Ca' Foscari
University
of Venice

Master's Degree Programme

in Amministrazione, Finanza e Controllo

Final Thesis

The Reform of the Italian Cooperative banking sector

Supervisor
Diana Barro

Assistant Supervisor
Giove Silvio

Graduand
Jacopo Marostegan
Matriculation Number 871832

Academic Year
2019 / 2020

I would like to thank professor Barro Diana,
supervisor of this thesis,
for the availability and support shown
to me throughout the writing period.

To my family, for the help provided
throughout the course of my studies.

GENERAL SUMMARY OF CONTENTS

INDEX OF FIGURES

INTRODUCTION

The cooperative credit banks contribute to the heterogeneity of the EU banking system, given that they embed a modus operandi which differs substantially from commercial banks. At the basis of this difference there is a set of values, based on mutuality, a destination of the banking activity aimed mainly at the members and a governance system built on the one-head one-vote rule. Furthermore, within the Italian cooperative system, local banks are focused and operate only in certain Provinces, ultimately contributing to the development of the real economy of a specific area. The aim of this thesis is to provide a contribution to the limited existing literature concerning cooperative credit banks and their lending behaviour, by focusing on the Italian cooperative banking sector, which has recently been the subject of a Reform of the system.

The first chapter introduces the key principles and organizational models which are currently operated in the European context. In addition, through an analysis of selected performance indicators, a quantitative and descriptive overview of the European cooperative banking networks is provided, both through profitability and capital solidity indicators, utilised also within the European banking regulatory framework. Finally, the differences with respect to commercial banks, related to the type of credit supply to borrowers, are analysed. In the second chapter, the focus shifts to the Italian banking system, by focusing the research on the trend of non-performing loans and the correlation with a few macroeconomic variables. Hence, with the aim to maintain an European perspective, the guidelines, provided by the EBA and ECB, for the recognition and management of impaired loans, are introduced. The presence of large quantities of NPLs within the Italian banking system, can certainly depend on some macroeconomic trends but at the same time it can influence the bank's future choices in terms of new loans issued. To verify and analyse the behaviour of the mutual banks on the disbursement of new loans, an in-depth analysis of the available literature is provided and subsequently, through a sample of data obtained from 26 Italian cooperative credit banks, it is analysed, over a time span of 5 years, the possible degree of influence of selected capital and macroeconomic variables on the bank's lending behaviour, identified through the YoY % growth of gross loans.

The third chapter provides an overview of the Italian cooperative system Reform and the main changes that apply to the system, also by considering and comparing the evidence obtained from the empirical analysis. Finally, given the recent upheaval caused by the

COVID-19 pandemic, a few considerations are provided, taking into account the potential resilience of the cooperative credit system to respond to the new challenges that will follow the likely new economic crisis.

CHAPTER 1

COOPERATIVE BANKING IN EUROPE: PAST AND PRESENT

1.1 THE ORIGIN OF COOPERATIVE BANKING – PRINCIPLES

The ethical principles found in the pillars of European Cooperative[1] banking originated during the 19th Century, in the so-called Pre-industrial society[2]. The initial assumption of early cooperators was the belief in the potential, offered by a different model of capital ownership, for improving outcomes in the marketplace, benefiting the weak economic segments and classes in society.[3] In fact, the incoming Industrial Revolution brought within it social inequalities for workers and increased unemployment in the sub-urban areas. These issues, in the eyes of social reformer Robert Owen[4], could not be solved through reforms, such as the Poor Laws of England, in 1834[5].

The first experiment on the banking field, in 1844, is attributed to the Rochdale Society of Equitable Pioneers, founded in the UK: the model was designed to start with the creation of a pool of capital collected in fixed amounts from each member; then the resulting capital would be used to open subsequent stores, in which products where offered to the members at convenient prices. The program, after the opening of several new stores, also achieved wholesale of the goods that were sold in the retail stores of the Rochdale Society. The extent of the growth achieved was remarkable.[6] A similar experiment was conducted

[1] A cooperative is an autonomous association of members united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise. Definition from the International Co-operative Alliance. Available at *www.ica.coop/en/cooperatives/cooperative-identity*.

[2] Pre-industrial refers to the period before machines were introduced to produce goods on a large scale. Definition of pre-industrial from the *Collins English Dictionary*.

[3] Davis and Worthington (1993). *Cooperative values: Change and continuity in capital accumulation the case of the British Cooperative Bank*. Journal of Business ethics, 12(11), 849-859.

[4] Robert Owen (1771-1858), was a Welsh manufacturer turned reformer, one of the most influential early 19th-century advocates of utopian socialism. He also sponsored or encouraged many experimental "utopian" communities, including one in New Harmony, Indiana, U.S. *Encyclopædia Britannica* (Online academic ed.), retrieved 2 April 2019.

[5] In particular, the reform reinstituted the workhouses, so-called "indoor relief". The workhouse was in truth at that time kind of a manufactory, carried on at the risk and cost of the poor-rate, employing the worst description of the people, and helping to pauperise the best. While initially successful in reducing the cost of providing relief to people, the establishment of workhouses ultimately ended up using even more parish resources. Cf. Quigley, W. P. (1996). *Five Hundred Years of English Poor Laws, 1349-1834: Regulating the Working and Nonworking Poor. Akron L. Rev.*, *30*, 73.

[6] Fairbairn (1994). The meaning of Rochdale: The Rochdale pioneers and the co-operative principles (No. 1755-2016-141554).

in France between 1830-1840, under the leadership of Frances Bouchez, aiming to create workers' cooperatives respectively among goldsmiths and furniture makers; eventually Pierre-Joseph Proudhon, a French libertarian socialist, tried to establish a people's bank based on mutual credit.

The first successful credit institutions based on the cooperative model were established in Germany around 1850. At that time, a large portion of the German working population had been impoverished by the consequences of the Stein-Hardenberg reforms in the agriculture sector.[7] Whereas the existent credit institutions would not lend money to the farmers, the figures of Friedrich W. Raiffeisen[8] and Franz H. Schulze-Delitzsch[9] proposed a new solution to such poverty trap. The proposed business models were organized differently but operated on the same principles: the system would rely on its own collected capital to provide insurance and financial services to the members.

The interest of Raiffeisen was based on the rural area and eventually the branches of the new born Credit Union were established in small towns starting from 1862. The distinctive traits were that the management was not salaried for its services and dividends were not paid; the members were subject to the condition of unlimited liability and on the lending side, only long-term loans were provided.

On the other hand, Schulze-Delitzsch's bank model was based in the city and urban area: the management was salaried, dividends were paid, and also short-term loans were granted. From its German roots, the cooperative banking movement spread throughout most of the European continent and to North America, where it gave rise to the Caisses Desjardins (currently Québec's biggest banking group) and the US Credit Union Movement[10].

---

[7] The Stein-Hardenberg reforms of the period 1806-1815, which led to the so-called peasant liberation, had the effect to create a new social context characterized by the free circulation of people and the increase availability of the labour force; further, freedom of trade was established. The drawback of these reforms affected the farmers because they were no longer protected, causing higher employment, in particular in remote rural areas. Adapted from Migliorelli and Weis (2018). *New Cooperative Banking in Europe*. Palgrave Macmillan, 2.

[8] Friedrich Wilhelm Raiffeisen (1818-1888) was a German social reformer who ascribed great importance to solving this problem. As the mayor of a community in the Westerwald region, he was confronted by the plight of farmers, labourers and craftsmen on a daily basis. Following several relatively unsuccessful charitable endeavours, he became convinced that people's problems could only be solved by helping them to help themselves. The Raiffeisen ideal has religious and Christian roots. *History of the Raiffeisen Organization*, Raiffeisen Bank International, www.rbinternational.com, retrieved on April 3, 2019.

[9] Schulze-Delitzsch Franz Hermann (1808-1883) was a German social reformer. Opposed to Raiffeisen's religious ideas, he was a liberal figure.

[10] Fonteyne and Hardy (2011). Cooperative Banking and Ethics. Ethical perspectives, 18(4), 491.

With regard to the Italian territory, cooperative banks were introduced in 1883 by Leone Wollemborg, in the Province of Padova. Later on, the Catholic church supported the development and principles of cooperative banking, and by 1897 there were 904 Casse Rurali and Artigiane banks. Moreover, after the constitution of the Republic of Italy, the Italian Constitution recognized, in Article 45, the social role of cooperative banks[11].

The European movement has been able to share and transfer, through the whole network, fundamental key values that are currently shared by most of the cooperative banks[12] :

- *Democratic governance*: all the members have equal voting rights, which translates in a direct link between the individual's own interest and the governance. The membership is achievable through small investments.
- *Focus on local territory*: cooperative banking groups can count on a dense network of branches and an active presence in the community, in order to respond to the local needs.
- *Resilience*: opposed to shareholder-value banks, stakeholder-value banks (i.e. cooperative banks) aim at maximizing the consumer surplus of their customers in the long term, which translates in a lower-risk approach[13].
- *Non-monetary Compensation and Recognition*: elected officers do not receive direct compensation and tend to perform their work on a volunteer basis. Their primary incentives are then the autonomy and freedom to take decisions at the operational level (within the limits posed by the Articles of the association) and the recognition they gain over the local community[14].

There are several other values that differ from one bank to another, given they are specific to the cooperative model adopted. Nor less important, the mentioned key values support the definition of cooperative banks as dual-bottom line institutions[15] [16]. In other words,

---

[11] Series of historical events found in the official website of the Italian Cooperative association, www.creditocooperativo.it/template/default.asp?i_menuID=35348, retrieved on May 7, 2019.

[12] A list of the values can be found at: European Association of Co-Operative banks, *Key Value*s, www.eacb.coop/en/cooperative-banks/key-values.html, retrieved on April 4, 2019.

[13] Ferri, Kalmi and Kerola (2014). Does bank ownership affect lending behaviour? Evidence from the Euro area. Journal of Banking and Finance, 48, 194-209.

[14] Migliorelli and Weis (2018). New Cooperative Banking in Europe. Springer International Publishing, page 144.

[15] Groeneveld (2014). Features, facts and figures of European cooperative banking groups over recent business cycles. Journal of Entrepreneurial and Organizational Diversity, Special Issue on Cooperative Banks, 3(1), 11-33, page 5.

[16] Ayadi et Al. (2010). *Investigating diversity in the banking sector in Europe: Key developments, performance and role of cooperative banks*, page 13.

the objective of profitability is intertwined with the support to the local community welfare.

1.2 BUSINESS MODELS AND GOVERNANCE OF COOPERATIVE BANKING GROUPS IN THE EUROPEAN UNION

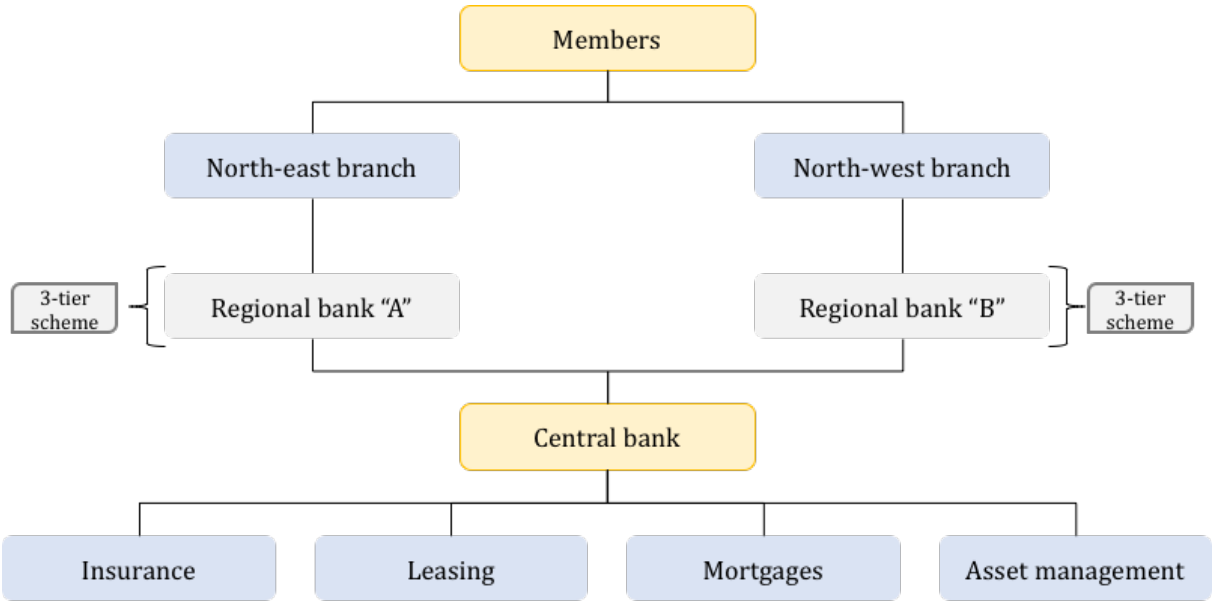
Within the scope of this thesis, it is important to provide a proper introduction to the governance of cooperative banks and point out the main characteristics from a qualitative point of view. In fact, one of the main challenges for cooperative banks is represented by their peculiar governance model: the EU banking regulation, as a consequence the Financial Crisis, is moving towards a harmonization of the system in order to create a unique framework for controlling purposes. On the other hand, the literature promotes the contribution of the cooperative model governance to the diversity of the EU banking system[17]. But in order to find a solution or a new opportunity to this particular structure of governance, it is useful to outline its modus operandi.

Cooperative banks in the EU operate on a system of local branches, usually connected by means of affiliation or brand. As a result, the cooperative banks are organized in a group or network. The level of integration and governance differs among the models, but nevertheless, an inverted pyramid tiered structure is found in all of them[18]. For the majority of cooperative banks, it translates into a *two-tier network* where the basis is represented by local branches, owned by the members and on the top, it is located a central entity (figure 1). Moreover, there are cases of the presence of a Regional bank between the central entity and local branches, in the so-called *three tier network*. On the one hand, the single branch core activity is to deliver the services to its members and maintain a consolidated local presence through business relationships and social initiatives. On the other, the central body provides liquidity, cash clearing and access to international markets; it is also responsible for the strategic choices. Other specific financial services, inter alia Asset Management and Investment Banking activities, are either performed by the central entity or outsourced.

[17] Bourdieu (1986). The forms of capital.

[18] Categorization can be found at www.eacb.coop/en/co-operative-banks-models-groups-and-networks.html, retrieved on April 10, 2019.

Figure 1 – Representation of two-tier and three-tier cooperative banking networks.



Source: personal elaboration based on EACB data.

With regard to the governance among cooperative banks, there is not a single model that fits all the entities and hence we will introduce a span of different categorizations, which can be retrieved from the literature. It is useful to remind that despite differences over the models, regulation and risk management processes, the governance always carries the rule of one head-one vote and members always possess the voting rights to control the parent companies.

The first and foremost classification comes from the EACB[19], which categorises a cooperative banking network by looking at the different clauses defined by the regulation provided in CRR[20] (see figure 2).

[19] Founded in 1970, the EACB is a leading professional lobbying association in the European cooperative banking. The EACB represents, promotes and defends the common interests of its 27 member institutions and of cooperative banks, with regard to banking as well as to co-operative legislation. Categorization can be found at www.eacb.coop/en/co-operative-banks-models-groups-and-networks.html, retrieved on April 10, 2019.

[20] CRR, Capital Requirements Regulation. Regulation (EU) no 575/2013 of the European Parliament and of the council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012. The CRR provides a set of prudential rules on capital, liquidity, leverage and counterparty credit risk. It can be referred as an application of the Basel III Accords on capital

- Basic models → represent the lowest level of integration between local branches and the designated central bank. The Art. 400.2 (d) and 422.8 CRR guarantee to the Central institution the activities of cash-clearing and liquidity management. This type of banks does not have an IPS[21] or a cross-guarantee scheme[22].
- Integrated models → represent higher integration. From the one hand, the marketing of products is conducted under a common brand and advertising. On the other, the legal structure differs in the level of management integration, centralized control and independence of regional and local banks. Hence, the following categorization is provided:
    - *Networks with an Institutional Protection Scheme*: as stated in art. 113.7 CRR[21], a contractual or statutory liability arrangement is signed between the central institution and local branch. Still, the local banks being part of the system are largely independent in the daily operations.
    - *Integrated cooperative networks*: a parent-subsidiary relationship between the central Institution and the local branch is outlined by art. 113.6 CRR. This relationship assigns to the parent institution a higher level of control on the controlled entities. Furthermore, the banks being part of the network are controlled on the basis of consolidated accounts. A cross-guarantee scheme is established.
    - *Consolidated cooperative group:* the highest form of integration, specifically reported in art. 10 CRR. Within this model, the management of the central body is empowered to issue instructions to the management of affiliated institutions. The solvency and liquidity of the central body and of all the affiliated institutions are monitored on the basis of consolidated accounts of these

standards and capital measurements. Adapted from Ferran and Babis (2013). *The European single supervisory mechanism.* Journal of Corporate Law Studies, 13(2), 255-285.

[21] Art. 113.7 CRR defines the Institutional Protection Scheme as a contractual or statutory liability arrangement which protects those institutions and in particular ensures their liquidity and solvency to avoid bankruptcy where necessary. With the exception of exposures giving rise to Common Equity Tier 1, Additional Tier 1 and Tier 2 items, institutions may not apply the risk-weighted exposure amounts to exposures with counterparties with which the parent institution has entered the Institutional Protection Scheme.

[22] Art. 10.1 CRR applies the definition of a Cross-Guarantee scheme to institutions meeting the following requirements: (a) The commitments of the central body and affiliated institutions are joint and several liabilities or the commitments of its affiliated institutions are entirely guaranteed by the central body; (b) the solvency and liquidity of the central body and of all affiliated institutions are monitored as a whole on the basis of consolidated accounts of these institutions; (c) the management of the central body is empowered to issue instructions to the management of affiliated institutions.

institutions[23]. The previously mentioned cross-guarantee schemes are maintained in the case of financial distress of any member.

Figure 2 – Organizational models in cooperative banking defined by the CRR.

	BASIC MODELS	INTEGRATED MODELS		
		Networks with an IPS	*Integrated cooperative networks*	*Consolidated cooperative groups*
Legal references	Art. 400(2)(d), 422.8 CRR	Art. 113.7 CRR	Art. 113.6 CRR	Art. 10 CRR
Degree of centralisation	Low	Low or medium	High	Very high
Regulating Body	National Competent Authority	National Competent Authority	NCA or European Central Bank	NCA or European Central Bank
Consolidated accounts	No	No	Yes	Yes
Institutional Protection Scheme	No	Yes	No	No
Cross-guarantee scheme	No	No	Yes	Yes
Examples of groups	Polish and Hungarian cooperative banks	BVR (DE), Fachverband der Raiffeisenbanken (AT), FederCasse (IT)	Crédit Agricole, Crédit Mutuel, BPCE (FR)	OP-Pohjola (FI), Credito Agricola (PT), Raiffeisen Luxembourg (LU)

Source: Personal elaboration on EACB Data.

A second study of the classification among different governance models comes from Deville and Lamarque (2014). The author analyses the organizational and the governance structure of cooperative banking networks through the following qualitative dimensions:

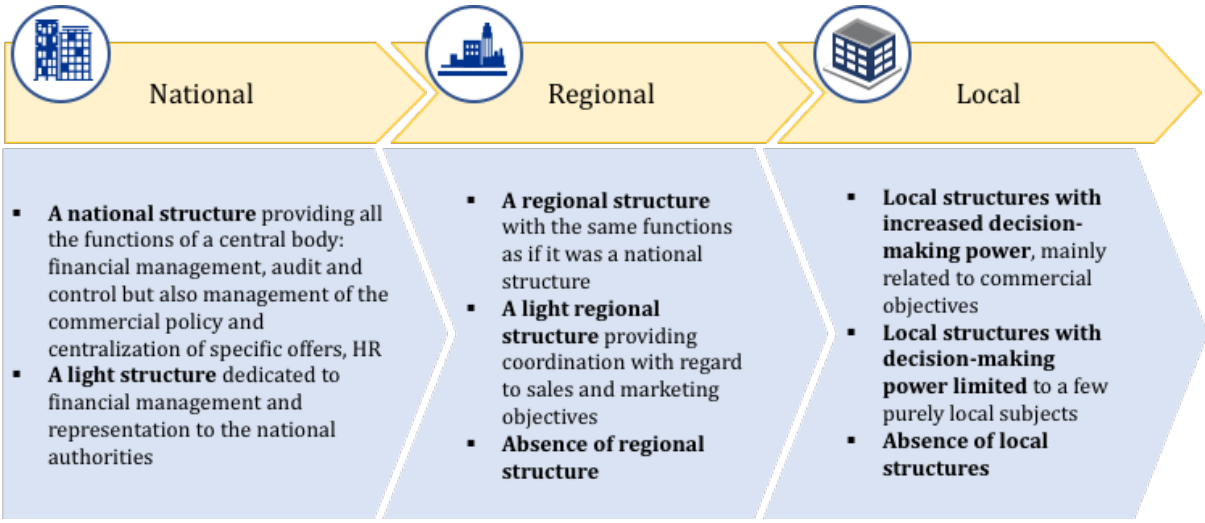
a. *The possible levels of decision making.*
b. *The interaction between the levels.*
c. *The capacity of governance bodies to influence management decisions.*

The qualitative dimensions were identified by conducting n. 15 interviews with eight financial cooperative groups in the EU. The results are summarised in figure 3.

The first dimension (a) analyses the centres of decision making based on their geographical positioning and assigns at each of them a categorical variable with the values of "extended power" and "limited power".

[23] Adapted from the Art. 10.1 C.R.R., Interactive Single Rulebook.

Figure 3 – Degree of autonomy at difference levels of governance.



Source: Personal elaboration on Deville and Lamarque (2014).

The second dimension (b), identifies four different business areas, which are control, human resources, finance and marketing, customer relationship management. These mentioned areas are used as benchmark to verify if the decision-making is restricted to a specific level of governance or shared across the structure.

The third dimension (c) analyses the capacity of the general assembly and board of directors to influence management decisions. In fact, the commonly accepted idea is that, apart from the control function exercised by the governance bodies, their influence remains rather weak. This issue has its roots in the lack of skills and knowledge of apical figures, often elected for purposes of corporate policy.

Finally, after analysing the sample of cooperative banking groups through the three mentioned dimensions, Deville and Lamarque identified three-models of governance which are summarised in figure 4.

The analysis of both the categorizations provided by the clauses of the CRR and the latter qualitative study proposed, should convey the idea of how the governance of cooperative banks can adapt to country-specific singularities and needs of the members. At the same time, these structures are subject of constant analysis by the EU regulating bodies, given that it is not possible to have a common framework to analyse how the hierarchy and decision making may take place inside cooperative banking groups. As a consequence, the governance should adapt in order to meet the requirements posed by the regulators. In

the case of the Italian cooperative banking system, the requirements and needed changes will be analysed in chapter 3, after having described the new regulatory framework.

Figure 4 – Types of governance in cooperative banking.

Governance model	Description
Centralized	**The central entity guides the decisions** of all key functions of the group (financial, marketing, human resources, control) and it is able to exert its authority on all local or regional entities.
Shared	In this model , **the legitimacy in decision-making choices is effective at both the national and regional levels**; decisions are often constructed in common. Assemblies of elected representatives are consulted at both the regional and local levels but do not set the objectives.
Decentralized	**Local and regional entities possess considerable power on the complete set of key functions**; the purpose of the central entity is to monitor the performance of local entities, centralize financial data and support them in the implementation of their liquidity and development strategies; assemblies of elected representatives at the regional or local level may take part in making strategic decisions and defining objectives

Source: personal elaboration and translation from on Deville and Lamarque (2014).

1.3 DESCRIPTIVE ANALYSIS OF THE EU COOPERATIVE BANKING SECTOR

The aim of this section is to provide the reader with a set of important key-financial indicators of cooperative banking groups in Europe, in order to understand the market positioning from a quantitative point of view.

The starting point of the research is a sample of sixteen cooperative banks from twelve European countries, both from the Eurozone (Monetary Union) and other stages of the Economic and Monetary Union process (i.e. Denmark and UK)[24]. The data was retrieved on a consolidated basis, that is from the top of the financial controlling entity with regard

[24] Denmark adopted the Exchange Rate Mechanism-II- with opt-out, whereas the UK is an EU member with out-put option. Stages of Economic and Monetary Union (EMU) defined at https://www.ecb.europa.eu/ecb/history/emu/html/index.en.html, retrieved on May 2019.

to each cooperative group. For a structured and clear understanding of the sources of data, an illustrative table is provided below here in figure 5.

Figure 5 – Source of data for the EU cooperative banking sector analysis.

Country	Cooperative Banking Group	Data Indicators	Source of Data	Audited
AU	Raiffeisenbanken Volksbanken	E - P - C - M	EACB Data series - Annual report 2015-16-17	Yes
DK	Nykredit	E - P - C - M	EACB Data series - Annual report 2015-16-17	Yes
FI	OP Financial Group	E - P - C - M	EACB Data series -Risk report Pillar III 2015-16-17	Yes
FR	Crédit Agricole Credit Mutuel Groupe des Banques Populaires et des Caisses d'Epargne (BPCE)	E - P - C - M	EACB Data series - Financial report 2015-16-17	Yes
DE	Co-operative Financial Network	E - P - C - M	EACB Data series - Consolidated Financial Stat. 2015-16-17	Yes
IT	Federcasse BCC	E - P - C - M	EACB Data series - Bilancio Coerenza 2015-16-17	Yes
LU	Banque Raiffeissen	E - P - C - M	EACB Data series - Risk report Pillar III 2015-16-17	Yes
NL	Rabobank	E - P - C - M	EACB Data series - Pillar III report 2017 - Annual report 15-16	Yes
PL	National Union of Co-operative banks	E - P - C - M	EACB Data series - EACB Report 2017-16-15	Yes
PT	Credito Agricola	E - P - C - M	EACB Data series - Consolidated Financial Stat. 2015-16-17	Yes
ES	Union Nacional de Cooperativas de Credito Banco de Credito Cooperativo	E - P - C - M	EACB Data series - Report with prudential relevance 2015-16-17	Yes
UK	Building Societies Association	E - P - C - M	EACB Data series - Annual report 2015-16-17	Yes
EU (18)	Macro data	GDP - U - Y	ECB Statistical Data Warehouse	Yes

Legend **E**: economic **P**: profitability **C**: capital structure **M:** market share **GDP:** real GDP % growth **U**: unemployment % growth **U**: deposit / lending yield

Source: personal elaboration.

Within the sample, we have identified whether each banking group is considered as a *Significant Institution* or *Less Significant Institution*, under the criteria defined by the European Central Bank. The threshold is of particular importance since it defines whether the credit institution is *significant*, and hence under the ECB's direct supervision, or *less significant*, that is under direct supervisory responsibility of the relevant national authority. Generally, less-significant institutions are associated with a lower amount of publicly available data, given that they are not obliged to produce the same detailed data for regulatory purposes (i.e. the case of Italian cooperative banks).

To qualify as *significant*, banks have to achieve at least one of the criteria proposed in figure 6[25] or represent one of the three most significant banks established in a particular country.

Figure 6 – Significance criteria for credit institutions defined by the ECB.

Significance criteria	Description
Size	▪ The total value of the assets exceeds €30billion
Economic importance	▪ Within the specific country or in the EU economy as a whole
Cross-border activities	▪ The total value of its assets exceeds €5billion ▪ The ratio of its cross-border *assets / liabilities* in more than one other participating Member State to its total *assets / liabilities* is above 20%
Direct public financial assistance	▪ It has requested or received funding from the European Stability Mechanism or the European Financial Stability Facility

Source: personal elaboration based on ECB data.

Therefore, in figure 7, it is provided a list of the sample containing credit institutions by country and by the qualitative variable of *significant institution* or *less significant institution.*

On average, the quantity of publicly available data for cooperative credit institutions at the European level is lower compared to commercial banks, given also the fact that cooperative banking groups may have a lower asset volume compared to commercial banks and hence these banks do not qualify as significant institutions. Hence it is recommended, in order to facilitate future research, that regulatory bodies take a step towards the standardization of disclosed financial data.

[25] List and definition of the criteria for determining significance provided by the ECB, found at https://www.bankingsupervision.europa.eu/banking/list/criteria/html/index.en.html

Figure 7 – Description of the sample of cooperative banking groups.

Country	Cooperative Banking group	Significant Institution
Austria (AU)	Raiffeisenbanken	Yes
	Volksbanken	No
Denmark (DK)	Nykredit	Yes
Finland (FI)	OP Financial Group	Yes
France (FR)	Credit Agricole	Yes
	Credit Mutuel	Yes
	BPCE	Yes
Germany (DE)	Co-operative Financial Network	No
Italy (IT)	Federcasse BCC	No
Luxembourg (LU)	Banque Raiffeissen	No
Netherlands (NL)	Rabobank	Yes
Poland (PL)	National Union of Co-operative Banks	No
Portugal (PT)	Credito Agricola	No
Spain (ES)	Union Nacional de Cooperativas de Credito	No
	Banco de Credito Cooperativo	No
United Kingdom (UK)	Building Societies Association	No
Count		
Significant institutions		7
Less significant institutions		9
Total		**16**

Source: elaboration based on EACB data.

In the analysis that follows, we provide key financial indicators of the cooperative banking sector sample at the latest financial data consolidated, in the following order:

- *Macroeconomic environment*
    - Trend of key economic variables in the EU
- *Market share indicators*
    - Total assets of EU cooperative banking groups
    - Total members and member to population ratio
    - Number of branches and local banks
    - Employment change
    - Average domestic market shares
- Financial indicators
    - Average Tier 1 ratio
    - Return on Equity

- Efficiency indicator
    - Cost-income ratio

In the following we consider in detail the above mentioned key financial indicators.

- Macroeconomic indicators
    - Trend of key economic variables in the EU

The most important macroeconomic variables that may affect the business model of credit institutions and in particular, of cooperative banks, have been analysed over the period 2007-2018. This assertion comes from discrete literature support, inter alia Angelini (2018); Accornero et Al. (2017); Messai and Jouini (2013). Moreover, these indicators are found within the ECB methodology and at last from the scenarios used as framework in the EU wide stress test[26].

First of all, in figure 8, we take a look at the average real GDP YoY % growth rate over the period 2007-2018. It catches the eye the level that has never come up above 2 per cent, in contrast with pre-crisis levels. Furthermore, there are wide differences among countries, inter alia in 2018, Italy registered the lowest level, that is 0,9 %. On the contrary, in the same year of reference, Germany and France recorded respectively 1,5 and 1,7 YoY % growth. Cooperative banks, given their higher proportion of lending to the SMEs[27] category[28], are affected more by this exposure to the real sector[29].

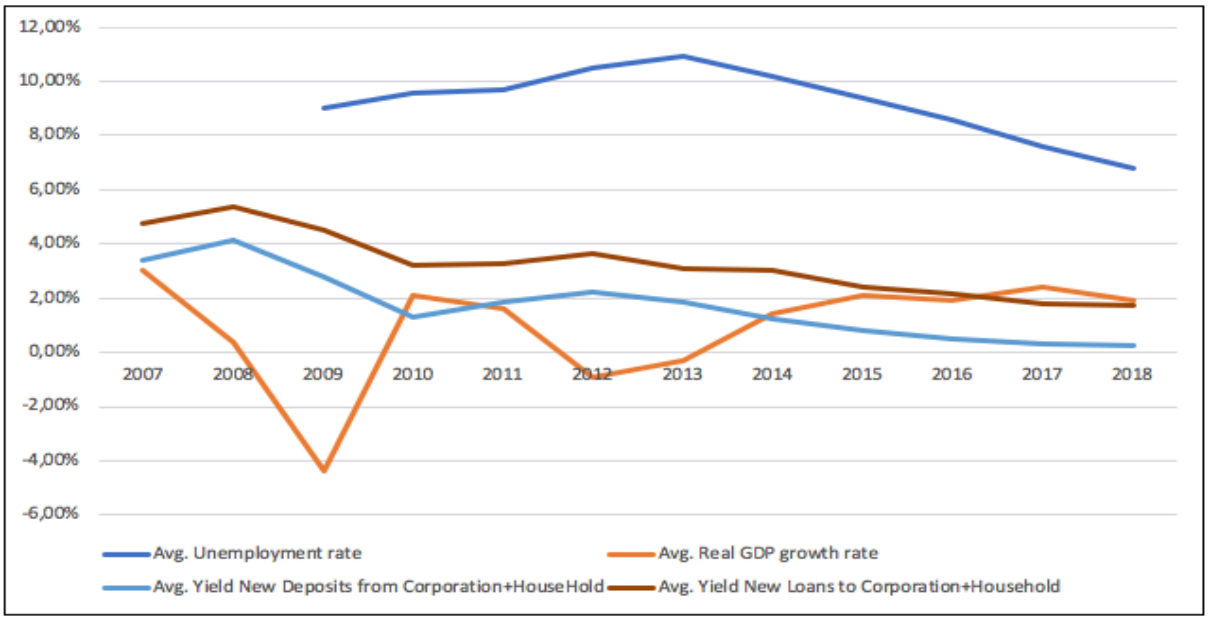
[26] The purpose of the EU-wide stress test is to provide stakeholders, supervisors, banks and other market players with an accepted analytical framework to routinely analyse and assess the resilience of EU banks and the EU banking system to shocks, and to challenge the capital position of EU banks. The exercise is based on a common methodology, internally consistent and pertinent scenarios, and a set of templates that capture starting point data and stress test results to allow a rigorous assessment of the banks in the sample. Adapted from the Methodological Note of EU Wide Stress Test (ECB), retrieved on July 2019 at https://eba.europa.eu/-/eba-publishes-2018-eu-wide-stress-test-results.

[27] Small and medium-sized enterprises (SMEs) are defined in the EU recommendation 2003/361. The main factors which determine whether an enterprise falls within this categorization, are (a) staff headcount or (b) turnover or (c) balance sheet total. Criteria retrieved from the EU Commission website, found at https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en, retrieved on August 2019.

[28] Stefani et Al. (2016). Le Banche Locali E Il Finanziamento Dei Territori: Evidenze Per L'Italia (2007-2014) Bank of Italy Occasional Paper, (324);
Lang and Gvetadze, (2016). The role of cooperative banks and smaller institutions for the financing of SMEs and small midcaps in Europe (No. 2016/36). EIF Working Paper.

[29] Jan Gottschalk (2015). A Macroeconomic Perspective on the Real Sector: Growth, Economic Fluctuations and Inflation. International Monetary Fund workshop.

Figure 8 – Trend of key economic variables in the EU sample.



Source: personal elaboration based on ECB-SDW data.

In addition, the expansive monetary policy and kick-off of quantitative easing started in 2015 by the ECB[30], from the one side had the objective to boost industrial production and trade, but on the other side it has changed the earning capacity of retail banking, dependent mainly from commission earnings and not from trading activities, i.e. the business model of the cooperative banking sector. In other words, the average interest rate from new loans to corporations and households has been steadily declining, from 4,8 % in 2007 to 1,8 % in 2018. It could be argued that the lower interest rates might have come to the benefit of the SMEs sector, but the effect was off-set by the declining or even negative outlook of the real GDP growth rate. At last, there is a slightly negative trend in the average unemployment rate as percentage of active population, starting from 2014, but also in this case there are wide different trends when we compare different countries (Italy's statistics show an average of 11,6 per cent versus Germany with a 4,2 per cent).

[30] On 5 March, the Monetary Policy Committee (MPC) decided to reduce Bank Rate to 0.5% and to undertake what is sometimes called 'quantitative easing'. This meant that it began purchasing public and private sector assets using central bank money. Benford et Al. (2009). Quantitative easing. Bank of England. Quarterly Bulletin, 49(2), 90.

- Market share indicators
    - Total Assets of EU cooperative banking groups as of 31.12.2017

The macroeconomic trends illustrate wide differences among countries of the EU. But also, when the balance sheet side is analysed, by comparing the total assets by cooperative banking group and by country, there is a wide heterogeneity within the sample.
It is provided a brief introduction to the balance sheet of banking institutions, being them different in composition from traditional corporate accounting items.
First of all, the following equation has to be respected:

$$\text{Assets} = \text{Liabilities} + \text{Capital}$$

And with regard to the composition of each side, figure 9 provides a useful exemplification[31]. As reported by Migliorelli and Weis (2018), the most relevant form of financing for a cooperative bank are retained earnings or the capital contribution from its members[32]. Often the by-laws of cooperative banks do not allow the management to perform trading in the capital markets or obtain financing through the selling of shares (i.e. the shares are not marketable).

Figure 9 – Composition of a bank balance sheet - exemplification.

Assets	
€	**2019A**
Reserves and cash items	10.000
Securities	52.000
Loans	125.000
Other assets	15.000
Total Assets	**202.000**

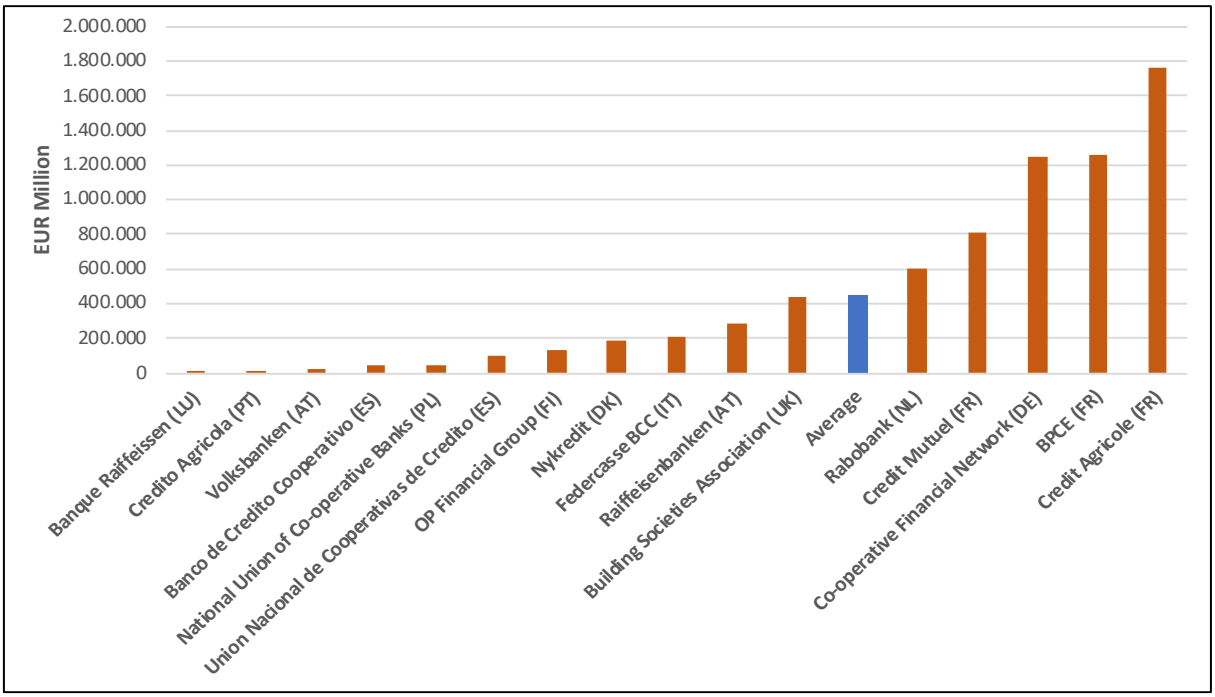
Liabilities - Capital	
€	**2019A**
Checkable deposits	25.000
Nontransaction deposits	125.000
Borrowings	38.000
Total Liabilities	**188.000**
Bank capital	14.000
Total capital	**14.000**
Total Liabilities + Capital	**202.000**

[31] Kristin A. Van Gaasbeck (2016). Introduction to Balance Sheets, ECON 135, California State University – Sacramento.
[32] Migliorelli and Weis (2018) - Page 111.

Source: personal elaboration.

Turning back to the analysis, as showed in figure 10, the first three groups by Total Assets size, namely Crédit Agricole (FR), BPCE (Groupe des Banques Populaires et des Caisses d'Épargne - FR) and the German Co-operative Financial Network (DE), are important and relevant banks in their home markets. Respectively they represent the 24,6 %, 17,5 % and 17,3 % of the total assets in the sample. In other words, these three cooperative banking groups represent ~60% of the sample total assets, and if we consider also Credit Mutuel (FR) and Rabobank (NL) we reach almost ~80%. On the contrary, Federcasse (IT) represents only the 3,0 %. The average total assets in the balance sheet of the sample, denoted by the blue bar, is set at 448.336 euro Million, a 0,4 YoY % decrease compared to 2015. Apart from local or regional cooperative banks models, the consolidated balance sheets comprise domestic subsidiaries, central institutions and foreign activities[33] and thus, we expect the smaller banks of this sample to have a relatively smaller share of domestic loans and deposit compared to the bigger groups.

Figure 10 – Total Assets of EU cooperative banking groups in the EU sample (as of 2017).



Source: personal elaboration based on audited financial reports.

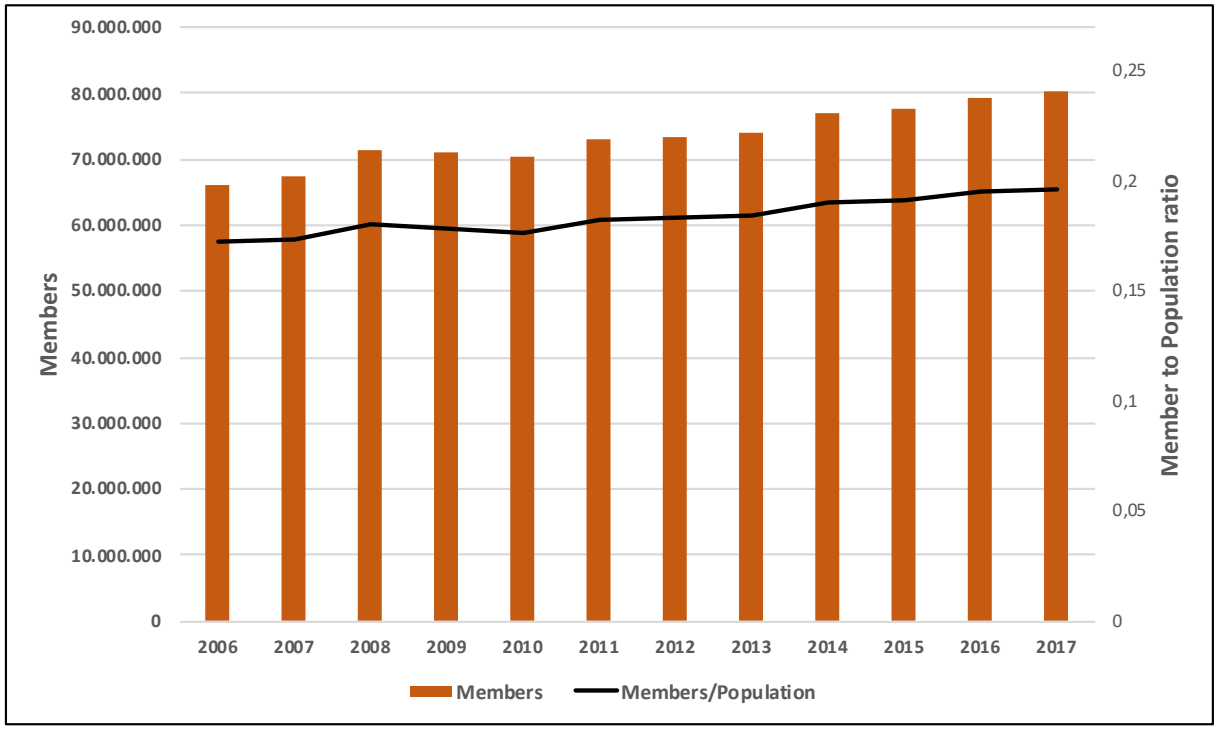
[33] Groeneveld (2017). Snapshot of European cooperative banking. TIAS Working Paper.

- Total members and member to population ratio

Membership is one of the key fundamental principles of cooperative banking. The governance, control and direction are set on the one-head one-vote rule, allowing members to express but also guide the strategy of the bank.

Despite the financial crisis, the growth of new memberships (see figure 11) kept increasing at a positive rate (CAGR[34] 2006A-17A equal to +1,8%). This trend may be influenced by several factors (brand awareness, financial aid, social goals, investments in the community) but overall it confirms an increasing interest over the EU cooperative banking business model. The analysis includes the member to population ratio as well, in order to take into account, the variable of population growth. Eventually, also this ratio kept increasing, from 17,3 % in 2006 to 19,7 % in 2017 (+2,4 pp[35] increase over the period). In other words, almost one out of five people of the sample population is now a member[36] of a cooperative credit institution.

Figure 11 – Total members and member to population ratio (EU sample).



Source: personal elaboration on EACB data and audited financial reports.

[34] Compound Annual Growth Rate.
[35] Percentage point.
[36] The "member" category represents customers that made an equity contribution to the the bank.

- Number of branches and local banks

Sequentially, the trends related to another fundamental principle of the cooperative banking model are investigated, that is the proximity in the local territory. The latter can be analysed through the employment change, the number of branches or independent local banks. Anyway, it is not consistent to conclude straightforward drawbacks about branches being closed, since along the consolidation of the entire banking sector, the cooperative system as well could be pursuing a higher level of cost efficiency, nevertheless maintaining the same level of service quality through the innovative approach of digitalization. The number of branches showed in figure 12, which represents the physical point of touch with the community, decreased from 56.559 units in 2015 to 50.808 units in 2017 (CAGR 2015-17 equal to -5,2%). A look-alike trend goes with the local legally independent banks (see figure 12 as well), decreasing from 3.096 units in 2015 to 2.785 units in 2017. Within the last two mentioned variables it has not been possible to recover comparable data within the 2007-14 period, mainly as a consequence of M&A operations.

Figure 12 – Trend of the number of branches and legally independent local banks.

Cooperative banks' branches EU sample 2015A-17A				
Units	**2015A**	**2016A**	**2017A**	**CAGR 2015-17**
Total units	56.559	54.519	50.808	-5,2%

Local Independent cooperative banks EU sample 2015A-17A				
Units	**2015A**	**2016A**	**2017A**	**CAGR 2015-17**
Total units	3.096	2.941	2.785	-5,2%

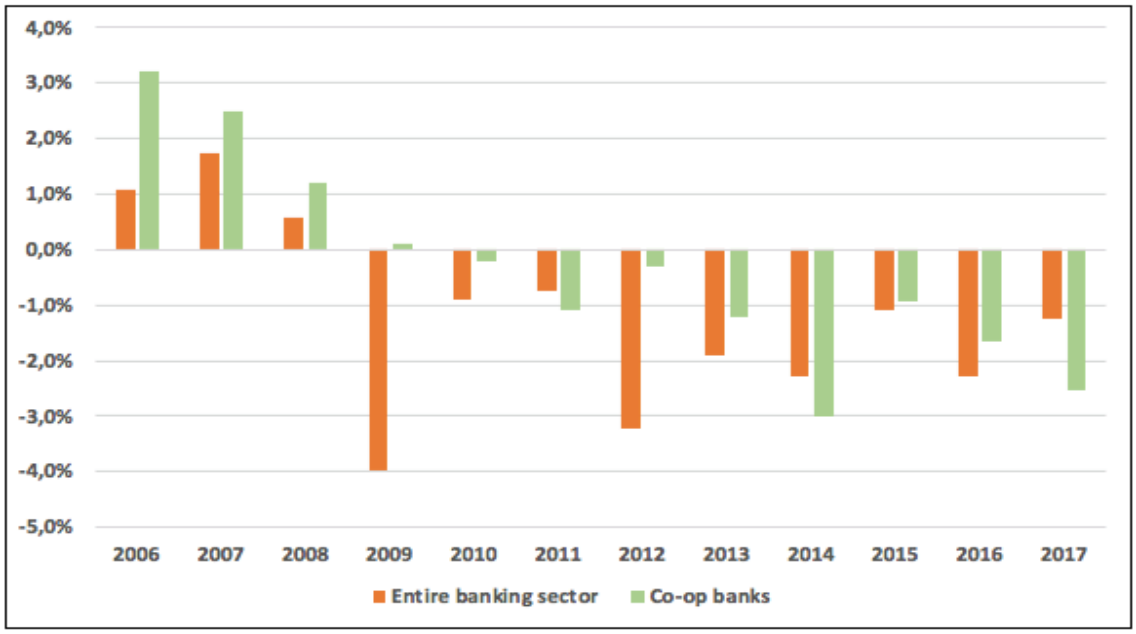
Source: personal elaboration on EACB data.

- Employment change

A divergent trend can be observed by analysing the employment change within the time frame 2006-2017 (see figure 13). At the dawn of the crisis, the EU cooperative banking industry was making new hires at a higher pace than the entire banking sector. The year 2009 represented a turning point for the industry, but still non-cooperative banks were hit harder by the crisis. We may assume that cooperative banks, thanks to their focus in traditional retail banking services, they were not affected in sectors such as trading, fees

and commission services. On the contrary, non-cooperative banks had to cut jobs as the outlook of the personnel involved in these activities was negative. Starting from 2010 and until 2013, cooperative banks still showed a mild negative trend in employment change, whereas non cooperative banks kept a stronger decline in new assumptions. Surprisingly, from 2014 until 2017, the balance was inverted, and the cooperative sector showed a higher decline as well, maybe due to the beginning of a new strategy to tackle industry changes. This trend is expected to continue over time as a consequence of competition in retail banking, new digital incumbents and automatization of standard processes.

Figure 13 – Employment change 2006-17 (EU sample).



Source: personal elaboration on EACB-ECB data.

- Average domestic market shares

After the previous descriptive analyses, focused on the physical backbone of cooperative banks, it is provided a brief overview of market shares of the EU cooperative banking system, with respect to loans, deposits and mortgages. As showed in figure 14, the average domestic market shares of deposits increased from 21,4% in 2011 to 22,1% in 2017 (+0,7 pp) and loans market share increased from 21,2% in 2011 to 22,5% in 2017. On the contrary, but with less historical data available (period 2015-17), the mortgages market share seems to have been stable, slightly declining from 21,1% in 2015 to 21,0% in 2017

(-0,1 pp decrease). In other words, EU cooperative banks take part, on average, in about one out of five deposits, loans or mortgages.

Figure 14 – Average domestic market share of cooperative banks (EU sample)

Cooperative banks relative market share 2011A-17A								
%	**2011A**	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**Var pp 2011-17**
Deposits	21,40%	21,90%	22,10%	21,90%	21,90%	22,00%	22,10%	0,7 pp
Loans	21,20%	21,50%	21,80%	22,10%	22,30%	22,40%	22,50%	1,3 pp
Mortgages	-	-	-	-	21,10%	20,80%	21,00%	-

Source: personal elaboration on EACB data.

- Financial indicators
    - Average Tier 1 ratio

At this point, it is fundamental to introduce one of the main capital adequacy indicators along with the European regulation framework section banks are obliged to comply with, since it imposes specific definitions of the ratios investigated in the analysis and with regard to their composition.

Soon after the financial crisis of 2007-09, several flaws were brought up about the capital solidity of banks. Due to the fact that every state had its own jurisdiction and disparate regulatory framework, it is not simple nor feasible to make comparisons and adjustments, in order to determine if the covenants about the appropriate level of capital are respected. To tackle these deficiencies, the Basel Committee on Banking Supervision[37] (BCBS) promulgated the Basel III reforms in December 2010, with the target of strengthening the condition of banks' capital bases and increasing the required level of regulatory capital. Regulatory Capital under Basel III is referred as the highest quality of capital, principally composed of shares and retained earnings, in other words the real bearing that can absorb losses. The Basel III reform includes a well-defined classification criterion about the composition and structure of regulatory capital, the role of different types of capital

[37] The Basel Committee on Banking Supervision is the primary global standard setter for the prudential regulation of banks and administers a forum for regular cooperation on banking supervisory concerns. It is composed of 45 members along with central banks and bank supervisors from 28 jurisdictions. Overview of the BCBS, found at https://www.bis.org/bcbs, retrieved on August 2019.

(going-concern, gone-concern[38]), and at last the requirements whether this essential capital basis may be effectively converted into common-equity. By analysing more in depth the composition of Regulatory Capital (summarised in figure 15), the most limpid form of Tier 1 capital is represented by Common Equity Tier 1 Capital (CET 1), composed of common shares or member shares. Additional Tier 1 Capital (AT 1) also provides loss absorption on a going-concern basis, but it is not included in the calculation of CET 1. On the other hand, Tier 2 Capital is treated as gone-concern capital. That is, in the case of bank failure, Tier 2 Capital must absorb losses before the customers with deposits and creditor in general do. The sum of CET1, AT1 and Tier 2 Capital adds to the Minimum Total Capital, that is the total available Regulatory Capital. The Basel III and CRD-IV CRR frameworks have determined minimum levels of CET 1, AT1 and Tier 2 capital, respectively set as a percentage of the risk-weighted assets (RWA) the bank has in its balance sheet. More in detail, the RWA[39] are calculated with the aim to categorize and eventually impair the nominal value computed in the balance sheet of an asset. Increasing weights are assigned following the growing risk of the associated assets, such that a higher risk is positively correlated with a higher amount of risk weight. As a consequence, an increasing amount of RWA will have a negative impact on the capital ratios of the credit institution. The credit institution must hence set aside a portion of capital to counter-balance the effects of an increase in RWA. The main components of risk are represented by (a) Credit risk, (b) Market risk and (c) Operational risk.

The (a) Credit risk represents the risk position of the lendee, in the case the amount financed would not be entirely or in part repaid (for example, a mortgage for the purchase of a real property). The risk can be related to the principal, the accrued interest or both the principal and accrued interest. Furthermore, inside the Credit risk category are also taken into consideration past-due credits, which represent the case when re-payments are behind the schedule, or the country risk, in the event of transactions taking place between two different countries. In the case the credit institution values the credit

[38] The *going concern* capital allows a bank to continue its activities and keeps it solvent. On the other side, the *gone concern* capital allows an institution to repay depositors and senior creditors if the bank becomes insolvent. Definition of going concern and gone concern, found at https://www.consilium.europa.eu/en/policies/banking-union/single-rulebook/capital-requirements/, retrieved on August 2019.

[39] The formula for the calculation of RWA, along with specific explanations, can be found in the website of Bank for International Settlements, at https://www.bis.org/basel_framework/chapter/CRE/31.htm?inforce=20190101.

position as risky, both in term of quality and equity, possible actions may involve a smaller amount lent, which fall in the broadly definition of "credit crunch"[40]. The second component of risk, (b) Market risk, indicates the probability of a traded financial product to be subject to significant fluctuations in its listing, due to factors that directly or indirectly influence its value. These factors can be represented by the trend of main financial market indicators (Euribor, Libor, spread between two sovereign states) or even macroeconomic indicators (GDP growth, Unemployment rate). The assessment of Market risk aims at evaluating the probability of unexpected loss related to the traded financial product, using Value at Risk (VaR) measurement models. At last, the third component of risk, i.e. Operational risk (c), is delineated by the probability that the financial activity will endure fluctuations in value due to unforeseen factors that arise during the normal activities of a bank. The Basel committee defines Operational risk as the exposure associated with losses due to non-effective implementation of internal processes. As it happens with the Market Risk, the evaluation of this risk is assigned to advanced statistical models, and in particular the most common used programs are the so-called AMA type[41] (Advanced Measurement Approaches).

Figure 15 – Components of regulatory capital.

Capital element	Definition	Composition	Required minimum ratio
Tier 1 (going concern)	Common Equity Tier 1 **(CET1)**	Sum of common shares (equivalent for non-joint stock companies) and stock surplus, retained earnings, other comprehensive income, qualifying minority interest and regulatory adjustments	CET > 4,5 %
	Addional Tier 1 **(AT1)**	Sum of capital instruments meeting the criteria for AT1 and related surplus, additional qualifying minority interest and regulatory adjustments	CET1 + AT1 > 6,0 %
Tier 2 (gone concern)		Sum of capital instruments meeting the criteria for Tier 2 and related surplus, additional qualifying minority interest, qualifying loan loss provisions and regulatory adjustments	CET1 + AT1 + TIER 2 > 8,0 %

Source: personal elaboration based on BIS data.

[40] A bank "Credit Crunch" can be defined as a significant leftward shift in the supply curve for bank loans, holding constant both the safe real interest rate and the quality of potential borrowers. Definition from Bernanke, Lown, and Friedman (1991). The credit crunch. Brookings papers on economic activity, 1991(2), 205-247, page 2017.

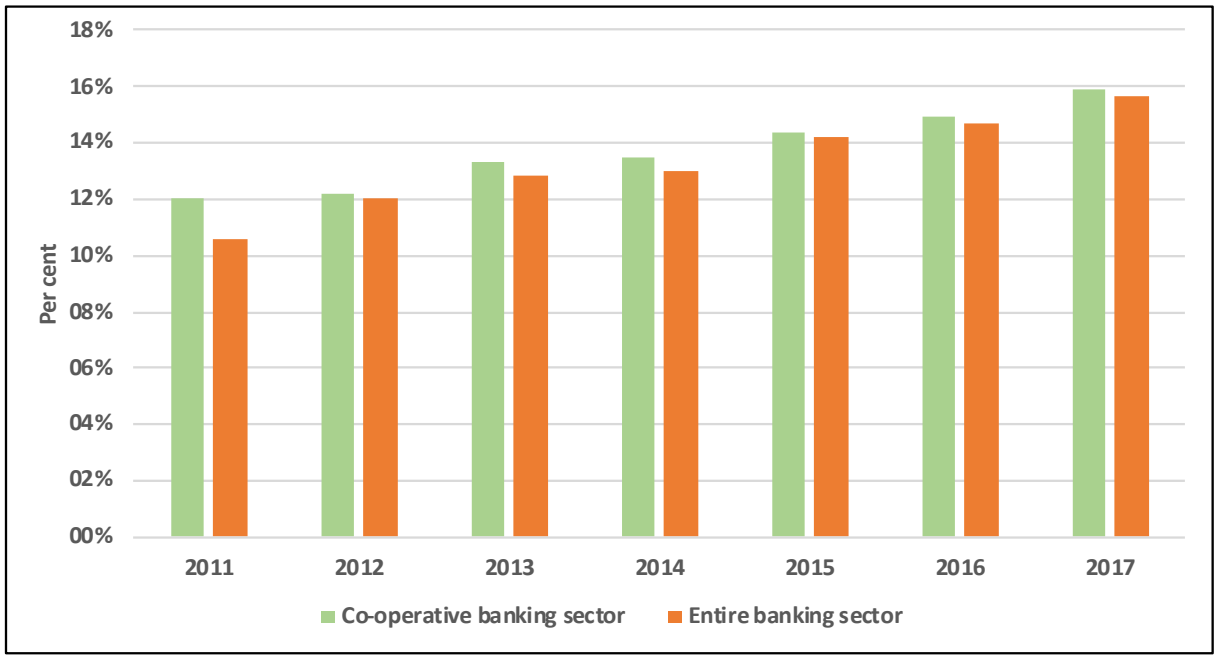
[41] A brief introduction to AMA models can be found at http://www.federalreserve.gov/generalinfo/Basel2

Furthermore, in add-on to the Tier 1 and Tier 2 Capital requirements, the Basel III framework has imposed through the European Systemic Risk Board[42] (ESRB) five categories of capital buffers, namely the Capital Conservation buffer, the Countercyclical Capital buffer, the Systemic Risk buffer, the Global Systemic Institutions buffer and other systemic institution buffers. In particular, the Capital Conservation buffer represents a capital buffer of 2,5 %, calculated also as percentage of the RWA, that needs to be met with an additional amount of Common Equity Tier 1 capital.

After the brief introduction about regulatory requirements related to capital, it is presented the situation of EU cooperative banks Tier1 ratio, compared with the entire banking sector (EU sample). Figure 16 indicates that in 2011 the average Tier 1 of the EU cooperative banking sector was higher than 140 basis points with respect to the entire banking sector. This difference might prove the fact that soon after the Financial Crisis, cooperative banks were better capitalized than their competitors. Unfortunately, from the cooperative banks point of view, the gap narrowed since 2012 and on the other side, the entire banking sector improved in the last years. As of 2017, both the EBS and cooperative banks were on average close to achieve a 16,0% Tier 1 ratio, relatively above the required minimum ratio.

[42] The European Systemic Risk Board was established in 2010 by a commission chaired by Mr. Jacques De Larosière, with the mission to not only concentrate on the supervision of single firms but also on the stability of the financial system as a whole. As a consequence, the ESRB is responsible for the macroprudential oversight of the EU financial system and the prevention and mitigation of financial risk. The above-mentioned risk buffers are part of the National Macroprudential Institutional Framework (ESRB/2011/3). The framework obliges the National authorities (in the case of Italy, Banca D'Italia) and the Macroprudential authority (still in Italy, Banca D'Italia because the government failed to establish by the year 2017 the "Comitato per le Politiche Macroprudenziali") to notify the ESRB of their macroprudential measures in accordance with the CRD-IV, the CRR and other ESRB recommendations.

Figure 16 – Average Tier 1 ratio of cooperative banking groups - EU sample (2011-17).



Source: personal elaboration on EACB and Annual reports.

- Return on Equity

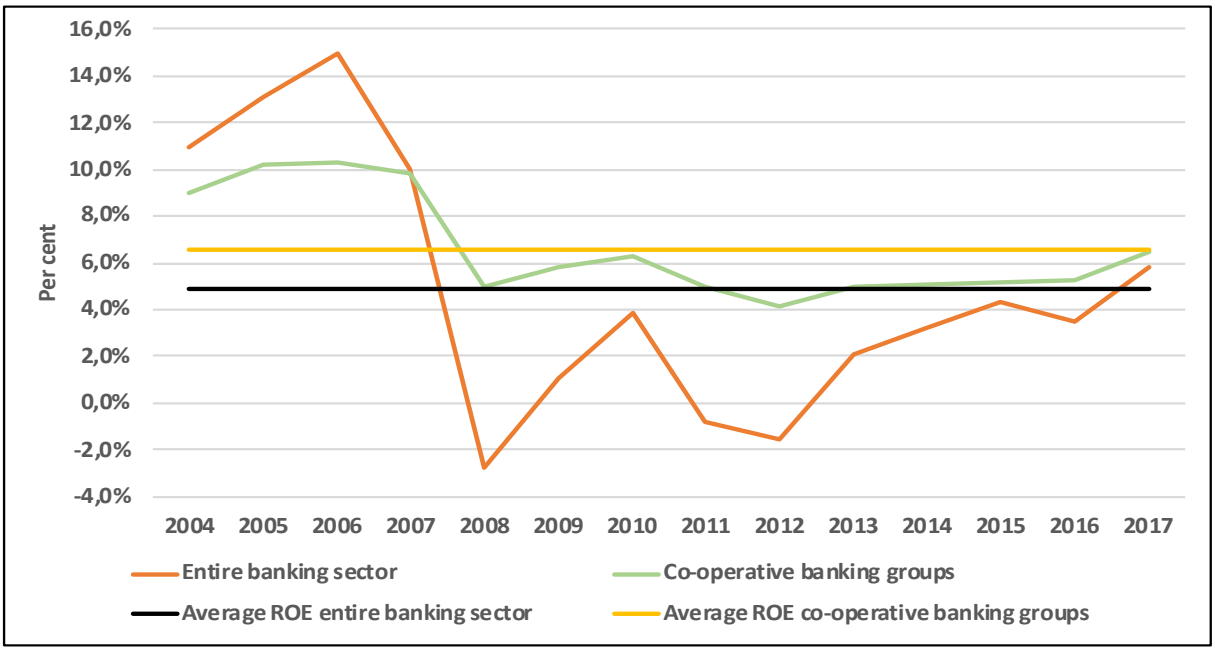
The Return on Equity (ROE) is a common measure of profitability and it is widely used to analyse the performance of an enterprise or a credit institution. The recurrent formula is the following:

$$ROE = \frac{Net\ Income}{Book\ value\ of\ Equity}$$

Any change in a bank's ROE may happen because (a) there is a change in Net Income or (b) there is a change in the Book value of Equity. Figure 17 shows the trends associated with the EBS and cooperative sector. In fact, before the Financial Crisis, the ROE was above 10,0 % for the pair of groups, and the ROE_{EBS} exceed the ROE_{COOP} considerably. But in 2008, both the ROE_{EBS} and ROE_{COOP} were subject to a sudden drop. Surprisingly, the ROE_{EBS} was subject to a more drastic change, probably due to the decline of activities related to trading, CDS and more in general collaterals. Instead, the cooperative banking sector was shielded from this bubble by virtue of the focus in traditional retail banking activities. Retail banking is generally less risky because it is not connected to the changes that markets are usually subject to. Starting from 2012, the ROE started again a positive

trend, but it is not expected to come back to double-digit for a while. In fact, cyclical factors, disruptive business models (FinTech) and the impact of more restrictive regulation are hampering the capacity of banks to make high profits.
One last consideration is that the ROE_{COOP} has been on average 176 basis points higher than the ROE_{EBS} in the period 2004-2017.

Figure 17 – Return on Equity of cooperative banks and entire banking sector over the 2004-17 period (EU sample).



Source: personal elaboration on EACB data and Annual reports.

- Efficiency
  - Cost-income ratio

Before analysing an important indicator of operational efficiency for banks, that is the cost-income ratio, we will take a look in figure 18 at a simple Income Statement from *"Bank Alpha"*.

Figure 18 – Bank's Income Statement example.

	INCOME STATEMENT "Bank Alpha"
1.	Interest Income
2.	Interest Expenses (-)
3.	**Net Interest Income (1 + 2)**
	a) Fees and commissions receivable (+)
	b) Fees and commissions payable (+)
	c) Net Profit or Loss on financial operations (+-)
	d) Other (+-)
4.	Non-interest income (net)
5.	**Gross Income (3 + 4)**
	a) Staff costs (-)
	b) Property costs (-)
	c) Other (-)
6.	Operating expenses (-)
7.	**Net Income (5 + 6)**
8.	Provisions (net)
9.	**Profit before Tax (7 + 8)**
10.	Income tax (-)
11.	**Profit after Tax (9 + 10)**
12.	Distributed profit (-)
13.	**Retained profit (11 + 12)**

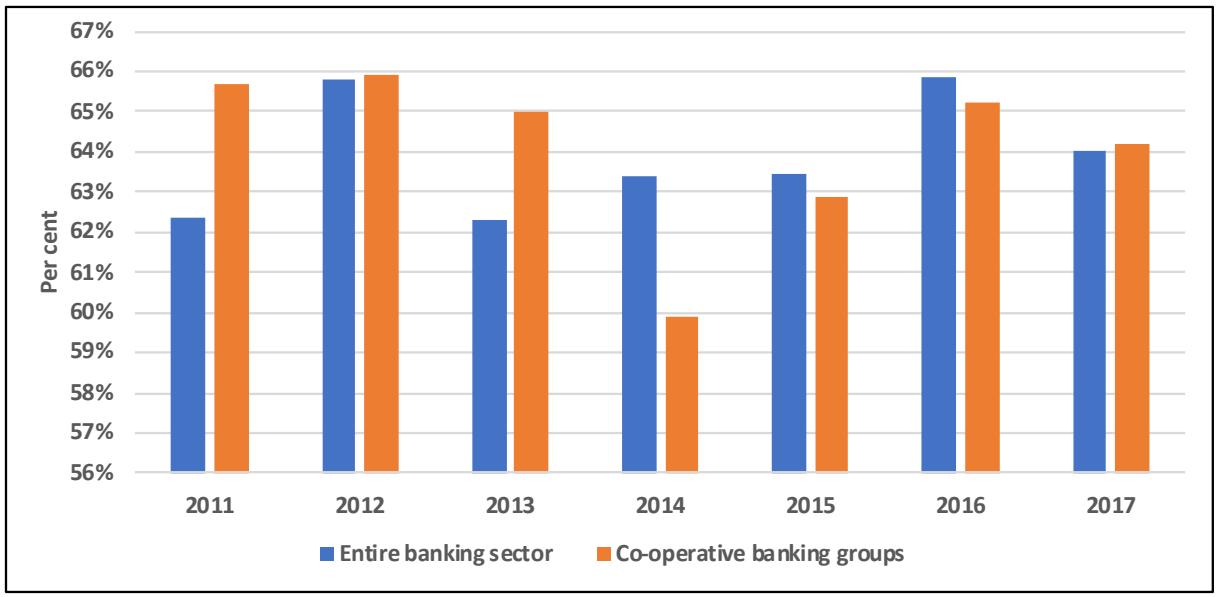
Source: personal elaboration based on OECD[43] scheme.

The #1. Interest Income section typically includes the revenues from fee income related to lending operations, and dividend income on shares and participations. In some cases, it may also include income on bonds calculated as the difference between the book value and the redemption value of bonds. On the contrary, the #2. Interest Expenses generally includes interest paid on liabilities, fee expenses related to borrowing operations and may include in some cases the difference between the issue price on debt instruments and their par value. The sum of #1 and #2 results in the #3 Net Interest Income. Sequentially, the components of #6 Operating expenses, i.e. fees from commissions and net result from financial operations, may come from commissions received and paid in connection with payments services, securities transactions and related services (new issues, trading, portfolio management, safe-custody) and foreign exchange transactions in the banks own name and on behalf of clients. This section is expected to be smaller in absolute and relative value for local cooperative banks, considering the focus of cooperative banks on

[43] Organisation for Economic Co-operation and Development (OECD). Found at http://www.oecd.org/finance/financial-markets/2373422.pdf, retrieved on August 2019.

traditional retail banking and thus avoidance behaviour from the financial markets. The most important voice of cost instead, for cooperative banks, may originate from #6 Operative expenses section. As a matter of fact, cooperative banks, given their focus on proximity through local presence with physical branches, sustain higher costs related to personnel wages, property and maintenance. As a consequence, there is a direct negative impact on #7 Net Income, and at last on #13 Retained profit, which contributes to the capital accumulation. Thereafter, we can now introduce the cost-income ratio, defined as non-interest expense divided by the sum of net interest income and non-interest income. According to an ABA Banking Journal survey of US banks (Cocheo, 2000), this ratio is generally considered an important benchmark[44]. A higher cost-income ratio indicates a lower efficiency, and vice versa. Figure 19 indicates that during the 2011-13 period, cooperative banking groups presented a higher CI-ratio with respect to the entire banking sector. Indeed, the physical presence of branches and staff, have a negative impact in respect of expenses. In the period 2014-2015 the indicators showed the other way around, displaying a higher efficiency for cooperative banks and a decline in the ratio for both the sectors. Finally, during the period 2016-2017 the efficiency ratio was almost equal for the two sectors.

Figure 19 – Cost-income ratio of cooperative banks and entire banking sector (EU sample).



[44]Adapted from Hess and Francis (2004). Cost income ratio benchmarking in banking: a case study. Benchmarking: An International Journal, 11(3), 303-319, page 304.

Source: *personal elaboration on EACB data and Annual reports.*

As a conclusion to this section, there is evidence, among the several indicators we analysed in the EU sample, that the cooperative banking sector has historically showed a different trend and behaviour with regard to Financial indicators and Profitability compared with the entire banking sector. This might come as a consequence of the social aim that characterises cooperative banks and hence might lead the management to pursue economic and financial objectives that are different from the majority of commercial banks.

This point will be remarked in the next section, where we will analyse the differences from traditional banking in terms of lending and support to the real economy.

1.4 THE DIFFERENCES FROM TRADITIONAL BANKING: RELATIONSHIP LENDING AND FOCUS ON FINANCING THE SMEs CATEGORY

This section starts with an overview of the concept of relationship lending and why it is associated with the cooperative banking sector. After that, it will be highlighted the importance of cooperative banking financing to the real economy in Europe.

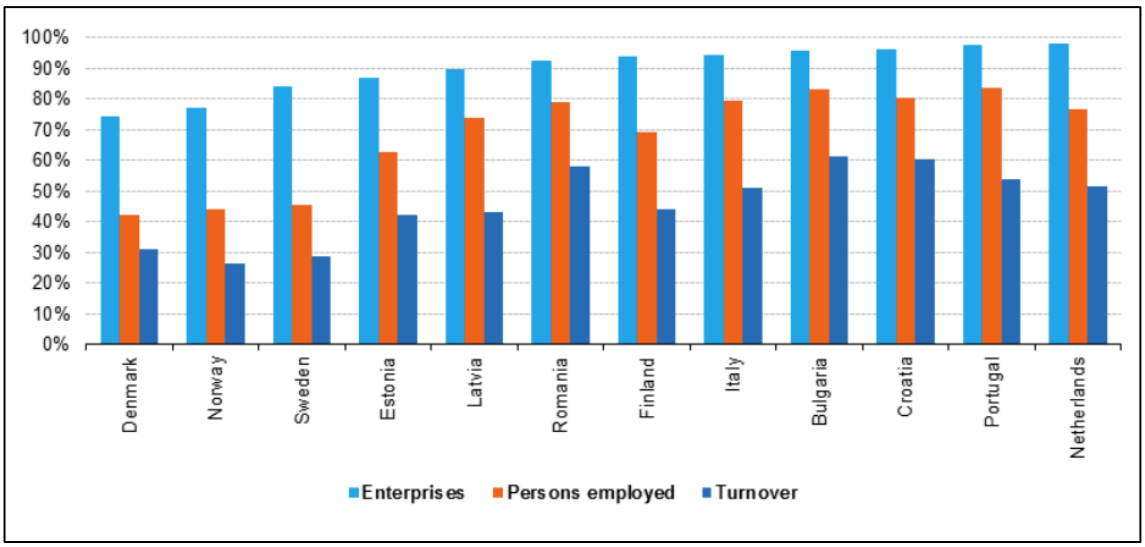
Small and medium-sized enterprises (SMEs) represent 99 per cent of all businesses in the EU[45]. The European Commission considers SMEs as the key to ensure economic growth, innovation, job creation and social integration in the EU[46].

In Italy, SMEs represent more than 90 per cent of total enterprises and employ almost 80 per cent of the total population employed, while accounting for 50 per cent of total turnover (see figure 20).

[45] Data found at https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en, retrieved on August 2019.

[46] Adapted from Eurostat Statistics explained, found ad https://ec.europa.eu/eurostat/statistics-explained/index.php/Statistics_on_small_and_medium-sized_enterprises, retrieved on August 2019.

Figure 20 – Percentages of SMEs as total enterprises, personnel employed and turnover.



Source: EUROSTAT statistics on small and medium-sized enterprises.

The strong connection between SMEs financing and cooperative banks lies primarily in two straightforward facts: (a) small corporations cannot access the public debt markets and hence they lean on financial intermediaries, particularly commercial banks[47]; (b) SMEs represent informationally opaque borrowers. The latter refers to the point that SMEs cannot afford to produce audited financial statements on a regular basis given their dimension, available budget and scope of trading. Furthermore, they are not even required to publish the financials, in contrast to publicly traded companies. For example, in Italy, only SPA and SRL entities must produce audited financials, which are well accepted by banks (financial statements lending)[48] in contrast to financials signed by a less relevant CPA.

In order to provide a broader overview, the choices of lending through financial intermediaries can be summarised into four specific lending technologies[49], namely

[47] Adapted from Berger and Udell (1995). Relationship lending and lines of credit in small firm finance. Journal of business, 351-381, page 351.

[48] Financial statement lending places most of its emphasis on evaluating the information from the firm's financial statements (balance sheet and income statement) and it is best suited for relatively transparent firms with certified audited financial statements. Adapted from https://www.skylineuniversity.ac.ae/knowledge-update/finance/financial-statement-lending, retrieved on August 2019.

[49] Adapted from Berger and Udell (2002). Small business credit availability and relationship lending: The importance of bank organisational structure. The economic journal, 112(477), F32-F53.

Financial statement lending, Asset-based lending[50], Credit scoring[51] and Relationship lending. The first three technologies refer to a transaction-based lending, which is supported by the information available at the moment of the loan request. Within these cases, the decision to whether grant or decline the loan request is based on hard-information[52] (i.e. financial statements and business plans), hence the soft-data that may have been gathered over time is not considered in the decision process. With regard to the last choice, i.e. relationship banking, the lending decision is based on the usage of qualitative information that has been gathered through an array of connections over time. This information may have been collected through a pre-existing relationship[53] (previous loans) or through deposits and other financial products[54]. Hence, the principles of cooperative banking, which are based on membership, interaction and mutual trust, may explain why cooperative banks have a crucial role in relationship banking. As reported by Uzzi and Lancaster (2003), the flow of soft information between the lender and the lendee is facilitated by the cooperative business model, in contrast to commercial banks[55].
Furthermore, in the decentralized structure of cooperative banks, characterized by few managerial layers, the employees are more biased to collect soft information embedded in social relationships. Instead, in centralized structures found within commercial banks, the management has less interest but most importantly limited decision power to judge their lending decision based on soft information instead of hard information. Nonetheless, relationship lending may include a few drawbacks.

---

[50] In asset-based lending the decision to grant a loan is based on the value of the assets the borrower offers as a collateral. Adapted from Asset-based lending definition, Business Development Bank of Canada. Found at https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/pages/asset-based-lending.aspx, retrieved on August 2019.
[51] Credit-scoring models enable a lending institution to rank customers according to their default risk, calculated by analysing the financial condition and history of the principal owner.
[52] Hard information is quantitative, easy to store and transmit in impersonal ways, and its information content is independent of its collection. Based on Petersen, M. A. (2004). Information: Hard and soft.
[53] Cole, R. A. (1998). The importance of relationships to the availability of credit. Journal of Banking and Finance, 22(6-8), 959-977.
[54] Adapted from Degryse and Van Cayseele (2000). Relationship lending within a bank-based system: Evidence from European small business data. Journal of financial Intermediation, 9(1), 90-109, page 91.
[55] In their research paper, Uzzi and Lancaster (2003), they aspire to understand which framework may explain how cases of social relationship affect knowledge transfer and reciprocal lending. Their findings show that in arm's length ties between firms, the tendency leans at the transfer of public knowledge and exploitative learning. On the contrary, when firms are associated through embedded ties, they tend to transfer private knowledge and engage in exploratory learning. Uzzi, B., and Lancaster, R. (2003). Relational embeddedness and learning: The case of bank loan managers and their clients. Management science, 49(4), page 383-399.

On the one side, the fact that the firm receives the financing from just one bank, may put the latter in a vendor lock-in position, as it happens with the marketing of physical products or services[56]. Additionally, the operational risk of the bank should also be taken into account. In the case of the bank's financial distress, one of dangers may be represented by the credit-crunch effect. However, the cooperative banking system relies on a higher portion of capital due to its double-bottom social role, as explained in the first section of this chapter, and this comes to the advantage of the lendee. Along with that, the literature "rewards" the cooperative lending system as well[57], reporting a lock-in effect only in the case of commercial banks.

On the other side, cooperative banks may allow soft-information to soften the capital requirements to the extent that it could damage the bank itself in case of financial distress.

After having mentioned the advantages of relationship lending and fit with the co-operative banking model, there is proof that the cooperative sector contributes to the local economy, that is represented my SMEs. The study from Usai and Vannini (2005) examines the role of different types of credit intermediaries by collecting data over the historical period 1970-1993. The authors find that the total size of the credit sector has limited influence on local economic growth. Consecutively, they find that cooperative banks and special credit institutions contribute to the local growth of the region. In other words, cooperative banks, in contrast to more complex financial institutions, are more capable to adapt and provide funding to the SMEs, which in turn represent the bedrock of regional growth.

A more recent study, conducted by Becchetti et Al. (2016), compares different characteristics of cooperative and commercial banks. The research findings are that cooperative banks display above-average financial ratios as the net loans over total assets, lower earnings volatility and lower traded amounts of derivatives in the financial markets. Moreover, they discovered that a higher loan to total assets ratio is positively

[56] The lock-in effect indicates a condition in which the consumer is reliant on a single supplier for a defined product or service, and hence the switching cost to another vendor, in this case represented by a different credit institution, may include additional costs and inconvenience. Adapted from Eurich, M and Burtscher, M (2014). The Business-to-consumer lock-in effect. University of Cambridge – Cambridge Service Alliance research paper.

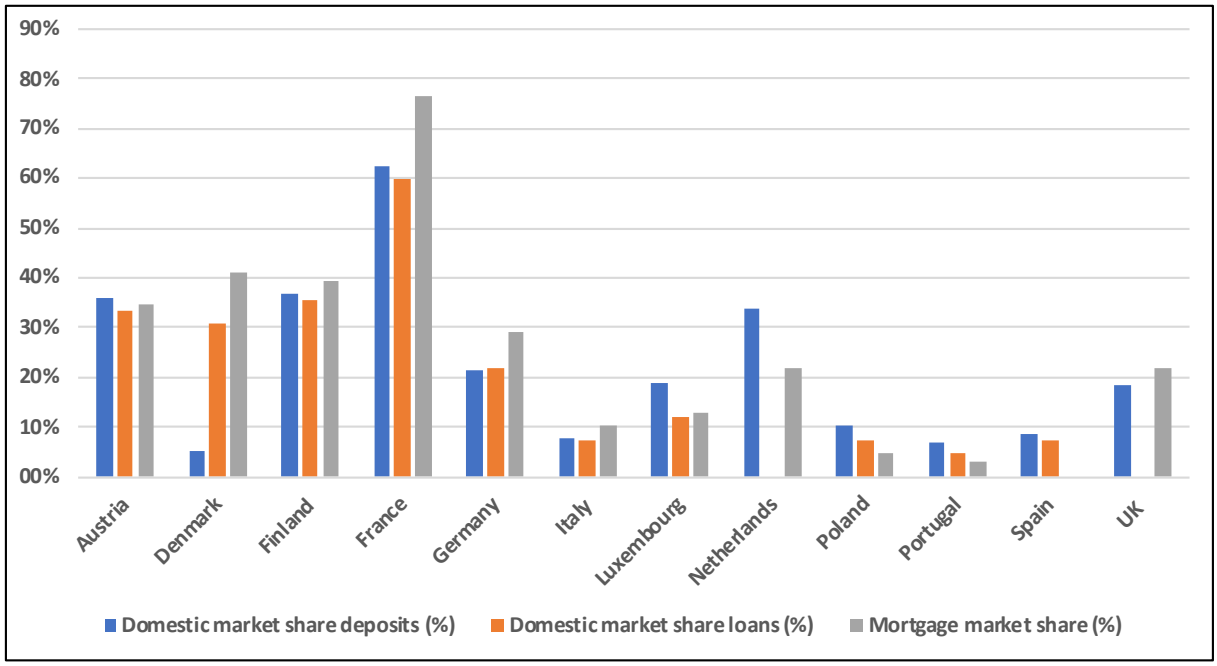
[57] The paper by Angelini et al (1998) investigates the effects of customer relationship on the cost and availability of credit for a sample of Italian firms. Especially, it analyses the presence of differential outcomes connected to the cooperative nature of the credit institution. The findings indicate that among local institutions, cooperative bank's members are relegated lower rates and easier access to credit, independently from the length of the relationship. Angelini, P., Di Salvo, R., and Ferri, G. (1998).

correlated with the value-added growth of the manufacturing sector. Further evidence is provided by Coccorese and Shaffer (2018). The authors analysed the presence and relevance of cooperative banks in local areas, specifically Italian municipalities over the 2001-2011 period, finding that the presence of cooperative banks is more effective with respect to conventional banks, particularly with regard to income, employment and firms' birth growth rates.

Finally, it is provided some evidence from the consolidated data by country in 2017, by presenting a comparison between European countries on the market share of loans and deposits. Unfortunately, not all cooperative banking groups provide data about the percentage of SMEs financed. The issue may originate from the fact that SMEs are hard to identify with a unique indicator since they differ in the definition criteria among sovereign countries.

On average, in the EU area, cooperative banks contribute to about ~20% of the total mortgages, deposits and loans issued by the banking system (see figure 21). The highest market share is represented by the cooperative banking sector in France, thanks to the presence of relevant cooperative groups, i.e. Credit Agricole and BPCE, as showed in figure 10. On the contrary, in Italy the market share is lower, equal to about 10%. However, this does not indicate that cooperative banks contribute with less magnitude to the SMEs financing. In fact, compared to the EU sector, where cooperative banking groups also provide financing to medium-sized companies, the Italian cooperative banking sector is focused on smaller firms, and hence the total amount of loans issued is lower based on the financial needs of the Italian SMEs sector.

Figure 21 – Domestic market share of deposits, loans and mortgages by country within the EU sample (2017).



Source: personal elaboration based on EACB data.

The aim of this chapter was to introduce the cooperative banking system in the EU, through its principles, key values and social aim, which differentiate the system from the other credit institutions. Moreover, in order to contextualize the importance of cooperative banks within the EU, a descriptive analysis compared key economic and financial performance indicators over the last decade. At last, from the supply side of loans, it is explained the difference with respect to commercial banks, i.e. relationship lending. Even if this thesis is focused on the analysis of the effects of non-performing loans and the Reform of the Italian Cooperative banking sector, it was important to provide a broader overview in the light of the European context of which Italy represents a historical member.

CHAPTER 2
NON-PERFORMING LOANS AND LENDING BEHAVIOUR IN THE ITALIAN BANKING SYSTEM

This chapter analyses the possible relation between the NPL ratio and lending behaviour within the Italian banking system and more specifically, with regard to the cooperative banking system. The first section (2.1) focuses on the macroeconomic background in the EU area since the start of the financial crisis in 2008, and the association with the level of NPLs in the banking system. The second section (2.2) introduces the definition and recognition of NPLs through the standards defined by the European Banking Authority, along with the Guidance to banks on non-performing loans. Subsequently, section (2.3) provides a literature overview of the possible effects of capital adequacy and macroeconomic variables on banks' lending behaviour within the entire Italian banking system and when specified, within the cooperative banking system. Finally, section (2.4) introduces an empirical analysis performed on panel data retrieved from a sample of Italian cooperative banks. The analysis is presented on the one hand through summary statistics of the sample, contextualized and compared with the Italian banking system and on the other hand, it explores the possible effects on bank lending behaviour of firm-specific financial risk indicators and macroeconomic variables, among which the NPL ratio, by means of a Fixed-Effects model.

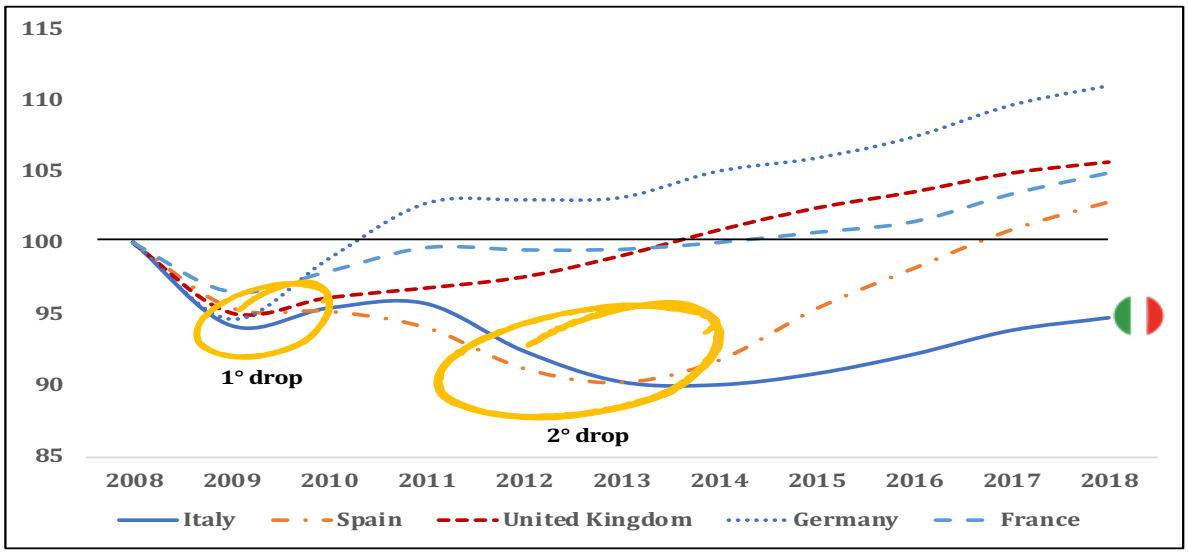
2.1 THE FINANCIAL CRISES – MACROECONOMIC BACKGROUND

As mentioned above, this section analyses from both a qualitative and quantitative point of view the new economic scenario that influenced the European economy and level of NPLs, starting from the financial crisis in 2008. A few macroeconomic determinants have been deeply analysed by the academic literature as variables strictly correlated to the performance of financial institutions and to the growth of NPLs. In fact, the economic crisis impacted on the one hand the monetary policy of the European Central bank (inter alia interest rates) and on the other hand heavily disrupted the real economy, which in turn is also connected to the lending portfolio of banks (loans, mortgages and credit risk).

The focus will be mainly pointed at the Italian GDP growth and the level of non-performing loans. Moreover, as a reference, it will include data from the EU area.

The global financial crisis started in late 2007, when the U.S. subprime mortgage market began to tumble, eventually followed by the bankruptcy of Lehman Brothers and state intervention on many others. The crisis spread outside the U.S. and hit foreign markets that did not seem to be directly associated with the U.S. mortgage markets. The financial contagion was possible due to the connection of financial markets on a global basis, also by means of instruments such as derivatives, which were included in complex portfolios owned by investment and commercial banks[58]. Figure 22 shows the GDP trend registered in a few European countries (Italy, Spain, UK, Germany and France) over the 2008-18 period. The first drop in GDP growth was registered in 2008-09 as a consequence of the Financial Crisis. Moreover, a second drop in GDP was registered starting from 2010, when Greece, Ireland, Portugal and Spain asked the European Union for financial aid, mainly as a consequence of the sovereign debt crisis. Countries such as Germany, France and the UK started to recover in 2015, whereas the Italian economy did not recover with the same pace. In fact, even after 2015 the country has been struggling in the midst of political instability and a high debt level. The recovery then accelerated in 2017, supported by external and domestic demand.

Figure 22 – GDP growth over the 2008-18 period (2008=100).

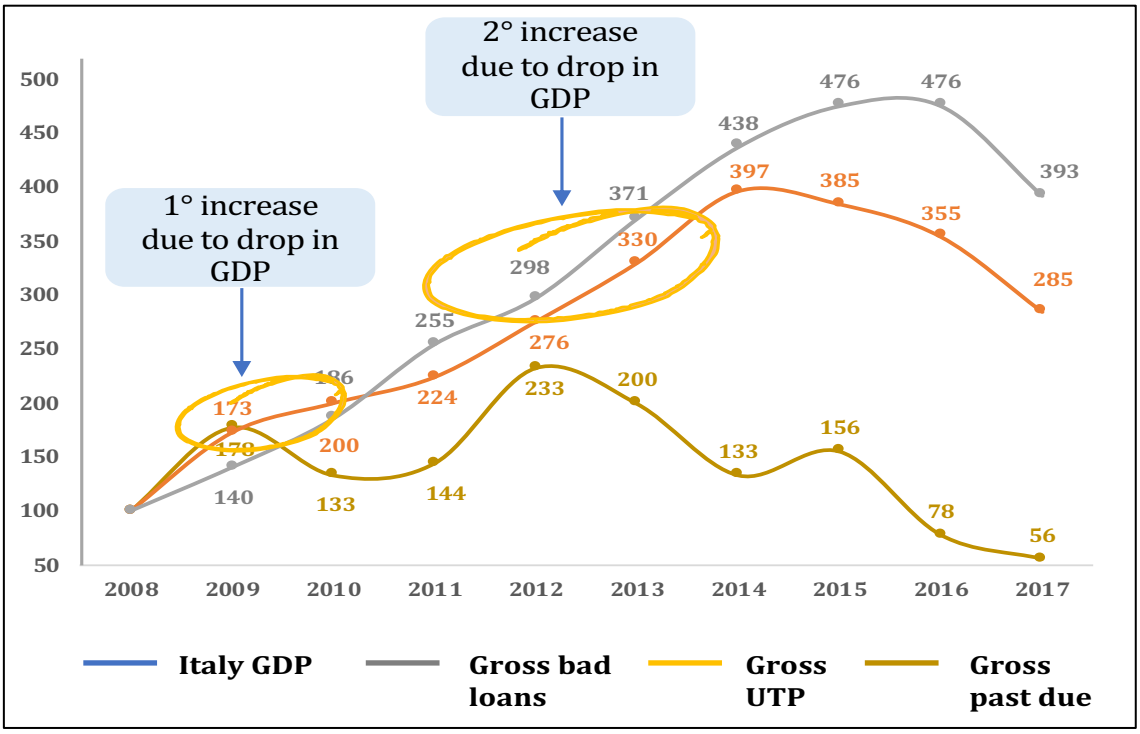


Source: personal elaboration based on Eurostat data.

[58] Adapted from Harkmann (2014). Stock market contagion from Western Europe to Central and Eastern Europe during the crisis years 2008-2012. Eastern European Economics, 52(3), 55-65.

Figure 23 shows the volume of non-performing exposures (composed by gross bad loans; gross unlikely-to-pay and gross past due) of Italian banks over the 2008-17 period, altogether with a callout related to the two GDP growth drops registered in Italy over the same reference period. There seems to be a negative correlation between the YoY GDP growth and the volume of NPLs: in fact, over the 2008-10 period the drop in GDP is linked to a first increase on NPLs and eventually over the 2011-14 period the further decrease of GDP growth is related to an increasing volume of Gross bad loans and Gross UTP. Starting from 2015, the NPLs volume has been decreasing, mainly as a consequence of the slight recovery of Italian economy but also due to tighter regulatory pressure from the EBA and Bank of Italy (by means of "Decreto Crescita") to reduce the NPLs volume in the banking system.

Figure 23 – Gross NPLs trend over the 2008-17 period (2008=100).



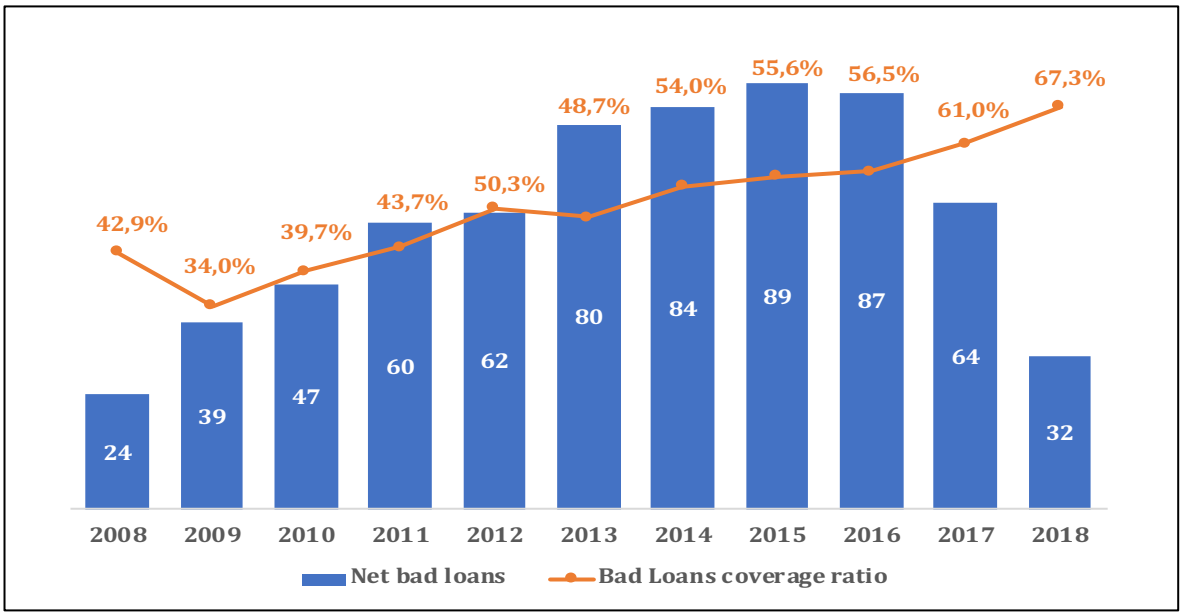
Source: personal elaboration based on data from Bank of Italy "Banche e istituzioni finanziarie: condizioni e rischiosità del credito per settori e territori, September 2019".

Moreover, figure 24 shows the net volume of Bad loans[59] (€b) along with the bad loans coverage ratio: the net bad loans value of Italian banks reached its value peak in 2015 and starting from 2016 it leaned towards a decreasing trend. By taking a look at the bad loans coverage ratio, it has been continuously improving over the considered period, from 42,9% in 2008 to 67,3% in 2018 (+24,4pp increase). With regard to the Italian cooperative banking system (BCC), there is less available data on the aggregated level. However, recent research by Barbagallo (2015) and the Annual report of BCC Pordenonese (2016) highlights that between the two-year period 2013-14, the abnormal loans coverage ratio[60] increased from 30,2% to 36,5% and the bad loans coverage ratio from 47,7% to 51,8% over the same reference period. Apart from the positive trend related to the coverage ratio, the BCC banking system shows lower levels of coverage compared to the entire Italian banking system, the latter registering an average non-performing loans over gross loans and bad loans coverage ratio respectively equal to 44,4% and 58,7% at the end of 2014. The Italian BCCs, since the start of the financial crisis, have been increasing their coverage ratios related to non-performing exposures, but it is necessary to highlight that they had to rely mainly on their own "self-financing" coming from actual shareholders (i.e. the members). Given the fact that regulation has been leaning towards the increase of coverage ratio levels, in order to improve not only the Italian but also European banking system, the Italian cooperative banks have been constrained by the fact that they could not access capital markets to retrieve the necessary monetary resources. The proposed and recently implemented reform of the Italian cooperative banking system allows the mentioned credit institutions to better face the strict capital requirements but also strengthen the most fragile banks of the BCC network.

[59] In order to reconcile the net volume of bad loans with the gross volume of bad loans, the associated provisions must be added. Moreover, the bad loans definition is the equivalent of the NPL categorization. More specifically, the literature analysed does not use a unique definition and sometimes the terms bad loans, NPL and NPE are used with the same meaning. Subsequently, these terms can be decomposed into sub-categorizations (UTP, past due et cetera)

[60] English translation from the Italian definition of "Tasso di copertura dei prestiti anomali".

Figure 24 – Net bad loans and bad loans coverage ratio of the Italian banking system over the 2008-18 period.



Source: personal elaboration based on Bank of Italy data, September 2019.

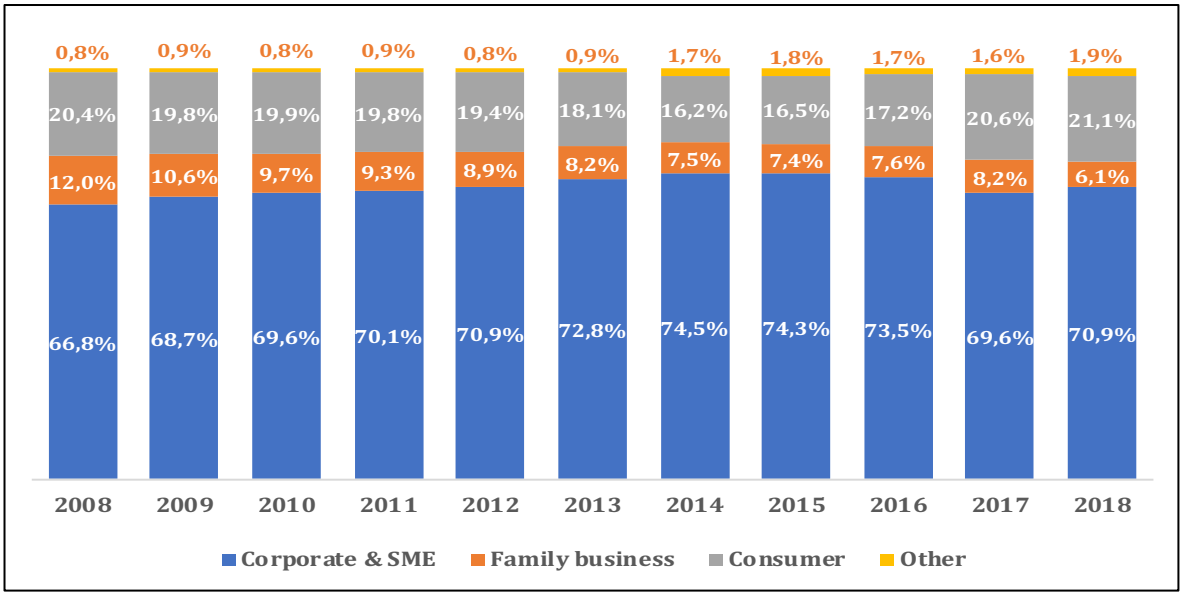
Finally, figure 25 shows the gross bad loans breakdown in Italy by debtor category. This classification represents a useful insight to understand the composition of Italian bad loans in the average portfolio of Italian banks, given the fact that some debtors may be more sensitive to a drop of GDP and subsequent increase of default risk, which in turn affects the banks' loan portfolio.

The data shows that almost 2/3 of total gross bad loans are represented the Corporate and SME sector, followed by consumer loans (~20% in 2018) and family businesses[61] (~6% in 2018). The family business category is very representative and useful because it separates from the SMEs category those activities that are usually characterised by more opaque financial information, and that hence rely to a greater degree on credit institutions embedded in the local territory (the BBC banking system and the Banche Popolari). In fact, as explained in section 1.4 of this thesis, the cooperative banking system seems to rely more on the relationship lending channel, characterised by a rating system of the debtor composed not only by financial information but also by soft information.

[61] The family business category is represented by single-owner companies and "Società Semplice" operating in the non-financial sector, with less than 5 employees. Definition found at https://www.istat.it/it/files//2011/07/nota_-informativa.pdf, retrieved on April 2020.

As illustrated, one of the main problems caused by the financial crisis, starting from 2008, has been the decreasing quality level of the banks' loan portfolio, which is considered one of the main problems of the European banking system.

Figure 25 – Gross bad loans breakdown of the Italian banking system (2008-18).



Source: personal elaboration based on Bank of Italy data, September 2019.

There is also consensus among literature that the level of NPLs may be influenced by a few macroeconomic determinants.

First, a research paper by Bofondi and Ropele (2011), published by Bank of Italy, analyses the preeminent macroeconomic determinants of the quality of loans in Italian banks, over the 1990q1-2010q2 period. The research conducts a time series regression, defining as dependent variable the new bad loans ratio (NBL, i.e. the Bad loans level[62] over the stock of performing loans at the end of the previous period), and as explanatory variables a set of macroeconomic determinants, identified in qualitative groups of indicators. More specifically, the general state of the economy is represented by GDP and unemployment rate; the price stability is measured through the annual consumer price inflation and the annual growth rate of the M3 monetary aggregate; the cost of debt-servicing is measured by the 3-month Euribor rate; the burden of debt for households is estimated through the

[62] Within this categorization, the gross NPL volume is composed by Bad loans ("sofferenze", unlikely-to-pay and past-due exposures). As of 2016, bad loans represent more than 60% of the gross NPL volume within the Italian NPL market. Percentage retrieved from PWC - The Italian NPL market (2017)

ratio of loans to disposable income whereas for firms by (i) the ratio of net interest expense to gross operating profit and (ii) the ratio of net financial position over equity; any change in financial and real wealth is assessed by the growth rate of the Italian stock prices index and the house price index; finally, the outlook for economic growth is calculated as the difference between the 10-year Italian government bond and the 3-month Euribor rate.

The main results of the model by Bofondi and Ropele (2011) show that the NBL ratio is defined only by the macroeconomic variables related to the general economic conditions, the cost of borrowing and the burden of debt. More specifically:

(i) the NBL ratio for households is negatively correlated with the GDP annual growth rate and the house prices, whereas it is positively correlated with the unemployment rate and the short-term nominal interest rate.

(ii) the NBL ratio for firms is positively associated with the unemployment rate and the ratio of net interest expenses to gross operating profits, whereas it is inversely related to the annual growth rate of durable goods consumption.

The mentioned macroeconomic determinants affecting the rating of loans influence the NBL with different time lags (i.e. with regard to the GDP growth, it influences the level of NPLs with a lag of 3 to 4 quarters).

A second research paper by Messai and Jouini (2013) analyses the main determinants of NPLs within a panel data sample of 85 banks in three different countries with large amounts of NPLs (Italy, Greece, Spain), over the 2004-08 period. The research focuses on the effect on the NPL ratio (non-performing loans to total loans) of macroeconomic variables, i.e. GDP growth, the unemployment rate and real interest rate, altogether with bank specific variables such as the return on assets, the change in loans and the ratio of loan loss reserves to total loans. With regard to the time lag effects of macroeconomic variables on the NPL ratio, mentioned also in the paper by Bofondi and Ropele (2011), the GDP variable used in the model is measured at t-1 as well.

The results from the model are that the NPL ratio is negatively correlated with the GDP growth and the return on assets of the financial institutions; on the other hand, the NPL ratio is positively correlated with the unemployment rate and the real interest rate. Within the scope of this study, the results are similar to the above-mentioned paper from Bank of Italy.

As described over the last two mentioned papers, the NPL and NBL ratio of banks is affected by a few macroeconomic variables that could be used as predictors of the level of NPL in the short-term.

2.2 NPL RECOGNITION AND ECB GUIDANCE TO BANKS

2.2.1 NPL RECOGNITION AND FORBEARANCE MEASURES

The previous section highlighted the NPLs trend within the Italian banking system over the last decade (2008-18) and in addition, it introduced some evidence of the possible correlation between macroeconomic variables (inter alia GDP growth) and the positive or negative growth of NPL ratio.

The focus of this section is on the definition and categorization of NPLs from the regulator point of view (i.e. EBA), as it helps to easily understand how financial institutions have to recognize and assess the loan portfolio quality by means of a common framework.

Moreover, there is broad consensus that high NPL levels may have a negative impact on bank lending activity to the economy, mainly as a consequence of capital constraints faced by the financial institutions. In order to reduce the level of NPLs by means of an adequate plan, the ECB banking supervision began in 2014 a comprehensive assessment based on the asset quality review and a stress test, which later lead to a first guidance related to non-performing loans on March 2017[63], followed by the final European Banking Authority (EBA) guidelines on management of non-performing and forborne exposures, published on October 2018[64] (see figure 26).

The Guidance is addressed to credit institutions and it must be used as reference by all the Significant Institutions supervised directly under the Single Supervisory Mechanism (SSM). However, the Guidance, through the principles and definitions included, represents also a basic and common framework that can be utilized by Less Significant Institutions of the EU to conduct evaluations related to their asset quality (the criteria under which the credit institution is classified as significant or less-significant is reported in Chapter 1, section 3, figure 6).

[63] Supervision, E. B. (2017). Guidance to banks on non-performing loans.
[64] Supervision, E. B. (2018). Final guidelines on management of non-performing and forborne exposures.

Figure 26 – Overview of the ECB's NPL Guidance and EBA's NPE Guidelines.

	ECB NPL Guidance (March 2017)	EBA NPE Guidelines (October 2018)
Scope	▪ Banks directly supervised by the ECB (119 significant institutions as of 2018)	▪ All EU banks (CRR institutions; ~6.000 in the EU)
Status and implementation date	▪ Final ▪ 20 march 2017	▪ Final ▪ 30 June 2019
Basis of the document	▪ Non-binding ▪ Supervisory expectations	▪ Binding
Proportionality	▪ Yes – based on size and complexity of NPLs in balance sheet ▪ Defines "high-npl" banks as having a NPL level considerably higher than the EU average (defined in the Quarterly EBA Risk Dashboard as 3,4% as Q3-2018	▪ Yes – based on size, internal organisation, nature, scope and complexity of activities ▪ Sets an indicative NPL threshold of 5% from which banks should establish an NPE strategy

Source: personal elaboration based on KPMG report "EBA guidelines on management of non-performing and forborne exposures.

It must be pointed out that the term "NPLs" is generally used as a shorthand term and it is widely utilized among literature and the media; however, the NPL is included within the broader NPE category. As a consequence, the EBA released a uniform definition of "non-performing exposure" in order to overcome any doubt or misunderstanding and allow for a unique terminology to be used for supervisory reporting purposes. In the end, NPL and NPE are used interchangeably over the literature and within the guidance.
Hence, according to the EBA classification scheme, the following definitions are illustrated:

- NPE: (i) non-performing exposures which are more than 90 days past-due and/or (ii) the debtor is rated as unlikely to pay (UTP) with regard to its credit obligations. The definition of NPE does not include any order of priority between unpaid principal, interest or fee.
- Past-due exposures: an exposure in which the counterparty has failed to make a payment when contractually due. The counting of days related to the legal obligation will start as soon as the principal, interest or fee that was due on the contractually set date has not been paid. If the mentioned principal, interest or fee has not been paid for more than 90 days after the deadline, the exposure is classified as non-performing.

- Unlikely-to-pay: the UTP criterion is based more on qualitative information and may rely less on a quantitative evaluation. In other words, the credit institution has to conduct this analysis manually and on a regular basis. In the case a customer has been selected as financially weak, the bank shall require more frequent information updates in order to timely evaluate the creditworthiness of the debtor.

The EBA has also considered the case in which the debtor may be subject to temporary financial difficulties that result in the inability to repay the principal or interest. The regulator has taken into account this case, which is translated into the so-called "forbearance measures".

Forbearance measures are composed by allowances extended to any loan or debt security in which the counterparty is facing financial difficulties. These allowances are mainly translated into the following actions[65] which are (i) the modification of the previous terms or conditions of the contract and or (ii) partial or total refinancing of the exposure.

The bank shall hence be able to identify on time these situations of financial distress, both to the benefit of the debtor and balance sheet of the credit institution. The Guidance proposes a list of cases that may be related to a situation of financial distress from the debtor side:

- the counterparty has not been repaying the principal or interest for more than 30 days past due within the last three months that forego the refinancing.
- increasing probability of default based on the internal rating system of the financial institution within the last three months that forego the refinancing.

Moreover, a forborne exposure can be either classified as performing or non-performing[66]. In the first case, when conceding forbearance to a performing exposure, the credit institution may decide to change the status of the exposure to non-performing. On the contrary, in the second case, when conceding forbearance to a non-performing exposure, there is no immediate change in the non-performing status (i.e. the exposure is still classified as non-performing for a least a one-year period).

Figure 27 provides an exemplification of the forbearance guidelines that shall be implemented by any financial institution.

[65] Adapted from Annex IV of Commission Implementing Regulation (EU) No 680/2014.
[66] Annex V of Commission Implementing Regulation (EU), No 680/2014.

In order to explain the path and time required by the EBA regulation, we will start from the worst-case scenario, that is the forbearance of a non-performing exposure, identified through the following criteria:

- The underlying repayment plan is underpinned by market expectations that are not supported by any comparable macroeconomic forecast or by verifiable assumptions, and that may include as a consequence, repeated breach of the covenants or failure to meet the terms defined within the repayment plan.
- Standstill periods for the repayment of the principal are granted for a period greater than two years.

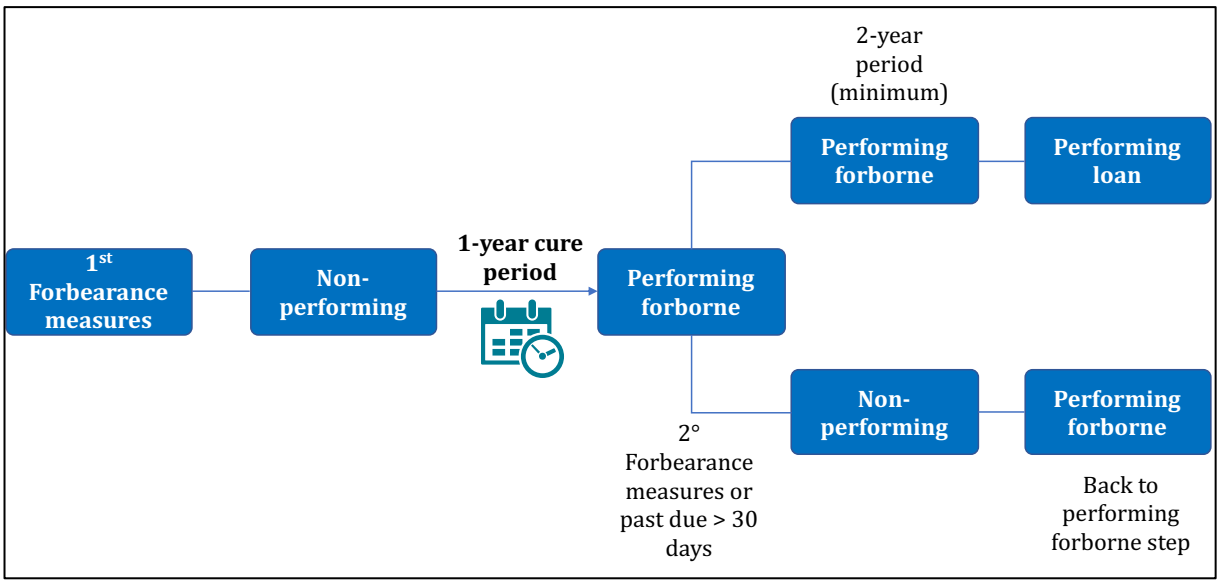
The requirements provided within Annex V that concern the reclassification of non-performing exposures include a one-year cure period from the implementation of forbearance measures characterised by (i) the repayment of all past-due exposures or (ii) in absence of past-due amounts the repayment of the total amount that was written off.
After the forborne exposure is categorized as performing because it has successfully met the requirements of the one-year cure period or because it was classified at first as performing, it will still be considered as performing forborne for a two-year period, during which the following requirement shall be met by the debtor:

- the debtor has made regular payments of the principal or interest at least for half of the two-year probation period.
- the debtor does not have any other account with amounts more than 30 days past due.
- the credit institution financial analysis' shows that the debtor position is compliant with any further condition.

The forbearance guidelines provided by the ECB are very useful from a methodological point of view. In fact, through this instrument, banks can avoid selling NPLs to specialised operators at prices that are lower than the book value[67], avoiding thus to encounter more losses on the P&L statement that might offset the benefits of a reduction in risk-weighted assets. Forbearance measures allow to put a borrower or a firm experiencing temporary financial distress back into an "in-bonis" position.

[67] Ciocchetta et Al. (2017). Bad loan recovery rates. *Note di Stabilità Finanziaria e Vigilanza*, (7).

Figure 27 – Forbearance guidelines according to NPE terminology.



Source: personal elaboration on Guidance to banks on non-performing loans (ECB).

2.2.2 EBA GUIDELINES AND IMPLEMENTATION OF NPL STRATEGY

The previous section introduced the definition of NPLs and forbearance measures according to the EBA framework. The Guidance to banks published in 2017 also provides a strategy to help the credit institutions to effectively reduce the level of NPLs within their balance sheets and hence improve their financial stability. Furthermore, the Guideline involves different functions and actions of the bank, from governance to operations, internal control, a continuous NPLs monitoring as well as a Risk Management framework. The strategy had to be implemented by June 30, 2019.

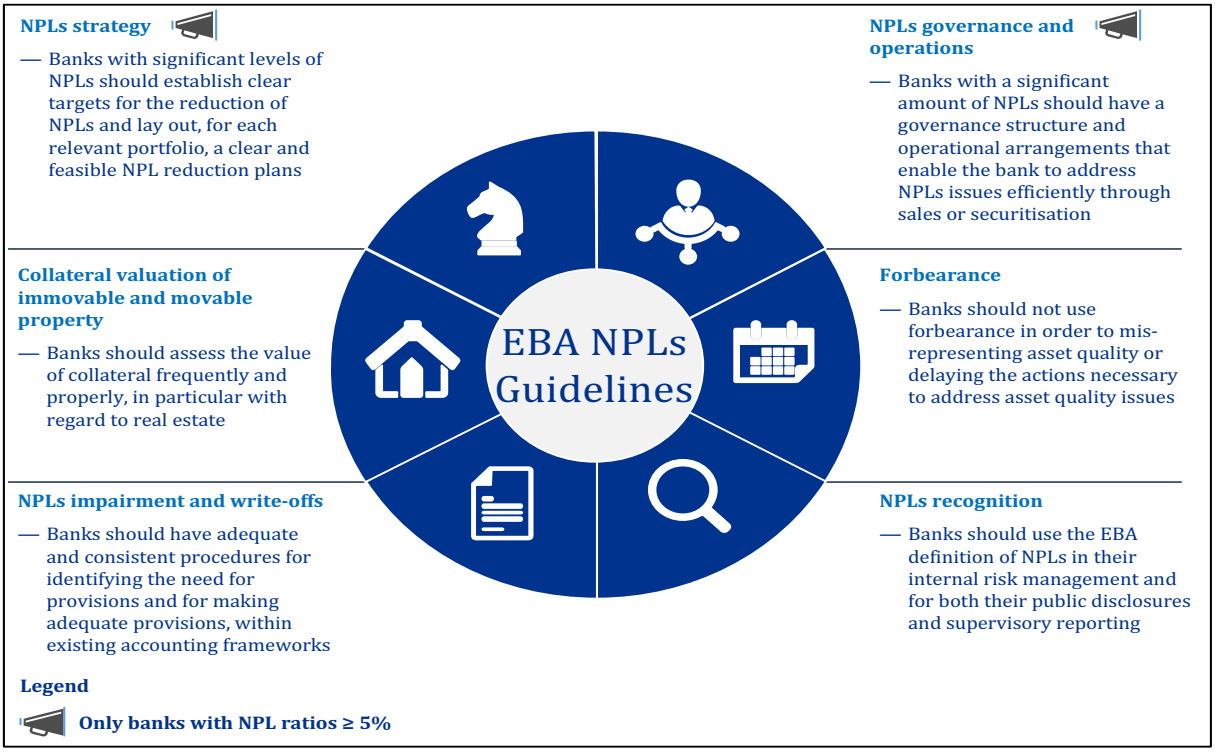
More in specific, the proposed NPL strategy (see figure 28) should be composed by:

- Board level control of the NPLs strategy and policies.
- Inclusive and timely control of the NPLs management strategy.
- Proportionate operational competence at all management levels.
- Compliance with the new EBA definition of NPLs.
- A proper IT infrastructure for the monitoring of NPLs and credit rating, with the aim to effectively capture data and make it available for consultation.

- IT system to report data to the supervisory entities (both at national level, i.e. Bank of Italy but also to the European Supervisory Board.
- Proper approach to customers (debtors) at every stage of the exposure (performing, non-performing and forbearance).
- A proper measurement of impairment provisions across all loan portfolio.
- Timely recognition of loan losses.

In the case of Italian Cooperative banks, the NPLs strategy has been considered within the implemented reform of the sector, by assigning more control to the parent controlling group of each of the two systems (ICCREA banca and Cassa Centrale banca). The reform will be analysed in chapter 3.

Figure 28 – EBA Guidelines on management of NPLs.



Source: personal elaboration based on KPMG "EBA Guidelines on management of non-performing and forborne exposures.

2.3 THE POSSIBLE EFFECTS OF NPLs ON BANK LENDING WITH A FOCUS ON THE ITALIAN COOPERATIVE BANKS

2.3.1 SCOPE OF THE LITERATURE OVERVIEW

The previous sections of this chapter focused on the macroeconomic determinants of NPLs, in particular with regard to the Italian economy over the 2008-18 period, and on the other hand, the NPLs Guidance to banks was introduced along with its common framework to be used by all credit institutions. The presence of NPLs in the loan portfolio of banks may be associated with the macroeconomic outlook of the economy but eventually it can be related to negative effects on the lending rate as well.

After the financial of 2008, European regulators introduced more stringent risk-based capital to asset ratios, thus linking the equity side to the asset side of the credit institution's balance sheet. An example was provided in Chapter 1, section 3, with the new regulation provided through Basel III, related to the CET1 capital ratio. If the ratio decreases below the threshold established level (6,0% for Tier1 capital), the bank can either raised new equity (increase of the numerator) or decrease the level of risky assets, by writing-off their value (decrease of the denominator; for example by selling NPLs to a bad bank). In the case the credit institution cannot raise new equity through capital markets (i.e. the situation of Italian cooperative banks prior to the Reform), it has either the option to ask for liquidity to actual shareholders or decide to decrease the amount of money lent to risky borrowers, hence reducing the risk-weighted exposures.

The two drops in GDP growth than took place in Italy, respectively over the 2008-09 period and 2011-14 period, were associated with an increase on NPLs volume and a decreasing growth of credit to the private sector. Several observers pointed out that the trend was associated with a credit crunch. However, it does not imply that there is a causal effect between the capitalization of a bank and a credit crunch. The literature, over the last decade, has analysed the lending behaviour of banks in order to identify any possible correlation between the capital adequacy of a bank and the growth of loans supply to borrowers.

This section will analyse the research papers that deal mainly with the analysis and possible effects of capital adequacy on the growth of loans, and at the same time, takes into account also the effects of macroeconomic variables and the variables that may be

inter-correlated. The research over the literature available has considered, if possible, the papers that focus on Italian local banks.

In fact, through the collection of the material included within this section and the overall thesis, it has been more difficult to collect data from cooperative banking institutions compared with the entire banking sector in Italy, represented by commercial banks.

This deficiency can be associated with the following facts:

- The Italian cooperative banking sector is composed by more than 300 local banks, which before the Reform were autonomous entities with less reporting standards compared to the few more relevant commercial banks and Banche Popolari.
- Single entity cooperative banks were not considered as Significant Institutions according to the EBA definition and hence less public reporting is available over the last decade.
- Research has been focused on the entire banking sector and based on data related to relevant commercial banks; only in the past years it has moved to analyse, partially, the Italian cooperative banking sector.

It is here provided the list with the titles and a brief description of the papers analysed in following section, with the aim to facilitate the understanding of the research:

1. Caporale et al. (2018): analysis of the main determinants of loan loss provisions (LLP) from a panel of 400 banks. The paper utilises a set of control variables to identify any different behaviour by local banks compared to commercial banks.
2. Bredl (2018): the paper is focused on the hypothetical relationship between the NPLs stock of European credit institutions and the lending rates on new issued loans.
3. Beck et Al. (2013): provides more evidence on other macroeconomic determinants affecting the level of NPLs by using a dataset of observations from more than 75 countries (not only within the EU).
4. Cucinelli (2015): investigates the effects of both bank specific and macroeconomic variables on bank lending behaviour, identified through the new gross loans growth rate.
5. Accornero et Al. (2017): the paper provides further evidence on the possible effects of NPLs on the supply of bank credit in Italy over the 2008-15 period. More specifically, it analyses not only the supply of credit but also the demand from non-financial firms and borrowers.

6. Angelini (2018): the author takes into account that despite the fact there are numerous studies suggesting a link between the level of NPLs and the bank lending behaviour, there is no defined theory suggesting that high volumes of NPLs may impair the lending behaviour of banks.

2.3.2 LITERATURE OVERVIEW OF THE POSSIBLE EFFECTS OF CAPITAL ADEQUACY ON BANKS' LENDING BEHAVIOUR

The first paper that supports the literature research of this thesis is provided by Caporale et Al. (2018). It analyses the main determinants of loan loss provisions (LLP) in a dataset of Italian banks during the 2011-15 period, which level may in turn may affect the lending behaviour of banks. A loan loss provision is defined as an expense set aside as allowance in the balance sheet of the credit institution to cover lending exposures (such as loans, loan commitments and financial guarantee contracts), in accordance with the applicable accounting framework[68]. Current EU regulation (as of 2020) does not set out specific requirements with regard to the measurement of loan loss provisions for regulatory capital purposes. The determinants of LLP are categorized in the paper by Caporale et al. (2018) as (i) discretionary in the case of income smoothing, capital management and signalling, (ii) non-discretionary if associated to the credit risk or (iii) related with the economic cycle.

The sample utilised in the paper is composed by an unbalanced panel of more than 400 Italian banks (including about 300 cooperative banks), with data retrieved from their balance sheets and income statements over the 2011-15 period.

The model used in the paper is:

$$LLP_{i,t} = \beta_0 + B_1 LLP_{i,t-1} + \beta_2 NPL_{i,t} + \beta_3 \Delta NPL_{i,t} + B_4 LOAN_{i,t} + \beta_5 IS_{i,t} + \beta_6 CAP_{i,t} + \beta_7 SIGN_{i,t} + \gamma_j BCV_{j,i,t} + \vartheta_n CON_{n,i,t} + \varphi_n CON_{n,i,t} * IS_{i,t} * CRISIS_t + \delta_t + \varepsilon_{i,t}$$

where:

[68] Supervision, E. B. (2017). Guidelines on credit institutions' credit risk management practices and accounting for expected losses – Final report.

- The dependent variable $LLP_{i,t}$ represents the ratio of loan loss provisions on bad loans to total assets for bank i.
- NPL represents represents the ratio of non-performing loans to total loans.
- ΔNPL is the difference between the one period ahead t+1 and t; an increase of its value is expected to have a positive effect on LLP, since it is a proxy of credit risk.
- $LOAN_{i,t}$ represents the ratio of total loans to total assets; it is also expected to be positively correlated with LLP.
- $IS_{i,t}$ represents the ratio of earnings before interest and taxes divided by total assets. This ratio is underpinned by an income smoothing hypothesis, which suggest that credit institutions will decrease LLP when earnings are expected to be low.
- CAPi,t represents a dummy variable, equal to 1 if the bank tier1 ratio is greater than the 75th percentile of the sample distribution.
- $SIGN_{i,t}$ represents the difference between the one period ahead t+1 and t of earnings before taxes.
- $BCV_{j,i,t}$ include macroeconomic variables of Italy, inter alia ΔGDP and a dummy variable related to the double drop of Italian GDP, equal to 1 respectively over the 2008-09 and 2011-15 periods.
- CON is a set of control variables (n=1, [..], 5) for the size of banks, the level of guarantees, the coverage ratio, the riskiness and the presence of local banks.

The results from the model show that the drivers that may affect the dependent variable LLP in Italian credit institutions are non-discretionary behaviour[69] and cyclical components, given that the IS coefficient is negative and statistically significant (at 1%), hence rejecting the null hypothesis that Italian credit institutions use the LLP to smooth the income; moreover also the GDP coefficient is positive and statistically significant (at 1%). With regard to the Italian local banks, the results of the model provide less evidence of cyclical behaviour. The authors of the paper outline that the loan portfolio of cooperative banks may be more collateralised compared to commercial banks. This assumption is in line with the characteristics of cooperative banks described in Chapter 1 of this thesis, which points out the fact that cooperative banks are more linked to the real economy.

[69] A behaviour that is not subject or influenced by personal judgement but for example on the basis of a contract, budget or business plan.

A second paper by Bredl (2018) investigates the possible relationship between the volume of NPLs of European credit institutions and the lending rates on new issued loans. More in particular, it analyses the possible effect of NPLs on new granted loans after the expected losses are already captured in the bank's balance sheet. In other words, through the allowances made by means of loan loss provisions, the bank has already taken into account the default probability of the loan portfolios, by writing down the extraordinary expense within the profit and loss statement. In order to do so, the gross NPLs amount is separated between the net NPLs and the loan loss reserves. However, this separation may impair the results of the model given that there is a high correlation between the last two mentioned variables. Furthermore, the model does not take into account macroeconomic effects, i.e. they are considered to be given.

The dataset analysed by Bredl (2018) is composed by bank-level data on lending rates and balance sheet items, respectively collected on a yearly-basis from the iMir and iBsi databases, over the 2010-17 period and covering n. 22 European countries. The benchmark regressions included in the paper contain year-country fixed effects, which include also bank-level fixed effects. With regards to fixed effects models, it is useful, also in the light of the empirical analysis performed in section 2.4, to provide a brief introduction. A Fixed Effect regression is based on panel data, which is a dataset in which different entities, companies or individuals are observed in their behaviours over time[70]. For example, three countries are analysed in their behaviour over a period of three year, by analysing the same variables over the time frame. Hence, the fixed effects (FE) model can be useful when the research is interested in analysing the impact of variables that vary over time. Furthermore, in the case of the literature analysed within this section, there can be a multitude of unobserved variables that may influence the outcome of the dependent variable, that is the bank's lending behaviour. In other words, there might be something within the subject that may distort the predictor, or the outcome variable and this effect must be under control in order to avoid any bias within the model. The advantage of using a FE regression model is that it can put under control those unobserved variables and net the bias but, at the same time, the drawback is that their effects cannot be estimated.

[70] Adapted from Torres-Reyna (2007). Panel data analysis fixed and random effects using Stata (v. 4.2). Data and Statistical Services, Princeton University.

The results from Breldl's analysis highlight a robust positive correlation between the net NPLs amount, which is hence not covered by loan loss reserves, and lending rates. The downside is that this correlation is not statistically significant when the gross NPL amount is split and furthermore it is offset by a negative relation between loan loss reserves and lending rates.

The paper contribution is still relevant within the scope of this thesis, because even if it does not focus specifically on the Italian cooperative banking sector and does not provide a clear-cut relation, it analyses more deeply the relation between NPLs and lending rates of the Euro area, without taking into account the effect of macroeconomic variables.

With regard to the macroeconomic determinants that may influence the level of NPLs in a bank's balance sheet, section 2.1 of this chapter has already mentioned the contribution from Bofondi and Ropele (2011), Messai and Jouini (2013). Their econometric models over a dataset composed by Italian commercial and local banks suggest a negative correlation between the NPL ratio and GDP % annual growth, whereas there seems to be a positive correlation between the level of NPLs and the unemployment growth rate. Moreover, their findings suggest that the macroeconomic determinants may affect the rating of loans with different time lags.

In addition to their contribution, a research paper from Beck et Al. (2013) reinforces the literature by focusing on other macroeconomic determinants affecting the level of NPLs. The dataset from the mentioned paper is composed by observations related to 75 countries (thus not only focused on the Italian banking system) over a ten-year period. The dependent variable is still the NPLs ratio to gross loans (annual frequency) while the independent variables are composed by macroeconomic and financial indicators such as real GDP, lending interest rates, share prices and the nominal effective exchange rate (NEER)[71]. The panel data analysed by means of a fixed effects model highlights that GDP growth has represented the main driver of NPLs over the last decade; moreover a negative correlation has been found between the level of NPLs and the exchange rate, especially in countries where the portfolio of banks is characterised by a higher degree of lending in foreign currencies. At the same time, a drop in share prices may increase the level of NPLs within countries with a relative large stock market. The remarks from this

[71] The nominal effective exchange rate is a measure of the value of a currency against a weighted average of several foreign countries. An increase in NEER is related to an appreciation of the local currency against the weighted basket of currencies of its trading partners. Definition retrieved at IMF data help website on April 2020.

paper contribute to our analysis by suggesting that the macroeconomic determinants of NPLs such as GDP show similar effect on also on a global basis and not only with regard to the Italian banking system and Cooperative banks.

The relation between macroeconomic determinants and the NPLs ratio has been discussed through the previous research papers. At this point, it is important to focus more in-depth also on the possible relation between the level of NPLs and the lending behaviour of banks.

The paper by Cucinelli (2015), whose research will be here below introduced, has also been used as basis for the empirical analysis that is performed on a sample of Italian cooperative banks presented in the next section.

First of all, the research paper by Cucinelli (2015) evaluates if, statistically, the bank lending behaviour is influenced by macroeconomic and balance sheet variables, assuming that an increment of credit risk during the same period will contribute to a decrease or increase in the lending activity. The sample is composed by cooperative and commercial Italian banks, inspected over the 2007-13 period, with data collected from the Bankscope database and IMF website. The paper uses an OLS regression, and in addition, a Fixed Effects model. Specifically, the OLS regression is used to test whether the lending behaviour is different between cooperative and commercial banks. As reported in Cucinelli (2015)[72], the fixed model allows to control for unobserved heterogeneity across banks. According to previous literature, the independent variables were retrieved at t-1, in order to account for the time lag effect. The results from Cucinelli show that credit risk variables, identified as the NPLs ratio and the loan loss provisions, apparently show a negative impact on the bank lending behaviour (identified through the % growth of gross loans on an annual basis). Moreover, the coefficient of LLP has a stronger magnitude compared to the NPLs ratio. With regard to the behaviour of cooperative banks vs commercial banks, identified by means of a dummy variable, there seems to be no difference between them on bank lending behaviour.

A further important contribution is offered in a research paper by Accornero et Al. (2017), which study analyses the possible effects of NPLs on the supply of bank credit in Italy over the 2008-15 period. From a conceptual and methodological point of view, the paper at

[72] In add-on to the work from Cucinelli, the same favorable conclusions about the Fixed Effect model were observed in (i) Micco and Panizza (2006). Bank ownership and lending behavior. Economics Letters, 93(2), 248-254 and (ii) Berrospide and Edge (2010). The effects of bank capital on lending: What do we know, and what does it mean?.

first analyses two issues that the literature previously reported within this thesis does not consider at all:

- The possible causal relation between credit rating and the growth of loans (supply) that it is observed on panel data can lead to misleading conclusions, since a growing level of NPLs, which as we have seen previously can be produced by economic stagnation (inter alia decreasing GDP growth), could weaken the supply but also the demand of credit as well. In order to address the relationship between the supply and demand of loans from borrowers, the paper merges information from banks' balance sheets with data on borrowers-level and of loans to Italian firms.
- The NPLs ratio can be analysed either in term of stock or as a trend (static vs dynamic view). A bank with a balance sheet characterised by a high-stock of NPLs (for example higher that 5% based on EBA's NPE guidelines) may be the result of a voluntary risk-taking mechanism. On the other hand, a credit institution with a growing YoY % level of NPLs is also impacted on a profit and loss basis, since it has to account for provisions as expenses in order to be compliant with the European regulator; moreover it may be forced to decrease the volume of its operations by market pressure or by the shareholders. As a consequence, the bank may be more prone to modify its lending policy while it sets aside allowances to cover the probability of default of the loan portfolio.

The dataset utilised by Accornero et Al. in the econometric analysis is composed by two different databases: the first, related to the firm-bank relationship, contains data collected from the Italian Credit Register (Centrale Rischi) over the 2008-15 period and includes loans with a value exceeding a €30.000 threshold of all non-financial firms; the second, related to bank specific financial data, includes 500 banks and about 2m borrowers. More in particular, the latter includes the value of total assets, Tier 1 ratio, the ROE, the cost-to-income ratio and the provisions over operating profit.

The results from the model show that exogenous determinants affecting the level of NPLs can cause a decline in credit supply, but surprisingly the correlation between the level of NPLs and the supply of loans seems to be driven by a decreasing demand from the borrower, i.e. the firm. As a consequence, the correlation between the level of NPLs and the lending behaviour of banks analysed by the literature might be magnified compared to reality and affected by cyclicity of the economic period. The role of cooperative banks has been separately analysed within the model by identifying the behaviour of local banks

through the use of a dummy. The authors remark a different behaviour of these institutions over the analysed period, characterised by a higher loan supply % growth compared to other banks.

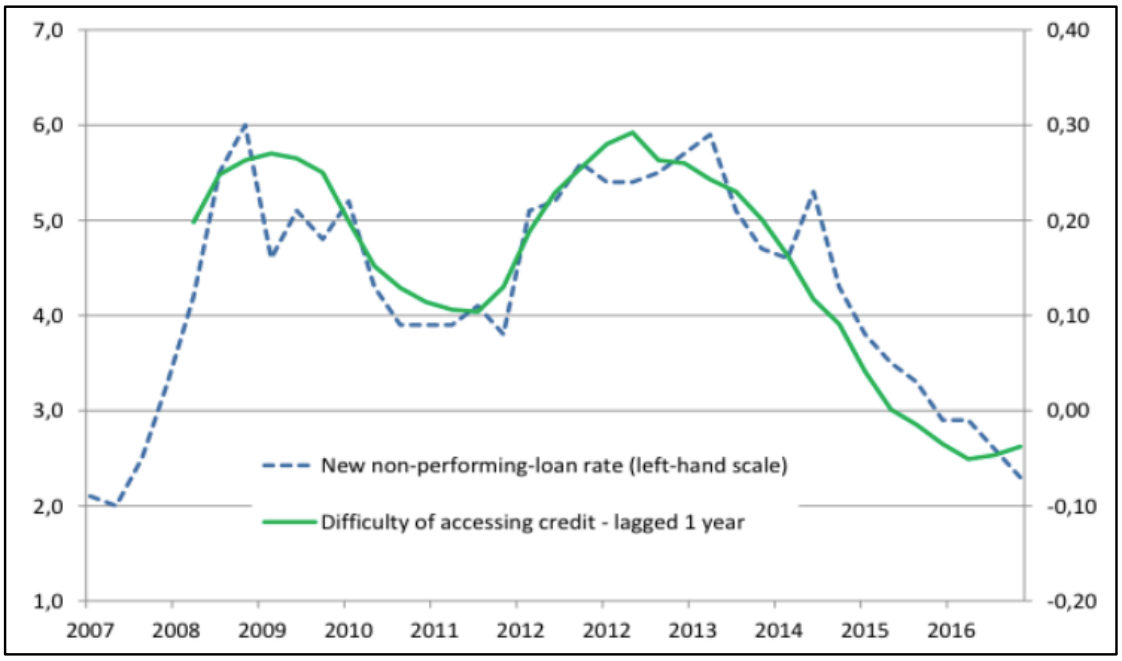
Finally, a working paper published by Angelini (2018) remarks the fact that, despite the literature has recently analysed the effects on NPLs on the credit allocation mechanisms of banks, there is no distinct theory suggesting that high volumes of NPLs may impair the lending behaviour of banks. This statement takes into account the following evidence:

- The link between NPLs and the credit dynamics is an indirect one. This statement is underpinned by evidence found within the BLS survey[73] questionnaire, which is composed by a section including questions to loans granted to firms and cyclical aspects of the loans market. The BLS point outs that given the fact that NPLs are opaque and difficult to value (their market value is lower than the book value reported in the balance sheet of banks), a bank with a high amount of NPLs may be perceived more risky and as a consequence it might encounter more problems in accessing liquidity. But this statement holds only is the bank is perceived as weak. In fact, it might be capitalized enough to sustain a high amount of NPLs.
- The empirical evidence does not provide clear-cut conclusions.

Figure 29 shows the difficulty to access credit and the flow of new NPLs in Italy over the 2007-16 period. Starting from 2015, when the YoY % growth rate of new NPLs was reaching its peak, the difficulty of accessing credit was decreasing, hence suggesting that the decrease of new loans growth reported in the literature might be related to the decreased demand from borrowers.

[73] The euro area bank lending survey provides information on bank lending conditions in the euro area. The survey is conducted by the national central banks of countries that have adopted the single currency, in collaboration with the European Central Bank, and is addressed to senior loan officers responsible for credit policies of the main banks of the euro area. Ten credit groups are involved in Italy. The survey makes it possible to highlight the factors influencing the supply of credit and the terms and conditions for clients on the one hand, and the evolution of credit demand with the relevant determinants on the other. Definition adapted from https://www.ecb.europa.eu/stats/ecb_surveys/bank_lending_survey/html/index.en.html and https://www.bancaditalia.it/statistiche/tematiche/moneta-intermediari-finanza/intermediari-finanziari/indagine-credito-bancario/index.html?com.dotmarketing.htmlpage.language=1 on April 2020.

Figure 29 – NPL flows and difficulty of accessing credit by non-financial firms.



Source: Bank of Italy, Notes on financial stability and supervision no 11.

The literature overview provided in this section highlighted several possible relationships between the lending behaviour of credit institutions, capital adequacy, risk provisions and macroeconomic determinants. However, on the one hand these determinants seem to be highly intercorrelated, on the other no clear-cut drawbacks can be retrieved, suggesting also the lack of a defined theory.

2.4 EMPIRICAL ANALYSIS FROM A SAMPLE OF COOPERATIVE BANKS

2.4.1 DATASET OVERVIEW AND DESCRIPTIVE ANALYSIS

Within this section we will provide an analysis of the cooperative banking sector in Italy, using as reference a sample of observations composed by financial indicators retrieved from 26 local banks. The Italian cooperative banking system is composed as of 2018 by more than 300 independent local banks, which system has recently been subject to a reform of the sector. The aim of this analysis is to provide an overview of the cooperative banking system by means of bank specific financial indicators, inter alia the YoY % growth of gross loans, the NPL ratio and the loan loss provisions ratio, which were also used as variables within the econometric models illustrated in the previous section. In order to

retrieve this data, a first research was conducted over the Bank of Italy statistical database and the corporate website of the Italian cooperative banking system. The first mentioned database includes aggregate data of the Italian banking system but does not take into account historical series with regard to the cooperative banking sector. On the other hand, the association of cooperative banks, identified as Federcasse, provides annual reports which offer a snapshot of the current situation of the cooperative sector from a financial point of view, but also offers information about the projects and key values that differentiate the system compared to the commercial banks. Unfortunately, also Federcasse does not provide a structured database composed by historical series associated with the single local bank (i.e. the single entity). Other more specific databases are available throughout the web, but they are owned by private companies and require an active subscription to run a research (average cost equal to several thousands of €).

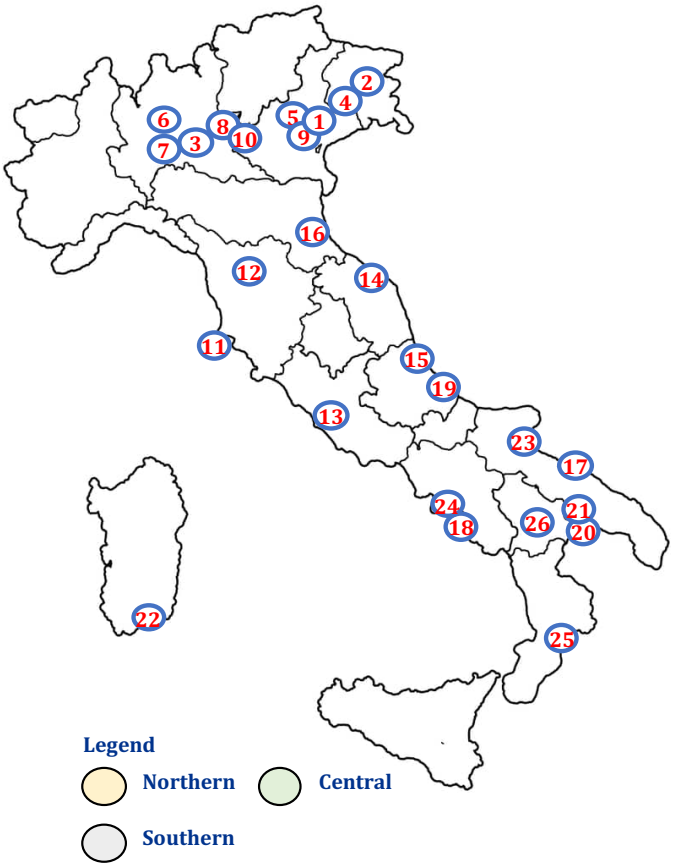
As a consequence, this research is composed by a list of local banks retrieved autonomously and analysed through their publicly released financial statements, over a five-year period (2014-18). The screening of banks was conducted randomly within the list of cooperative banks associated with the Iccrea group, one of the cooperative banking groups created in 2019 as a consequence of the Reform of the cooperative banking sector. The institutions which were subject over the period analysed to M&A transactions were excluded from the sample in order to avoid any outlier along the panel data (i.e. non-comparable variables).

Moreover, the dataset tries to evenly weight the Northern, Central and Southern areas of Italy in terms of local entities analysed. An important disclaimer has to be given for the following descriptive analysis. The historical data retrieved comprehends an overview of selected financial ratios over a 4-year span period (5 years given that the variable BB is collected at time t), which represents only a segment of the Italian cooperative banking sector. If we compare the length of time analysed and size of the database with the previous literature introduced in section 2.3, it easy to tell that the latter mainly includes studies conducted over a longer time period (i.e. 10 years at least), including several hundreds of credit institutions, thanks to the access to the mentioned privately-owned databases. As a consequence, even if no clear-cut trend or conclusion was drafted in the available literature, it would be even harder to find a defined trend in the following data. However, the aim of this empirical analysis is to provide a better understanding of the latest trends within the local banks of the cooperative sector and to offer a contribution

to the scarce data available within this sector compared to the more relevant commercial banking sector.

Figure 30 shows the geographical distribution of the Italian cooperative banks analysed: 10 of them are located in Northern regions, 6 of them in Central Italy and 10 of them in the Southern regions.

Figure 30 – Geographical distribution of the cooperative banks analysed - headquarters.



	Abi code	Credit institution
1	7084	BCC della Marca
2	7085	BCC CrediFriuli
3	8030	BCC di Borghetto Lodigiano
4	8356	BBC di Pordenonese
5	8917	BBC Trevigiano
6	8440	BCC di Carate Brianza
7	8324	BCC Centropadana
8	8575	BCC Agrobresciano
9	7074	BCC di Monastier e del Sile
10	8676	BCC del Garda
11	7048	BCC dell'Elba
12	8003	BCC Vival banca
13	8327	BCC di Roma
14	8519	BCC di Fano
15	8434	BCC Abruzzese
16	8542	BCC Forlivense e Imolese
17	7012	BCC di Bari
18	7066	BCC dei Comuni Cilentani
19	7086	BCC dell'Adriatico Teramano
20	7087	BBC di Taranto
21	7094	BCC di Massafra
22	7096	BCC di Cagliari
23	7101	BCC di Andria
24	7110	BCC di Napoli
25	8126	BCC di Montepaone
26	8597	BCC Basilicata

Source: personal elaboration.

Figure 31 shows the trend of total assets and equity of the analysed sample. The total assets steadily increased with a CAGR equal to +1,6% over the 2015-18 period, whereas the Equity shows a negative CAGR over the same period equal to -3,0% (in absolute value, Equity increased from 2015 to 2017, but decreased in 2018). Given that the cooperative banks analysed were not subject to any relevant M&A transaction and that the number of members has been constantly increasing, the reduction of Equity may be related to allowances allocated in order to increase the coverage ratios. As of 2018, the dataset

represents the 24% of Total Assets of the ICCREA Group and 22% of Total Equity of the ICCREA Group.

Figure 31 – Total assets and Equity of the sample analysed.

Total assets and Equity - sample					
€'k	**2015**	**2016**	**2017**	**2018**	**CAGR 2015-18**
Total Assets	33.755.115	33.260.785	35.826.344	35.998.505	1,6%
Equity	2.739.741	2.657.988	2.750.529	2.425.172	-3,0%

Source: personal elaboration based on financial statements.

The process of selecting which variables to retrieve was mainly based on the paper by Cucinelli (2015), whose study analysed, as already illustrated in the previous section, the impact of NPLs on bank lending behaviour. Figure 32 provides an overview of the variables retrieved in each annual report at bank-level, along with the equivalent numerator and denominator collected from the available annual reports provided in Italian language. The variables related to the capital adequacy of the bank were analysed at time t-1 (previous period, equal to one year), according to Bofondi and Ropele (2011), Gambacorta and Marques-Ibanez (2011), given the fact that they may affect the bank lending behaviour with a time lag equal from 3 to 4 quarters and represent a possible endogeneity bias.

The variables collected are the following:

- YoY % growth of GL (gross loans amount), identified as BB_t, representing the YoY % growth of GL between time t and t-1. The GL variable includes also any non-performing exposure.
  Hence BB_t is equal to:

$$BB_t = \left(\frac{GL_t}{GL_{t-1}}\right) - 1$$

- The non-performing loans ratio (NPL_{t-1}) and loan loss provisions ratio (LLP_{t-1}) represent measures of the credit portfolio quality. The variable NPL is calculated by dividing the gross NPL amount, hence defined as NPL_{am} to GL. More specifically, the gross NPL amount includes any past-due and unlikely-to-pay exposure.

Instead, the variable LLP is calculated as the total loss provisions, defined as LP, divided by NPL_{am}.

An increase in the value of both the ratios is associated with a worsening of the bank loan portfolio. However, with regard to LLP, the loss provisions are adjusted on how high or low it is the probability to recover the credit but also depending on the existing guarantees and on the time passed since the payment of the last instalment. Hence an increase of NPL may be associated with an increase of LLP only if the LP is equal or lower in magnitude than NPL_{am}. All other things being equal, NPL and LLP should be inversely correlated, since NPL_{am} represents the numerator of the variable NPL and the denominator of variable LLP.

Hence NPL_{t-1} and LLP_{t-1} are equal to:

$$NPL_{t-1} = \frac{NPL_{am,t-1}}{GL_{t-1}}$$

$$LLP_{t-1} = \frac{LP_{t-1}}{NPL_{am,t-1}}$$

- The loans to deposit ratio (LTD_{t-1}), calculated by dividing GL to the total direct customer deposit (defined as CD). The ratio is an indicator that represents the level of funding and liquidity of the bank.

  As a consequence:

$$LTD_{t-1} = \frac{GL_{t-1}}{CD_{t-1}}$$

- The YoY % growth of customer deposit (DEP_{t-1}), which represents the YoY % growth of CD between time t and t-1. It represents another indicator of the liquidity of the bank, and especially in the cooperative sector, the most important source of funding.

  Hence:

$$DEP_{t-1} = \left(\frac{CD_t}{CD_{t-1}}\right) - 1$$

- The equity on total assets (ETA, t-1) represents a measure of bank solvency. The ratio is calculated by dividing the total equity (EQ) to the total value of assets (TA), both measured at t-1.

  Hence:

$$ETA_{t-1} = \frac{EQ_{t-1}}{TA_{t-1}}$$

- The TIER 1 ratio (TIER1, t-1) is a measure of a bank's financial strength from the regulator point of view, i.e. the Basel III framework. The ratio is calculated by dividing the TIER 1 capital ($TIER1_{cap}$) to the risk-weighted assets (RWA). The increase of the ratio can be achieved by increasing capital (common stock) or by reducing the amount of risk-weighted assets.

  Hence:

$$TIER1_{t-1} = \frac{TIER1_{cap,t-1}}{RWA_{t-1}}$$

- The macroeconomic determinants, which are real GDP % growth (GDP_t), unemployment rate % growth ($UNEMP_t$) and inflation % growth ($INF,_t$) are widely used in the literature with regard to the increase/decrease of non-performing loans but also with regard to the bank lending behaviour.

  An increase of the GDP growth is usually associated with a growing economy. As a consequence, the demand of loans may decrease given that customers and firms are less likely to ask for short-medium term debt (except for the demand of long-term debt that may be required for investments by the firms). At the same time a decrease of the unemployment rate is related to a larger portion of the population being employed, hence with less needs of financial aid, which translates in a lower demand. Ultimately an increase of the inflation growth rate, all other things being equal, could increase the demand of loans given that the cost of goods is subject to an increase.

Figure 32 – Financial indicators of the sample.

English definition	Italian translation	Reference period	Abbrevation	Source
YoY % growth of gross loans	Tasso di crescita impieghi (inclusi deteriorati)	t [2018-17-16-15]	BB	Single entity Annual Reports [2018-17-16-15-14]
Gross NPL / gross loans	Crediti deteriorati lordi / Crediti lordi	t-1 [2017-16-15-14]	NPL	
Loan loss provisions on gross NPL	Indice di copertura dei crediti deteriorati	t-1 [2017-16-15-14]	LLP	
Gross loans on direct customer deposit	Impieghi lordi / Raccolta diretta	t-1 [2017-16-15-14]	LTD	
YoY % growth of direct customer deposit	Tasso di crescita raccolta diretta	t-1 [2017-16-15-14]	DEP	
Equity on total Assets	Patrimonio netto / totale attivo	t-1 [2017-16-15-14]	ETA	
Tier1 ratio	Tier 1 ratio	t-1 [2017-16-15-14]	TIER1	
Unemployment growth (% active pop.)	Tasso di crescita della disoccupazione	t [2018-17-16-15]	UNEMP	Eurostat
Inflation growth (avg. consumer prices)	Tasso di crescita dell'inflazione	t [2018-17-16-15]	INF	IMF
Real GDP growth (YoY %)	Tasso di crescita del PIL reale	t [2018-17-16-15]	GDP	Eurostat

Source: personal elaboration.

Over the following figures (33-40) the results of the descriptive analysis are provided. The analysis is performed by means of the Stata statistical software.
The database is composed by panel data: the panel variable is BANK, which represents the single entity. The panel variable is strongly balanced, given that it was possible to retrieve data for all the variables analysed through the time period. The time variable is YEAR, from 2015 to 2018.

Figure 33 – YoY % growth of gross loans in the sample (2015-18).

Variable BB, growth at time t				
%	**2015**	**2016**	**2017**	**2018**
Min	-8,5%	-8,0%	-10,6%	-11,9%
Max	19,2%	22,3%	23,7%	68,0%
Mean	3,0%	3,2%	6,3%	5,1%
Median	1,6%	1,2%	5,4%	1,6%

Source: personal elaboration.

Figure 33 shows the trend of variable BB over the 2015-18 period. The mean value has been positive over the period, increasing from +3,0% in 2015 to 5,1% in 2018 (+2,1 pp). With regard to the composition of borrowers as of 2018, about 61% of total new loans are issued to local firms, whereas about 35% to private consumers. These figures, compared to entire Italian banking system, represent a market share equal to around ~20% with regard to firms and ~9% of private consumers. The data to an external observer might

look small in size but due to the fact that most of the local firms financed by the BCC-CR system are SME entities, the absolute value of the loans issued to them is indeed lower, as a consequence of lower turnover and financing needs. As analysed in the previous section, it would be exaggerated to conclude that the cooperative banks have increased the supply of loans, all other things being equal. It might be that the demand from firms and consumers increased as well as a consequence of new investments over the 2015-18 period. Overall, the loan growth has been positive and thus a positive effect can be drawn for the financing of SMEs business growth.

The focus will now shift on bank's specific credit quality variables. Figure 34 shows the trend of the variable NPL over the 2015-18 period. The mean value of the ratio has been decreasing, from 17,7% in 2015 to 14,9% in 2018 (-2,8 pp). The decrease was mainly registered in 2018 and the trend is also expected to continue in 2019. The reduction of NPL ratio may be positively affected by the reforms, introduced by the Italian government, to decrease the time required to deplete a non-performing exposure from the loan portfolio, but also, from new management guidelines adopted by the local banks, the better outlook of the real estate market (most of the loans are backed by property) and extraordinary actions of deleveraging by selling large amounts of NPLs to specialised operators. At the same time, the amount of gross loans has increased (see figure 33), probably contributing to the decrease of the ratio (GL represents the denominator of the NPL ratio).

Moreover, if the ratio reported over the period analysed is compared to the entire Italian banking system[74][75] (by taking into account the fact that the ratio of the sample analysed was collected at t-1), the sample of cooperative banks seems to be perfectly aligned with it (14,9% in 2017; 17,9% in 2016; 18,9% in 2015). As a consequence, the cooperative banks analysed seem to have tackled the level of NPLs likewise the overall banking sector. Hence there seems to be no difference of behaviour nor trend within the analysed cooperative banks. Overall, the banking system seems to have recovered after the impact of the 2011-14 sovereign debt crisis.

[74] KPMG Advisory S.p.A. (2019). Bilanci dei gruppi bancari italiani: trend e prospettive - esercizio 2018.
[75] KPMG Advisory S.p.A. (2018). Bilanci dei gruppi bancari italiani: trend e prospettive - esercizio 2017.

Figure 34 – Trend of the NPL ratio in the sample (2015-18).

Variable NPL, time t-1				
%	2015	2016	2017	2018
Min	6,8%	6,1%	7,1%	5,7%
Max	36,0%	33,3%	31,1%	22,6%
Mean	17,7%	18,9%	17,9%	14,9%
Median	17,5%	19,4%	18,5%	15,7%

Source: personal elaboration.

With regard to the variable LLP, there has been a constant increase of the ratio over the period analysed (figure 35). More specifically, the coverage ratio of NPLs increased on average from 40,8% in 2015 to 47,0% in 2018 (+6,2 pp). The trend found within the sample is in line with the BCCs strategy of increasing the coverage ratio of non-performing exposures, in order to comply with the increasing regulatory pressure coming from banking supervisors, but also in the light of the new reform. If the mean value of LLP within the sample is compared to the entire Italian banking system, the value is lower (in 2017, the coverage ratio of the EBS[76] was equal to 53,7%, compared to the 47,0% of the sample in 2018, measured at t-1). However, the lower coverage ratio of cooperative banks is often compensated by a higher incidence of collaterals in the NPLs (real estate or other kinds of assets).

Figure 35 – Trend of the LLP ratio in the sample (2015-18).

Variable LLP, time t-1				
%	2015	2016	2017	2018
Min	22,2%	29,0%	24,5%	32,6%
Max	64,1%	67,3%	69,7%	66,4%
Mean	40,8%	42,8%	45,7%	47,0%
Median	38,3%	41,2%	43,5%	45,9%

Source: personal elaboration.

The variable LTD, as showed in figure 36, slightly increased on average from 70,1% in 2015 to 72,4% in 2018 (+2,3 pp).

[76] Entire Italian banking system (reference data from KPMG 2017 report, by means of reference sample equal to 67% of total Assets.

Figure 36 – Trend of gross loans over direct customer deposits in the sample (2015-18).

Variable LTD, time t-1				
%	2015	2016	2017	2018
Min	41,2%	40,2%	46,4%	39,5%
Max	95,8%	120,9%	109,9%	96,6%
Mean	70,1%	69,9%	71,0%	72,4%
Median	73,0%	70,8%	70,9%	74,0%

Source: personal elaboration.

The variable growth of direct customer deposits (DEP) represents a relevant indicator of the capacity of cooperative banks to raise new founding both through the actual customers and new members. The variable DEP (see figure 37) shows a single-digit steady positive growth over the 2015-18 period and can be perceived as a positive trend for the cooperative banks.

Figure 37 – YoY % growth of direct customer deposits in the sample (2015-18).

Variable DEP, growth at time t-1				
%	2015	2016	2017	2018
Min	-14,0%	-5,7%	-11,8%	-6,5%
Max	55,4%	22,0%	25,6%	45,0%
Mean	6,4%	3,2%	2,3%	4,1%
Median	2,0%	1,6%	1,4%	1,7%

Source: personal elaboration.

The analysis now shifts to the variable ETA, which represents an important measure of bank's solvency (figure 38). The ratio shows a slight decrease of the average value within the sample analysed, from 8,9% in 2015 to 8,4% in 2018 (-0,5 pp over the period). As showed in figure 31, the decline is related to a decrease of the absolute value of total equity of the bank's analysed, from €2,7b to €2,4b (i.e. the numerator) and an increase of total assets, from €33,8 to €36,0 (i.e. the denominator). The decrease of equity value may be explained by the consistent amount of allowances allocated by the bank (loan loss provisions) over the period analysed, which in turn have a negative impact on the P&L statement. Moreover, if the mean value of the ratio within the entire Italian cooperative

banking sector (EBCC) is analysed[77], the same effect is not found, given a ratio increasing from 8,3% in 2015 to 8,5% in 2018. Anyway, both the average value of the ratio found in the sample analysed and within the EBCC as well is well above the mean rate reported by the entire Italian banking system, the latter being about 1 pp lower over the reference period. As a consequence, the cooperative banking system shows a higher solvency ratio with respect to the entire Italian banking system.

Figure 38 – Trend of equity over total assets in the sample (2015-18).

Variable ETA, time t-1				
%	**2015**	**2016**	**2017**	**2018**
Min	3,9%	4,4%	4,5%	5,5%
Max	14,0%	13,2%	13,5%	14,8%
Mean	8,9%	8,7%	8,5%	8,4%
Median	8,8%	8,8%	8,5%	8,0%
Mean EBCC	8,3%	8,6%	8,6%	8,5%
Mean EBS	7,4%	7,4%	7,4%	7,4%

Source: personal elaboration.

Finally, the analysis takes into account the trend of the TIER1 variable, a meaningful measure of a bank's financial strength from the regulator point of view (figure 39). Overall, the sample analysed shows values that are compliant with the minimum capital, i.e. 7,0%, which requirements are set in the First Pillar (equal to 4,5% + the 2,5% provided by the Capital Conservation Buffer "fully loaded"). Moreover, this ratio is included in the risk assessment analysis, performed by the European Central Bank and defined as Supervisory Review and Evaluation Process (SREP). The SREP shows where a bank stands in terms of capital requirements and the way it deals with risks[78]. The assessment is conducted on annual basis and the output is composed by a review sent from the regulator to the individual bank, containing key objectives that the credit institution is obliged to correct within a specific time.

[77] The mean value of the ratio with regard to the EBCC and the Italian banking sector has been retrieved from the annual reports of "BCC dell'Elba" (2014-18), found at http://www.bancaelba.it/template/default.asp?i_menuID=44139

[78] Definition and description found at https://www.bankingsupervision.europa.eu/about/ssmexplained/html/srep.en.html, retrieved an April 2020.

Figure 39 – Trend of Tier 1 ratio in the sample (2015-18).

Variable TIER1, time t-1				
%	**2015**	**2016**	**2017**	**2018**
Min	8,4%	9,3%	10,9%	8,4%
Max	40,1%	35,9%	40,3%	37,5%
Mean	17,1%	17,7%	18,4%	17,9%
Median	16,2%	16,7%	16,9%	15,9%
Mean EBCC	16,1%	16,5%	16,8%	16,5%
Mean EBS	12,3%	12,8%	12,0%	14,7%

Source: personal elaboration

The mean value of the TIER1 variable (see figure 39) is well above the minimum requirements and shows an increasing value, from 17,1% in 2015 to 17,9% in 2018 (+0,8 pp). This trend may signal that the cooperative banks, even if they were not allowed to raise new capital from the financial markets (eventually, this barrier has been overcome with the Reform of the sector), were able to reinforce their capital requirements by decreasing the risk-weighted assets and without the implementation of internal credit risk models, which are more commonly used by relevant commercial banks in the calculation of risk-weighted assets (in other words, an internal credit risk model for the valuation of weighted assets gives more flexibility to the bank when assigning the weights of the loan portfolio). Moreover, the trend seems to be aligned with the average value of the EBCC and if it is compared to the EBS mean value, there is a relevant gap over the period 2015-17, eventually decreasing in 2018. However, the cooperative banks show on average a higher TIER1 ratio. More specifically, the gap is more relevant if compared to the European cooperative banking models reported in figure 16 of Chapter 1.

At last, figure 40 represents the trend over the reference period of specific macroeconomic variables related to Italy, inter alia the Real GDP % growth, the unemployment % growth (% of active population) and the inflation % growth.

Figure 40 – Trend of macroeconomic variables (2015-18).

Macroeconomic variables, time t				
YoY % growth	**2015**	**2016**	**2017**	**2018**
GDP	0,8%	1,3%	1,7%	0,8%
UNEMP	-5,6%	-2,0%	-3,4%	-5,6%
INF	0,1%	-0,1%	1,3%	1,2%

Source: personal elaboration

The Italian real GDP growth rate has been positive over the 2015-18 period, showing an increase of 0,9 pp from 2015 to 2017, which eventually slowed in 2018. According to estimates provided by Istat[79], the GDP especially weakened in the South and North-west of Italy. At the same time, the unemployment rate with respect to active population has been constantly decreasing, signaling an increasing demand for labor. On the contrary, the inflation growth rate did not show a defined trend over the 2015-16 period and stayed almost flat, eventually backing up over the 2017-18 period (+1,3% and +1,2% respectively). Overall, the information retrieved from these macroeconomic variables seems to signal a moderate period of growth for the Italian economy.

2.4.2 SAMPLE ANALYSIS BY MEANS OF A FIXED-EFFECTS MODEL

The analysis is performed by reproducing the same econometric model applied by Cucinelli (2015), whose paper is introduced in the literature review reported in section 2.3. The aim of the model is to test whether an increase in bank credit risk at t-1, identified through bank specific variables, and macroeconomic variables, may lead to a decrease of credit supply.

The decision to use this specific model was made on the basis of the dependent and independent variables included within it. In fact, on the one hand the possible relation between the dependent variable BB and the independent variables (inter alia NPL, LLP, LTD, DEP, ETA and TIER1) has been object of research over the last decade. On the other hand, the mentioned variables are widely used as benchmark indicators by the regulatory

[79] Banca d'Italia. (2019). L'economia delle regioni italiane. Dinamiche recenti e aspetti strutturali. *Economie regionali*, *22*.

bodies to conduct assessments about the financial health of the banking system. As a consequence, these variables represent important indicators that may be easily utilised by future literature to conduct more-in-depth research or to compare the results of different econometric models over the cooperative banking system.

Before introducing the results, a brief overview of a fixed effects model is provided.

A Fixed-Effects model, based on panel data (i.e. longitudinal data), allows to control for all time-invariant differences between the individuals, which in this study are represent by each bank of the sample. In fact, when using a FE model, it is assumed that something within each bank may impact or bias the predictor: the model allows to control it. This is the principle behind the assumption of the correlation between entity's error term and predictor variables. Indeed, the estimated coefficients of a fixed-effects model cannot be biased because of omitted time-invariant characteristics[80]. An important assumption of the FE model is that the time-invariant characteristics are unique to each bank and should not be correlated with other banks' characteristics. Each bank is unique and thus the entity's error term and the constant, which captures individual characteristics, should not be correlated with the others. If the error terms are correlated, then a FE model is not the best choice and a random-effects model might better represent the data. To test it, the Hausman test is run, but before introducing the results of the mentioned test, we will illustrate the form of the regression:

$$BB_t = \alpha + \beta_1 CR_{t-1} + \beta_2 TIER1_{t-1} + \beta_3 LTD_{t-1} + \beta_4 ETA_{t-1} + \beta_5 DEP_{t-1} + \beta_6 UNEMP_t + \beta_7 GDP_t + \beta_8 INF_t + \varepsilon_t$$

The CR_{t-1} variable represents NPL_{t-1} or LLP_{t-1}. These two variables serve as a measure of the loan portfolio quality and as a consequence two fixed-effects models were run, the first including only the NPL_{t-1} ratio and the second including the LLP_{t-1} ratio (the NPL level can be referred as a static indicator of the balance sheet while the LLP ratio impacts the P&L as a dynamic indicator). More specific information about each variable can be retrieved from figure 32 and from the descriptive analysis performed in section 2.4.1

The results of the Hausman test are provided in figure 41. It tests whether the unique errors (u_i) are correlated with the regressor; the null hypothesis is that they are not. The

[80] Adapted from Torres-Reyna (2007)

Prob>chi2 value is equal 0,0305, thus the null hypothesis is rejected, and the fixed-effect model seems to better represent the data compared to a random-effects model.

Figure 41 – Hausman test results.

	Coefficients (b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
LLP	-.2545395	-.0153638	-.2391757	.2110089
LTD	-.1450404	-.1893133	.0442729	.203331
DEP	.1198047	.2204108	-.1006061	.0881735
ETA	2.884573	.0569188	2.827654	1.57485
TIER1	.2994029	.2212326	.0781703	.6184099
GDP	-2.643437	.173163	-2.8166	.4395276
UNEMP	1.005202	.3589076	.6462944	.3245669
INF	4.986402	2.733908	2.252494	1.42783

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 16.95
Prob>chi2 = 0.0307
(V_b-V_B is not positive definite)

If this value is <0.05 (i.e. significant), then use fixed-effects

Source: personal elaboration on sample data.

At last, before the results of the fixed model are provided, the pairwise correlation between the independent and control variables is checked (figure 42). The significance level of the coefficients is calculated at 95%.

The analysis shows that not all the coefficients of the independent variables are statistically significant and hence they may partially be able to explain the bank lending behaviour (BB). Nevertheless, these variables have been widely utilised over the literature regarding the bank lending behaviour, which showed that only indirect effects can be identified between credit risk variables, NPLs and bank lending behaviour. Moreover, the panel data analysed is composed by a four-year period that may impair the significance level compared to an analysis performed on a longer time-frame. Nevertheless, as mentioned within the description of the sample retrieved, several local banks have been through M&A operations over the last decade and during the research process of data from their balance sheets (with regard to the sample analysed) these banks were excluded given that they had recently merged with another institution, in order to avoid any bias.

Figure 42 – Correlation matrix results.

	BB	NPL	LLP	LTD	DEP	ETA	TIER1	GDP	UNEMP	INF
BB	1.0000									
NPL	-0.2716*	1.0000								
	0.0053									
LLP	-0.0214	-0.1785	1.0000							
	0.8291	0.0698								
LTD	-0.4308*	0.2773*	0.1759	1.0000						
	0.0000	0.0044	0.0741							
DEP	0.3160*	-0.2042*	-0.1089	-0.3589*	1.0000					
	0.0011	0.0376	0.2710	0.0002						
ETA	0.0836	-0.3100*	0.1743	-0.0681	-0.1713	1.0000				
	0.3989	0.0014	0.0767	0.4920	0.0821					
TIER1	0.3460*	-0.4267*	0.1846	-0.5638*	0.1354	0.7229*	1.0000			
	0.0003	0.0000	0.0606	0.0000	0.1705	0.0000				
GDP	0.0738	0.1178	0.0560	-0.0162	-0.1254	-0.0097	0.0510	1.0000		
	0.4567	0.2336	0.5726	0.8701	0.2045	0.9222	0.6074			
UNEMP	-0.0002	0.1569	-0.0181	-0.0341	-0.1055	0.0149	0.0261	0.7558*	1.0000	
	0.9987	0.1116	0.8555	0.7309	0.2865	0.8810	0.7923	0.0000		
INF	0.1274	-0.1323	0.2208*	0.0548	-0.0701	-0.0764	0.0544	0.2576*	-0.2931*	1.0000
	0.1976	0.1807	0.0243	0.5806	0.4797	0.4407	0.5832	0.0083	0.0025	

Source: personal elaboration on sample data.

As a consequence, the dataset analysed has been constrained on the timeframe by this particularity. On the other hand, with regard to accounting standards and computation of ratios, there should be no measurement difference, given that all the annual reports are audited and as a consequence follow the same reporting standard. Future econometric research should also focus on the possible different behaviour of cooperative banks that have recently merged, in order to detect any singularity.

The results of the Fixed-Effects model are provided in figure 43, whereas the complete output of the statistical software is reported in the Appendix at the end of this document. The two models show a moderate strength to explain the possible effect of the independent variables on the bank lending behaviour. The R-sq within and R-sq[81] between are equal to around 11,5 and 16,0 respectively, whereas the R-sq overall is equal

[81] The "R-sq within" shows how much of the variation in the dependent variable within bank units is captured by the model; the "R-sq between" shows how much of the variation between banks is captured by the model; the "R-sq overall" represents a weighted average of the two. Adapted from https://www.stata.com/support/faqs/statistics/areg-versus-xtreg-fe/, retrieved on April 2020.

to 10,0. Moreover, mainly affected by the short span of the reference time period (4 years), the coefficients are not significant.

Figure 43 – Fixed-Effects model results.

Variable	*Expected sign*	*FE (1)*	*FE (2)*
Const	/	-0,207	-0,006
NPL	+	0,129	
LLP	-		-0,255
LTD	-	-0,177	-0,145
DEP	+	0,117	0,120
ETA	+	3,188	2,885
TIER1	+	0,548	0,299
UNEMP	+	0,618	1,005
INF	+	3,891	4,986
GDP	-	-1,874	-2,643
R-sq within		0,114	0,127
R-sq between		0,160	0,161
R-sq overall		0,098	0,110

Source: personal elaboration on FE model results (Stata).

Nevertheless, the expected coefficient signs are in line with the expectations found in previous literature. In addition, the two models aim to contribute to the scarce current literature over bank lending behaviour, focusing on a particular segment of the Italian banking sector, represented by the cooperative banks.

The coefficients of the variables related to the credit portfolio quality, i.e. NPL and LLP, show opposite signs and magnitude. The first seems to positively affect the growth of gross loans (+0,13) whereas LLP affects it negatively, with a greater magnitude (-0,26). The different effect over BB can be explained by analysing their composition: both the NPL and LLP variables are indicators of the credit portfolio quality, however a high NPL ratio may be sustained by the bank if the loans, for example, are underpinned by collaterals. This would be the case of the cooperative sector. Moreover, an increase of the variable NPL can affect the variable LLP with different magnitudes. It is useful to recall the formula used to calculate LLP, which is LP divided by NPL_{am}. The total loss provisions (LP) may increase at a lower rate compared to the gross NPL amount (NPL_{am}), since they

are calculated through risk models, adjustments and expected losses depending on the composition, probability of recover and existing guarantees of the NPL_{am}. On the other hand, the effect of the variable LLP on BB is negative compared to NPL. In fact, it may indicate that within the sample analysed, the banks react and are able to sustain an increasing NPL but at the same time, the LLP definitively impacts the BB growth negatively. From a financial statements point of view, the variable LLP impacts negatively the P&L of banks (in other words, it reduces the net profit) and this effect may be relevant when the bank strategy is drafted for the following fiscal year, whereas the NPL ratio may increase over the period, but it is not directly associated with the same amount of provisions.

With regard to the pairwise correlation between NPL and LLP (see figure 42), there is a slight negative correlation (-0,17). The sign of the correlation is in line with our expectations, since NPL_{am} respectively represents the numerator and denominator of variable NPL and LLP. However, the correlation is not equal to -1 as a consequence of the risk models that determine the amount of loan loss provisions (as explained earlier).

The LTD variable in both models shows a negative coefficient, as it was expected. This means that an increase of the loan to deposit ratio may have a negative effect on the bank ability to issue new loans at a positive growth (equal to -0,18 and -0,15 respectively). The banks have a threshold related to the amount of loans issued over the total deposit available. As a consequence, the higher the LTD ratio, the closer it gets to the limit, thus influencing the management choice of issuing new loans at a higher % growth.

The coefficient of variable DEP shows a positive impact on both models (~ +0,12 on both models) as it was expected, given that an increase of direct deposits from customers allows more flexibility to the credit institution when issuing new loans.

The coefficient of the ETA variable seems to show a positive influence over BB (+3,2 and +2,9 respectively), stronger in magnitude if compared to the other variables, given that the ratio represents a measure of bank solvency and as a consequence may strongly influence the willingness of the bank to increase the issue of new loans.

The TIER1 variable as well was expected to have a positive influence on new loans growth since it is perceived as a meaningful indicator of financial strength, both to an external stakeholder and regulator as well. The coefficient of TIER1 shows a positive influence on BB but with a gap of magnitude between the two models (+0,55 and +0,30 respectively).

Finally, with regard to the macroeconomic variables, the results are the following.

The GDP variable shows a negative effect on lending behaviour (equal to -1,9 and -2,6 respectively). This effect may be the result of a lower demand from borrowers as a consequence of the growing economy. Hence, when the GDP % growth increases, the borrowers may be less prone to ask for new loans. In fact, even if the offer from the bank increases, the ultimate choice is dependent of the borrower asking for new financing.
The unemployment growth shows a positive effect over BB (respectively +0,62 and +1,01). In fact, in the case of increasing unemployment, the demand from borrowers is expected to increase, all other things equal. In turn, it may signal a financial crisis after which the bank may decrease the offer side as a consequence of a deteriorated loan portfolio. However, the demand side effect seems to be greater.
Ultimately, the inflation growth has a positive effect on bank lending behaviour (equal to +3,9 and +5,0). The overall increase of goods' prices, all other things equal, may increase the demand of loans in order to finance the purchase of new products or investments.

This section proposed the analysis of the sample of cooperative banks, with the aim to find possible trends that may influence the lending behaviour of these credit institutions. In the light of the descriptive analysis, the following conclusions were retrieved:

- The cooperative banks analysed show on average an overall positive trend with regard to the % growth of gross loan rate (BB), the decrease of NPL ratio (-2,8 pp over the period), the loans to deposits ratio (+2,3 pp), a steady positive growth of direct deposits and ultimately, a solid Tier 1 ratio. Especially, with regard to the Tier 1 ratio, there is a gap with respect to the entire banking sector, the latter showing a lower Tier 1 ratio (as of 2018, 17,9% vs 14,7%).

  On the other hand, the LLP ratio of the sample increased of +6,2 pp in the 2015-18 period, as a consequence of allowances, which eventually impaired the capacity of cooperative banks to produce positive net income. In the case of negative net income, the equity of the bank is affected, and the result is a decrease the reserves or the equity itself. Finally, also the ETA ratio showed a slight decrease over the period. As a consequence, the dynamics of the variable LLP and the effects on the P&L may represent a warning to the cooperative banking sector, because it affects the ability to maintain a solid capital base. A new defence line is provided by the reform introduced in the next chapter, which allows the cooperative banks to obtain access to new equity also within the financial markets.

- With respect to the results of the Fixed-Effects model, there were no clear-cut conclusions, but this is in line with previous studies (see section 2.3) retrieved from the literature. More specifically, with regard to bank specific variables, the loan loss provision ratio apparently impacts more negatively the YoY % growth of gross loans, as expected, whereas the non-performing loans ratio seems to positively influence it. In other words, cooperative banks may sustain a high level of non-performing loans but should pose more attention when allowances for doubtful loans are made, given that they heavily impact the net profit, and in turn, the ability to increase the capital base by retaining at least 70% of total profit to the legal reserve (as can be seen in the following chapter).

Moreover, a reflection shall be made in the light of the analysis performed. The aim of the dataset was to provide a statistically representative sample of the Italian cooperative banking system. As a consequence, the macroeconomic variables used as reference indicators are related to the whole Italian territory. In other words, the real GDP is the result of a weighted average which takes into account components from all the Italian regions. However, given the focus of cooperative banks on the local territory, a further analysis should try to retrieve more specific macroeconomic indicators that are more representative, for example, of each Italian area (Northern, Central and Southern Italy).
Eventually, it would require further time and resources to build a larger database of cooperative banks, in order to retrieve a sample that can significantly represent each geographical area. Further research shall hence focus more locally, along with the difficult task of retrieving specific macroeconomic data that may be able to better explain the lending behaviour of cooperative banks.

CHAPTER 3
THE REFORM OF THE ITALIAN COOPERATIVE BANKING SECTOR

3.1 THE ITALIAN COOPERATIVE BANKING SYSTEM BEFORE THE REFORM

This chapter introduces the Reform of the Italian cooperative system. At first, the legislative framework before the Reform is analysed, along with a brief focus on the other type of mutual banks defined by the Italian Consolidated Law on Banking, i.e. the Banche Popolari. Secondly, the key facts that lead to the need for a reform of the BCC network are provided, in order to anticipate the guidelines and the aim of the regulator. After that, the Reform and the associated changes are brought in through a helpful categorization by area and destination. Finally, in the light of the recent events posed by the COVID-19 pandemic, a critical analysis on whether the cooperative banking system will be able to better face the upcoming challenges, compared to the past, is provided.

3.1.1 LEGISLATIVE FRAMEWORK

The Italian cooperative banking system (BCC) is regulated by the Consolidated Law on Banking[82] (TUB), which along the International and EU regulation provides the set of rules for banking and financial supervision. On the one hand, the International law generally aims at improving the efficiency of markets and reducing systemic risk, by means of different and independent apparatus, such as the Basel Committee on Banking Supervision (previously described in chapter 1.3), the European System of Financial Supervision (ESFS)[83], the Financial Stability Board (FSB)[84] and the International

[82] Bancario, T. U. (2015). Decreto Legislativo 1° Settembre 1993 n. 385. Testo unico delle leggi in materia bancaria e creditizia, versione aggiornata al decreto legislativo, (180).
[83] The European System of Financial Supervision is a network focalized around three European Supervisory Authorities (ESAs), the European Systemic Risk Board (ESRB) and national supervisors. The ESFS covers both macro-prudential supervision, through the ESRB and micro-prudential supervision by means of the ESAs, namely the European Banking Authority (EBA), European Insurance and Occupational Pensions Authority (EIOPA), European Securities and Markets Authority (ESMA). Adapted from https://www.bankingsupervision.europa.eu/about/esfs/html/index.en.html, retrieved on May 2020.
[84] The Financial Stability Board is an international body that coordinates national financial authorities and international standard-setting bodies as they strive toward promoting substantial regulatory, supervisory and other financial sector policies. Adapted from https://www.fsb.org/about/, retrieved on May 2020.

Organization of Securities Commissions[85]. On the other hand, the EU regulation is usually translated into directives, regulations, decisions or recommendations which might be binding or not binding. For example, regulation is binding and may be applied directly in the member states whereas a directive is binding with regard to the setting of goals but can be adapted in its forms and application methods by each member state.

The main European legislation governing the supervisory duties of the Bank of Italy is the regulation EU No. 575/2013 (the Capital Requirements Regulation – CRR) and Directive 2013/36/EU[86].

Finally, with regard to the TUB, in addition to important concepts, rules and standards related to the banking activity and savings collection, two possible models of banking institutions are defined (i.e. joint-stock companies or cooperative banks and more specifically, two types of cooperative credit institutions). Art. 28 of TUB states that the exercise of cooperative banking is reserved to the Banche Popolari and cooperative banks (BCC). However, the Banche Popolari and BCCs, even if sharing the mutualism and the principle of one-head one-vote, have different traits, which eventually distinguished the development and scope of operations over the last decade, eventually ending in the 2015 Reform of Banche Popolari.

Articles 29 – 30 – 31 – 32 (TUB) outline for the Banche Popolari the following main aspects (see figure 44):

- One-head one-vote rule in the general assembly regardless the number of shares owned
- The shareholders cannot hold, directly or indirectly, shares in excess of 1,0% of the capital and in some cases the limit is set at 0,5% of the share capital
- The assets cannot exceed 8 billion euro. If the case of a group, the parent company cannot exceed the mentioned limit at consolidated level. If the total assets exceed 8 billion euro, the bank must be transformed into a joint-stock company
- The bank must allocate at least 10% of the annual net profits to the legal reserve

On the other side, Articles 33 – 34 – 35 – 36 – 37 (TUB) lay out the distinctive characteristics of cooperative institutions:

[85] The IOSCO represents an international body that regulates more than 95% of the securities issued around the globe, being recognized as a global standard setter for the securities sector. Adapted from https://www.iosco.org/about/?subsection=about_iosco, retrieved on May 2020.

[86] Adapted from www.bancaditalia.it/compiti/vigilanza/normativa, retrieved on May 2020.

- One-head one-vote rule in the general assembly regardless the number of shares owned.
- In order to become a member, it is necessary to have (i) domicile, (ii) the headquarters in the case of a company or (iii) operate continuously in the area in which the cooperative bank operates.
- Each shareholder cannot own shares which relative value is greater than 50.000 euro.
- At least 51% of the lending activity must be carried out to the members.
- At least 95% of lending activity must be carried out within the municipality of the bank or within the municipalities of any related branch.
- The bank must allocate at least 70% of annual net profits to the legal reserve.
- A fraction of the annual net profits must be allocated to mutual funds for the promotion and development of cooperation.

It is obvious that the geographical constraint and the scope of operations mainly bound to their members has limited the possibility of cooperative banks to purse a growth strategy with respect to the Banche Popolari system, which on the contrary aimed for individual growth and at the same time increased the gap from the mutualism values. Nevertheless, cooperative banks aimed at developing horizontal networks in order to gain the necessary economies of scale and synergies.

Figure 44 – Key differences between BCCs and Banche Popolari.

	Istituto di Credito Cooperativo (As is before the 2016 Reform)	**Banca Popolare**
Regulation	Art. 33 - 34 - 35 - 36 - 37 TUB	Art. 29 - 30 - 31 - 32 TUB
Voting rights	One-head one-vote	One-head one-vote
Share capital	Up to 50.000 euro	Up to 0,5% of per shareholder
Profit distribution	At least 70% of annual net profits allocated to the legal reserve	At least 10% of annual net profits allocated to the legal reserve
Lending activity	At least 51% carried out to the members	No restriction
Geographical scope	At least 95% of lending activity carried out to the members	No restriction

Source: personal elaboration based on TUB.

Eventually the expansion of a few Popolari banks led to relevant problems in terms of size and governance: on the one side these banks needed access to the financial markets in order to support the necessary investments to compete within the banking system; on the other, the one-head one-vote rule did not allow for take-over or M&A operations without taking into account the problem of the exchange ratio. As a consequence of these issues, for sure more relevant to the regulators, the reform of Banche Popolari took place in 2015, before the BCCs. The reform[87] is composed by these central traits:

- If the total assets of the bank exceed the threshold of 8 billion euro, the bank must be transformed into a joint-stock company.
- The Articles of Association (By-Laws) allow to attribute more than one voting right per person.
- Extraordinary operations, inter alia transformations and mergers, are regulated by law in order to provide a common framework.
- Banks are allowed to issue financial instruments with special voting rights.

The popular banks impacted by the reform[88] due to their total assets exceeding the threshold represented more than 90% of the total assets of the system.
At last, another relevant difference with respect to the BCC network is that most of the Banche Popolari are located in medium-large cities and industrialised areas, targeting SMEs companies that are on average larger in size and revenues with respect to the SMEs targeted by the BCC network.

3.1.2 THE BCC NETWORK ORGANIZATION PRIOR TO THE REFORM

The BCC network before the Reform was composed by more than 300 cooperative banks (in the light of the reform, a few BCCs merged, reducing the number of single entities), organised in a three-tier scheme with respect to Figure 1 reported in Chapter 1. The BCC horizontal network is represented by two parts: an associative side and the corporate side (see figure 45). The associative side arranges the local banks into 15 regional federations, which in turn are members of the national association, i.e. Federcasse. The national association manages the following activities:

[87] Law 33/2015, March 24, 2015.
[88] Banca Popolare di Vicenza, Veneto Banca, UBI banca, Banca Popolare di Milano, Banca Popolare di Bari, Credito Valtellinese, Banca Popolare di Sondrio, Banca Popolare dell'Emilia-Romagna.

- Provides strategic advisory services and external communication from the inside to the outside of the network and vice versa.
- Manages the labour contracts to the benefit of the BCC's employees.
- Guides the decisions with regard to the safety net of the BCC system.

On the other hand, the corporate side is composed by three central institutions, namely Gruppo ICCREA, Cassa Centrale and Raiffeisen Bank[89].

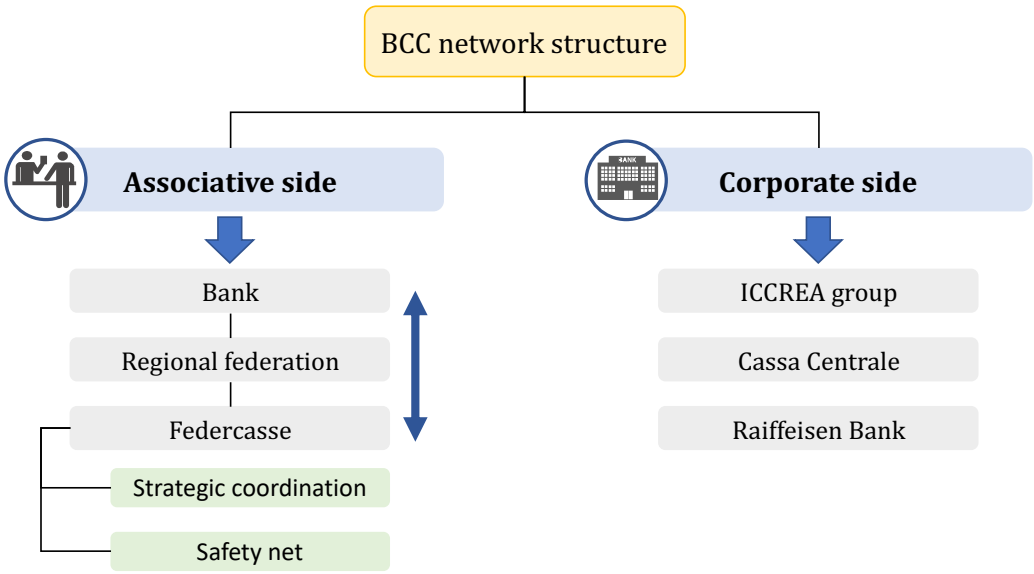
More specifically, the safety net of the cooperative system is composed by a Deposit Guarantee Scheme[90] (FGD) and a Bondholder Guarantee Fund[91] (FGO). These two safety nets are specific to the Italian Cooperative system (BCC) and provided financial strength to the cooperative banking system during the financial crisis of 2008-09 and the subsequent European sovereign debt crisis. In other words, the FGD safeguards the members of the BCC and their deposits, in compliance with regulation and in accordance with the principles of mutualism. The fund may intervene if one of the following events takes place[92]: (i) compulsory administrative liquidation of any bank of the network, also if located abroad; (ii) in the case of resolution of any member bank; (iii) in the case of extraordinary transactions such as sale of assets, liabilities, business units; (iv) in the case of risk failure, to overcome the momentum.

The fund is supervised by Bank of Italy and operates in conjunction with Federcasse, lastly in accordance with the EU regulatory framework[93] (the guarantee for the total deposits held by each member of the bank is standardized at the European level and it is set at 100.000 euro). In different circumstances, the FGO is related to the BCC guaranteed bond loans and in the case of insolvency provides to the bondholder the right to receive a payment related with the amount subscribed with the bond, within the maximum limit of 103.291,38 euro.[94] The two mentioned funds strengthen and represent another indicator related to the solidity and reliability of the Cooperative Credit and concretizes the values that have always guided the guidance of the Italian Cooperative Credit, inter alia to protect the interests of customers and the development of mutual credit cooperation.

---

[89] Its member are entities located in South Tirol.
[90] Fondo di Garanzia dei Depositanti del Credito Cooperativo.
[91] Fondo di Garanzia degli Obbligazionisti.
[92] Adapted from http://www.fgd.bcc.it/template/default.asp?i_menuID=53279, retrieved on May 2020.
[93] Directive 2014/49/EU, April 6th, 2014.
[94] Adapted from http://www.fgo.bcc.it/template/default.asp?i_menuID=52499, retrieved on May 2020.

Figure 45 – BCC network organisation.



Source: personal elaboration.

3.2 THE REFORM OF THE BCC NETWORK

3.2.1 THE NEED FOR A REFORM

The Reform[95] of the BCC network was approved in 2016, after a long dialogue between the Italian Authorities (primarily Bank of Italy) and the representatives of the BCC network. The need for a reform originated from several issues raised over the last decade by the financial crisis, the sovereign debt crisis and the changing regulatory framework. More in particular, as showed in chapter 2 as well, the main concerns were related to the following facts:

- *NPLs stock volume and LLP ratio.*

The deterioration of the quality of loans, as a consequence of the financial crisis and the sovereign debt crisis (see figure 23) translated into extraordinary and relevant value adjustments, which impacted directly the profitability of the Italian banks. The banks of the BCC network were, and as of today are, notably exposed to the performance of the real economy, given their focus on the financing of the corporate SMEs sector. Moreover, the credit institutions had to set aside relevant sums of loan loss provisions to cover the

[95] Italian Law Decree 49/2016.

potential default of the impaired loans, also in the light of the more stringent banking regulation. As a consequence, the extraordinary adjustments and the loan loss provisions had a negative impact on the P&L, which is expected to last longer in the case of a stagnant economy in terms of GDP growth, as in the Italian case (see figure 22). The BCC network experienced a growth of the NPL stock and the ratio of LLP, in fact between the two-year period 2013-14, as reported by Barbagallo, C. (2015) and in the Annual report of BCC Pordenonese (2016), the abnormal loans coverage ratio increased from 30,2% to 36,5% and the bad loans coverage ratio from 47,7% to 51,8%. The same trend is also found in the sample of BCCs analysed, which shows the mean value of the LLP ratio increasing from 40,8% in 2014 to 47,0% in 2017 (figure 35). In addition, the analysis by means of the Fixed Effects model performed in section 2.4 indicates that the LLP may impair negatively the lending behaviour of the credit institution, thus reducing the growth of new loans issued to the borrowers.

- *Capital increase limitations.*

As defined within the articles of the TUB, the cooperative banks had for any capital increase to rely exclusively on (i) new equity given by the actual or new members and (ii) the allocation of net profits to the legal reserve (minimum threshold set at 70% of total net profit). On the one hand, the impact of the loan loss provisions and the value adjustments of the loan portfolio have drastically reduced the ability of the net profit to supply a steady capital base. As a consequence, the flow of the profits allocated to the legal reserve has decreased and may not be able to guarantee a capital base compatible with a sound management and with the new regulatory changes. On the other hand, the cooperative banks could not access the capital markets to retrieve different sources of capital. The regulator may agree to the fact that capital markets can carry more risk and cost compared to the capital provided by the members, but at the same time, they represent a reliable and alternative source of funding in times of financial distress.

- *Tier1 capital.*

The BCCs are characterised by a solid Tier 1 capital base, thanks to the combined effect of accumulation policies and positive generation from profits in the past. In fact, as can be seen in figure 39, the mean value of the Tier1 ratio in the sample is equal to 17,1% in 2014 and 17,9% in 2017, showing on average higher values compared to the Italian entire banking system (at least 2 pp gap). However, the decreased quality of the loan portfolio

and low profitability are gradually diminishing the capital and funds available to the BCCs, posing an issue for eventually raising new capital. The options would be limited only to the injection of equity from the members since the capital markets could not be accessed.

- *Limitations to the use of the FGD and FGO.*

The BCC network is composed by two relevant safety nets, which as previously reported, are represented by the FGD and FGO schemes. The original aim of these schemes included the possibility to make a resolution-like mediation, in the case a cooperative bank needed financial help. These two safety nets still represent a capital backbone for the BCC network. However, after 2015, regulation changed and associated the intervention of the FGD and FGO schemes to state aid. More specifically the communication 2013/C216/01 of the European Commission set stringent rules in the case of state aid intervention and partially impaired the operating field of the safety net. In other words, the FGD and FGO could not be fully utilised but needed to be scaled down within a restructuring plan. At last, the intervention made by means of the FITD (Fondo Interbancario di Tutela dei Depositi) on the Cassa di Risparmio di Teramo was rejected at the time by the EU antitrust, because it was compared with state aid.

- *Disposal of NPLs.*

As reported by Barbagallo (2016), several cooperative banks have encountered difficulties in the disposal of impaired loans. In fact, the management of NPLs, as reported in the EBA Guidance to Bank on Guidance to banks on non-performing loans, requires organizational, professional and technical resources that are not normally available in a single cooperative bank. On the contrary, larger commercial banks can rely on a centralized line of service just for the non-performing loans, with dedicated personnel. As a consequence, there are several advantages related to more efficient timing and economies of scale, compared to the burden of relying on expensive external advisors. In fact, there has been a delay within the BCC network on the disposal of impaired loans, compared to other larger banks, made possible only with the help of the controlling entities, i.e. ICCREA and Cassa Centrale.

- *Application of Directive 2014/59/EU and Regulation (EU) No 806/2014.*

In the light of the BRRD (Bank Recovery and Resolution Directive), it is less likely that cooperative banks will fulfil the requirement related to the "relevant public interest", given their operations confined to local areas. As a consequence, the individual cooperative bank may be easily excluded from the application of the framework provided through the BRRD.

The aim of the Italian cooperative banks Reform is to overcome the mentioned issues, thanks to presence of a joint-stock parent entity, which among other things, will allow the BCCs network to access the capital markets. Particular attention has been posed to avoid any disruption of the cooperative values, inter alia mutuality and the focus on the local territory.

3.2.2 THE REFORM OF THE BCC NETWORK

The Reform included in the law decree 49/2016 can be summarized by the following points, which include the most important strongholds.

1. *Central position of the members.*

The Reform acknowledges and protects the identity and role of the BCCs by enhancing art. 2 of the Articles of Association of each cooperative bank group, i.e ICCREA, Cassa Centrale and Cassa Raiffeisen. Indeed, the members remain the ultimate owner of the cooperative bank. The reform allows each BCC to remain autonomous according to its level of risk. Moreover, in order to promote the expansion of the capital base, the limit of shares which each shareholder can own is raised to a threshold equal to 100.000 euro (before the reform, the limit was set at 50.000 euro) and the minimum number of shareholders (i.e. members) that each cooperative bank must have is raised from 200 units to 500 units.

2. *The BCCs integrated into a cooperative banking group.*

The Reform institutes that each single BCC entity must join a Cooperative Banking Group. As of today, the resulting Cooperative Banking Groups are represented by ICCREA, Cassa Centrale and Cassa Raiffeisen (South Tyrol area). The membership with the Cooperative Banking Group is a condition necessary to receive the authorization to carry out banking

activities. In order to become a member, the single BCC has to sign a cohesion contract which will set the rules, duties and functioning of the Group. Nevertheless, the BCC will remain the owner of its assets and will maintain a degree of managerial autonomy, according to the level of risk, the strategic guidelines and operational agreements agreed with the Cooperative Banking Group. In the case a cooperative bank does not agreed with the reform, it can transfer the banking activity to a joint-stock company. If even this option is refused, the bank must start a resolution process.

3. The cohesion contract.

Each single BCC entity will subscribe the rules for its integration into the Cooperative Banking Group through the cohesion contract. In particular, the degree of autonomy will be modulated on the basis of a risk-based approach, evaluated on objective parameters. The areas included in the cohesion contract are mainly related to (i) the governance and system of internal controls, (ii) the compliance with the regulatory framework in terms of capital adequacy, (iii) any relevant strategic decision, (iv) the sanctions in the case of a breach of the terms.

4. The structure and governance of the Cooperative Banking Group.

The parent company of the Cooperative Banking Group will carry out management and control activities in order to provide a line of service characterized by two objectives. The first to support the service capacity of the BCC to the members and customers, the development of activities to support the territory and the ability of the BCC to generate positive net profits. It includes strategies to pursue adequate economies of scale and cost containment. The second to assure stability, liquidity and compliance to the new banking regulation, also through appropriate intervention schemes in the case of individual bank crises. In addition, another element of solidity is represented by the minimum equity threshold of 1 billion euro that the Cooperative Banking Group will have.

5. Access to capital markets.

The parent company of the Cooperative Banking Group may access the capital markets to a maximum of 49% of its capital. The cooperative banks will still participate with a majority share (51%) in the share capital of the parent company of the Cooperative Banking Group. External investors will be carefully chosen on the basis of entities that

have similar purposes to those of cooperative banks. The time horizon would also be taken into account, in order to weight the aim of maximizing profits with the purpose and vision represented within the cooperative key values. Hence, investors with the need to maximize profits in the short term will be avoided.

6. Cross-guarantee scheme.

The parent company can contribute in the case of financial instability related to a single BCC or to the system, with the set-up of a cross-guarantee scheme, altogether with the guarantee funds of the Cooperative network, i.e. the FGD and FGO. The capital base of these funds will be provided through financing shares that will compose the free capital available, according to art. 150 of the TUB. As a consequence, the alternative institution of an Institutional Protection Scheme has not been pursued, except for the Cassa Raiffeisen group (Province of Bolzano). The presence of these funds allows the Cooperative Banking Group to have appropriate and incisive intervention mechanisms to act with in the case of an individual bank crisis. Moreover, these funds constitute a value-added feature of capital solidity to both the members and external investors.

7. The identity of the system and the specific features of the Raiffeisen funds.

The territorial identity of the system is a synonym of sustainability and competitiveness for cooperative banks in the medium-long term. The unity of the system represents a key value of the Reform, sustained through a more effective risk control, a rationalization of costs, a more suitable dimension to attract external capital, a significant investment capacity. Within this framework, the BCC banks of the Raiffeisen system (South Tyrol) could constitute, by respecting the cultural and linguistic peculiarities rooted in that territory, its own provincial Group, in association with the Cooperative Banking Group, stipulating specific solidarity commitments and service contracts.

The innovative features of the reform are several and are included as stated by Barbagallo, C. (2016) in the cohesion contract. However, it is important to remark that the key values of mutualism as well as the focus on the local territory are maintained. Each local bank, regardless the cooperative banking group, i.e. ICCREA, Cassa Centrale and Cassa Raiffeisen, is still able to collect savings and operate in its territory. The banking biodiversity represented by the mutual banks is indispensable for guaranteeing the

pluralism of banking in Europe and in the point of view of the Italian and European regulator, the same opinion is probably shared. As a consequence, many key values that differentiated the BCC network were not changed by the Reform. In fact, (I) each cooperative bank is still the holder of the banking license, (II) provides credit mainly to its members, (III) allocates at least 70% of the earning to the legal reserve, (IV) provides at least 95% of the loans in its operating area, (V) the one-head one-vote voting right is confirmed and (VI) it is subject to the cooperative revision of the mutualistic values every two years. The cohesion contract, on the other hand, allows the BCC to overcome the mentioned constrains (as reported in section 3.2.1) that would have impaired the medium-long term financial stability of the network. Thanks to the cohesion contract, the Cooperative Banking Group can reorganize the loan portfolio through the disposal of non-performing loans[96] or other deleveraging activities, and eventually carry out the necessary capitalization, also by means of the cross-guarantee scheme. Moreover, with regard to organizational matters, the controlling Group may restructure the operations in a lean perspective and make the necessary investments required to innovate the system of local branches, still focused on traditional retail activities. For example, the IT platforms can be outsourced and made available through a unique portal shared by all the banks of the network. At the end, the strategies adopted by the Cooperative Banking Group, being them related to new business plan or organizational issues, must be performed with the aim to improve the quality of the services offered to both the member and customers, ultimately maintaining the mutualistic value and focus in the local territory.

After a long and complex process, 2019 represented the year of the operational launch of the two Cooperative Banking Groups with a national value: the one belonging to ICCREA Banca (based in Rome) to which 142 BCCs belong and the one that belongs to Cassa Centrale Banca (based in Trento), to which 84 BCCs belong[97]. The Raiffeisen banks of South Tyrol instead, on the basis of amendments to the reform passed by the government in November 2018, have opted for the establishment of an IPS (Institutional Protection Scheme) as an alternative to the establishment of a Cooperative Banking Group that

[96] The disposal of non-performing loans requires a defined strategy and a team of professionals with expertise on the field. These resources are rarely found within the management of the single cooperative bank but can be organized by the Cooperative Banking Group. The advantages would be related to a team always dedicated to the matter as well as cost savings since the cost of the dedicated unit is shared by all the banks of the network.

[97] Data retrieved from https://www.creditocooperativo.it/template/default.asp?i_menuID=35340, May 2020.

would have operated in the Province of Bolzano only. The Raiffeisen group is composed by 37 cooperative banks. As a consequence, there are 263 cooperative banks in Italy as of 2019.

3.3 THE NEW IMPLEMENTED REFORM IN THE LIGHT OF COVID-19

The aim of this section is to analyse the expected consequences for the banking sector of the coronavirus (COVID-19) pandemic. More specifically, the recently implemented Reform of the cooperative banking sector may support the resilience of the BCC network in the light of a potential new financial crisis. However, given the continuous developments on the matter, any forecast or prediction might be subject to substantial changes.

The possible COVID-19 impacts on the global context and on the Italian economy are mainly based, at this early stage, on the rate of spread of the virus, duration of the lockdown and pace of the recovery. The risk of a global recession in 2020 in extremely high as nations shutdown economic activity to limit the spread of COVID-19. Currently, there are more than 6.302.318 total confirmed cases[98]. More particularly, USA and Europe account for a relevant share, with Europe guided by Russia, UK, Spain and Italy. The shape of the recovery of the global economy depends on the timing and magnitude of government assistance, the public health response and how companies and markets will cope with the lower demand.

Two different scenarios related to the GDP growth on a global basis may come up based on the following hypotheses[99]:

a) Best-case scenario – virus contained.

Spread of the virus until the mid of the second quarter 2020; hypothesis of seasonality of the virus; peak of new infections by the end of April and decline from June; Social

[98] Johns Hopkins University database as of June 2nd, 2020. Retrieved from https://coronavirus.jhu.edu/map.html.

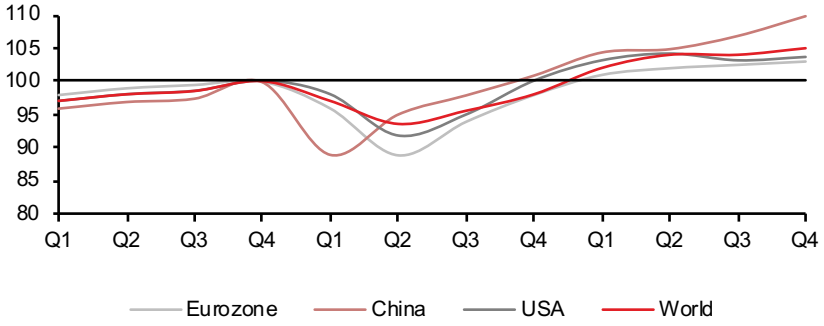
[99] Adapted from McKinsey & Company (2020) – Covid-19 Briefing materials. Updated April 24, 2020. Retrieved from https://www.mckinsey.com/~/media/mckinsey/business%20functions/risk/our%20insights/covid%2019%20implications%20for%20business/covid%2019%20april%2013/covid-19-facts-and-insights-april-24.ashx

distancing for a duration of 2/3 months. The GDP growth in the Eurozone is expected to return to pre-crisis level in Q1-2021 (figure 46).

b) Worst-case scenario – muted recovery.

Extended and global spread of the virus throughout 2020; absence of virus seasonality; new infections on the rise beyond June; prolonged social distancing for the whole summer. Within this projection, the GDP growth in the Eurozone will return to pre-crisis level in Q3-2023 (figure 47).

Figure 46: Expected GDP growth over the 2019-21 period within the best-case scenario (2019=100)



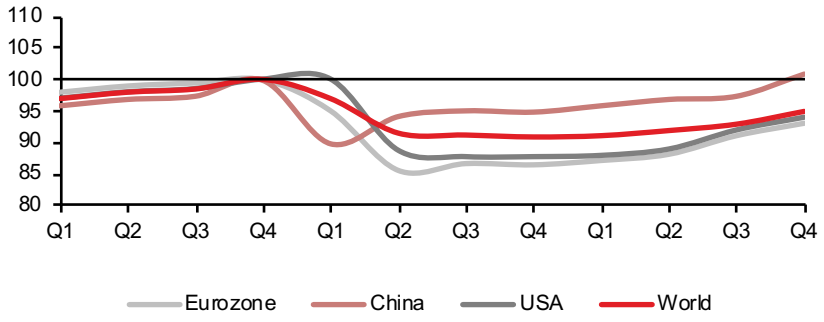
Scenario A - Best case			
%	Var % Q4 19 - Q2 20	Var % GDP 2020	Return to pre-crisis level
Eurozone	(11.0%)	(5.2%)	Q1 - 2021
China	(4.9%)	(2.0%)	Q4 - 2020
USA	(8.1%)	(2.5%)	Q4 - 2020
World	**(6.5%)**	**(2.7%)**	**Q1 - 2021**

Source: personal elaboration based on McKinsey & Company COVID-19 data.

For the Italian market (figure 48), revenues of Italian companies are expected to decrease in 2020 with a rate included in a range between -12,7% and -18,0% (base and worst-case scenario) with respect to previous year[100]. More specifically the base-case scenario is underpinned by: (i) no future lockdowns; (ii) strong recovery in 2021, but with lower paces compared to 2019. Instead, the word-case scenario is characterised by: (i) less stringent future lockdowns and (ii) weak recovery penalized by structural inefficiencies

[100] Cerved (2020) – Industry forecast COVID-19. Retrieved from https://know.cerved.com/wp-content/uploads/2020/05/Cerved-Industry-Forecast_reloaded-2-2.pdf on June 2020.

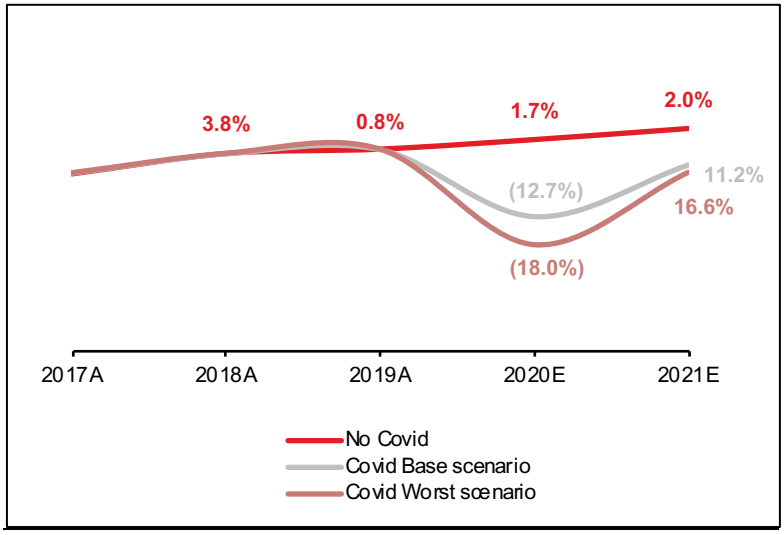
Figure 47 - Expected GDP growth over the 2019-21 period within the worst-case scenario. (2019=100)



Scenario 2: Worst case			
%	Var % Q4 19 - Q2 20	Var % GDP 2020	Return to pre-crisis level
Eurozone	(14.6%)	(11.1%)	Q3 - 2023
China	(5.7%)	(4.4%)	Q4 - 2021
USA	(11.2%)	(8.1%)	Q1 - 2023
World	**(8.4%)**	**(6.5%)**	**Q3 - 2022**

Source: personal elaboration based on McKinsey & Company COVID-19 data.

Figure 48 – Expected YoY % growth of revenues of Italian companies (2017A-21E).



Source: personal elaboration based on Cerved Industry forecast data.

This overview about the expected GDP growth on a global basis and revenues growth of Italian companies is useful since it shows the potential negative impacts of COVID-19 on the economy. As illustrated throughout chapter 2.1, during the last two financial crises in

Italy, the decrease of GDP YoY % growth was associated with an increase of the NPLs volume. Anyhow, the COVID-19 events are taking place in a different environment, characterized by divergent factors compared to the financial crisis of 2008-09 and the subsequent sovereign debt crisis. As reported in the ECB Research Bulletin No.71 by Ari et Al. (2020), there are different forces that may influence the NPLs trend. A few of them are helpful to the NPL resolution, such as:

- The COVID-19 pandemic is not the result of a credit-boom crisis and a bubble of the housing market.
- As a consequence of the financial crisis and new regulatory framework, the balance sheets of banks are now characterised by higher capital solidity ratios compared to the past.
- The new IFRS9 accounting standard can help the banks to timely recognise NPLs.
- The EBA Guidance to banks on non-performing loans can now be used as a tool by all banks, compared to its absence during the financial crisis of 2008-09.

On the contrary, new challenges could be posed by the following facts:

- A few European countries have higher public debt levels compared to the last decade.
- Traditional banks focused on retail activities are less profitable compared to the past, as a consequence of lower interest rates and new FinTech competitors that are gaining market shares.
- The economy recovery from COVID-19 may take longer than expected and as a consequence, credit losses from the corporate sector could rise exponentially.

The mentioned forces can potentially be valid for the entire banking sector. Anyway, the innovations provided to the Italian cooperative banking sector through the Reform can help the resilience of each local bank.

First, the possibility to access the financial markets represents a new anchor to support the capital basis of each cooperative bank, especially in the case of financial distress, and eventually it can be used to finance the funds allocated to the cross-guarantee scheme.

Secondly, the centralized management of NPLs by means of the Cooperative Banking Groups allows to manage a raising NPLs amount with a timely and efficient response. On the contrary, as reported by Barbagallo (2016), during the period between 2008-15 the

cooperative banks did not react and managed the disposal of impaired loans with the necessary tools (i.e. know-how and dedicated personnel) compared to other commercial banks, lack that lead to unnecessary delays.
Hence, if the COVID-19 pandemic will result, as expected in 2021, in a negative YoY % growth of revenues for the Italian corporate sector, there would be an increased probability of asset quality deterioration and raising amount of non-performing loans. If this is the case, the reformed cooperative banking sector will encounter a new challenge but at least, this time, it is fitted with the necessary tools to face the problem.

This last chapter introduced the innovations brought by the Reform of the Italian cooperative banking system. From an objective point of view, the most important constraint to the future development of cooperative banks, i.e. the access to capital markets, has been removed. On the other hand, the key principles of the network, based on mutuality and focus on the local territory, have not been subject to any change. Hence, the Reform shall have positive effects for the cooperative banking system. However, even if the law drafted a clear path, the Reform must be implemented, a fact that poses another level of difficulty. The relationship and cooperation between the Cooperative Banking Group and each single local bank must work out on a daily basis through smooth processes and decisions. The spirit of collaboration between the controlling entity and the local bank is fundamental, since surely some problems will arise, but they must be resolved in a constructive way. As a consequence, if well implemented, the new organizational changes will allow the BCCs network to better fulfil the needs of its customer base, in compliance with the European banking regulation.

CONCLUSIONS

The aim of this thesis was to propose an in-depth analysis of the cooperative credit system, starting from an overlook of the European context and then focusing on the Italian network, which was subject to a relevant Reform in 2016. The values which differentiate the cooperative credit system from the commercial banks are reflected in the type of assisted customers, both private and corporate side as well. A large portion of the BCCs customers, from the corporate side, are represented by SMEs with a small turnover, which can finance their activities without the need to produce a set of information on the financial background that is normally required by commercial banks. In other words, hiring a financial advisor to produce an Independent Business Review (IBR), for example, represents a very expensive procedure for the company, which in the case of a small scope of operations it is a monetary burden that can be avoided. This does not mean that the credit risk analysis by the cooperative credit institutions is conducted through a superficial methodology, but thanks to the knowledge of the territory and the companies that operate there, it is possible to grant new loans through relationship lending, based not only on hard information, but also on soft information. However, although we discovered that the Italian cooperative credit system enjoys a good capital solidity, thanks to its policies regarding the retaining of profits, it has been impacted as well by the economic and financial crisis that began in 2008. The result is an accumulation of impaired loans, which based on the empirical analysis performed, seems to have influenced over the period 2014-18 the ability to provide new loans to customers.

The purpose of the empirical analysis, conducted on a sample of 24 Italian BCCs, was therefore to verify the possible effects and magnitude of influence, on the YoY % growth of gross loans, of some variables retrieved from the balance sheet of these banks, and other macroeconomics variables related to the Italian economy. In particular, it has been discovered that the loan loss provisions ratio (LLP) has, apparently, negatively influenced the bank's ability to provide new loans, while other capital solidity variables such as Tier 1 ratio and ETA showed a positive influence. It is also highlighted how the cooperative banking system is on average more robust than the entire Italian banking sector. However, in the long term, the self-financing method of retained earnings to build the capital base as well as the contribution of equity from the shareholders (i.e. the members) may not be sufficient to offset the provisions for impaired loans but also to cope with a

new economic crisis. In the light of the results from the empirical analysis, further research should focus on identifying macroeconomic variables that can be relevant for the specific territory or Province in which the local cooperative bank operates. In other words, the GDP growth for the Italian territory may not be consistent when analysing a specific area located, for example, in central Italy.

The innovations introduced by the Reform, which are mainly represented on the one hand by the possibility to access the capital markets to retrieve new funds, and on the other hand, a more efficient management of the NPLs through the support of the parent company, represent an objectively favourable factor for the development of the system. In fact, the Reform recognises the values and the focus on the territory, without undermining the development of the Italian cooperative banking network by the mentioned constraints, no longer in line with the changed economic scenario after the Financial Crisis. Even in the light of the recent events and likely consequences of the COVID-19 pandemic, the cooperative credit system shall be better equipped to face the new challenges.

APPENDIX

Model 1 (LLP=0)

```
. xtreg BB NPL LTD DEP ETA TIER1 GDP UNEMP INF, fe

Fixed-effects (within) regression               Number of obs      =       104
Group variable: BANK                            Number of groups   =        26

R-sq:                                           Obs per group:
     within  = 0.1143                                         min =         4
     between = 0.1596                                         avg =       4.0
     overall = 0.0983                                         max =         4

                                                F(8,70)            =      1.13
corr(u_i, Xb)  = -0.7648                        Prob > F           =    0.3551

------------------------------------------------------------------------------
          BB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         NPL |   .1294611   .3207237     0.40   0.688    -.5102021    .7691243
         LTD |  -.1768582     .22657    -0.78   0.438    -.6287379    .2750215
         DEP |   .1171462   .1363067     0.86   0.393    -.1547089    .3890013
         ETA |    3.18789   1.765718     1.81   0.075    -.3337233    6.709504
       TIER1 |   .5476663   .7449959     0.74   0.465    -.9381812    2.033514
         GDP |   -1.87428   5.826137    -0.32   0.749    -13.49414    9.745584
       UNEMP |   .6177806   1.449744     0.43   0.671    -2.273643    3.509204
         INF |   3.890675   2.680291     1.45   0.151    -1.454996    9.236345
       _cons |  -.2068555   .2682443    -0.77   0.443    -.7418519     .328141
-------------+----------------------------------------------------------------
     sigma_u |  .10080437
     sigma_e |  .08979394
         rho |  .55757557   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(25, 70) = 1.18                      Prob > F = 0.2925
```

Model 2 (NPL=0)

```
. xtreg BB LLP LTD DEP ETA TIER1 GDP UNEMP INF, fe

Fixed-effects (within) regression               Number of obs      =       104
Group variable: BANK                            Number of groups   =        26

R-sq:                                           Obs per group:
     within  = 0.1268                                         min =         4
     between = 0.1605                                         avg =       4.0
     overall = 0.1100                                         max =         4

                                                F(8,70)            =      1.27
corr(u_i, Xb)  = -0.6489                        Prob > F           =    0.2730

------------------------------------------------------------------------------
          BB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         LLP |  -.2545395   .2353894    -1.08   0.283    -.7240089    .2149299
         LTD |  -.1450404   .2271844    -0.64   0.525    -.5981454    .3080646
         DEP |   .1198047   .1351945     0.89   0.379    -.1498322    .3894417
         ETA |   2.884573   1.775955     1.62   0.109    -.6574571    6.426602
       TIER1 |   .2994029   .7025455     0.43   0.671     -1.10178    1.700586
         GDP |  -2.643437   5.769492    -0.46   0.648    -14.15033    8.863451
       UNEMP |   1.005202   1.486169     0.68   0.501    -1.958868    3.969272
         INF |   4.986402   2.877176     1.73   0.087    -.7519437    10.72475
       _cons |  -.0064693   .2981475    -0.02   0.983    -.6011057     .588167
-------------+----------------------------------------------------------------
     sigma_u |  .08487114
     sigma_e |   .0891568
         rho |  .47538864   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(25, 70) = 1.27                      Prob > F = 0.2145
```

BIBLIOGRAPHY

Accornero, Matteo, et al. "Non-performing loans and the supply of bank credit: evidence from Italy." Bank of Italy Occasional Paper 374 (2017).

Angelini, Paolo, Roberto Di Salvo, and Giovanni Ferri. "Availability and cost of credit for small businesses: customer relationships and credit cooperatives." Journal of Banking and Finance 22.6-8 (1998): 925-954.

Angelini, Paolo. "Do high levels of NPLs impair banks' credit allocation?." Notes on Financial Stability and Supervision 12 (2018).

Ari, Anil, Sophia Chen, and Lev Ratnovski. "COVID-19 and Non-Performing Loans: Lessons from past Crises." Available at SSRN 3632272 (2020).

Ayadi, Rym, et al. "Investigating diversity in the banking sector in Europe: Key developments, performance and role of cooperative banks." (2010).

Banca d'Italia. "L'economia delle regioni italiane. Dinamiche recenti e aspetti strutturali. Economie regionali, 22" (2019).

Bancario, T. U. "Decreto Legislativo 1° Settembre 1993 n. 385." (2015)

Barbagallo, C. "Seminario istituzionale sulle tematiche relative alla riforma del settore delle banche di credito cooperativo." Rome: Senato della Repubblica 15 (2015).

Barbagallo, C. "La riforma del Credito Cooperativo nel quadro delle nuove regole europee e dell'Unione bancaria." Intervento presso Fondazione Italiani europei (2016).

Becchetti, Leonardo, Rocco Ciciretti, and Adriana Paolantonio. "The cooperative bank difference before and after the global financial crisis." Journal of International Money and Finance 69 (2016): 224-246.

Beck, Roland, Petr Jakubik, and Anamaria Piloiu. "Non-performing loans: What matters in addition to the economic cycle?." (2013).

Benford, James, et al. "Quantitative easing." Bank of England. Quarterly Bulletin 49.2 (2009): 90.

Berger, Allen N., and Gregory F. Udell. "Relationship lending and lines of credit in small firm finance." Journal of business (1995): 351-381.

Berger, Allen N., and Gregory F. Udell. "Small business credit availability and relationship lending: The importance of bank organisational structure." The economic journal 112.477 (2002): F32-F53.

Bernanke, Ben S., Cara S. Lown, and Benjamin M. Friedman. "The credit crunch." Brookings papers on economic activity 1991.2 (1991): 205-247.

Berrospide, Jose M., and Rochelle M. Edge. "The effects of bank capital on lending: What do we know, and what does it mean?." (2010).

Bofondi, Marcello, and Tiziano Ropele. "Macroeconomic determinants of bad loans: evidence from Italian banks." Bank of Italy Occasional Paper 89 (2011).

Bourdieu, Pierre. "The forms of capital." (1986): 241-258.

Bredl, Sebastian. "The role of non-performing loans for bank lending rates." (2018).

Caporale, Guglielmo Maria, et al. "Loan loss provisions and macroeconomic shocks: Some empirical evidence for italian banks during the crisis." Finance Research Letters 25 (2018): 239-243.

Ciocchetta, F., et al. "Bad loan recovery rates." Note di Stabilità Finanziaria e Vigilanza 7 (2017).

Coccorese, Paolo, and Sherrill Shaffer. "Cooperative banks and local economic growth." (2018).

Cole, Rebel A. "The importance of relationships to the availability of credit." Journal of Banking and Finance 22.6-8 (1998): 959-977.

Credito Cooperativo. L'impronta del Credito Cooperativo sull'Italia – rapporto 2018. (2018).

Cucinelli, Doriana. "The impact of non-performing loans on bank lending behavior: evidence from the Italian banking sector." Eurasian Journal of Business and Economics 8.16 (2015): 59-71.

Davis, Peter, and Steve Worthington. "Cooperative values: Change and continuity in capital accumulation the case of the British Cooperative Bank." Journal of Business ethics 12.11 (1993): 849-859.

Degryse, Hans, and Patrick Van Cayseele. "Relationship lending within a bank-based system: Evidence from European small business data." Journal of financial Intermediation 9.1 (2000): 90-109.

Deville, Aude, and Eric Lamarque. Identification et évaluation des modèles de gouvernance des banques coopératives. No. hal-02081229. 2014.

Eurich, Markus, and Michael Burtscher. "The Business-to-Consumer Lock-in Effect." Cambridge Service Alliance (2014).

Fairbairn, Brett. The meaning of Rochdale: The Rochdale pioneers and the co-operative principles. No. 1755-2016-141554. 1994.

Ferran, Eilis, and Valia SG Babis. "The European single supervisory mechanism." Journal of Corporate Law Studies 13.2 (2013): 255-285.

Ferri, Giovanni, Panu Kalmi, and Eeva Kerola. "Does bank ownership affect lending behavior? Evidence from the Euro area." Journal of Banking and Finance 48 (2014): 194-209.

Fonteyne, Wim Hardy, and Daniel C. Hardy. "Cooperative Banking and Ethics." Ethical perspectives 18.4 (2011): 491.

Groeneveld, Hans M. "Features, facts and figures of European cooperative banking groups over recent business cycles." Journal of Entrepreneurial and Organizational Diversity, Special Issue on Cooperative Banks 3.1 (2014): 11-33.

Groeneveld, H. Snapshot of European cooperative banking. TIAS Working Paper. (2017).

Harkmann, Kersti. "Stock market contagion from Western Europe to Central and Eastern Europe during the crisis years 2008-2012." Eastern European Economics 52.3 (2014): 55-65.

Hess, Kurt, and Graham Francis. "Cost income ratio benchmarking in banking: a case study." Benchmarking: An International Journal (2004).

Jan Gottschalk. A Macroeconomic Perspective on the Real Sector: Growth, Economic Fluctuations and Inflation. International Monetary Fund workshop (2015).

Kristin A. Van Gaasbeck. Introduction to Balance Sheets, ECON 135, California State University – Sacramento (2016).

KPMG Advisory S.p.A. Bilanci dei gruppi bancari italiani: trend e prospettive - esercizio 2017 (2018).

KPMG Advisory S.p.A. Bilanci dei gruppi bancari italiani: trend e prospettive - esercizio 2018 (2019).

Lang, Frank, Simone Signore, and Salome Gvetadze. The role of cooperative banks and smaller institutions for the financing of SMEs and small midcaps in Europe. No. 2016/36. EIF Working Paper, 2016.

David Marques-Ibanez and Gambacorta, Leonardo. "The bank lending channel: lessons from the crisis." Economic Policy 26.66 (2011): 135-182.

Messai, Ahlem Selma, and Fathi Jouini. "Micro and macro determinants of non-performing loans." International journal of economics and financial issues 3.4 (2013): 852.

Micco, Alejandro, and Ugo Panizza. "Bank ownership and lending behavior." Economics Letters 93.2 (2006): 248-254.

Migliorelli, Marco, Marco Migliorelli, and Weis. New Cooperative Banking in Europe. Springer International Publishing, 2018.

Quigley, William P. "Five hundred years of English Poor Laws, 1349-1834: Regulating the working and nonworking poor." Akron L. Rev. 30 (1996): 73.
Stefani, Maria Lucia, et al. "Le Banche Locali E Il Finanziamento Dei Territori: Evidenze Per L'Italia (2007-2014)(When Local Banks Lend to Local Communities: Evidence from Italy (2007-2014))." Bank of Italy Occasional Paper 324 (2016).

Supervision, E. B. Guidance to banks on non-performing loans (2017).

Supervision, E. B. Guidelines on credit institutions' credit risk management practices and accounting for expected losses – Final report (2017).

Supervision, E. B. Final guidelines on management of non-performing and forborne exposures (2018)

Usai, Stefano, and Marco Vannini. "Banking structure and regional economic growth: lessons from Italy." The Annals of Regional Science 39.4 (2005): 691.

Uzzi, Brian, and Ryon Lancaster. "Relational embeddedness and learning: The case of bank loan managers and their clients." Management science 49.4 (2003): 383-399.

Torres-Reyna, Oscar. "Panel data analysis fixed and random effects using Stata (v. 4.2)." Data and Statistical Services, Priceton University (2007): 1-40.

WEBOGRAPHY

www.agrobresciano.it
www.bancadellamarca.it
www.bancadiandria.it
www.bancadicagliari.it
www.bancaditalia.it
www.bancaditaranto.com
www.bancaelba.it
www.bankingsupervision.europa.eu
www.bccabruzzese.it
www.bccadriaticoteramano.it
www.bccbari.it
www.bccbasilicata.it
www.bccborghettolodigiano.it
www.bcccarate.it
www.bccdimontepaone.it
www.bccgarda.it
www.bccmassafra.it
www.bccnapoli.it
www.bccpm.it
www.bccroma.it
www.bis.org
www.buccinocomunicilentani.it
www.cassacentrale.it
www.centropadana.bcc.it
www.credifriuli.it
www.creditocooperativo.it
www.creditotrevigiano.it
www.consilium.europa.eu
www.ecb.europa.eu
www.fano.bcc.it
www.federalreserve.gov
www.eacb.com
www.ecb.europa.eu
www.ica.coop
www.iccreabanca.it
www.istat.it
www.kpmg.com
www.labcc.it
www.oecd.org
www.rbinternational.com
www.skylineuniversity.ac.ae
www.stata.com
www.vivalbanca.bcc.it