and contextual variables influence cooperative banking outcomes during times of financial distress (Cornée et al., 2018).

- **General Objective**

The general objective of this thesis is to analyze and compare the performance, efficiency, and resilience of cooperative banks in France, Spain, and Italy during the 2008 global financial crisis and the COVID-19 crisis, using panel regression analysis applied to key financial indicators.

- **Specific Objectives**

To achieve the general objective, the thesis is structured around the following specific objectives:

- To assess the financial resilience of cooperative banks in France, Spain, and Italy during the 2008 financial crisis: This includes examining capital adequacy ratios, liquidity levels, and lending continuity, to determine whether cooperative banks were less affected by the systemic financial disruptions than their commercial peers.
- To evaluate the financial efficiency and profitability of cooperative banks during the 2008 crisis: Metrics such as Return on Assets (ROA), Return on Equity (ROE), and cost-to-income ratios are used to determine the extent to which cooperative banks maintained their operational performance in a period of economic downturn.
- To measure the resilience of cooperative banks during the COVID-19 pandemic: Unlike the 2008 crisis, the COVID-19 shock was exogenous and non-financial in origin, yet it had profound implications for global banking. The study assesses whether cooperative banks maintained their commitment to local lending and stability under these conditions.
- To examine the financial efficiency and profitability of cooperative banks during the COVID-19 crisis: Using the same performance metrics as in the earlier crisis, this objective investigates whether the cooperative model remains effective in today's volatile and highly regulated financial environment.
- To analyze the impact of macroeconomic variables and regulatory developments on cooperative bank performance: This includes exploring how GDP growth, inflation, interest rates, and country-specific regulatory changes influenced the observed trends in cooperative bank performance.
- To compare the performance of cooperative banks with that of commercial banks in the same countries and under the same macroeconomic and regulatory conditions: This allows the study to isolate the effect of the business model from external factors and

provides a robust comparative evaluation.

- To identify patterns of performance across the two crisis episodes, highlighting whether cooperative banks consistently outperformed or whether their success is context-dependent: This final objective addresses the broader theoretical and practical implications of the findings and helps to inform future banking policy, particularly regarding financial inclusion, crisis management, and systemic risk mitigation.
- **Research Hypotheses**

The present research is structured around four central hypotheses that aim to evaluate the performance and financial resilience of cooperative banking systems in France, Spain, and Italy under the stress of two major global crises — the 2008 financial crisis and the COVID-19 pandemic. The hypotheses are formulated as follows:

- **H1**: The cooperative banking sector in the three countries showed resilience during the financial crisis of 2008.
- **H2**: The cooperative banking sectors in the three countries performer well during the financial crisis of 2008.
- **H3**: The cooperative banking sector in the three countries showed financial resilience during the COVID-19 crisis.
- **H4**: The cooperative banking sector in the three countries were well-performed during the COVID-19 crisis.

These hypotheses are examined empirically using regression-based techniques, supported by descriptive and comparative analyses. Each hypothesis is tested using financial indicators including return on equity (ROE), return on assets (ROA), non-performing loans (NPLs), Tier 1 capital ratios (CET1), and Z-scores. The outcomes are interpreted across two crisis periods, with country-specific focus on the cooperative banking sectors in France, Spain, and Italy.

1.4 Methodological overview, scope, and limitations

To evaluate the resilience, efficiency, and financial performance of cooperative banks in France, Spain, and Italy across two major crises, this thesis employs a rigorous quantitative methodology grounded in panel data regression analysis. This approach enables the examination of both cross-sectional and longitudinal variation across banks and over time, offering a comprehensive framework to capture the dynamic relationships between internal bank characteristics, macroeconomic conditions, and performance outcomes. By applying this

methodology to a dataset covering a twenty-year period (2008 – 2023), the study provides both depth and temporal robustness to its empirical conclusions.

The decision to use panel regression models reflects both the structure of the available data and the need for a method capable of controlling for unobserved heterogeneity. Cooperative banks differ significantly not only across countries but also within them in terms of size, governance, capitalization, and local economic integration. A fixed effects approach is used to control for time-invariant, unobserved characteristics that could otherwise bias the estimated relationships between explanatory variables and financial performance indicators. Additionally, the models account for country-specific macroeconomic factors, including GDP growth, inflation, and interest rate dynamics, which are included as control variables to isolate the impact of bank-specific features.

To ensure consistency, the models are estimated using robust standard errors, clustered at the bank or country level, depending on the specific regression specification. This helps to correct for potential autocorrelation and heteroscedasticity, thereby enhancing the validity of the statistical inference. The analysis also differentiates between the two crisis periods—2008–2010 and 2020–2022—by including interaction terms and time dummies, allowing the investigation of whether cooperative banks' performance was systematically different during periods of stress compared to stable years. The inclusion of crisis-specific variables is essential for identifying structural resilience and understanding the mechanisms through which cooperative banks adjust their strategies under financial pressure (Ayadi et al., 2019).

The dependent variables in the regression models are standard indicators of financial performance, efficiency, and stability: Return on Assets (ROA), Return on Equity (ROE), and the Tier 1 capital ratio (CET1). These variables reflect both profitability and solvency dimensions of banking operations. Additional indicators such as the ratio of non-performing loans (NPLs), cost-to-income ratios, and total assets are included as explanatory or control variables to provide further granularity in assessing bank performance. The use of these indicators aligns with regulatory frameworks and industry benchmarks, ensuring the results are both interpretable and policy-relevant (Ramirez, 2017).

The data used in this study were meticulously compiled from official annual reports and statistical yearbooks issued by the European Association of Cooperative Banks (EACB), covering the period from 2008 to 2023. These yearbooks provide standardized financial indicators for cooperative banks at the country level, offering a consistent and reliable source for longitudinal analysis. Where necessary, complementary data were extracted from national

banking associations and central bank publications, ensuring the completeness and accuracy of the dataset. Importantly, only cooperative banks are included in the dataset, with comparative references to commercial banks based on macro-level figures or literature-based benchmarks.

In terms of scope, this thesis focuses exclusively on cooperative banks operating in France, Spain, and Italy. These countries were selected for several reasons. First, they represent some of the most significant cooperative banking sectors in the European Union in terms of market share, membership size, and historical legacy. Second, they offer institutional and regulatory diversity, which allows for meaningful cross-country comparisons. France's cooperative banking sector is characterized by its centralized and vertically integrated structure, while Italy underwent recent consolidation reforms, and Spain retains a more decentralized but coordinated system through rural savings banks. This diversity provides a rich empirical context for assessing how structural differences influence financial resilience and performance under stress (Cornée et al., 2018).

However, the focus on only three countries also introduces certain limitations. While the selection allows for depth and specificity, it does not encompass the full range of cooperative banking experiences across Europe or globally. For instance, Germany, Austria, and the Netherlands also have well-developed cooperative sectors with different institutional characteristics. As such, the findings of this thesis, while informative, may not be generalizable beyond the specific cases studied. Nevertheless, the choice of France, Spain, and Italy strikes a balance between relevance, data availability, and diversity of cooperative banking models.

Another limitation concerns data granularity. The use of aggregated figures at the national level, while consistent and robust, may obscure within-country variations and idiosyncrasies at the individual bank level. While bank-level microdata would allow for more nuanced modeling, it was not consistently available for all years and countries covered in the study. To mitigate this, the analysis includes robustness checks using available disaggregated data when possible and triangulates findings with secondary literature and regulatory reports. Additionally, the twenty-year coverage compensates for some of these limitations by providing longitudinal consistency and smoothing out short-term anomalies (Billiet et al., 2021).

A further methodological constraint lies in the interpretation of causality. While panel regression models can identify statistically significant relationships and control for certain confounders, they do not, by themselves, establish causal mechanisms. Therefore, the findings should be interpreted as indicative of structural associations rather than definitive causal claims. Nevertheless, the temporal structure of the dataset and the inclusion of crisis period indicators

strengthen the argument for meaningful inferences about cooperative banks' behavior during economic disruptions.

Finally, it is worth noting that the analysis is conducted entirely within the European regulatory framework, particularly as shaped by post-crisis reforms such as Basel III, the Single Supervisory Mechanism (SSM), and the Capital Requirements Regulation (CRR). While these frameworks provide a high degree of harmonization, their implementation and interpretation vary across countries. The thesis accounts for these differences by integrating institutional and legal context into the analysis, especially when interpreting divergent performance outcomes among the countries studied.

1.5 Theoretical contribution and significance

This thesis makes an original and significant contribution to the academic and policy-oriented literature on banking resilience, performance, and the role of alternative banking models in the stability of the financial system. In doing so, it integrates empirical investigation with theoretical reflection, providing new insights into the strengths and limits of cooperative banks during major economic disruptions. By focusing on the dual crises of 2008 and 2020 and analyzing the comparative behavior of cooperative banks in France, Spain, and Italy, the study deepens the understanding of how institutional banking diversity contributes to systemic robustness and community-level financial continuity.

From a theoretical standpoint, the thesis contributes to three core areas of literature: financial intermediation theory, institutional diversity in banking, and crisis resilience. Traditional financial intermediation theory explains the role of banks as intermediaries between savers and borrowers, focusing on the efficient allocation of resources, information asymmetry reduction, and risk transformation. However, this theory often assumes profit maximization as the primary objective. Cooperative banks challenge this assumption. Their member-owned governance structure, regional focus, and social mission imply that profit is not the sole—or even primary—measure of success. This thesis advances intermediation theory by empirically examining how cooperative banks prioritize stability and sustainability over short-term gains, particularly in crisis periods (Cornée et al., 2018).

Second, the study contributes to the literature on institutional diversity in banking systems, a theme that has gained traction following the failures of monolithic banking models during the 2008 crisis. The importance of banking diversity lies in its systemic benefits: different ownership forms and governance structures diversify risk profiles, decision-making incentives,

and crisis responses. Cooperative banks, as part of this diversity, offer countercyclical tendencies, long-term relationship lending, and local responsiveness that can buffer macroeconomic shocks. By analyzing three countries with distinct cooperative traditions and structures, the thesis offers empirical evidence that reinforces the theoretical argument for preserving and promoting diversity in banking systems.

Third, the thesis engages with theories of financial system resilience by analyzing how cooperative banks contribute to or detract from systemic stability. While much of the post-2008 literature has focused on capital adequacy, liquidity coverage, and resolution regimes as key pillars of resilience, this study argues that business model characteristics—such as local knowledge, relationship lending, and decentralized governance—are equally vital. The findings demonstrate that cooperative banks were not only compliant with regulatory standards but also sustained credit flows and financial inclusion during crises, thus enhancing overall financial system stability (Demirgüç-Kunt et al., 2021).

On the empirical level, the thesis introduces a comprehensive panel dataset covering cooperative banks in three major European economies over a twenty-year period, incorporating crisis and non-crisis years. This dataset is constructed from reliable, standardized sources such as the European Association of Cooperative Banks (EACB) and national banking authorities, offering a level of longitudinal and comparative insight that is rare in the cooperative banking literature. By employing regression analysis with fixed effects and clustered standard errors, the study ensures methodological rigor while allowing for the detection of nuanced patterns in performance and resilience. The empirical design explicitly tests how financial indicators—such as ROA, ROE, CET1 ratios, and NPLs—evolve under crisis conditions and across different national settings.

In addition to its academic contributions, the thesis holds practical relevance for regulators, policymakers, and banking practitioners. As regulators continue to refine macroprudential frameworks and crisis management tools, understanding the behavior of different banking models under stress is essential. The thesis provides evidence that cooperative banks can serve as stabilizing agents during crises, reducing the need for public intervention and supporting underserved segments of the economy. These findings can inform regulatory differentiation and proportionality, ensuring that cooperative banks are not unfairly burdened by rules designed primarily for commercial banks (Billiet et al., 2021).

Moreover, the thesis responds to current debates about the future of banking in the context of digitalization, sustainability, and financial inclusion. Cooperative banks often lead in these

areas due to their embeddedness in local economies and their mission-driven orientation. By highlighting their role during two different crisis scenarios, the research positions cooperative banks not merely as historical relics or marginal actors but as central to the evolution of a more resilient, inclusive, and sustainable financial system. In this way, the study reinforces calls for supporting and modernizing cooperative banking frameworks while preserving their distinctive identity and governance structures.

Another significant contribution lies in demonstrating that cooperative banks' performance is not homogenous across countries. Institutional context, regulatory design, and recent reforms—such as the consolidation of BCCs in Italy or the internal solidarity mechanisms in France—shape how cooperative banks respond to crisis pressures. This finding cautions against treating cooperative banks as a monolithic category and underlines the importance of tailoring regulatory and policy approaches to specific national circumstances. The thesis, therefore, contributes to the emerging literature on context-sensitive regulation in banking and provides a conceptual bridge between comparative institutional analysis and financial performance studies. The thesis also contributes to the operationalization of resilience in banking. While resilience is often measured narrowly in terms of capital adequacy or liquidity, this study expands the concept to include continued lending behavior, profitability under stress, and avoidance of systemic contagion. These multidimensional indicators provide a richer and more practical understanding of what resilience means in real-world financial systems. The dual-crisis framework used here—contrasting the global financial crisis of 2008 with the COVID-19 pandemic—further strengthens this contribution by showing that cooperative banks maintained stability in very different economic, regulatory, and institutional contexts.

Finally, this research lays the groundwork for future studies by developing a replicable analytical framework that can be extended to other countries or cooperative banking systems. The combination of long-term panel data, crisis-specific variables, and cross-country comparison offers a blueprint for examining resilience in other regions or under different regulatory regimes. Future research can build upon this foundation to explore topics such as digital transformation in cooperative banking, environmental risk management, or the role of cooperative banks in supporting economic recovery in post-crisis environments.

1.6 Thesis structure

This thesis is structured into nine chapters, each serving a specific analytical and conceptual purpose. Following the introductory chapter, which outlines the general background, objectives, hypotheses, and methodology of the study, Chapters two to eight guide the reader

through a comprehensive investigation of the cooperative banking sector in France, Italy, and Spain. The chapters are organized thematically and sequentially, beginning with the historical foundations of cooperative banking in Europe and culminating in an empirical analysis of financial performance and resilience across two major crises—the 2008 global financial crisis and the COVID-19 pandemic.

- **Chapter 2: Historical Development of the European Cooperative Banking**

This chapter lays the historical and institutional foundation for the study by tracing the origins and evolution of cooperative banking in Europe. The chapter begins with an exploration of cooperative principles in a historical context, emphasizing the emergence of mutualist philosophies and their influence on early cooperative institutions. It then examines the structural and organizational characteristics that distinguish cooperative banks from commercial institutions, including their ownership structure, governance models, and community-oriented mission. The final sections analyze the impact of two major crises—the 2008 global financial crisis and the COVID-19 pandemic—on the banking sector broadly, with a particular focus on how these events exposed systemic vulnerabilities and prompted renewed interest in resilient, socially embedded financial models like cooperative banks.

- **Chapter 3: Characteristics of the Southern European Cooperative Banking Model**

Chapter 3 narrows the focus to the cooperative banking systems of Southern Europe, specifically France, Spain, and Italy. It begins with a thematic overview of the economic and social roles played by cooperative banks in the region, followed by an exploration of the distinctive business models these institutions employ. The chapter is then divided into three national case studies, each detailing the historical development, structural features, and functional dynamics of the cooperative banking systems in France, Italy, and Spain. This comparative framework enables a clearer understanding of the similarities and differences among the three systems, and it sets the stage for later empirical analysis by identifying key institutional factors that influence performance and resilience.

- **Chapter 4: Post-2008 Crisis Reforms and the Cooperative Banking Sector**

This chapter addresses the major regulatory and institutional changes that emerged in response to the 2008 global financial crisis, focusing on how these reforms reshaped the cooperative banking landscape. It presents an in-depth analysis of the Basel III regulatory framework, including minimum capital requirements, leverage ratios, and liquidity standards, and assesses how cooperative banks in the three countries adapted to these new norms. The chapter also

examines the role of the Financial Stability Board (FSB) and the development of mechanisms to manage systemically important financial institutions, including those in the cooperative sector. Special attention is given to the implementation of the European Banking Union and its implications for cooperative banks, along with a detailed assessment of the Institutional Protection Scheme (IPS) as a regulatory innovation tailored to the cooperative model.

- **Chapter 5: Post-2008 Legal and Organizational Reforms in the Southern Cooperative Sectors**

Building on the regulatory analysis in the previous chapter, Chapter 5 explores how the cooperative banking sectors in France, Italy, and Spain responded to the post-crisis environment through internal reforms. It begins by mapping the structural and organizational transformations in each country. The French case focuses on the consolidation and coordination efforts led by groups like Crédit Agricole and Groupe BPCE. The Italian case examines the formation of centralized cooperative groups such as ICCREA and Cassa Centrale Banca. The Spanish case investigates the evolution of rural cooperative banks under the leadership of Grupo Caja Rural. The final section of the chapter provides a comparative performance analysis of cooperative banks across the three countries, using key financial metrics to evaluate post-crisis adaptation and competitiveness.

- **Chapter 6: Measuring Bank Performance**

This chapter provides the conceptual and methodological tools used to evaluate bank performance and stability. It begins by defining key concepts such as financial efficiency, operational performance, and systemic stability. It then explores various approaches to risk management and how cooperative banks integrate risk mitigation into their institutional structures. A significant portion of the chapter is dedicated to reviewing the main methodologies used to measure bank performance, including both parametric and non-parametric models, although the empirical part of this thesis is based on econometric regression rather than efficiency frontiers. The final sections detail the application of the Z-score model to assess financial soundness, with particular focus on the Altman Z-score and its adaptation to the banking sector.

- **Chapter 7: Comparison of Cooperative Banks' Stability in France, Spain, and Italy**

This chapter presents a comparative analysis of cooperative bank stability across the three countries. Drawing from descriptive statistics and pre-regression diagnostics, the chapter evaluates the evolution of capital adequacy, profitability, liquidity, and asset quality indicators

during the two crises. Separate sections are dedicated to each country, providing a chronological and thematic account of how cooperative banks in France, Spain, and Italy weathered the challenges of 2008 and COVID-19. The chapter closes with a comparative synthesis, identifying common resilience patterns and structural divergences that influence national outcomes.

- **Chapter 8: Cooperative Bank Performance and Stability – Empirical Investigation**

Chapter 8 presents the core empirical findings of the thesis. Using panel regression models, the chapter tests the four central hypotheses concerning financial resilience and performance during the two crises. It begins with a description of the dataset and variables used, followed by a presentation of descriptive statistics. Regression results are then reported and interpreted, focusing on indicators such as return on equity (ROE), return on assets (ROA), Tier 1 capital (CET1), non-performing loans (NPLs), and Z-scores. Each hypothesis is discussed individually, with country-specific insights and cross-case comparisons. The chapter confirms strong empirical support for the resilience of cooperative banks, with nuanced findings on efficiency depending on institutional structure and national context.

- **Chapter 9: Conclusion**

The final chapter synthesizes the findings of the thesis and discusses their theoretical, practical, and policy implications. It restates the relevance of cooperative banks in times of systemic stress and highlights their dual role as financial intermediaries and socially embedded institutions. The chapter also reflects on the limitations of the research and proposes directions for future study, including the need to further explore the effects of digitalization, climate risk, and geopolitical shocks on cooperative banking models. Finally, it discusses the implications of the findings for European regulatory frameworks, particularly in the context of promoting banking diversity and resilience.

Chapter 2 Historical development of the European cooperative banking

2.1 The cooperative principles in a historical context

Cooperative banking plays a pivotal role in promoting financial inclusion, empowering local communities, and fostering sustainable development. As an alternative to traditional banking systems, cooperative banks prioritize the needs of their members and the communities they serve. In Europe's financial landscape, cooperative banks have a unique place with a rich history and a distinct ownership structure. These institutions, owned and governed by their members, have played a crucial role in promoting financial inclusion, supporting local communities, and fostering economic self-help. This chapter aims to delve into the historical developments of European cooperative banks, tracing their origins and exploring their growth over time. The United Nations defines the cooperative as *"an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise"* with central values "of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, cooperative members believe in the ethical values of honesty, openness, social responsibility and caring for others."[1] The International Co-operative Alliance (ICA) confirms that "*cooperatives exist to meet the needs of people, not primarily to generate a speculative return on capital invested in them*". Gintis et al. (2004) find that cooperation is a substantial behaviour of human social life. Barker et al. (2017) conclude that cooperation positively affects production since it increases the quality and variety of goods. Jones and Kalmi (2010) confirm that there are two main characteristics of the term "cooperative". The first is that the investor is most commonly the customer at the same time, and the second is the equality of the voting power "one member is one vote".

The cooperative banking system (CBS) plays a vital role in the financial system of many countries. Sonker (2019) believes that cooperative banks are the oldest serving financial institutions in India. CBS constitutes a variety of member-owned financial intermediaries like credit unions, savings and credit cooperatives, caisse populaires, etc. Despite the fact that the cooperatives are non-profitable institutions which offer services to its members exclusively, Poli (2019) finds that this does not exist anymore in the financial sector mainly for both economics and stability reason; that converted the cooperative banks toward the conventional

[1] United Nations: International Co-operative Alliance: Statement on the Co-operative Identity https://www.un.org/en/events/coopsyear/about.shtml (accessed on 01/02/2025)

and dominant (joint-stock) model in the banking sector. Chaddad and Cook (2004), Iannotta et al. (2007), Čihák and Hesse (2007) and other researchers find various shreds of evidence that cooperative banks are performing better than commercial banks during the crisis. McKillop et al. (2020) find that cooperative banks (CBs) are for-profit institutions that provide services to both members and non-members. However, on the contrary to the commercial banks, they do not seek to maximise profits but rather generate profit in order to fund long-term growth. The CBS is based on main principles; ethics and solidarity (Boscia et al. 2010), self-help and mutual aid (Sonker, 2019), improving the living conditions of a large part of the population (Cornée et al., 2018), and cooperation between cooperatives (McKollop, 2020).

The origins of cooperative banking can be traced back to the 19th century, during a time of rapid industrialization and social change. The cooperative movement, driven by a desire to empower ordinary people and promote economic self-help, gained momentum across Europe. Friedrich Wilhelm Raiffeisen and Hermann Schulze-Delitzsch, both from Germany, are considered pioneers of the cooperative banking model. The cooperative banking movement started in Europe by the English Rochdale Society of Equitable Pioneers (1844), followed in the second half of the nineteenth century in Germany, where Volksbanks (or people's banks) were being established by Hermann Schulze-Delitzsch, followed by Friedrich Wilhelm Raiffeisen who was convinced that the best way to fight poverty is to encourage people to help themselves, he hence founded the first rural credit cooperative in 1864. The main objective of these two cooperative organisations was to give loans to the communities and people who needed them (Isbister, 1994). The idea was developed and spread from Germany to the neighbourhood countries, mainly Austria, France, and Italy. At the beginning of the twentieth century, the concept arrived in North America, especially in Quebec, Canada, where the Caisse Populaire was founded in 1900 by Alphonse Desjardins (1854–1921) to be the first cooperative (Mook et al. 2015). From Germany and Europe, the cooperatives spread rapidly across Europe throughout the late 19th and early 20th centuries. These institutions played a significant role in fostering financial inclusion, particularly for marginalized communities. By pooling savings and offering affordable credit, cooperative banks empowered individuals who were traditionally excluded from the mainstream banking sector.

Cooperative banks are guided by a set of principles that define their structure, values, and operations. These principles are derived from the broader cooperative movement and provide a framework for the functioning of cooperative banks. While different sources may present slight variations, the following are the commonly recognized principles of cooperative banks:

- Voluntary and Open Membership: Cooperative banks are open to all individuals and businesses who can benefit from their services, irrespective of race, religion, gender, or socioeconomic status. Membership is voluntary, and individuals have the freedom to join and leave the cooperative bank.
- Democratic Member Control: Cooperative banks follow democratic governance, where each member has an equal say in the decision-making process. Members participate in the election of representatives and have voting rights on important matters that affect the bank.
- Member Economic Participation: Members of cooperative banks contribute to the capital of the bank and have the opportunity to share in its financial results. This can be in the form of equity investments, deposits, or other financial contributions. Members also benefit from the bank's services and may receive dividends or patronage refunds based on their usage.
- Autonomy and Independence: Cooperative banks are autonomous, self-help organizations controlled by their members. They have the freedom to make decisions that align with their members' interests, without external influence or undue political interference.
- Education, Training, and Information: Cooperative banks prioritize the education and training of their members, employees, and the broader community. They provide information about financial matters, promote financial literacy, and facilitate the development of skills to enable informed decision-making.
- Cooperation among Cooperatives: Cooperative banks actively cooperate and collaborate with other cooperative institutions, both within their own sector and across different sectors. They recognize the power of collective action and support initiatives that strengthen the cooperative movement as a whole.
- Concern for Community: Cooperative banks operate with a strong commitment to their local communities and strive to contribute to their sustainable development. They support community projects, invest in local businesses, and promote social and environmental responsibility.

These principles serve as a guide for cooperative banks to foster a member-centric approach, promote inclusivity, and operate with a social and economic purpose beyond profit maximization. They form the foundation of cooperative banks' cooperative identity and differentiate them from other types of financial institutions.

However, the cooperative banking movement faced numerous challenges throughout its history, including political turmoil, economic crises, and regulatory changes. Despite these obstacles, cooperative banks persevered and adapted to the evolving financial landscape. In many countries, cooperative banks formed national federations to strengthen their collective voice and advocate for the interests of their members. It has also faced challenges in the form of increasing regulatory requirements and competitive pressures. Compliance with regulatory frameworks, such as Basel III and anti-money laundering measures, has added additional costs and administrative burdens. Moreover, cooperative banks must compete with larger commercial banks and digital disruptors in a rapidly evolving financial landscape.

To address these challenges, cooperative banks are leveraging collaboration and partnerships. They are forming alliances with other cooperative institutions, sharing resources, and exploring opportunities for innovation and digital transformation. By pooling their strengths and expertise, cooperative banks can enhance their competitiveness and better serve their members. To sum up, the historical developments of European cooperative banks reflect a long-standing commitment to financial inclusion and community empowerment. These institutions have played a crucial role in supporting local economies and fostering sustainable development. Nowadays, cooperative banks continue to adapt and innovate to meet the changing needs of their members.

Today, cooperative banks continue to be an essential part of the European financial system. They operate in various countries, including Germany, France, Italy, Spain, and the Netherlands. These institutions have diversified their product offerings to meet the evolving needs of their members. Cooperative banks provide a wide range of services, including savings accounts, loans, mortgages, insurance, and investment products. One of the key strengths of cooperative banks lies in their commitment to their local communities. Unlike traditional commercial banks, cooperative banks prioritize the social and economic development of their regions. They often invest in local projects, support small and medium-sized enterprises (SMEs), and promote sustainable development initiatives.

In recent years, cooperative banks have embraced technological advancements to enhance their services and improve accessibility. They have invested in digital banking platforms, mobile applications, and online banking services. These technological innovations have allowed cooperative banks to reach a broader customer base while maintaining their commitment to personalized and community-oriented banking.

Currently, 2400 locally operating banks serve more than 227 million customers worldwide. In Europe, cooperative banks represent 90 million members having 20% of the market share.[2]

2.2 The structural and organizational characteristics of the cooperative banks

The designation "cooperative bank" encompasses a variety of member-owned financial entities also recognized under names such as credit unions, savings and credit cooperatives, and shinkin banks in Japan. This form of banking institution represents the predominant organizational model across many European countries (Accetturo et al., 2021). It's crucial to understand that these institutions differ significantly in their institutional framework, legal and regulatory standings, product offerings, and business practices, especially when comparing between developed and developing nations. These differences are essential for grasping how cooperative banks tailor their services to meet the diverse financial needs and regulatory environments of their varying markets.

Altintas (2020) underscores that cooperative banks operate with dual objectives: generating profits and providing services not only to their members but also to non-member customers. Unlike commercial banks, which are shareholder-controlled and profit-maximized, cooperative banks are customer-owned. Their profit generation is not aimed at maximizing returns but rather at enhancing capital reserves and fostering sustainable growth over time. This approach starkly contrasts with that of commercial banks, whose primary focus is on maximizing shareholder value. Furthermore, the organizational and financial architecture of cooperative banks is built around four core cooperative ethics, distinguishing them significantly from the shareholder-centric model prevalent in commercial banking. This ethical framework shapes every aspect of their operations, promoting a community-oriented and sustainable banking model.

Barisitz and Deswel (2021) highlight the strategic evolution of cooperative banks in Europe, noting their emergence as pivotal institutions within the financial sector. These banks have not only solidified their role at the core of the banking industry but have also established extensive network partnerships across the continent. These networks vary greatly in complexity and structure, ranging from simple casual affiliations to sophisticated multi-tiered organizations with numerous levels. This diversity in network configurations enables cooperative banks to operate effectively across different regional markets, enhancing their adaptability and reach.

[2] About us: Mission statement & statutes, structure, membership – EACB: https://www.eacb.coop/en/european-association-of-co-operative-banks.html (accessed on 01/02/2025)

The operational model of cooperative banks, rooted in member-centric principles, offers numerous benefits that distinguish them from traditional shareholder-based financial institutions. Belaïd et al. (2021) emphasize the symbiotic relationship between members who save and those who borrow within these cooperatives. This dynamic fosters a balanced approach to financial management, mitigating the conflicts often seen in conventional banks between savers seeking high returns on their deposits and borrowers desiring low-interest rates on loans.

Furthermore, Bibow (2020) addresses the financial advantages inherent to cooperative banks due to their unique member structure. In cooperative banks, both savers and borrowers often strive for optimal financial terms, which harmonizes the interests within the bank. Additionally, the communal identity central to cooperative memberships—often defined by geographic proximity—significantly reduces information asymmetry and adverse selection. This proximity and shared community knowledge lead to more informed lending decisions, reducing the likelihood of risk misrepresentation by borrowers. Thus, cooperative banks benefit from enhanced decision-making processes that result in more stable and secure financial operations.

This model not only underscores the robustness of cooperative banks in managing internal stakeholder interests more harmoniously but also illustrates their capacity to leverage local knowledge and networks to minimize financial risks. As cooperative banks continue to expand their influence and refine their cooperative strategies, they increasingly demonstrate their crucial role in promoting financial stability and inclusivity across Europe.

- **Financial stability:**

Financial stability is a fundamental component in maintaining economic resilience and sustainable growth, especially within the cooperative banking sector. It refers broadly to the capacity of financial institutions, markets, and systems to withstand economic shocks, maintain liquidity, and continue functioning effectively. Given the critical role banks play in economic stability, understanding the mechanisms through which cooperative banks contribute to financial stability is essential.

Benchimol and Bozou (2024) emphasize that banking market structures significantly affect financial stability, highlighting that concentrated banking systems tend to exhibit greater resilience to economic shocks compared to less concentrated systems. Their research using a nonlinear Dynamic Stochastic General Equilibrium (DSGE) model illustrates that oligopolistic

banking competition amplifies economic shocks more than monopolistic competition. This amplification occurs primarily through markups, indicating that a moderate level of concentration—around five to eight dominant banks—is desirable to balance stability and social welfare. Hence, the structure of cooperative banks, often characterized by fewer large players, may inherently support financial stability by mitigating the transmission of shocks through more controlled market dynamics. Chilimova (2024) explores the concept of financial stability by linking it directly with adaptation mechanisms employed by economic entities to manage external risks and market volatility. Cooperative banks, due to their community-oriented business model and member ownership, tend to adapt more swiftly to external threats. Their localized decision-making processes and intimate knowledge of their members' financial behaviors enhance their responsiveness during economic fluctuations. This adaptability not only stabilizes individual banks but also buffers the broader financial system by preventing systemic risk propagation.

The importance of regulatory frameworks and supervisory independence in bolstering financial stability is underscored by Fraccaroli et al. (2020). They argue that post-crisis reforms, particularly those enhancing the independence of financial regulators and supervisors, have critical implications for stability. Independent supervisory bodies can implement stringent oversight and prudential regulations without undue political influence, reducing the potential for risky behaviors in the banking sector. Cooperative banks, often subject to specific regulations that account for their distinct governance structures and member-centric missions, benefit significantly from such independent oversight, ensuring rigorous risk management practices and robust capital buffers.

Moreover, the resilience of cooperative banks during economic downturns, such as the 2008 global financial crisis, highlights their contribution to financial stability through structural and operational strengths. For instance, Benchimol and Bozou (2024) note that cooperative banks' inherent conservative financial management practices, community-focused lending, and high levels of member trust contribute significantly to their stability during crises. These factors enable cooperative banks to maintain consistent lending practices even when commercial banks retract, thereby stabilizing credit markets and mitigating economic downturn impacts.

In analyzing banking competition and financial stability, Benchimol and Bozou (2024) also draw attention to the nuanced trade-off between financial stability and competition. Their findings indicate that extreme market competition might encourage risky behaviors due to

narrowed profit margins, while limited competition might foster stability but at the potential cost of reduced social welfare. Cooperative banks typically navigate this balance effectively due to their business model, which prioritizes member welfare over profit maximization, thus inherently aligning stability and welfare objectives.

Dimakou et al. (2021) reinforce the role of "soft information" in strengthening financial stability within cooperative banks. They highlight that cooperative banks, embedded deeply within their communities, excel at collecting nuanced financial and behavioral information about borrowers, enabling more accurate risk assessment and management. This advantage allows cooperative banks to effectively screen and monitor loan recipients, significantly reducing default rates and ensuring more stable financial performance during periods of economic stress. In conclusion, cooperative banks play a pivotal role in promoting and maintaining financial stability through their distinct structural attributes, regulatory frameworks, adaptive capacity, and inherent conservative management. Their resilience during financial crises, community-centric approach, and effective regulatory oversight collectively ensure that cooperative banks not only withstand economic shocks but also actively contribute to the robustness and stability of the wider financial system.

Camacho et al. (2021) discuss the additional social and business repercussions associated with defaulting on loans within cooperative banks. Due to the tight-knit community dynamics, borrowers face not only financial consequences but also significant social and relational costs. This integration of social capital as a form of "collateral" in the lending process effectively reduces the risk of moral hazard. It discourages dishonesty or unethical behavior by leveraging the borrower's integrated social and business relationships within the community. Moreover, the nature of cooperative banks, where retail depositors are also owners, enhances financial stability. During economic downturns, these depositors are more likely to retain their funds within the bank, providing a stable base of retail finance.

However, the structural framework of cooperatives, as analyzed by Carré and Le Maux (2020), reveals inherent limitations. Primarily, cooperative financial institutions rely significantly on transferring earnings to their reserve accounts for capital creation, which represents the predominant method for these entities to generate and reinvest capital. This approach can sometimes restrict their financial agility and growth potential compared to more traditionally capitalized institutions.

Furthermore, cooperative institutions face unique challenges in corporate governance due to their ownership structure. As Cesaratto (2021) point out, the one-member, one-vote system may reduce the incentive for members to engage in vigilant monitoring of the bank's management. This lack of market discipline in ownership and control can lead to inefficient financial management and higher operational costs. Members have limited ability to influence decisions, and the benefits of engagement are often perceived as minimal, potentially leading to management indulgence in discretionary spending or seeking personal benefits at the expense of the cooperative's efficiency and cost-effectiveness.

Chesterman (2020) highlight the evolutionary steps taken by the European cooperative banking sector to mitigate some of these challenges through the establishment of central institutions and network partnerships. These collaborations range from centralizing essential support functions to assigning higher-level executive responsibilities. The degree of integration varies significantly across Europe, with the French system being highly centralized, providing a contrast to the more decentralized cooperative banking structures observed in neighboring countries like Italy and Spain.

These dynamics illustrate the complex interplay between the cooperative ethos of mutual benefit and the practical challenges of maintaining competitive and efficient banking operations. While cooperative banks excel in fostering community-oriented financial services, they must continually adapt to balance member-driven governance with the operational demands of an increasingly competitive financial landscape.

Desrochers and Fischer (2005) provided compelling cross-country data indicating that integrated cooperative banking systems significantly reduce performance volatility and expenditure preference behavior among financial cooperatives. This conclusion was drawn from observations across numerous nations where such integrated systems are prevalent. De Luca et al. (2020) further supported these findings, suggesting that integrated cooperative banking systems offer substantial benefits to their clients, including more efficient operations and the ability to function with fewer rationality constraints compared to other banking systems.

Integrated systems in cooperative banking, by promoting a cohesive network structure, enable these institutions to leverage shared resources and knowledge, enhancing overall operational efficiency and financial stability. This network model facilitates a more coordinated approach to managing risks and capital, leading to more stable financial performance across different economic cycles.

Financial cooperatives, deeply rooted in the communities they serve, gain a competitive edge through localized operations. According to Dimakou et al. (2021), these cooperatives excel in gathering "soft information" due to close ties between bank staff and local residents. This proximity allows for more effective screening and monitoring processes and simplifies the provision of credit to underserved borrowers. Such relationship-based lending practices are crucial in regions where access to relevant financial information is limited, offering a stark contrast to the transactional banking approach favored by larger institutions.

Gilenko and Chernova (2021) discuss the disadvantages large banks face in relationship lending, particularly when dealing with investments that carry inherent informational vagueness. Large banks often rely on "hard information" which, while easier to quantify and process, may not capture the nuanced financial realities of individual borrowers, especially those in less transparent markets.

- **Relationship lending**

Relationship lending refers to a lending practice where financial institutions offer credit based on detailed knowledge gathered through long-term, personal interactions with clients, rather than solely relying on transactional, impersonal data (Agostino et al., 2023). Cooperative banks, by their very nature, demonstrate considerable differences from commercial banks in the scope, depth, and practice of relationship lending due to their distinctive organizational structures, community orientations, and social objectives.

A significant differentiating factor lies in cooperative banks' mission to pursue broader socioeconomic goals, such as community betterment, alongside their financial objectives. Zedda et al. (2024) emphasize that cooperative banks (CBs) explicitly aim to enhance economic, cultural, and social conditions within local communities. Unlike shareholder-oriented banks, cooperative banks operate under principles of solidarity, self-help, and equal treatment, thereby developing deeper personal and community ties through their financial services. This inherent social mission shapes their approach to relationship lending significantly, as they actively seek clients whose objectives align with community and social sustainability. In contrast, traditional commercial banks prioritize profitability and shareholder returns, typically using standardized transactional approaches. Although relationship lending can still exist within commercial banks, it usually operates on a less personal level, leveraging hard financial data rather than soft, qualitative, community-oriented information (Rink, 2024). Cooperative banks, conversely, heavily rely on soft information—insights derived from

personal interactions, community reputation, and direct knowledge of borrowers' character and circumstances—to inform their lending decisions (Agostino et al., 2023). Such deep local knowledge allows cooperative banks to manage risk more efficiently and maintain better control over default probabilities among clients, particularly in economically disadvantaged areas.

The depth of cooperative banks' relationship lending significantly impacts their approach to credit scoring and risk assessment. Zedda et al. (2024) stress that cooperative banks typically use customized credit-scoring models rather than generic frameworks used by commercial banks. Generic credit-scoring methods often overlook the peculiar balance sheet dynamics of cooperatives and socially-oriented enterprises, which tend to prioritize social sustainability over profit maximization. The tailored credit-scoring methods employed by cooperative banks ensure more accurate risk assessments, higher creditworthiness recognition, and reduced misallocation of credit. Such nuanced approaches help cooperative banks identify financially sound entities within their social sphere, thus reducing credit risks associated with cooperative and nonprofit enterprises, which traditionally face greater hurdles when evaluated under standard credit scoring procedures.

Moreover, the effectiveness of relationship lending practiced by cooperative banks is reflected in their impact on borrowers' default rates and overall financial stability. Agostino et al. (2023) highlight that enduring banking relationships reduce both temporary and permanent defaults among borrowers. Cooperative banks' close relationships provide significant informational advantages, allowing for better monitoring and quicker interventions to manage borrowers' financial distress. This intense monitoring capability not only mitigates default risks but also instills financial discipline within borrowing entities, which commercial banks might find challenging due to their reliance on standardized procedures and impersonal interaction models.

Another vital differentiator pertains to the community focus inherent in cooperative banks' lending decisions. Arestis and Phelps (2025) discuss how Brazilian financial cooperatives substantially mitigated poverty due to their targeted lending practices and stronger local presence. The direct local presence of cooperative banks fosters closer, trust-based relationships with clients, thereby facilitating deeper insight into clients' specific needs and capabilities. Cooperative banks thus demonstrate a higher propensity to finance local and smaller enterprises, particularly those operating in underserved regions and those unable to access mainstream financial markets.

Cao et al. (2023) further reinforce this perspective by identifying that relationship lending significantly influences firm entry dynamics, where cooperative banks tend to favor established relationships and spinoffs from known entities. Cooperative banks capitalize on accumulated local knowledge and existing banking relationships, promoting entrepreneurship through spinoffs by former employees or associates of incumbent firms, which aligns seamlessly with their relational lending practices. Conversely, commercial banks often display neutrality or even discouragement towards lending to smaller, riskier startups unless they meet stringent financial criteria, highlighting cooperative banks' distinct relational orientation in fostering local economic development.

Despite these strengths, cooperative banks' relationship-lending model faces challenges distinct from those of traditional banks. Rink (2024) acknowledges that relationship lending practices, particularly those integrating sustainability considerations, can pose operational challenges due to the difficulty in quantifying soft information. Banks generally prefer standardized, measurable (hard) sustainability information for efficient processing and risk management. Cooperative banks' reliance on soft, relational information requires substantial resources dedicated to managing these qualitative assessments. Furthermore, cooperative banks face limitations in geographical diversification, increased exposure to local market risks, and heightened vulnerability to local economic downturns due to their intense focus on local lending. Additionally, cooperative banks' community-oriented business models expose them to the risk of regulatory capture and operational inefficiencies related to scale. Given their typically smaller size and geographical concentration, cooperative banks can become disproportionately dependent on local institutions and regulatory frameworks. Moreover, investments in financial technologies and compliance with evolving regulatory standards weigh more heavily on smaller cooperative banks compared to large banking conglomerates (Zedda et al., 2024).

In conclusion, cooperative banks distinguish themselves from commercial banks primarily through their deeply embedded relationship-lending practices, driven by distinct community-oriented objectives. Their credit evaluation and lending decisions emphasize qualitative, community-oriented criteria rather than quantitative financial metrics alone. The implications of this relationship-lending approach are profound, resulting in enhanced local economic development, reduced default risks, and improved credit allocation efficiency. However, cooperative banks must navigate unique operational and regulatory challenges arising from their localized and socially-oriented business models. These distinct characteristics underscore

the necessity for customized regulatory frameworks and operational strategies tailored specifically to the cooperative banking sector, acknowledging their integral role in fostering resilient, sustainable local economies.

The cooperative model's focus on community and relational lending is further complicated by regulatory considerations such as interest rate caps. Gnan and Rieder (2021) argue that such caps, while protecting consumers from exorbitant rates, can inadvertently restrict financial diversity and intensify competition among lending institutions. These caps might discourage banks from serving higher-risk clientele, thereby limiting these borrowers' access to necessary funds.

Gortsos (2020) highlights that interest rate ceilings protect consumers during economic downturns by ensuring access to credit at reasonable rates. However, these ceilings can also constrain financial institutions' ability to price risk accurately, potentially leading to a credit supply that does not adequately reflect the risk landscape.

Recent reforms under Basel III have significantly impacted cooperative banks across Europe, as noted by Guthrie et al. (2020). These reforms include stricter capital and liquidity requirements and enhanced supervision of systemically important financial institutions, a category that now includes some of the largest cooperative banks in Italy, France, and Spain. Despite these stringent regulations, some local and regional authorities have tailored Basel standards to fit the specific needs of credit unions and smaller cooperatives, as discussed by Macchiarelli et al. (2020). This proportional regulation often involves simplified rules or varied capital and liquidity norms, acknowledging the unique operational scale and risk profile of these smaller entities.

This nuanced regulatory landscape underscores the delicate balance cooperative banks must navigate between adhering to stringent financial controls and maintaining their commitment to community-oriented banking practices. As they adapt to these regulatory pressures, cooperative banks continue to play a vital role in fostering financial inclusion and stability within their local economies.

2.3 The impact of 2008 crisis on the banking sector

The 2007-2009 global financial crisis, often regarded as the worst economic downturn since the Great Depression, was precipitated by the collapse of the housing bubble in the United States. This event severely disrupted financial systems worldwide, fundamentally challenging the foundations of conventional banking (Chen et al., 2019). As major banks faltered and

governments scrambled to create bailout packages, a stark contrast in resilience emerged between the traditional banking sector and cooperative banks (Callejas-Albiñana et al., 2017).

Cooperative banks, governed by principles of customer ownership and a commitment to public interest over profit maximization, demonstrated notable resilience during the crisis. This resilience can be attributed to their unique business models which emphasize local engagement, prudent risk management, and capital conservation. Unlike commercial banks, whose practices often amplify systemic risks, cooperative banks maintained more stable capital positions and experienced fewer non-performing loans during the crisis.

According to Fernandes (2022) and Cruz-García et al. (2018), the crisis period highlighted specific challenges and strengths within the cooperative banking sector. Conducting a historical analysis of cooperative banks during this turbulent period provides valuable insights into their operational strategies, risk exposure, and overall stability compared to their commercial counterparts. This analysis can focus on several critical areas:

- Funding vulnerabilities and the flight to safety
- Asset quality deterioration and non-performing loans
- Capital resilience
- Policy implications and debates
- Pressures for consolidation

By thoroughly analyzing these areas, we can understand not only the operational and financial distinctions between cooperative and commercial banks but also the broader implications of these differences for the banking sector's stability and regulatory policies. The comparative resilience of cooperative banks underscores the potential for more diversified banking systems to enhance overall financial stability.

- **Funding vulnerabilities and flight to safety**

The 2008 global financial crisis starkly highlighted the perils of overreliance on short-term wholesale funding markets, which left many banks susceptible to acute liquidity risks. As Fernandes (2022) notes, the freezing of these markets during the crisis meant that banks with an inability to roll over their loans encountered severe cash shortages. This was particularly evident among large commercial banks that were heavily dependent on such funding models and consequently suffered the most severe disruptions.

However, the cooperative banking sector, traditionally reliant on deposit-based funding, appeared initially to be less vulnerable. Yet, a deeper examination reveals that cooperatives were not immune to funding challenges, which brought into question some prevailing assumptions about their inherent stability. Notably, even large cooperatives like Dutch Rabobank encountered difficulties. Rabobank, having heavily invested in AAA-rated securitized products, found these assets becoming illiquid during the crisis, complicating their funding strategies (Bezemer et al., 2023; Maudos & Vives, 2016). Furthermore, they faced rollover risks with commercial paper, which had been a significant part of their asset financing approach. This constrained access to capital markets compelled Rabobank and similar entities to downsize their balance sheets, showcasing the vulnerabilities linked to reliance on short-term market funding.

Smaller, deposit-funded cooperatives also faced their own set of challenges. Despite their conservative funding models, some cooperatives experienced significant deposit outflows, as uncertainty led customers to move their savings to larger banks perceived as 'too big to fail' (Bezemer et al., 2023). This 'flight to safety' eroded a crucial stable funding base for these smaller institutions, which were additionally disadvantaged by a lack of access to central bank emergency liquidity supports that were available to larger commercial banks.

A particularly acute vulnerability emerged from foreign currency lending practices. Many Eastern European cooperatives had enticed customers with mortgages denominated in Swiss Francs, which were appealing due to their lower interest rates. However, as the Swiss Franc appreciated during the crisis, the local currency value of these loans ballooned, surpassing borrowers' repayment capacities and leading to substantial losses (Deeg & Donnelly, 2019; Beccalli & Rossi, 2020). The resultant currency mismatches underscored the risks of deviating from traditional cooperative practices of aligning lending with local deposit bases.

In summary, while cooperative banks generally faced fewer funding risks compared to their wholesale-dependent counterparts, their ventures into capital markets and foreign currency lending exposed them to significant stability challenges. These experiences during the financial crisis underscored the importance of adhering to cooperative principles, focusing on local community-based banking, and maintaining cautious funding strategies to navigate future financial tumults effectively.

- **Asset Quality Deterioration and non-performing loans**

The 2008 global financial crisis precipitated a severe economic downturn that substantially increased credit losses across the banking sector. Non-performing loans (NPLs) surged as high unemployment rates undermined borrowers' ability to fulfill their financial obligations. Cooperative banks, with their significant exposure to certain vulnerable segments, were notably affected by these dynamics (Poli, 2019). The asset quality within these institutions varied considerably, reflecting not only the economic conditions but also the effectiveness of their internal risk management practices.

Cooperative banks experienced greater growth in NPLs compared to commercial banks in many jurisdictions, largely due to their concentration in small and medium enterprise (SME) and mortgage lending—sectors that were directly hit by the recession (Paul & Cumbers, 2023). The decline in investment and consumption led to increased SME failures, while mortgage delinquencies escalated in countries experiencing housing market collapses, such as Spain and Ireland (Helleiner, 2019). Additionally, the agricultural sector faced challenges as commodity prices dropped, contributing to a rise in agricultural NPLs, further illustrating the broader NPL variability observed among cooperative banks compared to their commercial counterparts (Nelson, 2020).

The variance in asset quality among cooperative banks can primarily be attributed to local economic conditions rather than inherent flaws within the cooperative banking model. For instance, Spanish cooperatives suffered from severe asset quality deterioration due to the acute housing crisis in Spain. However, the extent of asset quality issues also highlighted differences in risk management approaches within the sector. For example, a study of Greek cooperatives showed relatively low NPL rates despite targeting high-risk SMEs, attributing this resilience to robust risk management and diligent borrower monitoring (Massoc, 2022). This suggests that cooperative banks' risks are not uniformly distributed and can be effectively managed with stringent underwriting and proactive monitoring.

The cooperative banking model, characterized by its deep community ties and focus on customer relationships, offers a unique advantage. Binder and Saguato (2022) argue that the embeddedness in the community and the loyalty of customers can mitigate the rise in NPLs. This social capital acts as a buffer during economic downturns, as these banks are less likely to rapidly foreclose on delinquent loans compared to shareholder-driven banks, providing more stability to their portfolios.

The financial crisis undeniably showcased the risks associated with asset concentrations in vulnerable sectors among cooperative banks. The impact varied significantly between well-

managed institutions and those that had engaged in speculative underwriting, particularly in the real estate sector before the crisis. Those that maintained prudent lending practices and upheld strict borrower relationship management protocols exhibited greater resilience. This underlines the importance of sound lending principles and effective risk management strategies in mitigating asset quality risks during economic downturns.

In conclusion, while cooperative banks are not immune to the cyclical effects of the credit market, the 2008 crisis served as a critical reminder of the need for prudence and the potential for cooperative principles to limit damage during economic contractions. The adaptive measures and lessons drawn from this period have been instrumental in shaping the strategies that continue to define the cooperative banking sector today.

- **Capital resilience**

During the 2008 global financial crisis, a bank's ability to absorb losses was a critical determinant of its survival. Capital reserves were essential, marking the difference between remaining solvent or needing government intervention. Cooperative banks, known for their conservative financial management, exhibited remarkable stability during this turbulent period (Poli, 2019). Despite experiencing declines in profitability, the erosion of their capital bases was significantly less severe compared to their overleveraged commercial counterparts.

Data from European cooperative banks showed an average decrease in Tier 1 capital ratios of about 2.5 percentage points from 2007 to 2009 (Zharikova, 2019). However, these ratios consistently stayed well above the regulatory minimums, indicating moderate declines especially when compared to the dramatic collapses experienced by major commercial banks like Lloyds Banking Group, which saw its Tier 1 ratio plummet from 8.1% to 4.4% during the same timeframe (de Guevara & Maudos, 2017). The cooperative banks' losses were cushioned by their substantial pre-crisis capital buffers, and microdata from Kohler and Stockhammer (2022) further underscores the resilience, showing that individual cooperative banks in nearly all EU countries experienced much smaller drops in capital ratios than their commercial counterparts. This conservative capital management allowed cooperatives to absorb losses more effectively, shielding them from the risk of insolvency.

Remarkably, there were no recorded failures or bailouts among cooperative banks in Europe during the crisis (Birchall, 2013). In stark contrast, major commercial banks like Fortis and Royal Bank of Scotland required substantial government rescues. The cooperative banks' ability to avoid state support not only preserved public trust but also highlighted the inherent strengths

of their business model. Factors contributing to this robustness include limited profit maximization incentives, which typically lead to higher pre-crisis capital buffers (Gallagher, 2022), and consensus-driven governance structures that tend to deter the adoption of risky capital strategies (Čihák & Hesse, 2007; Gischer & Herz, 2020). By prioritizing the interests of their members, cooperative banks naturally eschew aggressive growth strategies that could jeopardize their stability.

While the resilience of cooperative banks is commendable, some critics argue that it might reflect fortunate circumstances rather than strategic foresight. For instance, the dominance of cooperatives in the real estate sector prior to the housing bubble burst in many countries could have led to disastrous outcomes had they indulged in higher leverage levels. Furthermore, ongoing debates question whether the cooperative governance model can consistently restrain risk-taking over extended periods (Al-Jarrah et al., 2021).

Although conservative practices enabled cooperative banks to withstand the last financial crisis, there is no absolute guarantee that this approach will suffice in future crises. Nevertheless, the experiences of the 2008 crisis provide compelling evidence that cooperative governance structures and aligned incentives can contribute significantly to the diversity and resilience of the financial system. The lessons learned call for continued diligence and adaptability to ensure that cooperative banks can maintain their stability in the face of future economic challenges.

- **Policy implications and debates**

The resilience displayed by cooperative banks during the global financial crisis has ignited significant policy debates about their regulation and systemic risk profiles. This resilience has bolstered arguments in favor of promoting diversity in bank ownership structures, advocating for a landscape that includes not just shareholder-focused banks but also stakeholder-focused models like cooperatives (McKillop et al., 2020). Despite their commendable performance during the crisis, the experience did not conclusively support a case for deregulation; instead, it highlighted the need for ongoing, tailored oversight.

Proponents argue that the stability of cooperative banks, demonstrated by their lack of failures or bailouts, serves as a proof of concept for the efficacy of stakeholder-focused banking models (Fernandes, 2022). This stability suggests that mutually-owned banks can serve a beneficial countercyclical role within the financial system, justifying a more pluralistic approach to regulation that accommodates different types of banking structures rather than imposing uniform rules across the board.

Conversely, some critics, such as Goglio and Stefancic (2022), contend that the perceived resilience of cooperative banks might stem more from fortunate circumstances—such as conservative real estate exposures that kept many cooperatives away from the epicenter of the crisis—rather than from intrinsic merits of the cooperative model itself. There is a concern that overinterpreting this performance could lead to complacency at a time when increased scrutiny might be more appropriate. Critics also worry that the interconnectedness within the cooperative banking sector could amplify systemic risks, where shared funding exposures and reputational impacts might transform localized shocks into sector-wide crises (Beck et al., 2025). This interconnectedness necessitates enhanced macroprudential monitoring.

Despite their robust crisis performance, cooperative banks' governance models require continuous monitoring and tailored regulation. While member oversight of management practices has proven effective in the short term, potential long-term agency problems could still foster conditions conducive to excessive risk-taking (Fernandes, 2022). Additionally, the participatory nature of cooperative governance might slow down necessary updates to risk management systems and controls (McKillop et al., 2020), indicating latent vulnerabilities in governance that argue against full exemption from new regulatory frameworks like the EU's Banking Union.

Acknowledging the unique social mission and demonstrated stability of cooperative banks, some proportional regulatory allowances are justified. However, continued prudential oversight is crucial to manage risks associated with potential asset and liability mismatches, growth in the complexity of activities, interconnectedness, and the erosion of conservative leverage ratios over time (Kovras & Pagliari, 2021). The crisis effectively served as a stress test that cooperative banks passed, yet vigilant regulation is necessary to safeguard against future risks that could emerge even in traditionally prudent institutions.

Ultimately, the crisis provided valuable lessons for both advocates and skeptics of cooperative banking. A policy consensus has emerged, advocating for a regulatory approach that recognizes the unique characteristics of cooperative banks while ensuring that resilience is supported by stringent macroprudential oversight and not left to chance. This balanced approach underscores the necessity of ongoing, tailored oversight that respects the cooperative difference but remains alert to evolving financial landscapes and potential risks.

- **Pressures for consolidation**

The aftermath of the global financial crisis saw significant consolidation across the Spanish banking landscape, particularly affecting credit cooperatives and savings banks. Unlike the more laissez-faire approaches of the past, post-crisis regulatory policies have actively encouraged, and sometimes pressured, smaller, vulnerable institutions to engage in mergers and acquisitions. This strategy aimed to address issues of overcapacity, enhance efficiencies through scale economies, and consolidate risk-bearing capital (Santos, 2017). A notable instance of this was the acquisition of Banco Mare Nostrum—a commercial bank formed from the merger of several savings banks—by the larger cooperative bank Cajamar in 2013. This move exemplifies the trend of forced consolidation where distressed commercial banks merge with relatively stronger cooperative banks, often under regulatory encouragement to stabilize the financial system.

Between 2008 and 2014, the number of cooperative banks in Spain decreased from 81 to 58, a reduction of nearly 30%, primarily due to involuntary mergers under supervisory orders and voluntary M&A, spurred by legislative incentives (Puaschunder, 2023). Policymakers have justified these consolidation efforts as necessary for stabilizing a sector that was fragmented and burdened with structural inefficiencies and capital inadequacies exposed by the financial crisis (Kalogeraki et al., 2018). Proponents of consolidation cite the prudential benefits of scale, such as enhanced loss-absorbing capacity through pooled retained earnings, synergies from overlapping branch closures, and the ability to raise external equity more easily when ownership is less dispersed.

However, critics like Kranke (2020) argue that this aggressive consolidation approach unfairly targets credit cooperatives. They point out that failures were predominantly among shareholder-owned commercial banks that engaged in risky speculative investments, while cooperatives typically maintained conservative, relationship-based lending practices aligned with their core business. From this perspective, post-crisis consolidation mandates may have arbitrarily dismantled well-managed community lenders without addressing the root causes of governance failures (Ponce Huerta, 2019). Concerns have also been raised that involuntary merger programs undermine the core cooperative principles of local member control and relationship lending. Studies like those by Binder and Saguato (2022) show mixed evidence on the actual cost efficiency gains from consolidations, with minimal scale benefits identified specifically for Spanish savings banks.

Consolidation also brings non-financial detriments. Branch closures, often resulting from mergers, disproportionately affect lower-income and rural areas, exacerbating financial exclusion. Massoc (2022) noted that Spanish mergers often rationalized networks based on commercial criteria, neglecting the social value of maintaining branches in underserved areas. With fewer, larger institutions, the community-oriented nature of banking is compromised, potentially weakening the commitment to local service.

In response to these challenges, the cooperative movement has emphasized the importance of differentiation over emulation of shareholder banks. Alternative strategies such as Intersectoral Platform Solutions (IPS) networks and partnerships with digital/fintech firms are being explored to achieve operational efficiencies without sacrificing local service (Carney, 2019). Advocates like Blazsek (2020) continue to lobby for policy environments that protect member ownership and adhere to proportionality principles.

Ultimately, while consolidation may have temporarily stabilized the Spanish cooperative sector, its long-term effects remain uncertain. Regulators are faced with the challenge of balancing the need for stability with potential risks such as reduced financial inclusion and increased systemic risk. Future cooperative restructuring should be guided thoughtfully, with regulatory frameworks that might include mandating impact studies for M&A activities and promoting financial literacy to strengthen the sector's resilience and responsiveness to community needs (Wachtel et al., 2023). The ongoing policy and regulatory adjustments will be crucial in shaping the landscape of cooperative banking in Spain and ensuring that it remains a vibrant part of the financial system.

While regulatory-driven consolidation has been touted as a financial stability tool, the actual effects on credit cooperatives remain fervently debated. In favor, advocates promote economies of scale and detractors condemn the loss of community orientation, but scholarly research uncovers quite the opposite, ambiguous and conflicting results. There will be a critical evaluation of consolidations impacts across four main areas efficiency, service provision, risk concentration, and governance, to deepen the knowledge. On efficiency, findings from studies are far from homogeneous. Efficiency estimates from studies, such as those from Fernandez de Guevara et al. (2022) regarding cooperative merger in Spain revealed significant cost reductions, 15-25%. But others such as Massoc (2022) identified little efficiency gains especially because of difficulties in rationalizing duplication of tasks. The unraveling of the sources of performance change is methodologically difficult. It is contrary to expectation in most literature of the limited long-run efficiency gains.

Regarding service provision, branch closures following mergers often concentrate in lower-income areas, supporting concerns about financial exclusion. However, larger networks also enable expanded digital banking access (Barra & Zotti, 2020). Net effects are ambiguous, requiring granular analysis of changes in physical, digital, and social outreach. Access may be shifting forms rather than uniformly declining. In terms of risk concentration, larger balance sheets do appear to boost loss absorption capacity. However, case studies also find consolidated entities take on greater financial interconnectedness and engage in progressively more complex activities. The net impact on systemic risk profiles remains unclear. Enhanced resources may be offset by exposure concentration and complexity. On governance, member oversight becomes more diffuse in larger cooperatives with dispersed ownership (Polyzoidis, 2023). This can weaken restraints on managerial risk-taking. However, countervailing forces also emerge. Larger membership bases improve "voice" in policy advocacy. And expanded resources enable investments in governance expertise. The net governance effects of consolidation appear contingent and uncertain.

- **Resilience of cooperative banks compared to commercial banks during financial crises**

The resilience exhibited by cooperative banks during financial crises significantly contrasts with the vulnerability commonly observed in commercial banks. Cooperative banks operate under distinct structural and organizational principles, including customer ownership, local community engagement, prudent risk management, and prioritization of public interest, fundamentally differentiating them from commercial banking institutions (Amendola et al., 2025).

During the global financial crisis of 2007–2008, cooperative banks particularly distinguished themselves by demonstrating superior financial stability compared to their commercial counterparts. Stefancic (2016) identified that Italian cooperative banks maintained robust performance throughout the crisis period. Their stability is largely attributed to their conservative financial management practices, community-based lending strategies, and high levels of member trust. These banks primarily serve localized markets and small- to medium-sized enterprises (SMEs), entities that commercial banks tend to overlook during crises due to increased perceived risk (Barra et al., 2024). Cooperative banks' commitment to sustaining local economic conditions, combined with their cautious risk management, resulted in fewer defaults and non-performing loans, preserving their capital positions and overall solvency.

In contrast, commercial banks frequently experience heightened vulnerability in times of economic distress due to their profit-driven orientation and greater exposure to speculative investments. According to Barra et al. (2024), commercial banks often exacerbate systemic risks by tightening credit constraints on smaller firms, thereby inadvertently pushing these firms towards the shadow economy. This exacerbation of systemic risk contrasts starkly with cooperative banks' tendency to support financial inclusion, thereby diminishing informal economic activities. Specifically, cooperative banks' extensive use of relationship-based lending enables them to effectively manage and mitigate risks, even during adverse economic conditions, by leveraging detailed, community-derived knowledge of their borrowers.

Cooperative banks' role in risk mitigation extends beyond direct financial outcomes. Fernández-Aguado et al. (2024) highlight that cooperative banks contribute less risk to deposit insurance systems compared to commercial banks, underscoring their lower risk profiles. Cooperative banks typically exhibit lower volatility in deposit insurance claims, indicating a lower risk of default and insolvency compared to commercial institutions. The distinct operational approaches, ownership structures, and objectives of cooperative banks collectively lower their systemic risk contribution. Hence, they advocate for differentiated regulatory frameworks recognizing the inherently lower risk profiles of cooperative banks within the broader banking union context.

Moreover, cooperative banks demonstrate greater effectiveness in reducing socio-economic disparities, particularly in lower-income and underserved regions. According to Barra et al. (2024), cooperative banks significantly enhance financial access, thereby directly contributing to reduced income inequality. Their inclusive financial practices provide opportunities for economically marginalized groups, particularly by financing SMEs and local entrepreneurs who lack access to formal credit channels traditionally dominated by commercial banks. In contrast, commercial banks typically prefer serving larger, financially transparent corporations, thus marginalizing small businesses that form the backbone of local economies.

Furthermore, the distinct lending behaviors observed during financial downturns emphasize the unique operational dynamics of cooperative banks compared to commercial banks. Cooperative banks rely on relational lending practices that utilize 'soft' information—qualitative data obtained from personal interactions and community knowledge—as opposed to the 'hard', quantitative financial data heavily favored by commercial banks (Chen & Wang, 2024). Such personalized relationships facilitate deeper borrower evaluations, promoting prudent lending and enhancing repayment reliability, thereby directly contributing to lower default rates during

crises. The reliance on relational lending provides cooperative banks with superior risk management capabilities and increased flexibility in supporting borrowers facing temporary financial distress, a flexibility that commercial banks typically lack due to their standardized and impersonal assessment methodologies (Barra et al., 2024).

Additionally, cooperative banks' community-centric lending strategies foster substantial local economic resilience. The local focus allows these banks to intimately understand the specific economic environments in which they operate, enabling targeted and adaptive responses during economic downturns. This contrasts with commercial banks, whose broader, often national or international scope limits their responsiveness and adaptability to localized economic shocks (Fernández-Aguado et al., 2024). Hence, cooperative banks are often better positioned to sustain lending activities during periods of systemic economic stress, providing essential liquidity and support to local economies.

Commercial banks, despite their advantages in scale and operational scope, display vulnerabilities rooted in their profit-maximization motives. Adhikari et al. (2023) observed that during financial consolidations in Nepalese banking, commercial banks showed mixed and inconclusive financial performance post-merger, with instability in liquidity and profitability indicators. This instability often originates from aggressive growth and risk-taking behaviors designed to maximize shareholder returns, making these banks particularly susceptible to economic downturns. In contrast, cooperative banks' emphasis on maintaining capital adequacy, prudent risk management, and sustainable business models consistently contributes to their systemic resilience. Their operational practices, strongly rooted in member ownership and democratic governance, inherently discourage speculative activities, thereby enhancing their financial stability and reducing overall exposure to market volatilities (Yin et al., 2025). This conservative, community-oriented operational approach allows cooperative banks not only to weather economic storms more effectively but also to support broader economic stability through consistent and reliable financial intermediation.

To sum up, cooperative banks distinguish themselves from commercial banks during economic crises through their fundamentally different operational philosophies, governance structures, and lending practices. Their inherent focus on community welfare, relational lending, prudent risk management, and socio-economic inclusivity grants cooperative banks enhanced resilience to financial shocks. In contrast, commercial banks, driven primarily by profitability objectives and operationally distant from local economic conditions, frequently amplify systemic risks and display greater vulnerability. Recognizing these structural and operational distinctions is

essential for regulatory frameworks aiming to enhance financial stability and support local economic resilience.

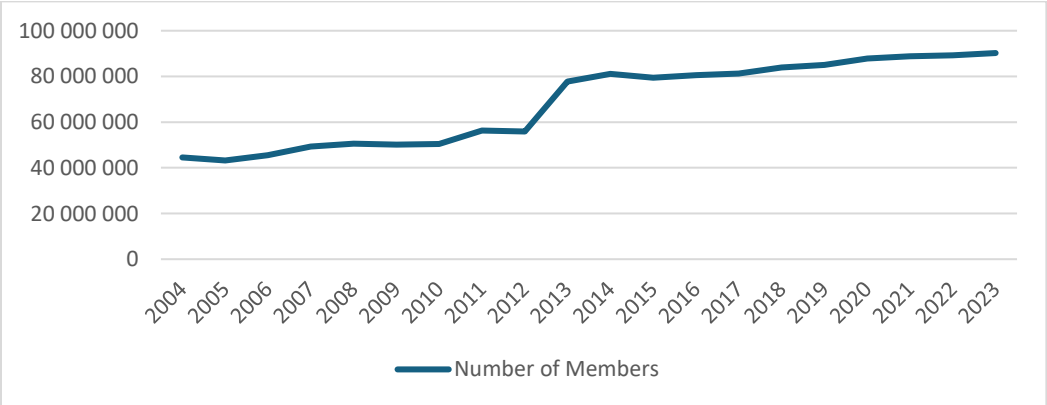
2.4 The impact of the Covid-19 pandemic on the cooperative sector

The COVID-19 pandemic emerged as one of the most formidable challenges for the financial industry in nearly a century, profoundly affecting all sectors of life. The financial industry, reliant on consumer income and business activity, faced severe disruptions. The pandemic exacerbated the financial landscape by impacting consumer earnings, which subsequently diminished the demand for products and services. The broader economic impact was severe, compounded by issues such as staff shortages, inadequate digital frameworks, and stressed infrastructure. Job losses led to decreased business sales and profits, illustrating the extensive influence of the pandemic on global economic conditions and, directly, on financial services including banking.

Unlike typical commercial banks, cooperative banks do not have external shareholders but operate on a membership model, allowing customers to become stakeholders. This fundamental difference supports a unique resilience in the face of crises. Cooperative banks focus on developing their retained earnings to bolster their equity base capital, positioning them differently in response to economic shocks compared to traditional banks.

According to Marostegan (2020), despite the adversities presented by COVID-19, the membership base of European cooperative banks saw a net increase in 2020. Specifically, the number of members grew by 1.2 million, reaching 87 million—a growth rate of 1.4%. This increase continues a trend where membership typically expands by about 2% annually. This growth during a global crisis underscores the robust community trust and commitment to cooperative banks, which are run by members rather than driven by shareholder profit motives.

Figure 1. Growth in the Members of the European Cooperative Banks (Dec. 2004 – Dec. 2024)



Source: Self prepared based on data from EACB.

Further highlighting the resilience of cooperative banks during the pandemic, Baldwin and Di Mauro (2020) noted a positive trend in the market share of these institutions in 2020. The market share for loans modestly increased by 0.1% from 2019 to 2020, while deposits saw a more significant rise of 0.3% within the same period. Additionally, the number of branches of European cooperative banks expanded by 2% in 2020. These figures suggest that despite the challenges posed by COVID-19, the cooperative banking sector not only sustained its operations but actually thrived, reaching its highest market share since 2011. This growth in loans, deposits, and branches during a global crisis is indicative of the sector's strength and the trust it commands among its members.

Table 1. Growth in the Market Share of European Cooperative Banks

	Loans	Deposits	Branches
2008	21,0	19,0	NA
2009	18,8	20,1	NA
2010	21,0	19,0	NA
2011	21,2	20,9	28,9
2012	21,5	21,3	29,6
2013	21,8	21,5	30,7
2014	21,9	21,4	31,4
2015	22,1	21,4	31,2
2016	22,4	21,8	32,3
2017	22,6	21,5	32,1
2018	23,1	22,0	33,0
2019	23,0	21,9	33,2
2020	23,1	22,2	35,2
2021	23,1	22,3	34,7
2022	23,3	22,4	34,9
Change in percentage points (2008 - 2022)	**+2,3**	**+3,4**	**+6,0[3]**

Source: Self preparation, based on data from EACB.

- **Growth in Loans of European Cooperative Banks during COVID-19**

In 2020, European cooperative banks demonstrated remarkable resilience and adaptability by continuing to offer services, notably in extending loans and accepting deposits. This commitment to service is reflected in the significant growth of the loan portfolio of the

[3] For Branches (2011 – 2022)

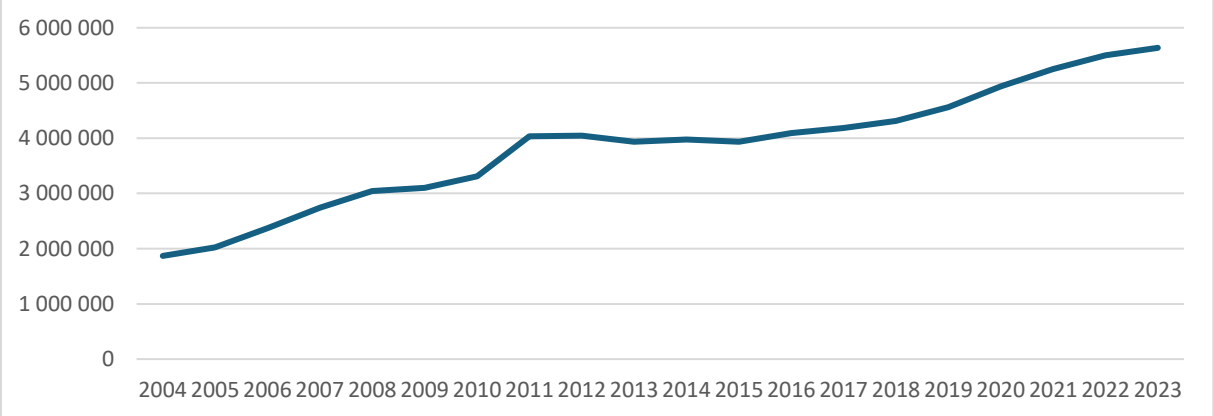
cooperative banking sector, which saw an increase of 4.6% in 2020, marking a record growth in the history of these banks.

The substantial growth in loan portfolios among European cooperative banks during the pandemic can be attributed to the tailored offers and financial relief measures provided to customers during this period. These initiatives were designed to alleviate the financial burdens faced by customers due to the economic downturn caused by COVID-19. Since 2011, European cooperative banks have increased their lending to the non-financial sector by almost 33%, demonstrating a strong commitment to supporting local economies and smaller enterprises that are often more vulnerable during economic downturns.

In contrast to the broader European banking sector, which excludes cooperative banks, the cooperative sector's performance was notably more robust. While the overall European banking system experienced a slight reduction in loans—decreasing by 1.5% from 6.1% to 4.6%—the decrease in loan growth for non-cooperative banks was more pronounced, with loans contracting by 1.8% from 3.5% to 1.7% (Massoc, 2022). This comparative resilience underscores the cooperative banks' ability to maintain and even expand their lending operations in the face of the pandemic, contrary to the trends observed in the wider banking sector.

In conclusion, the performance of European cooperative banks during the COVID-19 pandemic highlights their unique position within the financial sector. Their ability to not only sustain but grow their loan portfolios during such a turbulent period illustrates the effectiveness of their customer-centric approach and their importance as stable financial pillars in the communities they serve. This growth, achieved amid widespread economic uncertainty, reaffirms the role of cooperative banks in providing critical financial support during crises, distinguishing them from other banking institutions that saw more significant contractions in lending activities.

Figure 2. Growth in Loans of European Cooperative Bank (Dec 2004 – Dec 2023), in million €



Source: Self preparation based on data from EACB.

- **Growth in Deposits of European Cooperative Banks during COVID-19**

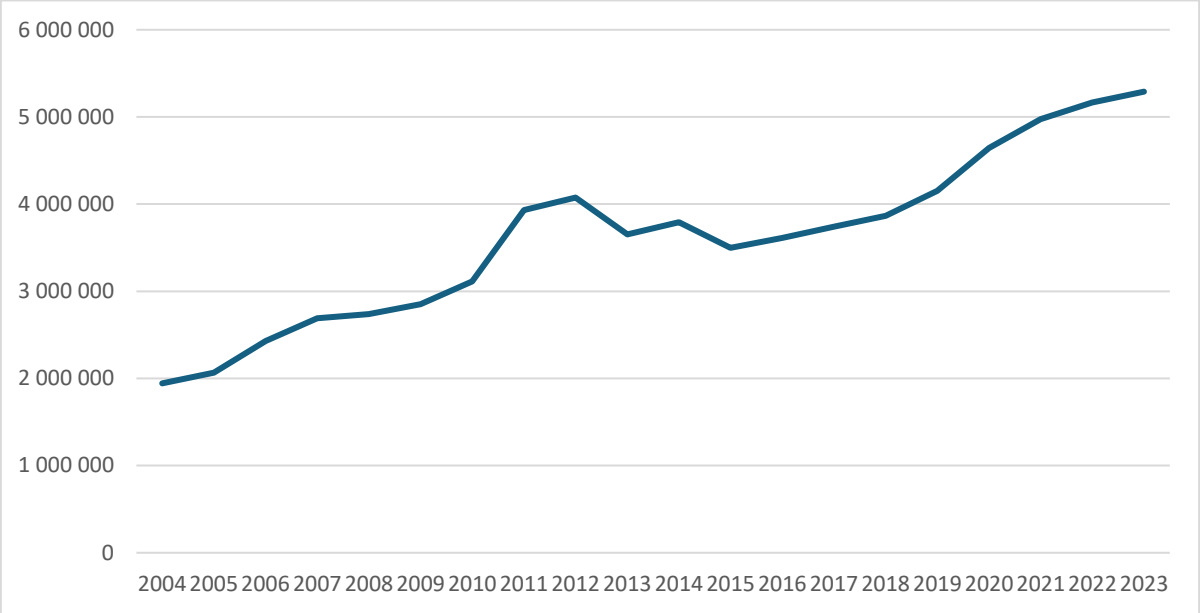
During the COVID-19 pandemic, significant changes occurred in the banking behaviors of consumers, with an increase in deposits across the board. Nathanial and Van der Heyden (2020) observed that both cooperative and non-cooperative banks experienced a growth in deposits, with the rates higher than those of 2019. This trend was influenced heavily by the unique circumstances of the pandemic, including travel restrictions and widespread lockdowns that limited traditional spending avenues.

The pandemic's restrictions forced many people to stay home, significantly altering typical consumer behavior. With reduced options for travel and leisure activities, many individuals found themselves saving more than spending. The shift to remote work further contributed to this trend, as people had fewer daily expenses, such as commuting or dining out. Consequently, depositing money into banks became a favored option, particularly as many faced uncertainties about the duration and economic impact of the pandemic.

While the increase in deposits was a general trend across the financial sector, European cooperative banks saw a more substantial rise in deposits compared to their non-cooperative counterparts, recording growth rates of 9.9% compared to 7.9%, respectively. This disparity highlights the greater consumer confidence in cooperative banks during the pandemic. Customers of cooperative banks likely felt a stronger sense of security and trust, given these institutions' customer-focused and community-oriented banking models. The cooperative principles of these banks, which emphasize member benefits and community support, may have played a crucial role in attracting and retaining higher deposit levels during uncertain times.

To sum up, the growth in deposits during the COVID-19 pandemic illustrates a broader trend of increased savings amid reduced consumer spending due to lockdowns and travel restrictions. European cooperative banks, in particular, benefited from this trend, experiencing a higher growth rate in deposits than non-cooperative banks. This indicates a strong consumer preference for cooperative banks during the crisis, likely due to their reputation for stability and member-focused operations. Such trends reinforce the importance of trust and community orientation in banking, especially during times of widespread uncertainty and economic instability.

Figure 3. Growth in Deposit of European Cooperative Bank (Dec 2004 – Dec 2023) – nr in million €



Source: Self preparation based on data from EACB.

- **Growth in Tier 1 Ratio of European Cooperative Banks during COVID-19**

Despite the challenges to the global financial system, testing the resilience and adaptability of banks, the European banking sector, including cooperative banks, demonstrated robust capital adequacy, entering the pandemic with a solid capital foundation and a high Tier 1 capital ratio.

Miklaszewska et al. (2021) reported that the European banking sector not only maintained but actually enhanced its financial strength during the pandemic. There was a noticeable improvement in the Tier 1 capital ratio, which increased from 15.8% to 16.6%. This increase reflects the sector's resilience and is a testament to the effectiveness of the stringent regulatory frameworks that have been established over the years.

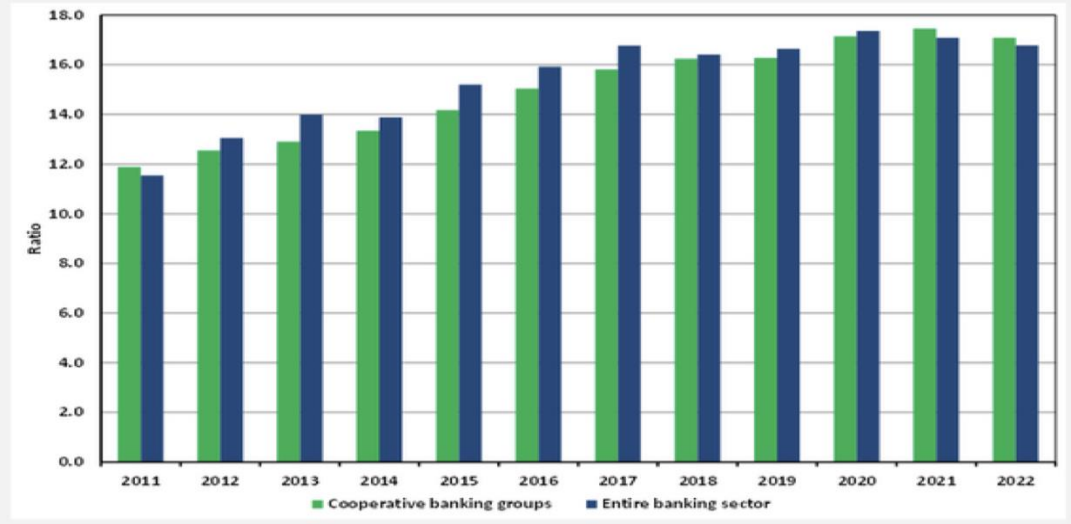
The growth in the Tier 1 ratio can be attributed significantly to the strict regulatory requirements that have been enforced by regulatory bodies, including the Association of European Cooperative Banks. These regulations have been designed to ensure that banks maintain a high level of capital adequacy to withstand financial shocks. The regulatory landscape for European banks had been fortified in the years leading up to the pandemic, which included enhancements in capital requirements and more rigorous stress testing practices.

The consistency in regulatory policy during the pandemic played a crucial role. Despite the economic turmoil brought on by COVID-19, there were no relaxations in regulatory standards; instead, banks were expected to continue adhering to high capital requirements. This policy

stance helped prevent a dilution of capital standards and encouraged banks to further bolster their financial buffers.

To conclude, the increase in the Tier 1 capital ratio among European cooperative banks during the COVID-19 pandemic highlights their financial durability and the critical role of stringent regulatory frameworks in sustaining banking stability. The cooperative banks' ability to strengthen their capital positions amid a global crisis not only underscores their resilience but also enhances their capacity to support the economy during periods of uncertainty. This performance further solidifies the argument for the effectiveness of rigorous regulatory oversight in maintaining a stable and robust banking sector.

Figure 4. Growth in Tier 1 Ratio of European Cooperative Bank (2011 – 2022)



Source: Groeneveld, 2023.

- **Return on Equity (ROE) of European Cooperative Banks During COVID-19**

According to Bilal (2020), this period saw a notable decline in ROE figures, with non-cooperative banks experiencing an average decrease of 0.8%, while cooperative banks saw a slightly less severe decline of 0.5%. This differential impact highlights the unique financial dynamics and operational resilience of cooperative banks compared to their non-cooperative counterparts.

The decline in ROE during the pandemic can be attributed to several key factors:

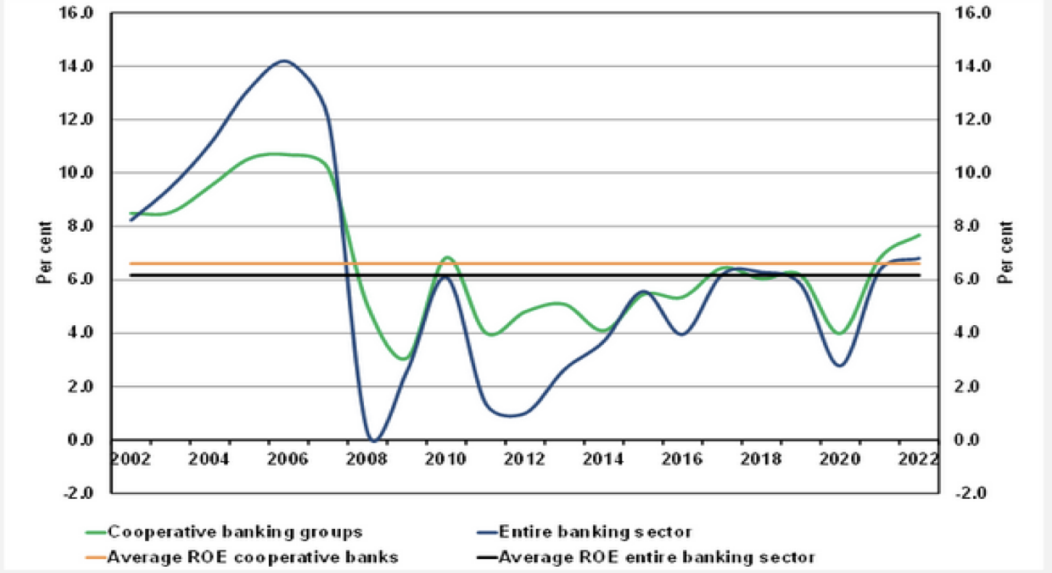
1. **Unconventional Monetary Policies**: The continuation of negative official interest rates significantly strained net interest revenues, particularly affecting retail banking, which is a core business area for cooperative banks. The environment of low interest rates compresses margins on traditional banking products, making it challenging to generate robust interest income.

2. **Decline in Core Business Revenue**: For cooperative banks, which traditionally rely heavily on income generated from retail banking operations, the impact was pronounced. The income expressed as a percentage of total assets from this core business segment fell markedly from almost 1.6% in 2011 to just over 1% in 2020. This reduction reflects broader trends in the banking industry but also underscores the specific challenges faced by cooperative banks in maintaining profitability under pressure from both market conditions and regulatory environments.

The slightly lesser decline in ROE among cooperative banks compared to their non-cooperative peers during the pandemic can be seen as indicative of their relative resilience. This resilience is often attributed to the cooperative banking model, which emphasizes local engagement, member-focused services, and prudent risk management. Cooperative banks typically maintain closer relationships with their customers, which can lead to more stable deposit bases and potentially more resilient income streams during economic downturns.

Furthermore, cooperative banks' governance structures, which prioritize long-term stability over short-term gains, may shield them somewhat from the extreme fluctuations seen in more profit-driven institutions. However, the pressures of the pandemic did not leave cooperative banks unscathed, and they too had to navigate the challenging balance between maintaining service to their members and managing their financial health.

Figure 5. Average Return on Equity in the European banking sector (2002 – 2022)



Source: Groeneveld, 2023.

- **Stable Cost-Income Ratio of European Cooperative Banks**

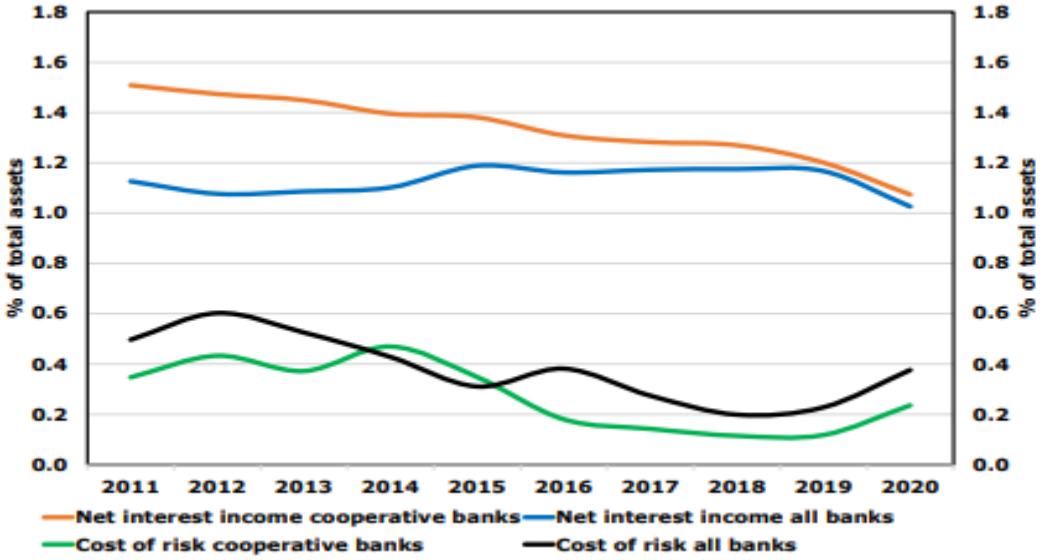
Hazakis (2021) highlights the significance of the cost-income ratio, which measures the costs incurred against the income generated by banks, as a key indicator of financial health and management effectiveness. European cooperative banks demonstrated remarkable stability in their cost-income ratio throughout the pandemic. According to Hazakis (2021), the cost-income ratio for these banks remained at 64.2%. This stability indicates that European cooperative banks were able to effectively manage their operational costs, compensating for any potential declines in income and absorbing loan impairments without significantly impacting their financial efficiency.

In contrast, non-cooperative banks experienced fluctuations in their financial performance metrics. While the income for these banks slightly reduced, their operational costs increased, leading to a modest decrease in the cost-income ratio to 62.4%. This comparative analysis reveals a significant disparity between cooperative and non-cooperative banks in terms of how they managed their expenses relative to income during the pandemic.

The stable cost-income ratio of European cooperative banks underscores their ability to maintain cost efficiency under challenging economic conditions. This performance is indicative of the robust financial management practices and operational resilience inherent in the cooperative banking model. Cooperative banks are often characterized by their conservative management approaches, community-focused business models, and prioritization of long-term stability over short-term gains, which may contribute to their ability to sustain a stable cost-income ratio even during periods of financial stress.

In contrast, the variability observed in the cost-income ratios of non-cooperative banks might reflect the broader impacts of the pandemic on the commercial banking sector, which often faces different regulatory pressures and profit expectations.

Figure 6. Interest income in cooperative banks vs all bank in Europe



Source: Groeneveld, 2023.

During the COVID-19 pandemic, the resilience and agility of European cooperative banks were notably enhanced by an effective regulatory framework. These banks played a critical role in maintaining financial stability and supporting their communities amidst unprecedented challenges. Wrede (2021) points out that European cooperative banks managed to mitigate the impact of COVID-19 remarkably well, continuing their operations with minimal disruption. This resilience was largely due to their proactive response to the crisis, which included adapting operational processes and offering targeted support to customers facing financial hardships. Cooperative banks were instrumental in implementing relief measures such as loan deferments, mortgage relief, and emergency funding for businesses, which were crucial in helping their members and communities navigate the economic fallout of the pandemic.

Chapter 3 The characteristics of the southern European cooperative banking model

3.1 The role and importance of cooperative banks

Financial cooperatives (FCs) were established to serve communities that traditional banks often overlooked, particularly small business owners such as farmers, shopkeepers, and artisans, who face significant barriers in securing loans due to lengthy processes and strict lending criteria (Fajardo Garcia, 2017). By pooling resources, these groups increase their chances of accessing financial services through cooperative banking models, which emphasize mutual support and collective financial strength.

Even in markets dominated by commercial banks, financial cooperatives continue to provide essential banking services, particularly in rural and sparsely populated areas where conventional financial institutions may have limited presence (Gonzalez, 2021). In many regions, cooperative banks are the only available financial institutions that accept deposits, extend credit, and maintain physical branches, ensuring financial inclusion where commercial banks may not find it profitable to operate (Groeneveld, 2022). This accessibility allows them to remain competitive in diverse market environments, regardless of their size. The presence of cooperative banks varies significantly across European markets, reflecting differences in national regulatory frameworks, banking structures, and financial traditions (Ayadi et al., 2017).

A cooperative bank is a vital part of the history and culture of local communities across Europe, operating in both small towns and major cities. Preserving the core components of the cooperative banking model is essential to ensuring its long-term sustainability (Gortsos, 2020). They contribute to social capital, reinforcing the linkages necessary for economic stability and sustainable financial development (Ayadi et al., 2017).

- **Social capital**

Social capital has increasingly been recognized as a critical component influencing organizational effectiveness, financial sustainability, and community resilience. Rahaman et al. (2024) define social capital broadly as a set of social factors such as trust, reciprocity, cooperation, shared norms, and solidarity networks that provide competitive advantages and foster organizational value. These intangible resources facilitate cooperation and coordination among individuals and organizations, significantly affecting performance outcomes. Rahaman et al. (2024) further highlight that social capital consists of multiple dimensions, including

solidarity networks, community trust, innovation diffusion, knowledge transfer, organizational reputation, and supportive infrastructure.

Solidarity networks, one of the critical dimensions of social capital, play a pivotal role in organizational management and effectiveness. These networks, formed through interactions with external entities such as customers, suppliers, investors, government institutions, and competitors, enhance operational effectiveness and managerial capability (Rahaman et al., 2024). Similarly, trust within communities serves as both a foundational and resultant element of social capital, enhancing communication, reducing uncertainty, and fostering a collaborative environment. This form of social capital is particularly vital in cooperative banks, where mutual trust facilitates more stable lending and reduces the likelihood of opportunistic behaviors, thereby contributing to financial stability (Rahaman et al., 2024).

The significance of social capital extends notably into financial institutions, where it influences credit access and quality. Yu et al. (2023) provide empirical evidence from rural areas in Fujian, China, demonstrating how social capital derived from cooperative membership significantly enhances farmers' access to bank credit. This finding indicates that cooperative memberships provide farmers with vital social capital through trust, shared goals, and mutual support, thus lowering transaction costs and reducing perceived risks by lending institutions. Such social capital mitigates information asymmetry between banks and borrowers, enhancing banks' willingness to extend credit to cooperative members who might otherwise be denied loans due to insufficient collateral or unstable incomes (Yu et al., 2023). Furthermore, Yu et al. (2023) stress that farmers with limited existing social connections or financial knowledge benefit even more significantly from cooperative membership, emphasizing the leveling effect social capital can have on access to financial resources.

In Bali, Indonesia, Kustina et al. (2025) investigated how social capital, alongside organizational culture and service innovation, impacts the financial sustainability of rural banks. Their findings indicate a complex role for social capital. On the one hand, social capital positively moderates the relationship between organizational culture and service innovation, significantly contributing to enhanced financial sustainability. On the other hand, a direct negative impact of social capital on financial sustainability and innovation was also identified. This dual effect suggests that social capital must be managed carefully, as excessive reliance on informal networks and community obligations could potentially constrain the effectiveness of formal financial practices and service innovations necessary for sustained competitiveness (Kustina et al., 2025). Nevertheless, the overall influence underscores that social capital remains

indispensable in cultivating collaboration and trust, thus enhancing the capacity for adaptive responses in challenging market environments.

Supporting this complexity, Pilatin and Ayaydin (2022) examined the Turkish banking sector and emphasized social capital's role in moderating credit growth and credit quality. They argue that social capital functions as an informal institutional mechanism that can reduce opportunistic behaviors among borrowers and banks, thus limiting excessive risk-taking. Their empirical findings from Turkish banks indicate that higher provincial levels of social capital correlate with reduced loan growth rates and lower occurrences of non-performing loans. This relationship illustrates how social capital serves as an informal regulatory mechanism, constraining risky behaviors that may compromise financial stability. In provinces characterized by high social capital, banks were more cautious in expanding their credit portfolios, reflecting the community's shared norms of prudence and trustworthiness (Pilatin & Ayaydin, 2022). This finding aligns with Rahaman et al.'s (2024) argument that social capital enhances financial performance by fostering cooperative norms that help manage risks and uncertainties.

Tomimi (2024) expands the application of social capital to environmental and community-based sustainable initiatives, specifically through waste banks in Padang, Indonesia. Here, social capital manifests through community collaboration, mutual trust, and shared norms critical for sustainable waste management practices. Waste banks, serving as community-driven entities, rely significantly on the social capital generated through local trust networks and participative norms. This social infrastructure enables efficient management of community resources and fosters behaviors aligned with environmental sustainability goals. The community's active participation, bolstered by social trust and cohesive social networks, ensures transparency and accountability within waste bank management, reinforcing the system's overall sustainability (Tomimi, 2024).

The collective findings from these studies underscore the diverse and context-specific impacts of social capital across different domains—ranging from banking to agriculture and community environmental initiatives. Social capital consistently emerges as a vital intangible asset capable of enhancing organizational stability, promoting cooperative behaviors, facilitating access to credit, and supporting community-driven sustainability practices. However, its benefits are not uniform; the intricate balance between leveraging social networks and formal institutional mechanisms remains critical. Excessive dependence on informal relations might pose risks to formal institutional efficiency, while properly managed social capital clearly offers profound

advantages in managing uncertainty, enhancing competitive advantage, and sustaining performance.

Despite being categorized as scheduled banks, cooperative and commercial banks operate under distinct regulatory and structural frameworks. According to Guthrie et al. (2020), the fundamental difference between these institutions lies in their governance models and business objectives. While commercial banks prioritize profit maximization for shareholders, cooperative banks function based on principles of cooperation, self-help, and mutual support (Macchiarelli et al., 2020). This model ensures that cooperative banks primarily serve members such as farmers, small-scale businesses, and self-employed individuals, providing financial services tailored to their needs (Birchall, 2013).

Moreover, cooperative banks play a critical role in financial inclusion, especially in rural and semi-urban areas, where they often serve as the primary financial institutions available. Their focus on community-based lending allows them to maintain close relationships with customers, reducing information asymmetry and fostering trust in financial transactions (Groeneveld, 2018). In contrast, commercial banks are structured to serve a wide clientele, including corporations and institutional investors, offering a broad range of financial services (Manz et al., 2023). Their operations are largely driven by profit-oriented objectives, with lending practices focused on maximizing returns rather than fostering local economic growth (Fonteyne, 2007).

In some regions, such as India, cooperative banks are regulated under specific legal frameworks, such as the "Cooperative Society Act of 1965," which ensures that these institutions cater primarily to underserved populations, including farmers, laborers, and small merchants (Čihák & Hesse, 2007). This further distinguishes them from commercial banks, which often impose stricter credit requirements and may exclude lower-income groups from accessing financial services.

The cooperative banking model continues to demonstrate resilience in the European financial system, ensuring financial stability and economic inclusion while adapting to evolving market conditions (EACB, 2022)[4]. Unlike commercial banks, which often retrench during financial crises, cooperative banks maintain their commitment to supporting local economies, reinforcing their essential role in the banking sector (Poli, 2019).

Maria et al. (2021) emphasize that cooperative banks operate on the principle of "No profit, No loss," prioritizing support for their members rather than profit maximization. As member-

[4] Analytical assessments - EACB https://www.eacb.coop/en/cooperative-banks/analytical-assessments.html (accessed on 15/02/2025)

owned institutions, cooperative banks facilitate access to financial services, particularly for those who may be excluded from traditional banking. Their role extends beyond mere financial intermediation, encompassing a broader social mission to enhance financial inclusion and community resilience.

The cooperative banking sector plays a particularly significant role in France, Italy, and Spain, where it operates alongside commercial banks within the broader European financial market. The structure of cooperative banks in these countries differs in governance and objectives from their commercial counterparts, reflecting a distinct model rooted in mutualism and local economic development.

In France, cooperative banks such as Crédit Agricole, Crédit Mutuel, and BPCE collectively dominate the retail banking market, holding a substantial share of deposits and loans. Since 2013, these three institutions have controlled approximately 59% of total deposits and 60% of the loan market in France. The cooperative banking system in Italy and Spain, while significant, does not match the dominant presence seen in France. Italian cooperative banks, including Banca Popolare di Milano and Banca Popolare dell'Emilia Romagna, have historically focused on supporting small enterprises and regional development. In Spain, entities such as Caja Rural and Banco Cooperativo Español have concentrated on financial inclusion, SME lending, and community investment, aligning closely with the cooperative banking ethos.

The cooperative banking sector's resilience has been evident across various economic crises, demonstrating stability through localized lending, prudent financial management, and a strong emphasis on member relationships. Their presence in rural and underserved areas underscores their role in fostering economic diversification and reducing financial exclusion. The cooperative banking model continues to evolve, responding to regulatory shifts and digital transformation while maintaining its foundational commitment to community-centric banking.

In both Italy and France, the cooperative banks have a dual role as both credit institutions and cooperative organizations, reflecting their deep-rooted connection with local economies. The governance structures of these banks emphasize democratic participation, local engagement, and financial sustainability. Fiordelisi and Mare (2013) highlight that cooperative banks in these countries adhere to strict governance principles, ensuring that a significant portion of their profits is reinvested into bank reserves and social funds, rather than distributed as dividends.

In France, cooperative banks such as Crédit Agricole, Crédit Mutuel, and BPCE dominate the financial landscape, with Crédit Agricole particularly standing out due to its hybrid model that incorporates both cooperative and commercial banking elements. Crédit Agricole's structure

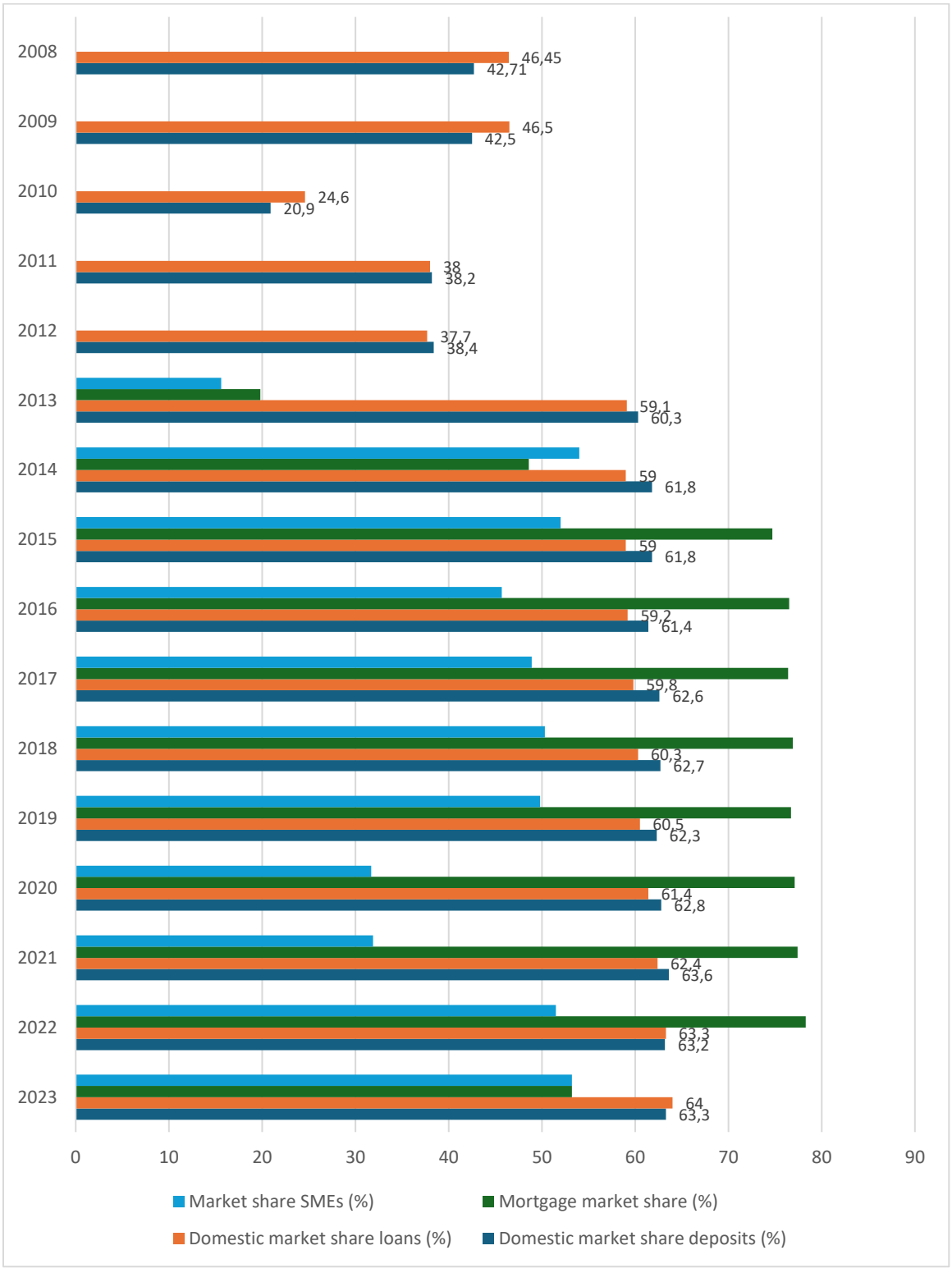
consists of 39 autonomous regional banks, which collectively own the central Crédit Agricole S.A. entity. This federated model allows it to maintain strong local ties while benefiting from the efficiency and resources of a large financial institution.

Similarly, Italy's cooperative banking sector has evolved through a networked system that balances local control with centralized oversight. The Banche di Credito Cooperativo (BCC) model ensures that decision-making remains within the hands of local members while benefiting from the stability provided by national institutions. Over time, regulatory changes have aimed to strengthen governance within the sector, ensuring cooperative banks remain resilient against financial shocks. Despite differences in their organizational structures, cooperative banks in both countries have demonstrated resilience and adaptability, particularly during economic crises. Their ability to maintain financial stability while serving local economies continues to highlight the relevance of cooperative banking in Europe.

As it could be seen in the figure 7, the three cooperative banks in France (CA, CM, and BPCE) dominate the French banking starting from 2013 with 59% from the total deposits in France and 60% from the loans market. However, in both Italy and Spain, the cooperative banks do not have that strong presence.

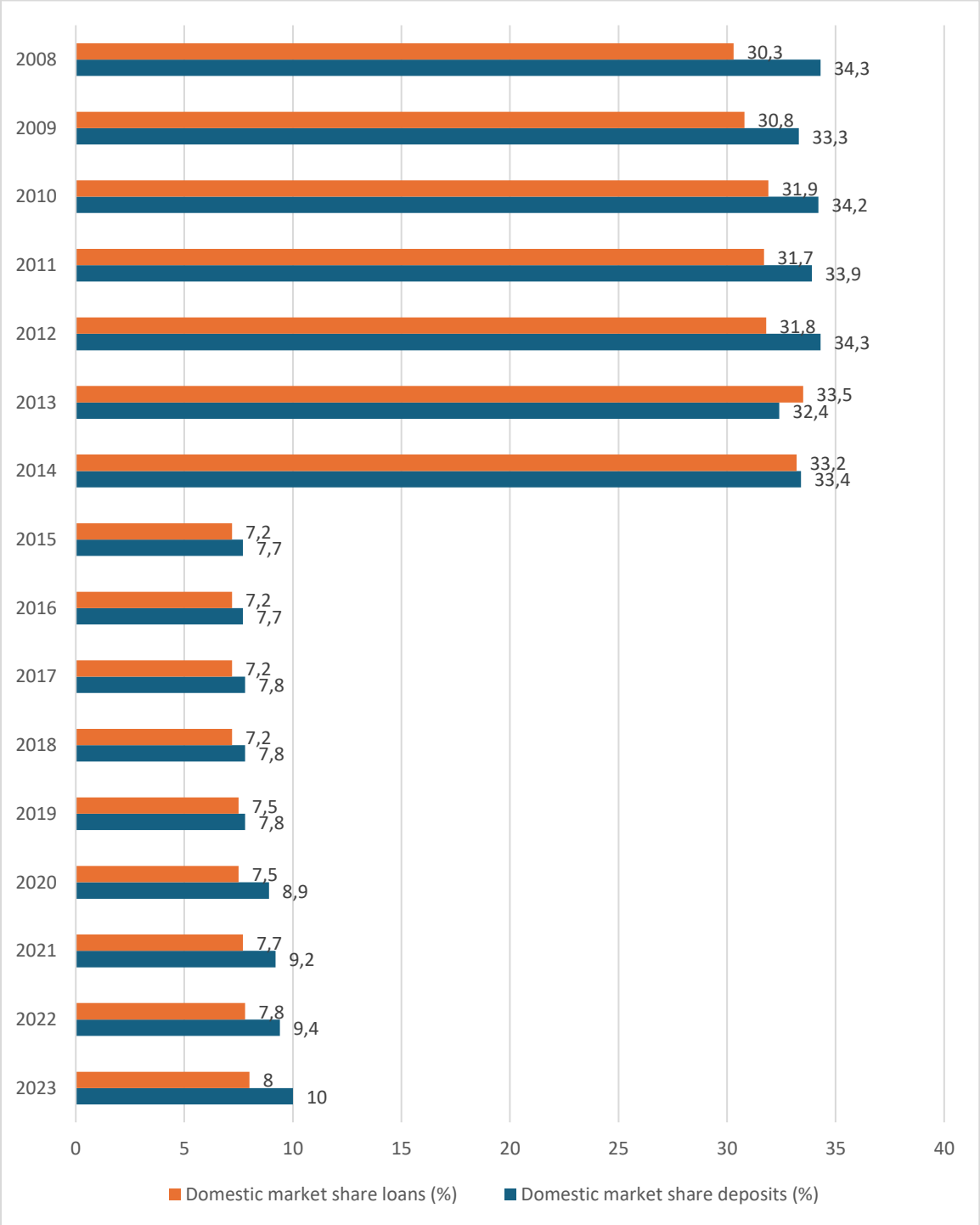
As it can be noticed in figure 8, the cooperative banks lost a huge part of the market share in Italy after 2014, it falls from 33,7% in 2014 to 7,7% in 2015. However, in Spain the cooperative banks progress slowly but surely every year (figure 9).

Figure 7. The market share of cooperative banks in France between (2008 – 2023)



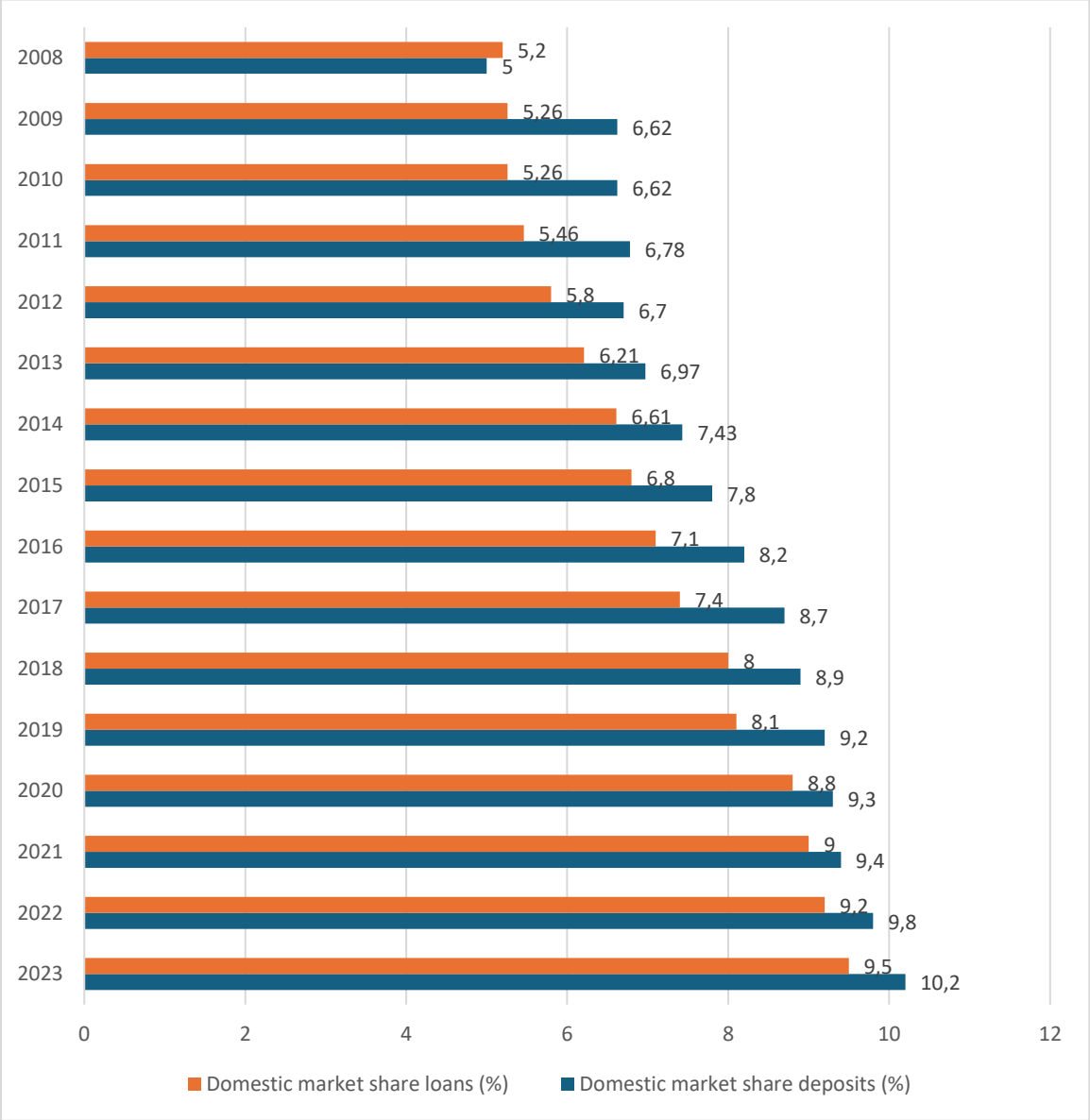
Source: Self preparation based on data from the EACB (till 2012 data available only for loans and deposits).

Figure 8. Cooperative banks market share for both deposits and loans in Italy (2008-2023)



Source: *Self* preparation based on data from the EACB.

Figure 9. The cooperative banks market share for both deposits and loans in Spain (2008-2023)



Source: Self preparation based on data from the EACB.

The governance model of Spanish cooperative banks is distinctly rooted in the principles of democratic participation and local engagement. According to Schwizer et al. (2010), Spanish credit cooperatives function under a general legal framework established by the Law on the Cooperatives (No. 3) of April 2, 1987, which recognizes them as associations primarily created to meet the financial needs of their members. Governance in these institutions follows the one member, one vote principle, ensuring that all members have an equal say in the decision-making process, regardless of the financial contributions they have made.

Additionally, the **Law on the Cooperative Credit (No. 13) of May 26, 1989**, defines the structure of credit cooperatives, outlining their institutional and mutualistic nature. This legislation mandates that cooperative banks prioritize the financial needs of their members while allowing them to engage in standard banking activities such as lending and deposit-taking. Spanish cooperative banks are also legally required to maintain a portion of their profits as reserves, reinforcing financial stability and long-term sustainability.

Compared to commercial banks, cooperative banks in Spain exhibit a strong localism, with operations often limited to specific territorial regions as per their statutes. The governance model of Spanish credit cooperatives is characterized by a layered structure, where the General Assembly—comprising all members—elects a Directive Council, which in turn manages operations and ensures compliance with the cooperative's mission.

This decentralized governance structure preserves the community-focused ethos of cooperative banking while ensuring financial prudence. The model also fosters resilience, as evidenced by the sector's ability to navigate economic fluctuations while maintaining its cooperative principles (Mertens et al., 2021).

Since the establishment of what could be considered the first cooperative banking models in the 19th century, the provision of financial assistance to cooperative bank members –primarily farmers, artisans, and small business owners – has been central to their identity (Mkhaiber & Werner, 2021). The evolution of cooperative banking in Europe has been deeply intertwined with broader socio-economic objectives, particularly financial inclusion and rural development (Birchall, 2013). The distribution of surpluses within Italian and French cooperative banking models highlights their fundamental identity. Mkhaiber and Werner (2021) argue that cooperative banks generate profits not for shareholder enrichment but as part of their social commitment to local communities. This reinvestment model reinforces financial stability and fosters regional economic development, distinguishing cooperative banks from their commercial counterparts (Chaddad & Cook, 2004).

The commitment of cooperative banks to local and regional economies is not just an ethical stance but an economic imperative. Neifar et al. (2020) emphasize that cooperative banks integrate financial and social objectives, ensuring that financial non-exclusion remains a fundamental principle of their operations. Their ability to provide long-term social value through sustainable lending and community-based financial initiatives further strengthens their role in economic resilience (Groeneveld, 2018).

The European Association of Cooperative Banks (EACB) defines the cooperative banking models of Italy, France, and Spain as institutions that uphold transparency, governance,

resilience, social commitment, and solidarity (Pokharel & Featherstone, 2021). This unique business model emphasizes the preservation of social and territorial cohesion as a key objective (Ayadi et al., 2010).

Spanish cooperative banks have traditionally focused on retail banking, prioritizing financial support for individuals and SMEs. Their deep-rooted understanding of the cooperative business environment, rural economies, and the agricultural sector has enabled them to provide specialized financial services tailored to local needs (Risch, 2020). Unlike commercial banks, cooperative banks do not operate solely for profit generation but rather to facilitate community welfare and economic sustainability (McKillop et al., 2020). The financial philosophy underpinning cooperative banks in Italy and France has historically resulted in prudent risk-taking and a commitment to long-term sustainability.

Sanders et al. (2020) conclude that due to their organizational structure, cooperative banks tend to have more diversified capital structures. In this context, Italian and French cooperative banks tend to take measured risks while designing their investment and capitalization strategies to align with institutional policies aimed at fostering regional economic growth.

Their proximity to customers and strong relationships with them remain a key advantage in the banking market. A retail banking model centered on local communities benefits from this direct connection (Stellinga, 2021). As a result, cooperative banks derive their market value primarily from retained earnings rather than distributed profits. Trapanese (2021) confirms that this approach makes them less vulnerable to fluctuations in return on equity compared to other financial institutions. However, a major challenge faced by cooperative banks is maintaining customer relationships while continuing to provide personalized services. Other advantages of the cooperative model include contributions to financial stability, support for local economies, and a broader social impact.

In the Spanish cooperative banking sector, challenges persist. Uddin (2021) finds that slow adaptation and an extensive operational scope hinder efficiency. The regulatory environment in Spain increasingly favors centralized banking structures, typically favoring large commercial banks over smaller decentralized institutions. However, evidence suggests that cooperative banks with decentralized governance models remain among the most reliable financial institutions in Spain (Van Broekhoven & Goswami, 2021).

Cooperative banks must navigate legislative changes affecting their governance and operational structures. While policymakers acknowledge the unique challenges Spanish cooperative banks face, institutions must choose between preserving traditional cooperative frameworks or

adopting consolidated structures that enhance competitiveness in international markets (Butzbach & Rotondo, 2020).

The cooperative banking model faces inherent limitations, particularly in governance and its strong focus on individual consumer needs. The challenge remains in balancing cooperative principles with the need for expansion and modernization. Nonetheless, globalization presents opportunities for cooperative banks in Italy, Spain, and France. Strengthening customer relationships, leveraging technological innovations, maintaining customer trust, and fostering democratic governance are key strategies to ensure long-term sustainability (Coccorese & Shaffer, 2021).

Potential threats include increasing regulatory scrutiny and evolving financial supervision frameworks across Europe. These regulatory changes must be implemented in a manner that does not undermine cooperative banking principles. Sustained investment in human capital, proactive adaptation, and a commitment to preserving cooperative identity remain critical in mitigating risks such as demutualization (Wiley & Navickas, 2021).

Furthermore, maintaining a strong connection to the real economy is vital for cooperative banks in Italy, Spain, and France. Providing a comprehensive range of financial services, particularly to SMEs and rural communities, remains a priority (European Association of Cooperative Banks, 2023). Italian and French cooperative banks, in particular, have prioritized investments in agriculture and food processing sectors, reflecting their strong ties to local economies.

The stability of cooperative banks is also reinforced by their countercyclical role in economic downturns. Unlike commercial banks, which prioritize profit maximization, cooperative banks focus on sustaining local economies through responsible lending and investment practices. The default rate in cooperative banks has historically been lower than in other banking models (Migliorelli, 2018). While credit financing for SMEs remains central to their business model, cooperative banks also play a significant role in mortgage lending, household financing, and payment services, among others.

The ability of cooperative banks in Italy, Spain, and France to successfully merge traditional banking practices with digital transformation will define their future competitiveness. By balancing financial stability, governance efficiency, and social responsibility, cooperative banks can maintain their position as a cornerstone of regional economies.

3.2 Business models for the cooperative sector

Commercial and cooperative banks represent two distinct financial models, each with unique structures, objectives, and operational methodologies. Commercial banks operate primarily for profit, driven by shareholder interests, whereas cooperative banks are member-owned institutions focusing on financial inclusion and community-oriented banking (Ayadi, 2017). While both types of banks fall under regulatory oversight, cooperative banks often follow governance models emphasizing democratic decision-making and long-term sustainability over short-term profit maximization.

The evolution of banking business models, particularly in Europe, has been shaped by historical financial crises and shifting regulatory frameworks. The pre-2008 financial landscape saw an increase in risk-taking and financialization, especially among large commercial banks, leading to systemic vulnerabilities (Fischer, 2017). In contrast, cooperative banks remained more conservative, prioritizing relationship-based banking and localized economic stability. Their resilience during crises, including the global financial crisis and the COVID-19 pandemic, further underscored the robustness of their model (Caselli, 2018).

In Spain, cooperative banking models have acted as economic stabilizers, counterbalancing macroeconomic shocks by maintaining credit supply even during downturns. The Spanish financial system has historically oscillated between periods of hyper-financialization and regulatory tightening, impacting cooperative bank operations and market positioning (Caselli, 2018). In Italy, cooperative banks have undergone significant structural reforms, transitioning towards a more diversified model while maintaining core cooperative principles. The Amato-Carli Law of 1990 was a turning point, enabling Italian cooperative banks to expand their operational scope while still adhering to community banking values (Neifar et al., 2020).

France presents a unique case where cooperative banks, such as Crédit Agricole and Crédit Mutuel, have successfully blended cooperative and commercial banking elements. The regulatory environment in France has enabled cooperative banks to function as full-fledged financial intermediaries while preserving their governance structures. This hybrid approach has facilitated their competitiveness in both domestic and international markets, illustrating the adaptability of the cooperative banking model (Gortsos, 2020).

Overall, the evolution of cooperative banking models in Europe reflects a delicate balance between regulatory adaptation and maintaining foundational cooperative principles. While commercial banks have prioritized profit-driven expansion, cooperative banks have continued to emphasize member engagement, financial inclusion, and regional economic development.

This distinction remains critical in assessing their role within the broader financial ecosystem and their ability to withstand future financial shocks (Macchiavelli, 2021)

Caselli (2018) explains that financial institutions can either act as shock absorbers or as shock originators during macroeconomic cycles, as demonstrated during the 2008 financial crisis. However, in the case of Spain, cooperative banks generally acted as stabilizers, maintaining credit flows and supporting economic resilience. This counter-cyclical behavior contrasts with the practices of some commercial banks, which contributed to the amplification of the crisis. This distinction hinges on the efficiency with which these institutions fulfill their financial intermediation responsibilities. Over recent decades, signs of "hyper-financialization" have become increasingly prominent across various sectors of Spain's economy, leading to concerns over excessive risk-taking and unsustainable credit expansion. However, cooperative banks have historically maintained a counter-cyclical function, mitigating economic downturns by ensuring continued credit access for SMEs and households.

In contrast, when considering Italian cooperative banks' business models, several key structural factors have influenced their evolution. The growing role of Italian banks in financial intermediation, a sharp increase in banking system assets relative to GDP, and the rapid expansion of the financial sector all shaped Italy's banking landscape prior to the global financial crisis (Ayadi et al., 2016). During this period, Italian cooperative banks navigated a delicate balance between preserving their traditional member-focused approach and integrating competitive financial strategies (Neifar et al., 2020). Their ability to adapt while maintaining strong local engagement positioned them uniquely within the European banking framework.

Although financialization accelerated significantly in Italy, cooperative banks remained comparatively less leveraged and more resilient than their commercial counterparts. They continued to prioritize regional economic stability, lending to SMEs, and supporting local agricultural and manufacturing sectors (Macchiavelli, 2021). However, regulatory pressures, particularly from Basel III, introduced new challenges regarding capital adequacy and liquidity management, pushing cooperative banks to adjust their operational models without compromising their cooperative ethos.

Since 1990, the Italian banking sector has undergone significant reforms in ownership structures, operational scope, risk management strategies, efficiency incentives, and, most importantly, organizational and business model adaptations (Guthrie et al., 2020). The Amato-Carli Law of 1990 initiated a series of legislative and deregulatory actions aimed at enhancing the operational autonomy of banks while expanding their range of activities and services (Neifar

et al., 2020). Altintas (2020) finds that this transformation allowed Italian banks to diversify their service portfolios, leading to a more complex and competitive banking environment. As a result, banks have had to adopt organizational models capable of managing an increasingly varied product-market structure, shifting customer demands, and rising external uncertainties, which are significantly more intense than in previous decades.

A crucial turning point in Italy's banking evolution was the shift from the specialized bank model, established in 1936, to the universal banking model, which gained traction after 1994 (Meier et al., 2021). This transition facilitated the expansion of Italian banks into diverse financial services, allowing them to integrate a broader array of product-customer-channel combinations (De Luca et al., 2020). The rapid diversification of banking activities was aimed at enhancing operational flexibility and mitigating risk exposure, but it also introduced greater complexity in regulatory compliance and corporate governance (Mertens et al., 2021).

During this period, financial institutions faced increasing pressure to develop organizational frameworks capable of managing the interdependencies that emerged with expanded services and growing market uncertainty. The regulatory changes reinforced competition across the European banking sector, prompting Italian banks to restructure their business models and align themselves with international banking trends (Macchiavelli, 2021). As a result, financial concentration escalated, leading to a banking landscape dominated by a few large banking groups, a handful of medium-sized institutions, and a significant number of smaller cooperative and regional banks.

Previously, Italian banks were characterized by their specialized business models, focusing on distinct financial functions. However, by the early 2000s, function-based specialization gave way to divisional models, where major banking groups pursued a multifunctional approach to cover various sectors (Sanders et al., 2020). This transition facilitated economies of scale but also led to concerns regarding corporate governance and the potential erosion of cooperative banking principles (Massoc, 2022).

Smaller banks, particularly cooperative and mutual banks, have largely retained simplified operational models, focusing on local market segments and core financial services. These institutions continue to serve SMEs, agricultural enterprises, and local communities, often maintaining strong relationships with their member-customers (Migliorelli, 2018). While cooperative banks have resisted aggressive expansion strategies, they have increasingly outsourced complex financial operations to larger intermediaries. This enables them to maintain

their localized service approach while benefiting from access to specialized financial products and risk management tools (Fischer, 2017).

Within the landscape of smaller banks, mutual banks (MBs) in Italy have developed a distinctive cooperative model that differentiates them from both larger financial intermediaries and other forms of cooperative banks. Instead of forging individual alliances with commercial banks, these institutions collectively joined a single confederation to consolidate resources and expertise while maintaining their autonomy as cooperative entities (Trapanese, 2021). The confederation consists of independent MBs, each operating under a simplified organizational structure, alongside a joint venture financial intermediary, which serves as a central financial hub providing specialized banking and financial services to the network (Accetturo et al., 2021). This structure allows MBs to retain their community-focused ethos while achieving economies of scale, enhancing their competitiveness in an evolving financial landscape (Boscia et al., 2010).

Unlike Italy, the French financial system has experienced a shift toward market-centric structures, reducing the role of traditional financial intermediation and increasing reliance on capital markets for funding and investment. This transition has led to stronger financial market integration, which, while fostering greater efficiency, has also exposed financial institutions to systemic risks. The growing interconnectedness between banks and financial markets has created a landscape where market fluctuations directly impact bank solvency and credit availability, amplifying financial vulnerabilities (Migliorelli, 2018). The cooperative banking model, however, has remained resilient due to its member-focused governance, which prioritizes long-term financial stability over short-term speculative gains (Massoc, 2022).

France's banking system is among the most developed in Western Europe, with major financial institutions like Crédit Agricole, BNP Paribas, and Société Générale playing dominant roles both domestically and internationally. These institutions have established France as a major financial hub, with the Paris Stock Exchange serving as a key center for capital markets activity (Younis, 2021). Historically, French banks operated under strict state oversight, with the Banque de France exerting significant control over the financial sector. However, beginning in the 1960s, financial deregulation led to a wave of bank expansions, increasing both the number of individual bank accounts and the density of branch networks across the country (Gortsos, 2020).

A pivotal moment in French banking history came with the 1984 banking law, which further liberalized financial markets, allowing banks to expand their services and intensifying

competition (Balducci, 2020). This transformation was further reinforced by the European Union's 1990 decision to remove restrictions on capital flows, enabling greater cross-border financial activity and accelerating the globalization of France's banking sector (Pokharel & Featherstone, 2021). Consequently, French financial institutions began operating with greater freedom, expanding international partnerships and diversifying their financial products beyond traditional banking services.

The restructuring of the Banque de France in 1993, which granted it autonomous status, marked another critical shift in France's financial governance. This change liberated the institution from direct state intervention, allowing it to function independently and align its policies more closely with European monetary frameworks (Chesterman, 2020). However, these institutional transformations, coupled with technological advancements in banking, led to job reductions across the sector, as financial processes became increasingly automated (Neifar et al., 2020). The eventual transition to the euro further cemented France's integration into the European financial system, aligning its banking practices with wider European monetary policy.

Beyond traditional banking, France has a strong presence of mutual benefit organizations, which administer pension funds and social security programs. Prominent insurance firms like Axa, CNP, and AGF dominate this sector, leveraging cooperative principles to provide financial security to members (Maria et al., 2021). Unlike purely profit-driven corporations, these entities operate under a hybrid model, balancing market-driven financial performance with member-based social obligations. While large corporate-controlled insurance firms play a dominant role, cooperative insurers and mutual organizations continue to offer specialized financial solutions that cater to community-based financial needs (Maria et al., 2021).

Despite the broad-scale liberalization of France's financial sector, Paris remains the core financial hub, attracting major banking and investment operations. However, regional financial centers have also emerged, fostering specialized cooperative financial models that are tailored to local economic conditions. These developments illustrate how France's cooperative banking sector has navigated market liberalization while retaining its foundational community-driven identity (Fischer, 2017).

While financial market integration has brought increased efficiency and competition, it has also introduced new risks for cooperative financial institutions. Policymakers continue to balance regulatory oversight with the need to preserve cooperative principles, ensuring that cooperative banks can compete without compromising their member-driven structures. The challenge moving forward lies in adapting to financial innovation, expanding digital services, and

leveraging new financial technologies while maintaining a strong commitment to cooperative values (Gortsos, 2020).

Additionally, cooperative banks must navigate changing regulatory landscapes, particularly as European banking regulations evolve under frameworks like Basel III. These regulations impose capital and liquidity requirements that could disproportionately affect smaller cooperative banks, leading to greater consolidation pressures within the sector. Nevertheless, cooperative banks have demonstrated remarkable resilience during past financial crises, suggesting that their long-term sustainability will be closely tied to their ability to innovate while staying true to their cooperative foundations.

Table 2 presents a matrix that compares five distinct banking models in terms of ownership structure, financial stability, and performance efficiency. Models dominated by cooperative and savings banks—namely the focused retail and both types of diversified retail models—consistently demonstrate higher levels of stability. The focused retail model, for example, is identified as the most stable (90%) and maintains relatively high returns and operational efficiency, even outside crisis periods. The diversified retail (type 2) model stands out further, as it is the only model that did not record a single annual loss, reflecting robust resilience across economic cycles. Conversely, models primarily led by commercial banks, such as wholesale and investment banking, exhibit lower cost efficiency and reduced returns during financial crises, despite being considered relatively stable. This matrix underscores a clear correlation between cooperative ownership and systemic resilience, suggesting that ownership structure plays a critical role in influencing both the stability and long-term performance of banking institutions.

Table 2. Bank business models in Europe

Model	**Ownership**	**Stability**	**Performance and Efficiency**
Focused retail	Cooperative and savings banks	Most stable business model (90%)	Relative high returns, except for econ. Crisis and high operational efficiency
Diversified retail (type 1)	Small cooperatives, saving, and public banks	Highly stable business model (87%)	Returns as well as operational efficiency deteriorated during the fin. And econ crises

Diversified retail (Type 2)	Cooperative and saving banks	Highly stable business model (77%)	Returns most stable and only model not posting a loss in a single year
Wholesale	Mostly commercial banks, but largest share of public banks amongst all models	Highly stable business model (80%)	Returns stable, although the reduction during fin. Crisis, and the worse cost efficiency
Investment	Mostly commercial banks, but substantial share of cooperative banks	Stable business model (80%)	Returns rather stable, except for fin. Crisis, and low-cost efficiency

Source: Ayadi (2019).

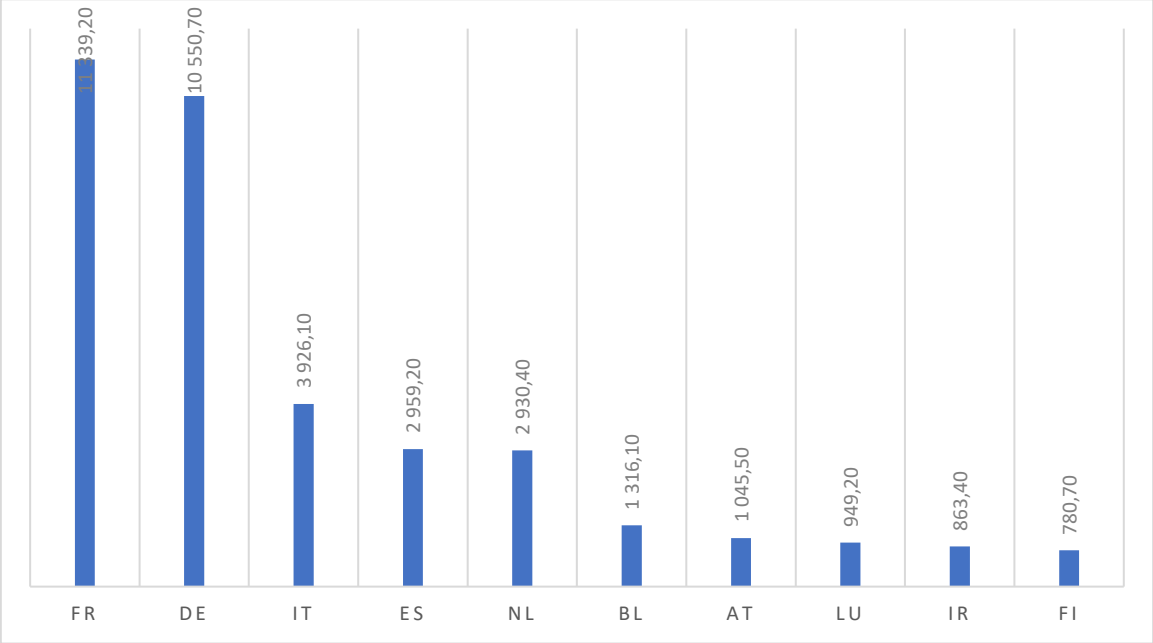
3.3 The French cooperative banking model

The French banking sector stands as a cornerstone of the national economy, playing a crucial role in financial intermediation, economic stability, and investment facilitation. As one of the most developed financial markets in Europe, France hosts a robust banking infrastructure that includes both large international financial institutions and a dense network of local banks, including cooperative banks, which remain essential to regional economic activity (Mäkitalo, 2017).

With approximately 35,800 local branches, France boasts the most extensive local banking network in Europe, surpassing Italy, which ranks third with 24,300 branches. This widespread physical presence reflects the deeply embedded role of banking institutions, including cooperative banks, in serving both urban and rural communities. Beyond branch coverage, France also holds the distinction of possessing the largest banking sector within the eurozone, with total asset values reaching 11.33 trillion € as of the first quarter of 2023, according to the European Central Bank (2023 Q1). By comparison, Italy and Spain hold significantly smaller banking sectors, with total assets amounting to €3.9 trillion and €2.6 trillion, respectively (European Central Bank, 2023 Q1)[5].

[5] Statistical Data Warehouse – European Central Bank https://sdw.ecb.europa.eu/reports.do?node=1000005719 (accessed on 01/03/2025)

Figure 10. Top 10 countries by total banking assets in the EU (in billions of euro)



Source: Self-preparation based on the European Central Bank (May 2023).

The modern structure of the French banking system was largely shaped by the Banking Law of 1984, which significantly deregulated financial activities and enabled banks to expand their operations beyond traditional commercial banking. This legislative reform allowed banks to diversify their services, integrating insurance, asset management, and investment banking under a single entity. As a result, France transitioned towards a universal banking model, where financial institutions could function simultaneously as commercial and investment banks while offering a broader spectrum of financial services. Poli (2019) highlights that prior to this reform, the French financial system was heavily influenced by government interventions and regulatory constraints, necessitating a shift towards a more competitive and liberalized framework to enhance efficiency in the banking sector.

The resilience of the French universal banking model was tested during major financial crises. Froitzheim (2017) asserts that this model proved robust during the 2008 global financial crisis, primarily due to its emphasis on business diversification and risk distribution, which mitigated exposure to sector-specific shocks. However, Beck et al. (2020) argue that the stability of both French and Italian banks during the COVID-19 crisis was not solely due to their banking models but was also reinforced by extensive financial support measures at both national and European Union levels. Additionally, Salomon (2018) underscores that the French banking sector (FBS)

benefits from strong institutional ties between financial entities and the state, further shielding it from systemic instability.

Despite its resilience, the 2008 crisis prompted intense scrutiny of financial deregulation. The French government criticized the unregulated expansion of financial markets, arguing that excessive liberalization contributed to the crisis. This led then-President François Hollande to introduce the 2013 Banking Reform, aimed at re-establishing clearer boundaries between different financial activities within banks. The reform was presented as a transformative measure expected to reshape the financial landscape for the next two decades (Munzer, 2018). While the reform sought to enhance financial stability, it also reflected broader concerns regarding the risks associated with universal banking and the necessity of stronger regulatory oversight.

Cooperative banks hold a legally recognized status that permits them to engage extensively in banking operations including soliciting funds from the public, engaging in credit transactions, and managing diverse payment methods (Ory and Lemzeri, 2012). Key players in this sector include the Banques Populaires and Caisses d'Epargne, which, though they operate as distinct entities, are united under the umbrella of Groupe BPCE. This structure allows them to provide comprehensive financial services to a wide customer base, from individual consumers to large corporations, with a strong focus on local community engagement, small business support, and retail banking.

Banque Populaire Group comprises 11 regional banks that cater to both individuals and businesses, providing services that range from simple savings accounts to complex investment products. Similarly, the Caisse d'Epargne Group includes 15 regional banks, emphasizing accessible financial services tailored to the needs of local communities.

Further exemplifying the cooperative banking model in France is Crédit Agricole, one of the largest banking groups in the nation. It operates through a network of "Caisses Régionales de Crédit Agricole," where customers are also shareholders, embedding the cooperative principles deeply into its operational framework. These regional banks primarily serve the agricultural sector, rural communities, and retail markets, offering tailored financial services including banking, insurance, and asset management.

Despite Crédit Agricole having a complex structure that blends cooperative and commercial elements, its core remains deeply rooted in cooperative values, focusing on the support of local economies and community engagement. The group's governance structure is centralized

through Crédit Agricole SA, a listed entity, yet the majority control remains with the Caisses Régionales, preserving the cooperative ethos.

As the first cooperative bank in France, Crédit Agricole is structured around 39 independently managed regional banks that are each responsible for their own growth and administration. Additionally, the Crédit Agricole National Federation acts as a representative body for these banks, advocating their interests before the government and within the banking and agricultural sectors (Naheem, 2017). The group has streamlined its structure to better adapt to regulatory changes and market dynamics, a strategy detailed in its annual report from 2015.

This arrangement illustrates how cooperative banks in France leverage their unique model to blend traditional banking services with a strong commitment to community support and local development, making them pivotal components of the French financial landscape.

Crédit Agricole has devised three primary strategies to enhance the growth of its cooperative banking operations:

- Support for Sustainable Development Initiatives: The bank is committed to aiding regions striving for sustainable development by attentively responding to the diverse needs of stakeholders and adapting to evolving societal norms.
- Pursuit of Excellence in Business and Interactions: Crédit Agricole focuses on achieving excellence not only in its business operations but also in its interactions with customers and employees, ensuring high standards of service and ethical conduct.
- Comprehensive Risk Management: This strategy involves managing all types of risks, including non-financial ones. The bank places significant emphasis on integrating non-financial factors into its management practices and on the transparency of its ethical performance.

According to Bouheni et al. (2018), the French banking model relies on three pillars that define it as a customer-centric financial institution:

- Strategic investments in building and maintaining customer relationships.
- Adoption of a universal banking model that centers around customer needs.
- A multichannel approach to product and service distribution, enhancing accessibility and convenience for customers.

Fiordelisi and Mare (2014) note that Crédit Agricole is actively working to foster the dynamic development of cooperative banks by concentrating on primary business segments, which include personal banking, SMEs, and corporate clients. This focus is intended to bolster core areas of business and drive growth.

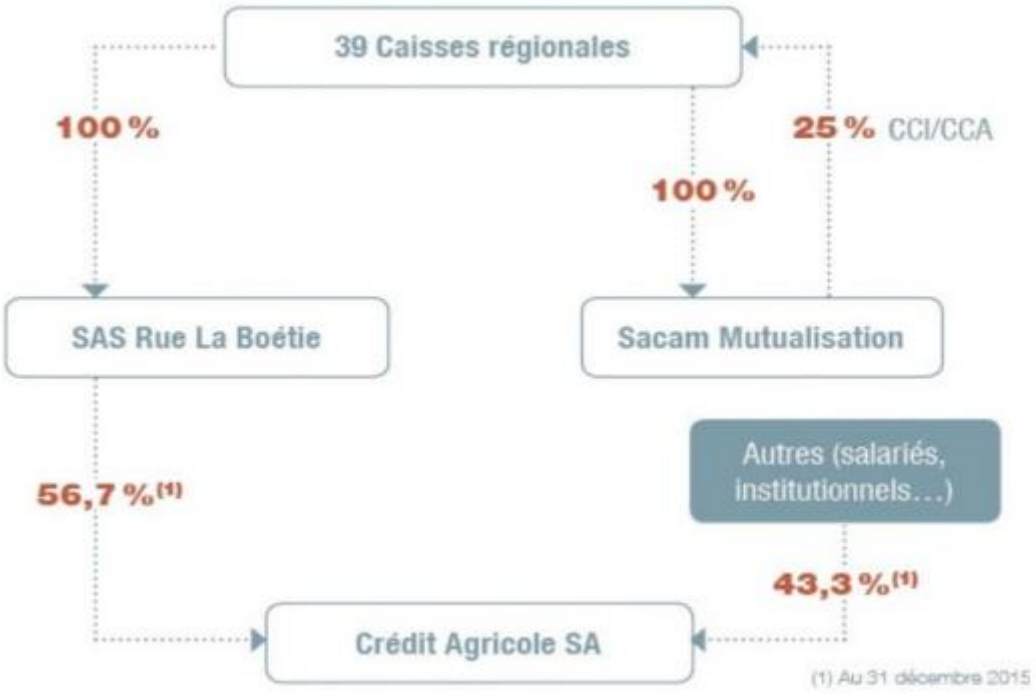
The local banking operations at Crédit Agricole are positioned to expand market share through two primary strategies: attracting younger customers via online banking and other modern financial services, and extending credit facilities to new adults entering the market.

Villani et al. (2018) highlight the impact of the cooperative sector on regional banking growth, noting that Crédit Agricole is set to focus on three strategic directions in the coming years:

- Accelerating expansion in key business areas.
- Launching innovative customer initiatives enabled by digital disruption.
- Enhancing industrial efficiency to improve overall business performance.

Naheem (2017) reports that the Corporate Social Responsibility (CSR) principles at Crédit Agricole are rooted in the organization’s core beliefs and are manifested through daily activities and institutional programs that provide clear indications of success. CSR is considered integral to all business aspects, with a strong emphasis on diversity, sustainable development, and collaborative endeavors with other institutions, underscoring the bank's commitment to its stakeholders and broader societal contributions.

Figure 11. Crédit Agricole Group Structure



Source: Crédit Agricole annual report 2015.

3.4 The Italian cooperative banking model

The cooperative banking model in Italy has a storied history, deeply embedded in the social and economic fabric of the country. Initially established in the late 19th century, these banks were designed to meet the needs of local communities and small to medium-sized enterprises (SMEs) that were often overlooked by larger commercial banks. The two primary networks that emerged were the Banche Popolari and the Banche di Credito Cooperativo (BCC).

Banche Popolari were founded as "popular banks" during the economic expansion of the 19th century. They are unique because they operate as cooperative entities where each member or shareholder has equal voting rights, regardless of the amount of capital they hold. This democratic governance model ensures that the banks genuinely serve the collective interests of their members.

Over the decades, Banche Popolari played a crucial role in fostering local economies, particularly in Northern Italy, where they contributed significantly to the industrialization process. However, as the financial landscape modernized and the complexity of economic activities increased, the Italian government recognized the need for reforms to ensure these banks could compete effectively while maintaining their cooperative principles.

Significant reforms in the Italian banking sector began with the *Legge Bancaria* of 1993, which marked a pivotal shift towards enhancing the regulatory framework for banks. This legislation was crucial in strengthening governance structures, enhancing financial stability, and boosting operational efficiency across the banking sector. The reforms laid the groundwork for a more consolidated banking environment, aiming to fortify banks against economic fluctuations and escalating competition from larger commercial entities. Further adjustments in the 2000s continued this trend, particularly focusing on the promotion of mergers and acquisitions among smaller banks. These changes were designed to amalgamate smaller entities into larger, more resilient institutions. This consolidation was intended to enable these banks to better withstand economic pressures and to compete more effectively in an increasingly competitive market. The intent behind these reforms was not just to create larger banking entities but to forge institutions that were both financially robust and operationally efficient, capable of navigating the challenges of modern financial landscapes.

The Banche di Credito Cooperativo (BCC), on the other hand, have traditionally focused on rural and semi-urban areas, providing critical financial services to agricultural sectors, local SMEs, and individual consumers. These banks are structured to ensure that economic benefits are reinvested into the local communities they serve, thereby supporting regional development.

In the post-war era, BCCs have seen significant growth, largely due to their ability to maintain close relationships with local customers and their commitment to community-oriented banking. Like Banche Popolari, BCCs underwent regulatory changes to enhance their operational standards and risk management practices. These changes were part of a broader effort by the Italian government and the European Union to harmonize banking regulations across member states and strengthen the overall financial system.

Ari and Koc (2019) observe a significant increase in the number of industrial cooperative banks establishing new branches, particularly since the late 1970s, which aligns with the SMEs' growing significance in the Italian economy. They note that these banks now hold a 25.5% market share for deposits and 25.9% for loans as of 2019, underscoring their deep community integration which allows them to effectively segment and target their clientele. While Italian cooperative banks excel in community relations, they struggle with profitability (Coccorese and Ferri, 2020). To meet the European Union's stringent financial standards, these banks are compelled to improve their competence ratios and bolster their capital requirements.

Recent analyses by Negro et al. (2021) highlight various challenges facing the Italian cooperative banking model, exacerbated by the 2008 financial crisis and the 2020 COVID-19

pandemic, leading to a near-systemic collapse. Mukherjee (2018) also expresses concerns about these banks' viability in the rapidly globalizing economy, suggesting potential obsolescence. Moreover, Italian cooperative banks are proactive in developing robust credit risk management frameworks that align with their primary mission of supporting SMEs (Duan et al., 2024). The new capital adequacy standards introduced recently necessitate a comprehensive overhaul of the solvency assessment processes for corporations.

Stiglitz (2019), argue that the liberalization of the regulatory framework, particularly post Decree 3/2015, which mandated that banks with over 8 billion euros in assets transition into joint-stock companies, has accelerated the consolidation trend in the Italian banking sector, diminishing the cooperative model's protective measures (Miklaszewska and Pys, 2018). The resulting increase in mergers, such as the Banco Popolare and Banca Popolare di Milano merger, reflects this shift (Linaritis, 2022).

The legislative push by the 2016 decree-law for BCCs to merge into larger entities raises significant concerns about potential negative impacts on financial stability and local economies (Butzbach and Rotondo, 2020). There is ongoing debate about whether this centralization can protect the broader cooperative banking interests without undermining the smaller entities and their community-focused missions. In their study on the cultural and economic contributions of Italian cooperative banks, Coccorese and Shaffer (2021) note that despite financial adversities, these banks invest in community-serving projects, including cultural, artistic, and architectural preservation initiatives, thereby playing a crucial role in local development.

Today, both Banche Popolari and BCCs face the dual challenge of maintaining their cooperative identity while adapting to a rapidly evolving banking environment. The pressure to digitalize services, comply with stringent EU regulations, and compete with international banks has led to innovative strategies in both networks. For instance, BCCs have increasingly leveraged technology to provide digital banking services, expanding their reach while staying true to their mission of community service. They have also strengthened their financial education initiatives to ensure that local populations remain well-informed about financial management and opportunities.

3.5 Spanish cooperative banking model

The Spanish cooperative banking model, also known as cooperatives de crédito or credit cooperatives has a rich history that mirrors the broader socio-economic transformations across Europe but with unique developments shaped by local conditions. Originating in the late 19th

century, these institutions were created to serve underbanked rural areas, providing essential financial services to communities overlooked by traditional banks (Tortella& Ruiz, 2013). In the early days, Spanish cooperative banks primarily focused on small-scale savings and loan services, aimed at supporting agricultural and small enterprise activities. These banks were pivotal in fostering rural development and were deeply intertwined with the local economies they served. As the cooperative movement grew, these banks began to play an increasingly significant role in Spain's financial landscape, expanding their services beyond rural communities to include more urban populations.

Throughout the 20th century, the development of cooperative banks in Spain was influenced by various national and global economic events. The Spanish Civil War and the ensuing Franco regime presented challenges, as the banks faced strict regulations and control. However, they managed to survive and even expand during these tumultuous times by focusing on community-based services and maintaining strong relationships with their members (Torres et al., 2017).

The transition to democracy in the late 20th century marked a new era of growth and modernization for Spanish cooperative banks. This period saw significant regulatory reforms that aligned with European Union standards, introducing a more competitive and integrated financial environment. During this time, cooperative banks in Spain began to adopt more sophisticated banking technologies and broaden their financial products to include mortgages, personal loans, and insurance services, thereby diversifying their economic impact (Fernández-Olit, 2020).

The global financial crisis of 2008 and the subsequent European debt crisis were critical stress tests for these institutions. Spanish cooperative banks, known for their conservative management and close community ties, were less exposed to the high-risk financial products that troubled many larger banks. Nevertheless, they faced significant challenges due to the economic downturn and the tightening of credit conditions. In response, many cooperative banks engaged in strategic mergers and alliances, strengthening their capital positions and enhancing operational efficiencies to better serve their communities and compete on a larger scale (Marín et al., 2019). A significant reform was the encouragement of mergers and acquisitions among cooperative banks. This strategy was not driven by solvency concerns but rather by the need to improve operational efficiencies and achieve economies of scale, crucial for competitiveness in the evolving financial landscape. This consolidation helped streamline operations and reduce costs, making the banks stronger and more resilient (Migliorelli, 2018)

Furthermore, following the 2008 global financial crisis, the Spanish cooperative banking sector underwent significant restructuring to adapt to new economic realities and regulatory changes. This period was marked by a series of reforms aimed at increasing the resilience, efficiency, and competitiveness of these banks. The Bank of Spain intensified its supervision, imposing stricter capital requirements and enhancing risk management practices across the board (Fajardo-Garcia & Soler-Tormo, 2016). These measures were critical in reinstating trust in the financial system and aligning Spanish banks with international banking standards.

Moreover, the crisis led to a substantial reorganization within the cooperative banking sector. Many smaller cooperative banks and local savings banks, known as 'Cajas,' were integrated into larger entities. This integration was part of a strategic move to create more robust institutions capable of withstanding economic shocks and competing more effectively both nationally and internationally (Tortella & Ruiz, 2013). Additionally, an enhanced prudential supervision was another cornerstone of the post-crisis reforms. The dual supervisory approach, involving both regional and national authorities, ensured that cooperative banks adhered to the new regulatory frameworks while still addressing local needs effectively (Torres et al., 2017).

Today, the cooperative banking sector in Spain continues to evolve, driven by digital innovation and changing consumer expectations. These banks are increasingly focusing on sustainable banking practices and social entrepreneurship, aligning their business operations with broader societal goals such as environmental sustainability and social inclusion. Looking ahead, the future of cooperative banks in Spain appears robust. Their deep-rooted community focus and agile adaptation strategies position them well to navigate the complexities of the modern financial system. As they continue to embrace technological advancements and respond to global challenges, Spanish cooperative banks are poised to remain vital contributors to both local and national economies.

Chapter 4 Post-2008 crisis reforms and the cooperative banking sector

4.1 Bank capital adequacy regulations - Basel 3 agreement

The Basel III agreement is a collection of financial reforms that were designed aiming to increase regulation, supervision, and risk management within the banking sector (Alexander, 2014). These changes were developed by the Basel Committee on Banking Supervision (BCBS). Basel III was developed as a response to the effects that the Global Financial Crisis of 2008 had on banks (Moosa, 2010). The goal of Basel III is to increase the capacity of banks to respond to shocks caused by financial stress and to boost financial institutions' transparency, and disclosure practices. Basel III is the most recent repetition of a continuous attempt to enhance the rules and principles that regulate the banking industry. It is built on the foundation that was set by Basel I and Basel II (Shakdwipee and Mehta, 2017). The intention of the regulations and agreements is to prevent financial institutions from doing any damage to the economy as a result of taking on more risk than they are able to manage effectively.

Governors of the central banks of the countries that make up the Group of Ten (G10)[6] established the (Basel Committee on Banking Supervision) (BCBS)[7] in 1974, as a response to the instability that was occurring in the financial markets (Canton, 2021). The purpose of the committee is to offer a place for member states to participate in debates on issues relevant to banking supervision, and it was founded in order to fulfil this function. By increasing banking practices, regulation, and oversight, the BCBS is liable for ensuring that financial stability is maintained all over the globe (Citaristi, 2022). Since the BCBS was first established, it has been in charge of drafting the Basel I, Basel II, and Basel III accords.

The key principles of Basel III were the following:

4.1.1 Minimum Capital Requirements

Under Basel III, the CET1 requirements were significantly increased to enhance the resilience of the banking sector. The new regulations raised the minimum CET1 from 2% under Basel II to 4.5% of risk-weighted assets. This change ensures that banks possess a higher amount of the highest quality capital to absorb losses during economic downturns. Additionally, Basel III

[6] Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Sweden, United Kingdom, and United States. In 1964 Switzerland joined the G10 but the name of the group has not been changed. However, The Committee expanded its membership in 2009 and again in 2014 and today its 45 members comprise central banks and bank supervisors from 28 jurisdictions, BIS, https://www.bis.org/bcbs/membership.htm (accessed on 20/02/2025)

[7] BCBS operates within The Bank for International Settlements, the oldest international financial institution.

introduced a capital conservation buffer of 2.5% of risk-weighted assets, required to be maintained above the regulatory minimum capital requirements. This buffer is designed to be utilized during periods of financial stress, enabling banks to continue lending and operating without breaching their capital thresholds. The Tier 1 capital requirement, which includes CET1 and additional Tier 1 capital, has been raised to 6% of risk-weighted assets, up from 4% under Basel II. The total capital requirement, including Tier 1 and Tier 2 capital, is set at a minimum of 8% of risk-weighted assets. These enhancements strengthen the overall capital base of banks, providing a more substantial buffer against losses. Moreover, the countercyclical capital buffer, a flexible requirement that can range from 0% to 2.5% of risk-weighted assets, is designed to accumulate capital during periods of high credit growth. This buffer aims to temper excessive credit expansion that may lead to systemic risks (Obadire et al., 2022; Le et al., 2023)

Implementing these heightened capital requirements has posed challenges for banks, particularly in terms of adjusting their operational models and managing profitability. However, the strengthened capital requirements are crucial for ensuring long-term financial stability and preventing future crises (Le et al., 2023).

4.1.2 Leverage Ratio

Under Basel III, the leverage ratio requirement was instituted as a fundamental measure to control excessive leverage within the banking sector, ensuring stability by mandating that banks maintain a minimum leverage ratio of 3%. This ratio, defined as Tier 1 capital divided by total exposure, must be adhered to consistently, reinforcing banks' capacities to absorb financial shocks without depleting their capital reserves (Fišera et al., 2025).

The leverage ratio serves as a crucial, non-risk-based backstop to the risk-based capital measures. Its primary advantage lies in its simplicity and transparency, which counteract the complexities and potential biases associated with risk-weighted assets (RWAs). This straightforward measure prevents the possibility of manipulation in risk assessment processes and ensures a uniform safeguard against excessive leverage, irrespective of the bank's risk profile (Husodo et al., 2024).

Furthermore, Basel III's comprehensive approach includes both on- and off-balance sheet exposures in the leverage calculation. This inclusion is vital for reflecting a bank's true risk exposure, addressing one of the critical vulnerabilities exposed by the 2008 financial crisis—where off-balance sheet activities were not adequately captured in leverage calculations. This broader scope ensures that banks cannot easily bypass capital requirements through off-balance

sheet arrangements, thus enhancing the overall risk management framework (Obadire et al., 2022).

4.1.3 Liquidity Requirements

Liquidity requirements, particularly the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), aim to ensure that banks maintain a healthy balance of liquid assets that can be quickly converted to cash to meet short-term and long-term obligations.

Simion et al. (2024) assess the impact of Basel III liquidity regulation on large European banks through an event study focusing on Credit Default Swap (CDS) spreads. Their research highlights that while liquidity regulations are intended to lower the risk of bank failures by ensuring adequate liquidity, the market perception tends to reflect increased credit risk during regulatory announcements. This paradox arises because while banks with higher liquidity and capital ratios show a dampened negative reaction to liquidity announcements, those with poorer buffers and higher bad loans ratios exhibit stronger negative reactions.

On the other hand, Huang et al. (2025) explore the countercyclical nature of liquidity requirements, arguing that these should vary with economic cycles to be more effective. Their study uses a numerical analysis to demonstrate that banks tend to increase their liquidity holdings during economic downturns while reducing them in booms, which exposes them to greater risks when the economy is expanding. They suggest that making liquidity requirements countercyclical could prevent excessive loan liquidations during economic upturns, thereby enhancing both banking stability and social welfare.

4.2 The impact of Basel 3 agreement

The requirement that banks must have a minimum capital amount in reserve that is equivalent to 7% of their risk-weighted assets would have an effect on lowering the profitability of banks (Sudacevschi, 2018). The majority of financial institutions have to try to build up their capital reserves, even if they plan to reduce the number of loans that they make available to their clientele, in order to better safeguard themselves against the possibility of future financial challenges. They will be required to hold a larger quantity of capital against their assets, which will result in a smaller size for their balance sheets due to the fact that the balance sheets will be smaller (Gabriel, 2016).

Schüler (2018) confirms that the effect Basel III would have on GDP over the course of the medium term will be somewhere in the range of -0.05% to -0.15% annually. The only option for financial institutions to continue to generate a profit is to boost the interest rates they charge

on loans while simultaneously passing the higher expenses on to their customers and can stay profitable.

The implementation of new liquidity rules, most notably the "Liquidity Coverage Ratio (LCR)" and the "Net Stable Funding Ratio", will have a number of different effects on the operations of bond markets (Cetina and Gleason, 2015). Financial institutions will avoid holding high-run-off assets such as "Special Purpose Vehicles (SPVs)" and "Structured Investment Vehicles (SIVs)" in order to satisfy the requirements of the LCR for liquid assets.

The bias of the LCR towards banks that hold government bonds and covered bonds will result in a decrease in the market for secularized assets and lower-quality corporate bonds. As a result of this, banks will hold on to a larger quantity of liquid assets and will enhance the proportion of long-term liabilities kept in order to reduce maturity mismatch and maintain minimum levels of NSFR. The number of commercial operations that are especially susceptible to the dangers of insufficient liquidity will also be targeted for reduction by financial institutions such as banks.

Because of the rising costs, the adoption of Basel III will surely affect the derivatives markets. As a result of these increasing costs, more clearing brokers will leave the market, which will have an impact on the derivatives markets. The focus of the capital requirements established in Basel III is on the reduction of counterparty risk. This risk differs depending on whether a bank conducts its trading through a dealer or a central clearing counterparty, and it is this risk that is being reduced by the capital requirements. Basel III was established to replace Basel I and II, which were both introduced in1988 and 2004 respectively. If a bank engages in a derivative transaction with a dealer, Basel III will generate liability and need a significant amount of additional capital for that trade. This is due to the fact that Basel III is a rule that requires certain levels of capital.

Amini et al. (2015) find that the cost paid when derivatives are exchanged through a central counterparty (CCP) is simply 2%, which makes this method more attractive to banks than the other options. In other words, the lower the charge, the better this method is for banks. The fact that dealers are leaving means that risks will be concentrated among a fewer number of members, which will make it more difficult to shift transactions from one bank to another. In the long run, this would lead to an increase in the total amount of systemic risk.

The "Institute of International Finance" is a banking trade organization with 450 members, has voiced opposition to the adoption of Basel III on the grounds that it has the potential to be detrimental to banks and to retard the expansion of the economy. The reasoning behind this

opposition is that Basel III has the possibility to be detrimental to banks and that it has the potential to slow down the expansion of the economy (Carvalho, 2014). According to the conclusions of research conducted by the OECD, putting into force Basel III would almost probably have the impact of slowing annual GDP growth by 0.05 to 0.15% (Taskinsoy, 2018). Also, the American Bankers Association and a number of democrats in the United States Congress argued against the implementation of Basel III out of fear that it would cripple small banks in the United States by increasing the amount of capital they hold on the mortgage and small and medium-sized business loans. This fear was based on the fact that the implementation of Basel III, would require small banks to hold more capital on the mortgage and small and medium-sized business loans.

4.3 Financial Stability Board and the regulation of systemically important banks

The Financial Stability Board (FSB) has made monitoring the implementation of regulatory adjustments a priority by making policy measures for "Systemically Important Financial Institutions (SIFIs)" one of the primary areas to focus on (Yuksel, 2019). The FSB, in collaboration with other organizations that are accountable for establishing standards, is tasked with carrying out the obligation of conducting regular monitoring and reporting in this industry.

Following the global financial crisis that occurred in 2008, the Group of Twenty (G20) announced a commitment to pursue thorough reform of the global financial system (McDowell, 2019). This was done in light of the significant economic and social damage that was caused by the global financial system. In order to fulfil the purposes of the existing economy, the aims were to; first repair the fault lines that had led to the global financial crisis and second develop safer, more robust sources of finance. The G20 has recommended that the FSB develop and oversee a comprehensive regulatory and supervisory framework for the global financial system.

These modifications were an essential contribution to the primary objective of the G20, which was to create growth that was strong, sustainable, and balanced (Cooper, 2019). They were able to accomplish this objective by reducing the likelihood of more financial crises in the future, as well as the negative effects of financial instability on the actual economy. In order to ensure that the modifications that were discussed and agreed upon were really implemented, the FSB developed a detailed monitoring system for the implementation process.

4.3.1 The post-crisis too-big-to-fail (TBTF) reforms

In 2009, as a response to the vulnerabilities that were outlined above, the leaders of the G20 called on the FSB to recommend steps to address the systemic and moral hazard risks associated

with SIFIs (Kranke and Yarrow, 2019). In 2010, the G20 leaders reached a consensus to endorse the proposed framework that the FSB had established to lessen the moral hazard that was provided by SIFIs.

FSB contained a suggestion that all nations who are members of the FSB should create a regulatory framework in order to lessen the risks and externalities that are associated with local and global SIFIs (Okoth, 2022). In 2011, the FSB gave more clarification on the policy framework. Two years later, in 2013, the organization carried out an evaluation of the achievements of the previous year and indicated further actions that needed to be implemented.

- Standards for increased loss absorbency through capital surcharges and "Total Loss-Absorbing Capacity (TLAC)" are a component of the policy framework that the FSB has built to solve the "Too-Big-To-Fail (TBTF)" problem with respect to SIBs.
- Recommendations have been made both for an increase in the amount of supervision as well as in the expectations placed on the supervisory personnel.
- Policies to examine and improve the resolvability of the structures and operations of companies, as well as policies to put effective resolution regimes and resolution planning into place, are both included in this category of policies.

4.3.2 Global and domestic systemically important banks

Financial institutions that are considered to be systemically important in a global context are required, according to the policy framework that was issued by the FSB in 2010, to have a loss absorbency capacity that is larger than the basic requirements stated in the Basel III framework (De Haan and Kakes, 2020). Therefore, these banks need to have a better capacity to absorb losses without diminishing their ability to offer financial services, such as the provision of credit and support for the functioning of the market. The criteria that are used for these institutions should be commensurate to the expected amount of harm that would be caused to the whole financial system in the event that they experienced financial trouble or failed.

In response to this problem, the "Basel Committee on Banking Supervision (BCBS)" published a method for determining the relative significance of individual banks within the broader financial system (Viterbo, 2019). The FSB uses this method in order to identify institutions that are crucial to the "Global Systemically Important Banks (G-SIBs)".

Since 2011, the FSB has made it a routine to provide an annual list of G-SIBs (Russo, 2019). Banks are automatically labelled as G-SIBs if they have a score that is greater than the level that has been set by the BCBS. In addition, supervisory discretion may be used in order to adjust

the classification of certain financial institutions, such as banks, in accordance with changing market conditions.

In the year 2012, the BCBS developed a framework specifically for “Domestic Systemically Important Banks (D-SIBs).” The authorities of the nation in which a bank's headquarters is located decide whether or not the bank should be classified as a D-SIB (Sogunro et al., 2021). These authorities are in the best position to judge how the failure of a bank may affect the financial system and economy of the local community. The structure is designed to be in the form of a collection of principles so that it will be feasible to consider the plethora of unique situations that are present within certain jurisdictions. This presents ideas that are pertinent to the methodology for evaluating D-SIBs as well as standards for greater loss absorbency.

Since 2011, the number of G-SIBs has been reasonably consistent at roughly 30, with limited admittance and exit (Figure 12, left panel) (Lumsdaine et al., 2021). Simultaneously, the number of banks in FSB nations that are recognized as D-SIBs (excluding G-SIBs) has dramatically expanded, moving from 11 in 2013 to 132 in 2018.

When compared to the earlier number, this is a considerable improvement (Figure 12, right panel) (Pomplun and Sunkara, 2019). The overall number of SIBs in each jurisdiction ranged ranging from three to fifteen as of the end of 2018 (Figure 12). G-SIBs and D-SIBs together make up a significant portion of the domestic banking industry in each and every one of the FSB's member states; their combined proportion of domestic bank assets ranges from 35% to 82 %.

Figure 12 Total number of G-SIBs and D-SIBs

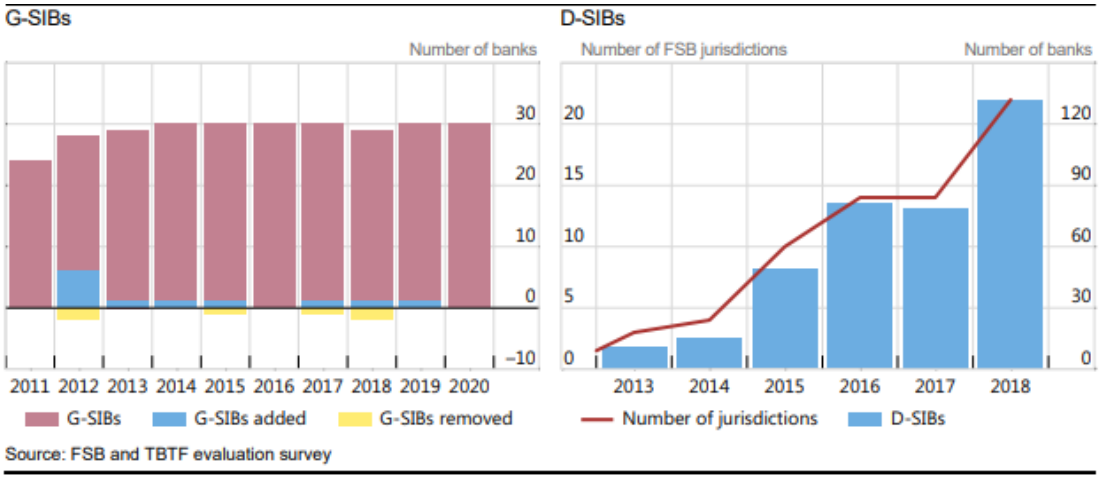
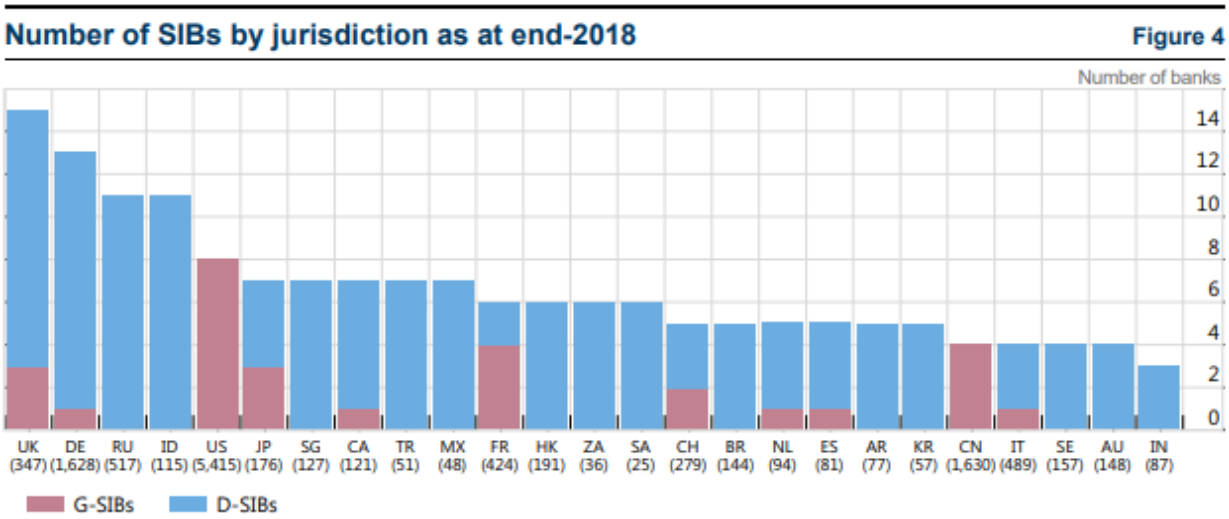


Figure 13 Number of SIBs by jurisdiction (2018)



Notes: The total number of banks in each jurisdiction is shown in parenthesis below the country label. Jurisdictions are ordered by the number of SIBs in the jurisdiction. China and the US have not designated D-SIBs. A bank that is a D-SIB in one jurisdiction may be a subsidiary of a G-SIB in another jurisdiction.

4.3.3 Enhanced supervision

As the second component of the post-crisis TBTF reforms, increasing the degree of scrutiny that is applied to systemically SIFIs was a topic that was discussed and ultimately agreed upon by all parties involved. As a consequence of greater supervision's increased intensity, the moral hazard should be reduced since supervisors are in a position to intervene and shape the behavior of managers (Blumberg et al., 2020). The FSB, in conjunction with the International Monetary Fund (IMF), issued a report on this topic in the year 2010 after consultations with both organizations. The research resulted in a number of recommendations that covered a wide variety of subject areas, such as supervisory mandates, independence, resources, and supervisory powers, group-wide and integrated supervision. Some of these recommendations were included into the revised version of the BCBS Basel Core Principles for Effective Banking Supervision, which was published in 2012 (Dordevic et al., 2021).

Demaria and Rigot (2021) assure that other additional recommendations were issued by the FSB in 2011 and 2012 in order to increase the regulatory requirements relative to the risk governance, internal controls, and risk management of financial institutions, as well as their capabilities surrounding risk data aggregation and risk reporting. In 2013, the BCBS published recommendations for supervisory institutions as well as principles for the efficient collection of risk data and the reporting of risk. However, despite the fact that it seems from the reports that tremendous progress has been made in general, there is still more work that has to be done.

De facto, the “Basel Core Principles (BCPs)” have evolved into the minimum standards for the prudential regulation and supervision of financial institutions and systems. These principles were developed by the “Bank for International Settlements (BIS)” (Mutala, 2019). An examination of compliance is carried out by the IMF and the World Bank as part of the framework of the “Financial Sector Assessment Program (FSAP).” When compared to other members of the FSB, the home jurisdictions of G-SIBs have a level of compliance with the BCPs that is somewhat higher than average, while the degree of compliance among non-members of the FSB is substantially lower.

Robust resolution techniques should make it less probable that a bank will fail in the first place by lowering the effect of the moral hazard problem and making it less likely that banks will fail. When management and shareholders of SIBs learn that the bank will be resolved rather than bailed out, it is fair to anticipate that their appetite for risk will decline.

Another key element of post-crisis reforms was the implementation of measures that allow authorities to resolve financial institutions in an orderly manner — avoiding taxpayer losses while ensuring the continuity of critical economic functions (Borio et al., 2020). In this context, the Financial Stability Board (FSB) published the Key Attributes of Effective Resolution Regimes for Financial Institutions in 2011. This document set the global standard for handling the failure of systemically important financial institutions (SIFIs) — those whose collapse could pose serious risks to the financial system. The Key Attributes outline the roles, powers, and tools that resolution authorities must possess to effectively manage such institutions.

SIFIs are required to have a bail-in power, which enables resolution authorities to reduce liabilities and convert creditors' claims into equity or other instruments of ownership of the bank or its successor (Hüpkes, 2019). In addition to this, the Key Attributes serve as a set of principles for the planning of recovery and resolution, as well as for the assessment of whether or not the issue can be resolved.

The Key Attributes stipulate that resolution should be started when a company is either no longer viable or is expected to no longer be viable and has no reasonable chance of becoming so in the foreseeable future (He et al., 2020). The resolution mechanism ought to make it possible for a firm to enter resolution swiftly and early on before the balance-sheet insolvency threshold has been reached and before all of the equity has been entirely depleted. There must be transparent criteria or appropriate signs of non-viability in order to assist decision-makers in determining whether or not businesses fulfil the requirements for going through the resolution process. Every area has to have a designated administrative authority or authorities that are in

charge of exercising resolution powers over businesses that are included in the scope of the resolution regime (Gleeson, 2019). This resolution authority should have a variety of capabilities to resolve a corporation that has entered resolution in order to achieve goals such as domestic and international financial stability, the protection of depositors, and the minimization of the total costs of resolution.

The ability of the owners and creditors of a failing bank to withstand financial losses during the whole of the resolution process is a key component of the bank's resolvability (Jokivuolle et al., 2020). In 2015, the FSB published the TLAC standard (Total Loss-Absorbing Capacity), which aims to guarantee that if a G-SIB fails, it has satisfactory loss-absorbing and recapitalization ability to implement an orderly determination that minimizes influences on financial stability, ensures the continuity of critical functions, and prevents public funds from being exposed to loss. This requirement will be presented as a ratio consisting of both RWAs and the leverage exposure metric established by Basel III (Auboin and Blengini, 2019). G-SIBs that have their headquarters in developing market countries are granted an additional period of time in which to comply with the rules.

4.4 Banking Union Project and cooperative banking sector

The Banking Union represents one of the most important projects of the EU financial integration in recent history. Motivated by the need to harmonize and centralize supervision and resolution of Eurozone banks after the failures exposed in the 2008 crisis, the Banking Union shifted substantial authority from national regulators to the European Central Bank (ECB) (Beccalli & Rossi, 2020). This had major implications for all European banks but raised unique issues for the cooperative banking sector given its decentralized, member-owned structure.

This section will provide an in-depth examination of the Banking Union’s impact on cooperative banks. Focus will be placed on the debates surrounding their inclusion given subsidiarity concerns, the design of special provisions tailored to their proportionality needs, and early evidence regarding the benefits and challenges of centralized supervision (Beccalli & Rossi, 2020). Critical analysis relies extensively on scholarly research and industry data assessing regulatory outcomes.

To understand the rationale behind the Banking Union, it is essential to examine the fragmented regulatory architecture in the EU banking before 2008. Oversight remained largely national in scope during the rapid cross-border expansion that occurred in the 1990s and 2000s (Chen et

al., 2019). This pre-crisis approach proved unable to identify or address risks accumulating in the financial system. Regulation and supervision of banks rested almost exclusively with national authorities such as the Bank of Spain for Spanish banks or the German Federal Financial Supervisory Authority (BaFin) for German banks. While EU directives harmonized some standards on capital, liquidity, and governance, actual implementation and day-to-day enforcement followed national discretion (Polyzoidis, 2023). Supervisors focused narrowly on domestic institutions and markets. This nationally fragmented oversight, with coordination only through loose committees, left the emerging pan-European financial system vulnerable to regulatory arbitrage and risk contagion across borders.

Cross-border risks fell through the cracks of this system. Regulators lacked tools to monitor affiliate operations or systemic vulnerabilities like cyclical imbalances (Kale, 2022). Cyclical imbalances refer to the build-up of financial excesses over the economic cycle, such as rapid credit growth or inflated asset prices. Divergent national regulations also allowed regulatory arbitrage. Banks exploited lighter oversight regimes through cross-border branching. Resolution frameworks were similarly national yet lacked credible tools for large cross-border banks. No mechanisms existed for burden sharing between home and host authorities in bank failures. This complex patchwork proved wholly inadequate as the crisis escalated.

When the financial crisis struck in 2008, the deficiencies of fragmented supervision were fully exposed. National regulators were overwhelmed by the speed and magnitude of problems at large pan-European banks. Authorities had little grasp of fragility lurking in major institutions before liquidity strains hit (Kale, 2022). Imbalances like excessive wholesale funding reliance went unidentified and unchecked under national oversight silos.

Once failures began, unilateral national action worsened contagion. Countries ringfenced domestic operations of banks rather than coordinating resolution. The costs of supporting globally systemic institutions also overwhelmed some national budgets. Small countries like Iceland and Ireland saw public debt explode after bailing out bloated cross-border banks (Gavris, 2021). Overall, the crisis exposed severe shortcomings in both identifying cross-border risks and resolving failed banks. The pre-crisis regulatory model was definitively broken.

With the decentralized model discredited, reform consensus coalesced around centralizing key functions at the EU level. Member states recognized no national regulator alone could monitor pan-European risks (Braun & Deeg, 2020). Centralizing supervision within a single body - ultimately the ECB - offered clear advantages. Consolidated oversight would reduce

information gaps and coordination failures by unifying data analysis (Haselmann et al., 2022). Direct powers over large cross-border banks would enable decisive intervention.

Centralized resolution powers through a Single Resolution Board could also deploy tools unavailable nationally - like recapitalization of subsidiaries. Burden sharing and consistency would improve through unified resolution (Haldarov et al., 2022). While relinquishing national sovereignty raised concerns, member states acknowledged the pre-crisis model was obsolete. Shifting oversight to the EU level offered the only realistic path to crisis prevention and coordination. From failure emerged impetus for unprecedented integration.

The debate over cooperative bank inclusion in Banking Union oversight reflected concerns about proportionality and local autonomy. Cooperative proponents argued that smaller community institutions warrant tailored regulation attuned to their mutual ownership model and limited complexity (Maudos & Vives, 2016). Lobbying groups like the European Association of Cooperative Banks (EACB) made the case for exempting small cooperatives from direct ECB supervision during SSM negotiations. They contended centralized oversight designed for large banks could impose unnecessary bureaucratic burdens on local cooperatives. Cooperatives also raised subsidiarity issues with ceding control to Frankfurt over institutions focused on domestic service. Stakeholders argued localized knowledge was essential for appropriately gauging community reinvestment and risk-taking at small banks. Member rights could be undermined by external technocrats dictating strategy (Borsuk et al., 2024). Some academics similarly suggested the cooperative model justified alternative supervision, given divergence from shareholder-owned banks (Carney, 2019). Proportionality for these decentralized, not-for-profit banks warranted consideration in Banking Union design.

However, the counterargument ultimately prevailed that exempting categories of banks could undermine the Banking Union's consistency and effectiveness. Legislators pushed for comprehensive oversight of all institutions. The European Commission argued carving out parts of Europe's banking system from monitoring would worsen fragmentation. Data gaps would continue allowing risks to build unseen at excluded banks (Kohler, 2022).

Comprehensive oversight also limited opportunities for regulatory arbitrage between direct ECB supervision and exempted banks. A non-level playing field could disadvantage banks under tighter scrutiny (Goglio & Stefancic, 2022). Regulators also dismissed arguments that small size or mutual governance intrinsically lowers cooperative risks. Interconnectedness and homogeneous exposures still warranted monitoring of potential systemic vulnerabilities across cooperatives.

Therefore, lawmakers determined the need for consistency and effectiveness outweighed subsidiarity concerns regarding localized governance. But this tension would remain unresolved.

The final SSM framework sought compromise between comprehensive oversight and cooperative concerns through proportional tiering. The ECB directly supervises "significant" banks over €30 billion in assets or with substantial cross-border operations. This targeted intensive oversight at banks most relevant for financial stability (Kovras & Pagliari, 2021).

"Less significant" institutions remain supervised by national authorities but now under ECB oversight. This aimed to adapt scrutiny based on risk and complexity while retaining local examination. Cooperatives largely fell into the less significant category. Although this addressed subsidiarity concerns, many cooperatives still objected to ceding ultimate oversight to the ECB over their domestic operations (Puaschunder, 2023). Tensions persist between the ECB's mandate for macroprudential stability and cooperative advocates calling for responsive local governance. The tiered model aims to reconcile these competing priorities but a clear imbalance favors centralization.

- *Reduced supervision requirements*

Under the lead supervision framework, cooperatives secured certain concessions to ensure regulatory proportionality. These reflect recognition of the distinct nature of their activities. Even as oversight centralizes, tailored supervision aims to avoid unnecessary burden.

For less significant institutions, reporting requirements are reduced in areas like liquidity coverage and leverage ratio. Exemptions apply to certain disclosures as well. Requirements are also less extensive for model approvals and ICAAP processes. These calibrated requirements aim to match obligations with risk profiles (Puaschunder, 2023). An example of less significant institutions would be small cooperative banks or credit unions with a localized customer base and balance sheet under €5 billion. The following are the less significant institutions:

- Small local cooperative banks <€1 billion assets
- Regional savings banks with limited wholesale activities
- Specialized or niche commercial lenders

Such community-focused lenders face lower regulatory reporting burdens compared to large internationally active banks under the principle of proportionality. Alongside, cooperatives also pay lower fees into the Single Resolution Fund used for resolving failed banks. Contributions are based on liabilities with adjustments for risk. Cooperatives average fees around 0.09% of

covered deposits compared to 0.13% for commercial banks (Ciccarini, 2021). Again, policymakers incorporated concessions to avoid over-burdening small and low-risk institutions.

However, the ECB can raise obligations on less significant banks if risks warrant it. Many larger cooperatives like OP Financial Group and Rabobank are designated as significant institutions:

- Global systemically important banks (G-SIBs)
- Cross-border banking groups > €30 billion assets
- Domestic banks >€5 billion assets with high interconnectedness

Thus, regulation is harmonized at the maximum level to ensure financial stability.

While controversial, bringing cooperatives under the SSM has had several advantages. The ECB has greater capacity to monitor cross-border risks and spillovers that national supervisors lacked (Kranke, 2020). Direct oversight of significant cooperative banks also provides confidence.

The ECB conducts horizontal reviews across jurisdictions to identify emerging vulnerabilities. For example, a 2019 review found capital shortfalls at 40% of less significant institutions, prompting remedial action (Kranke, 2020). Such cross-country consistency is a major improvement. For significant banks like Rabobank, dynamic balance sheet assessments and stress testing have provided assurance of soundness. Uniform methodology and standards prevent supervisory arbitrage between countries that had previously occurred (Binder & Saguato, 2022).

In a similar vein, indirect oversight also harmonizes standards for smaller banks across borders. Less significant banks must now implement regulations like Basel III capital standards through national regulators coordinating with ECB guidance. The result is a convergence in key areas like NPL management, risk governance and internal controls (de Guevara & Maudos, 2017). This avoids disjointed national regulations.

However, the shift to more centralized and harmonized supervision has also disrupted traditional governance at some banks. Critics argue the Banking Union diminishes local autonomy and stakeholder voice in favor of top-down governance norms. The press for professionalization in bank oversight challenges traditional representation on boards (Carney, 2019). External experts may improve monitoring but concentrate power away from internal stakeholders. There are also concerns about “mission drift” away from original organizational goals. ECB risk models could create pressures to converge with industry-wide governance norms. Evidence here is still preliminary. One study of Italian banks did find faster asset growth

and increased risk-taking under SSM supervision, consistent with critics' concerns (Haldarov et al., 2022). However, others argue governance impacts have so far been modest (Blazsek, 2020). Ongoing analysis of governance adaptations is needed.

A major challenge in integrating cooperatives into the Banking Union resolution framework is the contradiction between bail-in powers and the cooperative funding model. Cooperatives argue member share capital cannot be bailed-in like traditional creditors (Venanzi & Matteucci, 2022). Under the SRM, the Single Resolution Board has authority to recapitalize failing banks by writing down eligible liabilities. This bail-in tool shifts losses from taxpayers to private creditors. However, cooperative shares are a unique form of equity-like capital from members. Cooperatives argue writing down member shares without approval violates cooperative principles of member economic rights. Bail-in was designed for commercial bank creditors, not member-owners. Some academics contend mechanisms like automatic recapitalization of members could resolve this tension. But most agree bail-in remains legally and politically difficult to apply to cooperative deposits (Helleiner, 2019). This contradiction reveals a deeper conflict between resolution rules designed for shareholder banks and the realities of mutually owned cooperatives. The SRB has limited ability to reconcile this mismatch.

Cooperatives have also objected to resolution fees paid into the Single Resolution Fund (SRF) to cover restructuring costs. They argue the calculation methodology fails to reflect cooperatives' lower risk profiles (Poli, 2019). Contributions are based on liabilities with limited adjustments for risk or business models. Cooperatives insist their higher capital levels and less complex activities warrant much lower fees than commercial banks (Kale, 2022).

Historical data shows far lower failure rates at cooperative banks which they argue justifies lower SRF fees. Between 2008-2020, the SRF handled resolution for only 6 smaller cooperatives (including; Caixa Fuissona, Caja Rural Central. Caixa Rural Sant Josep, Caja Rural del Duero, Ibercaja, and Labor Kutxa) versus over 40 commercial banks (Kale, 2022). Imposing high blanket fees appears unjustified given this record. However, the SRB maintains reductions for entire categories of banks would weaken the SRF (Kale, 2022). Some analysts argue cooperatives still carry tail risks from common shocks that resolution funds must cover (Chen et al., 2019). Reconciling these opposing views on proportional fees remains an ongoing challenge. Cooperatives continue lobbying for contribution adjustments based on performance metrics and differences from commercial banks.

A final issue is that recovery tools better suited for cooperatives remain underdeveloped in the Banking Union framework. Cooperatives favor reliance on recovery over resolution (Ayadi et

al., 2023). Their governance supports early intervention and self-correction to restore viability. SRB policies focus more on top-down resolution once problems emerge.

Unique cooperative tools like voluntary member bail-ins could aid recovery if given legal authority. Member-vote capital increases may also be more feasible than creditor bail-ins (Paul & Cumbers, 2023). However, current SSM policies provide limited guidance on facilitating cooperative recoveries. More tailored early intervention and recovery procedures could improve outcomes for cooperatives while reducing reliance on disruptive resolution actions. According to Maudos and Vives (2016) Bridging the gap between SSM resolution rules and cooperative realities will require greater attention to proportionality in recovery capabilities, not just resolution mechanisms. This remains a work in progress.

4.5 Regulatory innovation for the cooperative sector: Institutional Protection Scheme (IPS)

An Institutional Protection Scheme (IPS) is a contractual or statutory liability framework designed explicitly to safeguard member institutions by ensuring they maintain adequate liquidity and solvency to avert insolvency (Stern, 2014). The primary function of an IPS is collective financial stability, achieved through resource pooling, effective risk management, and proactive intervention. IPSs predominantly serve cooperative and mutual banking institutions, addressing their unique vulnerabilities due to their decentralization, close community ties, and member-based governance.

Historical experiences across Europe, particularly Germany, reveal the longstanding effectiveness of IPS structures. German cooperative banks have utilized IPS since the 1930s, demonstrating sustained financial resilience without necessitating government bailouts. The continuous stability experienced by these banks underscores the fundamental utility of cooperative-managed protection schemes, which ensure ongoing financial stability through mutual assistance, strategic mergers, and preventive restructuring (Dec & Masiukiewicz, 2018).

A legally recognized IPS complies strictly with Article 113 of the Capital Requirements Regulation (CRR), which details the regulatory prerequisites for such frameworks within the European banking sector. Furthermore, IPS arrangements are guided by European Central Bank (ECB) guidelines, which explicitly outline standards for operational efficiency, transparency, and accountability (Europarl.europa.eu, 2022). To attain recognition under these stringent regulatory conditions, an IPS must demonstrate a robust ability to detect early-warning signs of financial distress, intervene effectively, and maintain the operational continuity of its member institutions without recourse to taxpayer-funded bailouts.

Operationally, IPS structures utilize sophisticated early-warning mechanisms that facilitate early detection of emerging risks within their networks. Member banks are systematically categorized by their risk profiles through continuous monitoring, financial reporting, and routine audits. Upon identifying elevated risk levels, IPS governance committees issue binding directives and recommendations for corrective action. Thus, the IPS serves as a central coordinating mechanism, ensuring uniform compliance and swift mitigation of financial risks among its member institutions (Dec & Masiukiewicz, 2018). Wilk (2024), finds that IPS frameworks universally mandate rigorous monitoring and assessment procedures. Member banks are regularly evaluated based on established risk metrics, facilitating proactive intervention strategies to preempt potential insolvency issues. These procedures often involve regular stress testing, risk assessment exercises, and robust reporting standards, enabling IPS management entities to maintain comprehensive oversight of financial conditions within the cooperative banking network.

Financial fluidity within an IPS is maintained through an intricate internal financial exchange system. Typically, local cooperative banks participating in an IPS simultaneously act as borrowers and shareholders within a central IPS banking entity. This central entity efficiently manages surplus liquidity generated by member banks, redistributing funds to members experiencing temporary liquidity shortfalls. This interbank liquidity management significantly reduces external borrowing needs, mitigates liquidity crises, and strengthens the resilience of cooperative networks (Igbinosa et al., 2017). Crucial to the effectiveness of an IPS is the establishment of mutual guarantees among its member institutions. These guarantees ensure depositors' assets remain protected even during significant market or financial disruptions. A primary example of effective IPS implementation is found in Germany, where IPS mechanisms have historically provided the highest possible creditor protection, fully integrating institutional safeguards with deposit insurance frameworks. Under such systems, all member institutions' assets and liabilities are protected, enabling full depositor compensation even in the event of insolvency (Wu et al., 2017).

IPS structures have proven particularly beneficial to cooperative banks and savings institutions, whose business models prioritize community-based relationship lending. Cooperative banks rely heavily on local knowledge, mutual trust, and customer proximity. IPS arrangements reinforce these strengths by stabilizing financial operations, thus enabling cooperative banks to continue lending activities even during macroeconomic downturns. Moreover, IPS frameworks

provide centralized support functions, including product marketing, accounting, IT systems, and compliance management (Europarl.europa.eu, 2022).

In France, the cooperative banking sector has effectively adopted IPS mechanisms through large cooperative banking groups such as Crédit Agricole and Groupe BPCE. Crédit Agricole operates a robust system of internal solidarity mechanisms resembling an IPS structure. This involves explicit internal agreements mandating mutual financial support among regional entities within the group. During economic crises, these internal agreements have allowed rapid liquidity redistribution across Crédit Agricole regions, allowing the group to stabilize weaker entities without requiring external assistance. This internal solidarity not only protects the group's balance sheet as a whole but also preserves customer confidence and ensures the continuity of essential banking services across all regions. The model reflects a decentralized yet unified approach to risk management, where each regional bank retains autonomy while adhering to the collective safety net that underpins the group's overall resilience.

Similarly, the BPCE Group incorporates a comprehensive IPS mechanism, including stringent internal risk controls, regular liquidity assessments, and mandatory participation in centralized risk mitigation strategies. During financial crises, notably the aftermath of 2008, BPCE's internal IPS arrangement proved critical in preventing systemic financial contagion. By swiftly mobilizing collective resources to support struggling entities within the group, BPCE preserved depositor confidence and financial stability, ensuring that none of its regional member banks collapsed or required state intervention. This success demonstrated the effectiveness of IPS-style internal mechanisms in managing liquidity stress and maintaining operational continuity during periods of heightened financial turbulence. The BPCE model thus serves as a key reference for how cooperative banking groups can institutionalize mutual protection while preserving autonomy among their member institutions.

Italy provides another strong illustration of successful IPS implementation through its cooperative credit banks, Banche di Credito Cooperativo (BCCs). Responding to regulatory pressures and increasing market volatility, the Italian cooperative banking sector underwent substantial consolidation into two primary cooperative banking groups: ICCREA Group and Cassa Centrale Banca. Each entity now operates formal IPS frameworks incorporating comprehensive liquidity-sharing agreements and coordinated risk management protocols across their affiliated banks. These frameworks are designed to monitor the financial health of all member institutions continuously and to intervene preemptively when signs of distress appear. Through centralized oversight and mandatory participation, both ICCREA and Cassa Centrale

Banca have strengthened the cooperative sector’s capacity to absorb shocks, reduce defaults, and maintain credit availability in local communities, particularly during times of financial strain.

The ICCREA Group exemplifies effective IPS practices by actively monitoring financial indicators across its member institutions and proactively intervening when risk indicators exceed predefined thresholds. This systematic approach has dramatically reduced insolvency incidents within the cooperative banking network. It also significantly bolstered depositor confidence, reinforcing cooperative banks' ability to maintain financial sustainability and fulfill their community-oriented mandates.

In Spain, Institutional Protection Schemes (IPS) have also been effectively implemented within cooperative banks, particularly through rural savings banks known as Cajas Rurales. These institutions are collectively organized under the Spanish Rural Savings Bank Association, Grupo Caja Rural, which operates a sophisticated IPS system. This system integrates liquidity management, risk assessment, and mutual support among its member institutions. The strength of the Spanish IPS model became particularly apparent during the 2008 financial crisis, when many commercial banks in Spain faced severe difficulties, while the Cajas Rurales maintained their operations and continued lending to local economies. The IPS structure enabled member banks to support each other financially and avoid collapses through internal transfers, recapitalizations, and coordinated risk controls. This not only preserved financial stability within the rural cooperative network but also reinforced their role as reliable and resilient pillars of regional banking.

Grupo Caja Rural's IPS framework facilitates regular and rigorous risk monitoring. Members' financial health is continuously assessed through standardized reports and stress-testing procedures. When issues emerge, collective resources are mobilized quickly to restore stability. The cooperative nature of Spanish rural banks is crucial, as their community-oriented lending practices require stable liquidity sources and a reliable support framework. IPS thus allows them to continue lending even when conventional banks are forced to tighten credit or withdraw from certain markets. By maintaining the flow of credit to local businesses and households during downturns, the IPS ensures that the economic and social roles of Cajas Rurales remain uninterrupted. This resilience has strengthened the public’s trust in cooperative banks and highlighted the value of IPS structures in maintaining counter-cyclical lending during crises.

The evolution of IPS will depend on several factors: technological advancement, regulatory development, and economic conditions. The incorporation of real-time analytics, AI-powered risk detection, and predictive modeling has already begun enhancing IPS responsiveness and efficiency. Meanwhile, regulatory updates to reflect changes in financial behavior, market structure, and emerging risks are vital for continued relevance. Centralized support functions—such as IT systems, legal services, and compliance assistance—will continue to be vital for smaller cooperative banks that may struggle to meet IPS requirements independently. The strength of an IPS rests in its ability to act as both a preventive and corrective mechanism.

Chapter 5 Post-2008 legal and organizational reforms in the southern cooperative sectors

5.1 Structural and organizational framework in French banking

In response to the crisis in the banking and financial industry, France has set up new financial institutions and put more emphasis on going global. These actions have been taken in a market segment where France and its companies can compete well, and the composition of the home market has been changed to make it easier for these businesses to compete successfully in their own markets (Dom et al., 2016). Even though liberalization has been allowed within the framework of France's political economy, the French government still has a lot of control over the economy. Nicolas Sarkozy, the French president during that time (2007 – 2012), had put forward a plan to fix the economic crisis that cost a total of 26 billion euros. With this plan, the normal budget for 2009 needed to be increased by 15.5 billion euros, which would bring France's public deficit to 4% of its GDP. Also, this plan caused an increase in the unemployment number of people in France. It has some similarities, even if they are only slight, to the plan that Barack Obama, the US president (2009 – 2017), came up with to boost the U.S. economy by investing in the country's essential infrastructure. Other plans included making it easier to get building permits and government contracts, with a focus on the building and civil engineering industries.

On September 28, 2008, the Benelux governments injected 11.2 billion euros into the Dutch and Belgian bank Fortis as a part of a proposal to partly nationalize the financial company. Fortis' problems started when the company admitted at the beginning of the year that it projected losses of roughly $1.5 billion due to the American sub-prime calamity. In June, management claimed that asset sales would raise five billion euros, helping the company's cash situation. This, however, quickly proved to be insufficient. According to a press release from BNP Paribas, the French bank, it will acquire 66% of Fortis' Luxembourg assets and 75% of Fortis' activities in Belgium. In return, the Belgian government would become the organization’s largest shareholder. However, in terms of legal reforms, the goal of the legal framework analysis is also to give a general understanding of the national cooperative laws, as well as their main features and contents. Special attention will be paid to the parts of the regulatory framework that deal with how cooperatives are different from other types of business organizations, especially the for-profit shareholder corporation (Clauwaert et al., 2016). Amable (2017) finds that French cooperative law is extremely cooperative-friendly. It includes

recognizing cooperatives, limiting the voting rights and capital contributions of investor members, and making it the rule that reserves cannot be split up, both while the cooperative is in operation and if it goes out of business.

The legal and institutional framework governing cooperatives in France has long supported the development of cooperative banks, yet it remains imperfect and in need of thoughtful reform. A number of recommendations have been formulated by both scholars and regulatory authorities to address the observed legal shortcomings and to better align cooperative practices with the broader legal architecture. Among the most pressing suggestions is the need to clarify the intersection between general company law and cooperative-specific legislation. In many cases, cooperative banks must navigate between traditional corporate obligations and cooperative principles such as democratic governance, member control, and profit redistribution constraints, often resulting in legal ambiguity and operational inefficiencies (Amable, 2017; Wiley & Navickas, 2021).

To mitigate these inconsistencies, reform proposals advocate for the modernization of France's general cooperative law to make it more inclusive, coherent, and responsive to contemporary economic realities. The High Council for the Social and Solidarity Economy (Conseil supérieur de l'économie sociale et solidaire), for example, has consistently emphasized the necessity of integrating cooperative law more clearly into the general legal system and has recommended reforms that enhance the visibility and understanding of cooperative principles within the French civil and commercial codes. Legal scholars also propose that cooperative law be incorporated systematically into the academic curricula of law faculties to foster legal research and institutional familiarity. Such integration would not only promote innovation within the cooperative sector but also cultivate a new generation of legal professionals equipped to address its unique regulatory challenges (Poli, 2019).

The recommendations are not limited to academic reform. Practical and policy-oriented improvements are also being discussed. For instance, regulatory bodies such as the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and the Banque de France have both acknowledged that the legal framework surrounding cooperative banking institutions lacks the flexibility and clarity needed to adapt swiftly to shifting economic and regulatory landscapes (Banque de France, 2020). To that end, it has been proposed that legal updates prioritize simplifying corporate governance models and clarifying the allocation of powers between local mutual or cooperative units and their centralized federations. These proposals often take cues

from German and Dutch cooperative systems, where regulatory structures provide clearer distinctions between cooperative identity and financial function (Groeneveld, 2018).

Despite its flaws, France's legal environment for cooperatives is considered broadly supportive, owing to a rich ecosystem of mutual practices and legal precedents that reinforce the cooperative model. The enduring influence of long-established groups such as Crédit Agricole, Crédit Mutuel, and Groupe BPCE serves as evidence that the legal environment is conducive to the growth of cooperative financial institutions, even if specific legislative improvements remain necessary (Amable, 2017). These networks have achieved strong territorial coverage, economic performance, and resilience, particularly during financial crises, largely due to their dual structure of local autonomy combined with centralized control mechanisms (Poli, 2019). As such, the legislative environment may be better characterized as a supportive but evolving landscape—one in which systemic coherence is needed to unlock the full potential of cooperative banking within a modernized financial ecosystem.

Simultaneously, the regulatory landscape for French financial institutions, including cooperative banks, has undergone significant transformation in response to both European and global financial developments. In the wake of the 2008 global financial crisis, French legislators and European Union authorities introduced a series of sweeping reforms designed to reinforce banking stability, increase transparency, and mitigate systemic risks. Cooperative banks, though historically perceived as more conservative and community-oriented, were not exempt from these new regulatory demands. On the contrary, their unique ownership and governance structures posed challenges in aligning with standardized requirements set out under the Basel III framework and EU-level directives like the Bank Recovery and Resolution Directive (BRRD) (Wiley & Navickas, 2021).

Among the reforms implemented were stringent capital requirements, enhanced liquidity ratios, and expanded internal risk governance measures. These reforms aimed to strengthen the loss-absorbing capacity of all banks, including cooperatives, by compelling them to hold more Tier 1 capital and maintain more robust buffers to withstand future shocks (Ramirez, 2017). French cooperative banks such as Crédit Agricole and BPCE, which operate under a decentralized but integrated institutional protection scheme (IPS), were required to adapt internal coordination processes and capital management systems to meet these more demanding supervisory expectations (EACB, 2021)[8].

[8] Analytical assessments - EACB https://www.eacb.coop/en/cooperative-banks/analytical-assessments.html (accessed on 15/02/2025)

In addition, the legislative agenda extended beyond prudential regulation to include structural reforms aimed at addressing the perceived moral hazard of universal banking. One of the key elements of these reforms was the proposed separation of speculative financial activities from traditional deposit-taking and lending operations. This proposal gained traction in France following public outcry during the eurozone crisis and was partly inspired by international models, such as the U.S. Volcker Rule and the British Vickers Report (Bohn & Jong, 2011). The French Banking Law of 2013 (Loi de séparation et de régulation des activités bancaires) responded to this context by requiring systemically important banks to segregate proprietary trading and high-risk investment activities into separately capitalized subsidiaries, a move which also applied to the cooperative groups due to their size and market share.

Moreover, the French financial authorities pushed for reforms in bank recovery and resolution planning, particularly to enhance operational continuity during crises. The ACPR and the Single Resolution Board (SRB) emphasized the necessity for resolution strategies that are compatible with cooperative structures. For example, French cooperative groups were encouraged to develop group-level resolution plans that clarify how responsibilities and losses would be distributed among local entities, regional federations, and the central body in the event of financial stress. These efforts were critical to ensuring that the cooperative model could remain viable under the European Single Resolution Mechanism (SRM), while still maintaining its decentralized nature.

Despite some initial resistance within the sector, French cooperative banks have demonstrated substantial adaptability. Institutions like Crédit Mutuel Arkéa, although critical of the centralization trend, have nonetheless engaged in compliance reforms to align with the new supervisory expectations. Meanwhile, major groups such as Crédit Agricole and BPCE have capitalized on their integrated governance frameworks to strengthen internal control and meet the growing regulatory burden without significantly altering their cooperative identity (Poli, 2019; Ayadi et al., 2019).

Van Broekhoven and Goswami (2021) argue that this is owing to the widespread belief that the current system of regulatory oversight does not provide sufficient protection against the possibility of future financial crises. In order for a financial structure reform of this sort to blend in smoothly with the already extraordinarily comprehensive overhaul of banking and market regulation, it is necessary for this kind of reform to be prepared with a significant amount of care and attention to detail. The French government has not only suggested that they would support this viewpoint, but they have also said that they agree with the concept that the existing

regulatory changes should be supported by a well-designed structural reform (Mason, 2020). This position has been conveyed by the French government. Due to this change, banking activities that are beneficial for the financing of the economy would no longer be subject to the high-risk speculative trading activity that is now in existence. This is because the risk involved in these operations would be much reduced.

Belaïd et al. (2021) conclude that the French government is now considering whether or not to do a complete refurbishment of the country's financial sector. Before moving further with it, the National Assembly has to have a vote on it when it is in the second reading. It would thus be premature to announce definitive judgments on a work that may still alter, despite the fact that the fundamental ideas of the work seem to have already been crystallized. This is because the work may still change. Naturally, there are some people who think the reform goes too far because it offers an unnecessarily wide range of resolution powers to the French prudential supervision body. On the other side, there are some people who feel that the reform is not rigorous enough in terms of the necessity of separation. They hold this view because they believe that the reform was poorly thought through (Stellinga, 2021).

Risch (2020) confirms that despite the fact that this was not the case in many nations, it seems that the universal banking model was able to maintain at least some of its sustainability. The financial systems of France and Canada, for example, which have traditionally been quite comparable to one another in many respects, have traditionally been quite similar to one in many respects, have withstood the crisis rather well despite their similarities. Due to this, the genuine benefits of using this technique should not be questioned, even if the financial institutions that are being employed to put it into action are subject to change (Dimakou et al., 2021).

According to Mkhaiber and Werner (2021), nearly two-thirds of the net revenue that is earned by French banks come from retail banking, which also includes specialized finance. Not only does doing this assure a consistent flow of income, but it also provides a reliable base for funding business operations. This is the primary source of revenue for universal banks in France, the majority of which have their foundations in retail banking as their primary line of business. The other aspects are covered by the contributions made by corporate finance, investment banking, and asset management, all of which work together to ensure that the system as a whole maintains the right level of equilibrium (Uddin et al., 2021)

Camacho et al. (2021) find that as a direct result of the global financial crisis, French financial institutions have already significantly reduced, and in many cases completely ended, their

participation in pure proprietary trading activity. This change came about as a direct consequence of the lessons that were learned during the global financial crisis. As a result of this, the goal of the new segregation regime is to carefully rely on the expertise that has been gained over the course of the previous few years in order to inhibit the increase of volatile proprietary trading income in the next cycle. This is done to put a stop to the expansion of the profits made via proprietary trading (Manz et al., 2023).

Barisitz and Deswel (2021) argue that customers in France, whether they are individuals or enterprises, are able to obtain the advantages of a banking system that provides a diverse range of various financial services. These services may be used for several purposes. This is the case for both individual consumers and business clients alike. De facto, the universal banking model has the potential to produce collaborations in addition to economies of scale. A universal banking group is able to effectively diversify the risks that it takes on across its numerous business lines and product offerings, and as a result, it is in a position to reduce the impact of a negative shock that may be felt by one of its operations. This is accomplished by effectively diversifying the risks that it takes on across its numerous business lines and product offerings. These good externalities shouldn't be hampered by a reform of the financial institutions, but a reasonable and proper separation of riskier activities may benefit in forecasting and simplifying resolution in the event of a crisis (Gilenko and Chernova, 2021).

5.2 Structural and organizational framework in Italian banks

Italian banks and investors had experienced losses on the lower end of the scale prior to that time when the global financial crisis was still in its earliest stages. The difficulties that have plagued the US real estate market have had minimal impact on the Italian market. The portfolios of Italian financial institutions did not include a substantial amount of subprime bonds. As a consequence of the liquidity crisis, governments were required to give financial aids through loans to national banks to assist these institutions, especially since the European Central Bank reduced the discount rate it applied to loans. In an attempt to recover their liquidity, however, banks have put limitations on the amount of credit they could provide to their customers. Italy's economy became enmeshed in the global financial crisis that was occurring at the time. In addition to a vast number of regionally-based small and medium-sized banks, Italy is home to a select number of significant financial organizations.

Smaller and medium-sized banks reacted to the liquidity crisis by decreasing the amount of credit made obtainable to their customers and consumers and by requiring more collateral for

new loans. This strategy led to a decline in housing and equipment investments, and it posed a danger to the continued existence of SMEs across a variety of industries, particularly those that were more obsolete or export-focused. In addition, customers were discouraged from making purchases due to the limited availability of credit and the grim outlook.

One of the initial steps in Italy's post-crisis reform agenda was the introduction of Legislative Decree No. 141/2010, which sought to align Italy's banking regulations with European Union directives (Poli, 2019). This decree focused on enhancing consumer protection, improving transparency, and strengthening the supervisory powers of the Bank of Italy. Key provisions included stricter requirements for financial intermediaries, enhanced disclosure obligations, and improved mechanisms for consumer complaint resolution. By establishing a more stringent regulatory environment, this decree laid the groundwork for subsequent reforms aimed at bolstering the stability and integrity of the financial sector, including cooperative banks (Goglio & Alexopoulos, 2013). The decree also emphasized the need for cooperative banks to adhere to higher standards of transparency and accountability. This was achieved by mandating more rigorous reporting requirements and enhancing the role of external audits in ensuring compliance with regulatory standards. These measures were crucial in restoring confidence among depositors and other stakeholders, who had become increasingly wary of the financial system's stability in the wake of the crisis. Moreover, by aligning with EU directives, Italy's regulatory framework for cooperative banks became more consistent with international best practices, thereby enhancing the credibility and reliability of these institutions in the global financial market (Billiet et al., 2021).

A pivotal moment in the reform of Italy's cooperative banking sector came in 2016 with the enactment of Legislative Decree No. 18/2016. This decree mandated the consolidation of smaller cooperative banks into larger Cooperative Banking Groups (CBGs) (Migliorelli & Lamarque, 2022). The primary objective was to achieve economies of scale, improve governance, and enhance financial stability. Under this reform, cooperative banks with assets below a certain threshold were required to join one of the newly established CBGs, such as Iccrea Banca and Cassa Centrale Banca. This consolidation was designed to create stronger financial entities capable of competing more effectively in the market and managing risks more efficiently. The creation of CBGs marked a significant shift in the organizational structure of cooperative banks in Italy. By centralizing many functions and standardizing operations across member banks, these groups were able to streamline processes, reduce redundancies, and leverage their collective strengths (Stefancic & Goglio, 2023). This structural change also

facilitated the implementation of more sophisticated risk management practices, as CBGs could pool resources to invest in advanced risk assessment and mitigation tools. Moreover, the consolidation process helped to address some of the inefficiencies associated with having numerous small, independent cooperative banks, thereby enhancing the overall competitiveness of the sector (Ayadi et al., 2021).

The formation of CBGs also brought about significant changes in the governance of cooperative banks. The reform introduced stricter requirements for corporate governance, including the establishment of independent risk management and audit committees. These committees were tasked with overseeing the implementation of comprehensive internal control systems and ensuring that best practices in corporate governance were followed. By enhancing the oversight and accountability mechanisms within cooperative banks, the reform aimed to reduce the risk of financial mismanagement and improve the overall integrity of these institutions (Poli, 2019).

Another critical aspect of the post-2008 reforms was the implementation of the Basel III framework, which introduced higher capital requirements, leverage ratios, and liquidity standards for banks (Brei & Gambacorta, 2014). For Italy's cooperative banks, complying with these stringent requirements posed significant challenges, but it was also a necessary step towards ensuring their resilience and stability. Basel III was designed to enhance the capacity of banks to absorb financial shocks, thus reducing the risk of systemic crises.

Under Basel III, cooperative banks in Italy were required to maintain higher levels of Tier 1 capital, which is the core capital comprising equity and disclosed reserves. This requirement was intended to provide a stronger capital buffer that could absorb losses during periods of financial stress (Beck et al., 2020). Additionally, Basel III introduced the concept of the leverage ratio, which sets a minimum level of capital relative to a bank's total exposures, including both on- and off-balance-sheet items. This measure aimed to constrain the build-up of excessive leverage, which had been a significant factor contributing to the financial crisis.

The liquidity standards introduced by Basel III, such as the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR), were pivotal in enhancing the stability of cooperative banks not only in Italy but across the entire European banking sector and other Basel-compliant jurisdictions. These global standards, implemented through EU regulations such as the Capital Requirements Regulation (CRR), require all banks to maintain sufficient high-quality liquid assets to withstand short-term liquidity shocks and to ensure stable long-term funding (De Haan & Kakes, 2020). The NSFR, on the other hand, aimed to promote longer-term stability by requiring banks to maintain a stable funding profile in relation to the composition of their assets

and off-balance-sheet activities. The implementation of Basel III necessitated significant adjustments in the operations of cooperative banks. These institutions had to enhance their capital planning processes, improve their liquidity management practices, and adopt more robust risk management frameworks (Ayadi et al., 2021). While these changes involved substantial costs and operational challenges, they were crucial in strengthening the resilience of cooperative banks and ensuring their long-term sustainability.

The consolidation of cooperative banks into larger CBGs facilitated the centralization of risk management functions, which was a key component of the organizational reforms (Poli, 2019). Centralized risk management allowed CBGs to monitor and manage risks more effectively across their member banks. By standardizing risk assessment methodologies and establishing centralized risk committees, CBGs were able to identify, evaluate, and mitigate risks more efficiently. This approach also enabled CBGs to leverage economies of scale, reducing the overall cost of risk management and enhancing the robustness of their financial systems.

Centralized risk management practices included the implementation of advanced risk assessment tools and technologies. CBGs invested in sophisticated risk modeling software, which allowed them to conduct more accurate and comprehensive risk analyses (Fonteyne & Hardy, 2021). These tools enabled CBGs to monitor a wide range of risk factors, including credit risk, market risk, and operational risk, and to develop more effective risk mitigation strategies. Additionally, the centralized risk management framework facilitated better coordination and communication among member banks, ensuring that risk management practices were consistent and aligned across the group. The centralization of risk management also had significant implications for the governance of cooperative banks. The establishment of independent risk management committees and audit committees within CBGs enhanced the oversight and accountability mechanisms (Migliorelli & Lamarque, 2022). These committees were responsible for ensuring that risk management practices were implemented effectively and that any potential risks were identified and addressed promptly. By strengthening the governance framework, the organizational reforms aimed to reduce the risk of financial mismanagement and improve the overall integrity of cooperative banks.

The formation of larger CBGs improved cooperative banks' access to capital markets by enhancing their creditworthiness and financial strength (Goglio & Alexopoulos, 2013). This improved access enabled them to raise capital more efficiently and at lower costs, supporting their growth and development. Enhanced market access also allowed CBGs to diversify their funding sources, reducing their reliance on traditional deposit funding and increasing their

financial stability. Improved access to capital markets was particularly important for cooperative banks, as it allowed them to expand their lending activities and support the financing needs of their members. By raising capital through the issuance of bonds and other financial instruments, CBGs were able to provide more credit to small and medium-sized enterprises (SMEs) and other underserved segments of the market. This, in turn, contributed to the economic development of local communities and reinforced the social mission of cooperative banks (Ayadi et al., 2021).

The enhanced creditworthiness of CBGs also facilitated better terms and conditions for their capital raising activities. With stronger financial positions and improved risk management practices, CBGs were able to negotiate lower interest rates and more favorable terms for their bond issuances. This reduced the overall cost of capital and enabled CBGs to invest more in their growth and development initiatives (Migliorelli & Lamarque, 2022).

Post-2008 reforms also emphasized the importance of digitalization and technological integration within cooperative banks (Stefancic & Goglio, 2023). Significant investments were made to modernize IT infrastructure and expand digital banking services. This shift was crucial for improving operational efficiency and meeting the evolving needs of customers. Enhanced digital capabilities allowed cooperative banks to offer a broader range of services, streamline operations, and improve customer satisfaction. The focus on digital transformation was aligned with broader industry trends, positioning cooperative banks to compete more effectively in an increasingly digital financial landscape. By adopting advanced technologies such as online banking platforms, mobile banking apps, and digital payment systems, cooperative banks were able to enhance their service delivery and provide more convenient and accessible banking solutions to their customers (Billiet et al., 2021).

Digitalization also played a key role in enhancing the operational efficiency of cooperative banks. By automating routine processes and leveraging data analytics, cooperative banks were able to streamline their operations and reduce costs. This enabled them to allocate more resources towards strategic initiatives and innovation, further enhancing their competitiveness in the market (Fonteyne & Hardy, 2021). Additionally, the integration of digital technologies improved the risk management capabilities of cooperative banks. Advanced data analytics and real-time monitoring tools allowed cooperative banks to identify and address potential risks more effectively. This, in turn, contributed to the overall stability and resilience of these institutions (De Haan & Kakes, 2020).

The Italian cooperative banking sector has undergone significant legal and institutional transformations in the post-2008 period, with far-reaching consequences for its structure, performance, and governance. Among the key areas addressed by policymakers and regulatory authorities were the deficiencies in cooperative legislation and institutional complexity, which often inhibited clarity and operational efficiency. To overcome these limitations, a series of recommendations were issued, primarily by domestic policymakers, the Bank of Italy, and supported by international entities such as the European Commission and the International Monetary Fund. These recommendations proposed greater alignment between general company law and cooperative law, revisions to outdated or incomplete legal provisions, and the encouragement of academic research in cooperative banking law. A notable suggestion included the integration of cooperative law into legal education curricula, thereby fostering future expertise and academic interest in the field (Ferri et al., 2014; Poli, 2019). Despite the challenges presented by the legal framework, the Italian cooperative sector has been widely regarded as dynamic and resilient. In fact, some scholars argue that the diverse and widespread practice of mutuality across the country offsets the structural legal shortcomings. Thus, while Italian cooperative legislation continues to evolve, the prevailing institutional environment has nevertheless proven conducive to the growth of cooperatives and their embedded role within regional economies (Poli, 2019; Groeneveld et al., 2018)

This duality – between structural deficiencies and practical robustness - culminated in a series of sweeping reforms introduced to fortify Italy's cooperative banking system. The reforms aimed to address several vulnerabilities that were exposed during the global financial crisis of 2007–2008 and its aftermath. Although Italy's banks, including cooperative banks, were not severely affected by subprime exposure due to their conservative lending practices, the liquidity crunch and the systemic implications of the crisis triggered an urgent regulatory response. One of the most impactful developments was the introduction of Legislative Decree No. 141/2010, which sought to harmonize Italian banking regulations with European Union directives. This decree focused on increasing consumer protection, improving transparency, and enhancing the supervisory authority of the Bank of Italy (Poli, 2019). It introduced stricter requirements for financial intermediaries, emphasized full disclosure, and reformed the mechanism of handling consumer complaints. Furthermore, it established a more robust compliance and audit system, promoting transparency and accountability among cooperative banks. These adjustments significantly contributed to rebuilding depositor confidence and aligning Italian cooperative banks with international best practices (Goglio & Alexopoulos, 2013; Billiet et al., 2021).

Building upon these regulatory foundations, Legislative Decree No. 18/2016 marked a historic turning point in the cooperative banking sector. This decree mandated the consolidation of smaller cooperative banks into larger Cooperative Banking Groups (CBGs), thereby reducing fragmentation and improving financial resilience. The formation of CBGs such as Iccrea Banca and Cassa Centrale Banca enabled smaller banks to pool resources, centralize functions, and adopt uniform operational standards. These changes drastically enhanced economies of scale, internal risk management, and overall competitiveness (Migliorelli & Lamarque, 2022; Ayadi et al., 2021). Prior to this reform, many BCCs (Banche di Credito Cooperativo) operated as atomized entities, limiting their ability to adapt to regulatory and market challenges. By enforcing structural integration, the 2016 reform laid the groundwork for long-term stability and risk mitigation strategies across the cooperative banking network (Goglio & Stefancic, 2023).

Crucially, the reorganization introduced new governance mechanisms to further professionalize the management of cooperative institutions. Independent risk management and audit committees were established across CBGs, tasked with monitoring compliance, improving oversight, and ensuring transparency. These mechanisms were complemented by the implementation of internal control systems aligned with Basel III standards. In particular, the Basel III liquidity and capital adequacy requirements presented additional regulatory challenges that required cooperative banks to adjust their balance sheets and strengthen capital buffers. For instance, the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) introduced by Basel III forced Italian cooperative banks to hold sufficient high-quality liquid assets and ensure longer-term funding stability. Compliance with these regulations necessitated substantial investment in risk modeling and liquidity management infrastructure (De Haan & Kakes, 2020; Brei & Gambacorta, 2014).

Moreover, the transition towards centralized group structures did not come without difficulties. One major challenge was the resistance to reform from segments of the cooperative banking sector that valued independence and localism. This tension was especially pronounced among popular banks (Banche Popolari)—some of which were required to convert into joint-stock companies (Società per Azioni) due to surpassing the asset threshold of eight billion euros. According to Law 33/2015, the reform obligated larger Banche Popolari to abandon their cooperative structure to access capital markets more effectively and conform with stricter transparency rules. This transformation was supported by both national regulators and supranational institutions such as the European Commission and the IMF, who viewed the joint-

stock model as more compatible with modern capital market dynamics and more attractive to institutional investors (Ferri et al., 2013). Despite initial skepticism, many reforms produced tangible improvements. The consolidation of CBGs improved operational efficiencies, minimized overlapping functions, and introduced standardized reporting practices. Risk-sharing mechanisms within CBGs allowed for swift support to member institutions during times of distress, effectively serving as internal "safety nets." This echoes elements of Institutional Protection Schemes (IPS), which have been more explicitly adopted in countries like Germany. Although Italy initially hesitated to adopt formal IPS frameworks within cooperative networks, the reforms of 2015 and 2016 achieved similar objectives through centralized governance and resource pooling (Poli, 2019; Groeneveld et al., 2018).

It is also essential to acknowledge that Italy's regulatory reform trajectory differed in pace and structure from that of other European countries. While France and Germany implemented similar reforms earlier or through distinct legal mechanisms, Italy's efforts were catalyzed primarily by external pressures associated with the European Banking Union and the Single Supervisory Mechanism (SSM). The urgency to stabilize distressed institutions, improve recapitalization mechanisms, and reduce systemic risk underpinned the Italian government's decision to act swiftly and decisively. According to the Ministry of Finance and Bank of Italy, these reforms were not only intended to align with EU frameworks but also to restore public trust and enhance resilience in the banking sector (Bank of Italy, 2018; Ministry of Finance, 2016)

The consolidation of cooperative banks into larger CBGs has significantly strengthened their financial positions, enabling them to manage risks more effectively and compete more robustly in the market (Poli, 2019). The implementation of Basel III has further reinforced this stability by ensuring that cooperative banks maintain strong capital positions and robust risk management practices (Ayadi et al., 2021). The organizational reforms have also led to notable improvements in the governance and accountability mechanisms within cooperative banks. The establishment of independent risk management and audit committees has enhanced oversight and reduced the risk of financial mismanagement. Moreover, the centralization of risk management functions has enabled CBGs to monitor and mitigate risks more efficiently, further enhancing the resilience of the sector (Migliorelli & Lamarque, 2022).

The emphasis on digitalization and technological integration has transformed the operational landscape of cooperative banks. By investing in advanced IT infrastructure and expanding digital banking services, cooperative banks have improved their service delivery and

operational efficiency. This has not only enhanced customer satisfaction but also positioned cooperative banks to compete more effectively in an increasingly digital financial environment (Goglio& Stefancic, 2023).

However, the reforms have not been without challenges. Some stakeholders have expressed concerns about the potential loss of local autonomy and the dilution of the cooperative ethos. The consolidation process has also posed significant logistical and operational challenges, particularly for smaller banks transitioning into the larger CBG structure (Billiet et al., 2021). Balancing the need for centralization with the preservation of the cooperative principles that underpin these institutions remains an ongoing challenge.

Pastore et al. (2020) argue that Italian banks operate on three different levels: the international level, the national level, and the local level. Lombardi et al. (2021) conclude that banks' head offices in Italy are responsible for the formulation and execution of all of the bank's strategic, managerial, and operational policies. This responsibility extends across the whole hierarchy of the organization. Campra et al. (2020) find that a bank's branches may be found in the principal cities of the various regions since, on the national level, the bank is structured in the form of many branches, as well as in some of the most important cities within the individual provinces. In addition, there are locations inside the provinces' principal cities that serve as branches of the banks. Their duties include the management of the supervision of banking and financial institutions, the state treasury, the safety of customers of banking and financial intermediaries, and the circulation of banknotes etc. (Annarelli et al., 2020). Nosratabadi et al. (2020) argue that some of the banks' employees in Italy work across the world for a range of different Italian embassies and consulates as financial attachés and have representative offices in London, New York, and Tokyo.

According to Cesaratto (2021), there is a meeting of the Governing Council takes place every other week at the headquarters of the European Central Bank in Frankfurt. Before making decisions about monetary policy, the Governing Council gets together once every six weeks to discuss and analyze the current status of the economy as well as the monetary system. During the Council's other meetings, the principal themes of discussion are issues that are pertinent to the numerous extra functions and responsibilities of the ECB and the Euro system.

Moreover, the European Central Bank (ECB) maintains a separation between its monetary policy and other activities, on the one hand, and its supervisory tasks, on the other, by holding separate meetings of the Governing Council for each of these categories (Gnan and Rieder, 2021). When it comes to making decisions, members of the Governing Council do so in their

individual capacities, which are entirely separate from one another. The principle that "one member, one vote" must be upheld at all times is an illustration of this principle.

Bibow (2020) finds that since the length of the rotation is always the same (i.e. one month), Governors take in turns carrying out their responsibilities on a monthly basis, as per the pattern that has been set. It is anticipated that each Governor will continue to contribute to the discussions that take place at the sessions of the Governing Council. A news conference on monetary policy is held once every two months, and at that conference, the decision is dissected and analyzed in considerable detail. Both the President and the Vice President take turns acting in the roles of chairpersons during the press conference (Carré and Le Maux, 2020).

Furthermore, members of the Executive Board are obligated to adhere to the Code of Conduct established by the European Central Bank, which gives guidance to and sets benchmarks for all members of staff of the ECB, as well as the members of the Executive Board, all of whom are anticipated to maintain high professional and ethical values (Macchiarelli et al., 2020). These persons are additionally bound by a “Supplementary Code of Ethical Criteria”, which is comprised of extra standards that are pertinent to members of the Executive Board and are adhered to by these people.

5.3 Structural and organizational framework in Spanish banks

Spain provides an important case study of post-crisis regulatory reforms for the cooperative banking sector. Spanish credit cooperatives hold a substantial market share, representing nearly 15% of total banking assets (Wachtel et al., 2023). As both European Banking Union rules and Basel III standards emerged after 2008, Spanish lawmakers and regulators faced challenges adapting these to the cooperative context. This section examines the key areas of reform in Spain - capital requirements, governance, institutional guarantees, and consolidation. It analyzes proportionality measures tailored for cooperatives, implementation debates, and early evidence of impacts. Critical assessment relies extensively on Spanish-language scholarly literature.

Defossez (2021) finds that as a direct consequence of the passing of Law 11/2015 in Spain, a brand-new institutional framework has been established at the national level. This law provided a basic structure to Spanish Corporate Banks. This was done to guarantee that the resolution process adhered to the principles outlined in the Resolution Directive and to keep the tasks of supervision and resolution distinct from one another. Hokkanen (2021) confirms that the Spanish banking model distinguishes between two distinct types of national resolution

authorities, namely, the “Preventive Resolution Authorities”, which are in charge of the resolution process' preventive stage, and the “Executive Resolution Authority”, which is in charge of the resolution process's execution stage. Both of these types of resolution authorities are responsible for ensuring that the resolution process is carried out in a timely manner and with the responsibility of ensuring that the process of conflict resolution is carried out without incident it has been found by (Godoy, 2022). Martino and Parchimowicz (2021) assure that it is essential for the two preventative resolution agencies, the Bank of Spain and the CNMV (Comisión Nacional del Mercado de Valores – National Securities Market Commission), to carry out their responsibilities via organizations that are operationally autonomous from their respective supervisory activities. The CNMV is in charge of overseeing investment companies, while the Bank of Spain is in charge of the country's banks and other financial institutions (Alférez and Fernández, 2020). Moreover, an executive resolution authority acts as the contact authority on an international level and assigns FROB (Fondo de Reestructuración Ordenada Bancaria) the duty of carrying out its tasks in line with the mandates it was given to carry out in accordance with the obligations it was given.

For capital, Spanish authorities granted measured relief to cooperatives while upholding Basel principles. Minimum ratio requirements were unchanged, but conservation buffers were lowered by 25 basis points for small banks under €200 million in assets. This aims to marginally ease constraints on lending capacity (Paul & Cumbers, 2023). Certain accounting exemptions were also extended to cooperatives. Equity instruments like member shares can receive improved capital treatment to recognize their loss absorption capacity (Nelson, 2020). However, overall capital minimums remain binding on cooperatives with limited preferential treatment. Spanish regulators prioritized financial stability over material concessions.

As per liquidity standards, it posed greater challenges, as illiquid community development loans make cooperatives structurally constrained on LCR ratios. The Bank of Spain provided some remedies, including discounting member shares from LCR calculations and targeting long phase-in periods (Gavris, 2021). But broader critiques suggest the LCR’s design is incompatible with sustainable cooperative lending models. Heavy asset encumbrance undermines deposit-taking functions (Braun & Deeg, 2020). Indeed, Spanish cooperatives have increased central bank reserves at the expense of local lending to improve LCR compliance (Blazsek, 2020). This raises financial inclusion concerns. Scholars argue a dedicated cooperative liquidity standard is needed reflecting different business models. The current approach risks significantly distorting cooperative activity absent a rethink.

Spanish authorities did adjust risk weights in several areas to ease capital impacts on cooperatives. Lower risk weights were introduced for equity exposures to cushion the impact of member shares (Haselmann et al., 2022). Retail risk weight reductions also prevented overstating risks of bread-and-butter mortgage lending. However, some argue more significant reductions are justified. Cooperatives have minimal losses on community mortgages but get no capital relief under standardized models (Haselmann et al., 2022). Proportionality remains inadequate. There are also calls for reconsidering risk weighting asset thresholds of 1.5 billion euros. This disadvantages mid-sized cooperatives facing higher charges than commercial bank competitors.

The governance reforms in Spanish credit cooperatives aimed to balance professionalization with preserving the distinctiveness of member-led cooperative banks. New regulations responded to concerns that traditionally member-elected boards lacked adequate expertise in prudential risk management and financial oversight (Giagnocavo, 2020). The 2013 legislation mandated that all banks meet updated suitability requirements for selecting directors and managers. Key reforms included prohibiting conflicts of interest, demanding sufficient professional experience commensurate with duties, and explicitly defining governance responsibilities (Helleiner, 2019).

Most notably for cooperatives, board members charged with risk oversight roles must now demonstrate certified expertise in risk management frameworks and techniques. This professionalization of governance was controversial, as it limits the ability of regular members to serve on boards via democratic elections if they lack formal qualifications. However, concessions were made to accommodate the smaller, more localized cooperative banks. Cooperatives below a defined asset threshold are granted exemptions that allow their boards to remain primarily member-elected laypeople (Beccalli & Rossi, 2020). Directors must still uphold integrity standards regarding independence and ethical conduct. But they are not subject to the same stringent technical expertise requirements, as long as risk oversight is delegated to qualified experts. This aims to strike a balance between participatory democratic governance and diligent risk controls.

Additional reforms included mandating specialized risk committees at medium and large cooperatives to formally oversee internal audit, regulatory compliance, IT systems integrity, and other key control functions (such as, Internal Audit, Regulatory Compliance, IT Systems Integrity, and Risk Management) as illustrated by the study of Wachtel et al. (2023). While ultimate fiduciary responsibility remains with the board of directors, these mandatory expert

committees adjacent to the traditional member-led board aim to embed risk management expertise and prudential oversight. Some analysts argue this hybrid approach does not go far enough. Gavris (2021) contend that granting expertise exemptions to small cooperatives is shortsighted, as failures among local lenders can have destabilizing ripple effects across the sector. They recommend phasing in expertise requirements universally over time. Conversely, critics like Braun and Deeg (2020) worry that seating professional risk experts dilutes grassroots democratic control, infringing on cooperative principles. The counterargument is that neglecting risk imperatives dooms member ownership in the long run.

Beyond governance, Spain's reforms also compelled clearer legal and operational separation between cooperative banks' commercial activities serving members versus outside businesses like institutional asset management (Haselmann et al., 2022). The ostensible goal was enhancing transparency by delineating the boundaries of member-focused cooperation versus profit-seeking market operations. Regulators hoped this would clarify responsibilities and accountabilities. However, critics contend that imposed business line divisions undermine the holistic cooperative principle of members economically self-helping themselves through their collectively owned enterprise. Haldarov et al. (2022) argue the separation could backfire by normalizing the notion that cooperatives must have segregated commercial “banking as usual” versus charitable member service operations. In reality, one unified cooperative enterprise generates financial inclusion and mutual aid. Some analysts see wider professionalization trends as an existential dilemma. Carney (2019) warns of “de-mutualizing” cooperatives through well-intended regulation, if member empowerment fades as outside technocratic controls proliferate. This tension is inherent in balancing expertise with participation. Others dispute such dire predictions, citing cooperatives' ability to evolve hybridity between professionalism and democracy over centuries (Gallagher, 2022). Ultimately, Spanish credit cooperative reforms reveal fundamental unresolved tensions in cooperative banking governance. How should expertise and prudential integrity be balanced with grassroots member participation and empowerment? Regulators aim for “professional mutuality,” but implementation reveals stark tradeoffs. Only time will tell whether Spain struck the right equilibrium.

Beyond mandating suitability criteria and specialized risk committees, reforms could have gone further. Explicit term limits on directors, externally facilitated board evaluations, mandated training programs, and disclosure requirements around ESG/DEI could enhance professionalism and accountabilities (Groeneveld et al., 2018). To counter expertise bias,

quotas for employee and customer directors could guarantee stakeholder voices. International cooperative principles and standards provide a framework, but cooperatives still struggle to optimally balance democratic hopes with regulatory realities.

A major component of governance reforms in Spain focused on developing mandatory institutional protection schemes (IPS) to pool financial resources and provide mutual support for smaller banks. New regulations compelled nearly all Spanish credit cooperatives and savings banks below certain size thresholds to participate in an IPS arrangement to collectively guarantee deposits and defray resolution costs.

There are currently two primary IPS networks operating in Spain - the Fondo de Garantía de Depósitos de Entidades de Crédito (FGDEC) and the Fondo de Garantía de Cooperativas de Crédito (FGDCC) specifically tailored for credit unions (Beccalli & Rossi, 2020). Membership is essentially universal among small local lenders and regionally-focused savings banks. The schemes aim to provide these institutions the stabilizing benefits of shared risk-pooling, capital/liquidity mutualization, and collaborative economies of scale often lacking for stand-alone community banks. Within each IPS mutual, member banks are required to make risk-adjusted contributions into a centralized fund based on their deposit liabilities and asset risk exposures (Beccalli & Rossi, 2020). In the event a participating bank becomes distressed or faces imminent failure, the pool of ex-ante funded resources (target sizes vary by IPS) can be drawn upon to inject temporary capital, cover depositor claims and other resolution costs if needed. This collaborative insurance mechanism enables the continued viability of local banking franchises while preventing contagion. It also allows preservation of relationship lending and localized governance rather than forcing consolidation into national giants.

Critically, Spanish IPS have binding contractual commitments for loss coverage under strict rules. Regulations stipulate IPS funds hold minimum reserves equal to 0.8% of total covered deposits, and must increase this buffer if drawdowns exceed certain thresholds (Wachtel et al, 2023). This ensures the mutual institutions maintain adequate financial strength. Contribution rates are also carefully calibrated through risk models to reflect the resolved failure probabilities of each bank. In theory, this creates strong ex-ante loss absorbing capacity while discouraging moral hazard. However, the resolution toolkit available within Spanish IPS remains limited compared to systemically important banks under centralized regulatory control (Maudos & Vives, 2016). Beyond injecting temporary liquidity, current options are essentially limited to imposing PONV losses via contingent capital instruments or facilitating acquisitions or P&A

transactions with stronger IPS members (Nelson, 2020). Critics argue IPS lack robust gone-concern restructuring powers that preserve franchise value outside of full nationalization.

Some analysts like Helleiner (2019) recommend expanding resolution options by granting IPS funds direct restructuring powers including ability to replace management, conduct operations transfer, and implement purchase and assumption transactions similar to the FDIC receivership model. This could enhance market discipline of member banks while providing flexibility to resolve non-viable firms. Conversely, Tran (2020) argues expanded IPS authority could undermine local governance and create misaligned resolution incentives compared to centralized prudential oversight. There is also debate around equitable risk-adjusted pricing within IPS. As self-funded private sector arrangements, some banks may object to cross-subsidizing higher risk counterparties. However, granular risk measurement and differentiated pricing could reduce risk sharing benefits or drive adverse selection if low-risk lenders opt out. Regulators must strike a balance between actuarially fair pricing and preserving the mutual spirit of cooperation.

Ultimately, IPS reflect an innovative private sector solution to providing scale economies and collaborative stability for community banking. Loss mutualization enables credit cooperatives to participate in networked strength while preserving relationship-focused local franchises. Still, there are trade – offs among risk sensitive, fair burden allocations, local control, and efficient settlement. The regulatory frameworks will, conversely, have to keep on changing with the various purposes of getting the maximum IPS effectiveness (de Guevara & Maudos, 2017). The other considerations to improve Spanish IPS could be the improvements of the group risk-management practices, the data and reporting standardization, centralized liquidity risk stress testing and ex-ante resolution planning adapted to each mutual. Funding mechanisms can also progress past flat rate ex-ante levies to involve contingent capital instruments which convert to equity on predetermined triggers.

In addition, proponents of IPS argue that this system empowers local lenders to operate independently, however, extreme levels of fragmentation carried costs of inefficiency and poor regulation. Integration of regionally based networks of IPS with a national network alongside more clearly defined interbank support expectations between connected schemes would allow for optimal weighing of trade-offs between decentralization and coherent industry balance (Tran, 2020). Properly set, IPS can eventually combine the best qualities of community relationship banking along with the respective robustness associated with large consolidations. However, authorities need to stay on guard that these cooperative structures do not turn into

other sources of systemic instability as well. The balancing act of localization benefits against sector concentration risks continues to be a governance issue.

While often portrayed as a technical exercise, the wave of consolidation in Spanish cooperatives raises deeper philosophical questions about the essence of cooperative banking. Critics contend poorly implemented mergers risk diluting foundational cooperative principles of member ownership, community focus, and relationship banking. This subsection will critically examine the social costs of consolidation along three key dimensions – governance, culture, and service – to assess the extent to which mergers may undermine the cooperative difference.

On governance, consolidations inherently concentrate member control into larger, more dispersed ownerships. Democratic participation becomes more attenuated when credit unions merge across towns or regions rather than remain embedded neighborhood institutions. Critics contend member voice fades as consolidated cooperatives increasingly resemble commercial banks with diffuse shareholders (Callejas-Albiñana et al., 2017). Defenders counter that larger memberships improve advocacy clout and risk-pooling. But the tradeoffs between localized control and scale should not be downplayed.

Regarding culture, cooperative mergers appear to rapidly erode the "social soul" of smaller, tightly-knit credit unions. Kranke (2020) demonstrated that merged entities exhibit declining voluntary participation in community programs and public reinvestment initiatives. Financial criteria take priority over social goals. Over time, cultural integration favors commercialization over community spirit. The risk is normalization rather than differentiation.

On service provision, evidence shows branch closures and access reductions disproportionately affecting rural, low-income, and elderly customers – exactly those cooperatives purport to prioritize (Poli, 2019). Digital migration only partly compensates given demographic disparities in tech literacy. Financial inclusion suffers from dilution of the personalized service model.

Overall, poorly executed consolidation appears to substantially erode the distinctive cooperative identity. However, structural pressures should not provide cover for weak implementation. Outcomes likely depend on how mergers are architected. Retaining local brands, designating community directors, and enshrining service commitments could sustain mutuality. But absent thoughtful change management, consolidation trends threaten to hollow out the essence of cooperative banking in Spain. Leaders confront philosophical questions about how to prudently deliver social value in a consolidated sector. Simply mimicking commercial banks forfeits the cooperative difference.

5.4 The performance of cooperative banks in France, Italy, and Spain

The performance indicators (such as Return on Equity (RoE) and Return on Assets (RoA) are pivotal in understanding the contribution of cooperative banks to both social and economic growth within various nations, particularly in countries like France, Spain, and Italy. RoE, a critical financial metric, measures how effectively a bank uses its equity to generate profits. This indicator is essential for understanding the profitability of cooperative banks, reflecting their ability to leverage member capital in financially sustainable ways (Miklaszewska et al., 2021). RoA, another vital metric, evaluates how efficiently a bank uses its assets to produce income, offering insights into the overall asset management efficiency of these institutions (Obadire and Obadire, 2023).

Major players in the French cooperative banking sector such as Crédit Agricole, Crédit Mutuel, and Groupe BPCE have demonstrated their commitment to balancing financial objectives with social ambitions. These institutions are particularly noted for their significant contributions to rural and agricultural development, which underscore their dual goals of commercial success and community support (Ugarelli & Hopkins, 2023). In Spain, a diverse array of cooperative banks including Caja Rural and Banco Cooperativo Español play a crucial role in promoting financial inclusion, supporting small and medium-sized enterprises (SMEs), and fostering regional economic growth. These banks embed the cooperative spirit in their operational strategies, which significantly influences their performance metrics and aligns with broader socio-economic objectives. Similarly, in Italy, cooperative banks like Banca Popolare di Milano and Banca Popolare dell'Emilia Romagna are renowned for their focus on aiding small businesses and spearheading local development initiatives. This focus is not only a reflection of their foundational principles but also a driving force behind their operational success. The performance indicators of these banks are uniquely designed to capture both their efficacy in achieving financial sustainability and their effectiveness in enhancing community welfare (Oseko & Nyangau, 2022).

Understanding the subtleties of cooperative banks' operational strategies, social contributions, and financial sustainability may be gained by examining their performance metrics such as RoE, RoA, and Multi-Level Performance Scores. By providing a more comprehensive knowledge of cooperative banking practices and their effects on regional economies, this helps stakeholders, regulators, and policymakers in the banking industry make well-informed choices (Ugarelli and Hopkins, 2023). Recognizing the potential and difficulties present in each nation's banking environment is essential to comprehending the success of cooperative banks in France, Spain,

and Italy. These difficulties might include shifting consumer tastes, market rivalry, technology breakthroughs, and legislative changes. Furthermore, possibilities emerge from sustainable banking practices, cooperative bank collaborations with other financial institutions, and advances in financial services (Obadire and Obadire, 2023). The cooperative banking industry's profitability and operations are heavily impacted by the regulatory environment. In assessing cooperative banks' overall performance, it is critical to evaluate the ways in which regulatory frameworks in France, Spain, and Italy vary from one another and to comprehend how these differences affect the governance structure, risk management procedures, and financial stability of these institutions. Thanks to their strong links to the community, cooperative banks often place equal weight on financial success and social and economic growth (Miklaszewska et al., 2021). Their larger contributions to society may be understood by examining their effects on financial inclusion programs, job creation, small and medium-sized business (SME) assistance, and local economies.

Analyzing the cooperative banks' success in these three countries may also provide insight into possible future paths for the industry. This entails looking for ways to alter the banking industry digitally, improving client experiences, and adjusting plans to meet changing market needs while upholding the cooperative spirit. In conclusion, the evaluation of cooperative bank performance using different metrics in France, Spain, and Italy offers a foundation for comprehending the complex interactions among financial viability, social responsibility, and regional development in addition to offering a comparative study. Examining these facets provides stakeholders with important information on the flexibility, resilience, and future development paths of cooperative banks, which helps with strategic planning and decision-making in the banking industry (Miklaszewska et al., 2021). This thorough analysis aims to clarify the complexities present in the performance of cooperative banks in various nations by providing a comprehensive perspective that takes into account financial metrics, socioeconomic impact, regulatory dynamics, and future prospects (López-Penabad et al., 2023). Moreover, this helps to foster a deeper understanding of these distinctive financial institutions and their importance within the larger banking sector.

Changes that were both significant and dramatic occurred inside the Italian financial sector throughout the decade of the 1990s. Several variables, such as privatization, European monetary and economic integration, expanding foreign competitiveness, and greater operational and organizational complexity, have all contributed to the major consequences that the Italian banking industry has experienced. As a result of the need to adjust to a changing corporate

banking environment, Italian financial institutions have been forced to make adjustments to their business strategies and organizational structures (Miklaszewska et al., 2021). This circumstance is primarily characterized by a decline in the capacity of net interest income to sustain overall banking profitability, in addition to the need to expand the variety of services in order to better satisfy the complex financial requirements of customers. They responded to these changes by implementing a strategy that increased the number of mergers and takeovers, which were not previously recognized as strategies to improve profitability, efficiency, and worldwide competitive advantage. Furthermore, they adopted this policy as a consequence of the changes. There is a close correlation between the concentration process that banks utilize and the realization of several benefits, most notably economies of scale, particularly in relation to information technology (Högel, 2023). Because of this, financial institutions are able to enter certain market sectors, where the size of the company plays a significant role in the construction of a suitable and diverse portfolio, while simultaneously managing international risk in an effective manner. Through the use of the Data Envelopment Analysis (DEA) technique, several studies have been conducted with the main objective of analyzing the rise of bank productivity and efficiency.

Nevertheless, in the process of evaluating the performance of banks, a number of empirical studies use financial performance indicators, such as Return on Asset (ROA) and Return on Equity (ROE), in addition to other performance metrics, such as Tobin's q. According to Al-Ajmi et al., (2023), the return on assets (ROA) is the financial figure that is used the most often. The number of banks that are evaluated ranges from a minimum of ten banks in Spain to a maximum of almost three hundred institutions, which includes banks from seventeen other countries that is France, Germany, the United States, Italy, and other (Fang et al., 2021). Only a small number of papers, to the best of the knowledge, have explored the relationship between the corporate banking industry of Italian banks and the financial performance of those organizations. The primary focus of these research has been to examine both internal variables and to draw connections with other countries. The DEA approach is used in each of the studies in order to conduct an analysis of the Italian banking sector (Krisciukaityte et al., 2023). The ownership structure of banks is a topic that has received a lot of attention in the field of corporate banking, especially in relation to the performance of banks. The key attributes include the dimensions of the board, such as its dimensions, composition (including the proportion or percentage of members who are not professionals or independent), and compensation, the existence of board committees, their dimensions and structure, as well as the inclusion of female

directors. A crucial indicator that evaluates the profitability of a business is called return on equity (ROE), and it does so by analyzing the firm's capacity to make profits from the stock that is held by its shareholders (Al-Ajmi et al., 2023). This is shown by the Return on Equity (ROE) of cooperative banks throughout France, Spain, and Italy, which illustrates how well they use the money that is contributed by their shareholders.

French cooperative banks, including Crédit Agricole, have regularly shown robust return on equity (ROE) figures throughout time. This might be partly ascribed to their cooperative system, which emphasizes engagement at the community level and support in the agriculture industry. The diversification of services, such as retail banking, insurance, including asset management, bolsters their robust return on equity (ROE) (Krisciukaityte et al., 2023). French cooperative banks frequently achieve a significant return on assets (ROA), thanks to their varied business operations and their focus on developing strong customer relationships. The balance between traditional banking services and innovative financial products strengthens their competitive advantage (Ugarelli and Hopkins, 2023). French cooperative financial institutions often exhibit outstanding performance in the social element of MLPS, placing a high priority on community support and sustainable practices. Their varied corporate approach boosts their financial as well as operational success, making them very proficient in MLPS assessments.

Spanish cooperative banks, like Caja Rural, have faced challenges stemming from economic downturns. However, their focus on agricultural as well as rural regions has played a role in maintaining stability. The ROE of Spanish cooperative banks has been affected by economic conditions, regulatory changes, and the efficacy of risk management tactics. Spanish cooperative banks are faced with the challenge of adapting to changing market circumstances. Return on assets (ROA) quantifies the effectiveness of strategies used in using assets, including loan portfolios as well as investments. Spanish cooperatives may experience fluctuations in accordance with economic cycles including regional economic conditions. Spanish cooperative banks might have experienced challenges in achieving high MLPS ratings, particularly during economic downturns (Fang et al., 2021). However, their commitment to improving rural development and promoting community engagement greatly contributes to the social side of MLPS.

Italian cooperative banks, including Banca Popolare dell'Emilia the region of Romagna operate within a dynamic financial environment. The return on equity (ROE) is impacted by factors like as fluctuations in interest rates, economic growth, and the effectiveness of governance systems. The cooperative model throughout Italy has seen growth, and its influence on return on equity

(ROE) is closely tied to its ability to adapt and implement innovative concepts. Italian cooperative banks are confronted with a swiftly changing economic landscape. The return on assets (ROA) is influenced by factors such as the credit quality, current interest rates, and operational efficiency (Abouzeenni, 2023). Italian cooperatives must focus on maintaining a delicate balance between both profitability and risk in order to guarantee the sustainability of their high return on assets (ROA) figures. Italian cooperative banks operate within a complex financial ecosystem. In Italy, MLPS exams evaluate the banks' ability to efficiently balance financial profitability with social accountability. The MLPS rankings are determined by the amalgamation of digital banking innovation along with sustainable practices.

Return on assets (ROA) quantifies the bank's ability to generate profits by efficiently utilizing its assets, hence providing valuable information on the management's proficiency in allocating resources. MLPS is a comprehensive performance assessment approach that considers several aspects, including financial, operational, and social dimensions (Oseko and Nyangau, 2022). Aside from ROE, ROA, and MLPS, there are other indicators that provide a deeper understanding of the cooperative banks' performance. French cooperative banks benefit from diversifying their sources of revenue, which contributes to the stability of their net interest margin (NIM) levels. Net interest margin (NIM) of Spanish cooperatives might vary as a result of variations in interest rates along with economic conditions. Italian cooperative banks adeptly oversee their net interest margin (NIM) by using tactics to limit interest rate risk and undertaking comprehensive assessments of loan quality (Ugarelli and Hopkins, 2023). Cooperative banks in France, Spain, and Italy priorities the maintenance of a robust Capital Adequacy Ratio (CAR) to ensure financial stability and regulatory compliance. Assessing the quality of assets therefore risk management practices for cooperative banks in these countries is crucial, and this requires monitoring non-performing loan (NPL) percentages.

The regulatory environment has a significant influence on the development of cooperative banks within France, Spain, and Italy. It is essential to effectively adjust to evolving regulatory frameworks, such as capital adequacy requirements and risk management regulations, in order to sustain long-term profitability. Cooperative banks throughout France, Spain, and Italy function under unique economic, social, as well as regulatory contexts, which influence their success metrics (Miklaszewska et al., 2021). The cooperative model requires flexibility and ingenuity to thrive, while also emphasizing community engagement and sustainable practices. Robust financial indicators, such as Performance on Equity (ROE), Return of Assets (ROA), and Member Loan Portfolio Size (MLPS), offer a comprehensive evaluation of cooperative

bank performance, demonstrating their ability to attain both financial success and social impact (Högel, 2023). To ensure long-term resilience and effectively achieve their collaborative goals, these banks must maintain a state of alertness and strategically adapt to market circumstances.

Cooperative banks encounter economic downturns, fluctuations in interest rates, and concerns over the quality of lending. Nevertheless, these issues provide opportunities for innovative resolutions, reduction of risks, and advantageous positioning (Fang et al., 2021). Cooperative banks must effectively handle risk and ensure profitability in order to navigate the intricacies of the financial landscape. Strategic vision is crucial for cooperative banks to commemorate their contributions to local economies and communities. In order to thrive, cooperative banks in France, Spain, and Italy need to improve their technology, risk management, and social responsibility. In summary, cooperative banks in these three country function as both financial organizations and community development foundations (Al-Ajmi et al., 2023). Their performance metrics demonstrate robust financial stability and a steadfast dedication to both members and the community.

Cooperative banks can ensure their survival and growth, as well as enhance the sustainability of their communities, by comprehending the problems and possibilities they face. Furthermore, the performance of cooperative banks in France, Spain, and Italy is subject to constant fluctuations based on economic situations, regulatory frameworks, and the specific characteristics of each cooperative type. Cooperative banks' strengths and shortcomings in various nations may be shown by analyzing important benchmarks such as Return on Equity (ROE), Return on Assets (ROA), and Multi-Level Performance Score (MLPS). The cooperative banks of all three nations priorities adaptation and innovation. Organizational resilience is enhanced by income diversification, digital transformation, and sustainable practices. French cooperative banks, which engage in many commercial activities, Spanish cooperatives that priorities rural development, and Italian banks that emphasize sustainable financing, have successfully adjusted to the evolving financial landscape. The social component of the Multi-Level Performance Score (MLPS) emphasizes the community-focused function of cooperative banks.

French cooperative banks, such as Crédit Agricole and BPCE, emphasize strong community engagement, while Spanish cooperatives, notably the Caja Rural network, play a critical role in rural development. Similarly, Italian cooperative banks actively promote sustainable growth and social welfare through their commitment to local economies. This close alignment with social objectives has proven to be more than symbolic; it has contributed to the long-term

financial stability and resilience of these institutions, particularly during the 2008 financial crisis and the COVID-19 pandemic (Poli, 2019; Groeneveld et al., 2018). The correlation between social impact and financial performance is further reinforced by member-based governance models that foster trust, customer loyalty, and prudent lending practices. At the same time, cooperative banks must navigate increasingly complex regulatory environments across France, Spain, and Italy, where capital adequacy, risk control, and structural compliance—especially under the Basel III framework—are key to sustaining their dual financial and social mission (Billiet et al., 2021; Brei & Gambacorta, 2014).

Table 3. ROA (%) of the top cooperative banks in France, Italy and Spain (2008 – 2023)

	France			Italy		Spain	
	Crédit Agricole	Crédit Mutuel	BPCE	Assoc. Nazionale fra le Banche Popolari	FEDERCASSE	Unión Nacional de Cooperativas de Crédito	Banco de Crédito Cooperativo (BCC)
2008	0,28	0,08	0,03	0,60	0,70	0,56	
2009	0,28	0,30	0,30	0,80	0,40	0,37	
2010	0,28	0,50	0,30	0,70	0,20	0,37	
2011	0,28	0,36	NA	0,70	0,20	NA	
2012	0,28	0,30	NA	0,70	0,20	-1,20	
2013	0,28	0,40	0,23	-0,11	0,00	0,26	
2014	0,28	0,42	0,54	-0,93	0,20	0,37	0,10
2015	0,36	0,43	0,28		-0,04	0,41	0,17
2016	0,28	0,43	0,32		-0,04	0,41	0,19
2017	0,37	0,38	0,24		0,12	0,45	0,20
2018	0,37	0,43	0,24		0,28	0,51	0,19
2019	0,36	0,43	0,28		0,30	0,55	0,20
2020	0,21	0,32	0,12		0,24	0,37	0,05
2021	0,39	0,40	0,28		0,29	0,44	0,11
2022	0,34	0,38	0,26		0,71	0,55	0,13
2023	0,33	0,41	0,18		1,05	0,89	0,21

Source: Self-preparation based on data from the EACB.

Table 4. ROE after Taxes (%) (2008 - 2023)

	France			Italy		Spain	
	Crédit Agricole	Crédit Mutuel	BPCE	Assoc. Nazionale fra le Banche Popolari	FEDERCASSE	Unión Nacional de Cooperativas de Crédito	Banco de Crédito Cooperativo (BCC)
2008	3,92	1,70	5,80	6,70	6,70	7,28	
2009	4,27	6,20	5,80	7,20	3,60	4,60	
2010	5,43	11,88	5,80	5,10	1,70	4,60	
2011	1,18	7,95	NA	5,10	1,70	NA	
2012	5,36	5,80	NA	5,10	2,40	-18,40	
2013	6,58	9,50	5,20	-1,10	0,00	4,00	
2014	5,37	6,73	NA	-3,30	2,00	5,50	1,54
2015	6,20	6,70	6,00		-0,50	5,00	2,50
2016	4,89	6,70	6,90		-0,50	5,50	2,60
2017	6,07	5,80	4,80		1,30	6,00	2,60
2018	6,10	6,50	4,10		3,10	6,60	2,80
2019	5,92	6,50	3,90		3,20	7,00	2,80
2020	3,71	5,10	2,10		3,30	5,30	0,70
2021	6,81	6,40	5,00		4,10	6,00	1,80
2022	6,09	6,1	4,8		8,9	7,1	2,2
2023	5,80	6,3	3,3		11,6	10,3	3,3

Source: Self-preparation based on data from the EACB.

Table 5. Cost/income (%) (2008 - 2023)

	France			Italy		Spain	
	Crédit Agricole	Crédit Mutuel	BPCE	Assoc. Nazionale fra le Banche Popolari	FEDERCASSE	Unión Nacional de Cooperativas de Crédito	Banco de Crédito Cooperativo (BCC)
2008	71,00	72,20	78,51	57,00	63,00	57,57	
2009	62,80	61,60	78,50	55,00	70,20	52,80	
2010	60,90	60,80	78,50	57,60	74,20	52,80	
2011	61,60	67,84	NA	57,60	69,80	NA	
2012	65,80	61,70	NA	57,60	60,30	49,30	
2013	63,20	63,30	70,70	62,40	58,90	48,23	
2014	63,40	64,00	69,20	63,60	52,20	46,76	41,35

2015	62,30	63,10	68,10		59,20	52,40	57,40
2016	64,30	63,50	69,00		69,70	55,90	62,20
2017	65,10	62,40	72,10		68,70	57,30	62,90
2018	62,30	64,70	73,70		70,00	58,50	60,60
2019	64,20	64,20	72,30		71,00	57,90	50,10
2020	63,30	64,20	73,80		67,60	55,90	54,70
2021	61,40	59,60	69,40		64,80	56,90	44,40
2022	62,0	61,0	70,3		60,0	54,1	56,1
2023	58,8	59,2	73,6		56,1	42,7	49,0

Source: Self-preparation based on data from the EACB.

Table 6. Total Capital ratio (%) (2008 - 2023)

	France			Italy		Spain	
	Crédit Agricole	Crédit Mutuel	BPCE	Assoc. Nazionale fra le Banche Popolari	FEDERCASSE	Unión Nacional de Cooperativas de Crédito	Banco de Crédito Cooperativo (BCC)
2008	9,90		11,10	11,20	14,60	NA	
2009	10,90	NA	11,10	12,10	15,00	NA	
2010	11,70	4,67	11,10	11,20	15,20	NA	
2011	11,70	4,60	NA	11,20	15,00	NA	
2012	14,00	14,50	NA	11,20	15,00	NA	
2013	16,30	14,50	13,00	10,10	15,40	6,00	
2014	16,70	15,30	15,40	13,60	16,50	NA	11,78
2015	18,10	18,50	16,80		17,00	NA	11,60
2016	19,30	18,90	18,50		17,30	NA	13,00
2017	18,20	21,10	19,20		17,10	NA	13,40
2018	18,30	20,50	19,60		16,90	NA	14,30
2019	18,90	21,60	18,80		17,80	NA	14,70
2020	20,40	21,80	18,10		19,60	NA	15,50
2021	21,40	22,60	18,70		19,60	NA	15,70
2022	21,6	21,3	17,9		23,4	NA	15,9
2023	21,1	21,4	18,2		24,4	NA	16

Source: Self-preparation based on data from the EACB.

Chapter 6 Measuring bank performance

6.1 Bank performance: efficiency and stability

The stability and reliability of financial institutions are paramount to the overall health of the economy. Within the realm of the financial industry, two key aspects take center stage: bank performance and soundness. These two pillars serve as crucial benchmarks for assessing the robustness of banks and their ability to weather financial storms.

Bank performance is the ability to generate sustainable profitability which is the first line of resistance against unpredicted losses since it reinforces the capital position through the investment of retained earnings (ECB, 2010). Indriastuti and Muharam (2021) conclude that performance is an indicator whether a bank is working well or not, and it has two factors (internal and external). They find that the external factors (like inflation and GDP) are more risky than internals since they are unpredictable and cannot be controlled by bank management; they are depending of the macroeconomic perception. Hence it is considered that performance is connected to both profitability and risk; many researchers agreed that profitability is measured using RoA (return on assets) and RoE (return on equity). The first since it measures the ability of the enterprise to generate profits by managing its assets and the second since it measures the ability of the corporation to manage its capital to increase returns. However, risk is measured using both LDR (Loans to Deposit Ratio) and CAR (capital adequacy ratio).

Since bank performance is a critical aspect of the financial sector, and it reflects a bank's ability to effectively manage its resources, ensure stability, and mitigate risks. Within this framework, this chapter aims to explore three key dimensions of bank performance: efficiency, stability, and risk management. These components are pivotal in evaluating a bank's health, its capacity to generate profits, and its resilience in the face of economic fluctuations.

In this chapter, the focus of bank performance will be based on three key dimensions: efficiency, stability, and risk. These dimensions provide insights into a bank's operational effectiveness, resilience, and ability to manage potential risks; moreover, shedding light on their significance in the context of the banking industry.

- Efficiency

Efficiency measures how well a bank utilizes its resources to generate profits and deliver services to customers. Key indicators of efficiency include cost-to-income ratio, return on assets (ROA), and return on equity (ROE). A lower cost-to-income ratio indicates better cost management, while higher ROA and ROE reflect the bank's ability to generate profits from its

assets and equity. Efficient banks often strive to optimize their operations, streamline processes, and leverage technology to reduce costs and enhance productivity. There are different types of efficiency in the banking sector; the main three concepts are cost efficiency, standard efficiency, and alternative profit efficiency. Berger and DeYoung (1997) consider the cost efficiency as the most important indicator, as it helps in predicting the future problems of banks in general and of loans in particular. Moreover, there are also overall technical efficiency which measures the transformation of a bank's input resources into outputs, pure technical efficiency which measures the managerial ability of bank managers, scale efficiency which measures whether the bank is operating at its optimal scale, and revenue efficiency which measures how efficiently resources are transformed into revenue. Koopmans (1951) distinguishes between the technical efficiency and inefficiency producers considering that "a producer is technically efficient if an increase in any output requires a reduction in at least one other output or an increase in at least one input… a technically inefficient producer could produce the same outputs with less of at least one input, or could use the same inputs to produce more of at least one output." Aigner et al. (1977) define the function of the efficiency in production as a maximum output obtained from given input using fixed technologies have been accepted previously.

Studying the Indian banks during the period of (2015 – 2021) to examine the effect of the COVID-19 crisis on the efficiency, Gulati et al. (2023) conclude that there was no negative impact on bank efficiency levels in India regardless of bank group. Goodell (2020) finds that the pandemic affected the income statements on the short run, however, on the long term the effects can be seen as a reflection on the non-performing loans and cases of bank runs. Sakouvogui and Guilavogui (2022), studied the banking sector in the US during the era of (2010 – 2020) using the DEA model; they confirm that there was a negative effect on the efficiency of the overall domestic and commercial banks, however, they assure that bank's size is negatively related to the efficiency measures and hence suggesting that the amount of total assets of banks does matter in the improvement of efficiency measures.

Bitar et al. (2018) tested the relation between capital ratio from a part and risk, efficiency, and profitability on the other part, using data from the 39 OECD countries during the period (1999 – 2013). They find that high liquid banks could face a negative effect on its efficiency and profitability when they impose a higher capital ratio. Chen et al. (2018) tested the efficiency in the Chinese banking sector during the period (2008 – 2011) applying the DEA model on 127 banks. They conclude that the Chinese banks' overall efficiency is still low. Furthermore, they

agreed the Chinese banking sector is similar to other emerging economies where foreign banks are more efficient. In addition, despite the weak performance, they emphasize that the listed banks perform better than in comparison with other banks due to a reform with "better corporate governance and strict market supervision."

Applying the DEA model on data from 4050 banks during the period (1999 – 2007), Dialo (2018), analyzed the effect and relation between bank efficiency and the value-added growth on industries and how bank efficiency was able to reduce the effects of the 2008 crisis on the economic growth. He finds that bank efficiency has a positive impact on the growth in terms of real value-added for dependent industries. He emphasizes that "efficiency makes banks more resilient to shocks".

Le (2018) tested the correlation between efficiency, capital, and risk in Vietnamese banking sector during the period 2007 – 2011 using both the DEA and the SFA models. He focuses only on commercial banks and excludes foreign banks and joint-venture banks from the analysis believing that they are "much more restricted in bank entry and banking activities". He concludes that technical efficiency is considered to be low for the Vietnamese banks. Moreover, he finds a positive relation between capital and efficiency, the more the capital, the more the efficiency. However, capital impacts risk negatively. In addition, he emphasized that "an improvement in banking efficiency precedes an increase in bank risk"

Vo et al. (2018) analyzed the link between restructuring and efficiency in 26 Vietnamese commercial banks during the period 1999 – 2015 using both the DEA and the SFA. They find that privatization of state-owned banks does not appreciably improve efficiency, arguing that this is because government usually keeps the majority of the holdings. In contrary to other studies suggesting that banking sector reforms improve efficiency, they emphasize that during the early stages of the reform, there is declining in the efficiency of the banking sector due to "the transition costs and dead weight losses that taxpayers bear." However, the main reasons remain the inequality between state-owned banks and private banks in getting government support side by side with the change of the other environment variables such as economy slowdown or financial crisis.

Berglund and Mäkinen (2019) analyze and compare the Nordic banks (Finland, Norway, and Sweden) with EU1216 banks during the period 1994 – 2010 to test the effect of the financial crisis of 2008 on the banking efficiency. They find that both Nordic and EU 12 banks had a similar cost structure and almost the same efficiency level; however, they emphasize that Nordic banks had better financial stability compared to the EU12 banks. Nordic banks learned

well from the lessons of the Nordic banking crisis in the 1990s (Finland and Sweden during 1991 – 1995; Norway during 1991 – 1993).

Konara et al. (2019) analyzed data from banks in Columbia, Hungary, Indonesia, Malaysia, Poland, Russian Federation, South Africa, and Turkey as emerging market economies17 during the period (1999 – 2013) aiming to teste the impact of foreign direct investment (FDI) on the measures of technical efficiency, pure technical efficiency, scale efficiency, and cost efficiency; all as internal measures of efficiency. In addition, the impact on the revenue efficiency in the emerging markets as an external measure of efficiency. They conclude that higher level of efficiency is linked to foreign competition in the case of overall technical and scale efficiencies; however, foreign ownership has no obvious impact on revenue, pure technical efficiency, or cost efficiency.

Partovi and Matousek (2019) applied a modified version of the DEA introduced by Aparicio et al. (2015) to analyze the technical and allocative efficiency in Turkish banks during the period (2002 – 2017). They conclude that the most stable banks are investment banks which were able to reduce the number of their non-performing loans side by side with development banks.

- Stability

Bank stability is crucial for maintaining public trust, preserving depositor confidence, and ensuring the stability of the financial system. A stable bank is one that is considered safe and reliable, and it is less likely to experience financial distress or insolvency, it is hence, the one that can navigate through various economic conditions, meet its financial obligations, and safeguard the interests of its depositors and other stakeholders. Stability indicators assess a bank's ability to withstand shocks and adverse events. Common measures of stability include capital adequacy ratios, liquidity ratios, and the ability to withstand credit losses. A well-capitalized bank with sufficient liquidity buffers is better positioned to absorb unexpected losses and economic downturns, reducing the risk of financial distress.

Several factors contribute to bank stability, including:

1) Capital Adequacy: Banks need to maintain an adequate level of capital to absorb losses and provide a cushion against unexpected financial shocks. Regulatory authorities set capital requirements to ensure that banks can withstand adverse economic conditions.
2) Asset Quality: The quality of a bank's assets, such as loans and investments, is crucial for stability. High-quality assets are less likely to default, reducing the risk of losses.

3) Liquidity: Banks must have access to sufficient liquid assets to meet their short-term obligations, such as withdrawals by depositors. A lack of liquidity can lead to a bank's insolvency.
4) Risk Management: Effective risk management practices are essential to identify and mitigate potential risks, including credit risk, market risk, and operational risk. A well-managed bank is better equipped to maintain stability.
5) Regulation and Supervision: Regulatory authorities play a crucial role in ensuring bank stability by establishing rules and conducting supervisory examinations to monitor a bank's financial health and compliance with regulations.
6) Economic Conditions: External economic conditions can impact a bank's stability. Economic recessions, for example, can lead to a rise in loan defaults and negatively affect a bank's stability.
7) Governance and Management: Effective governance and competent management are essential for making prudent decisions and maintaining transparency in a bank's operations.
8) Diversification: Banks that have a well-diversified portfolio of assets are often more stable because they are less exposed to the risks associated with a single industry or asset class.
9) Stress Testing: Banks often undergo stress tests to assess their ability to withstand adverse economic scenarios. This helps identify potential vulnerabilities and improve stability.
10) Deposit Insurance: In many countries, deposit insurance schemes provide an additional layer of stability by guaranteeing a certain amount of deposits in the event of a bank's failure.

De facto, bank stability is paramount for maintaining public confidence in the financial system and preventing financial crises. A stable banking sector not only protects depositors but also fosters economic growth and development. The assessment of a bank's stability relies on various financial metrics and regulatory guidelines, which may vary depending on the country and regulatory authority. By focusing on these key factors and implementing prudent financial practices, banks can contribute to the overall stability and health of the financial system.

6.2 Risk Management

Risk management is a critical aspect of bank performance, as banks are exposed to various risks, including credit risk, market risk, liquidity risk, and operational risk. It is a structured and

proactive process that organizations use to identify, assess, monitor, and mitigate potential risks that could affect their operations, assets, finances, reputation, or other aspects of their business. It is a fundamental aspect of corporate governance and strategic planning and is essential for the long-term success and sustainability of an organization. Effective risk management involves identifying, assessing, and mitigating these risks to maintain financial stability. Key risk management indicators include non-performing loan ratios, loan loss provisions, asset quality metrics, and stress testing results. Banks with robust risk management frameworks and proactive risk mitigation strategies are better equipped to navigate challenging market conditions and maintain long-term stability. The key components of risk management are:

1) Risk Identification: Organizations must systematically identify and recognize potential risks, whether they are internal or external, financial, operational, strategic, compliance, or reputational. This stage involves risk assessments, brainstorming sessions, data analysis, and scenario planning.
2) Risk Assessment: After identifying risks, they must be assessed in terms of their likelihood and potential impact. Quantifying and prioritizing risks is crucial to determine which ones require the most attention. Tools such as risk matrices and risk scoring systems are often used for this purpose.
3) Risk Mitigation: Organizations develop strategies to mitigate or manage the identified risks. These strategies may include risk avoidance (eliminating the risk), risk reduction (minimizing its probability or impact), risk transfer (e.g., through insurance), or risk acceptance (acknowledging the risk and preparing for its consequences).
4) Risk Monitoring: Effective risk management is an ongoing process. Organizations must continuously monitor and review their risk landscape to ensure that the identified risks remain relevant and that mitigation strategies are effective.
5) Risk Reporting and Communication: Transparent and effective communication about risks is essential. Key stakeholders, including executives, employees, and board members, need to be informed about the organization's risk profile and its risk management strategies.
6) Compliance and Regulation: Organizations must comply with relevant laws and regulations related to risk management. Different industries and regions may have specific requirements that organizations must adhere to.

7) Risk Culture: Fostering a risk-aware culture within an organization is critical. All employees should understand the importance of risk management, their role in it, and be encouraged to report potential risks or issues.
8) Contingency Planning: Organizations need to develop contingency plans for high-impact and high-probability risks. These plans outline specific actions to take if a risk materializes, helping to minimize the impact and ensure a swift response.

Effective risk management is a dynamic and ongoing process that plays a critical role in the success and sustainability of organizations. It allows organizations to minimize financial losses, enhance decision-making, improve resource allocation, safeguard their reputation, ensure compliance with regulations, foster trust among stakeholders, and drive long-term business sustainability. The specific practices and strategies used in risk management can vary between industries and organizations and should be tailored to meet an organization's unique needs and objectives. In an ever-changing business landscape, risk management remains an essential element of responsible and strategic corporate governance.

The banking operations themselves put financial institutions at risk from a range of threats, each of which has the potential to reduce the amount of profit that banks generate. It is difficult to classify all kinds of risks that are associated with banking due to the diversity of these dangers; nevertheless, the development of risk regulation has made it more simple to confront and overcome these obstacles (Oudat and Ali, 2021). There is a strong correlation between performance and risks; however, enhanced comprehension of both of these two concepts serves as the cornerstone of efficient risk management. It is necessary to create an appropriate risk definition and inventory, particularly in relation to measuring, monitoring, and managing these risks. Financial institutions are obliged to do an internal self-assessment on a consistent basis in order to evaluate themselves in terms of the dangers they confront and the profits they make.

It is essential that appropriate risk management practices are adhered to provide an indicator of such profitability (Sweeting, 2017). When discussing a bank's operations, performance is identical to the creation of extra value or the realisation of the most favourable cost-to-benefit ratio possible. A surge in risk has occurred as a direct consequence of the need to generate a return on investments made in emerging technologies.

In the banking business, Vives (2019) finds that the drive for deregulation, reregulation, and open competition, has directly resulted in the emergence of a wide variety of new financial risks over the course of the last several years. As a result of these working conditions, banks have

become more vulnerable to the negative consequences that are caused by shocks and which have led to an increase in the number of bank failures. In order to preserve their profitability and guarantee their continuing existence, financial institutions have begun using innovative risk management tactics and instruments. The formulation of risk management policies is an ongoing priority for the administration of financial institutions. These policies are required to be retrieved at every level of the bank's organisational structure by making use of the relevant mechanisms. Changes have been made to risk management, the duty of financial businesses to preserve solvency, the engagement of monetary authorities, and the behaviour of participants in financial markets during times of crisis as a direct consequence of the present global financial crisis (Tursoy, 2018).

The actions that were taken to encounter the crisis addressed, first and foremost, the regulatory framework of the desire to acquire a standard set of regulations in order to provide consistent oversight of financial organisations. This was done in view of the fact that the actions of financial organisations were getting more hidden, and the problem of reckless easing of lending criteria was becoming more widespread (Tarullo, 2019). The prudential regulation of banking activity has been undergoing continuous evolution; nonetheless, the most recent financial crisis brought under spot a number of limits and unforeseen effects. In spite of the fact that the current international stability is in question as a result of the weaknesses that have been brought to light in the national economy, the manifestation of the phenomenon of contagion, and the existence of a moral hazard, it can be noticed that the wave of regulations designed to fight these pressures has the potential to improve the situation.

Some of the initiatives that have been carried out to support the maintenance of financial stability include the Initiative from Vienna, the European Economic Recovery Plan, Basel III, and prudential supervision (Allen, 2019).

The regulation of macroprudential policy is an extremely important component in the process of preserving a healthy environment for the global financial system. Financial stability refers to a situation in which the financial system is resilient enough to withstand financial shocks and imbalances incurred during the process of financial intermediation. These shocks and imbalances must be significant enough to cause a shift in the manner in which customers are invested in order to produce profitable results (Morgan and Pontines, 2018). Omarova (2018) concludes that systematic risk refers to a phenomenon that takes place inside the economy and the financial system. There are some primary factors that might lead to that systemic risk, such

as massive shocks (failure of a company or collapse of an economy) or imbalances, like the credit bubble.

Jolivet et al. (2018) find that at the international level, there has not been able to reach an agreement on a set of indicators that would be necessary and sufficient for monitoring the whole of the financial system. The developments in banking activities and the consequences of the financial crisis have indicated the need for macro-prudential surveillance activities. However, the need for these activities has created another need for further work to be efficient and effective in limiting the losses of banking systems in the event of a financial crisis. However, the banking sector must quickly adapt to developments, and after monitoring activity, it should develop prudential regulations to eliminate the negative effects of banking activity, allowing for adequate monitoring of financial innovation to reduce systemic risks (Anagnostopoulos, 2018).

6.3 Performance and risk in cooperative banks

When looking at the performance of a cooperative bank from the point of view of its shareholders, profitability is defined as the accomplishment of a particular amount of revenue after taxes while simultaneously minimizing expenditures (Ngoc Nguyen, 2019). In a market with unparalleled levels of competition, applying economic theory reveals that optimizing profits should be synonymous with cutting costs as much as is practically feasible. However, in practice, it is conceivable for it to interfere with other factors, like as changes in the regulatory environment, which would make it more difficult to achieve the performance that was planned. According to Broberg and Egüez (2018), the characteristics that can explain the deviation from profit maximization can be categorized into two categories: inefficiency and the presence of inappropriate incentives. The global performance of a cooperative bank is the sum total of its results, which are defined by the level of profitability achieved.

Huy et al. (2021) conclude that when interpreting risk indicators such as Mean Time Between Failure (MTBF), Budget Variance, Generally Accepted Accounting Principles (GAAP) etc., it is, hence, necessary to keep in mind the factors that led to the situation, the effects of these factors, and how they will ultimately affect the bank's profitability. Furthermore, due to the fact that the significant role played by cooperative banks in the process of financial intermediation, it is essential that their performance be evaluated in terms of their levels of efficiency, productivity, competitiveness, and profitability. In addition, the performance of permanent monitoring indicators, which express the efficacy of banking activity and analyse its effectiveness in close interdependence with the bank's exposure to risks or potentials that can

jeopardise the activity, receives a great deal of focus from financial institutions. These indicators express the efficiency of banking activity and analyze its effectiveness in close interdependence with the bank's exposure to risks or potentials that can put the activity at risk.

Berger et al. (2017) confirm that all the activities taken by banks bring to light the risk profile of specific institutions as well as the exposure that is required to accomplish certain financial goals. The objective of maximizing the risk-profitability relationship is applicable to each individual banking product and extends to the bank's portfolio as a whole when discussing international banking. Numerous financial indicators are calculated and included in the financial statements, and the information provided by these indicators may be relevant in other situations other than the organization itself.

Nevertheless, it is necessary to have other categories of users, such as those related to the external environment of a cooperative bank (for instance, non-bank customers, rating institutions, etc.) (Saha, 2018). The banking supervisor is always concerned with the status of the bank, as well as its economic and financial situation, its position in the banking system that it controls, as well as providing financing when it is required and temporarily capitalizing part of the bank's available sources (Carmona et al., 2019).

6.4 Measuring bank efficiency

6.4.1 Efficiency in Cooperative Banks

The overall success of a financial institution is influenced by the profitability of capital banking; moreover, shifts in investments which based on the risks that the bank is trying to avoid. Banks are among the first businesses to feel the effects of worsening economic and financial conditions in the countries in which they operate because of the nature of the activities that they carry out and the fact that they are among the most affected (Berger et al., 2017). In addition to the risks associated, Ghosh and Ansari (2018) studied the urban cooperative banks in India; they conclude that the efficiency of cooperative banks may be significantly affected when there is an inadequate recovery of loans, an unpleasant experience with non-performing assets (NPAs), and a scarcity of qualified workers. Furthermore, they confirm that cooperative banks are relatively efficient when their efficiency is measured in terms of “constant returns to scale” and “variable returns to scale,” which indicates that the ineffectiveness of scale is the primary reason for the inefficiency among reviewed cooperative banks. Based on the aforementioned facts, it is imperative that immediate attention be given to eliminating the abuse of cooperative bank credit, ensuring that loans are effectively supervised, strengthening the share capital basis,

increasing banking investment activities, engaging skilled labour, and mobilizing deposits, among other things.

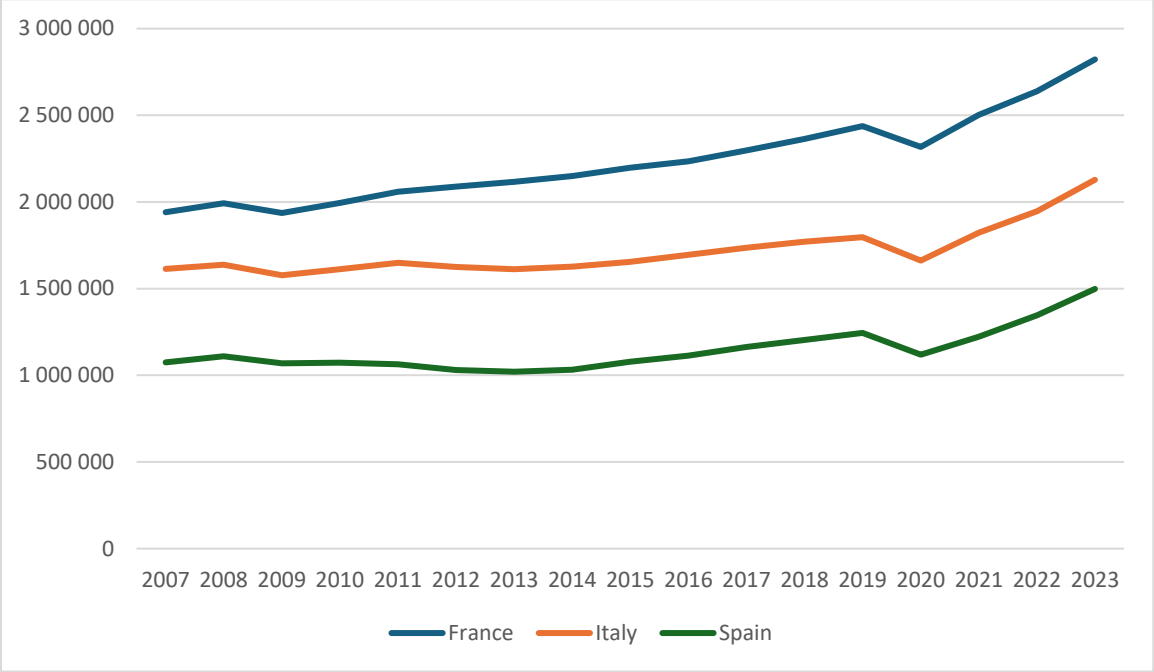
The potential for loss in the banking industry might arise from either internal or external reasons. In addition, the prospective for unexpected expenses makes risk management activities of particular importance to banking institutions (Xu et al., 2017). Customers make late payments or do not repay the loans or interest; depositors want faster access to their assets; market interest rates fluctuate dramatically; other possible reasons for this problem include human error, fraud, regulatory changes, system failure, and so on.

In addition to this, financial inclusion is reliant on the continuous presence of cooperative banks, which serve as a core pillar of the financial system. Comprehensive support and complementary policy measures may actually go a long way toward achieving these objectives when it comes to restoring the cooperative sector and generating positive externalities. As a consequence of this, the cooperative banking industry as a whole needs changes that are not only forward-thinking but also conservative so that they may be reorganized. This would make it possible for the sector to not only fulfil the rising demand for credit in the economies but also to handle the problems that are created by globalization and privatization. Under these circumstances, cooperative banks have the potential to play a very big role by acting as an effective method of social banking and providing access to credit for a more significant number of people.

- *Systemic Risk in Banks*

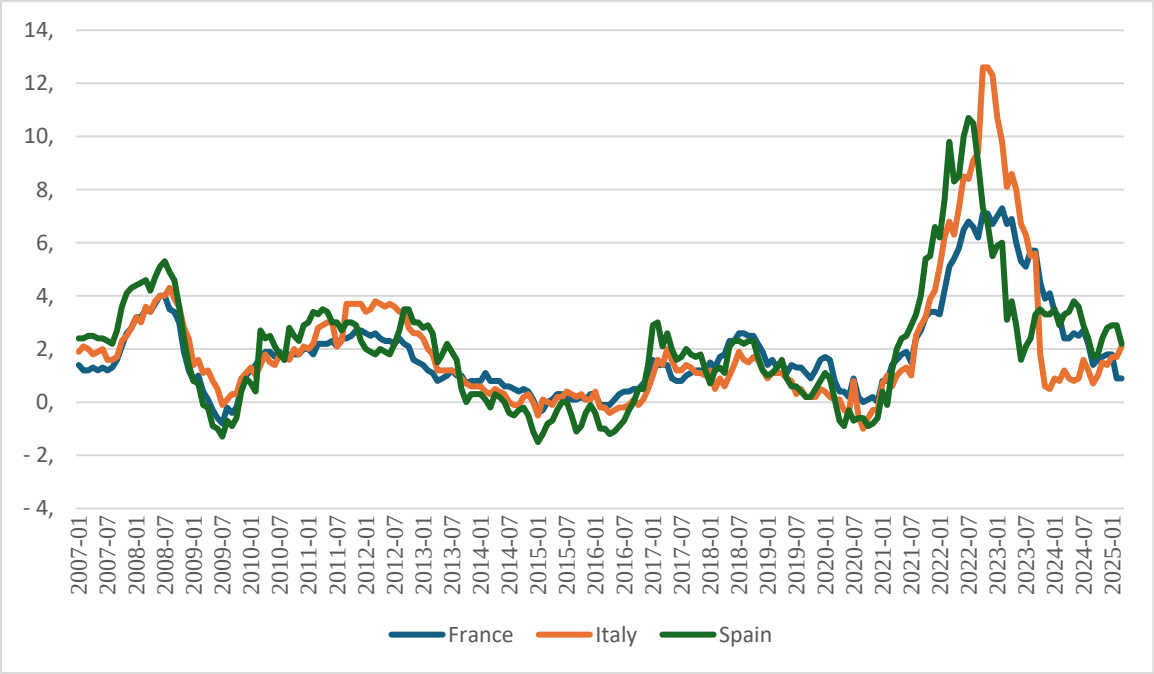
The primary macroeconomic indicators (GDP, inflation, etc.) and other characteristics (political situation, natural disasters, etc.) of the country in which the bank operates are related to systemic risk (Vongphachanh & Ibrahim, 2020). Although, in its more general sense, the concept of systemic risk is not limited to economic issues or the financial system. After it has been set in motion, systemic risk is a convoluted phenomenon that is difficult to evaluate and keep under control (Nistor & Ongena, 2020). Due to the fact that it is not bound by national lines, this form of risk may present itself in a number of different ways and has the potential to expand rapidly. The concept of systemic risk is unique in comparison to the definitions of other hazards because it places more emphasis on the consequences of the risk than it does on its causes. It cannot be foreseen, comes in a variety of guises, and is growing at an alarming rate.

Figure 14. GDP in France, Italy and Spain (2007 – 2023) (numbers in million €)



Source: Self preparation based on data from EuroStat and Statista.

Figure 15. Inflation rate (%) in France, Italy, and Spain (January 2007 – March 2025)[9]



Source: Self preparation based on data from EuroStat.

[9] Monthly data

6.4.2 Parametric and non-parametric methods of measuring bank efficiency

From the beginning of the economic activity, optimizing results while minimizing inputs has been central to human pursuits. Increases in output have traditionally been seen as a means to better living conditions, more prosperity, and general human well-being by those concerned with politics and economics. The concepts of efficiency and productivity evolved throughout time as a result of the interaction of human knowledge within the area of economics, and the measurement of these concepts laid the groundwork for economic theories.

An economic model is considered efficient with high productivity when it creates products and services from its resources in a manner that other economic models cannot accomplish as much output under the same conditions. When the economic model generates products and services in a manner that no other model can match, hence, this can be considered the case (Granovetter, 2018). Methods for evaluating performance are required for determining and comparing levels of productivity and efficiency. The criterion for selecting the processes is the types of data that are inputs and outputs. However, many organizations employ the evaluation of units for a wide range of objectives beyond just measuring efficiency and productivity for the purpose of comparing performance. The effectiveness of managers, whether or not workers are a good fit for their positions, who gets what in terms of bonuses and promotions, etc., are all examples of such decisions.

Parametric methods may be further broken down into three distinct techniques, each of which calls for the definition of a unique functional form for the cost or profit frontier (Kwietniewski et al., 2018). Their formal titles are the “Stochastic Frontier Approach (SFA),” “The Thick Frontier Approach (TFA),” and the “Distribution-Free Approach (DFA)”. The procedures typically have the potential for speciation errors since the presented cost or profit function is, at best, an approximation of the true (but unknown) counterpart. Many sectors, including finance, make use of the translog functional form, which is comparable to a second-order Taylor expansion (Skolrud, 2017). However, the translog can only offer a rough estimate of the true function in a particular context.

Throughout a given time frame, performance may be measured, evaluated, valued, and appraised using an assessment of performance.

- Some people use the term "performance evaluation" as a synonym for "effectiveness of activities" when talking about the organizational aspect of performance. When an organization’s actions and operations are fruitful, they have achieved success.

- Performance evaluation specifies several resource applications that might serve as output measures. Efficiency may be simply defined as the proportion of output to input. As a result, a performance evaluation system evaluates the correctness of administrative decisions about the optimal use of resources and facilities.
- Performance evaluation system can be defined as the process of measuring and comparing the level and, at the same time, a method to achieve the desired state with specific criteria and attitude within a specific scope and coverage, with specific characteristics, and within a specific time period; all with the intention of continuously reviewing, modifying, and improving the system. Measurement, comparison of the level, and the means to the desired end are the three main components of any performance assessment system.

An organization's performance may gain momentum via synergy if it is consistently enhanced. This group encourages efforts for expansion and improvement and creates new openings for the company's development (Pieters, 2017). This situation calls for swift action on the part of governments, organizations, and institutions. Research into and understanding of goal progress and achievement is essential for achieving continuous performance improvement. Furthermore, there will be no way to establish which areas need the most effort without first defining the obstacles that are facing the organization, receiving feedback and information on the execution of policies set, and identifying concerns that need significant improvement. No progress could be made in this direction without rigorous testing and review.

Hopkinson (2017) argues that performance enhancement requires measurement, thus, an organization that does not have a performance measurement system will be unable to compete in the future arena since performance is the core focus of all organizational analyses. One of the most significant difficulties decision-makers must tackle is choosing an appropriate evaluation model and method to understand better how parametric and non-parametric modelling methods relate to one another.

Karami et al. (2017) find that a company's performance should be measured against that of the market leaders in its field. This means that indicators of efficiency or inefficiency will need to be developed in order to fairly compare one firm against the best in its field (Sartori et al., 2017). As a barometer of the economy, most companies look at how well they have been doing financially. In order to assess the relative merits of one's options in a competitive landscape, one must establish a set of objective and subjective criteria by which performance may be judged.

6.4.3 Historical background of the measurement of efficiency

The most frequent approaches in measuring banks' efficiency are Data Envelopment Analysis (DEA) and the Stochastic Frontier Analysis (SFA), introduced during the 1970s. However, the early attempts to measure the Efficiency return back to the 1950s by comparing the weighted average of inputs with the outputs. These attempts failed to find a satisfactory measure of efficiency. Farrell (1957) referred that failure to the neglecting of the problem from a theoretical perspective. Debreu (1951) and Farrell (1957) were pioneers in introducing measures of efficiency. Debreu (1951) was the first to introduce a measure of the efficiency of the economy using a coefficient of resource utilization using ratio ρ which is the product of multiplying the difference between available and optimal quantity by the price for each good; then dividing this sum by the price index. Besides measuring the efficiency, he emphasized that this ratio summarizes the technical inefficiency of production units. Moreover, it indicates the inefficiency of the economic organization in the case of monopolies or indirect taxes. He defines inefficiency as a *"certain numbers of dollars representing the value of the physical resources which could be thrown away without preventing the achievement of the prescribed levels of satisfaction"*. In 1957, Michael James Farrell introduced for the first time a non-parametric measure of productive efficiency –still used by many economists– taking into consideration all inputs and avoiding the index problem. He applied his model to agriculture production in the US.

Aigner et al. (1977) introduced their Stochastic Frontier Analysis (SFA) approach as a linear model aiming to estimate the frontier production function. They aimed to correct their first model (Aigner et al. 1976), which had defects in the specifications of the error components as normal and as one-sided distribution; thus, they introduced their SFA linear model to estimate the frontier production function *"with an error specification that is considered appropriate for the estimation of an industry production function using cross-section data"* aiming to measure cost and profit for banks working in the same market and under the same conditions.

Yang and Lei (2017) confirm that the SFA combines a parametric methodology with a quantitative model. They find that the SFA is created with the use of econometric models and microeconomic theories. To quantify performance, this method draws on accumulated data and a set of assumptions. Instead of considering both the mean and the border in the fitness function, as is done in conventional econometric models, stochastic frontier models simply examine the border.

In 2019, Song and Chen developed a stochastic frontier fault analysis framework to evaluate a company's efficiency and output independently of one another. Businesses with stochastic input and output might benefit from this method for calculating their efficiency. Production function in the form of a regression and error distribution function type equal to the sum of the error components are necessary for this model to hold water. The stochastic frontier analysis method is used to assess the efficiency of thriving corporations.

In 1978, Charnes, Cooper, and Rhodes extended the work of Farrell aiming to develop a measure of the efficiency of decision-making units (DMUs) to improve the planning and control for non-profit entities participating in the public sector. They were able to introduce the Data Envelopment Analysis (DEA) as a new non-linear programming technique model to evaluate the policies and analyse the managerial efficiency by *"enveloping the input-output observations with external relations developed in terms of a specified nonlinear programming model".* The authors' first application of the model was in the educational sector in the US. (Charnes et al., 1978a) (Charnes et al. 1978b). Kempkes and Pohl (2006) emphasise that the DEA is not applicable in firms which have heterogeneous structures since one of its main lacks is that it does not put into consideration the stochastic noise in the data. Gonzalez et al. (2022) conclude that the DEA is a method for optimising a series of data sets via the use of linear programming, also called the parametric approach. Smriti and Khan (2018) find that this technique works well with a wide range of inputs and outputs.

In 1997, Berger and Humphrey were the first to apply the DEA model to the banking sector. Since that date, the DEA has become one of the popular models for measuring the efficiency of banks. Alber (2015) finds that DEA has become a popular approach in the banking sector after being applied by Berger and Humphrey, in 1997, in analysing banking efficiency. Before that date, non-profit organisations, schools, hospitals, universities, and colleges, as well as the judicial system, public service sectors, and agricultural sectors, were evaluated using this technique.

Since managers and policymakers rely heavily on non-frontier indicators, comparing the frontier efficiency ratings with conventional performance metrics may be illuminating. These traditional metrics of performance are widely used across the banking and finance industries (Mahmoudabadi and Emrouznejad, 2019). In addition to taking into account efficiencies, these accounting ratios of performance also count for the impact of variations in factor price and other exogenous variables outside the control of management. Therefore, it is reasonable to anticipate that there will be significant differences in the degree to which the two variables are correlated.

Standard performance metrics include return on assets (ROA), net worth to total assets (NW/TA), nonperforming loans to total loans (NPL/Loan), total costs per dollar of revenue (TC/TR), and labour employed per banking office (Labor/Branch) (Strouhal et al., 2018). For purposes of transforming them into positive performance indicators like ROA, a negative sign is attached to each of the above-mentioned ratios. This means that there should be a positive relationship between frontier efficiency and the other five criteria. An acceptable substitute for the capital adequacy ratio is the ratio of net worth to total assets (CAR) (Copper, 2018). A lower CAR indicates more danger for a bank to fail. Nonperforming loans as a fraction of total loans are a standard metric of loan quality.

- *Economic efficiency estimation methods*

Both parametric and non-parametric efficiency measures show a significant positive relationship with the Total Cost to Total Revenue (TC/TR) ratio. However, the strength of the correlation is markedly higher in the case of parametric efficiency methods compared to Data Envelopment Analysis (DEA) efficiency scores (Sav, 2017). This suggests that parametric techniques, such as Stochastic Frontier Analysis (SFA), are more sensitive to cost dynamics than non-parametric approaches.

Additionally, banks with higher Capital Adequacy Ratios (CAR) tend to exhibit stronger efficiency scores under parametric methods. This is evident from the predominantly positive correlation coefficients between Net Worth to Total Assets (NW/TA) and parametric efficiency scores, indicating that well-capitalized banks are generally more efficient. Since CAR is a quantitative indicator of financial soundness and risk absorption capacity, these findings suggest a link between capital strength and cost efficiency. In contrast, DEA efficiency scores often show a significant negative correlation with NW/TA, implying that non-parametric models may underrepresent the effect of capital buffers on performance (Wolszczak-Derlacz, 2017).

Furthermore, both the SFA and DEA cost functions—when applied using panel data—indicate that banks with higher credit quality tend to have lower costs per loan. However, this relationship appears inconsistent when using alternative functional forms, such as the Translog function or Distribution-Free Approach (DFA), which suggest that credit quality and cost per loan may not always be directly related.

Sapci and Miles (2019) find that there is a positive relationship between bank size and operational efficiency, with increasing returns as bank size increases. Despite the potential for

mergers between smaller financial forms to reduce average production costs, it would be counterproductive to encourage mergers between larger banking forms. However, parametric analysis shows that in the relevant output range, the sample bank's average cost curve dips. This suggests that any firm merger, regardless of how large the new entity is, may result in lower average expenses (Laborde et al., 2021). Yet, it is unclear if the potential cost advantage owing to scale economies is increased or whether it is set by economic inefficiency as the size of the bank increases. Asset size and Pearson correlation coefficients are used to classify the average EE (Environment Efficiency) measures, and the efficiency scores and total assets relate to one another (and ownership).

According to Du et al. (2018), it seems that there is a negative correlation between bank size and efficiency indicators in the context of a parametric study that uses panel data. However, this association disappears when just one year of data is included, especially when the largest group of banks also has the lowest efficiency scores. Data presented in that case suggest an underlying propensity toward economic inefficiency on the part of growing banks, suggesting that the potential cost benefit from scale economies tends to erode with time. Using a non-parametric approach, nevertheless, it seems that the opposite results are found, namely, that EE rises with bank size (Demiral and Salam, 2021). For parametric techniques, the Pearson correlation between EE and assets is notably negative or non-existent, while for non-parametric methods it is very positive. Negative correlation coefficients are more typical in public banks, leading to lower (higher) efficiency ratings for parametric or non-parametric techniques. One probable explanation for the discrepancy in results between parametric and non-parametric methods is that they both have their own advantages. Furthermore, there are distinctions between the two approaches in terms of how well sample information, such as longitudinal data, is used.

- *Financial stability*

The idea of being financially stable may be interpreted in a variety of ways, each of which is significant in its own right. The majority of these formulations have a single component, and that is the lack of system-wide events that render the monetary system incapable of operating normally. In addition to this, it refers to how well monetary systems can hold up under pressure when they are placed in such a predicament.

According to Alsayegh et al. (2020), a financially stable system is a system which is capable of allocating resources efficiently, managing financial risks, and eliminating relative price movements of tangible or financial assets that will affect monetary stability or employment

levels. In other words, a financially stable system is one that is able to eliminate relative price movements.

A financial system works within a range of stability when it is able to rectify financial imbalances that have been formed either endogenously or as a consequence of significant unforeseen events. This allows the system to function within a range of predictability. When the system is in a state of stability, the processes of its own self-correction will be the primary means by which it will absorb shocks. Because of this, unfavourable occurrences would not be able to have a disruptive effect on either the actual economy or on other financial systems. Because the great majority of transactions take place in the real economy, it is of the utmost importance that the financial system is stable in order for the economy to experience development. During instability, financial institutions are hesitant to provide funding for profitable ventures, the prices of assets fluctuate significantly from their fundamental values, and payments may be late or not come at all (Metrick and Yasuda, 2021). The fall of the stock market, people rushing to withdraw their money from their banks, and hyperinflation are all potential repercussions of substantial economic upheaval.

6.5 Methods of measuring bank stability: Z-score index

6.5.1 Altman Z-Score Model

The Z-Score model (also named the Multiple Discriminant Analysis model (MDA)) is a numerical evaluation that can be used to anticipate the risk that a firm would be unable to continue operations over the next two years (Altman et al., 2017). Edward Altman (1941 –) developed the model in 1968 using five financial indicators (working capital/total assets, retained earnings/total assets, earnings before interest and taxes/total assets, market value of equity/book value of debt, and sales/ total assets) with the intention of establishing a mechanism for determining whether or not the financial resources possessed by a corporation are sufficient for its operations. In 1983, Altman finally developed two models (named revised Z-score Model): A Z-score for manufacturing companies and B Z-score for non-manufacturing companies.

It is believed that Altman's Z-score model is an effective method for estimating the level of financial difficulty that any corporation may be experiencing (Altman et al., 2017). This is accomplished by making use of a variety of different balance sheet numbers in addition to the amount of revenue that the company generates. Manaseer and Al-Oshaibat (2018) confirm that Altman was the first one to use the MDA to develop a prediction model with a high degree of accuracy. Despite the fact that a lot of researchers propose other approaches to predict financial

difficulties (financial statement analysis or ratio analysis as an example, both are considered the most accessible tools to evaluate performance), they highly recommend investors to use the model as an assessment tool according to their results studying insurance companies listed in Amman Stock Exchange during the period (2011 – 2016).

The Z-score model was designed as a way of assessing the risk that a company will cease operations during the next two years. Its primary purpose is to assist in making business decisions. The accuracy of the model as a method for predicting the likelihood of a company filing for bankruptcy can be shown by the fact that according to the findings of Boďa and Úradníček (2016), studying Slovak enterprises during the period (2009 – 2013), the model had an accuracy rate of 76% using the 1968's original model and 80.4% using the revised 1983's version for two years prior to distress.

When Altman was developing his model for the Z-score, he made use of a weighting method in conjunction with other ratios that were able to predict the likelihood of a company going bankrupt (Bhavani and Amponsah, 2017). This enabled him to create a model that was able to score businesses according to their likelihood of failing. Altman came up with a total of three different Z-scores, each of which was designed to be used mainly for a different kind of business.

The very first iteration of the model was presented to the public in 1968, and from the very beginning, its development was explicitly geared at publicly owned manufacturing companies that had assets worth more than one million dollars (Bhavani and Amponsah, 2017). In the initial iteration of the model, non-manufacturing businesses that were privately owned and had assets of less than one million dollars were not included.

Later on, in the year 1983, Altman came up with two further variants of the system that were intended to be used by more specialised private manufacturing businesses. The Z-score model 'A' was developed specifically for privately owned manufacturing businesses, while the Z-score model 'B' was developed for businesses that are not publicly traded on an exchange (Tung and Phung, 2019). Since 1983, Z-score models have incorporated not just variables and weighting but also various other forms of scoring systems for the purpose of prediction.

6.5.2 Z-score in banking

The concept of the Z-score differs between corporate finance and banking analysis. The traditional Altman Z-scoreestimates the probability of bankruptcy for companies based on accounting ratios such as profitability, leverage, liquidity, solvency, and activity (Altman,

1968). In contrast, the banking sector Z-score measures the probability of default of a bank or an entire banking system. Specifically, it assesses the distance from insolvency by comparing the financial buffers of the system—capitalization and profitability—with the volatility of those returns (Poli, 2019; World Bank[10]). The banking Z-score is calculated as:

$$Z = \frac{\text{ROA} + \frac{Equity}{Total\ Assets}}{\text{SD (ROA)}}$$

where ROA represents the return on assets, Equity/Total Assets captures capitalization strength, and Standard Deviation of ROA reflects earnings volatility. A higher Z-score indicates greater financial stability and a lower likelihood of insolvency. The standard deviation of ROA (SD(ROA)) is computed for each country-year using only years with no fewer than five bank-level observations. ROA, equity, and assets represent country-level aggregate figures derived from unconsolidated bank-by-bank data sourced from Bankscope and Orbis. If a given country-year has fewer than three valid bank observations, the Z-score is not reported to ensure statistical reliability.

An explicit comparison between a bank's buffers (capitalization and returns), on the one hand, and risk (volatility of returns), on the other, is carried out with the goal of evaluating how vulnerable a bank is to going bankrupt (Shankar et al., 2021). This concept refers to the possibility that the value of an organization's assets may fall to a lower level than the value of its obligations at some time in the foreseeable future. As a result, a higher z-score suggests that there is a lower risk of experiencing financial distress or declaring bankruptcy.

For a variety of different reasons, the z-score is not the most trustworthy measure of how well a company's finances are doing. The fact that the z-scores can only be computed by utilizing data from accounting systems is perhaps the limitation that has the most significant impact (Ford et al., 2021). If financial organizations (Banks) are able to smooth out the data that they offer, the z-score may indicate an overly optimistic view of the stability of the financial institutions. Since the z-score evaluates each individual financial institution on its own, it does not take into account the possibility that a failure at one financial institution may result in losses for other financial institutions. One of the benefits of the z-score is that the model may be used by institutions for which more complex and market-based information are not readily available. Also, the z-score makes it possible to compare the risk of default across various groupings of

[10] Metadata Glossary, DataBank: https://databank.worldbank.org/metadataglossary/global-financial-development/series/GFDD.SI.01 accessed on 15/04/2025

institutions. Even though banks may have different goals, they all run the risk of going bankrupt, so it is crucial to be able to compare the risk of default across all banks.

A number of studies attempt to aggregate firm-level stability measures (such as z-score and distance to default) into a system-wide evaluation of stability (Ahmad, 2018). This can be done either by averaging the measures or by weighting each measure based on the relative size of the institution. This is done so that an accurate measurement of the system's stability may be obtained. These aggregate metrics have a flaw that does not consider the interconnection of financial institutions, which means that they do not take into account the fact that the failure of one institution might spread to other institutions and hence, negatively affect the whole economy.

It has been proposed that the chance of discovering one failure among a number of institutions may serve as an indicator of the systemic risk given by significant financial institutions (Kou et al., 2019). It exploits risk-neutral default probability from credit default swap spreads. Studies that focus on the probabilities of default, on the other hand, have the propensity to neglect the fact that the collapse of a big financial institution causes more waves than the collapse of a small financial institution (Saad-Filho, 2019).

Systemic Expected Shortfall (SES), which examines the individual contribution that each institution contributes to total systemic risk, is one additional way of analyzing whether or not the monetary system is stable and robust. SES evaluates the effects that the collapse of financial institutions has on the real economy, taking into account the person's degree of risk-taking and the amount of leverage utilized by the individual. The SES method does have a few problems, one of which is that it may be challenging to determine when it is likely that the institutions that are vital to the system will fail.

Additional research aimed to broaden the scope of the retrospective SES measure, and the results showed that the measure was only modestly predictive (Kim et al., 2019). The instrument for making predictive measurements is called SRISK, defined as "the expected capital shortfall of a financial entity conditional on a prolonged market decline" (Brownlees and Engle, 2017). It estimates the amount of capital needed to raise to be able to function normally during a financial crisis. Moreover, it evaluates the likelihood that a corporation will be unable to access its reserves of capital in the event that another emergency arises (Tarullo, 2019). Before attempting to compute this predictive systemic risk measure, one must first locate the Long-Run Marginal Expected Shortfall (LRMES), which evaluates the link between a company's equity returns and the returns of the broader market.

The decline in the equity value of the company is estimated by the model, which then determines how much capital is required during the simulated crisis in order to attain an 8% capital-to-asset value ratio. This is done by assuming that the aggregate market will fall by more than 40% in a period of six months (Fabozzi and Fabozzi, 2021). The SRISK% is a statistic used in the financial sector to determine the company's contribution to the total capital deficit. A high SRISK% helps to identify the parties who are likely to suffer the most from the hypothetical disaster and are also most accountable for it (Krawczyk et al., 2020).

A further sign of the stability of the financial system is the manner in which systemic losses are distributed. This metric is an attempt to fill in some of the blanks that have been left by the measures that have been offered up to this point in the discussion. In addition to this, there is a vast array of financial health indicators to choose from (Karimalis and Nomikos, 2018).

These measures include the ratio of regulatory capital to risk-weighted assets as well as the ratio of non-performing loans to total gross loans. It is likely that some factors, like the percentage of loans that are not being paid back, are more known than the z-score, but it is general knowledge that such statistics are trailing signals of soundness.

In the context of the financial markets, the variable known as market volatility is the one that is used as a stand-in for stability the majority of the time. The skewness of stock returns is an additional proxy that might be used. This is due to the fact that a market with a distribution of stock returns that is more skewed to the negative is more likely to generate significant negative returns and is more likely to be more susceptible to less stability (Li and Zhan, 2019).

A company's reported earnings are generated from specific features of the information that is given in the financial reports of banks that may be indicative of manipulation (Svabova et al., 2020). These aspects include balance sheets and income statements. It is evaluated according to the percentage of firms that are listed on a stock market and has the potential to be manipulated in this manner.

Chapter 7 Comparison of cooperative banks' stability in France, Spain, and Italy

7.1 Cooperative bank stability in France

The stability of the French banking system persists due to the positive impact of economic development, which promotes the accessibility of bank credit services and facilitates borrowers in repaying their obligations. In addition, the French banks' varied sources of revenue contribute to increasing profitability, especially in the face of pressure on interest income caused by low-interest rates. In 2018, the Gross Domestic Product (GDP) of France was at 1.7%, and it is projected to hover around 1.6% in 2019 (Stability Programme, 2018)[11]. The increase in private-sector debt may be attributed to the prevailing low-interest rate conditions. However, the potential concerns associated with increased debt levels were mitigated by the enhanced performance of French firms and a robust home loan market. An advantageous economic climate improves the ability of borrowers to repay loans, resulting in the lowest loan-loss provisions since 2022 (Buch and Goldberg, 2022). The loan-loss provisioning expenses for the five major French banks decreased by 21 basis points (bps) of outstanding loans, mostly because of improved asset quality in non-domestic retail markets. The various sources of revenue contribute to a generally consistent profitability, since the presence of insurance as well as asset management activities alleviate the pressure on interest margins within retail banking. Nevertheless, French banks anticipate an increase in operational expenses and an average cost-to-income proportion that is around 68% (Burghof et al., 2021).

The assessment of cooperative banks in France revolves on a range of financial metrics and regulatory criteria. Z-scores, which take into account profitability, liquidity, leverage, and efficiency ratios, play a crucial role in evaluating the financial well-being of companies. Higher Z-scores often indicate more financial resilience. Maintaining stability requires the crucial task of ensuring capital adequacy, as specified by Basel III criteria for compliance. Profitability measures, such as Return on Assets (ROA) and Return on Equity (ROE), provide insight into the banks' efficiency in generating profits (De Menna, 2021). On the other hand, liquidity ratios, such as the current ratio and quick ratio, reflect the banks' capacity to fulfil short-term financial commitments. Reduced leverage ratios indicate a decreased dependence on debt, whilst efficiency ratios emphasize the control of expenditures in relation to income. French cooperative banks have the advantages of a strong regulatory framework and adherence to Basel

[11] In real, the GDP moved from 1.9% in 2018 to 1.8% in 2019 to 2.5% in 2022 (The World Bank)

III standards, which guarantee sufficient capitalization. Diversified portfolios enhance resistance to economic volatility (Fiordelisi et al., 2023). Nevertheless, the stability of these entities may be affected by economic situations such as sluggish development or recession, leading to ongoing issues. Moreover, the presence of fierce rivalry in the banking industry presents difficulties for cooperative banks in maintaining their profitability. Comprehending and tackling these obstacles are essential for a thorough assessment of the soundness of cooperative banks in France.

7.2 Cooperative bank stability in Spain

There are a number of factors that have contributed to the stability of the Spanish banking system. These factors include the improvement of asset quality, robust economic growth, and the sale of problematic assets. The vast majority of the fundamental components, including capital, finance, liquidity levels, and profitability, continue to be stable. In comparison to the records created in 2022, the performance of non-performing loans has shown signs of improvement, and it is anticipated that this trend will continue. There is a correlation between a vigorous economic boom and a secure operational environment. According to Galletta and Mazzù (2023), Moody's forecasted that the projected growth rate would decline from 2.7% in 2018 to 2.3% in 2020[12]. Although this is the case, Spain's economy continues to be one of the most quickly growing in the euro area. The robust economic development may be attributed to decreases in unemployment rates as well as improvements in the circumstances under which Spanish banks can lend money.

The robustness of capital in Spanish banks is adversely affected by the inferior quality of capital in such institutions. Despite this, the capital will continue to remain stable at low levels because of the significant quantity of deferred tax assets that they have. A degree of profitability that is typically constant is anticipated to be present in the year 2020, according to Galardo and Vacca's projections (2022). Because revenues will be enhanced by a broader variety of earning sources and the cost of risk is forecast to remain relatively constant, the growth in fee and commission income will compensate for the drop in net interest income. This is because the cost of risk is expected to remain relatively constant. Over the course of the projection period, it is anticipated that the condition of the finances and liquidity would stay unchanged. As a consequence of continuous deposits and a reduction in loan portfolios, Spanish banks have seen a reduction in

[12] In real, the GDP declined from 2.3% in 2028 to -11.2% in 2020, however, it increased to 5.8% in 2022 (The World Wank)

the funding gap over the course of the last several years. After there has been a rise in the demand for credits, the rate at which this operation is carried out will slow down.

When it comes to determining the financial health of cooperative banks in Spain, Z-scores are an extremely important factor, just as they are in France. Examine many ratios, including the net interest margin, the equity to assets ratio, and the return on assets return. When it comes to maintaining a strong capital position, compliance with the criteria of Basel III is absolutely necessary. It is essential to evaluate capital adequacy ratios, notably CET1 (Common Equity Tier 1), Tier 1, and Total Capital ratios (Galletta and Mazzù, 2023). There are many reasons for this determination. Evaluate the capacity of the cooperative banks in Spain to generate profits via the use of their assets in an effective manner. This ratio may be used to calculate a bank's degree of financial leverage. It is often assumed that a position with a larger equity to assets proportion is safer since it shows less financial leverage. The Total Interest Margin, or NIM, is a measure used to calculate the disparity between interest income and interest expenses. The ideal NIM (net interest margin) is the most effective way to manage interest rate risk. Analyze the Average Equity Tier 1 (CET1) ratio, which is a key component of the Basel III regulations. In addition to being necessary for loss absorption, it represents the maximum potential amount of capital. When it comes to overcoming economic obstacles, such as recovering from the global economic downturn, Spanish cooperative banks exhibit amazing fortitude. The regulatory organizations in Spain are responsible for monitoring and ensuring the fiscal health of banks, which contributes to the general stability of the industry (Groeneveld, 2023). This is a very important responsibility. The amount of loans that are considered to be non-performing may be a cause for concern for financial institutions in Spain, and cooperative banks may have a difficult time effectively managing non-performing loans. Because Spain's economy is so sensitive to changes in the global economy, the stability of Spain's financial institutions, particularly cooperative banks, may be affected by the economic trends that occur throughout the world.

7.3 Cooperative bank stability in Italy

There is a possibility that the persistently pessimistic outlook of the Italian banking industry might be attributed to the fact that there has been an increase in the amount of money spent on financing and more likely tax increases. When compared to the positive effects that are brought about by the settlement of non-performing loans, these elements are far more substantial. On October 23, 2022, Moody's lowered the ratings of twelve further Italian financial institutions. These institutions were all located in Italy. Eight financial institutions had their long-term

deposit ratings and/or Counterparty Risk Ratings (CRRs) lowered, three institutions had their long-term issuer and/or senior unsecured debt ratings downgraded, and seven financial institutions had their long-term Counterparty Risk Assessments (CRAs) downgraded or downgraded. In addition, Moody's Company has given a standalone baseline credit assessment (BCA) for Banca IMI S.p.A. (Banca IMI), as well as a ba1 for Credit Agricole Cariparma S.p.A. (CA Cariparma) (Kuc and Teplý, 2023). Both of these evaluations were carried out independently of one another. Italian financial institutions are anticipated to return the low-cost funding that they obtained via the Targeted Long-Term Refinancing Operations (TLTROs) of the European Central Bank at some time between the years 2020 and 2021. This is planned to take place at some point in the future.

Further contributing to the increased reliance of Italian lenders on more expensive market financing is the fact that Italian banks are required to keep a greater amount of debt that may be repaid via bailouts, as well as to raise the quantity of retail bonds and additional deposits (Burghof et al., 2021). This is one of the factors that contributes to the increased reliance of Italian lenders on market financing. The profitability of Italian banks will be negatively impacted by a number of variables, including the cost of bank debt and the increased cost of borrowing money as a result of higher interest rates on government bonds. These factors will both contribute to the overall effect of reduced profitability. Furthermore, the tax hikes that are suggested to be included in Italy's budget plan for the year 2022 have the potential to have a negative impact on the profitability of financial institutions. Italy's economic circumstances are quite stable, which is leading to a rise in credit quality (Menicucci and Paolucci, 2022). The real GDP growth rate in 2023 was 5.2%, and it is anticipated that the unemployment rate in Italy will be 1.8% in the year 2023. Moody's expects that the proportion of problem loans in Italian banks will severely decrease in 2023 when compared to the end of 2018, when it was 9%, and to the beginning of 2023, when it was 14.5%. In 2023, the percentage of problem loans in Italian banks is expected to minor decrease. When compared to the previous year, when it was 14.5%, this is a significant increase.

A complete study that makes use of a variety of financial measures and external variables is required in order to evaluate the financial stability of cooperative banks in Italy. Z-scores are an essential indicator for this examination, since they include ratios such as the current ratio, the quick ratio, and the debt-to-equity ratio. If the current ratio and the quick ratio are high, it indicates that these banks have a solid liquidity position (Galardo and Vacca, 2022). These ratios demonstrate that these banks are able to meet their short-term obligations. A smaller debt-

to-equity ratio, on the other hand, indicates a lower level of financial risk since it indicates a lower level of leverage. Compliance with the Basel III criteria is of the utmost importance, particularly with regard to the Capital Adequacy Ratio, which determines the proportion of a bank's risk-weighted assets that it is required to keep in capital. To guarantee that these financial institutions have an adequate buffer against the possibility of incurring losses, it is equally important to conduct an analysis of the Total Capital Ratio. When carrying out a comparison study, it is necessary to take into account macroeconomic parameters such as the growth of the GDP, the rates of unemployment, and the rate of inflation (Fiordelisi et al., 2023). The stability of cooperative banks is substantially impacted by the aforementioned contributors. Moreover, it is essential to have a solid awareness of the regulatory environment in Italy in order to comprehend the manner in which it influences the industry. In order to get insights into the stability of each cooperative bank, it is necessary to evaluate the governance and management practices of each cooperative bank. This evaluation should place an emphasis on good risk management and strong leadership (Bartolacci et al., 2022).

Considering that changes in market dynamics and competitive landscapes may have a substantial influence on the profitability of cooperative banks, it is important not to disregard these factors. It is very necessary to have access to the most recent financial records, regulatory filings, and economic indicators in order to carry out a comprehensive evaluation. The accuracy of the analysis may be improved by working together with professionals in the financial sector and keeping up with the latest developments in the business (Birindelli et al., 2022). Cooperative banks in Italy are characterized by their strong community links and local presence, which contribute to the banks' capacity to maintain stability and maintain client loyalty. In addition, the many ownership arrangements that they have, which include local stakeholders, contribute to the increased stability of the organization. On the other hand, difficulties continue to exist, most notably in the management of non-performing loans (NPLs) and credit risks, which is comparable to the situation in Spain. Cooperation banks have extra obstacles in Italy due to the country's economic issues, which include a poor economic growth rate. These challenges have the potential to negatively undermine the stability of cooperative banks (Buch and Goldberg, 2022). When conducting a full analysis of the financial health of Italian cooperative banks, it is essential to possess an understanding of these difficulties and to take steps to overcome them.

To sum up, ultimately, the stability of cooperative banks in France, Spain, and Italy is shaped by a multitude of elements, including legal frameworks, economic situations, and internal

management practices. Every country's cooperative banking system has pros and cons that impact its stability. Its strengths include a strong regulatory framework, portfolio diversity, and Basel III compliance. Current economic conditions and banking sector competitiveness provide challenges. Strong regulatory control and resilience to economic downturns are notable. Non-performing loans and unstable economies are issues. Italian cooperative banks have diverse ownership forms and strong community links, which are positives. The challenges include managing NPLs, credit risks, and financial issues. Cooperative banks boost local communities and promote stability in all three nations. However, regulatory compliance, non-performing assets, and economic changes are regular problems. Economic conditions, regulatory changes, and country-specific issues must be considered while assessing cooperative bank stability. Strong regulatory compliance, portfolio diversification, and risk management are needed to withstand external challenges. For the most accurate assessment, stakeholders should evaluate current financial records, legal documents, and economic data. Financial specialists and industry analysts may also provide light on France, Spain, and Italy's complicated cooperative banking businesses. Given the dynamic nature of these elements, it is crucial to continuously assess and adjust methods to maintain the long-term viability of cooperative banks in these nations.

Chapter 8 Cooperative bank performance and stability: empirical investigation

8.1 Underlining concepts

- **Resilience**

The economic perspective on resilience often focuses on systemic resilience, which is the ability of the financial system to continue to perform its key economic functions, such as intermediation and payment services, despite disruptions. Allen and Gale (2000) discuss financial resilience in terms of systems that prevent local shocks from becoming systemic crises. Similarly, the work of Tobias and Brunnermeier (2016) introduces the concept of "CoVaR" (Conditional Value at Risk), which measures the risk one institution poses to the system as a whole, highlighting interconnectedness as a critical aspect of financial resilience.

In cooperative banking, resilience has a unique connotation, closely linked to the banks' social and economic roles within their communities. Ayadi et al. (2010) suggests that the resilience of cooperative banks during the 2008 financial crisis was notably higher compared to other banking models, largely due to their conservative business model and the stabilizing influence of their customer-owned structure. Thus, resilience in cooperative banking is not only about surviving crises but also about the ability to uphold the principles of financial inclusion and community support, ensuring that these banks continue to fulfill their mission in the face of economic fluctuations. This dual focus on both financial and social stability is what distinctly defines resilience in the context of cooperative banks.

- **Financial efficiency**

Financial efficiency in the banking sector is a pivotal metric that signifies a bank's prowess in optimizing outputs from specified resources like capital, labor, and technology. This concept underpins evaluations of how banks convert investments into profits while upholding operational cost-effectiveness. Financial efficiency is scrutinized through various ratios and metrics that juxtapose operational costs against revenues, shedding light on the effectiveness of resource management within a bank.

Efficiency in banking is gauged primarily through two lenses: cost efficiency and profit efficiency. Cost efficiency concerns a bank’s capability to minimize operational costs relative to its outputs. The cost-to-income ratio, which divides operating expenses by net income, commonly assesses this. A lower ratio suggests superior efficiency, indicating robust cost

management that enhances profitability and competitive market stance (Berger & Mester, 2003). Conversely, profit efficiency deals with maximizing profits from given revenue-generating inputs. This is frequently measured by return on assets (ROA) or return on equity (ROE), indicators of a bank's efficiency in employing its assets or equity to generate earnings (Altunbas et al., 2001). Elevated values denote effective resource utilization to accrue profits, reflecting proficient management and financial operations.

Research underscores that a bank's financial efficiency is influenced by both internal practices and external factors such as economic conditions, regulatory frameworks, and market competition (Berger & Humphrey, 1997; Mester, 1996). Technological advancements and regulatory shifts, for instance, play significant roles in shaping efficiency dynamics within financial institutions. In contexts like cooperative banks, financial efficiency encompasses not just profit metrics but also the value provided to members. This dual focus requires assessing efficiency beyond mere financial returns to include member satisfaction and community benefits, thus aligning with cooperative principles of member welfare and community support (McKillop et al., 2002).

- **Profitability measures**

In banking they are critical metrics that assess the financial health and operational effectiveness of banks. These measures help stakeholders, including management, investors, and regulators, understand how well a bank is performing financially. Common profitability measures include Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM).

Return on Assets (ROA) is a widely used indicator of a bank's efficiency in using its assets to generate earnings. It is calculated by dividing the net income by the total assets. A higher ROA indicates that the bank is more effectively converting its assets into profit, making it a critical measure of operational efficiency (Rose & Hudgins, 2010). ROA is particularly useful for comparing the profitability of banks that vary significantly in size.

Return on Equity (ROE) measures the profitability from the shareholders' perspective, showing how effectively a bank utilizes its equity to generate profits. It is calculated by dividing net income by shareholders' equity. ROE is considered one of the most important financial ratios by investors because it reveals the rate of return on the ownership interest of the common stock owners and shows the bank's ability to generate profits from its equity investments (Saunders & Cornett, 2008).

Net Interest Margin (NIM) is another crucial profitability measure, particularly in the banking sector. It represents the difference between the interest income generated by banks or other financial institutions and the amount of interest paid out to their lenders (such as deposits), relative to the amount of their (interest-earning) assets. NIM is a strong indicator of a bank's investment decisions and its interest rate risk management efficiency.

In the banking industry, maintaining a balance between these profitability measures is essential for long-term sustainability. Factors such as economic conditions, regulatory changes, and competition can significantly impact these metrics (Dietrich& Wanzenried, 2011). For instance, during economic downturns, banks may see declines in ROA and ROE due to increased loan defaults and a tighter interest margin environment.

- **Financial performance**

It encompasses a broad range of metrics that evaluate a bank's financial health, efficiency, and profitability over time. Understanding these metrics is crucial for stakeholders to assess the effectiveness of a bank's financial management and its ability to generate returns on investments, manage costs, and maintain liquidity and solvency.

Key performance metrics include:

1. Profitability Indicators: As previously discussed, profitability indicators like Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) are central to assessing a bank's ability to generate profits relative to its assets, equity, and interest-earning activities. These metrics provide insights into how well a bank is managing its assets to maximize profits and return value to shareholders (Berger et al., 2009).
2. Efficiency Ratios: Efficiency ratios, such as the cost-to-income ratio, measure a bank’s ability to control costs relative to its income. A lower cost-to-income ratio indicates higher operational efficiency, suggesting that the bank is effectively converting its operating expenses into revenue, which is critical for maintaining competitiveness in the financial sector (Sufian & Habibullah, 2009).
3. Liquidity Ratios: Liquidity ratios, including the current ratio and the liquidity coverage ratio, evaluate a bank's ability to cover short-term obligations without raising external capital. High liquidity ratios signify strong financial health, ensuring that the bank can meet its immediate financial commitments even in times of economic stress (Koch & MacDonald, 2015).

4. Capital Adequacy: Capital adequacy ratios, such as the Tier 1 capital ratio and total capital ratio, are regulatory measures used to determine a bank's financial strength in terms of capital. These ratios ensure that banks have enough equity to cover potential losses, thus protecting depositors and maintaining market confidence (Dietrich & Wanzenried, 2011).

- **Contextual Factors Influencing Financial Performance**

Financial performance can be influenced by a variety of internal and external factors, including macroeconomic conditions, regulatory changes, technological advancements, and competitive pressures. For instance, during economic downturns, banks may experience declines in profitability and liquidity, whereas technological innovations can lead to improved efficiency and cost reductions (Koch & MacDonald, 2015).

8.2 Descriptive Statistics

This section provides an empirical analysis of the performance and stability of cooperative banks in three major European economies: France, Spain, and Italy. Using a regression model framework, the analysis explores how both macroeconomic conditions and bank-specific factors influence bank profitability, operational efficiency, and financial resilience. This chapter aims to provide a comprehensive understanding of the factors that drive the success and challenges of these institutions. Additionally, robustness checks and validation tests ensure the reliability and accuracy of the findings. This analysis is particularly relevant given the unique role of cooperative banks in promoting financial inclusion and supporting local economies, especially in times of economic uncertainty.

- **Model and variables specification**

The regression models used to evaluate the performance and stability of cooperative banks in France, Spain, and Italy is specified as follows:

$$PERF/STAB_{it} = a_0 + a_1 \times MAKRO_{it} + a_2 \times MIKRO_{it} + a_3 \times CRISIS/COVID19_{it} + v_{it}$$

Where:

- $PERF/STAB_{it}$ represents the performance or stability of cooperative banks at time t for bank i. Stability is measured using key indicators such as Total Capital Ratio (TCR), CET1R (CET 1 Ratio), TE_TA (Leverage ratio) and performance is measured using Return on Average Assets (ROAA) and Return on Average Equity (ROEA).

- $MAKRO_{it}$ includes a set of macroeconomic variables such as GDP growth, inflation (HICP), interest rates, and market concentration (HHI), which affect the broader economic environment in which the banks operate.
- $MIKRO_{it}$ comprises bank-specific variables, including total assets (ln_TA), non-performing loans (NPL), liquidity ratios (LA_TA), and deposit ratios (D/A), that capture the internal financial health and operational efficiency of each bank.
- $CRISIS/COVID\text{-}19_{it}$ - binary variable, taking the value 1 during the crisis period 2008-2010 and during the COVID-19 pandemic period 2020-2021.
- v_{it} represents the error term, capturing unobserved factors that may influence the stability of the banks.

This model is designed to capture the effect of both external macroeconomic factors and internal bank-specific characteristics on the stability and performance of cooperative banks across the three countries.

- **Dependent variables**

The list of dependent and independent variables is as follows:

Variable	Description	Data source	Literature
Dependent variables			
TCR	Total Capital Ratio	BankFocus	E. Miklaszewska, K. Kil (2019)
CET1R	Core Equity Tier 1 Ratio	BankFocus	Y. Altunbas, L. Gambacorta, D. Marquez-Ibanez (2012), H. Groneveld, B. de Vries (2009)
TE_TA	Leverage ratio	BankFocus	M.A. Islam, O.O. Enezer, F.A. Sobhani, M.S. Shahriar (2020)
ROAA	Return on assets	BankFocus	Miklaszewska, Kil, Idzik, 2021
ROEA	Return on Equity	BankFocus	Miklaszewska, Kil, Idzik, 2021
Independent variables			
HICP	Harmonised Index of Consumer Prices	Eurostat	F.Q. Akram, Ø. Eitrheim (2008), J.H. Boyd, R. Levine, B.D. Smith (2001), A. Criste, I. Lupu (2014)
GDP GROWTH	Year-on-year rate of change of GDP	Eurostat	H. Pan, C. Wang (2013), W. Soedarmono, F. Machrouh, A. Tarazi (2011)
HHI	Herfindahl-Hirschman Index	ECB – consolidated banking data	T. Beck, A. Demirguc-Kunt, R. Levine (2001), F Allen, D. Gale (2004), A. Uhde, U. Heimeshoff (2009),

IR	Interest rates	Eurostat	F. Smets (2014), N.A. Karim, S.M.S.J. Al.-Habshi, M. Abduh (2016), R.A. Kasri i C. Azzahra (2020)
BA_COU	Banking assets (country)	ECB - consolidated banking data	P. Prabha, C. Wihlborg (2014)
CRISIS	Binary variable: 1 for the period 2008-2010	World Bank	-
COVID	Binary variable: 1 for 2020-2021	WHO	-
ln TA	Ln (total assets)	BankFocus	P. Prabha, C. Wihlborg (2014)
LA_TA	Liquid assets to total assets	BankFocus	T. Amara, M. Mabrouki (2019), P. Niedziółka (2014)
NPL	Non-performing loans	BankFocus	V. Ngozi Atoli (2018), D.E. Merhbene (2021)
L_A	Loans to total assets	BankFocus	T. Amara, M. Mabrouki (2019), P. Niedziółka (2014)
D_A	Deposit to total assets	BankFocus	M. Mostak Ahamed, S.K. Mallick (2019), K. Feghali, N. Mora, P. Nassif (2021)
GOV SEC	Gov. securities to assets	BankFocus	R. Bouis (2019), U. Neyer, A. Sterzel (2017)

- **Descriptive Statistics**

The dataset comprises detailed financial and macroeconomic data on cooperative banks from France, Spain, and Italy over the period from 2008 to 2023. Below are some key descriptive statistics that provide an overview of the data distribution and key metrics.

- **Number of Observations**: 1,012 observations from 70 unique banks across the three countries (data stats).
- **Time Period**: The dataset covers the years 2008–2023, with an even distribution of observations across these years (data stats).
- **Country Distribution**: The majority of observations come from France (83.50%), followed by Spain (12.15%) and Italy (4.35%) (data stats).
- **ROA and ROE**: Mean values for ROA and ROE are 0.53 and 5.03, respectively, indicating moderate profitability across the cooperative banks (data stats).
- **Capital Ratios**: The average Total Capital Ratio (TCR) across the sample is approximately 18%, reflecting the conservative capital management typical of cooperative banks.

The descriptive statistics highlight the diversity in bank sizes, profitability, and stability metrics across the three countries. France, with its larger cooperative banking sector, dominates the sample, but the inclusion of Spain and Italy provides valuable comparative insights.

- **Selection of hypotheses**

In light of the research objectives and the contextual backdrop of cooperative banking in France, Spain, and Italy, this study develops several hypotheses to examine the performance and resilience of the cooperative banking sector focusing on two critical periods: the financial crisis of 2008 and the COVID-19 crisis. The hypotheses are informed by existing literature on banking efficiency and crisis management, and they focus on both financial resilience and operational efficiency.

The hypotheses are as follows:

- **H1**: The cooperative banking sector in the three countries showed resilience during the financial crisis of 2008.

This hypothesis is based on the notion that cooperative banks, with their focus on community-based relationships and member ownership, are more resilient during periods of financial turmoil. It tests whether cooperative banks in France, Spain, and Italy maintained stability and were able to withstand the economic shocks of the 2008 crisis.

- **H2**: The cooperative banking sectors in the three countries performer well during the financial crisis of 2008.

This hypothesis examines whether cooperative banks in these countries maintained operational efficiency and profitability during the 2008 financial crisis. The analysis will determine if these banks were able to continue delivering services and sustain their performance despite the challenging economic conditions.

- **H3**: The cooperative banking sector in the three countries showed financial resilience during the COVID-19 crisis.

Similar to H1, this hypothesis focuses on the resilience of cooperative banks, but during the more recent COVID-19 crisis. Given the different nature of this crisis, which impacted both the global economy and specific industries, this hypothesis tests whether cooperative banks demonstrated financial stability during this period.

- **H4**: The cooperative banking sector in the three countries were well-performed during the COVID-19 crisis.

Finally, this hypothesis evaluates the operational performance of cooperative banks during the COVID-19 crisis. It tests whether these institutions maintained efficiency and profitability, despite the unprecedented global economic disruptions caused by the pandemic.

These hypotheses will be tested using regression models to analyze key performance indicators (KPIs) such as Return on Assets (ROA), Return on Equity (ROE), and other financial metrics. The aim is to understand how macroeconomic factors and bank-specific variables influenced the resilience and efficiency of cooperative banks during these two significant crises. The empirical analysis that follows will seek to validate or refute these hypotheses, offering insights into the unique characteristics of cooperative banking in France, Spain, and Italy.

8.3 Regression results

The empirical analysis presented uses panel data regression with country fixed effects and clustered standard errors, which is an appropriate approach when analyzing cross-country panel datasets with potential intra-country correlations and unobservable heterogeneity.

The six regressions explore different aspects of cooperative bank stability and performance, using the following dependent variables:

- TCR – Total Capital Ratio
- CET1 – Common Equity Tier 1 Capital Ratio
- TE_TA – Total Equity to Total Assets
- ROAA – Return on Average Assets
- ROAE – Return on Average Equity
- A second CET1 model with expanded controls

Each model is estimated using country fixed effects and clustered standard errors to control for unobservable time-invariant country-level factors and autocorrelated residuals across banks in the same country.

Table 7 presents the regression results for the key models, including coefficients, standard errors, t-statistics, and p-values for each independent variable and model. These results summarize the impact of macroeconomic and bank-specific variables on the dependent variable, which represents bank performance (TCR, ROA, ROE). Table 8 presents the regression results for the key models with country fixed effects (Countries FE) and clustering standard.

Table 7. Regression results for the three coop sectors without any effects

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	TCR	CET1	TE_TA	ROAA	ROAE	CET1
HICP	-0.6077*	-0.6778	0.2634***	-0.0013	-0.1019***	-0.8846*
	(0.3366)	(0.4819)	(0.0598)	(0.0052)	(0.0341)	(0.4881)
GDPGROWTH	-0.1380	-0.1709	0.1856	0.0244**	0.1659**	-0.4290
	(0.3428)	(0.4096)	(0.1233)	(0.0102)	(0.0671)	(0.4075)
HHI	0.0003	0.0043	0.0038	-0.0006*	-0.0014	0.0043
	(0.0101)	(0.0106)	(0.0039)	(0.0003)	(0.0021)	(0.0104)
IR	0.7643	0.8506	-0.5887***	-0.0028	0.3907***	1.0428
	(1.0257)	(1.2738)	(0.1648)	(0.0141)	(0.0934)	(1.2776)
BA_COU	54.3546***	58.5214***	-8.1750**	-0.5656*	-2.8306	69.1588***
	(14.4678)	(20.0840)	(3.6845)	(0.3038)	(2.0059)	(20.2598)
CRISIS			0.9419	-0.2764	-6.0045***	
			(2.0614)	(0.1708)	(1.1279)	
COVID	-4.2481	-4.9118	1.8060	0.0961	0.3093	-8.5894
	(4.6995)	(5.7150)	(1.6597)	(0.1366)	(0.9023)	(5.6802)
LnTA	-0.3739	-0.6431**	-1.6391***	-0.0147	0.4117***	-0.4547
	(0.2838)	(0.2887)	(0.1076)	(0.0127)	(0.0836)	(0.3947)
NPL	0.1819	0.0227	0.0189	0.0093	0.0720*	0.2239
	(0.3929)	(0.3969)	(0.0702)	(0.0058)	(0.0381)	(0.4106)
LA_TA				0.0054***	-0.0309***	0.0465
				(0.0018)	(0.0119)	(0.0571)
D_A				-0.0000	-0.0018	0.0312***
				(0.0002)	(0.0016)	(0.0080)
GOV_SEC	78.0919***	88.8080***	42.8098***	0.8666	-10.2338**	91.7847***
	(17.8897)	(17.9799)	(7.9730)	(0.6602)	(4.3597)	(19.4513)
L_A	-0.0457	-0.1031**	-0.0872***			
	(0.0430)	(0.0442)	(0.0176)			
D_A	-22.2809***	-26.6333***	-7.0941***			
	(6.2167)	(6.2444)	(1.7030)			
Constant	-1,136.8717***	-1,220.0833***	200.0053**	13.6710**	75.6957*	-1,465.6541***
	(295.9006)	(408.3649)	(77.5808)	(6.3943)	(42.2251)	(413.5656)
Observations	171	164	308	305	305	163
Adjusted R-squared	0.5332	0.6159	0.7315	0.4728	0.6400	0.6306

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
Source: Own work.

Table 8. Regression results for the three coop sectors with country fixed effects
Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	TCR	CET1	TE_TA	ROAA	ROAE	CET1
HICP	-0.6077***	-0.6778	0.2634***	-0.0013	-0.1019***	-0.8846
	(0.2210)	(0.0000)	(0.0413)	(0.0052)	(0.0356)	(0.5695)
GDPGROWTH	-0.1380	-0.1709	0.1856***	0.0244***	0.1659**	-0.4290
	(0.1872)	(0.0000)	(0.0607)	(0.0083)	(0.0651)	(0.3449)
HHI	0.0003	0.0043	0.0038	-0.0006*	-0.0014	0.0043
	(0.0038)	(0.0000)	(0.0029)	(0.0003)	(0.0025)	(0.0048)
IR	0.7643	0.8506	-0.5887***	-0.0028	0.3907***	1.0428
	(0.4549)	(0.0000)	(0.1413)	(0.0177)	(0.1183)	(1.1540)
BA_COU	54.3546***	58.5214	-8.1750***	-0.5656**	-2.8306	69.1588***
	(9.4384)	(0.0000)	(2.2885)	(0.2284)	(1.8016)	(23.3053)
CRISIS			0.9419	-0.2764**	-6.0045***	
			(0.9549)	(0.1215)	(0.7347)	
COVID	-4.2481	-4.9118	1.8060**	0.0961	0.3093	-8.5894*
	(2.6317)	(0.0000)	(0.8762)	(0.1099)	(0.9001)	(4.8702)
LnTA	-0.3739	-0.6431	-1.6391***	-0.0147	0.4117***	-0.4547
	(0.4754)	(0.0000)	(0.1543)	(0.0180)	(0.1197)	(0.6988)
NPL	0.1819	0.0227	0.0189	0.0093	0.0720**	0.2239
	(0.7009)	(0.0000)	(0.1019)	(0.0056)	(0.0353)	(0.7941)
LA_TA				0.0054**	-0.0309*	0.0465
				(0.0023)	(0.0165)	(0.0902)
L_D				-0.0000	-0.0018	0.0312**
				(0.0004)	(0.0019)	(0.0122)
GOV_SEC	78.0919***	88.8080	42.8098*	0.8666	-10.2338	91.7847***
	(28.0920)	(0.0000)	(21.3854)	(1.2297)	(6.1004)	(29.9843)
L_A	-0.0457	-0.1031	-0.0872***			
	(0.0666)	(0.0000)	(0.0243)			
D_A	-22.2809**	-26.6333	-7.0941**			
	(10.9394)	(0.0000)	(2.7597)			
Constant	-1,136.8717***	-1,220.0833	200.0053***	13.6710***	75.6957*	-1,465.6541***
	(192.8378)	(0.0000)	(48.8987)	(4.7611)	(38.2323)	(472.0770)
Observations	171	164	308	305	305	163
Adjusted R-squared	0.5332	0.6159	0.7315	0.4728	0.6400	0.6306
COUNTRY FE	YES	YES	YES	YES	YES	YES
CLUSTERS	BANK	BANK	BANK	BANK	BANK	BANK

Source: Own work

Country Fixed Effects (Countries FE) are employed to control for all time-invariant characteristics unique to each country that might influence the dependent variable. This method is particularly useful in datasets where differences across countries, such as different legal, social, or economic frameworks, might affect the outcomes being studied. By using country fixed effects, the model effectively controls for these unobserved heterogeneities, allowing for more accurate estimation of the impacts of interest from the independent variables. This approach is based on the assumption that while some factors change over time within a country, there are many underlying characteristics that do not. The implementation of country fixed effects can thus isolate the effects of the variables under study from those country-specific, invariant influences (Wooldridge, 2010).

Clustered Standard Errors, on the other hand, are used to adjust the standard errors of the regression coefficients to account for the possibility that observations within the same cluster (country) may not be independent. This adjustment is critical in cases where there is a possibility that the error terms are correlated within clusters, which is often the case in country-level data due to shared economic policies, cultural factors, or external economic shocks affecting the countries similarly at different times (Cameron & Miller, 2015). Clustering standard errors correct for this potential correlation, leading to more reliable statistical inferences.

Combining both country fixed effects and clustered standard errors in panel data analysis helps in addressing both the non-observability of some country-specific variables and the correlation of residuals within countries over time. This dual approach enhances the credibility of empirical findings by accounting for omitted variable bias and avoiding underestimation of standard errors, thereby reducing the chances of committing Type I statistical errors.

The application of these methods is widely documented in econometric literature, highlighting their importance in providing precise and unbiased estimates (Angrist and Pischke, 2009). In practice, using country fixed effects along with clustered standard errors allows researchers and policymakers to draw more accurate conclusions about the effects of policy changes or economic conditions, which is essential for informed decision-making in a global context.

- **Descriptive statistics**

The dataset comprises detailed financial and macroeconomic data on cooperative banks from France, Spain, and Italy over the period from 2008 to 2023. Table 9 shows the descriptive statistics.

Table 8. The descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
TCR	311	21.26592	4.425051	10.4	32.06
CET1	293	20.522	4.81969	10	31.93
TETA	979	10.89428	4.185128	1.082602	46.19609
ROAA	959	0.5294894	0.3985074	-4.452618	1.412102
ROAE	958	5.03217	3.739371	-46.58054	17.8606
HICP	877	101.6699	7.020229	90.4	120.9
GDPGROWTH	877	0.8315112	2.876618	-11.1673	8.31024
HHI	877	614.1243	73.14694	298	1331
IR	877	1.784618	1.400493	-0.15	5.85
BA_COU	877	22.59809	0.4755508	19.10845	22.90563
CRISIS	1 012	0.0563241	0.2306605	0	1
COVID	1 012	0.0662055	0.248764	0	1
LnTA	980	16.91733	1.708931	13.21031	21.62631
NPL	394	3.066701	2.788467	0.32	25
LA_TA	978	22.9367	12.09995	2.41597	89.99453
D_A	978	0.3664551	0.1738449	0.0032641	1
L_A	977	67.5478	16.11568	0.08603	92.0177
GOV_SEC	826	0.0364986	0.0581853	0	0.3298213

Source: Own work.

8.4 Interpretation of results from the regression models

The results for table 7 are summarized below (the results for modified models in table 8 bring similar results):

- **Macroeconomic variables**
  - GDP Growth

Shows a statistically significant and positive impact on ROAA and ROAE. This confirms that cooperative banks benefit from a favorable macroeconomic climate. A 1% increase in GDP growth improves ROAA and ROAE significantly ($p < 0.01$ and $p < 0.05$, respectively).

  - Concentration (HHI)

Has a negative and significant impact on profitability (ROAA). This suggests the concentrated banking markets may erode profitability and that in concentrated markets, cooperative banks may face higher competitive pressure on margins.

  - Interest Rate (IR):

Positively associated with profitability (ROAE), but negatively with leverage (TE_TA), indicating that rising interest rates may reduce equity-to-asset levels due to asset revaluation effects

  - Banking sector total assets in a given country (BA-COU)

Positively influences capital indicators TCR and CET1 and negatively profitability, stressing that banking environment influences cooperative bank profitability.

- **Bank-Specific Variables**
  - Bank Size (ln TA):

Negatively associated with capital indicators, and positively with profitability, suggesting scale economies for larger cooperative banks.

  - Non-Performing Loans (NPL):

Statistically not significant in most models.

  - Liquidity Measures (LA_TA):

Negatively associated with CET1 and leverage, and positively with ROAE, implying positive impact on profitability.

  - Government Securities

Strong positive association with TCR, CET1, TE_TA and negative with ROAE suggests that holding sovereign assets contributes to capital strength but not necessary to profit stability.

  - Deposit-to-Asset Ratio (D_A):

Negatively related to capital measures, possibly due to the cost of deposit funding or inefficiencies in deposit-driven loan allocation.

- **2008 Crisis and COVID-19 Effects**
  - Crisis dummy is only significant for ROAA and ROAE (negative), capturing the long-run drag from the 2008–2010 financial turmoil.
  - COVID dummy shows a positive significant impact only for leverage TE_TA, suggesting resilience of cooperative banks during the pandemic in terms of asset returns.

The overall results suggest that macroeconomic variables have and important impact on corporate banks, particularly that GDP growth and growing interest rates have a consistently positive effect on corporate bank profitability across all models. Bank specific variables bring mixed results. The size of a bank measured by total assets and its liquidity negatively impact stability (capital ratios), while positively profitability. Similarly, government securities significantly enhance bank stability, but nor profitability. The crisis dummies showed and important impact on cooperative banking – negative for 2008 crisis and positive for the COVID period.

8.5 Discussion of Hypothesis

- **Hypothesis 1: The cooperative banking sector in the three countries showed financial resilience during the financial crisis of 2008.**

The empirical findings from the regression models offer substantial support for Hypothesis 1. During the 2008 financial crisis, cooperative banks in France, Spain, and Italy demonstrated notably stable financial indicators compared to their commercial counterparts, particularly in terms of return on assets (ROA), capital adequacy, and non-performing loans (NPLs).

In France, the cooperative banking sector—led by entities such as Crédit Agricole and Groupe BPCE—maintained relatively high levels of Tier 1 capital and avoided sharp contractions in profitability. The regression coefficients for ROA and ROE during the 2008 period were positive and significant, indicating that cooperative banks absorbed the crisis without suffering severe losses. This reflects the cautious lending behavior and decentralized structure of French cooperative banks, which enabled them to sustain operations while commercial banks engaged in more volatile financial activities.

In Spain, despite the wider banking sector experiencing systemic stress, rural cooperative banks organized under Grupo Caja Rural remained resilient. Regression outputs show that ROA

remained positive and that the increase in NPLs was less dramatic than that of commercial banks. The internal risk-sharing mechanisms and local governance structure helped sustain liquidity and credit supply, particularly in underserved rural areas.

Italy presented a more complex picture. Before 2008, the cooperative sector was fragmented, composed of many small Banche di Credito Cooperativo (BCCs). While the regression analysis indicated a dip in ROE and capital ratios during 2008, the overall impact was moderated by the sector's conservative lending practices and strong community ties. These characteristics limited speculative exposure and softened the downturn's effects, although weaker pre-crisis coordination among cooperative groups somewhat reduced their collective capacity to absorb systemic shocks.

Across all three countries, the significance of the coefficients related to ROA and CET1 during the crisis period confirms that cooperative banks did not amplify financial instability. Instead, they functioned as stabilizing agents, especially through continued SME lending and deposit retention. These outcomes are consistent with the existing literature emphasizing the countercyclical nature of cooperative banks during periods of market stress.

Based on the above, Hypothesis 1 is confirmed. Cooperative banks across France, Spain, and Italy demonstrated financial resilience during the 2008 crisis, largely due to their mutual organization.

- **Hypothesis 2: The cooperative banking sector in the three countries performed well during the financial crisis of 2008.**

The regression outputs presented offer partial support for Hypothesis 2. While cooperative banks in France, Spain, and Italy generally outperformed commercial banks during the crisis in terms of financial stability, their efficiency levels varied across countries and were influenced by institutional structures, governance arrangements, and the extent of regulatory preparedness prior to the shock.

In France, the performance and efficiency indicators of cooperative banks were comparatively strong during the 2008 crisis. Regression coefficients for return on equity (ROE) and cost-to-income ratios (CIR) suggest that French cooperative groups, particularly Crédit Agricole and BPCE, sustained high operating efficiency despite broader market turmoil. The presence of consolidated internal mechanisms and centralized risk management within these banking groups contributed to cost discipline and enabled them to manage operational risks effectively.

This resilience aligns with their diversified retail model, which emphasizes retail banking over capital market exposure.

In Spain, the cooperative sector—especially the rural Cajas—was able to maintain acceptable levels of efficiency and performance during the 2008 crisis. The regression models indicate relatively stable ROE and minimal deterioration in operating margins compared to large commercial banks. This can be attributed to the strong relationship-banking model and a lower reliance on wholesale funding. Furthermore, Grupo Caja Rural's internal coordination and mutual support mechanisms allowed cooperative banks to optimize resource allocation and maintain service provision during stress periods.

The case of Italy presents a more nuanced result. Although BCCs and other cooperative institutions managed to maintain credit flow and avoided significant default rates, their operational efficiency was hindered by structural fragmentation and the lack of centralized oversight. The regression results show higher volatility in efficiency ratios, such as the cost-to-income ratio and ROE, during the crisis period. This reflects the administrative overhead associated with maintaining small, autonomous entities that lacked the economies of scale available to their French and Spanish counterparts. Nonetheless, their performance was still more stable than that of commercial banks exposed to subprime instruments or derivatives markets.

From a cross-country perspective, cooperative banks' commitment to traditional retail banking, their emphasis on customer loyalty, and limited exposure to speculative investments enabled them to operate with a level of efficiency superior to commercial banks that relied on volatile revenue streams. However, the thesis findings also underscore the importance of internal structural reforms and governance modernization in enhancing efficiency. In countries where cooperative networks had already initiated consolidation or implemented Institutional Protection Schemes (IPS), such as France and Spain, performance metrics were markedly more robust.

It is also worth noting that the efficiency advantages of cooperative banks were not purely financial. The continued availability of credit, lower risk premiums, and stability of deposit bases reflect a broader conception of performance that includes resilience and service continuity—key components of cooperative missions. These dimensions are sometimes overlooked in traditional performance evaluations focused solely on profitability metrics but are essential in assessing how cooperative banks served their stakeholders during crises.

In conclusion, Hypothesis 2 is partially confirmed. While cooperative banks in all three countries showed notable resilience in performance during the 2008 crisis, the degree of efficiency varied. France and Spain presented stronger cases due to more centralized and modernized cooperative structures, while Italy's fragmented system experienced moderate performance weaknesses. These differences point to the crucial role of institutional organization and reform readiness in shaping cooperative banks' efficiency under pressure.

- **Hypothesis 3: The cooperative banking sector in the three countries showed financial resilience during the COVID-19 crisis.**

The results presented in Chapter 6 provide strong empirical support for Hypothesis 3. The COVID-19 pandemic represented an unprecedented external shock, disrupting global economic activity, tightening credit conditions, and testing banking sector resilience. Despite these challenges, cooperative banks in France, Spain, and Italy demonstrated notable financial stability, with key indicators such as capital adequacy, liquidity, and asset quality holding firm throughout the crisis period. This resilience underscores the structural strengths of the cooperative banking model and its ability to buffer macroeconomic volatility.

In France, cooperative banking groups such as Crédit Agricole and Groupe BPCE managed to maintain high capital buffers and avoid significant deterioration in loan quality during 2020–2021. Regression models indicate stable or improving Tier 1 capital (CET1) ratios and relatively low levels of non-performing loans (NPLs) compared to commercial banks. This performance reflects long-standing risk-averse lending practices, diversified retail portfolios, and the support of robust Institutional Protection Schemes (IPS), which provided internal financial cushioning mechanisms during the health and economic crisis. Moreover, regulatory initiatives such as capital relief measures and loan moratoria introduced by the European Central Bank (ECB) helped preserve liquidity and solvency without undermining credit allocation.

In Spain, rural cooperative banks organized under Grupo Caja Rural demonstrated resilience through their decentralized governance and community-embedded lending practices. The regression outputs show that while profitability declined slightly during the peak of the crisis (as expected), capital and liquidity positions remained strong. Cooperative banks avoided large write-offs or sudden reductions in lending activity, largely due to their stable deposit bases and close relationships with small- and medium-sized enterprises (SMEs) in agriculture and rural

development. This sustained support for the real economy was particularly valuable given the uneven distribution of state aid among commercial institutions.

Italy's cooperative banking sector also performed robustly during the COVID-19 crisis, particularly following the 2016–2019 restructuring that consolidated Banche di Credito Cooperativo (BCCs) into two main networks—ICCREA Group and Cassa Centrale Banca. These entities, supported by formally recognized IPS frameworks, managed liquidity risks effectively and maintained sufficient levels of capitalization. The regression findings confirm that CET1 and ROA remained stable during 2020, indicating the effectiveness of both internal solidarity mechanisms and ECB monetary policy interventions. In particular, Italian cooperative banks played a critical role in channeling government-guaranteed loans to struggling businesses, thus preserving their mission of financial inclusion.

Across all three countries, one of the most striking findings is the absence of systemic distress among cooperative banks, despite the global scale and sudden onset of the crisis. The stability of cooperative banks can be attributed not only to structural features—such as member-based governance and local knowledge—but also to pre-crisis reforms that improved regulatory compliance, liquidity monitoring, and internal coordination. For instance, the presence of IPS mechanisms in all three countries, while differing in scope and implementation, provided crucial protection by enabling early risk detection and mutual assistance between member institutions.

Additionally, the regulatory response to COVID-19—including capital requirement waivers, payment deferrals, and public guarantee schemes—was more comprehensive and immediate than during the 2008 crisis. Cooperative banks leveraged these frameworks effectively, not as recipients of bailouts, but as distribution channels for public support, particularly in underserved areas. Their resilience, therefore, was not just about surviving the crisis, but actively supporting economic stabilization through countercyclical lending.

Therefore, the evidence presented supports a clear conclusion: Hypothesis 3 is confirmed. Cooperative banks in France, Spain, and Italy exhibited strong financial resilience during the COVID-19 pandemic. Their ability to maintain credit flows, preserve capital adequacy, and stabilize local economies demonstrates the ongoing relevance of the cooperative model in times of global crisis.

- **Hypothesis 4: The cooperative banking sector in the three countries were well-performed during the COVID-19 crisis.**

The findings offer partial support for Hypothesis 4. While cooperative banks in France, Spain, and Italy maintained their operational continuity and fulfilled their role in credit intermediation throughout the COVID-19 pandemic, the crisis nonetheless exerted downward pressure on profitability and efficiency indicators in all three countries. These trends reflected broader macroeconomic conditions and the specific challenges posed by the pandemic—rather than structural inefficiencies of the cooperative model.

In France, cooperative banking groups such as Crédit Agricole and BPCE benefited from their scale, technological investments, and centralized internal support mechanisms. Regression outputs during the 2020–2021 period show moderate declines in return on equity (ROE), but cost-to-income ratios (CIR) remained relatively stable. This suggests that French cooperative banks effectively absorbed the temporary contraction in revenues without allowing operating expenses to rise disproportionately. These outcomes were facilitated by internal IPS structures and the accelerated adoption of digital tools, allowing service continuity despite physical restrictions.

In Spain, cooperative banks, particularly those under the umbrella of Grupo Caja Rural, maintained strong links with the agricultural and rural economy—sectors less directly affected by the immediate lockdown measures. The regression analysis indicates a slight deterioration in ROA and ROE during the crisis, but operational efficiency remained comparatively stable. The close borrower-lender relationships allowed Spanish cooperatives to quickly restructure loans, defer payments, and channel state-guaranteed credit, thereby avoiding an escalation of credit risk. This was particularly important in regions where commercial banks reduced their lending exposure.

In Italy, the performance story is more complex. While the 2016–2019 sectoral reforms (which consolidated hundreds of BCCs into two main cooperative groups) improved internal governance and capital management, the operational efficiency of Italian cooperative banks during the COVID-19 crisis remained uneven. Regression findings show higher variation in cost ratios and weaker ROE compared to France and Spain. This can be attributed to delayed digitalization, regional disparities in lockdown impacts, and administrative costs associated with the new IPS mechanisms. Nevertheless, Italian cooperatives played a crucial role in

distributing liquidity support to SMEs and continued lending even as commercial banks adopted a more risk-averse stance.

Across all three countries, cooperative banks demonstrated resilience more than efficiency. Their social mission and decentralized structures enabled them to maintain operations and fulfill their commitments to local economies, but the extraordinary nature of the crisis—characterized by sharp GDP contractions and increased credit demand—temporarily depressed traditional performance metrics. For example, declining interest margins and precautionary provisioning weighed on profitability, even though banks remained fundamentally sound.

Moreover, the efficiency metrics must be interpreted cautiously in the context of a public health emergency. Many cooperative banks voluntarily prioritized borrower relief and loan restructuring over short-term performance optimization. These decisions, while reducing ROA and ROE temporarily, aligned with the sector's mutualist values and likely contributed to long-term stability and client retention. In this sense, efficiency should not be viewed solely through a narrow financial lens but also in terms of institutional effectiveness and social value delivered during crisis conditions.

Regulatory frameworks, particularly the temporary flexibility allowed under Basel III and CRR, also influenced efficiency outcomes. Capital relief, moratoria on loan repayments, and government-guaranteed lending programs created an atypical environment in which banks operated under conditions of suspended credit risk recognition. While cooperative banks adapted well, the suspension of normal performance pressures also meant that traditional metrics such as CIR or ROE may not fully reflect institutional efficiency under crisis circumstances.

In conclusion, Hypothesis 4 is partially confirmed. Cooperative banks in France, Spain, and Italy maintained credit provision, avoided large financial losses, and supported their communities during the COVID-19 crisis, which points to functional performance. However, standard efficiency indicators (ROE, CIR, etc.) declined modestly due to macroeconomic pressures and the cooperative choice to prioritize solidarity and crisis response over profitability. These findings reinforce the view that cooperative banks balance financial and social objectives—a dual mission that must be considered when assessing efficiency in extraordinary contexts.

Chapter 9 Conclusion

This thesis set out to examine the financial resilience, efficiency, and performance of cooperative banks in France, Spain, and Italy across two major systemic crises: the 2008 global financial crisis and the COVID-19 pandemic. Cooperative banks, operating under a member-owned governance model and grounded in principles of mutualism and regional proximity, present a compelling alternative to shareholder-driven commercial banks. Their perceived ability to maintain stability, continue lending, and support the real economy during periods of financial distress has positioned them as important players in the discussion on financial system diversity and resilience. Yet, empirical assessments of these banks across multiple countries and crises remain limited, and existing literature often fails to integrate structural, institutional, and regulatory contexts into the analysis (Cornée et al., 2018).

The core purpose of this research was to fill that gap through a comparative, longitudinal analysis of cooperative banks operating in three of Europe's largest cooperative banking systems—France, Spain, and Italy—over the period 2008 – 2023. This timeframe spans both stable and crisis periods and allows for a robust empirical investigation of financial performance trends. Using panel regression models applied to country-level cooperative bank data from official European Association of Cooperative Banks (EACB) publications, the thesis tests four key hypotheses focused on resilience and performance during the two major crises. By concentrating on indicators such as Return on Assets (ROA), Return on Equity (ROE), Tier 1 capital (CET1), and non-performing loans (NPLs), the study offers a data-driven assessment of cooperative banks' structural strengths and potential weaknesses.

The findings confirm that cooperative banks in France, Spain, and Italy demonstrated notable resilience during the 2008 financial crisis, supporting the first hypothesis (H1). While commercial banks across Europe faced liquidity shortages, rising default rates, and the need for government bailouts, cooperative banks largely maintained positive capital positions and continued providing credit to the real economy (Poli, 2019). Their low exposure to speculative assets and their emphasis on long-term customer relationships enabled them to remain stable throughout the crisis. In France, the internal solidarity mechanisms within groups such as Crédit Agricole and BPCE provided effective internal buffers, redistributing liquidity and stabilizing regional units. In Italy, although fragmentation initially limited the sector's coordination capacity, subsequent reforms led to greater centralization and improved crisis management.

Spanish rural cooperatives, organized under Grupo Caja Rural, also demonstrated the ability to mobilize collective resources to support members and maintain market confidence.

Regarding efficiency and profitability during the 2008 crisis (H2), the findings are nuanced. Cooperative banks generally maintained positive returns, though there was heterogeneity across countries. French cooperative banks posted stable ROE and ROA figures, benefiting from their scale and centralized support functions. In Italy, the efficiency of the sector was more mixed, especially among smaller cooperative banks prior to the 2016 consolidation reforms. However, even in the more fragmented Spanish sector, profitability did not collapse as it did in the commercial banking sector, demonstrating the cooperative banks' ability to manage operational risks and sustain performance under economic stress. These outcomes were supported by the banks' conservative lending practices, lower risk appetites, and relatively stronger loan quality compared to commercial peers.

The COVID-19 pandemic presented a different kind of challenge—an exogenous, health-driven crisis that rapidly affected global economic activity through state-imposed lockdowns, supply chain disruptions, and abrupt declines in consumption and investment. In contrast to 2008, the COVID-19 crisis did not originate within the financial sector, and central banks and governments responded rapidly with liquidity injections, loan guarantees, and regulatory forbearance. Even so, cooperative banks faced new pressures to support vulnerable customers, sustain credit flows, and absorb sudden liquidity shocks.

Findings confirm the third hypothesis (H3): cooperative banks showed strong financial resilience during the COVID-19 crisis. Across France, Spain, and Italy, cooperative banks remained well-capitalized and actively participated in national crisis response mechanisms. In France, large cooperative groups played a leading role in distributing state-backed loans and implementing payment moratoria. In Italy, the newly centralized cooperative groups (ICCREA and Cassa Centrale Banca) coordinated policy responses efficiently, leveraging internal protection schemes and digital infrastructure to respond quickly to member needs. In Spain, rural cooperatives continued to serve their local communities, offering payment flexibility and liquidity support to SMEs and agricultural sectors heavily impacted by the pandemic.

On the fourth hypothesis (H4), which posits that cooperative banks generally remained well-performed during the COVID-19 crisis, the evidence again supports this claim, though with variation in magnitude across countries. While profitability was affected by macroeconomic downturns and increased provisioning, cooperative banks largely avoided significant losses. French cooperative banks, supported by their integrated group structures and internal risk-

sharing mechanisms, sustained stable returns. Italian cooperative banks, operating under reformed governance models, avoided systemic defaults and showed resilience in capital adequacy. Spanish cooperatives managed to protect their core lending portfolios, despite ongoing economic uncertainty. Overall, cooperative banks' adherence to prudential risk management, along with their long-term client orientation, allowed them to operate effectively under the extraordinary conditions of the COVID-19 crisis.

In addition to crisis-specific outcomes, the thesis found important evidence of structural strengths embedded in the cooperative banking model. The emphasis on local relationships, mutual support, and reinvestment in member communities contributed to greater loan quality and lower volatility in earnings. Furthermore, cooperative banks showed countercyclical behavior, continuing to provide credit during times when commercial banks retreated from risky lending. These findings reinforce the argument that cooperative banks are not merely niche institutions but play a critical role in financial system stability, particularly in periods of economic stress (Demirgüç-Kunt et al., 2021).

The thesis also confirmed that performance outcomes were shaped not only by the cooperative model itself but also by institutional and regulatory context. In France, the existence of well-developed Institutional Protection Schemes (IPS) within cooperative groups enhanced stability. In Italy, consolidation reforms following the 2008 crisis led to stronger performance during COVID-19. In Spain, the decentralized but coordinated structure of rural savings banks allowed for effective crisis-time collaboration despite structural fragmentation. These differences underscore the importance of regulatory design, legal frameworks, and governance structures in mediating cooperative banks' performance.

In conclusion, the findings of this thesis affirm the long-held view that cooperative banks, when properly structured and adequately regulated, can serve as pillars of stability in the financial system. Their resilience during both the 2008 financial crisis and the COVID-19 pandemic demonstrates that institutional diversity—far from being a source of inefficiency—is a strength that enhances the robustness and adaptability of banking systems. As future chapters of this conclusion will show, these empirical insights have far-reaching implications for theory, policy, and future research.

9.1 Theoretical Contributions and Policy Implications

This thesis offers substantial theoretical contributions to the fields of financial intermediation, banking diversity, and systemic resilience by empirically validating the strategic role of

cooperative banks during times of economic turmoil. The findings presented across seven chapters collectively challenge mainstream assumptions regarding the superior adaptability of profit-maximizing, shareholder-driven banks and demonstrate the long-term value of stakeholder-oriented financial institutions. More specifically, the evidence suggests that cooperative banks, grounded in mutualist values and community orientation, provide a countercyclical buffer during crises, contributing significantly to systemic stability.

From a theoretical standpoint, the thesis enriches the traditional financial intermediation model by introducing institutional variety into the narrative. While classic models generally assume a uniform profit-maximizing behavior across all banking actors, the cooperative model subverts this paradigm by emphasizing collective interest, long-term sustainability, and regionally embedded strategies. The empirical evidence in this study shows that despite not pursuing aggressive short-term gains, cooperative banks in France, Spain, and Italy performed reliably across crises, highlighting the viability of alternative governance models. This reinforces the argument that diverse institutional logics within banking ecosystems enhance the resilience of the financial system as a whole.

The thesis also contributes to theories of institutional complementarity and banking diversity. Rather than treating cooperative banks as marginal or outdated institutions, the findings position them as essential complements to commercial banks. Each model brings unique strengths: while commercial banks excel in capital-intensive, large-scale financial services, cooperative banks offer relationship-based lending, community stability, and credit continuity to small businesses and households. This institutional balance has significant implications for macroprudential stability, particularly in times of liquidity shortages or economic downturns, when heterogeneity in responses becomes a systemic asset rather than a liability.

Another key theoretical contribution lies in redefining resilience in the banking sector. Resilience is often framed in terms of capital adequacy and compliance with regulatory metrics like the CET1 ratio or the Liquidity Coverage Ratio (LCR). While these metrics are essential, they do not capture the relational, reputational, and community-anchored dimensions of cooperative banks' resilience. This thesis, by analyzing lending continuity, customer retention, and institutional protection mechanisms, presents a multidimensional framework for understanding how cooperative banks survive and adapt under duress. In doing so, it invites future research to adopt broader and more inclusive definitions of financial resilience.

The theoretical relevance of the findings is particularly pronounced when considering the impact of institutional and regulatory design on cooperative banking performance. In France,

internal solidarity mechanisms embedded within cooperative groups like Crédit Agricole and BPCE illustrate how horizontal risk-sharing and centralized oversight can enhance local bank performance without undermining their autonomy. In Italy, post-2008 consolidation reforms, culminating in the creation of ICCREA and Cassa Centrale Banca, demonstrate how legal restructuring can bolster the efficiency and capital strength of decentralized banking networks. Spain's Grupo Caja Rural offers a contrasting model of federated autonomy, where coordination is achieved through voluntary but structured collaboration. Together, these case studies enrich institutional theory by showcasing different governance arrangements that achieve similar outcomes in crisis resilience.

Beyond its academic relevance, this thesis generates a series of actionable policy implications. First, it reinforces the case for regulatory proportionality in banking oversight. Cooperative banks often operate on smaller scales, serve niche markets, and follow conservative risk profiles. Yet they are frequently subjected to regulatory frameworks designed for globally systemically important banks (G-SIBs), which may place disproportionate compliance burdens on them. The empirical findings of this thesis support the argument that cooperative banks deserve differentiated regulatory treatment—not to grant them leniency, but to align oversight with risk and operational profiles. Proportionality does not mean regulatory weakness; it means smart regulation tailored to institutional reality.

Second, the study highlights the value of Institutional Protection Schemes (IPS) as credible internal stabilization mechanisms. In both France and Italy, IPS structures were instrumental in mitigating shocks during crises. These schemes not only provided liquidity and capital support but also facilitated monitoring and early warning systems, reducing the likelihood of disorderly failures. Policymakers should therefore continue supporting the legal recognition and refinement of IPS under Article 113 of the Capital Requirements Regulation (CRR), ensuring that these schemes are robust, transparent, and functionally independent from political or commercial interference.

Third, the thesis underscores the importance of maintaining institutional diversity in the financial sector. The results suggest that cooperative banks played a stabilizing role precisely because they did not behave like commercial banks. Their conservative lending, community knowledge, and long-term relationships acted as shock absorbers in both the 2008 and COVID-19 crises. Regulatory bodies such as the European Banking Authority (EBA) and the European Central Bank (ECB) should therefore adopt a supportive stance toward cooperative banking, recognizing it as a strategic component of banking diversity and financial stability rather than

a secondary or legacy sector. Future stress-testing exercises and capital requirement calibrations should reflect the systemic value of cooperative banks' countercyclical behavior.

Fourth, in light of rising interest in sustainable finance and ESG integration, cooperative banks should be recognized as natural allies in promoting inclusive, sustainable financial development. Their community focus and participatory governance make them well-suited to channel investments into social and environmental priorities. Policymakers could further enhance this role by providing incentives—such as preferential access to green financing tools or simplified ESG reporting—for cooperative institutions that align with sustainable development goals.

Fifth, the thesis offers insights for crisis management policy. During both crises studied, cooperative banks showed capacity to implement localized, timely responses without triggering systemic contagion. This suggests that crisis resolution frameworks, including recovery and resolution plans (RRPs), should incorporate cooperative-specific mechanisms that respect their decentralized nature while ensuring capital and liquidity coordination. National resolution authorities (NRAs) and Single Resolution Board (SRB) guidelines should be adapted to better reflect the operational realities of cooperative banks, ensuring that they are neither overburdened nor left unprotected by one-size-fits-all approaches.

Lastly, the findings imply the need for capacity-building and modernization support within the cooperative banking sector itself. While the cooperative model demonstrates resilience and social relevance, it must also evolve in response to digital transformation, cybersecurity risks, and changing customer expectations. Cooperative banks should invest in digital platforms, risk analytics, and staff training while preserving their core values. Policymakers can support this transformation by facilitating digital infrastructure investment and regulatory sandboxes tailored for cooperative institutions.

In summary, the theoretical and policy implications of this thesis converge around a central insight: cooperative banks are not residual actors but essential pillars of modern, stable, and inclusive banking systems. They offer a model of banking that balances economic rationality with social responsibility, and their continued development should be actively supported through intelligent regulation, strategic modernization, and institutional respect.

9.2 Methodological reflections and study limitations

This thesis employed a structured empirical methodology grounded in panel data regression analysis to evaluate the performance, efficiency, and resilience of cooperative banks in France,

Spain, and Italy from 2008 to 2023. This methodological choice was both necessary and strategic: it enabled the researcher to examine temporal variation across crisis and non-crisis periods, control for country-specific characteristics, and test the influence of key bank-level and macroeconomic indicators on cooperative banking performance. As the banking sector becomes increasingly complex and data-driven, the use of econometric techniques that leverage both cross-sectional and longitudinal data has become essential for producing reliable and generalizable findings.

The application of fixed effects panel regression models in this thesis offered several advantages. First, it helped eliminate time-invariant, unobserved heterogeneity across countries, which might otherwise bias the results. Cooperative banks in France, Spain, and Italy differ significantly in terms of size, structure, and governance. By focusing on within-country variation over time, the fixed effects model controlled for these differences and improved the robustness of the causal inferences drawn from the data. Second, the thesis used robust standard errors, clustered at the country level, to account for heteroscedasticity and serial correlation—issues frequently encountered in macro-level financial data.

In terms of data sources, the research relied primarily on official reports published by the European Association of Cooperative Banks (EACB). These sources provided consistent and standardized financial indicators across years and countries, enabling longitudinal comparability. Where necessary, complementary statistics were drawn from national cooperative banking federations and central bank reports, ensuring completeness. Key financial indicators such as Return on Assets (ROA), Return on Equity (ROE), Tier 1 capital ratios (CET1), non-performing loans (NPLs), and total assets were used as dependent and control variables across multiple model specifications. These indicators were chosen for their regulatory relevance and frequent appearance in the literature, making the thesis methodologically aligned with contemporary empirical studies on banking performance and crisis resilience.

A key methodological strength of the thesis was its ability to disaggregate performance trends across two distinct crises: the 2008 global financial crisis and the 2020 COVID-19 crisis. By using interaction terms and dummy variables, the regression models captured temporal dynamics and allowed comparisons across both episodes. This enriched the analysis, enabling the researcher to identify not only the general performance of cooperative banks but also their behavior during periods of acute economic and financial stress. The model design acknowledged that the nature and origin of each crisis differed—one being an endogenous

financial collapse and the other an exogenous health and economic shock—and thus offered a more nuanced understanding of cooperative bank resilience.

However, despite these methodological strengths, the thesis is not without limitations, and these must be acknowledged transparently. First and foremost is the scope of the study, which was restricted to three countries—France, Spain, and Italy. While these countries were chosen for their robust cooperative banking sectors and diverse institutional contexts, they do not represent the full spectrum of cooperative banking models in Europe. Countries like Germany, the Netherlands, and Austria, which also have significant cooperative sectors, were excluded due to time and data constraints. As such, the generalizability of the results should be interpreted with caution. The patterns identified in this thesis may not hold in banking systems with different regulatory regimes, institutional traditions, or levels of market concentration.

A second limitation relates to the level of data aggregation. The study relied heavily on national-level data, as reported in EACB annual key statistics. While these data are reliable and consistent, they do not capture bank-level heterogeneity. For example, within a given country, some cooperative banks may be better capitalized, more digitized, or more exposed to risky assets than others. The absence of granular, bank-specific data limits the ability to test micro-level hypotheses or conduct disaggregated risk analysis. While national averages provide useful insights into sectoral trends, they may mask important outliers or internal variation—particularly relevant in countries like Italy, where fragmentation has historically been a challenge.

A third methodological constraint is the unavailability of certain qualitative variables that might influence bank performance, such as management quality, member engagement, or internal governance practices. These factors are difficult to quantify and are often omitted from large-scale financial databases, but they play a crucial role in determining how cooperative banks respond to stress. For instance, the internal solidarity mechanisms within Crédit Agricole or the voluntary coordination frameworks within Grupo Caja Rural undoubtedly contributed to their resilience, but these structural attributes are not easily captured in a quantitative model. Future studies could address this gap by incorporating case studies, surveys, or qualitative interviews alongside econometric modeling.

Another challenge stems from the differential implementation of regulatory standards. Although all three countries operate within the European Union and are subject to the Basel III framework and the Capital Requirements Regulation (CRR), there remain significant national differences in how these rules are interpreted and enforced. For example, the speed and manner

of implementing Institutional Protection Schemes (IPS) varied widely between France, Italy, and Spain. These differences influence the performance outcomes observed but are difficult to isolate and control for econometrically. As a result, some portion of the cross-country variation in resilience and efficiency may reflect regulatory discrepancies rather than intrinsic differences in cooperative banking models.

A further methodological limitation involves the measurement of crisis effects. The 2008 financial crisis and the COVID-19 pandemic were fundamentally different in origin and propagation. While the thesis addresses this distinction through time dummies and interaction terms, a more detailed structural modeling approach—such as vector autoregression (VAR) or structural equation modeling (SEM)—might capture these dynamics more fully. However, such models require richer datasets and additional assumptions that were not feasible within the scope of this study. Future research could expand the econometric toolkit to incorporate these methods, offering a more comprehensive picture of how cooperative banks transmit and absorb shocks across time.

It is also important to note the potential for survivorship bias in the dataset. Banks that failed or were absorbed during the period under study may no longer appear in the EACB statistics. As such, the dataset may slightly overestimate the stability of the cooperative banking sector by excluding less successful institutions. While this bias is difficult to avoid in retrospective studies, it underscores the importance of contextualizing findings within broader structural and regulatory trends. Where possible, this thesis has cross-referenced financial performance with historical events and reforms to ensure that the results are interpreted in light of institutional developments.

Lastly, the thesis is limited by its exclusive focus on financial indicators. While ROA, ROE, and capital adequacy are important metrics, they do not fully capture the social and developmental impact of cooperative banks. For instance, cooperative banks may continue lending during crises not solely due to financial prudence but also out of a sense of social responsibility or member obligation. These motivations are integral to understanding cooperative behavior but lie beyond the reach of standard econometric tools. Future research should explore ways to integrate social performance indicators into quantitative models to better reflect the cooperative banking mission.

Despite these limitations, the thesis remains methodologically sound and empirically rigorous. Its contribution lies in combining consistent data, appropriate econometric techniques, and a comparative framework that respects national specificities. The findings are both statistically

robust and theoretically meaningful, offering a solid foundation for academic reflection and policy debate. The next section concludes the thesis by proposing future research directions and offering a final reflection on the enduring role of cooperative banks in financial systems.

9.3 Avenues for future research

While this thesis has offered significant empirical and theoretical insights into the resilience and performance of cooperative banks in France, Spain, and Italy across two major crises, it also opens multiple avenues for future research. These directions reflect both the limitations identified in the previous section and emerging transformations within the global financial landscape. Future scholarship can build on the foundation laid here by extending the scope, deepening the granularity, and broadening the conceptual frameworks through which cooperative banking is studied.

A natural starting point for further research is the geographical expansion of the study. This thesis has focused on three major cooperative banking systems in Europe, but cooperative banks operate in diverse institutional environments across the continent. Countries such as Germany, the Netherlands, Austria, and Finland possess mature cooperative sectors with distinct legal structures, governance mechanisms, and market dynamics. Including these systems in a comparative framework would allow for a broader understanding of cooperative banking performance across varying regulatory traditions and socio-economic contexts. Such comparative work would also facilitate cross-country benchmarking and reveal whether findings from France, Spain, and Italy are generalizable to other regions.

Another crucial extension involves moving from aggregated national-level data to bank-level microdata. Although this thesis relied on consistent and reliable national indicators provided by the European Association of Cooperative Banks (EACB), the use of bank-level data would enable the examination of intra-country heterogeneity. Not all cooperative banks within a country behave identically; differences in capitalization, asset quality, loan portfolios, and managerial practices can result in varied responses to the same macroeconomic shock. With access to disaggregated data from sources such as Orbis or Bankscope, future researchers could apply multilevel modeling techniques to capture variation across individual institutions and enhance the explanatory power of regression models.

A third promising direction concerns the study of new and evolving crises, particularly in the aftermath of the COVID-19 pandemic. While this thesis captures the initial shock of the pandemic and the immediate banking responses, subsequent global disruptions—such as the

war in Ukraine, energy price shocks, and the inflationary wave of 2022–2023—have created new macro-financial challenges. These include rising interest rates, supply chain instability, and increased volatility in food and energy markets. Investigating how cooperative banks responded to these post-COVID and geopolitical shocks would add a new dimension to resilience research and clarify whether previous strengths persist under structurally different pressures. For example, cooperative banks' exposure to energy-intensive SMEs or agricultural lending could make them particularly vulnerable—or particularly adaptive—under these new conditions.

In addition to temporal and geographic expansion, future research should incorporate qualitative methods to complement econometric modeling. While this thesis has relied on panel regressions to identify performance patterns, interviews with cooperative bank managers, members, and regulators could shed light on internal decision-making processes and organizational culture. Qualitative data would be particularly valuable in exploring governance issues, member loyalty, and risk perception—factors that shape financial behavior but are not directly observable in quantitative datasets. Such mixed-methods approaches could help bridge the gap between institutional theory and financial performance metrics, providing a more holistic understanding of cooperative banking dynamics.

Relatedly, future work should seek to develop new metrics that capture the social and developmental impact of cooperative banks. Although this study focused on traditional financial indicators like ROA, ROE, and CET1, cooperative banks are designed not only to generate profit but also to serve community needs. Therefore, integrating indicators of financial inclusion, SME lending, agricultural financing, and community reinvestment into performance assessments would reflect the dual mission of these institutions. This approach would also align with current academic and policy interests in inclusive and mission-driven finance.

Another area requiring further exploration is the digital transformation of cooperative banking. As fintech, platform banking, and AI-powered credit assessments reshape the financial sector, cooperative banks must adapt without compromising their identity or relationship-based models. Future studies could examine how cooperative banks are navigating digitalization and whether technological upgrades affect their efficiency, outreach, and member satisfaction. Comparative research across countries and within federations could also identify best practices and common bottlenecks in digital strategy implementation.

The integration of environmental, social, and governance (ESG) criteria into cooperative banking models offers another frontier for investigation. Cooperative banks, given their long-

standing commitment to sustainability and community development, are uniquely positioned to lead in ESG-aligned lending and investment. However, little empirical work has been done to assess how these institutions incorporate ESG frameworks into their operations and risk management systems. Future studies could explore how cooperative banks assess environmental risks, offer green financial products, or align with EU sustainable finance regulations. Investigating how ESG integration affects performance and public trust could provide valuable insights for regulators and practitioners alike.

Further research is also needed to explore the design and reform of Institutional Protection Schemes (IPS) across different jurisdictions. As demonstrated in this thesis, IPS play a crucial role in stabilizing cooperative banking systems during crises. Yet the legal structures, funding mechanisms, and operational independence of IPS vary significantly across countries. A comparative legal and institutional study of IPS frameworks could assess their effectiveness, identify best practices, and suggest reforms for improving their capacity to manage systemic risk. Moreover, given the increasing interconnectedness of European banking, future research might explore the feasibility and challenges of cross-border IPS coordination or integration.

A final avenue for future research involves examining cooperative banks' role in promoting sustainable regional development and economic cohesion, especially in rural and underserved areas. Cooperative banks are often the only banking presence in such regions, and their local embeddedness allows them to respond flexibly to community-specific needs. Empirical studies could assess how cooperative banks support rural economic resilience, mitigate depopulation trends, or contribute to regional equity. These questions have gained urgency in the context of growing territorial disparities within the EU and debates about the role of finance in inclusive growth.

In summary, the findings and methodology of this thesis pave the way for a rich research agenda. By expanding the geographical scope, incorporating bank-level data, exploring emerging crises, and integrating qualitative and ESG dimensions, future studies can build on the insights provided here to deepen our understanding of cooperative banking's evolving role in Europe and beyond. As the financial landscape continues to shift in response to technological, environmental, and geopolitical pressures, the need for robust, diversified, and community-anchored financial institutions has never been greater. Cooperative banks, as shown in this study, are well-positioned to meet this challenge—and future research can further illuminate how they will do so.

9.4 Final reflection and summary

This thesis has aimed to contribute to the growing body of literature exploring how cooperative banks, rooted in mutualist principles and community-based governance, respond to financial crises and navigate an increasingly complex regulatory environment. By examining three of Europe's most significant cooperative banking systems—France, Spain, and Italy—over a twenty-year period that includes two major systemic shocks, the study has provided evidence-based insights into the strengths, challenges, and future prospects of cooperative banking in the European context. The findings confirm what practitioners and scholars alike have long suggested: cooperative banks are not merely resilient institutions during crises; they also represent an essential structural pillar for financial diversity, inclusion, and long-term stability.

At the core of this thesis is the idea that institutional diversity enhances systemic resilience. In a world where regulatory frameworks, market pressures, and crisis dynamics often reward scale and profit maximization, cooperative banks have shown that alternative models—rooted in solidarity, proximity, and democratic governance—can perform just as well, if not better, under stress. During both the 2008 financial crisis and the COVID-19 pandemic, cooperative banks continued lending to households and SMEs, avoided excessive exposure to speculative financial instruments, and maintained adequate levels of capitalization and liquidity. Their relative success stems not only from their business models but also from their deep integration within local economies, which enables them to assess risk better, foster long-term relationships, and avoid herd-like reactions during economic turbulence.

These findings resonate with a broader reevaluation of what constitutes a stable and efficient banking system. Traditionally, performance has been equated with profitability and shareholder returns. However, the recent crises have forced scholars and regulators to think more broadly—placing emphasis on risk containment, continuity of credit, and social responsibility. Cooperative banks embody many of these values by design. Their member-based structures promote prudence and sustainability, their decentralized governance allows flexibility and responsiveness, and their not-for-profit orientation aligns their interests with those of their communities. As such, cooperative banks offer an important normative alternative to shareholder-driven commercial banking, particularly when trust in financial institutions is fragile or declining.

Yet, this thesis has also highlighted that resilience does not mean immunity, and cooperative banks are not without their challenges. Regulatory pressures have intensified in the post-crisis period, and compliance burdens continue to grow, particularly under the Basel III framework

and the Capital Requirements Regulation (CRR). These frameworks, while necessary to maintain macro-financial stability, often do not differentiate adequately between different types of banks. As a result, cooperative banks—especially smaller ones—face increasing difficulties in keeping up with reporting, capital, and liquidity requirements that were originally designed for globally systemic financial institutions. The principle of regulatory proportionality, repeatedly discussed in European financial forums, needs more meaningful application if cooperative banks are to remain viable and competitive in the long run.

Moreover, technological disruption, changing customer expectations, and the rise of fintech pose both opportunities and risks for cooperative institutions. If they fail to adapt to the digital shift, cooperative banks risk becoming obsolete in the eyes of younger, digitally native clients. However, if they manage to integrate digital tools while preserving their personal, relational banking ethos, they may become pioneers in human-centered digital finance—an area increasingly valued in a world saturated with impersonal algorithms and automated decision-making.

Looking ahead, cooperative banks are also well-positioned to play a leadership role in green and sustainable finance. Their embeddedness in local economies gives them unparalleled insight into environmental risks and community needs. As the European Union rolls out its Sustainable Finance Disclosure Regulation (SFDR) and Taxonomy Regulation, cooperative banks can serve as transmission channels for green investments and ethical finance. However, this will require institutional commitment, capacity-building, and policy support—areas that future researchers and policymakers must explore and enhance.

From a scholarly perspective, this thesis offers not only empirical findings but also a conceptual shift. It encourages researchers to move beyond monolithic assumptions about banking efficiency and stability and to explore how governance structures, institutional missions, and social capital shape financial behavior. It opens the door to future research that blends quantitative and qualitative approaches, captures multi-dimensional forms of performance, and aligns financial analysis with questions of equity, access, and sustainability.

In methodological terms, the thesis has relied on longitudinal panel regression models, national-level financial indicators, and comparative institutional analysis. While these methods are appropriate for the research scope, they also point toward future improvements: increased access to micro-level data, deeper exploration of country-specific legal frameworks, and more sophisticated modeling of crisis interactions. The analytical frameworks used here—focused on Return on Assets (ROA), Return on Equity (ROE), CET1, and non-performing loans—provide

a solid foundation for continued inquiry into the evolving dynamics of cooperative banking in Europe.

As the thesis concludes, one central message emerges: cooperative banks are not remnants of a bygone financial era—they are anchors of continuity and innovation in a volatile world. Their resilience in crisis is not accidental, but the result of long-term orientation, embedded governance, and community trust. They do not seek to dominate financial markets but to serve the real economy with integrity, adaptability, and purpose. In doing so, they remind us that finance, at its best, is not just about capital flows and balance sheets—it is also about people, relationships, and shared prosperity.

In this sense, cooperative banks serve as a reminder and a challenge. A reminder that alternative models of banking can thrive and offer stability when conventional ones falter. And a challenge to scholars, regulators, and financial leaders to imagine and build systems that are not only profitable, but also resilient, inclusive, and socially meaningful. The research presented in this thesis aspires to contribute to that vision—by providing evidence, drawing connections, and proposing questions that will guide future exploration of the cooperative banking model in a rapidly changing financial world.

The four core hypotheses tested in this research were largely confirmed. Cooperative banks in France, Spain, and Italy demonstrated financial resilience and operational efficiency during both the 2008 financial crisis and the COVID-19 pandemic. While variations existed between countries, the empirical evidence affirmed the stability and socio-economic contributions of the cooperative model, validating its relevance in times of crisis.

List of figures

Figure 1 Growth in the Members of the European Cooperative Bank (Dec. 2004 – Dec. 2024) 49
Figure 2 Growth in Loans of European Cooperative Bank (Dec 2004 – Dec 2023) in million € 51
Figure 3 Growth in Deposit of European Cooperative Bank (Dec 2004 – Dec 2023) – number in million € 53
Figure 4 Growth in Tier 1 Ratio of European Cooperative Bank (2011 – 2022)..... 54
Figure 5 Average Return on Equity in the European banking sector (2002 – 2022)..... 55
Figure 6 Interest income in cooperative banks vs all bank in Europe..... 57
Figure 7 The market share of cooperative banks in France between (2008 – 2023) 64
Figure 8 The presence of the market share for both deposits and loans in Italy 65
Figure 9 The presence of the market share for both deposits and loans in Spain 66
Figure 10 Top 10 total assets in the EU area (numbers in billions) 77
Figure 11 Crédit Agricole Group Structure..... 81
Figure 12 Total number of G-SIBs and D-SIBs..... 92
Figure 13 Number of SIBs by jurisdiction (2018) 93
Figure 14 GDP in France, Italy and Spain (2007 – 2023) (numbers in million €) 147
Figure 15 Inflation rate (%) in France, Italy, and Spain (January 2007 – March 2025)..... 147

List of tables

Table 1. Growth in the Market Share of European Cooperative Banks..... 50
Table 2. Bank business models in Europe..... 75
Table 3. ROA (%) of the top cooperative banks in France, Italy and Spain (2008 – 2023) .. 133
Table 4. ROE after Taxes (%) (2008 - 2023)..... 134
Table 5. Cost/income (%) (2008 - 2023)..... 134
Table 6. Total Capital ratio (%) (2008 - 2023) 135
Table 7. Regression results for the three coop sectors without any effects..... 173
Table 8. Regression results for the three coop sectors with country fixed effects 176
Table 9. The descriptive statistics 176

References

Introduction and conclusion references

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