Impact of ownership strucutre on marketing strategies and on financial performances and risk : A multisectoral approach

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IMPACT DE LA STRUCTURE DE PROPRIETE SUR LES STRATEGIES DE MARCHE, LA PERFORMANCE ET LE RISQUE FINANCIERS : UNE APPROCHE MULTISECTORIELLE

Soutenue le 14 décembre 2016 devant le jury composé de

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IMPACT OF OWNERSHIP STRUCTURE ON MARKET STRATEGIES, FINANCIAL PERFORMANCE AND RISK:

A MULTISECTORAL APPROACH

Presented publicly and defended by
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On December 14th 2016
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Résumé

Cette thèse explore la relation entre la structure de propriété coopérative ou actionnariale avec les stratégies de marchés, et la performance et risque financiers. Elle couvre trois terrains d'études appartenant à des secteurs différents : (1) Les PME françaises, (2) le secteur viticole français et (3) les institutions financières américaines, en adoptant à chaque fois une approche comparative avec des données empiriques. Elle contribue à la littérature existante en ayant une vision transversale entre le marketing et la finance tout en considérant la structure de propriété via des échantillons de données représentatifs.

Selon les résultats, les coopératives ont un niveau de performance financière plus faible (excepté les institutions d'épargne américaines) et un risque financier moins élevé (excepté les unions de crédit américaines) que les structures actionnariales. De plus, elles détiennent un niveau plus élevé de capitaux propres leur permettant d'amortir les chocs.

En effet, les coopératives adoptent des stratégies de marché différentes. Le type de marque a été étudié dans le secteur viticole montrant que les coopératives optent pour des marques collectives alors que les entreprises actionnariales préfèrent les marques privées. Dans le secteur des institutions financières, dépendamment du type de structure, des segments de clientèles sont préférés et l'approche de relation client est différente.

Quant à la relation entre la structure de propriété et les stratégies de marché d'une part et la performance et risque financiers d'autre part, les résultats montrent que les stratégies de marché peuvent influencer la performance financière. Néanmoins, le principal facteur qui affecte la réduction du risque est la structure de propriété coopérative indépendamment des stratégies de marché choisies.

Mots clefs : Coopératives, Performance financière, Risque, Stratégies de Marché, PME, Vin, Institutions financières.

Abstract

This thesis explores the relationship between ownership structure (cooperative versus investor-owned), market strategies as well as financial performance and risk. It tackles three databases in three different sectors: (1) French SMEs, (2) French wine sector (3) and financial institutions in the USA, along with a comparative methodology using empirical data. It contributes to the existing literature through a transversal approach between marketing and finance, in the framework of cooperatives with significant samples of data.

Results show that cooperatives have lower levels of financial performance (except thrifts) with lower financial risk (except credit unions) compared to investor-owned firms; cooperatives have higher level of capitalization allowing them to face economic crises.

Moreover, cooperatives adopt different market strategies. Research in the wine sector show that cooperatives tend to choose collective branding whereas investor-owned firms prefer private brands. As for financial institutions, business lines and relationship lending approaches vary according to ownership structures.

In terms of the relationship between ownership structure and market strategies on one hand, and financial performance and risk on the other, results show that market strategies can affect financial performance while the main factor reducing the risk is cooperative structure.

Keywords: Cooperatives, Financial performance, Risk, Market strategies, SMEs, Wine, Financial Institutions.

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"*In the beginning was the Word, and the Word was with God, and the Word was God. He was in the beginning with God. All things were made through him, and without him was not anything made that was made*."

John [1:3]

To Tanios, Alexa,

Bassam, Ramy and in the memory of Fady

Summary of Contents

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Impact of ownership structure on market strategies, financial performance and risk

A multisectoral approach

Chapter 1 Introduction

I- Context of the Research

During the last century, several financial and economic crises and scandals occurred arising from either financial speculation or bad governance issues leading small or big economic impacts and changes in policies and regulations. From the big recession on the 30's till the internet and subprime bubbles passing by the Enron Scandal, two issues emerged and are of interest for our research: the ownership and governance of a firm. The classical and dominant model of ownership and profit maximization function proved its limits in maintaining economic stability, and governance issues are becoming complicated and crucial for maintaining the good functioning of the firm.

Our research holds in a context of a banking crisis that started in 2007, and became a global financial crisis since September 2008 after the fall of the Lehman Brother and its impact on economies and societies is still consequent. Another factor contributing to the context of the research holds in the increase of social and economic inequalities around the world[1]. The investor-owned classical form of enterprise has shown its limits in responding to global economic needs; therefore, alternative models arise or regenerate. This crisis also encouraged politics, governments, academics and policy makers to look at other alternatives of classical investor-owned entities, and explore their advantages and limits. As a result, the United Nations declared 2012 as the "International year of Cooperatives." This year helped the global cooperative movement to regenerate to promote this type of firms. In 2016, cooperatives represent 1 billion people around the world being present in all economic sectors and are key players of the sustainable development goals (2030) of the United nations.

Cooperatives, according to recent literature has shown in different sectors their resilience and to this major crisis (Birchall, 2013a; Ryder & Chambers, 2009); therefore, we think it is interesting to look in depth at these entities and try to understand better their strategies and performances.

On another hand, marketing accountability is taking a major impact on the recent marketing literature. Hence, the Academy of Marketing Science put in its objectives to study the financial impact of marketing actions. Marketing departments are pushed to show their legitimacy through proving their accountability (Gupta, Lehmann, & Stuart, 2004). Marketing expenditures are

[1] Joseph Stiglitz address at the third international summit of cooperatives 2016

increasing and becoming consequent, leading to the need of proving their financial return (Stewart, 2009). They constitute one of the major expenditures with a difficulty of assessing the direct financial impact of these expenditures on sales.

Therefore, it is interesting to cross the marketing actions and their impact on financial performance with the ownership structure framework. Notably, cooperatives versus investor-owned firms.

II- Research framework

The economic literature is extensive and has studied in depth the cooperative theory since three centuries, whereas in the management literature this type of firm is under-exploited[2]. The major management theories and studies examine the classical investor-owned firms.

The main differences considered between these two types of enterprises rely on **objectives** and **governance**. Cooperatives aim to maximize value for their members whereas investor-owned firms have a profit maximization objective function. Cooperative rely on "one member one vote" voting rule while investor-owned governance is the "one share one vote" rule. Another feature of governance differentiating these two types of the enterprise is the identity of the owner. Cooperatives owners can be their clients or customers, producers or employees while investor-owned businesses serve their capital providers.

We expect that the ownership structure and the objectives of each type of entity lead to different **marketing strategies** and different levels of **performance** and **risk**.

The research is **interdisciplinary in management**: we cross finance and marketing science in the cooperative framework. This transversal approach is important to better under understand cooperatives and was not taken into account in the existing literature.

"When you study cooperatives you have to be interdisciplinary" M. Cook[3].

[2] For example, while exploiting Web of Science research tool, we find 255 articles on cooperatives referenced as economics and 83 as management (August 2016)

[3] During a speech on cooperatives for the international cooperative alliance research conference, Almeria Spain 25-05-2016

III- Research questions

The starting point of the thesis lies in the theory of ownership of Hansmann (1996) where he exposes the different types of patrons depending on the ownership structure of a firm. Using this classification, and Mitchell, Agle, & Wood's (1997), we define the definitive stakeholder in each type of firm and in the chapters where the patrons are clearly identified, we were able to focus on this definitive stakeholder as the center of our analysis. In this thesis, we are interested in comparing cooperatives and investor-owned firms.

We use the definition of cooperatives used by the International Cooperative Alliance (ICA), the official representative of cooperatives around the world, "an autonomous, voluntary association meeting common economic, social, and cultural needs through a jointly owned and democratically controlled enterprise." The governance of this model gives them strengths, as well as weaknesses regarding their strategies and performances, generated from **ownership, control, and benefits** (Birchall, 2013b).

It allows cooperatives to have lower levels of **asymmetry of information** with their main stakeholder (type of owner: for example, with clients in consumer cooperatives) and **align their objectives** with members leading to different or more adequate marketing strategies.

However, the **dispersed ownership** can lead to **managerial entrenchment** and **high decisional costs engendering** poor performances. Nevertheless, cooperatives have implemented independent boards and different tools of control to surpass these managerial costs.

Therefore, we would like to investigate the differences in the market strategies adopted per ownership structure, the impact of ownership on performance and risk and the relationship among them.

The arguments above lead to the following global research question:

Does the ownership structure have an impact on market strategies and how do they affect financial performance and risk?

Through the essays we try to answer some or all the following research sub- questions:

- Do cooperatives have different financial structure, financial performances, and risk than investor-owned firms?
- Do cooperatives have different marketing strategies than investor-owned firms?
- How do marketing strategy and ownership structure affect financial performance and risk?

This research studies the relationship between ownership structure (cooperatives versus Investor-Owned Firms (IOFs)), marketing strategy and financial structure and performance. These relationships are examined partially or totally along the chapters of this thesis within several sectors.

It focuses on comparing cooperatives to investor-owned firms using various tools. The studies on cooperatives use several methodologies such as case studies, qualitative research methods as well as quantitative research such as surveys and empirical analyses.

We choose quantitative research methods both survey and empirical analyses to serve the object of our research. In each article, we detail the data and the methodological choice and the adopted literature with a common basis of theoretical background. Each article treats a different set of data belonging to a specific sector and country or region.

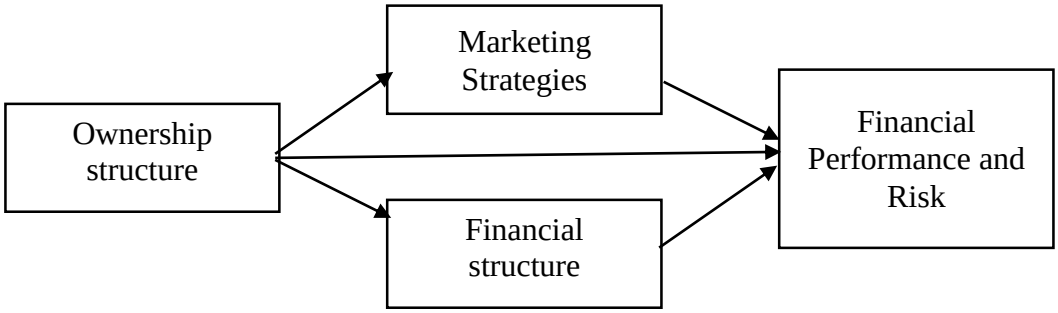
IV- Contributions

This thesis contributes in several ways to the existing literature: (1) It takes a transdisciplinary approach to marketing and finance in the context of cooperatives. We did not find in the literature any significant work on this area. (2) It examines in an empirical way the relationship between ownership structure and financial structure, performances, and risk in timelines and areas unexploited in the literature. (3) It tries to identify some marketing strategies adopted by each type of ownership considered. (4) It has a multi-sectoral approach, within the same object of research we explore three different sectors and levels of analyses.

V- Design of the research

In this research, we explore the relationship between the items considered using three different data sources, in three different sectors and countries. Each chapter explores these relationships with data constraints each time. Therefore, the design of the research is in Figure 1:

Figure 1: Design of the research

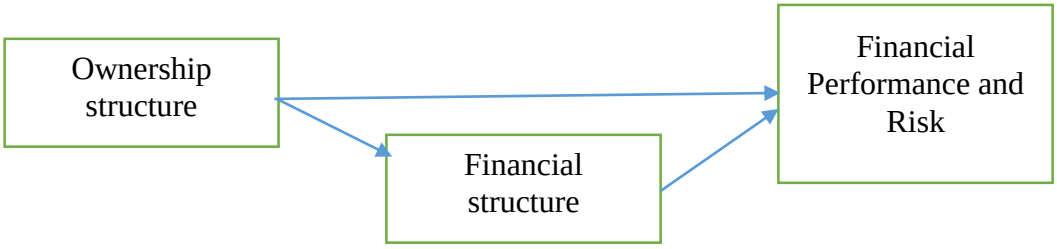


The figure shows the relationships studied through the articles depending on the available data per article.

We design the thesis in three papers each paper represents a chapter of the thesis:

Chapter 3, studies the relationship between ownership structure and financial structure, performance, and risk in the French enterprises. The data limitation did not allow us to identify their marketing strategies. The paper studies the following relationships:

Figure 2: Design of chapter 3



Chapter 4, links the ownership structure to branding strategies and financial performance and risk, in the framework of French wine cooperatives. The choice of branding strategies is interesting since we examine producers' cooperatives, where branding is an important tool to valuate the product . Therefore, we wanted to explore the member's utility function and their decisions concerning their product.

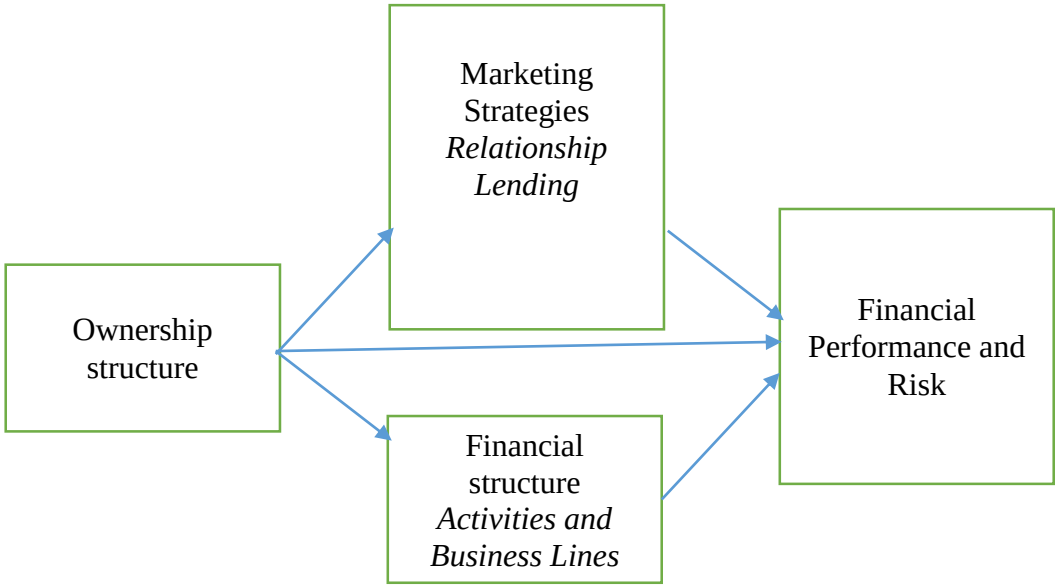
We use a decision model analysis, make some propositions and identify whether some of them are applied to the data that we have. The paper studies the following relationships:

Figure 3: Design of chapter 4

Chapter 5, studies the relationship between ownership structure, relationship lending strategy, business lines and activity and, performance and risk in the US depository institutions sector. We choose to examine the relationship with the client through relationship lending for two main reasons. In the financial sector, that lies on service, the relationship built with the client is essential, and in the case of cooperatives, the main owner is the client.

We compare at first thrifts in part A to examine the relationship between ownership, relational strategy, and performance. We then extend the analyses on credit unions and community banks in part B of the chapter. It studies the following relationships:

Figure 4: Design of chapter 5



VI- Plan of the thesis

The thesis starts with this introductory chapter, then an overview of the tackled literature, and three essays on comparing cooperative structure, performance, and strategies and a concluding chapter.

Chapter 2 reviews the literature starting with a stakeholder analysis depending on the ownership structure, then an overview of cooperatives literature, an assessment of their performances, a review of the literature linking marketing to finance, then the synergy between marketing and finance are exposed in the case of cooperatives.

Chapter 3 studies the relationship between ownership structure and financial structure and performance in the case of Small and Medium French firms. The data lies on information on 3384 IOFs and 679 cooperatives between 2004 and 2012 extracted from Altares Database of INSEAD OEE Data services.

Chapter 4 studies the branding strategies per ownership structure and their relationship with financial performance. We extract the data from a survey held in 2005 on 89 IOFs and 118 Coops in the French wine sector, and the financial information is extracted from Diane Database between 1999 and 2009.

Chapter 5 studies the link between relationship lending, ownership structure and financial performance in the US depository institutions. This chapter is composed of two parts; the first part treats thrifts and the second has an overview on community banks and credit unions.

Chapters 3, 4, 5A and 5B, are structured in a classical way with their introduction, a review of the theoretical framework, the empirical analysis and results and the discussions along with conclusions.

Table 1: Sectors and Data overviews the sectors the data and their sources in each chapter.

Chapter 6 summarizes the results exposes the managerial implications, concludes, shows the limits of the research and plans the future research.

Table 1: Sectors and Data

Chapter	Sector	Years	Data	Source
3	French SMEs	2004 -2012	3384 IOFs 679 Coops	Altares Database (INSEAD Iods)
4	French Wine Sector	1999 -2009	89 IOFs 118 Coops	Survey and Diane Database
5 A	US thrifts	1999 -2014	218 IOFS 505 Coops	SNL Database Financials
5 B	US community banks and credit Unions	1999 -2014	4 711 IOFs 6 296 Coops	

Chapter 2 Overview on the tackled literature

I. Chapter introduction

This chapter identifies the main tackled theories needed for our research. Then, in each chapter in the thesis, depending on the sector and object of the research, we expose the related literature.

The starting point relies on a stakeholder analysis that depends on ownership structure. We underline the importance of each stakeholder according to the ownership structure of a firm depending on the Hansmann (1996) classification. In this part of the chapter we propose matrices that enclose the different types of ownership with stakeholder classification as proposed by Mitchell, Agle, & Wood (1997).

Afterwards, we review the literature on cooperatives, by defining them showing their characteristics and evolution, their advantages and disadvantages. We also emphasize on their importance on social entrepreneurship and behavior in the time of crises. We then focus on financial cooperatives, mainly cooperative banks since chapter 5 emphasizes on financial depository institutions.

We then examine the performance of cooperatives, while passing by the relationship between governance and performance and the measures used in the literature to assess their performance. We also mention the literature showing the levels of risk of cooperatives and the use of the comparative studies in their framework.

Section V, assesses the importance of the marketing and finance interface. We explore the financial metrics used for marketing as well as the marketing metrics. We show how these metrics are modeled to assess the performance. We then focus on the cooperative framework within this approach.

We finally expose and explain the choices of sectors and levels of analyses included within this thesis.

II. An overview of stakeholder's theory combined with the ownership structure of an enterprise

In this section, we expose an overview on the different stakeholders of a firm, and their degrees of importance depending on the ownership structure of a firm.

We suggest different matrices depending on the concepts considered. The objective of this section is to show the map of the importance and role of each stakeholder depending on the ownership structure of the enterprise.

However, the following classification is closely dependent on the sector studied and the specificities of the environment of each firm, its sector and other structural determinants.

In the first sub-section, we will expose the division of ownership structure of the firm; then we will define the stakeholder's theory and analysis. Afterward, we detail the methodology chosen to analyze stakeholders and finally a categorization of the stakeholders depending on their ownership structure will be exposed then we conclude this section.

1. The ownership structure of an enterprise

To synthesize the categories of ownership structures in a firm, a definition of the term "Owners" must be underlined. According to Hansmann, in his theory of enterprise ownership, (1996), it refers to: "*those persons who share two formal rights: the right to control the firm and the right to appropriate the firm's profits or residual earnings*." The formal control doesn't necessarily mean an effective one; it could be used only for big decisions such as M&A, dissolution of the firm and the choice of BOD.

The actors in a firm are "Patrons". "They comprise all the persons who transact with a firm either as purchasers of the firm's products or as sellers of the firm's supplies, labor or other factors of production." According to Hansmann, "*Nearly all large firms that have owners are owned by persons who are also patrons*."

Another interpretation of ownership is exposed by Jensen and Meckling (1976) considering a firm as a nexus of contracts. They show that a firm enters into embedded relationships between firm and patron in each transaction. "Market contracting" is when the patron deals with the firm only

through a contract without being an owner. “Ownership” when the patron is also the owner of the firm.

Hansmann (1996), defines several ownership structures taken into three categories of stakeholders, the producer-owned enterprise, the customer-owned enterprise and the nonprofit and mutual enterprise.

The producer-owned enterprises enclose investor owned firms where shareholders or capital providers are the patrons, employee-owned firm where the employees are patrons and agricultural and other producer cooperatives where producers of the main good or service are the main patrons.

The customer-owned enterprise having as patrons the buyers of goods and services are retail wholesale and supply firms, utilities, clubs and other associative organizations and housing.

The non-profit enterprises and mutual savings banks do not have any patrons while for cooperative banks, mutual savings and loan associations insurance companies and credit union’s patrons are their clients: depositors and borrowers. Table 2 maps the patrons considered in each ownership structure as categorized by Hansmann (1996).

Table 2: The Patrons of each Ownership Structure of a firm

The Ownership Structure	Patrons
Producer-owned enterprises	
Investor-owned firm	Shareholders or capital providers
Employee Owned firm	Employees
Agricultural and other producer cooperatives	Producers of the good or service
Customer owned enterprise	
Retail, Wholesale and Supply firms Utilities Clubs and other associative organizations Housing	The buyers of the good or service
Non-profit and mutual societies	
Non-Profits Firms Mutual savings banks	Non existing
Banks Mutual Savings and Loan Associations Credit Unions	Consumers: Depositors and Borrowers
Insurance companies	The subscribers of the insurances: The clients

2. The stakeholder's theory

Freeman (1984) defined stakeholders as "those groups without whose support the organization would cease to exist". Freeman, Wicks, and Parmar (2004) modified the form of the definition that became: "those groups who are vital to the survival and success of the organization".

Stakeholder theory states that "managers should make decisions so as to take account of the interests of all the stakeholders in a firm. Stakeholders include all individuals or groups who can substantially affect the welfare of the firm—not only the financial claimants, but also employees, customers, communities, and governmental officials" etc.

We draw the most prominent stakeholders according to Freeman in Figure 4.

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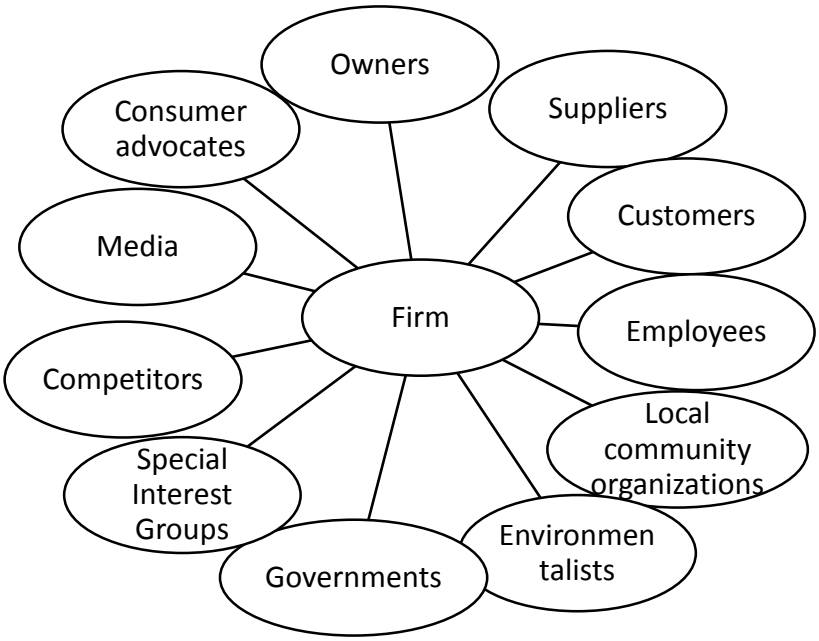
Figure 4: The Stakeholders Of a Firm (Freeman, 1984)



Freeman has opened the door for numerous academics for studying the stakeholder's theory and its interactions with its environment. In 1995, this theory was revisited by Donaldson and Preston and summarized the stakeholders to the following agents: Investors, Governments, Political groups, Suppliers, Customers, Trade unions, Employees and Communities.

In our matrices, we will use these stakeholders to simplify the analysis. However, in each specific type of enterprise and sector, other agents may interfere. The agents in this study are far from being exclusive for each type of structure; however, they illustrate the global picture.

In the following sub- section, an overview of the stakeholder analysis is exposed, and then we choose one of these analyses in order to draw our matrices of stakeholders and ownership structures.

3. The stakeholder analysis

The stakeholder analysis consists of identifying the influence of key people, groups or organizations on the activity of the firm. Several approaches are used to expose the analysis of stakeholders. The most known among them are the following:

Savage and al. (1991) classify the stakeholders depending on their potential to cooperate or to become a threat for the firm. Their main criteria are the ability, willingness and the possibility of cooperation or threat. They identify four types of stakeholders (Table 3) and identify their strategies: (1) the supportive stakeholder that is involved with the organization with high level of cooperation and low level of threat; (2) the marginal stakeholder whose strategy is to monitor with low levels of threat and cooperation; (3) the non-supportive stakeholder having low level of cooperation and high threat and (4) the mixed blessing stakeholder having high level of cooperation and threat to organization.

Table 3: Typology of organizational stakeholders (Savage et al., 1991)

		Stakeholder's Potential Threat to organization	
Stakeholder's Potential for Cooperation with organization		High	Low
	High	Stakeholder Type 4: Mixed blessing Strategy: Collaborate	Stakeholder Type 1: Supportive Strategy: Involve
	Low	Stakeholder Type 3: Non-Supportive Strategy: Defend	Stakeholder Type 2: Marginal Strategy: Monitor

Frooman (1999) has studied the dependency between a company and its stakeholders. This classification takes into account the perspectives of the two sides of the study. Four types of stakeholders are identified. Table 3 shows the main work in this paper.

Table 4: Classification of Stakeholders (Frooman, 1999)

		Stakeholder dependent on the firm?	
		No	Yes
Firm dependent on stakeholder?	No	Type of relationship: Low interdependence Influence Strategy: Indirect/ Withholding	Type of relationship: Firm Power Influence Strategy: Indirect/ Usage
	Yes	Type of relationship: Stakeholder Power Influence Strategy: Direct/ Withholding	Type of relationship: High interdependence Influence Strategy: Direct/ Usage

Mitchell et al. (1997) suggest a typology to prioritize stakeholders. This typology is one of the most cited approaches in analyzing stakeholders of the firm. They identify stakeholders by classifying them according to the following attributes: Power, legitimacy and urgency. Power is a relationship among social actors in which one social actor can get another social actor to do something he wouldn't have done otherwise. Legitimacy is the generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions. Urgency is the degree to which stakeholder claims call for immediate attention.

They introduce the "salience" concept to the model that represents the degree to which managers give priority competing stakeholder claims. The degree of salience is supposed to increase when the attributes of power, legitimacy and urgency are cumulated for the same stakeholder.

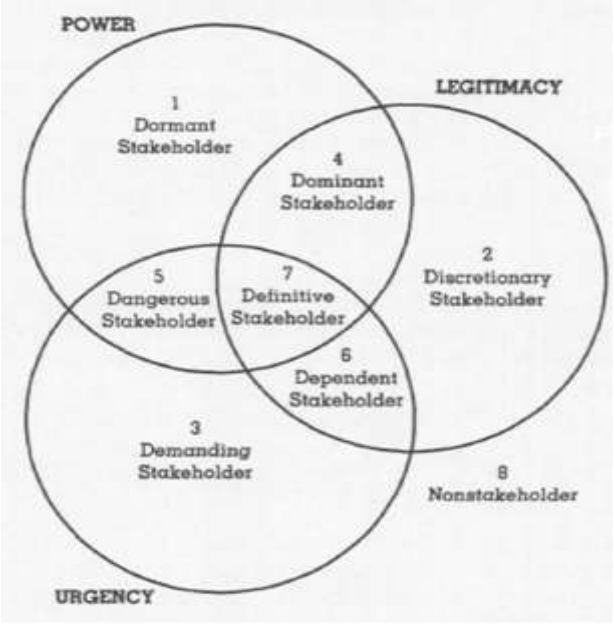


Figure 5: The Stakeholder Typology (Michell et al 1997)

The authors classify the stakeholders in the following categories of qualitative classes of stakeholders:

1- Dormant stakeholder: Power only
2- Discretionary stakeholder: Legitimacy only

3- Demanding stakeholder: Urgency only
4- Dominant stakeholder: Power and Legitimacy
5- Dangerous stakeholder: Urgency and Power
6- Dependent stakeholder: Legitimacy and Urgency
7- Definitive stakeholder: Power, Legitimacy, and Urgency

The Figure 5 makes us classify the degree of salience according to the attributes. Three categories of stakeholders can be identified:

- 1,2 and three attributes are **latent stakeholders**
- 4,5 and 6 are moderately **expectant stakeholders**
- 7 Highly salient stakeholders who are the **definitive stakeholders**

In the following section, we will classify Donaldson and Preston's stakeholders, in each ownership structure as defined by Hansmann, according to Mitchell and al. criteria.

4. The matrices

The filling of the matrices was made after a reflection on the variables. However, depending on the context of the firm, changes may occur.

The owner of the firm is the definitive stakeholder since he has the highest salience in the firm that encloses the three attributes of power, urgency, and legitimacy.

Therefore, in the following tables, we considered the owner of each structure as the definitive stakeholder.

The expectant stakeholders are the ones who have a direct relationship with the firm and are have 2 of the three attributes.

They can be dominant, dependent or dangerous stakeholders. The choice of those expectant stakeholders is made according to their relationship and transactions with the firm, in normal conditions of functioning of the firm.

Latent stakeholders are those who have a single attribute.

Table 5: The Producer Owned firm's stakeholders

	Producer-owned firms		
Stakeholders	**Investor Owned firm**	**Employee Owned Firm**	**Agricultural and another producer cooperative**
Lenders	**Definitive stakeholder**	Expectant Stakeholder	Expectant Stakeholder
Employees	Expectant Stakeholder	**Definitive stakeholder**	Expectant Stakeholder
Customers	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder
Suppliers	Expectant Stakeholder	Expectant Stakeholder	**Definitive stakeholder**
Political groups	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder
Trade unions	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder
Communities	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder
Governments	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder

Table 6: The Consumer-owned firm's Stakeholders

	Customer owned enterprise			
Stakeholders	**Retail, Wholesale and Supply firms**	**Utilities**	**Clubs and Other associative Organizations**	**Housing**
Lenders	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder
Employees	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder
Customers	**Definitive stakeholder**	**Definitive stakeholder**	**Definitive stakeholder**	**Definitive stakeholder**
Suppliers	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder
Political groups	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder
Trade unions	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder
Communities	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder
Governments	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder

Table 7: The Non-Profit and Mutual Enterprise's Stakeholders

	Non-Profit and Mutual enterprise				
Stakeholders	**NonProfit Firm**	**Banks**			**Insurance companies**
		Mutual Savings and Loan Associations	**Mutual savings banks**	**Credit unions**	
Lenders	Latent Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder
Employees	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder
Customers	Expectant Stakeholder	**Definitive stakeholder**	Expectant Stakeholder	**Definitive stakeholder**	**Definitive stakeholder**
Suppliers	Expectant Stakeholder (donors)	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder
Political groups	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder
Trade unions	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder	Latent Stakeholder
Communities	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder
Governments	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder	Expectant Stakeholder

Since non-profits have no owners, they do not have any definitive stakeholder; however, communities are to be considered as expectant ones. The same reasoning is also made to mutual savings banks considered as non-profits.

Communities in non-profits and mutual enterprises have more salience than other types of structures since they are conceived to serve them partly.

5. Conclusion

The objective of this work is to draw the cartography of the main actors of firms depending on their ownership structure. These actors are considered in normal circumstances of the functioning of the firm, and these actors can become more or less salient depending on other characteristics of a firm such as size, legal context, sector, etc. In this thesis, we are interested in the definitive stakeholder. In chapter 3, for the SME sector, we were not able to identify the types of cooperatives examined (producer consumer or employee cooperatives); hence the analysis is only based on financial structure performance and risk. Since we examine the wine producer cooperatives in chapter 4, we study the decision of the producer to brand and in chapter 5, for consumer cooperatives we examine the relationship with client.

In this thesis we are interested in comparing cooperatives to investor-owned enterprises. The main dissimilarity between these two types of ownerships is the following. In the case of producer cooperative, the producer provides the good or service, the firm pays the members a pre-determined price for the product. At the year's end, the earnings are divided at pro rata to the volume of the product sold. If the firm needs money, it can either borrow from members and their money are considered as preferred stock. Finally, the firm can buy the product from other producers at fixed price without being members. In the "Capital cooperative" assimilated to Capital Corporation or investor-owned firm, members lend the firm a given sum of money, the firm pays the members a fixed interest rate on their loans and its net earnings are distributed at pro rata according to the member's lending. In case of debt from members it is at a fixed rate.

In the theory of ownership of Hansmann, "Nearly all large firms that have owners are owned by persons who are also patrons." This fact is obvious to cooperatives; however, it is also true to investor-owned firms (they are a special type of cooperative; a lender's cooperative or capital cooperative).

The main differences with capital cooperatives and other types of cooperatives is that in the case of investor-owned firms, the loans form members are perpetual not at fixed periods, the capital withdrawal is upon dissolution of the firm and is based on one share one vote rule. Whereas in the case of cooperatives, there is a long term commitment of members to remain patrons and to rely on one member one vote rule. "Conversely, supplying capital to the firm is one of many

transactional relationships to which ownership can be tied, and there is nothing special about it" (Hansmann 1996).

Therefore, being an integrating part of the firm, allows lower levels of asymmetry of information of the owner towards the firm.

In the following section, we expose an overview of the literature on cooperatives.

III. Cooperatives: Literature review and Research Framework

1. Definitions and characteristics of cooperatives

The cooperative type of firm was conceived in the first place for the agricultural sector with the Rochdale firm since the 19th century. Cooperatives are created to fulfill a need for a certain group of people, and evolved through history to become the modern types of cooperatives today. They evolved differently and became represented in all sectors responding to different types of needs through the 20th and 21st century.

Different authors and institutions define this type of firm. We expose the main definitions of cooperatives as cited in the academic literature and the governmental and legal institutions.

Nourse (1922) is the first American researcher who wrote on cooperatives an article in 1922 published in the American Economic Review. The purpose of his work was to trace a better understanding of the cooperative movement in order to have an appropriate legal and fiscal framework. He considers that the development of the cooperative movement was a result of (1) the abuses of capitalistic system in the framework of the industrial evolution, (2) the increase of social inequities, and (3) the difference between the wages and prices increased that led to the Rochdale pioneers.

This statement is still valid for the 21st century where cooperatives are still levers for better economic growth and used in strategies for developing third world countries as well as for developed ones.

According to this author, the purposes of cooperation are summarized in three tasks: (1) the access for markets unreachable for producers without cooperation, (2) the rise of the coordination locally and regionally and (3) the elimination of wasteful competition.

Several authors afterwards tried to give a formal definition of cooperatives. Emelianoff (1942) categorizes the trends for treatment cooperatives in three categories: (1) socio-reformistic interpretations, that are the most dominant in Europe nurtured and defended by the Christian socialists in England, and the "School of Nimes" in France. This doctrine has set the principles of cooperatives. (2) the descriptive literature on cooperation which was mostly an American literature mostly concerned on business efficiency and (3) theoretical studies. He suggests a new definition for cooperatives from an economic point of view as the aggregates of economic units. "Aggregate"

is defined as “Any total or whole considered with reference to its constituent parts, an assemblage or group of distinct particulars massed together. An “Economic Unit” is “an economic body admittedly complete and sufficiently integrated for individual existence and independent economic functioning”.

The U.S. Department of Agriculture (USDA) defines a cooperative as a “user-owned, user-controlled business that distributes benefits on the basis of use”. Member- users, or patrons, own and democratically elect the board of directors, which provides oversight of the cooperative. Net earnings are distributed on the basis of proportional use, or patronage, rather than on investment in the decision making.

The above definitions were mainly for agricultural cooperatives. A more recent and global definition is acknowledged and is used for the recent academic literature is the definition stated by the International Alliance of Cooperatives (ICA).

The ICA describes a cooperative as “an autonomous, voluntary association meeting common economic, social, and cultural needs through a jointly owned and democratically controlled enterprise."

Businesses operating on a cooperative basis subordinate the interests of the capital investor to those of the business user, and returns on capital are limited. Member patrons are the primary source of equity capital. Cooperatives also differ from other business structures because they often operate on principles that encompass broader social or community, as well as business, concerns.

Cooperatives developed and modified over time, but share common principles that are generally accepted by the global cooperative movement that is the main representative of cooperatives around the world and stated by the International Cooperative Alliance (ICA). These principles are:

1- Voluntary and Open Membership

Cooperatives are open institutions formed by volunteered membership without any type of discrimination.

2- Democratic Member Control

Cooperatives governance is based on equal voting rights for members who are the decision makers and the residual claimers of the firm. This one member one vote rule is fundamental for the identity

of cooperatives. Hybrid forms of organization grew but the democratic governance remains the basic principle for cooperative enterprises.

3- Member Economic Participation

Members are contributors to the capital of the cooperative. The share is bought and sold at nominal price. The compensation of cooperatives is limited since the benefits are usually endowed in the capital of the cooperative to develop it and support activities approved by owners.

4- Autonomy and Independence

Cooperatives are autonomous organizations, even if they get help from other stakeholders, the ultimate decision makers remain their members.

5- Education, Training and Information

Educating members, employees and managers of cooperatives to help them contribute to its development is essential for cooperatives. This principle is important to provide to essential stakeholders the needed tools to manage and develop cooperatives.

6- Cooperation among Cooperatives

Cooperatives engage in serving not only their entities but also the cooperation amongst each other by participating to cooperative movement at different levels.

7- Concern for Community

Cooperatives aim also to serve their communities at different levels depending on members' decisions.

2. Evolution and Actual types of cooperatives

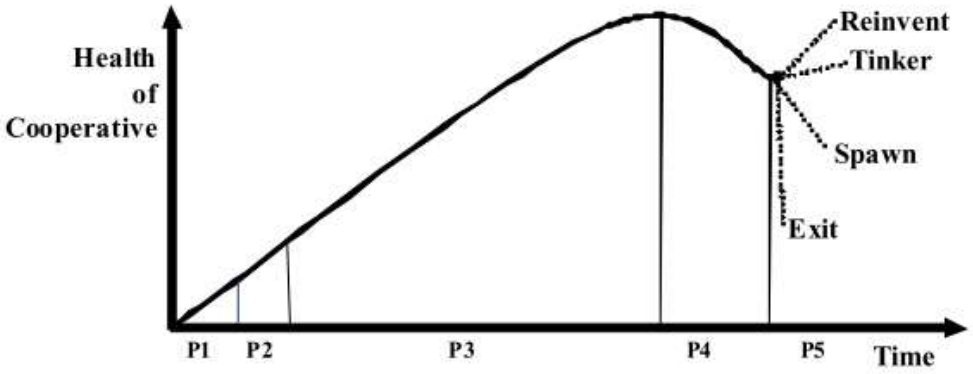
The main theories of cooperative development are according to Birchall, (2010): (1) the theory of voice (Hirschman, 1970) where the loyalty, exit and voice among members is important , (2) the theory of ownership (Hansmann, 1996) where the relative costs of member governance and market contracting are important and (3) the theory of cooperative design and evolution (Shah, 1996) where the evolution of design over time is the key element.

Even though cooperatives share common principles and basics, they are not equally conceived to respond always to the same types of needs. Cook (1995) argue the evolution of cooperatives across time while identifying 5 stages: Justification, Organizational design, Growth, Recognition and choice between exit, continue and transition. (Figure 6).

Cooperatives are known to have high ownership costs, therefore to survive they need to regenerate. Cook & Burress, (2009) suggest an advanced life cycle for cooperatives within the 5 phases of evolution. At the final stage, they have either to exit the market, keep a status quo or get reinvented. They then show an iterative life cycle where cooperatives are able to start a new life cycle when it takes a choice (Figure 7). Therefore, cooperatives evolve differently so they are very diverse among each other. Accordingly, the literature treated different types of cooperatives and tried to classify them across different criteria. For example, Krivokapic-Skoko (2002) review the literature on classification of cooperatives across history while taking into account their taxonomy. While Cook, M.L., Burress, M.J., Iliopoulos, (2008) compare different forms of cooperation; they identify the difference among traditional cooperation, hybrid types and collective entrepreneurship.

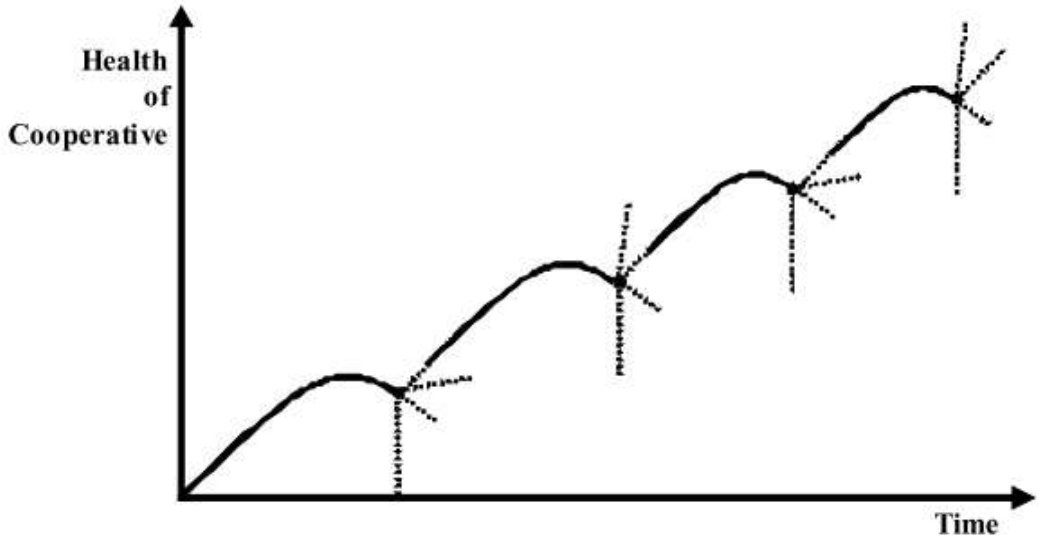
Other factors influencing the growth and evolution of cooperatives reside in their enabling environments(Groeneveld, 2016a). This environment varies among the types of cooperatives and their legal and institutional context as well as the policy measures undertaken.

Figure 6: Basic Life cycle of a cooperative Cook (1995)



Phase 1 = Economic Justification
Phase 2 = Organizational Design
Phase 3 = Growth–Glory–Heterogeneity
Phase 4 = Recognition and Introspection
Phase 5 = Choice

Figure 7: The iterative life cycle of a cooperative (Cook and Burress 2009)



3. Advantages of cooperatives

According to Nourse (1922), the three bases for the success of cooperatives are the increase of efficiency or costs reduction, the popular distribution of savings or profits and the democratic control. Cooperatives allow farmers to jointly market their products. When they scale they might be able to effectively bargain with other market participants, therefore the former can challenge the latter to operate efficiently in the same market conditions.

Birchall (2013) analyses the advantages of member-owned businesses deriving from three features: Ownership, control and benefits.

Ownership avoids market failures resulted from (1) A monopoly or a cartel of suppliers, (2) A monopsony of a buyer or a collusion of several buyers, (3) Many suppliers and producers lock their suppliers and clients through credit and (4) Lack of markets.

Control allows (1) The guarantee of the benefits of ownership, (2) The alignment of interests of the members with managers, (3) Lowering the risk taking and making the business more sustainable, (4) The increase of opportunities to pursue ethical means and providing intrinsic value to members by being in control of the business.

Benefits allow to channel the added value from the investor-owned firms or the middle men to the members.

He also considers the advantages for wider society: the diversity brought to the market of ownership that allows a level of stability since different ownership structures can behave differently during the recessions. They also have built-in advantages in reducing world poverty by providing opportunity, empowerment and security for their members.

4. Disadvantages of cooperatives

These disadvantages are also derived from the three characteristics: ownership, control and benefit. The one member one vote rule leads to diluted ownership engendering several problems according to Birchall (2013) (1) difficulty to raise equity, (2) weak financial incentives for members to take active participation in governance, (3) low level of members' investment leading to low loyalty to business, (4) a high level of reserves if not financing business strategy and reinvested within the cooperative can encourage members to sell the business and (5) when business is doing badly members tend to use the reserves to save the cooperative rather than make incremental changes and restructuring.

Diluted ownership engenders lack of control of members to managers engendering agency and free riding problems producing organizational inefficiencies and deviation from members' interests.

And when the market fails members owned businesses, it leads of lack of benefits for members.

5. Cooperatives and social entrepreneurship

The Organization for Economic Co-operation and Development (OECD) defines social enterprises as "any private activity conducted in the public interest, organized with an entrepreneurial strategy, but whose main purpose is not the maximization of profit but the attainment of certain economic and social goals, and which has the capacity of bringing innovative solutions to the problems of social exclusion and unemployment" (OECD, 1999). They arose to fight social exclusion and to respond to community needs. Cooperatives origins and objectives fulfill this definition, and are pillars of social entrepreneurship. "Cooperatives are commonly understood as a basic type of social enterprise and it appears their inclusion has influenced the overall direction of the definition" (Kerlin, 2006). The European social economy gathers entities such as cooperatives, associations, mutuals and foundations (European Commission, 2013).

On the other hand, cooperatives are put on the upfront for contributing in the millennium development goals of the United Nations for reducing poverty (Birchall, 2004) as well as the sustainable development goals of 2030.

Therefore, cooperative performance can also be assessed by its social impact however it is complicated to be able to access to such data, or to identify the individual impact of each cooperative on society when adopting empirical research analysis.

6. Cooperatives in the time of crisis

Helmberger (1966), in addressing the future of cooperative research and their entrepreneurial effectiveness, expect growth of cooperatives in depressed times followed by cooperative failures. They are shown as a form of response to common economic needs of members.

However, cooperative enterprises have survived during major economic distress historically. In the great recession of 1930s, financial cooperatives in the US have better survived the crisis. The recent literature on cooperatives has shown their resilience in the recent financial crisis such as Birchall (2013b).

Leogrande (2014) finds that the higher the percentage of Cooperative Banks' total assets in a given country are, the lower the probability of crisis is observed in this country. He defends the importance of the diversity of the banking system on the economy.

These findings and others defend the importance of the diversity of the ownership structure in the economic environment, since cooperatives are risk averse institutions and have different behaviors in the times of crisis and growth than classical types of investor ownership.

7. Overview on financial cooperatives

In this part, we focus on financial cooperatives, notably cooperative banks, since chapter 5 focuses on these types of institutions that have several specificities and regulatory constraints.

The cooperative financial institutions sector is widely present within the insurance and banking sector. They are created initially due to the lack of financial access to rural regions and the social categories that were deprived from financing due to informational asymmetries.

The banking industry's ownership structure is various. It can be public (government owned), cooperative, mutual or private. The main distinction among these banks is the public they serve:

Shareholder's value banks (SHV) such as private banks who aim to maximize their shareholder's economical revenue and stakeholder's value banks. In our study, we are interested in cooperative banks where several banking categories exist. In many analyses, two categories of banks arise: Shareholder's value banks (SHV) that are the most common type of financial institutions and stakeholder's value banks (STV) that encompasses all the following categories: Mutuals, credit unions, popular banks, mutual savings banks and cooperative banks. These entities have some specificities as being cooperative banks. In mutuals, customers become automatically members and the members are exclusively customers. However, they cannot run for election of the supervisory board. Credit unions members share usually a common bond, however, this condition is not mandatory anymore. The members of popular banks are mainly SMEs and entrepreneurs. And in the mutual savings banks, the main mission is to manage long term savings. These are the main differences, as exposed in Table 8: Types of Stakeholder value banks; It is common to put cooperatives among these banks.

Table 8: Types of Stakeholder Value Banks

Type of STV bank	Differences with cooperative banks
Mutuals	Customers become automatically members The members are exclusively customers (they cannot be other stakeholders) Members cannot run for election of supervisory banks
Credit Unions	The members usually share a common characteristic (religion, profession etc) This condition is not mandatory anymore
Popular Banks	The members are SMEs and entrepreneurs
Mutual savings banks	The main mission is to manage long term savings

a. Specificities of cooperative banks

The cooperative banking model is very diverse, among countries and legal systems. McCaroll & Habberfield, (2012), in an Oliver Wyman study, make an overview about the cooperative banking model that shares common features and key differences. Unifying features of cooperatives banks consists of the ownership of members and customers on one hand, and the commitment to the cooperative values, on the other.

However, the diversity of these banks is held in their size, business mix, geographical coverage and within the governance model. In order to face their competitors, cooperative banks are

organized in networks known by the network central institutions. These institutions have several roles in keeping the stability, visibility of the bank and supervising the activity of their members.

The European Association of Cooperative Banks gives the following common ground on the characteristics of cooperative banks. They are (1) Deeply anchored within their local economy, (2) Owned by their own members and customers, (3) Rely on the one member one vote role, (4) Have sound business practices and resilient structures, (5) Finance the real economy and (6) Lead the way in the field of social responsibility.

An overview of the history of cooperatives in the banking sector in Appendix 2: Historical Summary of Credit Unions (Mckillop, 2010) and Appendix 3: Overview of the pioneers of the credit union movement (Mckillop 2010).

b. Cooperative Banks in Europe

In the European context, cooperative banks occupy a large part of the banking industry; they occupy about 20% of the market share of loans and deposits. McCaroll & Habberfield, (2012), in an Oliver Wyman study, make an overview of the cooperative banking model that shares common features and key differences.

Unifying features of cooperatives banks consists on the ownership of members and customers on one hand, and the commitment to the cooperative values, on the other. However, their differences are in their sizes, business lines, their geographical presence and with governance features.

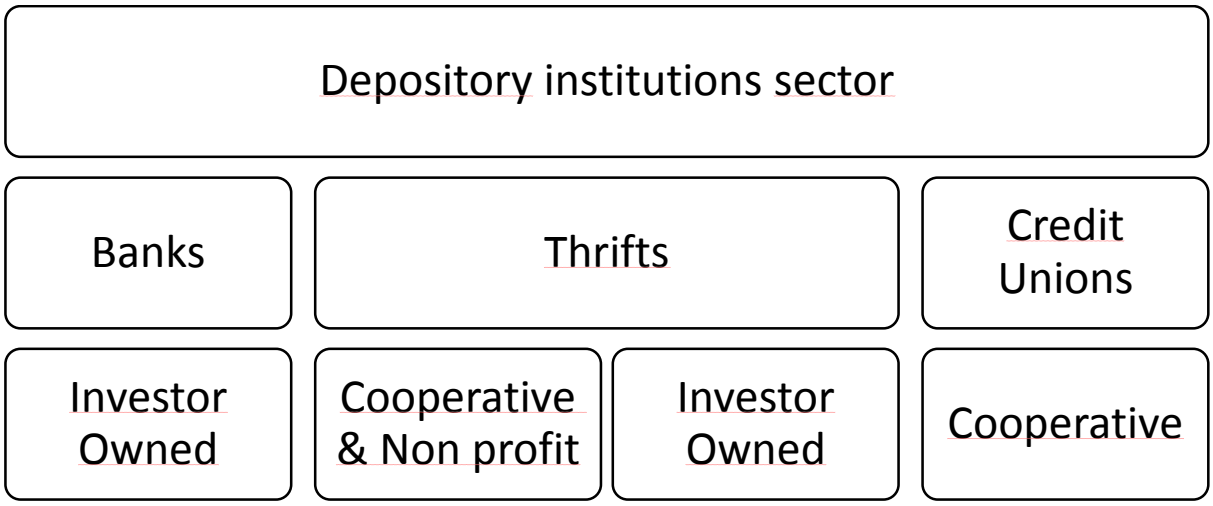
The diversity of these banks is held in their size, business mix, geographical coverage and within the governance model. In order to face their competitors, cooperative banks are organized in networks known by the network central institution. This institution has several roles in keeping the stability, visibility of the bank and supervising the activity of its members.

The main activity of cooperative banks in Europe is centered on the traditional banking activity, hey are at majority retail oriented (Ayadi & De Groen, 2014). Hence, they showed their resilience in the times of crises in the European framework and their capacity to keep lending for the SMEs (Ayadi, Arbak, Llewellyn T., Schmidt H., & De Groen, 2010). However, the negligence of their specificities for compliance to regulatory exigence such as the Basel III compliance ratios can put them at risk. For example, their limited ability to raise equity can be a constraint to their development and can put them in jeopardy.

c. Cooperative Banks in the US

The depository financial sector in the United States of America (USA) is divided into two main components: Banks and thrifts on one hand and credit unions on the other. Big banks, community banks, mutual, nonprofit and capitalistic thrifts constitute the banks and thrifts. Each type identified are subject to specific regulatory institutions. Depository institutions having cooperative characteristics are mutual thrifts and credit unions.

Figure 8: Distribution of the depository institutions in the USA



Each type of institution is subject to regulated by specific or multiple regulators, can be state or federally chartered and is allowed to operate in different types of activities.

For instance, banks can be chartered at federal level or state, also regulated by the Office of the Comptroller of the Currency (OCC) and some are also under direct supervision of the Federal Reserve System (FED). They are insured by the Federal Deposits Insurance Fund (FDIC) that insures each depositor to at least 250 000 USD per insured bank and can exercise in all banking activities from investment banking to traditional lending and saving activity.

Thrifts can be shareholder-owned or mutual or nonprofit. They can be regulated by state regulators or the OCC; insured by the Savings Association Insurance Fund (SAIF) for Associations and the Bank Insurance Fund (BIF) for banks. Conceived originally for real estate lending, and remain specialized in this sector while also being able to make customer and business loans.

Credit Unions are consumer cooperatives that are regulated by the National Credit Union Association (NCUA). Members of credit unions share a common bond that can be an occupation,

faith based, or a community bond. The common bond condition was released at the beginning of the 21st century. Table 9: Description of different types of depository institutions in the USA details the above information. Appendix 4 shows the different types of common bonds associated to credit unions.

Table 9: Description of different types of depository institutions in the USA

Type of depository institution	Objective	Chartering agency	Deposit insurer	Activity
Banks	For profit Shareholder based	State Chartering	FDIC	All Banking types of activities
		Office of the Comptroller of the Currency (OCC) National and some state bank are under the FED		
Thrifts	Can have a stock ownership or a mutual one	State regulator	Savings Association Insurance Fund (SAIF) for Associations	Specialized in Real estate lending (for single family homes and residential properties) but acquired a wide range of financial powers, checking accounts, make customer loans and mortgages They must retain 65% of their portfolio in housing related or other qualified assets There have been some deregulations in order to expand their activities
		OCC	Bank Insurance Fund (BIF) for banks	
Credit Unions	Formed initially with common bond groups The common bond rule has changed in order to have a wider range of members	State or federal Chartered	National Association of Credit Unions (NCUA)	Accept deposits in variety of accounts Their power includes almost everything a banks or saving association can do

d. Actual situation of financial cooperatives and credit unions

Cooperative financial institutions have changed through history, many have demutualized and others became with hybrid structures. They innovate within their governance structure that is diversified across cooperative banks.

Large cooperative banks in Europe are organized differently. Many are managed by Network Central Institutions that are owned by the independent member banks and share common costs for the network. Deville & Lamarque (2015) identify different levels of governance within 7 European banks using a qualitative analysis. The three main levels of governance levels are the centralized model, the shared decision making model (decisions are taken both at national and regional levels) and the decentralized model (the local and regional levels have significant decision making power).

Credit unions and cooperative banks serve by end of December 2014 more than 220 million members around the world, distributed in developed as well as developing countries. Appendices 5 and 6 expose the recent figures in the cooperative financial institution sector around the world and in Europe.

IV. Cooperatives' performance: Different levels of assessment

1. Governance and performance

The importance of corporate governance for an entity's performance relies on three main factors: firm objectives, resource allocation via monitoring and control, and enterprise efficiency (Fama et al. 1985). The literature on corporate governance and firm performance is rich considering the different types of governance and the effect of any stakeholders 'ability to participate in the governance impact on performance and firm's valuation (Ginglinger, Megginson, & Waxin, 2011).

The alignment of objectives and actions is central to firm success. Resource allocation practices also differ considerably between the two types of firms. While cooperatives tend to provide higher prices for their members depending on their role in resource generation, IOFs tend to minimize costs to offer superior benefits to their shareholders. Cooperative and IOF efficiency levels also differ, with firms employing different mechanisms and incentives.

The main challenge facing corporate governance is to deal with agency problems leading to costs of monitoring and control.

In the cooperative framework, we are in a case where the ownership is dispersed because of the one member one vote rule, and therefore, members have low incentive to control management leading to high monitoring costs, giving management higher levels of ability to engage in risky decisions.

Additionally, market control is inexistent since the shares of a cooperative are redeemed at nominal price and there is no secondary market for these shares Staatz (1987).

The literature on cooperative governance can be divided into two trends. Some argue that cooperative structures align manager and member objectives (Kane et al. 1996), and therefore can lead to better performances. Others (Rasmusen 1988 and Fama et al. 1985) show that cooperative members do not have sufficient incentives to exercise control over management teams and that cooperative management schemes are thus less likely to be replaced than stockholder corporations.

The size of the cooperative also plays an important role in the complexity of the governance. A cooperative formed by few members is relatively easy to govern and the costs of control, monitoring and of decision making are relatively low. All members are acquainted together and

the proximity with the management is high. Notwithstanding, understanding the governance of large cooperatives is more complex. Big cooperatives can enclose thousands of members, generating a very low incentive to monitor and control. Cooperatives innovate in their governance and organizational structure in order to face the challenges of their size with diverse tools and ways that Birchall, (2014) examines in a detailed report on cooperatives in UK. He finds that there is a variety in governance of large cooperatives and they are evolving. Half of his data on large cooperatives which have independent expert director on the boards and more are considering it. Some have intermediate regional structures but others relate directly to members. His findings show that some large coops are continually reviewing their governance structure, others try to measure the quality of their governance and others are content to keep long stand arrangements. He suggests prescriptions for good governance by finding the needs of members and keeping them involved in the activities of the cooperative. He finally shows that it doesn't really matter if a small proportion of members is involved in the democratic activity, as long as this proportion is a representative group.

Another issue derived from governance and agency problems is the managerial entrenchment that can lead to negative impact on performance and to specific investments and capital structures (Shleifer & Vishny, 1989).

To sum up, in the cooperative framework, the one member one vote rule governance can have positive and negative impact on performance and risk. The cooperative structure can align the management and owners' objectives, and lead to lower levels of risk taking by managers. On the other hand, it can lead to managerial entrenchment, high decision costs and low incentive to monitor that can have negative impact on performance and suboptimal financial structure.

2. Measures of performance for cooperatives

It is more complicated to assess the cooperative performance relatively to investor-owned institutions. Assessing the performance of an entity depends on its objectives and how they are accomplished. Cooperatives are considering dual bottom line objectives where the main objective is to maximize value to their members rather than profits to shareholders as in the case of investor owned firms.

According to Helmberger & Hoos, (1962), the main objective of the cooperative is to provide stability and optimal growth conditions for its members.

The way of estimating their performance depend also on the sector and the type of cooperative studied. Two main types of evaluation of the performance of cooperatives arise in the literature:

either by considering single bottom line objective measures or dual bottom line objectives of cooperatives (Soboh, Lansink, Giesen, & van Dijk, 2009). The former lies on economic analysis of performance and the latter on more inclusive approach.

a. Economic analysis of performance

i. Classical financial ratios

Using classical financial metrics in the case of cooperatives has several advantages and limits. Return on Assets (ROA) and Return on Equity (ROE) ratios are frequently used in the literature to assess and compare the performances of cooperatives as compared to investor owned firms (Hind, 1994; Li, Jacobs, & Artz, 2015; Keeling Bond, 2009).

The advantages of using such ratios, are the ability to compare them with investor-owned firms, the availability of the data, and the simple computations of these measures.

The limits of using these ratios rely on not taking into account the vertical integration generated by the cooperative structure and therefore their inability to assess the added value created for members (Franken & Cook, 2014).

ii. Efficiency measures

Comparing the efficiency of cooperatives to investor-owned firms is a very frequent way to assess the performance. In the literature several types of efficiency assessment using several methodologies such as Data Envelopment Analysis for computing the stochastic frontier analysis. These measures are frequently used in the banking industry (Gardener, Molyneux, & Moore, 2001; Hermalin & Wallace, 1994; Ory & Lemzeri, 2007; Rasmusen, 1988).

b. Inclusive performance measures

It is more complicated to assess the performance of cooperatives taking into account dual objectives and specifications. This complexity is derived from several factors such as the heterogeneity of members within the cooperative as well as their main stakeholders as referred in the first section of this chapter.

On one hand, Franken & Cook, (2014), suggest inclusive performance measures that take into account the dual bottom lines objectives of cooperatives. They suggest member satisfaction, competitive position in industry, and ability to achieve vision, overall profitability, and overall performance as performance attributes. They use surveys to assess this inclusive measure. They find that good financial performance leads to good overall performance.

The advantage of this measure is taking into account extra financial performance attributes but its limit is the difficulty to access to data in order to make empirical evidence and the complex issue of comparing it with investor owned institutions.

On the other hand, Sentis (2014) suggests an identification of the valuation of cooperatives using a new model in finance taking into account the position of the owner within the entity. The advantage of such measure is the ability to assess the future performance and the ability to compare it to other types of institutions. However, there is significant lack of data availability to be able to use such approach.

3. Risk levels for cooperatives

Two mechanisms can impact the risk of cooperatives. Cooperatives are dispersed ownership entities by nature, and this fact can lead managers to take more risk in order to extract more benefits, and moral hazard occur. However, this dispersed ownership can lead also to lower pressure on returns by the patrons, and therefore, risk averse behavior of managers.

The literature has shown that cooperatives are less risky entities for members individually and assure lower levels of risk as entities as compared to investor owned.

The member of a cooperative reduces his risk by joining the cooperative, assuring a more stable return on his activity individually, and the accumulated reserves can allow to buffer bad years of income. As firm entities, cooperatives are shown to be less risky, with lower variance of their returns. Depending on the sector measures were different but the standard deviation of the returns on assets or equity were used as well as the natural logarithm of these values.

In the following section we will expose the findings of the literature using the comparative studies between cooperative and investor owned firms.

4. Comparative studies on cooperatives

Cooperatives have been accused of being less profitable than other types of firms because of their identity of dual bottom line enterprises. Their inefficiency was identified at two levels: the decision making process and the relationship between the firm and their workers.

At the decision making process, the organizational theorists and economists criticized the bargaining costs at the decision making level (Hansmann 1996) and the teamwork that makes difficult to observe individual efforts therefore owners have lower incentives for monitoring (Alchian & Demsetz, 1972).Considering the relationship between workers and cooperatives, hold up problems may arise (Hart, 1995)

In this section, we will expose the main findings on the cooperative performances in a comparative approach with investor-owned firms, per sector and activity type. However, in the articles concerning SMEs and financial depository institutions, a more exhaustive performance - ownership literature will be exposed.

For agricultural cooperatives, several studies have examined the financial performance of cooperatives as compared to investor-owned institutions. Hind, (1994) compares 31 coops to 82 investor-owned agricultural companies in the UK, using the ROA ratio and did not find any significant difference of performance. Li et al. (2015) compare 100 cooperatives to 50 IOFs, in US grain industry. They use the DuPont profitability linkage model and find short term and long term financing constraints for cooperatives. Gentzoglanis, (1997) find no significant differences in performance between firms dairy firms and cooperatives in Canada. The non-significant differences in performance in this sector of cooperatives and in the agricultural sector can be due to different factors. Cooperatives occupy a large proportion leading to more development of this model since it responds effectively to a need. They also therefore have easier ways to be founded and understood.

For cooperatives in the banking industry, Cihák & Hesse (2007) find that cooperative banks are more stable than commercial banks with lower levels of variability of profitability in European coop banks using the z-score indicator between 1994 and 2004. For Iannotta, Nocera, & Sironi, (2007) the European cooperative banks have slight cost efficiency advantages, however, they are worse than commercial banks in profit making due to their less risky strategy for the same time period.

Ayadi, Arbak, Llewellyn T., Schmidt H., & De Groen, (2010) study the different business models in the European banking framework in seven European countries showing the different evolutions of these entities within their countries, structure and governance showing that there is no single blueprint for an optimal cooperative structure. Assessing the performance of cooperatives, they find that they have slightly lower levels of profitability they are as efficient as their investor-owned peers between 2000 and 2008. They also find higher levels of stability of cooperatives contributing to better stability of the European financial system.

Finally, Groeneveld, (2016) in an analysis of the Return on Equity for European cooperative banks between 2002-2014 and find lower levels of volatility of performance compared to investor-owned banks, with engagement in fewer and more stable business segments.

These results are congruent within the overall European banking sector.

Some other researches that study specific countries and institutions contexts. Valnek, (1999) find that UK mutual building societies are more profitable using the measure of the return on assets between 1983 and 1993 while explaining this profitability by the homogeneity of the clients belonging to the same group. For German Cooperative and public banks, Altunbas, Evans, & Molyneux, (2001) show that they have slight cost and profit advantages than privately owned competitors using different efficiency techniques between 1989 and 1996.

V. The marketing and finance interface

"Twenty to twenty-five percent of the expenditures of many firms is related to marketing" (Stewart, 2009). Marketing accountability has become a key issue in order to justify the expenditures allocated to this area of the firm and show its return on investment. However, finding and using marketing metrics is quite complicated. We expose in this part the various methods of assessing the performance of the marketing strategies.

1. Assessing the performance of the marketing strategy

Researchers have studied largely the financial impact of marketing strategy within the firm. Srinivasan & Hanssens (2009) summarize the literature on assessing the impact of marketing on the firm value and performance. The literature includes several approaches to examine the impact of the different marketing strategies such as pricing, channels of distribution, new product introductions, perceived quality and customer satisfaction on firm value and performance. A summary of these approaches is presented in Appendix 1: Overview of research approaches in marketing and firm value (Srinivasan & Hanssens, 2009).

The methods used are various across each type of strategy and can be the four factor model (Cahart four factor model), event studies, the calendar portfolio method, the stock return response model, the persistence modeling etc.

For example Dekimpe, (2008) uses the event study methodology to compute cumulative abnormal returns using daily stock prices, market indexes and the capital asset pricing model as financial performance indicators and price orientation of countries. This method is interesting when there is an event occurring and we can observe direct financial impact of this sole event. Another study of Macé & Neslin (2004) examines the impact of promotion dip on sales using pre and post event method.

Another method is to examine the market returns. Madden, (2006) uses the Fama and French model of stock returns to compare the performance of brands using inter-brands approaches showing that strong brands outperform their peers. Whereas Aaker & Jacobson, (1994) use a mixed data regarding perceived quality and stock returns. Other use of market returns as the return on the

advertising expenditures using the return on investment (ROI) ratio as used by (Aurier & Broz-Giroux, 2014; Erickson & Jacobson, 1992).

The persistence modeling uses autoregressive models, in order to study the impact of marketing actions on financial performance. It can be studied for a small sample (Joshi & Hanssens, (2010) 9 enterprises and Pauwels, Silva-risso, Srinivasan, & Hanssens, (2004) 6 enterprises) but needs very detailed information on industry and marketing actions.

2. Finance metrics for marketing

In classical financial studies, the measures of profitability and profits is frequent to ranks various marketing plans. The following is a non-exclusive list of financial measures used for marketing investment assessment: Net profit, return on Sales (ROS), Earnings before interest, taxes, depreciation and amortization (EBITDA), Return on investment (ROI), Economic profit, Payback time, Net Present Value (NPV), Internal rate of return (IRR), Return on Marketing Investments (ROMI) and Return on Media Exposure after a marketing campaign.

The choice of the ratio to assess the impact of the marketing action financially depends on the object of the study, the type of the marketing plan in question and the data availability. We will use such metrics in the chapter studying the wine sector.

3. Marketing metrics

It is difficult to prefer some marketing metrics over the others since the following features must be taken into account: (1) The type of business considered, (2) Metrics tend to come in matched sets, (3) Business do not always have access to the metrics they need. According to Stewart, (2009), marketing does not lack of metrics, but it lacks of metrics explicitly related to financial performance. Stewart shows that the outcome of marketing accountability is shown in the cash flow generated by the firm. (Figure9). He shows that three main types of marketing return on investment: (1)Short term by the incremental cash flow (2), Long term by the brand equity generated and (3) the generation of new opportunities (Figure 10). In our research, we were able to measure the short run impact of marketing actions on performance.

Figure 9: Framework for marketing accountability (Stewart 2009)

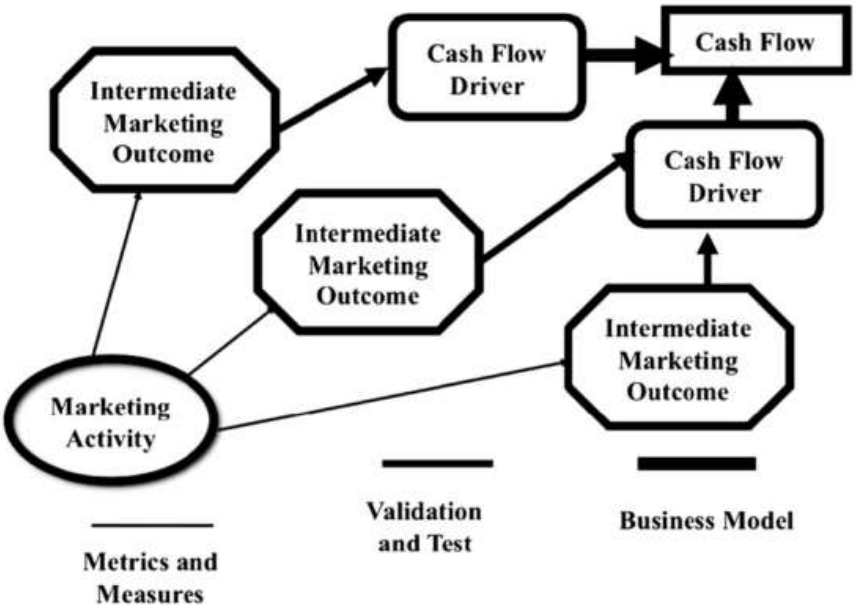
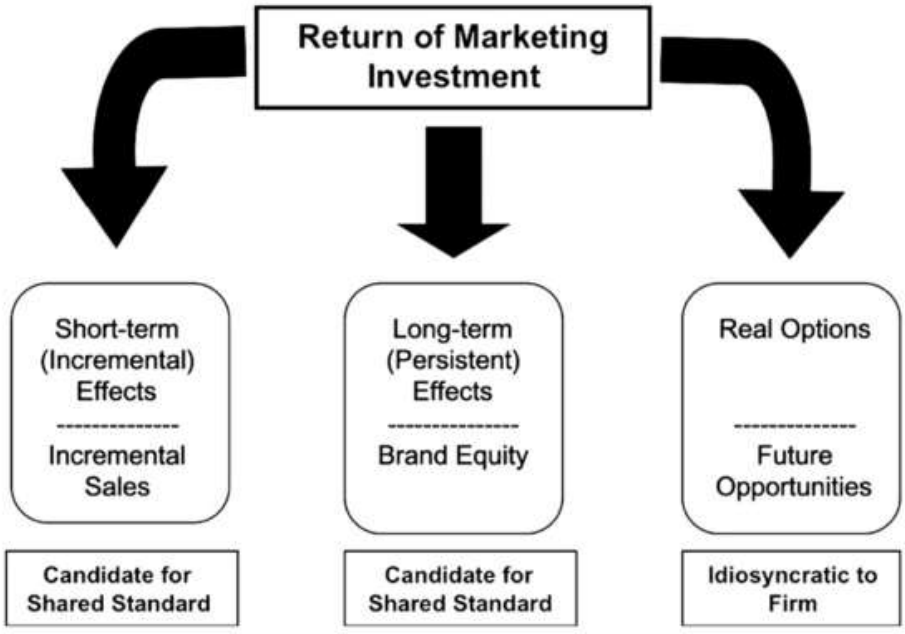


Figure 10: Types of return on marketing (Stewart 2009)



Other metrics are used to assess the performance of marketing strategies. We will expose the main metrics tools exposed by Farris, Bendle, Pfeifer, & Reibstein, (2010).

a. The Tobin's Q

Use of the Tobin's q to measure the intangible assets= market value of firm/replacement cost of firm's assets (Lindenberg and Ross (1981) and Rao, Agarwal, & Dahlhoff, (2004)). It is used as a function of branding strategy and control variables such as the marketing mix, finances, firm strategy, competition and firm specific characteristics.

b. Market share, Customer perceptions, and competitive analysis

The market share is a key indicator the presence on the market, helps managers to evaluate both primary and selective demand in their market. Market concentration measures the degree of competitiveness in the market. Main tool Herfindahl - Hirshmann index: Add the sum of squares of the market shares of all players in the market; this index rises in markets with large players. We use this tool in assessing the concentration in the paper on financial institutions in the US. Market Penetration of the brand that computes the proportion of customers who purchased the brand to total population. Another measure assessed by survey data is the customer satisfaction and willingness to recommend measure.

c. Revenues, cost structures and profitability

Margins are key factors for all marketing decisions: pricing, return on marketing spending, earning forecasts and analyses of customer profitability. The measures of cost structure define the type of costs fixed or variable. For profitability it can use the sales targets and the breakeven analysis.

d. The metrics behind product strategy

Metrics used in product strategy and planning are trial rate, penetration, projections of sales, expected growth, cannibalization rate etc.

The brand equity generated is assessed by several methods through the literature. We will briefly summarize the following 4 metrics. (i) Brand Equity Ten (Aaker), (ii) Brand Asset Evaluation (Young and Rubicam) (iii) Brand Equity Index (Moran) and (iv) Brand Valuation Model (Inter-brand).

i. Brand Equity ten (Aaker, 1996)

He uses 10 attributes of a brand that can be used to assess its strength: (1) Differentiation, (2) Satisfaction or Loyalty, (3) Perceived quality, (4) Leadership or Popularity, (5) Perceived value, (6) Brand Personality, (7) Organizational Associations, (8) Brand Awareness, (9) Market share

and Market price and (10) Distribution coverage. He however doesn't weight attributes or combine them in an overall score, but recommends tracking each attribute separately.

ii. Brand equity index (Moran, 1994)

Brand equity is a product of three factors: Effective market share, relative price and durability. Effective market share is the weighted average of the sum of brands market shares in all segments in which it competes, weighted by each proportion of the brands total sales. Relative price ratio is the price of goods sold under a given brand/average price of comparable goods in the market and durability is the measure of the customer retention or loyalty.

iii. Brand asset valuator

There is an existing brand valuator database by Young and Rubicam using surveys within their marketing agency that uses the 4 measures of differentiation, relevance, esteem and knowledge for computing the brand equity.

iv. Brand valuation Model (Inter-brand)

The method uses financial results and projections in its own model of brand valuation, reviews company's financial statements, analyses its market dynamics, and the role of brand in income generation and separates those earnings attributable to tangible assets from the residual. Then it forecasts future earnings and discount them.

e. <u>The value of individual customers and relationships</u>

Several metrics measure the performance of individual customer relationships. We mention the Customer counts, Recency (length of time since the last purchase) and customer retention. The Customer profitability that measures the costs and revenues generated by each customer. The Customer lifetime value is the expected dollar value of the relationship with the client in the future.

f. <u>Salesforce and channel management</u>

These metrics study how marketers measure the adequacy and effectiveness of the systems that provide customers with reasons and opportunities to buy their products such as the salesforce coverage of territories, the salesforce objectives, its effectiveness by measuring its efforts, results and compensations.

g. Pricing strategy and promotion

The pricing strategy is assessed by the price premium that the customer pays to receive the product relatively to the benchmark. While evaluating the financial impact of promotion is assessed by the incremental sales and promotional lift generated by the campaign are mainly used.

h. Advertising Media and Web Metrics

For advertising metrics, exposure measures as the gross rating point (GRP) are mainly used for television advertising. Other measures are used for social media such as the number of followers or likes, and the reach of the campaign. These measures can be easily assessed by media tools and advanced tools to better target the customers.

4. The use of metrics as indicators for modeling performance

a. DuPont Model

This model is frequently used. It is considered as an identity and is based on the breaking down sales into different components. The system of identities is used in marketing to identify problems and opportunities for improvement of the performance, to estimate indirectly other metrics difficult to be measured and to formulate marketing mix decisions. It does not use calibration nor estimation and it is more flexible than empirical relationships.

b. Marketing Mix Models

It is used for monitoring the difference between marketing mix decisions and objectives. It uses simple marketing mix model: profits = f (unit price, advertising, salesforce, trade and promotion) with empirical calculus and identities while using the Keep It Sophistically Simple (KISS) approaches.

5. A focus on the cooperative's marketing performance study

In this thesis, we are interested in studying the cooperative structure as compared to investor-owned firms. Several problems occur regarding the exposed previous models of assessing marketing impact on performance either for methodological constraints or for data limitations to use the suggested metrics.

For methodological constraints, the use of the four factor model, the event study, the calendar portfolio, the stock return response model need data from the financial markets. In the case of cooperatives, we do not have access to such data. Possible solution: to use the accounting data.

However, we cannot use them in the case of the event study nor use daily returns; we use annual returns so we need to identify long term strategies. The persistence modeling can be a solution; however, we need detailed marketing data at the brand and strategic business unit level. The Use of the event study, is not suitable for our level of analysis, it is used while introducing a new brand.

The data limitation leads to constraints in using some measures. Since we do not have stock market data: We cannot use the Tobin's Q. For the use of market returns: In the case of coops the possible data are the annual accounting returns for Return on Investment and the advertising expenditures.

All of the performance measures have used the conceptual framework of the shareholder's value as a performance metric. In the case of cooperatives, we need to take into account the stakeholder's metric that depends on the owner's identity. This difficulty is not specific for marketing, since it also reaches financial constraints. The use of the margins, marketing spending ratios is a simple way of measuring the performance, however we need more data on products and marketing actions.

The brand equity metrics are interesting for cooperatives however; we need detailed surveys. It is the same case as the measures of the performance of individual customer relationship (Customer recency and retention).

In the case of cooperatives, an important measure can be used since cooperatives advocate proximity with their members (especially cooperative banks): Salesforce coverage. We will use this measure in the paper concerning American financial institutions.

The price premium can be used in order to advocate the brand's power; however, we need detailed information on the products sold, and identify a benchmark product.

To sum up, the evolution of the financial metrics and marketing metrics can be complementary; in the case of cooperatives these following metrics can be used the most (1) ROS and Marketing to sales, (2) Number of new customers, retention rate, (3) Customer lifetime value, (4) Customer attitude and awareness: % of the members who participate in the elections process for example, (5) Marketing and advertising spending and (6) Retail margins

The modeling of the performance is always a good alternative using the Dupont Model or Marketing Mix Models.

The decisions related to measuring performance therefore depend on the type of data we have, the sector studied and the objective of the research.

The problem of cooperatives is the difficulty in valuing their market strategies. The listed cooperatives are very rare and are not representative of the main structure; therefore, we cannot rely on their exclusive study. No previous studies have identified the market strategies of cooperatives as compared to investor-owned firms in an empirical framework.

In the case of cooperatives, owners are essential stakeholders of the firm; therefore, we expect that the asymmetry of information between them and the remaining stakeholders, mainly their consumers, is lower and leading cooperatives to be able to undertake more appropriate market strategies in order to better serve them. We identify these strategies, measure their performance and study their impact on the financial performance of the firm.

VI. Synergy of marketing and finance in the case of cooperatives

Finance researchers are interested in the impact of firm strategies and decisions on investor's expectations which will be valued financially. Therefore, the shareholders constitute their central stakeholder group and the main objective of the firm is to maximize their value with is reduced to economic revenue.

On the parallel, marketing researchers focus on customer's reactions to marketing strategies and decisions that will be translated financially for the firm. Customers represent the major receivers consequently the focus rests on attitudes and behaviors that impact the revenues of shareholders.

Regarding cooperatives, specifically consumer cooperatives, the customer is generally the member of the firm and the objective of the firm is to maximize his value. This fact implies the necessity of synergy and coordination among finance and marketing researchers in order to fill this theoretical gap.

VII. Levels of analyses and sectors included in the thesis

The studies on cooperatives are classified in five main stages of analyses as summarized by Birchall 2016[4].

1- The individual cooperative level (new type, big one, same type of other cooperatives). Usually case studies research papers.
2- The cooperative group (Credit unions for example)
3- The cooperative sector (Can be the same or not of the cooperative group, it depends on the sector)
4- The sector in comparison with competitors (the most interesting place to begin if we have statistics; how they are behaving compared to investor owned)
5- The wider level: all industries

In the thesis, we explore three sectors of cooperatives and compare them to investor-owned institutions.

The choice of the sectors depended on two main factors: (1) The importance of cooperatives in the sector: We chose research fields where the cooperative enterprises are representative in the sector. And (2) The data availability: It is clear that in the case of cooperatives, the problem of availability of data is crucial for all the researchers on this field.

The small and medium-sized enterprises that comprise three types of cooperatives: producer cooperatives, consumer cooperatives, and employee cooperatives. The data concerns the French framework where 23 000 cooperatives operate in 2014 (Coop.fr, 2016).Due to lack of information, we could not differentiate between these types. However the financial institutions sector was excluded. Chapter 3 is a combination of the fourth and fifth level of analysis where we compare cooperatives to IOFs, in all industries within small and medium enterprise size.

The French wine sector is chosen given the importance and volume of cooperatives within these sectors. In 2013 they are, according to the wine cooperatives cooperation association (*confédération des coopératives vinicoles de France*), 690 cooperatives with 84000 members. In

[4] Keynote address at the International Cooperative Alliance research conference, May 2016, Almeria Spain

the wine sector, the cooperatives studied are producer cooperatives, and therefore, the center of the study is the decision that optimizes the objective function of the member-producer.

In the US framework, credit unions and cooperative financial institutions are quite present in the territory and contribute effectively in the financial intermediation industry. The studies on the depository financial institutions comprise either consumer cooperatives or nonprofits that are stakeholder value institutions that are compared to investor-owned. The center of the analysis is the member-client served and the impact on financial performance.

The level of analysis we adopt in chapters four and five is the fourth one (the sector in comparison with competitors) where we compare within the same sector cooperatives to investor owned firms.

Chapter 3 Does ownership structure affect the financial structure, performance, and risk? A comparison between cooperative and investor-owned French SMEs

Does ownership structure affect the financial structure, performance and risk? A comparison between cooperative and investor- owned French SMEs[567]

Sandra CHALLITA, Patrick SENTIS, Philippe AURIER

Abstract

This paper addresses the link between ownership structure of a firm and its performance and risk in the framework of French SMEs. We examine a comprehensive multisectoral sample of more than 6,000 cooperatives in France over the period 2004-2012 by comparison with a peer sample of traditional investor-owned firms. We find that cooperatives retain more earnings and undertake more long-term debt than investor-owned firms, proving that cooperatives employ strategies on a longer term. We also find that cooperatives generate positive but lower returns, while they exhibit lower levels of volatility than investor-owned firms. This result contributes significantly to the existing literature by showing that cooperatives are more risk-averse entities than investor-owned firms while remaining sustainable and serving their members.

KEYWORDS: Cooperatives, Financial Performance, Financial Structure, Risk, Ownership Structure, French SMEs.

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[5] This research is supported by Labex (Label of Excellence) "Entreprendre", University of Montpellier, "Governance, Market Strategies and Sustainable Performance" research program.

[6] Older versions of this paper were presented to the following conferences:

- **Challita S., Sentis P. and Aurier Ph., (2014)**: "Do cooperatives perform better than capitalistic firms? The impact of governance on financial structure and performance", *The Second International Summit of Cooperatives*, **Quebec, Canada**
- **Challita S., Sentis P. and Aurier Ph., (2014)**: "Do cooperatives perform better than investor-owned firms? The impact of governance on financial structure and performance", *Multinational Finance Society Conference*, **Prague, Czech Republic**
- **Challita S., Sentis P. and Aurier Ph., (2014)**: "Do cooperatives perform better than capitalistic firms? The impact of governance on financial structure, performance, and volatility", *14th European Academy of Management's Conference*, **Valencia, Spain**

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I. Introduction

After the consecutive crises and financial scandals that have affected local and international economies since the start of the 21st century (the Enron, Internet and subprime crises), which were rooted in deviations from firm objectives or in unethical behavior, corporate governance literature has become a central topic among academics, practitioners and regulators. Examination of the corporate governance mechanisms of each type of firm allows determining the incentives needed for managers to meet owner objectives. Two types of democratic firm controls exist (Hielscher, Beckmann, and Pies 2014). The first is classical democratic capitalistic control, and the second is stakeholder-oriented decision-making governance. The classical investor-owned firms (IOFs) belong to the first model. Cooperatives are good candidates for the second type of model. Indeed, cooperatives are entities whose owners interact directly and engage in the production cycle. Additionally, "cooperative businesses carry with them some clearly ethical statements in terms of their underlying values and operational principles. (…) Cooperatives are interesting because amongst other things they provide a different normative account of the objectives of business from that of the standard model of neo-classical firm" (Davis et al. 1993). Although they were considered obsolete and inefficient due to decision-making costs, among others (Hansmann 1996), they recently proved their resilience and regeneration during the 2008 financial crisis (Birchall 2009, 2013).

The aim of this paper is to compare the financial performance, financial structure and financial risk of these two alternative governance structures: IOFs and cooperatives.

According to the International Cooperatives Alliance, cooperatives are "autonomous, voluntary associations meeting common economic, social, and cultural needs through jointly owned and democratically controlled enterprises". Focusing on cooperatives is particularly interesting and challenging. Democratic control and dual bottom-line objectives are key factors in comparing cooperatives with IOFs. The latter's purpose is primary to maximize shareholder's financial benefits, whereas cooperatives are member satisfaction oriented. On the other hand, small-, medium- and intermediate-sized enterprises play an important role in today's economy and serve as the main sources of innovation and growth (Gagliardi et al. 2014). Therefore, our research is interesting on managerial and theoretical grounds.

Consequently, we will emphasize the role of unallocated equity and most notably retained earnings, which should enhance each member's welfare. Few studies in the American and English agricultural sectors have studied the financial structure and performance in each type of ownership setting (Chaddad, Cook, and Heckelei 2005; Hind 1994). This study has a comparative approach based on panel data on 6,320 observations of French cooperatives and traditional IOFs from 2004-2012. To the best of our knowledge, this is the first study that compares these two ownership structures on such a large-scale multisectoral sample. To estimate the financial risk, we apply the capital asset pricing model (CAPM) to examine the accounting beta of firms and cooperatives.

We find that cooperatives retain more earnings and undertake more long-term debt than IOFs. This finding proves that cooperatives have more long-term strategies. We also find that cooperatives generate positive but lower returns, while they exhibit lower levels of volatility than IOFs. This result contributes significantly to the existing literature by showing that cooperatives are more risk-averse entities than IOFs while remaining sustainable and serving their members.

We organize the paper as follows. Section two presents the relationships among cooperative governance, ownership, and financial structure. Section three details various measures of cooperative performance. Section four describes the empirical study: the data, methodological description, results, robustness checks, and discussion. Finally, we conclude and present the limitations of the study and avenues for future research.

II. Ownership, governance, and financial structure: The case of cooperatives

The cooperative firm type was initially developed for the agricultural sector with the establishment of the Rochdale firm during the 19th century; its objective was to reduce customer costs and increase producer benefits through value creation. Over the last century, cooperatives have evolved to apply to other activities and have expanded to nearly all of the 21st century's sectors. Cooperatives have become very diverse, and differences have arisen in each sector, country, and legal context. These types of firms share certain common features that have been developed and modified over time and that are generally accepted by cooperatives worldwide. Voluntary and open membership, democratic member control, member economic participation, autonomy and

independence, education, stakeholder and member training and information, cooperation among cooperatives and concern for community constitute the principles that align cooperatives.

Cooperative owners are members and can be firm stakeholders. Ownership involves the purchase of residual rights to firm control (Grossman and Hart 1986). Hansmann (1996) categorizes firms by owner type. Accordingly, "owners" refers to: "…those persons who share two formal rights: the right to control the firm and the right to appropriate the firm's profits or residual earnings". Formal control does not necessarily denote effective control; rather, it may be used solely for major decisions involving mergers and acquisitions, firm dissolution or board of director selection.

Firm actors are "patrons". "They comprise all the persons who transact with a firm either as purchasers of the firm's products or as sellers of the firm's supplies, labor or other factors of production" (Hansmann 1996). Another interpretation of ownership is provided by Jensen et al. (1976), who view a firm as a nexus of contracts; they show that during each transaction, a firm enters into embedded relationships with a patron. Therefore, the authors differentiate between "Market contracting" and "Ownership". The former occurs when a patron addresses a firm only through a contract without being an owner, and the latter occurs when a patron is also the firm owner.

The cooperative type is defined based on a member's position within the cooperative. Thus, Hansmann (1996) categorizes firm ownership structures into three types. Producer-owned enterprises include IOFs, employee-owned firms and agricultural and other producer cooperatives. Customer-owned enterprises include retail, wholesale and supply firms; utilities; clubs; other associative organizations and housing organizations. Additionally, the nonprofit and mutual enterprise category includes non-profit firms, certain types of banks and insurance companies.

Therefore, the main criterion that differentiates a cooperative from another type of shareholder enterprise is the form of governance implied by the ownership structure.

Cooperative governance is based on the "one member one rule" principle. A member's ability to vote does not depend on his or her economic contributions to the firm. Ergo, cooperatives employ dispersed ownership that may result in more discretionary behaviors regarding main objectives compared with those in more concentrated ownership. In this paper, we are concerned with the

alignment of manager and owner objectives. Managerial efficiency depends on a company's ownership structure (Berle and Means 1932).

Most studies related to corporate governance focus on constraints that prevent managers from pursuing behaviors that promote enterprise value maximization. Effective corporate governance is designed to generate proper incentives for management teams to pursue owner objectives, and it should also facilitate effective monitoring. "The field of corporate governance proffers questions related to the roles, responsibilities, and balance of power among executives, directors, and shareholders" (Ryan, Buchholtz, and Kolb 2010).

The importance of corporate governance for an entity's performance relies on three main factors: firm objectives, resource allocation via monitoring and control, and enterprise efficiency (Fama et al. 1985). Cooperative and IOF objectives differ. The former strives for dual bottom-line objectives, whereas the latter values maximization objectives. The alignment of objectives and actions is central to firm success. Resource allocation practices also differ considerably between the two types of firms. While cooperatives tend to provide higher prices for their members depending on their role in resource generation, IOFs tend to minimize costs to offer superior benefits to their shareholders. Cooperative and IOF efficiency levels also differ, with firms employing different mechanisms and incentives.

Nevertheless, according to the academic literature, the most frequently discussed challenges facing corporate governance relate to agency problems that engender monitoring and control costs. These costs are incurred by both types of firms.

On the one hand, agency problems, which result from the separation between ownership and management, affect the degrees of risk undertaken by managers and thus deviation levels. Consequently, we expect that the two types of firms examined employ different capital and financial structures and different levels of risk. Additionally, we expect that cooperatives, by employing long-term strategies, retain more earnings and utilize long-term debt for investments rather than focusing on short-term strategies. Otherwise, managers may deviate from members' objectives.

On the other hand, effective monitoring and control are affected by an owner's incentives and voting ability. This voting ability is essentially related to the degree of ownership concentration or

dispersion and to incentives provided to fill this role. In conditions of dispersed ownership, incentives to practice monitoring are low because owners' stakes are low, engaging all costs of monitoring without significant benefits. The presence of numerous stockholders in an enterprise, without a majority block holder, decreases monitoring process effectiveness. Therefore, dispersed ownership conditions appear to offer management teams more freedom to make risky decisions that would not otherwise be made. However, when proportions of ownership increase in management teams, risky decisions and strategies employed by these management teams decrease. Conversely, concentrated ownership promotes strong incentives and high monitoring.

Hence, governance structures are essential and act as a shared trait among different types of cooperatives. Cooperatives rely on the "one member one vote rule," which implies dispersed ownership. The literature on cooperative governance can be divided into two schools. Some argue that cooperative structures align manager and member objectives (Kane et al. 1996). Others (Rasmusen 1988 and Fama et al. 1985) show that cooperative members do not have sufficient incentives to exercise control over management teams and that cooperative management schemes are thus less likely to be replaced than stockholder corporations. Leggett et al. (2002), while studying the credit union sector, show that an increase in membership, which engenders higher ownership dispersion, intensifies agency problems.

Staatz (1987) attributes the deviation of the management objectives from the members objectives to a lack of corporate market control, an absence of secondary markets that increases cooperative management risk-aversion and the presence of residual claims strictly for active participation in a cooperative's organization.

Therefore, based on all of the above arguments, we expect to find different financial structures in cooperatives and IOFs. Cooperatives are more pressured to retain earnings than IOFs (Hypothesis 1). Additionally, because cooperatives experience limited pressure from owners, which is justified by dispersed ownership structures, we expect cooperatives to make fewer investments than comparable IOFs (Hypothesis 2) and to utilize long-term debt because they do not have access to the capital market (Hypothesis 3).

III. Financial performance of cooperatives

Studies focusing on the relationships between ownership structures and performance are numerous. It rooted in the fact that the ownership structures involve a specific form of firm organization that generates incentives and objectives for the adoption of certain design strategies. Firm performance evolves as a direct product of these strategies and external economic factors.

Governance relates to specific strategies and mechanisms that generate profits. Shareholder composition and identity impacts, for example, returns and dividend distribution policies. Shleifer et al. (1986) find that large shareholders increase expected profits, and the greater their presence in a firm is, the greater the expected profits are. Accordingly, dividend distribution policies depend on shareholder types. Bebchuk et al. (1999) present a theory of ownership and governance path dependence whereby corporate structures and rules are affected by the initial context of ownership and country rules.

A cooperative's performance is measured using several tools (Franken et al. 2014), such as accounting and financial ratios measures, cost reduction levels implied by a cooperative, prices paid by patrons of a cooperative firm or multidimensional measures. We employ accounting and financial ratios to measure performance levels. The most commonly used measures are the Return on Assets (ROA) and Equity Ratios. Andersson et al. (2003) find that family firms perform better than non-family firms using ROA and Tobin's Q indicators as measures of performance. Fried et al. (1993) study the performance of another type of cooperative, credit unions, using non-parametric and non-stochastic techniques and evaluating performance regarding dominance. Kose et al. (2008) study the relation between investor protection and risk taking in a corporation. The researchers estimate that the more important the private benefits of management are, the more conservative corporate strategies will be and the less risk a firm will take. However, Himmelberg et al. (1999) do not find any relationship between managerial ownership and performance. The researchers' data concentrate on large firms as classified in the Fortune 100 list, and the authors use Tobin's Q and ROA ratios as measures of performance.

Lerman et al. (1990) compare the performance of cooperatives and IOFs and find a non-significant difference in the US food industry. Measures used include profitability (Return on Equity (ROE) ratio), leverage (debt to equity ratio), liquidity (current assets to current liabilities ratio), efficiency

(asset turnover ratio) and solvency (interest coverage). Based on financial structures, the researchers' hypothesis of cooperative overinvestment (sales to fixed assets ratio) is rejected. In their subsequent paper, Lerman et al. (1991) study the impact of firm size and industry on cooperative performance. The authors' measures of performance are similar to those used in their previous paper, and they find that growth significantly improves the efficiency of asset use; however, small cooperatives appear to be more profitable. Therefore, it is of interest to study the financial performance of small French cooperatives in relation to IOFs. We include two measures of performance (ROA and ROE), and we exclude other forms of financial performance. Because the firms included in our database are not publicly traded and are relatively small enterprises, we exclusively examine book values and financial ratios.

Additionally, because cooperatives have the dual objectives of earning profits to remain competitive and sustainable in the market while optimizing their owner's value, they are under limited pressure to earn short-term returns. Therefore, cooperatives present lower levels of financial performance than IOFs (Hypothesis 4a). However, cooperative member welfare relies on the stability of long-term financial results, a major objective of the cooperative establishment. Consequently, we expect less volatile results for cooperatives than for IOFs (Hypothesis 4b).

Finally, cooperatives are stakeholder value enterprises; consequently, cooperative performance measures must consider stakeholder well-being. Therefore, we expect cooperatives to remunerate better their employees, who are the stakeholders who interact with them most directly (Hypothesis 5a). We also expect cooperatives to offer higher levels of wage stability (Hypothesis 5b).

The summaries of our stated hypotheses are presented in Table 10.

Table 10: Summary of the hypotheses

H1	Cooperatives retain more earnings than IOFs.
H2	Cooperatives make fewer investments than IOFs.
H3	Cooperatives subscribe to more long-term debt than IOFs.
H4a	Cooperatives exhibit lower levels of financial performance (ROA and ROE) than IOFs.
H4b	Cooperative financial performance (ROA and ROE) is more stable than that of IOFs.
H5a	Cooperatives pay higher employee wages than IOFs.
H5b	Cooperative wages are more stable than those of IOFs.

IV. Financial structure, performance and risk of French cooperatives compared to IOFs: An empirical study

France is a pioneer of the cooperative model, having made several contributions to the model's philosophy (School of Nîmes). Over the last century, stakeholder protection in France has encouraged this model's development. Government policies support these models through the ministry's social solidarity economic foundations and through laws that promote the cooperative model. The social economy represents 10% of France's GDP (French ministry of the economy). A considerable portion of the economy is structured as a cooperative. It is thus interesting to study the French case given the presence of the diverse legal and governance structures of cooperatives and IOFs.

a. The actual status of French cooperatives

The cooperative sector is large in France, with more than 21,000 firms employing approximately one million employees (Coop.fr 2012). The cooperatives are democratically governed by more than 24 million members. Cooperatives are present in all sectors and dominate some.

In France, several types of cooperatives are identifiable, although they follow certain cooperative principles as a common practice: firm cooperatives in which patrons are entrepreneurs, firm-user or customer cooperatives, producer cooperatives, employee cooperatives, multisectoral cooperatives in which patrons are stakeholders and cooperative banks. Given to data limitation, we were unable to differentiate between types of cooperatives.

b. Data

The data were drawn from the INSEAD OEE Data services platform "Point.Risk." The database consists of individual data on French firms, including balance sheets and income statements. We use unbalanced annual data on French small, medium and intermediate enterprises for 2004-2012 and select firms that employ fewer than 5,000 employees. We do not consider large firms or cooperative banks because their financial structures and specificities are constrained by regulations. We compare cooperatives with enterprises that employ a classical capitalistic governance structure. Furthermore, we do not distinguish between types of cooperatives because the cooperatives studied share the one member one vote rule in common, as noted in the first section.

Initially, we gathered 108,171 observations on IOFs and 6,654 observations on cooperatives. We then omitted data by only examining IOFs with the same NAF2 code (French SIC codes) for the industry of our sample of cooperatives and by omitting the firms with fewer than three observations for the time period. The final sample included 40,513 observations on IOFs and 6,320 on cooperatives. We finally proceed to a sectorial division, using NAF 2 codes to control for the industry effect. In our data, agricultural cooperatives account for the majority of agricultural divisions; industrial cooperatives are dominated by the food industry and service cooperatives include mainly commercial firms. Table 11 presents the distribution of our panel data.

Table 11: Descriptive statistics

	Coop				**IOFs**			
Year	**Total**	**Agricultural**	**Industrial**	**Services**	**Total**	**Agricultural**	**Industrial**	**Services**
2004	388	5.15%	47.68%	47.16%	4596	1.70%	27.52%	70.78%
2005	331	4.53%	45.32%	50.15%	4685	1.75%	27.62%	70.63%
2006	745	5.91%	58.12%	35.97%	4737	1.94%	27.19%	70.87%
2007	801	6.12%	56.68%	37.20%	4754	1.91%	26.92%	71.16%
2008	814	7.00%	56.14%	36.86%	4724	1.95%	27.43%	70.62%
2009	856	7.13%	56.07%	36.80%	4613	1.80%	27.36%	70.84%
2010	870	7.24%	54.83%	37.93%	4618	1.71%	27.41%	70.87%
2011	836	6.82%	55.14%	38.04%	4402	1.79%	27.96%	70.24%
2012	679	6.48%	57.29%	36.23%	3384	1.83%	29.76%	68.41%
Total	**6320**	**6.49%**	**55.16%**	**38.35%**	**40513**	**1.82%**	**27.62%**	**70.56%**

Table 12: Financial ratio details

Financial ratio	*Full name*	*Ratio*	*Measure*
ROA	Return On Assets	$\frac{\text{Net Profit}}{\text{Net Total assets}}$	Financial performance relative to the firm's size
ROE	Return On Equity	$\frac{\text{Net Profit}}{\text{Net Long} - \text{Term Equity}}$	Financial performance relative to capital invested in the firm
E/TA	Equity To Assets	$\frac{\text{Net Long} - \text{Term Equity}}{\text{Net Total Assets}}$	Size of equity relative to the firm's assets, denoting the firm's leverage level
D/E	Debt to Equity	$\frac{\text{Net Long and Mid} - \text{Term Debt}}{\text{Net Long} - \text{Term Equity}}$	Risk undertook by the firm relative to its own funds
FA/TA	Fixed Assets to Total Assets	$\frac{\text{Net Fixed Assets}}{\text{Net Total Assets}}$	Firm investment level
SA/AV	Salaries to Added Value	$\frac{\text{Net Salaries}}{\text{Net Total Assets}}$	Share of added value generated by the firm that is dedicated to employees

c. Methodology and measures

The financial ratios used to test our hypotheses are detailed in Table 12. In examining financial structures, we study the equity to asset ratio, leverage ratio and fixed assets ratio. In measuring financial performance, we use the following two main measures: ROA and ROE. In examining the distribution of wealth for employees, we calculate the salaries to added value ratio.

First, we employ a two-sample mean comparison test with Welch's approximation of unequal variances, and we use classical two-sample variance comparison tests to compare the observations and their dispersions. Summary statistics for the data are presented in Table 13 in addition to the results of the mean and variance comparison tests.

We then study the impact of ownership structures on firm financial performance. First, we consider the ownership structure variable as exogenous to performance. We thus apply an unbalanced panel data regression of performance ratios (ROE and ROA) with the random effect model to the ownership structures, financial structures, firm characteristics and industry dummies. Equations (1) and (2) describe the models.

$$(1)\ ROE_{i,t} = \alpha + \beta_1\ Own\_Struct_i + \beta_2\ GS_{i,t} + \beta_3\ E/TA_{i,t} + \beta_4\ FA/TA_{i,t} + \beta_5 SA/AV_{i,t} + \beta_6\ D/E_{i,t} + \beta_7\ Age_i + \beta_8\ Nb\_Empl_i + \beta_9 Industry\ dummies + \varepsilon_{i,t}$$

$$(2)\ ROA_{i,t} = \alpha + \beta_1\ Own\_Struct_i + \beta_2\ GS_{i,t} + \beta_3\ E/TA_{i,t} + \beta_4\ FA/TA_{i,t} + \beta_5\ SA/AV_{i,t} + \beta_6\ D/E_{i,t} + \beta_7\ Age_i + \beta_8\ Nb\_Empl_i + \beta_9\ Industry\ dummies + \varepsilon_{i,t}$$

We control for collinearity, homoscedasticity and normality using robust (Eicker-Huber-White) standard errors. The results of the regressions are shown in Table 14.

Table 13: Data summary statistics

We present the results of the two-way comparison mean tests with unequal variances, the Welch approximation as the T-ratio and the variance comparison tests as the F-ratio where * p < 0,1, ** p < 0,05, *** p < 0,01.

	All		**Mean**				**Variance**			
Variable	Mean	St dev	Coop	IOF	T ratio		Coop	IOF	F ratio	
Nb_Empl	84.21	239.26	42.56	90.7	-20.29	***	160.99	248.64	0.42	***
ROA	0.05	0.21	0.02	0.06	-29.09	***	0.07	0.22	0.09	***
ROE	0.1	0.28	0.05	0.11	-22.93	***	0.2	0.29	0.49	***
Total Assets	50403.4	383120.1	22208.2	54801.8	-13.4	***	105,985	409,614	0.07	***
E/TA	0.41	0.28	0.47	0.4	23.63	***	0.2	0.28	0.49	***
D/E	0.25	0.34	0.26	0.24	6.07	***	0.24	0.36	0.46	***
FA/TA	0.3	0.25	0.3	0.3	-0.05		0.17	0.26	0.54	***
GS	28296.3	132361.7	35264.6	27209.2	3.73	***	164,032	126,677	1.68	***
SA /AV	0.5	12.23	0.5	0.5	0.03		1.6	13.13	0.01	***

d. Results, robustness checks, and discussion

Table 13 shows the results of the mean and variance comparison tests for the ratios we study depending on ownership structures. In our sample, cooperatives are smaller firms with significantly lower financial performance levels than IOFs with lower volatility of returns. This result holds for both financial performance measures, ROA and ROE. These results regarding lower financial performance and less volatility for cooperatives confirm hypotheses H4a and H4b, respectively.

Table 14: Regression results

Table 14 shows the results of the unbalanced panel data regressions (1) and (2).

* p < 0,1, ** p < 0,05, *** p < 0,01

	(1)		(2)	
	ROE		**ROA**	
Own_Struct	-0.0591	***	-0.0459	***
	(-11.99)		(-14.49)	
GS	0.0000	***	0.0000	
	(2.62)		(-0.99)	
E/TA	-0.0320	***	0.1622	***
	(-3.02)		(15.17)	
FA/TA	-0.1306	***	0.0449	***
	(-14.08)		(4.13)	
SA/AV	0.0000		-0.0003	
	(-0.66)		(-1.64)	
D/E	-0.0182		-0.0064	
	(-1.56)		(-1.3)	
Age	0.0000		0.0000	
	(-0.42)		(0.55)	
Nb_Empl	-0.0002	***	0.0001	***

	(-4.36)		(2.69)	
Industry dummies	No		No	
Constant	0.1866	***	-0.0273	**
	(12.48)		(-2.27)	
R-sq: Within	0.0077		0.0144	
R-sq: Between	0.0473		0.1213	
R-sq: Overall	0.0199		0.0707	
Nb Obs	46833		46833	
Nb groups	6572		6572	

Nevertheless, cooperatives are more capitalized and engage more in long-term debt with higher stability than IOFs. These findings confirm hypotheses H1 and H3 with a p-value less than 1%. The overcapitalization of cooperatives is coherent with their constraint of raising equity and therefore retaining more earnings. The higher long-term leverage ratio for cooperatives shows that despite having higher equity, cooperatives seek to invest using debt to take advantage of the tax benefits that decrease their costs of capital, as stated by Modigliani and Miller (1963). The ratio proves that cooperative managers align their objectives with owners' interests. These results corroborate Gentzolagnis' (1997) findings that cooperatives take on significantly more debt than IOFs.

Additionally, cooperatives realize better sales performance than IOFs with higher volatility while maintaining a stable financial return.

No differences in investments and salary proportions are detected; however, cooperatives appear to have more stable wage levels. Thus, the limited pressure due to the dispersed ownership structure does not imply an under-investment policy of cooperatives (Hypothesis H2 rejected). Similarly, the supposed stakeholder orientation of cooperatives does not lead to higher wages for employees (rejection of Hypothesis H5a). However, we could observe that the employees' wages are more stable in cooperatives, which is in line with Hypothesis H5b.

Thus far, we have found that managers of each type of firm fulfill the objectives and needs of their owners. Cooperatives engage in stable returns within a volatile sales context, whereas IOFs maximize the financial returns of their owners.

We then examine the results of the regressions, presented in Table 14, to determine the impact of ownership on financial performance while controlling for financial structure, size and industry. In these equations, we define ownership structure as an exogenous variable relative to financial structure. A negative sign for the coefficient of ownership structure is explained by the fact that cooperatives have lower financial performance than IOFs, and inversely with a positive sign.

We find that the ownership structure of a firm has a significant impact on its financial performance with a p-value less than 1%. Cooperatives present lower levels of financial performance than IOFs. This result is robust among the two performance indicators. We control for financial structure and firm characteristics. The proportion of wages paid, however, does not have any significant effect on performance. We do not find any industry effect within our sample. The results are consistent with the findings of the means and variance tests. Notably, our results contradict those of Hind (1994), who finds no significant differences between the performances of cooperatives and IOFs in the United Kingdom's agricultural sector.

To test the robustness of these results, we control for endogeneity problems using a two-stage least squares estimation. We use this method while recognizing that firm ownership is endogenous (Demsetz et al.,1985 & 2001). The instrument must be significantly correlated with the endogenous ownership variable but must be uncorrelated with the second stage error term (Wooldridge 2001). We use an instrumental variable for the ownership structure dummy, with a value of 1 given for cooperatives and a value of 0 ascribed otherwise. During the first stage of the regression, we compute a predicted ownership structure level using a firm's equity ratio, fixed investment ratio, distribution to employee ratio, industry and year dummies. The calculus is detailed in equations (3) and (4).

$$(3)\quad \text{Own\_Stuct} = \delta_0 + \delta_1 \frac{E}{TA} + \delta_2 \frac{FA}{TA} + \delta_3 \frac{SA}{AV} + \delta_4 \frac{D}{E} + \delta_5 \text{Year2005} + \delta_6 \text{Year2006} + \delta_7 \text{Year 2007} + \delta_8 \text{Year 2008} + \delta_9 \text{Year 2009} + \delta_{10} \text{Year 2010} + \delta_{11} \text{Year 2011} + \delta_{12} \text{Year 2012} + \delta_{13} \text{Industry Dummies}$$

Table 15: Ownership structure and financial performance controlling for endogeneity

Panel A reports the results of the regressing ownership structure (Own_Struct) for the financial structure variables and firm-level characteristics (equation 3). Panel B shows the second stage of the 2SLS regressions. Panel B uses the predicted ownership structure value (Predict_Own_Struct) of the first stage to determine the endogenous choice variable (Equation 4). * p < 0.1, ** p < 0.05, *** p < 0.01.

Panel A - First Stage			***Panel B - Second Stage***		
Variable	**Own_Structure**		**Variable**	**ROE**	
E/TA	0.1105	***	Predict_Own_Struct	-0.7284	***
	(19.04)			(-9.49)	
FA/TA	0.0069		Nb_Empl	-0.0001	***
	(1.26)			(-8.04)	
SA/AV	-0.0001		Firm_age	0.0000	
	(-0.97)			(-0.26)	
D/E	0.0576	***	GS	0.0000	***
	(12.42)			(6.84)	
Year2005	-0.0116	**	Year2005	-0.0135	**
	(-2.24)			(-2.05)	
Year2006	0.0510	***	Year2006	0.0363	***
	(8.73)			(4.72)	
Year2007	0.0597	***	Year2007	0.0480	***
	(10.11)			(5.95)	
Year2008	0.0612	***	Year2008	0.0371	***
	(10.29)			(4.58)	
Year2009	0.0687	***	Year2009	0.0151	*
	(11.35)			(1.75)	
Year2010	0.0704	***	Year2010	0.0229	***
	(11.6)			(2.66)	
Year2011	0.0710	***	Year2011	0.0264	***
	(11.49)			(3.1)	
Year2012	0.0743	***	Year2012	0.0106	
	(10.94)			(1.15)	
Industry Dummies	Yes	***	Industry Dummies	Yes	
Constant	0.2341	***	Constant	0.3268	***
	(15.83)			(12.21)	
R-squared	0.0732				

$$(4)\quad \mathrm{ROE} = \alpha + \beta_1\,\mathrm{Predict\_Own\_Struct} + \beta_2\,\mathrm{Nb\_Empl} + \beta_3\,\mathrm{Age} + \beta_4\mathrm{GS} + \beta_5\mathrm{Year2005} + \beta_6\mathrm{Year2006} + \beta_7\mathrm{Year2007} + \beta_8\mathrm{Year2008} + \beta_9\mathrm{Year2009} + \beta_{10}\mathrm{Year2010} + \beta_{11}\mathrm{Year2011} + \beta_{12}\mathrm{Year2012} + \beta_{13}\mathrm{Industry\ dummies}$$

Panel A of Table 15 shows that ownership and financial structure (equity to asset ratio and fixed asset to total asset ratio) are positively and significantly correlated. This finding confirms that the selection of this instrument meets the first condition of correlation with an endogenous regressor and again confirms our hypotheses regarding cooperative capitalization and long-term investment: Cooperatives have longer visions and operate within long-term strategies.

We then use the predicted ownership structure value used during the first stage to form the endogenous choice variable in tests of firm performance. Panel B of Table 15 presents our estimation results on the impact of ownership structures on firm performance. We find that ownership structure significantly affects financial performance. Cooperatives underperform in relation to IOFs regarding the performance ratio; these tests corroborate our previous results.

Finally, to verify that cooperatives are less risky entities than IOFs, we compose four portfolios: the first portfolio comprises all types of firms and sectors; the other three are differentiated by the sectors studied (agricultural, industrial and services excluding banks). For each portfolio, we approximate the market return by calculating the mean return in each. We then compute their accounting betas as proxies of their risk using the CAPM, defined as follows:

$$(5)\quad r_{it} = r_{ft} + \beta(r_{mt} - r_{ft})$$

where r_{it} is the ROE (as used by Baginski et al. 2003) of enterprise *i* during year *t*, where r_{ft} is the risk-free rate during year *t* defined here as the rate of return of French Treasury Bonds as exposed by the National Bank of France and where r_{mt} is the mean of the market return of each portfolio considered. The means of the betas computed are shown in Table 16. The values of the betas are consistent with our hypothesis of lower levels of risk for cooperatives. A beta of less than one denotes a lower level of risk than market risk, which is the case for all cooperative portfolios.

Table 16: Beta results

	All		*Agricultural*		*Industrial*		*Services*	
Year	**Coop**	**IOF**	**Coop**	**IOF**	**Coop**	**IOF**	**Coop**	**IOF**
2004	0.380	1.052	-0.811	1.464	0.448	1.081	0.440	1.031
2005	0.391	1.043	0.864	1.025	0.525	1.055	0.228	1.039
2006	0.053	1.149	1.034	0.984	-0.098	1.369	0.135	1.069
2007	0.179	1.138	0.757	1.131	0.201	1.284	0.051	1.084
2008	0.233	1.132	0.279	1.447	0.175	1.291	0.312	1.062
2009	0.507	1.092	0.314	1.504	0.445	1.211	0.638	1.035
2010	0.477	1.098	0.513	1.389	0.444	1.210	0.519	1.048
2011	0.500	1.095	0.214	1.567	0.519	1.180	0.523	1.049
2012	0.340	1.132	0.292	1.503	0.450	1.213	0.175	1.088
All Years	0.331	1.089	0.394	1.374	0.324	1.182	0.328	1.048

Table 17: Summary of the results

Ratio	*Initial Hypothesis*		*Result*	*Robust Result*
Equity to assets	H1	Coop > IOF	Confirmed	Yes
Fixed assets to total assets	H2	Coop < IOF	Rejected	-
Long-term debt to equity ratio	H3	Coop >IOF	Confirmed	Yes
ROA and ROE	H4 a	Coop < IOF	Confirmed	Yes
Δ ROA and Δ ROE	H4 b	Coop < IOF	Confirmed	Yes
Salaries to added value	H5 a	Coop > IOF	Rejected	-
Δ Salaries to added value	H5 b	Coop < IOF	Confirmed	Yes

Our results show that long-term strategies of cooperatives are employed in accordance with their missions and objectives. Cooperatives employ conservative strategies that involve retaining earnings because they face more difficulties in raising equity than IOFs. This finding is congruent with the equity constraint on cooperatives; however, it contradicts the results of Mosheim (2002), who considers cooperatives less capitalized entities because members do not acquire sufficient value through their investments.

Regarding investment decisions, cooperatives are under less pressure from members to maximize returns; consequently, managers have fewer incentives to invest and promote uncertainty. Nevertheless, while undertaking fewer fixed investments, cooperatives generate long-term debt to

reduce their costs of capital and take advantage of tax benefits. Additionally, cooperative partnerships with stakeholders may allow them to accrue less short-term debt.

Although sales are more important and more volatile in the context of cooperatives, according to our data, they succeed in adjusting the instability regarding sales into a stable financial return. Nevertheless, we find that cooperatives are less profitable than IOFs; their performance is more stable over the years and across firms. Cooperatives seem to behave as risk-averse entities with a lower financial performance. Their risk is lower than the market risk in our sample for the nine years studied.

Moreover, cooperative performance does not enable cooperatives to offer higher employee compensation, although the wage pattern across years appears stable.

V. Conclusion

In this paper, we examine the performance and financial structures of cooperatives compared with those of IOFs. This research contributes to the governance and performance literature by studying an alternative governance structure, cooperative, with a multisectoral approach and with empirical data. We find that ownership structures affect financial strategies undertaken by management teams and resulting performance levels of a panel of multisectoral data from 2004-2012 of French cooperatives as compared with IOFs. While cooperatives vary considerably, they exhibit consistent financial structures and performance patterns; they contract more long-term debt and retain more earnings than investor-owned firms. Nevertheless, cooperatives underperform compared with non-cooperative firms regarding financial performance as a result of their dual bottom-line objectives. Their losses and gains are less volatile; thus, they are less risky than IOFs. Despite the high volatility sales levels, cooperatives succeed in providing stable returns for their members. These results are the consequences of cooperative principles, values, and constraints that directly affect firm cultures and behaviors. The results corroborate Kitson's (1996) findings for the banking industry. Democratic ownership can promote more ethical behaviors and more stable and long-term firm strategies. However, the results diverge from Hind's (1994) findings of no difference between the financial performances of cooperatives and IOFs.

Our results support Davis et al.'s (1993) statement that "in all areas, cooperative form of business have provided durable alternative structures and values rooted in an ethic based on the principle of mutuality".

This study is mainly limited to its exclusive use of financial and accounting-based criteria in evaluating performance. Non-financial measures, such as created value for other stakeholders, may be used in future research. Moreover, the performance of different types of governance implied by ownership structures may be evaluated unequally given their divergent objectives and missions. Our research shows the importance of the stability criteria, i.e., the level of operational and financial risk, in evaluating performance that should be included in further research in the cooperative field. Ethical firm behaviors can be measured based on long-term strategies and firm ability to provide owners and patrons with stable and secure rents. These measures of performance should also prove useful for owners, stakeholders and regulators as they evaluate performance levels and chart future firm goals.

VI. List of Abbreviations

Age	Firm age
COOP	Cooperative firm
D/E	Long-term debt to equity ratio
E/TA	Equity to total assets ratio
FA/TA	Fixed assets to total assets ratio
GS	Gross sales
IOF	Investor-owned firm
Nb_Empl	Number of firm employees
Own_struct	Dummy variable that has a value of 1 for a cooperative and a value of 0 for an investor-owned firm
Predict_Own_Struct	The predicted ownership structure resulting from the first regression
Rf	Risk-free rate
ROA	Return on assets ratio
ROE	Return on equity ratio
Rm	Market risk
SA/AV	Salaries to added value ratio
Year2005-2012	Dummies to control for years

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Chapter 4 Linking branding strategy to ownership structure and financial performance and stability: case of French wine cooperatives

Linking branding strategy to ownership structure and financial performance and stability: Case of French wine cooperatives[8][9][10]

Sandra CHALLITA, Philippe AURIER, Patrick SENTIS

ABSTRACT

This research explores the relationship between branding and financial performance and risk of a firm while taking into account its ownership structure. Using the decisional theory, we apply a normative approach to better explain the incentives and constraints of branding in two types of firms: Cooperatives and Investor-Owned Firms (IOFs). We then adopt a quantitative analysis, using a survey of 207 French firms in the wine sector, combined with financial information. We show that cooperatives are more constrained to private branding. As a consequence, they invest more in labeling, whereas IOFs are more likely to invest in private branding. Additionally, we find that branded (private and label) firms have lower financial and commercial performance measured by return on assets and return on sales ratios respectively. Finally, we find that the main factor contributing to the stability of financial performance is the cooperative ownership structure rather than the branding strategy.

Keywords: Branding, Financial Performance, Cooperatives, Decision Theory, Wine Industry.

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I. Introduction

Marketing departments are getting more importance in the modern firm, and their budget allowances are significant and are required to create value for the firm. Therefore, the marketing discipline is interested in measuring the performance of its action. Hence, the Marketing Science Institute has put into its research priorities for 2014-2016 the evaluation and communication of the value of marketing activities and investments (Rizley 2013). Several studies have examined the relationship between marketing levers and results and known as the accountable marketing litterature as summarized by Stewart and Gugel (2016). For example, the impact of branding (Hsu et al. 2015, Madden 2006, Lane and Jacobson 1995), new product launching (Pauwels et al. 2004; Sorescu et al. 2007), communication and advertising (Buil et al. 2013; Osinga et al. 2011), customer satisfaction (Anderson et al. 1994; Fornell et al. 2006) and perceived quality (Aaker and Jacobson 1994; Mizik and Jacobson 2003) on financial performance using various methodologies such as event studies, surveys, case studies and empirical research (Srinivasan and Hanssens 2009; Farris et al. 2010). These research studies prove the generation of value through these different marketing levers and their positive impact on stock returns.

Nevertheless, no studies test these relationships while considering the ownership structure of the firm. Ownership is a key factor that defines purposes of a firm and, therefore, the way of evaluating each strategy and performance relatively to its objectives (Hansmann 1996). In this research, we study the cooperatives and compare them to investor-owned firms (IOFs). Cooperatives are democratically controlled firms (one member one vote rule) and are owned by an essential stakeholder that can be the producer, the consumer or the employee while investor-owned firms' governance depends on the proportion of shares detained by each owner who is the capital provider. Cooperative shares are repaid to their member at exit time, to their nominal prices, unlike investor shares. As a consequence, investing in marketing, specifically, in branding which generates brand equity is a priori less attractive for cooperatives. Therefore, we expect different marketing strategies for each type of firm with different financial outcomes.

We are interested in branding strategies within these firms and compare it to those of investor-owned firms. A unique study that examined the cooperative's branding strategies was undertaken by Beverland (2007), with 5 case studies within the Kiwi industry in New Zealand. However, to the best of our knowledge, no studies have taken a quantitative approach and examined the

relationship between branding strategies and financial performance within a comparative framework contrasting cooperatives and investor-owned firms. Branding is an expensive strategy. However, its advantage is to reduce the uncertainty in the product's quality (Srinivasan et al. 2009). It generates a higher demand for the firm's product, therefore, better financial and commercial performance and provides a stability of returns (decrease of the risk).

The case of the wine industry is specific and is experiencing an increasing growth and many challenges due to high market competition and need to differentiate their products while being profitable in order to sustain. The decision of investing in a brand within this sector and which type of brand "label" or "private" is central for these firms. Therefore, it is interesting to apply this study on this sector within a small business framework. Our aim is to help small business managers and cooperative members to decide what brand strategy to introduce depending on several internal factors of the firm. Another reason to study this sector is that cooperatives occupy a significant place for a long period, are developed, well organized and represent a significant proportion of this industry (around 50% in France according to Coop.Fr).

We differentiate between labeling and private branding. Labels are, in the case of wine businesses, the protected geographical identification labeling. They allow a certain level of certainty about the quality of the product for consumers and, therefore, they are willing to pay a price premium for these products (Mccluskey & Loureiro 2003). Private brands are created internally within a firm allow a certainty for the products' quality while creating a brand equity.

In this paper, we adopt a normative approach, to explore marketing decisions undertaken by managers and how they maximize the utility of the firm's owners, according to each type of entity. We then confront the analysis with data of a survey held in 2005 on 207 firms in the French wine industry sector combined with financial performance data between 2000 and 2009.

We analyze, at first, the relationship between branding, ownership structure, type of product sold, pricing policy and performance using multinomial logistic regression to explain the probability of branding or labeling according to the items studied in the normative approach. We then examine the impact of branding strategy and ownership structure on post survey financial performance. We find that cooperatives are more likely to invest in labeling while IOFs invest in private branding. The type of product sold and the level of pricing have also an impact on the choice of the branding strategy, but the ex-ante financial performance doesn't have any significant effect on this choice.

We then study the effects of the variables on the ex-post financial and commercial performance and their stability. We find that branding has a negative impact on financial and commercial performance for IOF, and we also demonstrate this impact in the case of cooperative. Also, we find that the ownership structure reduces the financial risk, more than the branding strategy: cooperatives' financial returns are more stable than investor-owned firms. Our main contribution is to examine, in a transversal approach, the relationship between ownership structure, brand strategy and financial performance.

We organize this paper as follows: The first section presents the normative approach we engage with its results. The second section explores and analyzes the data in the wine sector and exposes the results. We finally discuss our results and conclude while exposing the limits of this research.

II. Background and normative approach

Marketing needs to be accountable in order to be able to measure the impact of its actions on the financial performance (Stewart 2009). Therefore, a transversal study between marketing decisions and financial performance of the firm is needed to understand better incentives and results of each marketing strategy adopted . Several methodologies (Cahart's four-factor model, event studies, calendar portfolio analysis, stock return response model and persistence modeling) were used to measure the financial performance of market strategies such as pricing, distribution channels, new product introductions, perceived quality or customer satisfaction (Srinivasan & Hanssens 2009).

Adding the ownership structure feature is interesting since it dictates the orientation of the firm regarding its financial and market strategies. In the case of cooperatives, no studies were able to examine this relationship they are usually small firms, not quoted on the financial market and do rarely communicate on their strategies. Nevertheless, cooperatives are investing in branding strategies. Branding allows customers to expect a specific level of quality which reduces the uncertainty about the product. Therefore, they are willing to pay a premium to get the brand (Keller & Lehmann 2006).

The scientific approach in marketing could be divided into two models: behavioral relationships and normative decision rules. Behavioral relationships models are used to describe the behaviors of individuals or firms whereas decision models allow showing how economic units must behave using the optimization rule. The aim of using normative decision rules model in this paper is to define better the marketing problem and helps to solve it.

Besides, corporate finance theory considers a firm's cash flows as affected by stakeholders in the firm (insiders, outside investors, managers, etc.). It ignores interactions between different firms while standard industrial organization focuses on interactions between firms and takes each firm as a black box (ignores aspects internal to firms, in particular, the outsiders/insiders relationship and its influence on strategies).

To serve the objectives of our research we choose to explore the firms' utility function concentrated on corporate finance theory's and decision theory perspectives. We adopt an optimization analysis to understand better the branding decisions within each ownership structure.

We identify a theoretical framework using the utility function of each of cooperatives and investor-owned firms, how they decide to undertake branding and product strategies to serve the best interest of their owners. The main objective of a firm by definition is to maximize profits. Nevertheless, in stakeholders' value firms generally, and in cooperatives specifically, this condition is not mandatory.

A. Assumptions and Model

We assume a simple framework without any agency problems; managers maximize the utility of the owner: the member of a cooperative and the investor. We assume that all the products produced are completely sold, the firm has no stocks. The firm produces two types of products, final products, and products in bulk. The manager has two options of a branding strategy: create a brand or not. Branding is a costly procedure that is an increasing concave function depending on the volume produced. Branding costs are both fixed and variable; however, the marginal costs of branding are reduced when the quantity produced increases. Branding aims to create value allowing the firm to increase its product price. The branding choice depends on the type of product: A higher price increase is expected for final products and a lower one for bulk products. Investing in brands creates a reputation of quality for the product. Customers value this reputation and are willing to pay higher prices for this product.

The increase in the prices is due to the premium paid by customers for the brand created. Branding generates brand equity for the firm that can be sold in the case of investor-owned firms. Conversely, cooperative members cannot take advantage of this brand equity since the value of their shares is repaid at a nominal price. And, the choice of not creating a brand is a costless procedure that generates sales at the market price. The benefit of cooperating is a U-shaped quadratic function that relates to the economic benefit of cooperating. The cooperating advantage is provided in this case by the fact of getting better market prices or lower costs for the members of the cooperative (Kyriakopoulos et al. 2004). Cooperating is interesting until reaching a threshold where decisional costs and free riders problems reduce the benefit of cooperating. The firm generates an increasing concave profit function.

The utility function, therefore, becomes:

$$U = P_i(Q) + \theta[\mathrm{Z}\Delta\pi_{mH}Q + (1 - Z)\Delta\pi_{mL}Q - B(Q) + V_i(Q)] + F_i(Q)$$

Under Constraints

$$Z\Delta\pi_{mH}Q + (1-Z)\Delta\pi_{mL}Q - B(Q) + V_i(Q) \geq 0 \qquad (1)\ Branding\ constraint$$

$$\bar{Q} - Q \geq 0 \qquad (2)\ Production\ Constraint$$

$$F'_i(Q) \geq 0 \qquad (3)\ Cooperation\ Constraint$$

Where:

- U is the utility function of the firm
- $P_i(Q)$ is the profit function of non-branded firm i
- i is the type of the firm (Coop or IOF)
- θ is the probability of creating a brand that comprises between 0 (no brand) and 1(create a brand)
- Z is the proportion of final product sold and *(1-Z)* is the proportion of bulk product sold
- $\Delta\pi_{mH}$ is expected for final products and a lower one $\Delta\pi_{mL}$ for bulk products
- B(Q) are the branding costs
- $V_i(Q)$ is the value of sale of the brand equity
- $F_i(Q)$benefit of cooperating
- $\bar{Q}$ is the maximal capacity of production

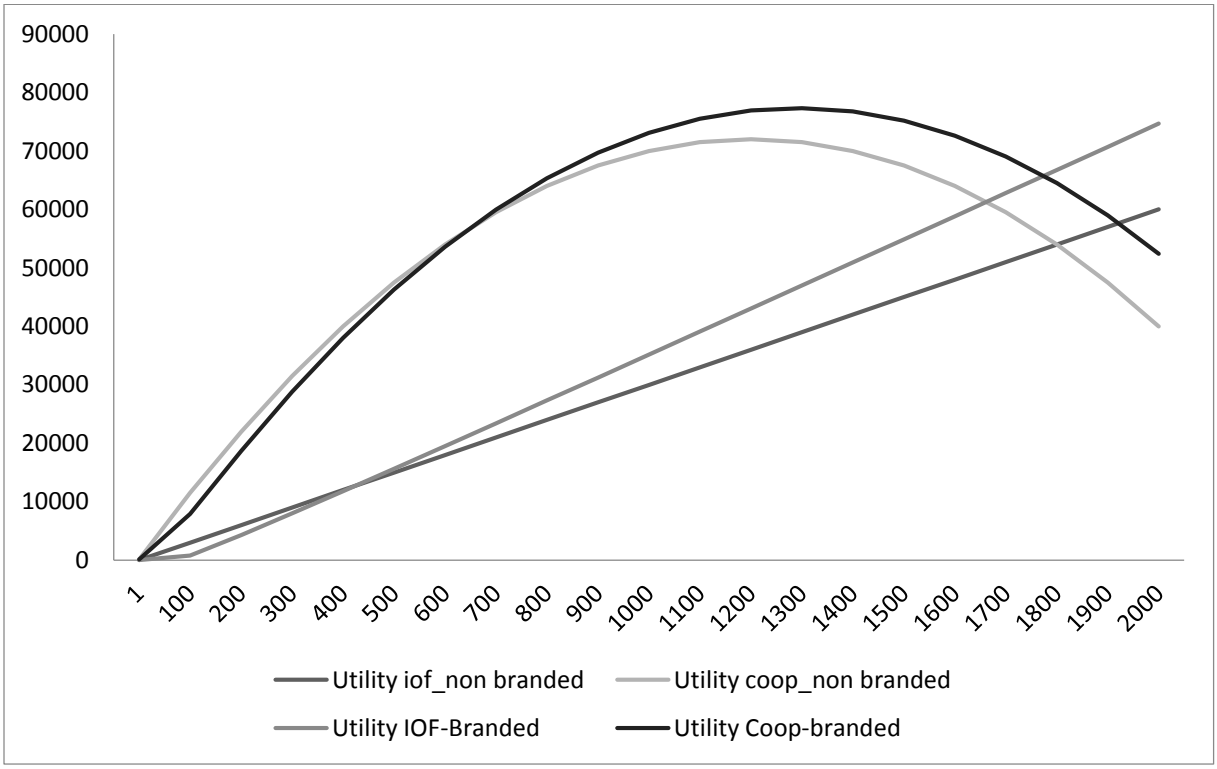
Table 18: Utility functions shows the results of the utility function according to the 4 cases within the exposed framework.

Table 18: Utility functions

Utility Function	No brand	Private Brand
Investor Owned Firm	$P_{IOF}(Q)$	$P_{IOF}(Q) + Z\Delta\pi_{mH}Q + (1-Z)\Delta\pi_{mL}Q - B(Q) + V(Q)$
Cooperative	$P_{Coop}(Q) + F_{Coop}(Q)$	$P_{Coop}(Q) + [Z\Delta\pi_{mH}Q + (1-Z)\Delta\pi_{mL}Q - B(Q)] + F_{coop}(Q)$

The Utility functions can have the following shapes as in Figure 11: Utility function per Strategy and Ownership structure.

Figure 11: Utility function per Strategy and Ownership structure



Depending on the quantity produced, the dominant choice varies.

The optimization of the utility function that generates an optimal branding decision is

$$\mathcal{L} = P_i(Q) + \theta[\mathrm{Z}\Delta\pi_{mH}Q + (1-Z)\Delta\pi_{mL}Q - B(Q) + V_i(Q)] + F_i(Q) + \lambda_1\,[\mathrm{Z}\Delta\pi_{mH}Q + (1-Z)\Delta\pi_{mL}Q - B(Q) + V_i(Q)] + \lambda_2[\bar{Q} - Q] + \lambda_3[F'_i(Q)]$$

Where "λ" is a positive Lagrange multiplier.

$$\theta^* = \frac{P'_i(Q) + F'_i(Q) + \lambda_3[F''_i(Q)]}{B'(Q) - V_i'(Q) - Z\Delta\pi_{mH} + (1-Z)\Delta\pi_{mL}} - \lambda_1$$

B. Results

Through the normative study, we aim to understand better the incentives and results of a branding strategy within each type of firm considered.

When the branding strategy is excluded, and we assume that the profit function of cooperatives is equivalent to that of IOFs, it is more interesting for a producer to be a part of a cooperative, when cooperating advantage is positive. Usually, cooperating is attractive for producers, when decisional

and agency costs are reduced, resulting in a higher performance for their production. In this case, the choice of cooperating is dominant.

However, the assumption that the profit functions of cooperative and investor-owned firms are equivalent does not always hold. It is found in the literature, that cooperatives underperform investor-owned firms in financial terms due to their decisional and agency costs and loss of efficiency. Therefore, the dominance of cooperatives, in this case, depends on the financial and cooperation advantages.

Moreover, an investor-owned firm has incentives to brand when the brand equity and the price premium of the branding of the product exceed its costs, whereas the increase of price premium is a unique advantage that must overcome its costs for cooperatives. Therefore, cooperatives are more constrained to brand. Consequently, the branding strategy is interesting for cooperatives only when the cooperation advantage exceeds the branding equity created within an IOF.

We then analyze the optimization function generating the optimal branding decision. It is more likely to brand when the marginal financial profits are positive. Economies of scale imply increased financial returns; consequently, it is more likely to have an extra financial endowment to invest in branding. Additionally, it is more likely to brand when the price premium of branding is positive. Therefore, the type of product sold is an important factor in the branding decision. In our case, the higher the propensity of the final product is within the firm; the higher the chances of branding are.

Hence, the additional brand equity generated by an additional unit sold has a positive relationship with the decision of branding. This equity is highly dependent on the sector of activity of the firm and the type of product sold.

C. Introducing the labeling strategy

Labeling is a less costly procedure than private branding, that reduces the uncertainty about a number of quality features of the product. Its costs are lower than specific branding L(Q) and allow an increase in the pricing of the product without being able to create brand equity.

The new utility function matrix is introduced in Table 19: Utility function while introducing the labeling strategy.

Table 19: Utility function while introducing the labeling strategy

Utility Function	No brand	Label	Private Brand
Investor Owned Firm	$P_{IOF}(Q)$	$P_{IOF}(Q) + \mathrm{Z}\Delta\pi_{mH}Q + (1-Z)\Delta\pi_{mL}Q - L(Q)$	$P_{IOF}(Q) + \mathrm{Z}\Delta\pi_{mH}Q + (1-Z)\Delta\pi_{mL}Q - B(Q) + V(Q)$
Cooperative	$P_{Coop}(Q) + F_{Coop}(Q)$	$P_{Coop}(Q) + [\mathrm{Z}\Delta\pi_{mH}Q + (1-Z)\Delta\pi_{mL}Q - L(Q)] + F_{coop}(Q)$	$P_{Coop}(Q) + [\mathrm{Z}\Delta\pi_{mH}Q + (1-Z)\Delta\pi_{mL}Q - B(Q)] + F_{coop}(Q)$

In this case, it seems that the choice of labeling is dominant for a cooperative relatively to create a private brand. This result is due to the non-ability of extraction of the brand value in case of private branding for cooperatives, and the assumption lower costs for labeling. This result does not hold, in the case when the costs of branding are lower than the costs of complying with label.

D. Propositions

The previous results allow to suggest the following propositions:

Proposition 1a: IOFs invest in private branding when the generated branding equity and the price premium are higher than their costs

Proposition 1b: Coops invest in private brand when cooperating advantage and the price premium are higher than costs

Proposition 2: The probability of creating a brand is higher when the marginal profit and price premium increase

Proposition 3a: The dominant branding strategy for investor owned firms is private branding

Proposition 3b: The dominant branding strategy for cooperatives is collective branding

The following section uses a quantitative investigation of real data on the wine industry. It doesn't aim to test the proposition but rather to examine whether they are applied in reality.

E. Limits of the normative approach

Within the normative framework, we understand better the incentives for the branding strategy. However, the decisional theory has its limits. Firstly it is unable to support behavioral models (Massy & Webster 1964), where we consider the interaction of customers. Secondly, it does not take into account the impact of competition on these behaviors. Finally, all of our assumptions do not always hold.

III. Empirical illustration in the French wine industry

We use data from a survey held in 2005 by *Credit Agricole SA*, completed with financial information from *Diane* database from 2000 till 2009. The survey is held on 214 firms; we removed outliers and missing data to get a database on 207 firms in the wine sector. The survey included firm's information concerning their production, commercialization, and branding strategies. We examine the relationship between ownership structure and marketing strategies, and then the impact of ownership structure and marketing strategies on financial performance.

In this survey, we distinguish between two types of ownership structure, cooperative and investor owned. Cooperative unions are included with the cooperative sample. In this data, we distinguish between two types of products sold, bottled wine and wine in bulk, where we have the average quantity sold per type in hectoliters at the year of the survey (2005). Concerning the branding strategy, the survey examines the brand strategy for the main product sold. We categorize the answers in three types of strategies: "No Brand", "Label" and "Private Brand". Labeling lies of complying with several costly criteria to be part of a collective brand, creating a certainty about the quality of the product. Table 20: Descriptive Statisticsexposes the descriptive statistics of the survey results.

Table 20: Descriptive Statistics

		No Brand	Labeling	Private Brand	Total
IOF	Number of firms	14	11	64	89
	Number of firms with Z > 0.5	6	8	63	77
	Number of firms with Z < 0.5	8	3	1	12
	Average volume produced Q	158 788	219 138	53 965	91 549
	Average volume of bulk products	135 834	60 928	3 927	32 964
	Average volume of bottled products produced ZQ	22 954	158 209	50 038	58 585
Coop	Number of firms	29	55	34	118
	Number of firms with Z > 0.5	9	15	25	49
	Number of firms with Z < 0.5	20	40	9	69
	Average volume produced Q	87 784	67 440	100 997	82 109
	Average volume of bulk products (1-Z) Q	47 866	47 321	36 155	44 238
	Average volume of bottled products produced ZQ	39 918	20 119	64 842	37 871

The data shows that IOFs invest more in private branding and produce more bottled wine as compared to cooperatives, regardless of their maximal capacity of production. Cooperatives invest more in labeling rather than private branding. Moreover, the type of product affects the branding choice; when cooperatives produce bottled wine; they are more likely to invest in private branding and vice-versa. We also find that cooperatives are more likely to produce wine in bulk than bottled wine. To test these relationships, we adopt at first a multinomial logistic regression to examine the explanatory power of these variables on the branding choice then the impact of these variables on the financial, commercial and stability of performance.

A. Examining the branding strategy

We study the probability of the branding choice: "No brand", "Label" or "Private" branding within the enterprise while using the ownership structure, the pricing policy and the previous financial performance as explanatory variables. We use a multinomial logistic regression since the outcome variable, the branding choice, has three expected qualitative values. To explain the branding choice, we use some of the variables in the normative model. We use the ownership structure dummy variable that has the value of zero in the case of an IOF and one in the case of cooperatives, the average past financial performance as the return on assets (ROA) ratio between 2000 and 2005, the average price per hectoliter in 2005 as computed by the sales to number of hectoliters in 2005; the proportion of bottled wine sold (Z in the normative model), and the interaction effect between the price and the type of product sold. However, we do not have sufficient data to test the impact of the overall normative variables such as the labeling and private branding costs, the cooperative advantage and the value of the brand. The model is as follows:

$$Brand\ Choice = \alpha + \beta_1 Ownership\ structure + \beta_2\ Average\ ROA\ 2000\ 2005 + \beta_3 Price\ 2005 + \beta_4 \%\ bottled\ wine + \beta_5 PriceX\%\ bottled\ wine$$

We report these results in Table 21: Multinomial logistic regression results.

The coefficients show that ownership structure is significant for labeling rather for private branding choice. Comparing labeling to no branding, the ownership structure (dummy variable of 0 for IOF and 1 for cooperatives) the results show a significant impact of this variable on the labeling decision. The odds ratio tells us as the ownership structure changes from investor owned to cooperative, the changes in odds of labeling compared to non-branding is 0.235, in other words, cooperatives are more likely to label rather than creating no brand. This effect is not significant in the decision between private branding and non-branding. However,

comparing the labeling decision to private branding, investor-owned firms are more likely to create a private brand whereas cooperatives are more engaged in labeling. These results confirm the expectations of the normative framework; cooperatives are more constrained to create a private brand; they tend to invest in labeling. It is a less costly procedure which provides customers, a level of certainty about the product's quality while the firm is constrained to comply with a list of requirements to be part of this brand. This intermediary level of branding seems to be dominating cooperatives in this sector.

We do not find any effect of past financial performance on the branding decision measured by the return on assets for the years 2000-2005.

The average product price is highly and negatively significant for the choice of labeling and private branding as compared to non-branding, but is not significantly different between labeling and private branding. It shows that since the firm can sell its product at a higher average price, it is not interested in investing in branding while being a costly decision.

The type of product sold is significant for private branding. The more the proportion of bottled wine sold by the firm is, the more the chances of investing in private branding are.

The interaction term between the type of product sold and the level of price is significant in the case of labeling and private branding as compared to non-branding. The higher its value is, the more likely for firms to invest in labeling or private branding. However, it is not significant in comparing the labeling and private branding. This result shows that the choice of branding either by "Label" or "Private" increases with the price of bottled wine as compared to the choice of not branding. In other words, if the firm has high proportion of final products sold at a relatively high price, it better has one of the two types of brands suggested.

Table 21: Multinomial logistic regression results

			95% CI for odds ratio		
No brand, Label and Private brand strategy	Beta	Standard Error	Lower	Odds Ratio	Upper
Label vs. No brand (reference category No brand)					
Intercept	1,398***	,534			
Own_structure Dummy (1 coop 0 IOF)	-1,449**	,645	,066	,235	,831
Average ROA 2000 2005	-6,843	9,315	1,256E-11	,001	90634,896
Price per Hectoliter 2005	-6,289**	2,489	1,414E-5	,002	,244
Z	,088	1,027	,146	1,092	8,176
Z x Price per Hectoliter	7,991**	3,506	3,063	2953,483	2847968,700
Private Brand vs. No brand (reference category No brand)					
Intercept	-,512	,692			
Own_structure Dummy (1 coop 0 IOF)	-,414	,628	,193	,661	2,264
Average ROA 2000 2005	-2,590	8,521	4,191E-9	,075	1343331,662
Price per Hectoliter 2005	-5,640**	2,823	1,405E-5	,004	,898
Z	2,790***	1,081	1,957	16,284	135,502
Z x Price per Hectoliter	7,657**	3,770	1,307	2115,426	3424694,128
Private Brand vs. Label (reference category Label)					
Intercept	-1,911***	,628			
Own_structure Dummy (1 coop 0 IOF)	1,035**	,509	1,039	2,816	7,630
Average ROA 2000 2005	4,253	7,226	4,973E-5	70,325	99453500,349
Price per Hectoliter 2005	,649	2,773	,008	1,913	438,182
Proportion of Bottled wine (Z)	2,702***	,828	2,943	14,914	75,575
Proportion of bottled wine (Z) x Price per Hectoliter	-,334	2,926	,002	,716	221,532
Note: R^2=0.407 (Cox & Snell); 0.468 (Nagelkerke). Model $\chi^2(\mathbf{10})$= 88,238. ***p<0.01, **p<0.05, *p<0.1					

B. Impact on financial performance

We then examine the impact of the marketing strategy and ownership structure on financial and commercial performance. We use multiple regressions with financial and commercial performance as dependent variables and firm-related characteristics and marketing strategies as independent variables. The retained characteristics of the firm are ownership structure (a dummy variable of 1 if a cooperative and 0 if an IOF), the number of employees in 2005, and volume of production by 2005 in hectoliters. Concerning the marketing strategies, we use three main factors: pricing policy, type of product and branding. We measure the pricing policy by the level of price per hectoliter of wine by 2005. The type of product sold is the proportion of production sold in bulk (1-Z) while Z is the proportion sold in bottles. The branding strategy of the firm's main product is specified with three dummy variables: having no brand (considered as the reference dummy variable), a label and a private brand.

Financial and commercial performance are measured using return on assets (ROA computed as the net income to total assets) and return on sales (ROS computed as the net income to sales). We use a measure of these variables at t+1 of the survey, and then we use the average between 2005 and 2009. To measure the volatility of performance, we use the standard deviation of firms' return on assets between 2005 and 2009. Therefore, the multiple linear regressions are:

$$Financial\ performance\ (ROA\ 2005\ 2009) = \alpha + \beta_1 Number\ of\ Employees + \beta_2 Volume\ produced + \beta_3 \%\ wine\ in\ bulk + \beta_5 Price\ 2006 + \beta_6\ Ownership\ structure + \beta_7\ Label\ Dummy + \beta_8 Private\ brand\ Dummy$$

And we apply the same regressions on the commercial performance and stability of performance variables. The results of the multiple regressions are exposed in Table 22: Results of the multiple regressions and the coefficients exposed are the standardized betas.

Table 22: Results of the multiple regressions

Dependent Variable	Financial Performance Mean_ROA 2005-2009	Commercial Performance Mean ROS 2005-2009	Volatility of Perfomance Stdev ROA 2005-2009
Numb_Empl 2005	,094	,028	-,038
Total volume produced Q	-,121	-,087	-,024
Proportion of wine in bulk (1-Z)	-,087	-,157	-,047
Price per hectoliter 2006	,121	,215 **	-,082
Coop1_IOF0	-,042	,125	-,208 **
Labeling strategy	-,340 ***	-,220 **	-,096
Private branding strategy	-,334 ***	-,132	-,131
R^2	,134	,141	,051
*p<0.1, **p<0.05 and ***p<0.01			

Through the analysis of the R-squared of the regressions, we observe that marketing strategy variables explain better commercial performance (ROS) than financial performance (ROA).

There is no significant impact of size considering the number of employees (Numb_Empl 2005) on performance. Additionally, we find a negative non-significant relationship between the volume produced (Q) and the performance.

Furthermore, we find a positive non-significant relationship between the proportion of bottled wine sold directly from the firm (Z) and financial performance. The pricing policy (Price per hectoliter 2006) impacts positively financial performance. These results confirm the expectations of the normative approach.

Concerning the relationship between ownership structure (Coop1_IOF0) and financial performance, cooperatives underperform financially investor-owned firms, even though having higher commercial performance. We can explain this result by higher voluntary costs paid by cooperatives to their suppliers who are their members; in the wine industry, owners of the cooperatives are generally their producers which can push managers to pay higher prices for the supplied product generating benefits for the members.

We finally find negative relationship between financial and commercial performance on the one hand and the decision to brand either by labeling or creating a private brand. This relationship is

significant for financial performance for both branding strategies; nevertheless, it is only significant for labeling strategy while examining commercial performance. Investing in branding activity aims to generate better future cash flows for the firms, and in the case of private branding it generates brand equity. Hence, branding is a costly procedure; either it is private or a label. Private branding costs hold on the definition of the brand strategy, the creation of a brand image and its appropriation of the firm. Collective branding or labeling has important costs of compliance with the requirements. Therefore, the financial underperformance is observed.

The results of the multiple regressions regarding the volatility of financial performance show that the ownership structure is the only significant variable: cooperatives performances are less volatile compared to IOFs.

Additionally, we find that labeling and private branding generate a more important but non-significant stability of performance which may be virtues of branding creating less volatile financial returns due to the certainty about the products quality generated by the brand image created. However, our data show a lower importance of the branding strategy for the stability of performance.

To test the robustness of our results, we undertake the same regressions while controlling for the region of implementation of the producers. The four dummy variables inserted are Bordeaux, Bourgogne, Languedoc-Roussillon, and Rhone. The results of the regressions are exposed in Table 23: Results of the multiple regressions with regional control.

We observe the same results as the previous regressions with higher explanatory power (higher R-squared).

Table 23: Results of the multiple regressions with regional control

Dependent Variable	Financial Performance Mean_ROA 2005-2009		Commercial Performance Mean ROS 2005-2009		Volatility of Perfomance Stdev ROA 2005-2009	
Bordeaux	-0.184	**	-0.146	*	0.074	
Bourgogne	-0.226	***	-0.2	**	-0.071	
Languedoc-Roussillon	-0.063		-0.142		-0.002	
Rhone	-0.03		0.034		-0.085	
Numb_Empl 2005	0.113		0.034		-0.139	
Total volume produced Q	-0.131		-0.042		-0.013	
Proportion of wine in bulk (1-Z)	-0.048		-0.11		-0.153	
Price per hectoliter 2006	0.098		0.203	**	-0.119	
Coop1_IOF0	-0.099		0.08		-0.194	**
Labeling strategy	-0.321	***	-0.211	**	-0.136	
Private branding strategy	-0.264	**	-0.069		-0.124	
R^2	0.188		0.19		0.103	
*p<0.1, **p<0.05 and ***p<0.01						

IV. Discussion, conclusion and limits

In this research, we explore the link between ownership structure, branding strategies, financial and commercial performance and volatility of financial performance. The ownership structure dimension was not studied in the previous literature relating marketing to finance, while being an important factor in determining marketing strategies and governance of a firm. We compare cooperatives and investor-owned firms using a normative approach, and then we illustrate the results with an empirical application in the French wine sector.

In the wine industry, three main branding strategies are identified: Labeling, private branding, and no branding. Labeling consists of complying with private requirements of production and packaging that are required to be able to be part of the collective brand. Private branding requires a precise branding strategy that characterizes each firm, consisting of creating a specific and leading to brand equity value creation. Two main types of products are differentiated: wine in bulk and wine in bottles.

We find that cooperatives sell more wine using in bulk rather than bottled final product and use more labeling strategy, compared to IOFs. Labeling seems to be an optimal choice for cooperatives because of several factors: (1) The uncertainty of the quantity produced by the cooperative each year since there is no barriers to entry nor to exit for cooperators as stated by the cooperative common principles; and (2) the inability of the individual cooperator of extracting value of the brand equity generated. While private branding seems to be preferred by IOFs. These branding strategies are congruent with the objectives and constraints of each type of firm as expected by the normative framework. By creating a private brand, IOFs generate a brand equity that can be resold on the secondary market, whereas members of cooperatives do not benefit from the residual value generated by a private branding. Labeling improves the level of certainty of the quality of their products, with fewer costs and a higher flexibility of production. This strategy seems to help to encounter the problem that cooperatives face of uncertainty of the level of production (Beverland 2007; Beverland 2001).

We find that branding impacts negatively and significantly financial and commercial performance whereas it contributes without any significant effect to the decrease of the volatility of performances. However, the direct impact of ownership structure appears as the main factor decreasing the volatility, cooperatives financial performance has a lower level of volatility as

compared to investor-owned firms. This result is congruent with the previous literature on cooperatives and their risk-averse strategies. Branding is a costly strategy. Nevertheless, it helps to enhance the financial stability of firms without being its key factor. Unfortunately, we were unable to measure the brand equity generated by branding.

This paper suffers several limits. First, our proposed decisional model where not all of the assumptions are verified and does not take into account the behavioral models and the effect of competition. Second, the quantitative application considers only the wine industry with a limited number of firms in each case; and the branding strategy considered is the one adopted by the firms' main product, it could be more interesting to examine a bigger sample and different types of products and combined branding strategies. Additionally, we were not able to study the mixed branding strategies where wineries adopt both labeling and private brands on their products or rely on rewards and medallions for their wines. Third, we were unable to measure the brand equity created in our framework due to lack of market information. Finally, in this paper, we are focused on the branding strategy decision; it is interesting to consider other types of marketing levers within each type of firm, and identify some levers portfolios that are usually used by cooperatives as compared to IOFs.

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Chapter 5 Cooperative and Investor-Owned depository institutions in the US

A- Cooperative and Investor Owned thrifts: A comparison of activities, market strategies, performances, and risk[111213]

CHALLITA Sandra, AURIER Philippe and SENTIS Patrick

Abstract

This paper focuses on the differences in market strategies and financial performance between cooperatives and investor-owned thrifts in the US. We compare market activities and the relational approach undertaken by cooperatives to investor-owned savings and loans institutions in the US and how these types of activities affect financial performance and risk using a sample of a cross-sectional data of 11280 observations between 1999 and 2014 of 505 cooperatives to 218 investor-owned thrifts. The findings suggest that cooperatives have higher levels of financial and social performance and lower levels of risk. Thus, they are better able to manage risks and identify better clients. The paper also shows that the cooperative structure has a significant impact on the relational strategies. Though, the main factor impacting performance is the entity's past performance. The cooperative structure has a direct and incremental impact on the insolvency risk

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and the variance of performance rather than the strategies adopted. The results suggest that risk aversion is part of the DNA of cooperatives.

Keywords: Thrifts, Cooperatives, Relational Banking, US Financial Institutions, Performance, Market Segments.

I. Introduction

Financial institutions in the US economy are a pillar of the economic stability not only in their country but also for the global economy as shown by the late financial crisis in 2008. Speculation and the disconnection from the real economy and their traditional role as depository and lending institutions were factors in creating the crisis.

The sector of the depository financial institutions is divided into three main categories: Commercial Banks, Thrifts, and Credit Unions. Commercial Banks are investor-owned, Savings and Loans institutions (also known as thrifts) can be mutual, nonprofit or investor-owned and Credit Unions are cooperative institutions.

In this paper, we focus on comparing the activities undertaken by cooperative or mutual thrifts to investor-owned ones in the US and how these types of activities affect financial performance and risk. Savings and loans institutions (or thrifts) are composed of three main types: Mutual savings banks (MSBs), mutual savings and loan associations (MSLAs) and investor-owned savings banks (IOSB). The MSB are nonprofit banks established originally to provide deposits and lending services to the poor. They were created according to Hansmann (1996) in response to customer's lack of information about the actions of the bank while MSLAs that are consumer cooperatives were established to deal with the reverse problem of asymmetric information of banks towards their customers.

Cooperatives are "autonomous, voluntary associations meeting common economic, social, and cultural needs through jointly owned and democratically controlled enterprises" (International Cooperatives Alliance). The democracy advocated by cooperatives relies on the "one member one vote rule" on opposition to the voting in investor-owned corporations where voting is proportional to the number of shares owned. Therefore, cooperatives are constrained to diffuse ownership that might lead to agency problems that can lead to inefficiencies and deviation from the owners 'objectives.

Cooperatives in the financial institution's sector are consumer cooperatives where clients are also members and have the ownership and the right to vote within the firm. Therefore, we expect that they have lower level of asymmetry of information with their clients since they are owners leading to a closer knowledge of their needs and expectations that lead to better performance in their

business segments. Nevertheless, cooperatives can be accused of inefficiency since managers do not have a shareholder pressure on performance, because of the diffuse ownership that is engendered by the cooperative form of the enterprise according to the agency theory.

We are also interested in determining the market activities engaged in each type of ownership structure and their impact on the performance of each segment type. Thrifts are initially conceived to serve real estate lending for small communities. However deregulations led them to engage in different types of loans. We differentiate three main segments of loans to identify the business segment strategy as identified by DeYoung and Roland (2001): Real estate loans, Business loans (including agricultural, commercial and industrial loans) and consumer loans.

We also study the impact of the ownership structure on their relationship with clients. "Relationship information is often "soft" data, such as the information about character and reliability of the firm's owner, and may be difficult to quantify, verify, and communicate through the normal transmission channels of a banking organization"(Berger & Udell, 2002). This relationship lending approach implies the extraction of soft information from clients allowing the institution to benefit from informational advantage, leading to better performances and fewer losses on lending activity. Soft information, as opposed to hard information, is difficult to capture and need a long term interaction with the client. In the case of mutual, since the owner is also the client, we expect that the institution can capture a higher level of soft information, therefore, an adapted rate on loans and a lower level of losses on their lending activity.

The paper is structured as follows: we present the literature review including the characteristics of thrifts and performances, the distribution of the activities and business lines within the institution and their impact on the degree of their proximity to clients. In the second section, we expose the empirical research with the data, methodology, results and discussion. We finally conclude.

II. Literature review and hypotheses

A. Thrifts Characteristics and performance measures

Thrifts also known as savings and loans institutions were created to finance exclusively the housing industry in the US. However, this restriction was relaxed in the 80's during the deregulation of the financial institutions in the USA, and they were able to provide a wider range of products. The main differences that characterize them from banks are that they have a statutory

lending limit for commercial loans, can receive advances from under certain conditions on real estate and consumer lending. They also can more freely affiliate with securities firms and insurance companies than banks.

According to Hansmann (1996), savings and loan institutions can be nonprofits (MSB), cooperatives (MSLAs) or investor owned (IOSB). The mutual savings banks developed in the nineteenth century to respond to the need of deposit and lending for the poor working class. The investor-owned savings banks got however developed later, at the beginning of the twentieth century. The principal reason for their late development is that they had a lack of regulation, their speculative behavior and they behaved opportunistically towards their clients leading to a lack of depositors 'trust toward these types of institutions. The mutual savings banks were successful during the nineteenth century and reached a peak in 1900. Then they had fierce competition with mutual and savings associations and investor-owned banks.

Mutual and savings loan associations are true cooperatives. They arose in the USA in 1830 at the same time of the mutual building and loan associations in the UK. The purpose of their creation was to provide finance for building homes by the pool of the savings of a group of people. "While mutual and savings banks arose principally in response to the customers 'lack of information about the action of the bank, the MSLAs arose principally to deal with the reverse problem of asymmetry of information: the banks lack information about their customers" (Hansmann, 1996). He shows little difference actually between MSLAs and MSB since they became effective commercial nonprofits controlled by their managers however MSLAs were more efficient since they did not rely on philanthropy.

Investor-owned savings banks were more speculative entities, and they grew when they became insured by the FDIC. However, they faced big failures during the big depression of the 30s and showed lower levels of efficiency than MSLAs and MSBs. During the deregulation in the 1980s, many MSB and MSLAs converted to investor-owned institutions.

We differentiate in this paper between investor-owned and cooperative thrifts to study their overall performance and risk, the diversity of their activities, how they invest in relationship lending with their clients and how they perform in each business.

We choose to assess performance using financial ratios while for measuring risk, we use the volatility of financial performance, insolvency risks using the z-score.

The main results in the financial institutions' sector while comparing mutual to investor-owned ownership structure are the following. Rasmusen (1988) compares the efficiency of mutual banks to stock banks and starts from the hypothesis that mutual are less efficient than stock firms since they have high agency problems. They are due to the difficulty of management control for the member of the mutual, and the insurance of deposits reduces the incentive to exercise control. He argues that managers of mutuals are unlikely to minimize the costs of banking services since they do not have any benefits on residual claims.

Hermalin and Wallace (1994) test the efficiency hypothesis and find contradictory results. They find that stock thrifts are less efficient than mutuals on average and are more likely to fail. On the contrary, in a study on German banks, Altunbas, Evans, & Molyneux (2001) find that mutual and public banks have efficiency advantages as compared to the private banks.

In the EU framework, Iannotta, Nocera, & Sironi, (2007), show lower levels of profitability for mutual and government-owned banks, and they find a better loan quality and lower asset risk for mutual cooperatives.

Ayadi, Llewellyn, Schmidt H., Arbak, & De Groen, (2010) show that European cooperative banks do not have any difference in efficiency and performance as compared to shareholder value banks with lower risks.

Finally, Birchall (2013) demonstrates the resilience of financial cooperatives in an economic downturn.

This literature allows us to formulate the following hypotheses:

- H1: Cooperative institutions have lower financial returns that Investor-owned ones.
- H2: Cooperatives have lower levels of risk than investor-owned firms.
- H3: Cooperative are abler to manage their risks than investor-owned thrifts.

Another feature of performance can be assessed as the social performance of cooperatives as compared to investor-owned firms. Cooperatives advocate their service to their communities and the benefits they provide to their societies. In the US, commercial and savings banks are subject

to such evaluation (Simpson & Kohers, 2002) through the credit Reinvestment Act showing a positive relationship between social and financial performance. We, therefore, suggest the following hypothesis:

- H4: Cooperatives provide higher social performance than investor-owned firms.

Other measures of performances contest the traditional measures in the mutual framework and consider the pure financial return as a measure of performance can be misleading for cooperatives (Franken & Cook, 2014) therefore suggested other measures of performance that can be adapted. For financial institutions, other was to evaluate performance is using the rates of loans and savings provided to members. Mutuals are supposed to provide higher rates on savings and lower rates on loans for their members (Bauer, 2008). The findings of Angelini, Di Salvo, & Ferri, (1998) show that cooperative banks provide their members lower rates on loans in the Italian framework. We, therefore, expect that:

- H5: Cooperatives provide lower rates on loans to their members
- H6: Cooperatives provide higher rates on savings to their members

B. Activities held by the financial institutions and their impact on performance and proximity to clients

The owners dictate the mission and objectives of the institution: therefore, they have implications on the strategies adopted and the managerial efficiency (Berle & Means, 1932). Rasmusen (1988) in his same paper that studies the efficiency of mutual and stock banks while controlling for the lines of business pursued finds that mutual are less efficient. We are interested in identifying the market strategies adopted by cooperatives as compared to investor-owned institutions.

In the framework of financial institutions, information asymmetries between lender and borrower are a pillar in the financial intermediation literature (Diamond, 1984). According to (Boot, 2000) "the raison d'être of banks may well be their role in mitigating informational asymmetries. Relationship banking aims to resolve problems of asymmetric information." Therefore, we use the definition of relationship banking adopted by (Boot, 2000): "We define relationship banking as the provision of financial services by a financial intermediary that: (i) invests in obtaining customer-specific information, often proprietary in nature; and (ii) evaluates the profitability of these investments through multiple interactions with the same customer over time and/or across

products." .This relationship allows the banker to collect soft (qualitative) and hard (quantitative) information.

To evaluate to what extent considered institutions rely on the relationship created with their customers, we use, at first, the importance of the traditional banking activity. It is based on interest income indicator as used in several research studies, therefore on the traditional banking activity.

On the other hand, the lines of business pursued by the banks are divided into two main activities: traditional and deregulated. The traditional activities are lending and saving activities providing interest income and the deregulated activities that provide fee income. Relying on non-interest income might lead to a higher incertitude and, therefore, a higher volatility of returns (DeYoung & Roland, 2001). Another finding regarding this indicator is that expanding in nontraditional banking activity is slower for well-managed banks, and an increase of this activity is associated with lower risk-return tradeoff (DeYoung & T. Rice, 2004).

We formulate therefore the following hypothesis:

- H7: Cooperatives rely on traditional banking activity

Additionally, extracting soft information from the client allows better identification of bad creditors and therefore, lower levels of non-performing loans. Since in cooperatives, members are owners, we expect them to be better able to extract soft information and identify good creditors.

- H8: Cooperatives have higher performances per business segment
- H9: Cooperatives can identify better-performing clients

In this study, we also identify the business segments in the traditional activity framework and compare their sizes and performances according to each type. The reduction of asymmetry of information provided by the relational lending allows us to expect that cooperatives invest more to create a relationship with their clients/members leading to the following hypothesis:

- H10: Cooperatives invest more in relational banking activities

III. Empirical Study

A. Data and univariate results

We adopt a comparison of the performance of 213 Investor Owned Institution and 460 Mutual institutions for 16 years. We obtain data from 11280 observations between 1999 and 2014. We retrieved the data from SNL Financial Database[14]. A brief description of our data is exposed in Table 24.

Table 24: Descriptives of the data

In this table, we describe the data, with Own_Structure as the dummy variable taking a value of 1 in the case of cooperatives and 0 in the investor-owned case. The age shows the age of the firm, number of offices of each institution, the CRA rate is the average rate given during the year observations for the credit reinvestment act that ranges from 1 (bad performance), and 4 (good performance), Total assets for average asset per year-observation, Number of employees is the average number of employees per institution, ROAA is the return on average assets, ROAE the return on the average equity, the z-score indicating insolvency risk, Ln_stdevroaa is the natural logarithm of the standard deviation of the return on average assets for the 16 years observations, average rate on loans in the interest income on loans to total loans and average rate on deposits is the interest expense to total deposits.

Variable	Obs	Mean	Std. Dev.	Min	Max
Own_Structure	11280	0.678014	0.467258	0	1
Age	11086	91.10121	38.11720	1	194
Number of offices	11280	4.940426	5.696525	1	66
CRA rate	11072	3.155395	0.349926	1.4	4
Total Assets	10754	177117.3	167417.1	1314	997957
Number of employees	10754	49.70978	51.92335	1	655
Roaa	11280	0.751975	2.717511	-94.18	65.51
Roae	10646	6.502277	12.53491	-238.53	206.29
Zscore	10754	2.503075	2.153361	-0.821581	17.64274
Ln_stdevroaa	11280	-0.68907	0.922886	-2.809319	3.163003
Average rate on loans	7885	6.990879	2.134985	0	43.75
Average rate on deposits	10407	2.357699	1.486895	0	64.15

We then identify the outliers of the data by excluding the lower 1% and higher 1% quartiles.

We compare the means of each variable studied using univariate tests. The parametric mean comparison test with unequal variances and Welch approximation according to the ownership

[14] The data was retrieved from the SNL Database in HEC Montréal, during a visiting to the International Center for research on financial cooperatives, Alphonse et Dorimène Desjardins Institute.

structure variable (0 investor-owned; 1 cooperative) and the non-parametric method Wilcoxon rank sum test. Tables 25 to 28 expose the mean comparison tests.

1. Financial structure of thrifts per ownership structure

Comparing main financial structure ratios and characteristics between cooperatives and investor-owned thrifts, To study the size, we use the classical variable as total assets. We also expose some financial structure ratios such as the loans to deposits ratio, Total deposits to total assets, Total securities to total assets, Total reserves to total assets and the total equity to capital to total assets ratio.

Descriptive statistics in Table 25: Institution Characteristics and financial structure ratio per type of ownership show us that cooperatives are older than investor-owned firms. It is historically justified since savings and loans associations were mainly created at the end of the nineteenth century in the US to serve the category unable to access to banks. The data shows that Investor-owned thrifts are larger institutions than cooperatives measured by total assets ratio. However, both institutions have same levels of bank liquidity as measured by the loans to deposits ratio, and use of securities and deposits.

Finally, the table shows that cooperatives have higher levels of equity that are in line with their goals and the endowment of profits strategy.

Table 25: Institution Characteristics and financial structure ratio per type of ownership

The table exposes the results of the mean comparison tests by a group of cooperatives and investor-owned firms the T-ratio and the results of the Wilcoxon rank sum test (Mann-Whitney) with the Z ratio with the levels of significance ***p<0.01, **p<0.05 and *p<0.1.

Variable	Group	Obs	Mean	Standard deviation	T ratio		Z ratio	
Age	IO	3 632	63.49	44.75	-46.9	***	-38.07	***
	Coop	7 648	101.83	30.05				
Total Assets ($000)	IO	3 408	199 476.60	171 572.40	9.33	***	12.086	***
	Coop	7 346	166 744.20	164 436.40				
Loans/ Deposits (%)	IO	3 402	80.85	24.11	1.28		2.199	**
	Coop	7 301	80.21	24.3				
Total Deposits /total assets	IO	3 408	0.81	0.12	0.17		0.268	
	Coop	7 346	0.81	0.12				
Total Securities /total assets	IO	3 408	0.21	0.17	-1.15		-2.76	***
	Coop	7 346	0.21	0.16				
Total Equity Capital /total assets	IO	3 408	0.12	0.09	-2.67	***	-5.863	***
	Coop	7 346	0.13	0.09				

2. Performance and risk of cooperatives to investor-owned firms

Table 26 exposes the performance indicators, the costs structure and the proximity with clients' indicators. Financial performance of these institutions was measured using Return on Average Assets Ratio (ROAA%) and Return on Average Equity Ratio (ROAE%). To measure risk, we use the natural logarithm of the standard deviation of returns during the studied period (Goddard, McKillop, & Wilson, 2008) and the z-score (Boyd & Runkle, 1993) as a measure of the insolvency risk. The z-score computation is the following:

$$z_{it} = \frac{K_{it} + \mu_{ROA_i}}{STdevROAi}$$

We also assess the social performance with the Credit Reinvestment Act (CRA) Rate applied to individual banks and not holding banks. The rates given are the following (1) substantial noncompliance, (2) needs to improve, (3) satisfactory and (4) outstanding. Several criteria are used to get the rates that are detailed by Evanoff and Segal (1997) and are mainly related to serving the

community's credit needs and the contribution to their community's development with ethical practices.

To assess if cooperatives pay their member higher rates for savings and lower ones for loans, we use the interest rates ratios.

We also examine asset and loan quality by using the non-performing assets to total assets and non-performing loans to total loans.

Table 26: Performances per ownership structure

The table exposes the results of the mean comparison tests by a group of cooperatives and investor-owned firms the T-ratio and the results of the Wilcoxon rank sum test (Mann-Whitney) with the Z ratio with the levels of significance ***p<0.01, **p<0.05 and *p<0.1.

Variable	Group	Obs	Mean	Standard deviation	T ratio		Z ratio	
ROAA (%)	IO	3,562	0.68	0.93	-2.33	**	2.02	*
	Coop	7,429	0.72	0.80				
ROAE (%)	IO	3,292	6.52	8.24	-1.08		2.62	***
	Coop	7,142	6.70	7.1				
Ln (Stdev ROAA)	IO	3 632	-0.57	0.01	9.6	***	12.33	***
	Coop	7 648	-0.08	0.01				
Ln (Stdev ROAE)	IO	3 632	1.59	0.13	14	***	14.64	***
	Coop	7 468	1.36	0.008				
Zscore ROA	IO	3 408	2.32	2.15	-5.88	***	-6.906	***
	Coop	7 346	2.59	2.15				
Nonperforming Assets /total assets	IO	3 408	0.015	0.02	4.24	***	5.439	***
	Coop	7 345	0.013	0.02				
Nonperforming Loans/total loans	IO	3 351	0.018	0.03	4.94	***	6.393	***
	Coop	7 264	0.015	0.03				
CRA Rate	IO	739	3.1	0.42	-3.16	***	-3.206	***
	Coop	1 696	3.16	0.44				
Rate on Loans (%)	IO	2 452	6.94	1.81	-1.57	*	0.96	
	Coop	5 432	7.01	2.26				
Cost of Funds (%)	IO	3 293	2.32	1.72	-1.46	*	-2.256	**
	Coop	7 113	2.37	1.37				

The data shows that cooperatives assert significantly higher levels of financial performance as measured by ROAA and ROAE. These results lead to reject hypothesis H1 of lower performance of cooperatives as shown in the previous literature and the chapters 3 and 4.

The volatility of returns is lower, and the z-score is higher for cooperatives than investor-owned institutions. The higher z-score is the lower the probability of default of the institution is. These results confirm the hypothesis H2. These results are in line with the findings of Ayadi et al., (2010) in the European Framework.

The results concerning asset and loan quality shows lower levels of bad loans and assets of cooperatives as compared to investor-owned thrifts. They show better risk management for cooperatives and better quality of their balance sheets confirming hypothesis 3.

We find higher social performance using the credit reinvestment act rating of mutuals. This result confirms the hypothesis H4. Cooperatives seem to be more engaged towards their communities that are in line with their main missions and objectives.

Cooperatives lend at higher rates as compared to investor-owned firms however they are not highly significant using the non-parametric method. However, they have marginally higher rates on their deposits.

There is no lower level of loan rate, a higher rate on costs (but not significant) Therefore, the hypotheses H5 is rejected, and H6 is accepted.

3. Activity and client portfolio

In this part, we try to examine the difference in the main activities undertaken by each ownership type and what type of client they serve, while also assessing the performance per business line.

We assess the level of engagement in traditional banking activity by using the loans and leases to assets ratio. We exclude the held for sale loans in this ratio.

We use the asset diversity ratio as defined by Laeven & Levine (2007) as a measure of diversification across different types of assets and is computed as:

$$Asset\ diversity = 1 - \left| \frac{Net\ Loans_{it} - Other\ Earning\ Assets_{it}}{Total\ Earning\ Assets_{it}} \right|$$

Where other earning assets are securities and investments. This measure takes values between zero and one and is increasing in the degree of diversification.

The performance of and size of three main business lines in the lending activity are also examined: Real Estate, Business and Consumer lending and the losses on the overall loans. Using the interest income measure per business line to total loans, we assess the performance per segment and the loans per business line to total loans as the size of each line. Table 27: Activity Ratios per ownership structure shows the data per business type.

Table 27: Activity Ratios per ownership structure

The table exposes the results of the mean comparison tests by a group of cooperatives and investor-owned firms the T-ratio and the results of the Wilcoxon rank sum test (Mann-Whitney) with the Z ratio with the levels of significance ***p<0.01, **p<0.05 and *p<0.1.

Variable	Group	Obs	Mean	Standard deviation	T ratio		Z ratio	
Tot Loans & Leases (Excl HFS) /total assets	IO	2 500	0.64	0.16	4.16	*******	4.118	*******
	Coop	5 537	0.63	0.17				
Asset Diversity	IO	2 499	0.44	0.26	-4.2	***	-4.15	***
	Coop	5 533	0.47	0.28				
Interest income on Real Estate Loans/interest income loans	IO	3 004	0.67	0.2	0.69		1.42	
	Coop	6 648	0.66	0.19				
Consolidated Real Estate Loans/ Loans (%)	IO	3 358	76.07	20.25	-4.1	***	-6.88	***
	Coop	7 275	77.86	21.88				
Interest income on Consumer loans/interest income loans	IO	3 004	0.11	0.12	3.71	***	1.61	
	Coop	6 648	0.1	0.1				
Consolidated Total Consumer Loans/ Loans (%)	IO	3 358	8.42	12.26	5.24	***	4.18	***
	Coop	7 275	7.11	11.3				
Interest income on business loans /interest income loans	IO	3 004	0.165	0.15	1.03		1.3	
	Coop	6 648	0.161	0.13				
Consolidated business/loans	IO	3 358	14.53	14.84	1.87	*	6.74	***
	Coop	7 275	13.93	16.64				

Our data shows that cooperatives invest less in traditional banking activity and are more diversified in their businesses. The level of net loans total assets is, however, higher for investor-owned, as opposed to what we have expected that cooperatives invest more in traditional activity of lending. However, they have higher levels of diversification in their business activities. These results run against hypothesis H7.

Concerning the business lines of lending, we find that the for the real estate sector, investor-owned thrifts have the same level of interest on loans while having a lower proportion of these types of loans as compared to mutuals. For consumer lending, investor-owned have a higher level of income with a higher share of their lending However this result is not robust using the non-parametric tests. Even Hough they have higher business lending, investor-owned firms have same levels of income on business lending as cooperatives. These results allow us to reject hypothesis H8.

4. Assessing relationship lending

It is a complex issue to measure the relational lending approach with clients of each institution with its client. The emergence of credit scoring and other tools based on hard information makes it complicated to assess the investment in relationship lending. However, we use some proxies to assess proximity with their clients and therefore their ability to capture soft information.

Several measures can assess the relationship lending. The traditional banking activity lies in deposits and lending, a long-term relationship with the client, that generates repetitive transactions, that indicated the importance of relationship lending within the institution. We propose a proxy for the investment in the relationship lending, the number of employees allocated to traditional banking per office to assess the capacity of investment in such activity. It is an indicator of human investment per office, the higher this ratio is, the higher the investment in relational banking is. Another measure is employee per office ratio. Having higher levels of workforce per office, allow lower levels of extraction of soft information from the client.

We also examine the loans per employee ratio, the higher its value is, the lower the time allocated to extract and create a relationship between the client and the bank employee. Salary expenditure per employee can show the level of specialization of the employees, the more paid they are, the higher their ability to extract and use soft information from the client is. We also use the standard deviation of non-performing loans that indicated the ability to identify non-performing loans. Therefore, relationship lenders have a lower level of this ratio.

The marketing and advertising expenditures to total assets ratio indicate a transactional strategy of the institution. Investing in marketing and advertising indicates a short-term relationship with the client. These expenditures finance punctual transactions with the client rather than a long term

one. However, these short-term investments can eventually be at service of long-term relationship approach.

The number of offices indicates the geographical presence of the offices. If the bank is more present within their environment, and therefore can extract more soft information than institutions with lower levels of geographical presence. We use the assets per office and loans per office in order assess if the importance of geographical distribution to the institution.

Table 28: Relationship lending indicators per ownership type

The table exposes the results of the mean comparison tests by a group of cooperatives and investor-owned firms the T-ratio and the results of the Wilcoxon rank sum test (Mann-Whitney) with the Z ratio with the levels of significance ***p<0.01, **p<0.05 and *p<0.1.

Variable	Group	Obs	Mean	Standard deviation	T ratio		Z ratio	
Stdev non-performing assets to total assets	IO	3,632	0.015	0.014	8.6725	***	10.709	***
	Coop	7,648	0.012	0.014				
Stdev non-performing loans to total loans	IO	3 520	0.019	0.0003	9.624	***	10.55	***
	Coop	7 504	0.016	0.0002				
Employees allocated to traditional banking per office	IO	2 499	17.93	27.45	6.35	***	7.13	***
	Coop	5 533	13.89	23.70				
Employee per office	IO	3 408	21.521	0.534	2.823	***	6.447	***
	Coop	7 346	19.6	0.422				
Salary Exp/ Employees	IO	2 498	59.77	26.14	-1.5	**	-1.527	
	Coop	5 532	60.76	29.69				
Advertising Expenditures to total assets	IO	1 361	590.5606	183.3651	2.008	**	-4.531	***
	Coop	3 588	222.0549	7.272418				
Total assets/number of offices	IO	3 408	76 873.65	109960	3.57	***	2.894	***
	Coop	7 346	69 018.13	97780.1				
Total loans/number of offices	IO	3 408	51 963.31	79995.2	4.27	***	2.932	***
	Coop	7 346	45 254.99	65556				

Table 28: Relationship lending indicators per ownership type shows per ownership type the mean comparisons of these relationship indicators. The data shows that cooperatives have lower losses on their assets and loans as compared to investor-owned thrifts using the variation over the observed years of their non-performing assets and loans. It confirms that mutuals are better able to identify good and bad clients that confirm hypothesis H9.

Notwithstanding, the data shows that cooperatives engage in lower levels of investment traditional banking activity per office and have a lower number of employees per office. The data also shows higher levels of salaries paid to employees by cooperatives.

Cooperatives invest less in advertising expenditures however they are more distributed geographically relatively to their sizes and loans.

These data show mitigated results concerning the relational lending strategy adopted by each ownership type. We cannot confirm or reject the H10. Table 29 summarizes the hypotheses and results.

The object of this paper is to understand whether cooperatives have a different approach to relationship lending, and how this approach can impact the overall financial performance and risk.

Therefore, we will use an OLS regression of the cross-sectional data in the following section to assess the impact of these indicators on financial performance and risk of thrifts. We then use two stages least square regressions to test for the endogeneity of the ownership structure of the strategy and performance.

Table 29: Summary of the hypotheses and results

#	Hypothesis	Measures	Result	Robust	Result
1	Cooperative institutions have lower financial returns that Investor-owned ones.	Return on Average Assets	IO < Coop	Yes	Rejected
		Return on Average Equity	IO < Coop	Yes	
2	Cooperatives have lower levels of risk than investor-owned firms.	Z-score	IO < Coop	Yes	Confirmed
		Ln(stdev ROAA)	Coop < IO	Yes	
		Ln(stdev ROAE)	Coop < IO	Yes	
3	Cooperatives are better able to manage their risks	Non-performing assets/Total assets	Coop < IO	Yes	Confirmed
		Non- performing loans to total loans	Coop < IO	Yes	
4	Cooperatives provide higher social performance than investor-owned firms	CRA rating	IO < Coop	Yes	Confirmed
5	Cooperatives provide lower rates on loans to their members	Rate on Loans	IO < Coop	No	Confirmed
6	Cooperatives provide higher rates on savings to their members	Cost of funds	IO < Coop	No	Rejected
7	Cooperatives rely on traditional banking activity.	Net Loans and Leases to total assets	Coop < IO	Yes	Rejected
		Asset Diversity	IO < Coop	Yes	
8	Cooperatives have higher performances per business segment	II RE Loans/II loans	Coop < IO	No	Rejected
		II Cons loans/II loans	Coop < IO	Yes	
		II business loans /II loans	Coop < IO	No	
9	Cooperatives can identify better-performing clients	Stdev Non- performing Assets/Total Assets	Coop < IO	Yes	Confirmed
		Stdev Non-Performing Loans / total Assets	Coop < IO	Yes	
10	Cooperatives invest more in relational banking activities	Employees allocated to traditional banking per office	Coop < IO	Yes	Rejected
		Employee per Office	Coop < IO	Yes	
		Salary expenditure per Employee	IO < Coop	Yes	Confirmed
		Advertising expenditures to total assets	IO < Coop	Yes	
		Assets per office	Coop < IO	Yes	
		Loans per office	Coop < IO	Yes	

B. Model

In this part of the study, we assess the impact of ownership structure and relationship lending indicators on financial performance and risk. We adopt Ordinary Least Squares regressions while having robust standard errors using White (1980) estimators to deal with normality, heteroscedasticity or observations that exhibit large residuals.

The model is as follows:

$$Performance = f(Ownership\ structure; Activity; Relationship\ lending)$$

$$Risk = f(Ownership\ structure; Activity; Relationship\ lending)$$

We use the return on average assets (ROAA) indicator as a ratio of assessing performance, and for the risk we use two indicators, the z-score for insolvency risk and the natural logarithm of the standard deviation of the returns for the years studied as an indicator of the stability of performance.

As explanatory variables, we use one year lagged performance for financial performance. We use when possible the workforce employed to the traditional banking activity per office (number of employees' x %of traditional banking activity within the institution/ number of offices), employee per office ratio, salary expenditures per employee, advertising expenditure ratio to total assets as relationship lending indicators. The number of offices shows the geographical distribution.

For banks activity, we use the proportion of the business loans (business and consumer loans percentage; the real estate as a reference value), the importance of the asset diversity as measured by Laeven & Levine (2007).

The ownership structure is the dummy variable taking the value of 1 in the case of cooperatives and 0 for investor-owned thrifts. We control for the number of employees and for the chartering of the institution (Dummy variable taking a value of 1 in the case of federal chartering and zero in the case of state chartering). We also control for market concentration using the Herfindahl-Hirschman Index for the depository financial institutions in the US. Usually, this index is extracted from the summary of deposits in market share database provided by the FDIC, but since we consider that thrifts compete in the same market of community banks and Credit Unions, we compute this index by the state this index on the three types of institutions.

$$HHI_{jt} = \sum_{i=1}^{n} {S_{ijt}}^2$$

Where j is the primary state, i is the financial institution in the market j; S is the market share of deposits of each institution i for year t in the state j. The calculus was held on annual values of this index per state between 1999 and 2014, for 50 US states, for 11 721 institutions from the SNL database. We also control for years using year-dummies between 1999 and 2014.

We run the following five regressions:

(1) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\, Trad\_Bank\_Empl\_PerOffice_{i,t} + \beta_3\, AdvExp\_TA_{i,t} + \beta_4\, \%BusinessLoans_{i,t} + \beta_5\, \%ConsumerLoans_{i,t} + \beta_6\, Ownership\_Structure_{\,i} + \beta_7 HHI_{i,t} + \beta_8\, Chartering_{i,t} + \beta_9\, YearDummies + \varepsilon_{i,t}$

(2) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\, EmployeePerOffice_{i,t} + \beta_3\, AdvExp\_TA_{i,t} + \beta_4\, AssetDiversity_{i,t} + \beta_5\, \%BusinessLoans_{i,t} + \beta_6\, \%ConsumerLoans_{i,t} + \beta_7\, Ownership\_Structure_{\,i} + \beta_8 HHI_{i,t} + \beta_9\, Chartering_{i,t} + \beta_{10}\, YearDummies + \varepsilon_{i,t}$

(3) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\, AdvExp\_TA_{i,t} + \beta_3\, Numb\_Offices_i + \beta_4\, AssetDiversity_{i,t} + \beta_5\, \%BusinessLoans_{i,t} + \beta_6\, \%ConsumerLoans_{i,t} + \beta_7\, Ownership\_Structure_{\,i} + \beta_8\, Numb\_Empl_{i,t} + \beta_9 HHI_{i,t} + \beta_{10}\, Chartering_{i,t} + \beta_{11}\, YearDummies + \varepsilon_{i,t}$

(4) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\, SalaryPerEmpl_{i,t} + \beta_3\, AdvExp\_TA_{i,t} + \beta_4\, \%BusinessLoans_{i,t} + \beta_5\, \%ConsumerLoans_{i,t} + \beta_6\, Ownership\_Structure_{\,i} + \beta_7 HHI_{i,t} + \beta_8\, Chartering_{i,t} + \beta_9\, YearDummies + \varepsilon_{i,t}$

(5) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\, Trad\_Bank\_Empl\_PerOffice_{i,t} + \beta_3\, \%BusinessLoans_{i,t} + \beta_4\, \%ConsumerLoans_{i,t} + \beta_5\, Ownership\_Structure_{\,i} + \beta_6 HHI_{i,t} + \beta_7\, Chartering_{i,t} + \beta_8\, YearDummies + \varepsilon_{i,t}$

We adopt the same equations on explaining insolvency risk and volatility of performance without the lagged return on assets.

We also test for the collinearity between the variables. The results of the regressions are exposed in Tables 30, 31 and 32.

C. Results of the model

Table 30 shows the results of the OLS regressions that examine the impact of the activity, types of clients and ownership structure on financial performance as measured by the return on average assets. The results show that the past performance at one lagged year impacts significantly and positively the performance in all the five equations.

Concerning the relationship lending indicators, the results show that the workforce engaged per office for relationship lending has a significant and positive impact on performance as well as the overall workforce engaged per office as shown in equations 1 and 5.

The level of salary has no impact on overall performance. Investing in advertising expenditures affects negatively financial performance without being significant in all cases (exception equation 4).

For the type of activity, having diversified businesses has no impact on performance, while investing rather in business or consumer loans rather than real estate lending, has a significant positive impact on performance.

Chartering and concentration, however, did not impact performance significantly.

Our data also show as in the previous section that financial performance for cooperatives is at a higher level.

Nevertheless, we suspect endogeneity of ownership and activity. They affect the relationship lending approach that leads to bias the results.

Table 30: Model of Performance

The table exposes the results of the OLS regression with the White sandwich estimator. The Return on Average Asset (ROAA) is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (5) are the lagged return on average assets (ROAA t-1), the percentage of business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans), the percentage of consumer loans to total loans (%Consumer Loans), the ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Employees allocated to traditional banking per office is used in equations 1 and 5, Employee per office ratio in equation 2, Salary expenditure per employee and number of employees in equation 3, salary expenditures to total assets for equations 1 to 4, Number of offices in equation 3, Asset diversity in equations 2 and 3. The table presents the coefficients and heteroskedasticity- consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
	ROAA	ROAA	ROAA	ROAA	ROAA
ROAA t-1	0.437*	0.456*	0.480*	0.506*	0.343***
	(2.30)	(2.34)	(2.37)	(2.44)	(3.36)
Employees allocated to traditional banking per office	0.0191**				0.0143**
	(2.67)				(3.14)
Employee per Office		0.0132*			
		(2.48)			
Salary Expenditure per Employee				-0.0130	
				(-0.98)	
Advertising Expenditures To total assets	-3.200	-3.332	-1.505	-4.564*	
	(-1.71)	(-1.78)	(-0.74)	(-2.11)	
Number of offices			-0.0107		
			(-1.50)		
Asset Diversity		-0.181	-0.149		
		(-1.18)	(-0.96)		
%Business Loans	0.0176***	0.0171***	0.0177***	0.0121**	0.0134***
	(3.62)	(3.50)	(3.30)	(2.63)	(5.41)
%Consumer Loans	0.0115*	0.0128*	0.0151*	0.0143*	0.0124**
	(2.32)	(2.24)	(2.12)	(1.97)	(3.07)
Ownership Structure	0.204*	0.194*	0.240*	0.174*	0.204***
	(2.46)	(2.38)	(2.46)	(2.26)	(3.46)
Number of Employees			0.00537*		
			(2.51)		
HHI	0.0000449	0.0000318	0.00000458	0.0000341	-0.0000159
	(0.78)	(0.55)	(0.07)	(0.48)	(-0.28)
Chartering(State 0 federal1)	-0.0868	-0.0839	-0.0581	0.233	-0.0594
	(-1.82)	(-1.80)	(-1.40)	(1.47)	(-1.17)
Controlled for years			Yes		
Intercept	-0.263	-0.180	-0.297	0.710	-0.00600
	(-1.90)	(-1.25)	(-1.75)	(0.92)	(-0.04)
N	4476	4476	4476	4474	7518
R-sq	0.334	0.324	0.311	0.302	0.190

Table 31 explains the insolvency risk of the studied institutions. A higher level of z-score shows a lower level of insolvency risk. However, the explanatory power of the model decreases.

The traditional workforce engaged per office increases this risk, which can be explained by the impact of overhead on performance. However, while the general workforce per office has no significant impact on this factor, investing in marketing expenditures increases the risk. Geographical distribution has a negative impact on this risk.

Diversification in business activity decreases this risk as well as investing in business and consumer lending proving that investing in different business lines is a good strategy for the institution, increasing performance and reducing risk.

Cooperatives have lower levels of insolvency risk that are as per the findings of the univariate analysis. The results also show that the higher the level of concentration of institutions is the lower the insolvency risk.

Table 31: Insolvency risk model

The table exposes the results of the OLS regression with the white sandwich estimator. The z-score is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (5) are the percentage of business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans), the percentage of consumer loans to total loans (%Consumer Loans), the ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Employees allocated to traditional banking per office is used in equations 1 and 5, Employee per office ratio in equation 2, Salary expenditure per employee and number of employees in equation 3, salary expenditures to total assets for equations 1 to 4, Number of offices in equation 3, Asset diversity in equations 2 and 3. The table presents the coefficients and heteroscedasticity-consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
	z-score	z-score	z-score	z-score	z-score
Employees allocated to traditional banking per office	-0.00209*				-0.00141
	(-2.28)				(-1.69)
Employee per Office		0.000207			
		(0.26)			
Salary Expenditure per Employee				-0.0210***	
				(-13.57)	
Advertising Expenditures To total assets	-7.626***	-5.974***	-10.59***	-7.879***	
	(-9.19)	(-7.94)	(-7.01)	(-9.68)	
Number of offices			0.0288***		
			(4.10)		
Asset Diversity		1.527***	1.520***		
		(12.28)	(12.23)		
%Business Loans	0.0189***	0.0160***	0.0159***	0.0182***	0.0106***
	(10.00)	(8.52)	(8.51)	(10.02)	(7.59)
%Consumer Loans	0.00440	0.00296	0.00326	0.00632**	0.0118***
	(1.67)	(1.19)	(1.34)	(2.86)	(5.32)
Ownership Structure	0.542***	0.518***	0.539***	0.581***	0.282***
	(7.17)	(7.00)	(7.16)	(7.82)	(5.19)
Number of Employees			0.000212		
			(0.40)		
HHI	-0.000432***	-0.000383***	-0.000382***	-0.000400***	-0.000442***
	(-7.57)	(-6.78)	(-6.86)	(-7.23)	(-9.58)
Chartering(State 0 federal1)	-0.00348	0.0324	0.0382	0.0583	-0.118*
	(-0.04)	(0.35)	(0.41)	(0.77)	(-2.32)
Controlled for years			Yes		
Intercept	2.388***	1.678***	1.499***	3.328***	2.563***
	(12.50)	(8.51)	(7.46)	(28.10)	(20.13)
N	4506	4506	4506	4504	7976
R-sq	0.048	0.077	0.080	0.079	0.027

We then assess the variability of performance for the 16 years studied using the natural logarithm of the standard deviation of the return on average assets.

Table 32: Standard deviation of financial performance shows the results of the model for the outcome variable using the variation of performance.

The traditional and the overall workforce per office increase performance volatility as well as the level of salary expenditures per employee. Investing in marketing expenditures increases the volatility, while the number of offices increases the volatility of results.

Diversification decreases the volatility and while investing in business and consumer lending increases it. These results are in contradictions with the findings of DeYoung & Rice (2004b) that find that diversification in the US banking activity leads to more volatile revenue.

Cooperatives have more stable performances, while the number of employees increases this variance. The findings also show that concentration increases the volatility.

Findings concerning the insolvency risk and volatility of performance are congruent with each other.

The findings on the ownership structure and performance are in contradiction with their inefficiency as expected by Rasmusen (1988). Our findings on a lower probability of default of cooperatives are in accordance with the findings of Ayadi et al. (2010) for the European banks.

Table 32: Standard deviation of financial performance

The table exposes the results of the OLS regression with the white sandwich estimator. The natural logarithm of the standard deviation of the returns on assets (Lnstdev(roaa)) between 1999 and 2014 is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multi-collinearity problems. The independent variables included in all equations (1) to (5) are the percentage of business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans), the percentage of consumer loans to total loans (%Consumer Loans), the ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Employees allocated to traditional banking per office is used in equations 1 and 5, Employee per office ratio in equation 2, Salary expenditure per employee and number of employees in equation 3, salary expenditures to total assets for equations 1 to 4, Number of offices in equation 3, Asset diversity in equations 2 and 3. The table presents the coefficients and heteroscedasticity- consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
	Lnstdev(roaa)	Lnstdev(roaa)	Lnstdev(roaa)	Lnstdev(roaa)	Lnstdev(roaa)
Employees allocated to traditional banking per office	0.00347***				0.00180**
	(5.42)				(2.95)
Employee per Office		0.00177**			
		(3.10)			
Salary Expenditure per Employee				0.0119***	
				(16.06)	
Advertising Expenditures To total assets	5.736***	4.939***	6.734***	5.712***	
	(10.21)	(9.85)	(8.90)	(10.73)	
Number of offices			-0.0106***		
			(-4.31)		
Asset Diversity		-0.741***	-0.733***		
		(-16.52)	(-16.44)		
%Business Loans	0.00586***	0.00726***	0.00769***	0.00599***	0.00619***
	(6.95)	(8.75)	(9.21)	(7.63)	(10.25)
%Consumer Loans	0.00329*	0.00419***	0.00455***	0.00284*	0.000268
	(2.54)	(3.51)	(3.61)	(2.17)	(0.27)
Ownership Structure	-0.252***	-0.241***	-0.234***	-0.279***	-0.141***
	(-8.74)	(-8.62)	(-8.12)	(-10.05)	(-6.91)
Number of Employees			0.00111***		
			(3.41)		
HHI	0.000134***	0.000110***	0.000105***	0.000110***	0.000139***
	(4.19)	(3.52)	(3.40)	(3.66)	(5.22)
Chartering(State 0 federal1)	0.00260	-0.0141	-0.00996	-0.0553	0.0405*
	(0.07)	(-0.40)	(-0.28)	(-1.87)	(2.12)
Controlled for years	Yes				
_cons	-0.955***	-0.612***	-0.603***	-1.469***	-0.964***
	(-15.51)	(-9.58)	(-9.08)	(-28.27)	(-20.33)
N	4506	4506	4506	4504	7976
R-sq	0.068	0.115	0.118	0.136	0.037

Nevertheless, the univariate analyses have shown that the relationship lending strategy, performance, and activity ratios have different levels according to the ownership structure. We suspect endogeneity of ownership and activity. They affect the relationship lending approach that leads to bias the results. Therefore, in the following section, we will examine the model using two stage equations with instrumental variables.

IV. Robustness checks and discussion

A. Testing for endogeneity in financial performance assessment

While the univariate analysis and the results of the regressions above show that ownership structure and lending strategies affect financial performance, we need to test the robustness of these results, especially that we show that ownership structure affects the strategy.

Therefore, we adopt two-stage least square equations to at first predict the different strategies at a first stage by using the ownership structure variable as an independent variable as well as the business segments, and then using that predicted measure in assessing performance. We adopt a general method of moments approach for these regressions to have robust results while controlling for heteroskedasticity using White (1980) estimator.

First Stage:

$$Relationship\ lending = f(Ownership\ structure; Activity)$$

Second Stage:

$$Performance = f(Ownership\ structure; Relationship\ lending)$$

$$Risk = f(Ownership\ structure; Relationship\ lending)$$

The results of the first stage regression are shown in Table 33: Determinants of relationship lending strategies. At the first stage equation, we predict the relationship lending indicators by using the ownership structure and business lines of the institutions and the workforce per office engaged. Then the predicted values are independent variables for the second stage equation.

The first stage shows that the ownership structure affects the different strategies significantly except for the level of remuneration of employees. Cooperatives engage more in advertising expenditures and less in traditional banking investment. However, the impact of the adopted activity on these ratios (% of business loans and % of consumer loans) seem not to be significant.

Table 33: Determinants of relationship lending strategies

The table exposes the results of the first stage OLS regression with the white sandwich estimator. The dependent variable in equation 1 is Employees allocated to traditional banking per office, Advertising expenditures to total assets ratio for equation 2 and salary expenditure per employee for equation 3.The explanatory variables are the number of employees per office, ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives the percentage of business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans) and the percentage of consumer loans to total loans (%Consumer Loans). The table presents the coefficients and heteroscedasticity- consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	**(2)**	**(3)**
	Employees allocated to traditional banking per office	**Advertising Expenditures To total assets**	**Salary Expenditure per Employee**
Employee per office	0.775***	-0.0000310***	-0.0433***
	(29.60)	(-5.92)	(-6.01)
Ownership Structure	-0.881***	0.00122**	0.549
	(-4.04)	(2.77)	(1.04)
%Business Loans	0.00179	-0.0000182	-0.0253
	(0.49)	(-1.25)	(-1.55)
%Consumer Loans	0.0500*	-0.00000791	-0.0210
	(2.47)	(-0.81)	(-0.46)
Controlled for years		Yes	
Intercept	-2.649**	0.00360*	42.52***
	(-2.80)	(1.99)	(42.50)
N	7976	4758	7971
R-sq	0.924	0.006	0.188

The results in Table 34 show that while controlling for endogeneity, the main criteria affecting performance is its past performance.

The relationship lending approach either in engaging in traditional banking or advertising expenditures are not significant anymore. Only the level of salary expenditures has a significant negative impact on performance.

Additionally, the significant impact of ownership structure has disappeared in the second stage equation. Taking into account the business lines and the ownership structure in predicting lending strategy leads to different results concerning cooperatives ability to have different financial performance. The results show that the performance of thrifts depends on their past performances and strengths rather than their ownership structure. These findings can help better understand the contradictory findings in the literature on the performances of cooperatives.

Several studies have shown the lower levels of performance and efficiency of cooperatives while others proved no significant relationship.

The results of our analyses show that the ownership structure's impact on performance is not direct but passes by the strategy adopted.

Table 34: Performance results while controlling for ownership structure endogeneity

The table exposes the results of the second stage regression of the 2SLS with the white sandwich estimator. The Return on Average Asset (ROAA) is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (3) are the lagged return on average assets (ROAA t-1), the ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Predicted value of employees allocated to traditional banking per office is used in equations 1, the predicted value of advertising expenditures in equation 2 the predicted value of salary expenditure per employee in equation 3 and Asset diversity in equations 2 and 3. The table presents the coefficients and heteroskedasticity- consistent (White, 1980) t-values. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	(2)	(3)
	ROAA	**ROAA**	**ROAA**
Predicted Employees allocated to traditional banking per office	0.000477		
	(0.76)		
ROAA T-1	0.603***	0.780***	0.223**
	(4.76)	(4.10)	(2.84)
HHI	-0.0000273	0.00000728	-0.00000638
	(-0.81)	(0.23)	(-0.19)
Chartering(State 0 federal1)	0.0371	-0.0169	0.0886***
	(1.44)	(-0.52)	(3.54)
Ownership Structure	0.00862	0.000735	0.0623*
	(0.29)	(0.01)	(2.16)
Asset Diversity		4.040	
		(0.29)	
Predicted Advertising Expenditures To total assets		-0.0841	
		(-1.34)	
Predicted Salary Expenditure per Employee			-0.0365***
			(-4.83)
Controlled for years		Yes	
Intercept	0.296***	0.232	3.090***
	(3.74)	(1.62)	(5.45)
N	7403	4412	7398

B. Testing for endogeneity in risk assessment

We then implement the same method for assessing risk through 2sls regression method, while using the same first stage equation for testing endogeneity in the regressions concerning insolvency risk and overall risk in Table 35 and Table 36.

Table 35: Insolvency risk while controlling for endogeneity of ownership

The table exposes the results of the second stage regression of the 2SLS with the white sandwich estimator. The z-score is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (3) are the lagged return on average assets (ROAA t-1), the ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Predicted value of employees allocated to traditional banking per office is used in equations 1, the predicted value of advertising expenditures in equation two the predicted value of salary expenditure per employee in equation 3 and Asset diversity in equations 2 and 3. The table presents the coefficients and heteroskedasticity- consistent (White, 1980) t-values. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	**(2)**	**(3)**
	z-score	z-score	z-score
Predicted Employees allocated to traditional banking per office	0.000939		
	(1.03)		
HHI	-0.000379***	-0.000334***	-0.000262***
	(-8.61)	(-6.46)	(-4.41)
Chartering(State 0 federal1)	-0.0653	0.0694	0.0381
	(-1.29)	(0.75)	(0.62)
Ownership Structure	0.295***	0.562***	0.372***
	(5.43)	(7.23)	(6.25)
Predicted Advertising Expenditures To total assets		-21.70	
		(-1.29)	
Asset Diversity		1.643***	
		(11.28)	
Predicted Salary Expenditure per Employee			-0.0581***
			(-4.00)
Controlled for years		Yes	
Intercept	2.857***	1.454***	5.163***
	(23.17)	(10.47)	(8.88)
N	7976	4506	7971

Table 36: Risk on strategies while controlling for endogeneity

The table exposes the results of the second stage regression of the 2SLS with the white sandwich estimator. The natural logarithm of the standard deviation of the returns on assets (Lnstdev(roaa)) between 1999 and 2014 is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multi-collinearity problems. The independent variables included in all equations (1) to (3) are the lagged return on average assets (ROAA t-1), the ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Predicted value of employees allocated to traditional banking per office is used in equations 1, the predicted value of advertising expenditures in equation 2 the predicted value of salary expenditure per employee in equation 3 and Asset diversity in equations 2 and 3. The table presents the coefficients and heteroskedasticity- consistent (White, 1980) t-values. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	**(2)**	**(3)**
	Ln(stdevroaa)	Ln(stdevroaa)	Ln(stdevroaa)
Predicted Employees allocated to traditional banking per office	0.000210		
	(0.31)		
HHI	0.000104***	0.000107***	0.000232***
	(3.90)	(3.58)	(3.92)
Chartering(State 0 federal1)	0.0495**	-0.0775	0.130**
	(2.59)	(-1.71)	(3.14)
Ownership Structure	-0.154***	-0.194***	-0.0934*
	(-7.59)	(-5.10)	(-2.33)
Predicted Advertising Expenditures To total assets		-19.24	
		(-1.07)	
Asset Diversity		-1.025***	
		(-9.59)	
Predicted Salary Expenditure per Employee			-0.0426**
			(-2.93)
Controlled for years		Yes	
Intercept	-0.799***	-0.120	0.875
	(-19.44)	(-1.20)	(1.51)
N	7976	4506	7971

The results of the analyses of insolvency risk and variance of the performance show that cooperatives structure risk is significantly lower than the investor-owned. They are significant for reducing insolvency risk and volatility of performance. The strategies adopted do not affect significantly risk. Risk reduction seems to be incremental to cooperatives rather than the strategy adopted. The findings also show that higher levels of concentration of institutions within the state increase their insolvency risk and performance variance. However, the level of

remuneration of employees leads to higher insolvency risk but higher levels of the volatility of performance.

Comparative literature on cooperatives has found different levels of results concerning cooperatives performance. Some find that cooperatives are less performant than their peers while others find no significant difference. The findings of this paper show that the cooperative structure affects lending strategies but not on the performance.

Notwithstanding, the results of our study show that cooperatives have incrementally lower levels of risk independently of the strategies adopted. This result is as per the previous dominant literature showing the risk-averse attitude of cooperatives and their contribution to the stability of their environment.

V. Conclusion

This study investigates the difference in performances and risk levels between cooperatives and investor-owned thrifts in the American context. We examine whether the differences in performance and risk are derived from their business lines and activities and their relationship lending or is incremental to their ownership structure using quantitative empirical analyses, from univariate descriptive to multiple and multi-stage regression models.

It examines if the reliance on a traditional banking activity based on relationship lending, the long-term relationship with their clients and the business lines have an impact on performance and risk depending on each ownership type.

The impact on the customer's membership allowed us to expect a higher level of knowledge of customers' needs, therefore, a higher performance on loans and a higher social performance. We also expected them to have lower rates for creditors.

The data of American thrifts between 1999 and 2014 show that cooperatives outperform financially and socially investor-owned savings and loan institutions, as well as having a lower insolvency risk and financial risk. They are also more capable of identifying good performing clients and better manage their risks.

Nonetheless, we find that cooperatives do not invest more in relationship lending than investor-owned institutions, they rely on both traditional and untraditional activity and invest less in marketing activities.

The findings impact of market strategies and ownership structure on the financial performance and risk show that the cooperative structure does not have a direct impact on performance that relies principally on past performance. However, the ownership structure has a direct impact on the relational strategies, the insolvency risk and the variance of performance. This structure encourages a more diversified portfolio of activities and to a risk-averse behavior. This behavior seems to be incremental to the cooperative structure.

This paper contributes to the existing literature by examining the relationship between the lending strategy and business lines, to ownership structure and financial performance and risk. It leads to better understand the reasons behind the differences in the results on previous literature concerning the performance of cooperatives and their efficiency notably in the thrifts sector. To our knowledge, no studies have examined this triangular relationship.

We underline the limit of the research in considering relational lending relying on traditional activity rather than fee-based activity. Even in the fee-based activity, bankers invest in long-term relationships with their clients. Another limit is to consider the advertising expenditure exclusively as a transactional tool. Therefore, the consideration was taken in simplification of reality to be able to perform our analysis.

The following part of the chapter expects to identify the impact of the lending strategies on performance and risk as in this part of the chapter but with credit unions and community banks for the same period studies in the American context.

B-Case of credit unions and community banks: Items relying on their performances

Abstract

In this section, we compare community banks to credit unions. Both types of institutions aim to serve their local economies and rely on relationship lending however each type is constrained to different regulators. We examine as in part A of this chapter their relationship lending strategies and financial performances and risks using data from more than 4000 community banks and 6000 credit unions between 1999 and 2014. We find that community banks have higher levels of performance and lower levels of risks than credit unions. These results are in contradiction with the findings on thrifts since each type of institution aims a different type of clients. We also find that the relational strategy has a positive impact on performance while reducing risk. The chartering level has a different impact on performance per structure.

In this part of the paper, we apply the methodology undertook on thrifts to the credit union and community banks sector.

Credit unions governance relies on the one member one vote rule and is formed by members who share a single, multiple or community bond. This bond allows them to have a lower asymmetry of information, a closer look at their sector(s) and community, therefore, a better performance and lower losses. Nevertheless, this bond can also disadvantage them regarding risk diversification, on moral hazard problems and therefore and underperformance. They are regulated by the NCUA (National Credit Union Administration).

I. Credit unions and community banks: playing on the same field?

"Banks and credit unions in the United States are fierce competitors, but many times service different niches as intermediaries."(Allan, 2010). "Credit Unions are consumer banks that are organized as depositors' cooperatives. As their names suggest, they do not only take deposits from their members but use those deposits primarily to make loans to their members. Credit unions are distinguished by the requirement that their members must all share a common bond"(Hansmann, 1996). The common bond requirement was relaxed, since the credit unions access act in 1998, to meet a broader definition of bonds such as multiple common bonds or community bonds.

They aim to provide credit needs for the most deprived class. Credit unions got developed in the US at the beginning of the twentieth century following the Canadian model that was inspired by the European one. Their market share grew after the world war II; they play a similar role as the MSLAs by providing to their members' better access to credit than investor-owned banks. For credit unions, profits are reinvested within the institution or distributed as dividends to members or allow to contract lower interest rates on loans (Bauer, 2008).

On the other side, defining a community bank is more complicated. Usually, community banks are identified as banks having total assets below a 1 billion dollars' threshold. This definition, was criticized by DeYoung, Hunter, and Udell (2004) in being a unidimensional criteria while community banking is more complex; "A community bank is a financial institution that accepts deposits and provides transactions services to local households and businesses, extends credits to local households and businesses, and uses information it gleans in the course providing these services as comparative advantage over large institutions". They also suggest another definition "A community bank holds a commercial bank or thrift charter; operates physical offices only within a limited geographic area; offers a variety of loans and checkable insured deposit

accounts; and has a local focus that precludes its equity shares from trading in well-developed capital markets." However, we decide to adopt the unidimensional criteria of defining a community bank by its asset size as used in most research.

In both of these institutions, the deposit and lending functions to a focused community are the center of their activity. Therefore they have a relational approach with their customers by collecting soft information using their traditional banking activity. Community banks and credit unions are relatively small financial institutions and therefore are better able to use it as comparative advantage of capturing soft information as Berger, Miller, Petersen, Rajan, & Stein (2005) show on small banks as compared to large banks.

Credit unions and community banks contribute to developing their local communities and provide credit to low-income households and small businesses. Nevertheless, each of these entities is subject to different regulators, incentives, and constraints. Credit Unions serve their members (depositors and lenders) primarily while community banks are capitalistic banks serving their shareholders. However, these latter are subject to the rating of the "Community Reinvestment Act" that evaluates their social performances. Additionally, the main insurer of deposit of Credit unions is the National Credit Union Administration (NCUA) while community banks 'depository institution is the Federal Deposit Insurance Corporation (FDIC). Different regulations lead to different strategic responses from the depository institution (Evanoff & Segal, 1997) therefore the legal impact on strategies is considerable among credit unions and community banks. Therefore, this comparison was not treated deeply in the literature. Howeverer, Benjamin, Rubin, & Zielenbach, (2004) show that credit unions are likely to generate business lending for the small businesses forsaken by community banks that merged into bigger institutions encouraging us to make this comparison.

II. Relationship lending and performance

A. Relationship lending

Mission and objectives dictated by the owners of the institution: therefore, it impacts the strategies adopted and the managerial efficiency (Berle & Means, 1932).

"Information asymmetries between lender and borrower are a pillar in the financial intermediation literature" (Diamond, 1984). This literature shows that the privileged information between the banker and the lender generate the better ability to provide lending and borrowing products. We use the definition of relationship banking adopted by (Boot, 2000): "We define relationship banking as the provision of financial services by a financial

intermediary that: (i) invests in obtaining customer-specific information, often proprietary in nature; and (ii) evaluates the profitability of these investments through multiple interaction with the same customer over time and/or across products." This relationship allows the banker to collect soft (qualitative) and hard (quantitative) information. This soft information allows banks to be able to have higher levels of performances on their loans (Carter, McNulty, & Verbrugge, 2004). Additionally, it leads to preserving their clients since the borrower has more chance to keep the relationship with their initial financial service provider rather than a new one Cole (1998).

The empirical research on relationship lending in the context of banks is divided into three categories: The first takes into account the financial statements of the institution data. These research have shown that large banks provide lower levels of small business lending, and when banks get larger by consolidation or merger, the small business lending decreases (Avery & Samolyk, 2004; Sapienza, 2002). The second set of research examines the small businesses borrowing practices, where they find that relationship lending lowers the costs of borrowing and collateral provided (Berger & Udell, 1995). The third set of research that is very rare matches the banking and small business data. Berger et al. (2005) in this method find that large banks lend to large or secure businesses while smaller banks decisions are based on soft data.

Credit unions and community banks tend to appropriate the relationship lending strategy since they work with local or small clients as compared to big banks. Therefore, in their lending decisions, they use soft information on their clients. The input of this work is to study the impact of relationship lending indicators on the performance of credit unions and community banks. To examine whether the type of ownership identified by cooperative versus shareholder has a different impact on this relationship.

Since credit unions 'clients are also their owners, we expect lower information asymmetry between the depository institution and its clients and since credit unions share common bonds, the cost of gathering credit information is lower and therefore better loan performances (Black & Dugger, 1981).

To evaluate to what extent considered institutions rely on the relationship created with their customers, we use at first, the importance of the traditional banking activity that is based on interest income indicator as used by several types of research.

Additionally, relying on non-interest income might lead to a level of higher incertitude and therefore a higher volatility of returns (DeYoung & Roland, 2001). Another finding regarding

this indicator is that expanding in nontraditional banking activity is slower for well-managed banks and an increase of this activity is associated with lower risk-return tradeoff (DeYoung & T. Rice, 2004).

Holmes, Isham, Petersen, & Sommers, (2007) show that credit unions rely more on relationship lending while community banks use credit scoring in the automobile sector. However, Berger, Cowan, & Frame (2011) show that the credit scoring has a negative impact on the performance of small business for community banks.

B. Performance of credit unions and community banks

Community banks witnessed various challenges and drastic changes within their structures and strategies to compete on the market, either technological or regulatory or within their activities (DeYoung et al., 2004). However, they were able to prove their capacity to grow and develop, especially the mid-size and larger ones (Council of Economic advisers, 2016). Nonetheless, community banks in the US face as the cooperative banks in Europe, increasing pressure from the regulator on requirements, with the Dodd-Franck Act reform in the US and the Basel III requirements in Europe.

Community banks' risk was subject to study since they have a specific market risk due to their relative size as compared to large banks. Emmons, Gilbert, & Yeager (2004) find that the size of the community bank reduces its risk rather than geographical diversification of community banks.

The literature on credit unions assessed their performance either by ratio analyses or stochastic frontier analysis. It has shown increasing level of return on the scale (Esho, 2000; McKillop, Ferguson, & Nesbitt, 1995). Additionally, it showed the importance of the environment of credit unions in their performances; Glass & McKillop (2006) show that the expansion option, the selection of employees, the chartering and insurance and the economic environment of credit unions account significantly in their performances. They show that the federal chartering and insurance lead to better levels of efficiency for example.

Concerning their risk levels, Allan (2010) show that credit unions, even if they are smaller institutions, they are resilient in the US. Ely (2014) studies the risk of credit unions after the release of the common bond rule. He uses the insolvency risk measure (z-score) and the probability of exhausting regulatory capital. He also finds that Credit Unions are more resilient institutions.

III. Empirical Research

In this part of the study, we evaluate the relationship between financial performance and business activities; we examine whether each type of institution has a different client and business segment approach.

We then identify the client mix per each type of institution considered. It serves to identify, through the traditional lending activity, the type of clients they serve best, and their performances of each segment studied.

Comparing community banks and credit unions is complex. Each type of institution present different financial statements, therefore, comparing them in the same model is impossible due to data inconsistency. Therefore, we apply the regression models used in part A on both available databases.

To identify community banks, we chose the unidimensional criteria. Therefore we chose institutions that their total assets between 1999 and 2014 did not exceed 1 billion dollars.

A. Data

An overview of the performance of credit unions and community banks is exposed in Table 37. The descriptive statistics of our data show that credit unions have lower levels of financial performance for all years as compared to community banks. Their performances are significantly lower. These results contradict the findings on thrifts but are by the findings on European cooperative banks and on other cooperative sectors. Credit unions have lower levels of financial returns than investor-owned firms. Nonetheless, observing the variance of cooperatives, we do not observe any significant difference with community banks, their performances seem to variate in parallel.

For insolvency risk, credit unions have a lower z-score ratio, implying higher insolvency risks. This result is in contradiction with the findings on thrifts. This result is due to the lower level of financial performance of credit unions and their non-banking statut, leading to lower levels of guarantees from the state. Additionally, providing non-guaranteed loans and small amount loans can be the reason behind this higher insolvency risk.

Table 37: Descriptive statistics

	Community banks			Credit Unions		
Year	Obs	Mean ROAA	Z-score	Obs	Mean ROAA	Z-score
1999	4,020	1.081122	3.28575	6,120	0.8500854	1.362076
2000	4,104	1.0999	3.24659	6,143	0.9932159	1.374022
2001	4,169	1.024761	3.21585	6,124	0.7729095	1.361109
2002	4,208	1.113938	3.20666	6,106	0.7752469	1.357412
2003	4,251	1.058118	3.17464	6,133	0.7413292	1.355471
2004	4,295	1.066929	3.1395	6,128	0.6896562	1.361698
2005	4,379	1.054058	3.08279	6,136	0.7110964	1.373818
2006	4,459	1.032942	3.02284	6,201	0.763029	1.389202
2007	4,554	0.9405665	2.95784	6,187	0.711679	1.397127
2008	4,664	0.5182204	2.91823	6,144	0.2428555	1.385773
2009	4,697	0.3212008	2.90502	6,166	-0.0773194	1.364925
2010	4,702	0.5284709	2.89966	6,178	0.0783861	1.360307
2011	4,714	0.7055006	2.90857	6,138	0.243591	1.358395
2012	4,711	0.8426831	2.9083	6,154	0.3293444	1.356961
2013	4,710	0.8494565	2.89981	6,138	0.2633457	1.35653
2014	4,711	0.9055699	2.91247	6,158	0.2535312	1.360689

Figure 12: Evolution of Return on Average Assets of the data between credit unions and community banks

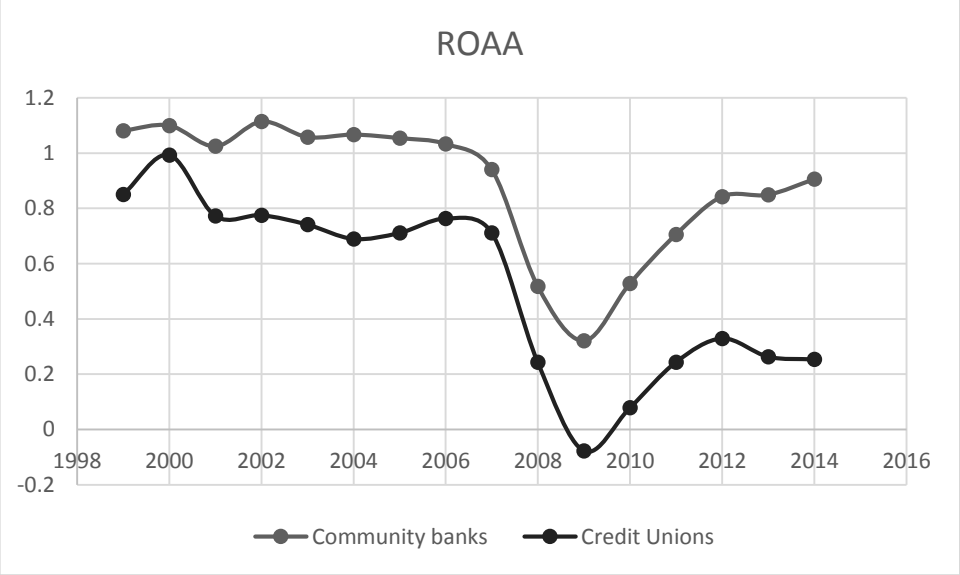
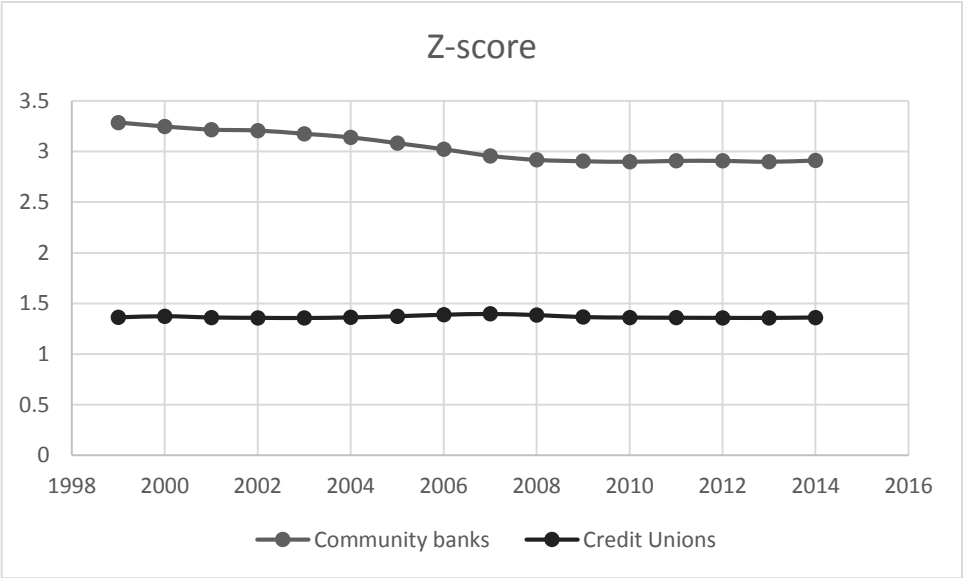


Figure 13: Evolution of the insolvency risk ratio



We then examine the ratios or the equivalent ratios used in the thrift part of the research (Part A of Chapter 5). The same ratios are used for community banks since they present the same type of financial statement as thrifts. However, the equivalent ratios are used for credit unions who have a different type of financial statements declared to the NCUA. The results are exposed in Tables 38 and 39.

Credit unions are smaller institutions, with higher levels of capitalization (Equity to assets ratio of 13% to 11% on average for community banks). This result is by the previous findings of higher levels of capitalization of cooperatives;

The returns seem more stable for credit unions than community banks confirming the previous results. Community banks engage in higher levels of the workforce for relationship lending (11.6 employees per office for traditional banking as compared to 5.75 for credit unions) and higher levels of salary expenditures. On average, cooperatives invest less in marketing expenditures. They have lower levels of assets per office, even if they have a lower number of offices that is engendered by the size factor. Credit unions are more diversified in their activity relatively to community banks (51% to 37%). Credit unions invest less in business loans and are on majority engaging in small amounts loans. While community banks are mainly on real estate loans and business loans, credit unions are mainely in unsecured loans, real estate loans

and small amount of loans. Nonetheless, credit unions are engaging more and more in business lending.

Credit unions are located in markets with lower levels of competition on average as compared to community banks. However they are on 61% of the cases federally chartered as compared to community banks (18%).

Table 38: Descriptive statistics for credit unions

Variable	Obs	Mean	Std. Dev.	Min	Max
Total Assets	100,033	118840.628	646151.969	2	11903521
Equity to total Assets	99,835	0.1358661	0.06073	-0.24	1
Ln Stdev(Roaa)	98,992	-5.136366	0.5876107	-7.685244	-0.1577011
Employees allocated to traditional banking per office	72,491	5.756907	8.474063	0	791.73
Employee per office	74,262	7.958271	11.45875	0	1297
Salary Expenditure per Employee	95,983	44.21715	23.60118	-137.6	5042
Educational and promotional expenditures To total assets	99,835	0.0008932	0.0026936	-0.0014148	0.3043478
Total Assets/ Office	74,262	26894.21	87406.75	0	8800996
Number of offices	75,082	2.923151	5.771662	0	258
Asset Diversity	99,805	0.5161171	0.2926488	-2.097561	1
%Unsecured Loans	99,762	18,11236	18.05822	0	1
%Business Loans	99,958	1,27477	5.70399	0	1.295095
%Small Amount loans	100,662	46,06121	22.71202	0	1
Total Assets/Employee	97,159	2802.874	2182185	0.0756	211340
Number of employees	99,836	33.42367	126.0101	0	11715
HHI	98,720	267.6496	431.9822	60.92997	4276.898
Chartering (State 0 federal1)	100,736	0.6130877	0.4870457	0	1

Table 39: Descriptive statistics for community banks

Variable	Obs	Mean	Std. Dev.	Min	Max
Total Assets	71,935	151111.7	146759.8	2157	997562
Equity to Total Assets	71,935	0.1171818	0.0750901	-0.0062174	1
LnstdevRoaa	75,472	-0.7131116	0.8321514	-2.885562	2.658219
Employees allocated to traditional banking per office	68,257	11.6298	17.80539	0	667.4022
Employee per Office	75,248	16.7585	26.45974	0	918
Salary Expenditure per Employee	68,432	55.62873	20.88939	0	595
Advertising Expenditures To total assets	61,458	0.0014897	0.0253727	0	2.844831
Total Assets/ Office	75,248	57758.37	83420.51	0	996565
Number of offices	75,280	4.274814	4.316019	0	84
Asset Diversity	68,442	0.3756585	0.1693674	0.0155974	1
%Business Loans	75,519	21.69222	17.55481	0	100
%Consumer Loans	71,522	8.895995	9.430338	0	100
Total Assets/Employee	71,914	3702,22	2552.577	30.76	200948
Number of Employees	71,914	44.37377	57.17001	1	3731
HHI	75,344	186.9112	319.8322	60.92997	4276.898
Chartering (State 0 federal1)	75,520	0.1802966	0.3844369	0	1

B. Model

In this section, we apply the model that we adopted in the first part of this chapter to explain performance and risk using the same ratios. However due to data inconsistency, we couldn't make the ownership structure as a dummy variable. Therefore, we assess the model for credit unions and community banks on a separate basis. We adopt Ordinary Least Squares regressions while having robust standard errors using White (1980) estimators to deal with normality, heteroscedasticity or observations that exhibit large residuals.

The model is as follows:

$$Performance = f(Activity; Relationship\ lending)$$

$$Risk = f(Activity; Relationship\ lending)$$

For community banks, the equations are the same as part A of this chapter, excluding the ownership structure dummy.

For credit unions, the variables slightly change, and the new equations are the following:

(1) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\, Trad\_Bank\_Empl\_PerOffice_{i,t} +$
$\beta_3\ \text{Ed\&PromEx}\_TA_{i,t} + \beta_4\, \%\text{Unsecured Loans}_{i,t} + \beta_5\, \%BusinessLoans_{i,t} +$
$\beta_6\, \%SmallLoans_{i,t} + \beta_7 HHI_{i,t} + \beta_8\, Chartering_{i,t} + \beta_9\, YearDummies + \varepsilon_{i,t}$

(2) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\, EmployeePerOffice_{i,t} + \beta_3\ \text{Ed\&PromEx\_}TA_{i,t} + \beta_4\, AssetDiversity_{i,t} + \beta_5\, \%\text{Unsecured Loans}_{i,t} + \beta_6\, \%BusinessLoans_{i,t} + \beta_7\, \%SmallLoans_{i,t} + \beta_8 HHI_{i,t} + \beta_9\, Chartering_{i,t} + \beta_{10}\ YearDummies + \varepsilon_{i,t}$

(3) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\ \text{Ed\&PromEx\_}TA_{i,t} + \beta_3\, Numb\_Offices_i + \beta_4\, AssetDiversity_{i,t} + \beta_5\, \%\text{Unsecured Loans}_{i,t} + \beta_6\, \%BusinessLoans_{i,t} + \beta_7\, \%SmallLoans_{i,t} + \beta_8\, Numb\_Empl_{i,t} + \beta_9 HHI_{i,t} + \beta_{10}\, Chartering_{i,t} + \beta_{11}\ YearDummies + \varepsilon_{i,t}$

(4) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\, SalaryPerEmpl_{i,t} + \beta_3\ \text{Ed\&PromEx\_}TA_{i,t} + \beta_4 \%\text{Unsecured Loans}_{i,t} + \beta_5\, \%BusinessLoans_{i,t} + \beta_6\, \%SmallLoans_{i,t} + \beta_7 HHI_{i,t} + \beta_8\, Chartering_{i,t} + \beta_9\ YearDummies + \varepsilon_{i,t}$

(5) $ROAA_{i,t} = \alpha + \beta_1\, ROAA_{\,i,t-1} + \beta_2\, Trad\_Bank\_Empl\_PerOffice_{i,t} + \beta_3\, \%\text{Unsecured Loans}_{i,t} + \beta_4 \%BusinessLoans_{i,t} + \beta_5\, \%SmallLoans_{i,t} + \beta_6 HHI_{i,t} + \beta_7\, Chartering_{i,t} + \beta_8\ YearDummies + \varepsilon_{i,t}$

C. Results

The results of the model of performance are exposed in Table 40: ROAA of Credit Unions and Table 41: ROAA for community banks.

The data show that past performance is still important for assessing the future one, evidence that was shown for part A in this chapter and is valid for all ownership types.

Investing in relationship lending leads to better levels of performances in the case of credit unions and community banks. The salary expenditure level impacts performance negatively and is significant only in the case of community banks. Investing in marketing activity is affects negatively performance. The geographical presence has a positive impact in the case of credit unions. For credit unions, investing in unsecured loans and lending small amount loans impacts negatively performance while investing in business loans seems to be a good strategy. For community banks, investing in business loans and consumer loans relatively to real estate loans

increases the performance level. The number of employees leads to significantly higher performances for community banks. Concerning the level of concentration and the chartering, they lead to opposed results per ownership structure.

Higher levels of concentration have positive but not significant impact on credit unions being state chartered affects performance positively. While for community banks concentration and state chartering have a significantly negative relationship with performance.

The results show that credit unions and community banks share in common their relationship to communities that impacts in the same way the performance even with different levels of explanatory power. However, their geographical and expansion strategy have opposed power on performance. Credit unions operate better on a state level with more concentrated context while community banks are better off while they are federally chartered with a higher level of competition.

Table 40: ROAA of Credit Unions

The table exposes the results of the OLS regression with the White sandwich estimator. The Return on Average Asset (ROAA) is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (5) are the lagged return on average assets (ROAA t-1), the percentage of unsecured loans to total loans, business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans) and the percentage of small amounts loans to total loans, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Employees allocated to traditional banking per office is used in equations 1 and 5, Employee per office ratio in equation 2, Salary expenditure per employee and number of employees in equation 3, educational and promotional expenditures to total assets for equations 1 to 4, Number of offices in equation 3, Asset diversity in equations 2 and 3. The table presents the coefficients and heteroscedasticity- consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	ROAA	**ROAA**	**ROAA**	**ROAA**	**ROAA**
ROAA T-1	24.03***	22.15***	22.46***	28.61***	23.99***
	(5.00)	(5.73)	(5.78)	(5.18)	(4.99)
Employees allocated to traditional banking per office	0.00504***				0.00479***
	(5.04)				(5.67)
Employee per office		0.00356***			
		(4.52)			
Salary Expenditure per Employee				-0.000157	
				(-0.67)	
Educational and promotional expenditures To total assets	-10.49	-10.37	-8.159	11.19	
	(-0.60)	(-0.67)	(-0.54)	(0.60)	
Number of offices			0.00634***		
			(4.88)		
Asset Diversity		-0.0906***	-0.0810***		
		(-4.42)	(-3.99)		
%Unsecured Loans	-0.267***	-0.244***	-0.251***	-0.289***	-0.258***
	(-4.04)	(-3.93)	(-4.06)	(-5.50)	(-4.10)
%Business Loans	0.660***	0.656***	0.661***	0.683***	0.662***
	(10.21)	(10.96)	(11.40)	(9.84)	(10.29)
%Small Amount loans	-0.0357	-0.0463*	-0.0560*	-0.0759***	-0.0315
	(-1.64)	(-2.02)	(-2.54)	(-4.01)	(-1.52)
Number of employees			0.0000266		
			(0.54)		
HHI	0.00000595	0.00000737	0.00000102	0.00000712	0.00000594
	(0.56)	(0.68)	(0.09)	(0.83)	(0.56)
Chartering (State 0 federal1)	-0.0161*	-0.0195*	-0.0214**	-0.0164**	-0.0155*
	(-2.13)	(-2.54)	(-2.79)	(-2.69)	(-2.08)
Controlled for years			Yes		
Intercept	0.596***	0.663***	0.677***	0.827***	0.586***
	(12.51)	(14.19)	(14.44)	(14.41)	(13.31)
N	70115	71450	72198	87250	70115
R-sq	0.125	0.121	0.121	0.170	0.125

Table 41: ROAA for community banks

The table exposes the results of the OLS regression with the White sandwich estimator. The Return on Average Asset (ROAA) is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (5) are the lagged return on average assets (ROAA t-1), the percentage of business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans), the percentage of consumer loans to total loans (%Consumer Loans), the ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Employees allocated to traditional banking per office is used in equations 1 and 5, Employee per office ratio in equation 2, Salary expenditure per employee and number of employees in equation 3, Advertising expenditures to total assets for equations 1 to 4, Number of offices in equation 3, Asset diversity in equations 2 and 3. The table presents the coefficients and heteroscedasticity- consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	ROAA	**ROAA**	**ROAA**	**ROAA**	**ROAA**
ROA T-1	0.566***	0.561***	0.560***	0.564***	0.566***
	(32.13)	(32.61)	(32.5)	(30.95)	(33.56)
Employees allocated to traditional banking per office	0.00135***				0.00131***
	(5.06)				(5.24)
Employee per Office		0.00125***			
		(4.73)			
Salary Expenditure per Employee				-0.00559***	
				(-4.36)	
Advertising Expenditures To total assets	-0.314	-0.309	-0.29	-0.322	
	(-1.77)	(-1.75)	(-1.71)	(-1.84)	
Number of offices			-0.00071		
			(-0.59)		
Asset Diversity		-0.312***	-0.300***		
		(-7.30)	(-7.00)		
%Business Loans	0.00301***	0.00345***	0.00371***	0.00301***	0.00284***
	(10.64)	(12.09)	(12.49)	(10.36)	(10.45)
%Consumer Loans	0.00695***	0.00861***	0.00882***	0.00467***	0.00636***
	(8.09)	(9.61)	(9.7)	(4.93)	(8.19)
Number of Employees			0.000882***		
			(7.23)		
HHI	-0.0000234	-0.0000275*	-0.0000335**	-0.0000218	-0.0000224
	(-1.83)	(-2.15)	(-2.59)	(-1.71)	(-1.89)
Chartering (State 0 federal1)	0.0309***	0.0416***	0.0403***	0.0230*	0.0324***
	(3.47)	(4.5)	(4.35)	(2.44)	(3.72)
Controlled for years			Yes		
Intercept	0.233***	0.318***	0.294***	0.523***	0.332***
	(10.03)	(12.86)	(11.58)	(8.02)	(14.38)
N	57975	57973	57995	58095	63564
R-sq	0.372	0.371	0.372	0.377	0.366

Then we assess the relationship between the variables with insolvency risk and the volatility of performance. Table 42: Z-score of credit unionsTable 43: Z-score community banks traditional activity, as well as the general workforce per office, have a significant impact in increasing the insolvency risk for both credit unions and community banks.The results of expenditures on employees are contradictory per ownership type, for community banks they increase the risk significantly while they decrease if non-significantly for credit unions. The results are also contradictory for advertising expenditures: while they increase the risk for credit unions they reduce it for community banks. Additionally, the geographical presence reduces insolvency risk for credit unions while it increases it but not significantly for community banks.

The diversification decreases this risk for both types of institutions as well as investing in business loans. Naturally for credit unions, investing in unsecured loans and small amount loans increase the insolvency risk while investing in consumer loans reduces this risk for community banks. Higher concentration level in the dominant market leads to increase the insolvency risk for credit unions and community banks. Nonetheless, State chartering increases the risk for credit unions and reduces it for community banks.

The results on the variance of performance in Table 44 and tTable 45 lead to the same results with few differences. The differences reside in the credit unions; the data shows lower levels of variability of performance while investing in educational and promotional expenditures, while investing in business loans increases this variability.

Table 42: Z-score of credit unions

The table exposes the results of the OLS regression with the White sandwich estimator. The z-score is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (5) are the percentage of unsecured loans to total loans, business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans) and the percentage of small amounts loans to total loans, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Employees allocated to traditional banking per office is used in equations 1 and 5, Employee per office ratio in equation 2, Salary expenditure per employee and number of employees in equation 3, educational and promotional expenditures to total assets for equations 1 to 4, Number of offices in equation 3, Asset diversity in equations 2 and 3. The table presents the coefficients and heteroscedasticity- consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Z-score	**Z-score**	**Z-score**	**Z-score**	**Z-score**
Employees allocated to traditional banking per office	0.0159***				0.0153***
	(5.84)				(6.12)
Employee per office		0.0128***			
		(4.70)			
Salary Expenditure per Employee				0.00190	
				(1.59)	
Educational and promotional expenditures To total assets	-23.16**	-10.96	-2.362	10.44*	
	(-3.22)	(-1.62)	(-0.54)	(2.42)	
Number of offices			0.0274***		
			(6.75)		
Asset Diversity		0.0641***	0.0981***		
		(4.58)	(7.02)		
%Unsecured Loans	-1.394***	-1.358***	-1.364***	-1.473***	-1.373***
	(-41.98)	(-36.39)	(-60.53)	(-45.12)	(-38.45)
%Business Loans	1.245***	1.410***	1.392***	1.376***	1.249***
	(11.07)	(12.71)	(15.12)	(14.82)	(11.21)
%Small Amount loans	-0.625***	-0.553***	-0.570***	-0.746***	-0.615***
	(-23.12)	(-16.80)	(-27.96)	(-24.96)	(-21.93)
Number of employees			0.000104		
			(0.53)		
HHI	-0.0000374***	-0.0000261*	-0.0000530***	-0.0000232*	-0.0000377***
	(-3.49)	(-2.47)	(-5.34)	(-2.38)	(-3.52)
Chartering (State 0 federal1)	-0.113***	-0.116***	-0.114***	-0.124***	-0.112***
	(-12.72)	(-13.13)	(-13.37)	(-16.27)	(-12.51)
Controlled for years			Yes		
Intercept	1.920***	1.814***	1.848***	2.058***	1.895***
	(58.38)	(41.10)	(77.20)	(35.67)	(52.19)
N	70245	71785	72567	93297	70245
R-sq	0.093	0.100	0.107	0.076	0.092

Table 43: Z-score community banks

The table exposes the results of the OLS regression with the White sandwich estimator. The z-score is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (5) are the percentage of business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans), the percentage of consumer loans to total loans (%Consumer Loans), the ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Employees allocated to traditional banking per office is used in equations 1 and 5, Employee per office ratio in equation 2, Salary expenditure per employee and number of employees in equation 3, Advertising expenditures to total assets for equations 1 to 4, Number of offices in equation 3, Asset diversity in equations 2 and 3. The table presents the coefficients and heteroscedasticity- consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	z-score	**z-score**	**z-score**	**z-score**	**z-score**
Employees allocated to traditional banking per office	0.00417***				0.00407***
	(5.75)				(6.14)
Employee per Office		0.00454***			
		(8.56)			
Salary Expenditure per Employee				-0.0221***	
				(-29.87)	
Advertising Expenditures To total assets	1.686	1.705	1.763*	1.701	
	(1.85)	(1.88)	(1.97)	(1.92)	
Number of offices			-0.00116		
			(-0.45)		
Asset Diversity		1.229***	1.268***		
		(19.01)	(19.21)		
%Business Loans	0.0183***	0.0172***	0.0180***	0.0188***	0.0172***
	(29.02)	(27.08)	(25.66)	(30.35)	(29.74)
%Consumer Loans	0.0342***	0.0269***	0.0276***	0.0251***	0.0297***
	(21.88)	(16.87)	(17.26)	(17.38)	(22.25)
Number of Employees			0.00302***		
			(6.69)		
HHI	-0.000419***	-0.000397***	-0.000420***	-0.000410***	-0.000454***
	(-12.94)	(-12.34)	(-13.11)	(-13.06)	(-15.19)
Chartering(State 0 federal1)	0.462***	0.411***	0.400***	0.428***	0.452***
	(16.09)	(14.2)	(13.92)	(15.15)	(16.99)
Controlled for years			Yes		
Intercept	2.321***	1.951***	1.869***	3.424***	2.398***
	(44.92)	(35.59)	(30.42)	(56.11)	(48.25)
N	58318	58313	58334	58406	67809
R-sq	0.038	0.044	0.045	0.059	0.034

Table 44: Variation of return of credit unions

The table exposes the results of the OLS regression with the White sandwich estimator. The natural logarithm of the standard deviation of the Return on assets (LnStdev(ROAA)) is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (5) are the percentage of unsecured loans to total loans, business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans) and the percentage of small amounts loans to total loans, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Employees allocated to traditional banking per office is used in equations 1 and 5, Employee per office ratio in equation 2, Salary expenditure per employee and number of employees in equation 3, educational and promotional expenditures to total assets for equations 1 to 4, Number of offices in equation 3, Asset diversity in equations 2 and 3. The table presents the coefficients and heteroscedasticity- consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
	Lnstdev(roaa)	Lnstdev(roaa)	Lnstdev(roaa)	Lnstdev(roaa)	Lnstdev(roaa)
Employees allocated to traditional banking per office	-0.00413***				-0.00420***
	(-5.27)				(-5.56)
Employee per office		-0.00455***			
		(-4.46)			
Salary Expenditure per Employee				-0.00103	
				(-1.60)	
Educational and promotional expenditures To total assets	-2.955	-13.60***	-17.45***	-13.94***	
	(-0.97)	(-3.60)	(-5.26)	(-5.77)	
Number of offices			-0.0102***		
			(-9.52)		
Asset Diversity		-0.235***	-0.245***		
		(-30.84)	(-32.03)		
%Unsecured Loans	1.164***	1.179***	1.183***	1.102***	1.166***
	(66.09)	(61.24)	(75.40)	(57.64)	(64.86)
%Business Loans	0.351***	0.169***	0.160***	0.295***	0.351***
	(9.63)	(4.39)	(4.96)	(9.01)	(9.63)
%Small Amount loans	0.354***	0.269***	0.279***	0.362***	0.355***
	(30.72)	(18.52)	(25.53)	(23.01)	(30.21)
Number of employees			0.0000770		
			(1.80)		
HHI	0.0000247***	0.0000161**	0.0000238***	0.0000207***	0.0000246***
	(4.84)	(3.22)	(4.87)	(4.51)	(4.83)
Chartering (State 0 federal1)	0.0643***	0.0660***	0.0659***	0.0651***	0.0645***
	(15.65)	(15.77)	(16.02)	(18.40)	(15.66)
Controlled for years			Yes		
Intercept	-5.545***	-5.351***	-5.368***	-5.558***	-5.549***
	(-444.01)	(-289.86)	(-438.13)	(-180.15)	(-420.75)
N	70245	71785	72567	93297	70245
R-sq	0.129	0.162	0.161	0.112	0.129

Table 45: Variability of performance of community banks

The table exposes the results of the OLS regression with the White sandwich estimator. The natural logarithm of the standard deviation of the Return on assets (LnStdev(ROAA)) is the dependent variable. The explanatory variables are chosen with different equations, in order to avoid multicollinearity problems. The independent variables included in all equations (1) to (5) are the percentage of business loans to total loans including the agricultural, commercial and industrial loans (%Business Loans), the percentage of consumer loans to total loans (%Consumer Loans), the ownership structure dummy that takes a value of 0 in case of IOF and 1 in case of cooperatives, the Herfindahl-Hirschman Index (HHI) for market concentration, the type of chartering (0 for state and 1 for federal) and we control for years. Employees allocated to traditional banking per office is used in equations 1 and 5, Employee per office ratio in equation 2, Salary expenditure per employee and number of employees in equation 3, Advertising expenditures to total assets for equations 1 to 4, Number of offices in equation 3, Asset diversity in equations 2 and 3. The table presents the coefficients and heteroscedasticity-consistent (White, 1980) t-values and then the R^2. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the, 0.1%, 1% and 5%, significance levels, respectively.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
	Lnstdev(roaa)	Lnstdev(roaa)	Lnstdev(roaa)	Lnstdev(roaa)	Lnstdev(roaa)
Employees allocated to traditional banking per office	-0.000635*				-0.000629*
	(-2.20)				(-2.30)
Employee per Office		-0.000565*			
		(-2.54)			
Salary Expenditure per Employee				0.0108***	
				(34.95)	
Advertising Expenditures To total assets	-0.281	-0.278	-0.292	-0.330	
	(-1.14)	(-1.12)	(-1.20)	(-1.54)	
Number of offices			0.000225		
			(0.26)		
Asset Diversity		-0.483***	-0.492***		
		(-22.15)	(-21.82)		
%Business Loans	-0.00343***	-0.00291***	-0.00311***	-0.00398***	-0.00294***
	(-17.49)	(-14.77)	(-13.70)	(-21.37)	(-16.30)
%Consumer Loans	-0.00913***	-0.00642***	-0.00651***	-0.00485***	-0.00758***
	(-15.01)	(-10.60)	(-10.55)	(-8.87)	(-14.71)
Number of Employees			-0.000540**		
			(-3.09)		
HHI	0.000120***	0.000113***	0.000116***	0.000114***	0.000127***
	(10.97)	(10.35)	(10.66)	(11.02)	(12.69)
Chartering(State 0 federal1)	-0.125***	-0.106***	-0.103***	-0.107***	-0.120***
	(-15.35)	(-13.07)	(-12.68)	(-13.56)	(-16.01)
Controlled for years			Yes		
Intercept	-0.648***	-0.511***	-0.491***	-1.160***	-0.687***
	(-40.14)	(-29.17)	(-24.18)	(-56.20)	(-44.53)
N	58318	58313	58334	58406	67809
R-sq	0.028	0.037	0.038	0.088	0.025

IV. Discussion and conclusion

In this part of the chapter, we investigate credit unions and community banks market behaviors and financial performances and risk. Both types of institutions rely on relationship lending. While the first type's mission is to provide lending to poor and the deprived classes, community banks play an important role in small business lending.

Overall, the findings of this paper show that investing in traditional lending affects positively financial performance and reduces risks for community banks and credit unions. These types of institutions are specialized in lending, and they take advantage by doing what they do best. Expanding geographically increases the credit unions' performance and reduces their returns while staying in their state.

Even though the traditional activity affects positively overall performance, diversifying in their business models allow lowering the levels of risk.

Explaining the higher level of insolvency risk of credit unions, the findings of the model show that the type of activity and chartering play a key role; the unsecured loans and small amount loans are a source of risk, but they are an essential part of the missions of credit unions. Further, the federally chartered credit unions are having lower levels of performance and higher levels of risk. Going on federal chartering can be a bad strategy for credit unions, they are conceived to be local institutions, even though that the size effect can be beneficial for them. This result is in line with Goddard et al. (2008) findings; that show that small credit unions should keep their traditional loans activity while larger ones have benefits in diversification within their levels of expertise.

These results reversed for community banks; their federal chartering provides a higher level of performance and lower level of risk since they diversify their risks from their local economies, that can have a specific economic context. Hence, community banks 'performance is size sensitive, large community banks survive better and are more resilient as shown by the Council of economic advisers (2016).

Chapter conclusion

In this chapter, we compare the performances and risks of three types of financial institutions in the US: Thrifts, Credit Unions and Community banks and try to understand the factors affecting these performances and risks as by relationship lending approach, their business lines and their ownership structure (cooperative versus IOFs).

For financial performance and risk the data show contradictory results: While cooperative thrifts have higher levels of performance and lower levels of risk than the investor-owned counterparts, we find that credit unions have lower levels of performance and higher levels of risks than community banks. The contradictory results are explained by the fact that credit unions do not have a banking chartering and aim to serve a lower income part of the population while being often focused on one type of population. To better understand the factors impacting performance, we examine their relationship with relational strategies, business lines, and ownership structure.

Part A that focuses on thrifts shows that the ownership structure affects the strategies and the risks but not the performance, the main factor affecting performance was the lagged performance.

While in part B of this chapter, the data show that the relational approach affects positively and significantly performance in both types of institutions and reduces the risk. Additionally, the business lines and the chartering affect significantly performance and risk. However, for credit unions, different types of business lines exist than in the case of community banks and thrifts. From their mission of serving lower-income population through unsecured loans and small amount loans reduces the financial performance and increases the risk. This fact can explain the reversed results than the ones found in the previous databases. Hence, we also find divergence in the impact of chartering on the performance and risk. While community banks federal chartering increases their performance and reduces their risks by the impact of diversification of the territory, for credit unions, being state chartered is a better option for having higher levels of performance and lower levels of risks.

The contribution of this research on the existing literature is at first to have an overview of all the types of depository institutions in the US considering them competing in the same market.

Hence, it also contributes on examining the impact of the relational approach to the financial performance and risk while taking into consideration the specificities of the ownership structure.

The limits of this research lie on the proxies used for the relationship with the clients. We are limited to certain indicators provided by the official financial statements, and we did not examine the perspective of the client.

In further research, it would be interesting to merge client's data and depositors' data for the three types of deposit institutions.

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Chapter 6 Conclusion

I- Summary of the results

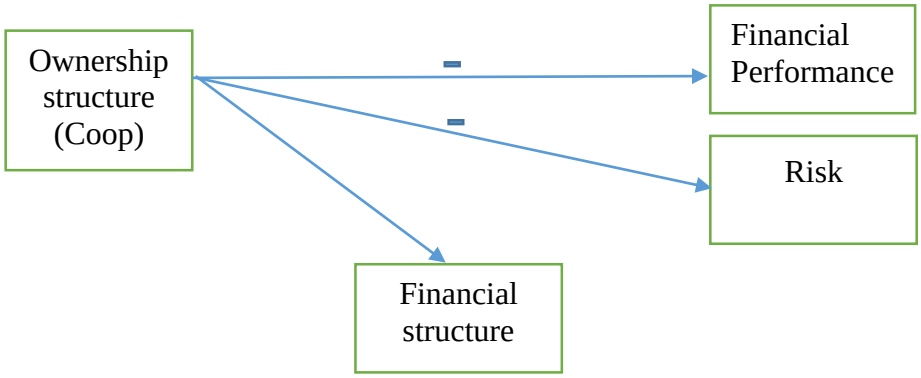
This thesis explores the impact of ownership structure on market strategies and financial performance and risk. Chapter 2 overviews the tackled literature in the thesis, while chapters 3 to 5 including three essays.

Among these essays, two identify market strategies adopted. The essay on the wine sector identifies the branding strategy for the main product, whereas the essay on financial institutions identifies the relationship lending tools used to serve clients.

We investigate the choice of the branding and relationship lending as marketing strategies for chapters 4 and 5 respectively as follows: In the wine sector, branding is a fundamental strategy that is decided by management, is relatively costly and allows the identification of a product amongst others. While in financial sector, we are in the services sector, where the main criteria for marketing strategy are not the branding options but the relationship with clients that is created through the repetitive transactions.

In Chapter 3, we examine the relationship between ownership structure and financial structure, performance and risk in the French enterprises. The data limitation did not allow us to identify their marketing strategies. The paper finds that cooperatives do have specific financial structure with higher levels of equity, and these ownership and financial structure affect financial performance and risk. Cooperatives do have lower levels of performance and risk.

Figure 14: Results chapter 3



In chapter 4, we link the ownership structure to branding strategies and financial performance and risk, in the framework of French wine cooperatives. We find that cooperatives are more likely to adopt collective branding approaches rather than private branding. The branding strategy leads to lower levels of performance. However, the factor affecting levels of risk is the ownership structure.

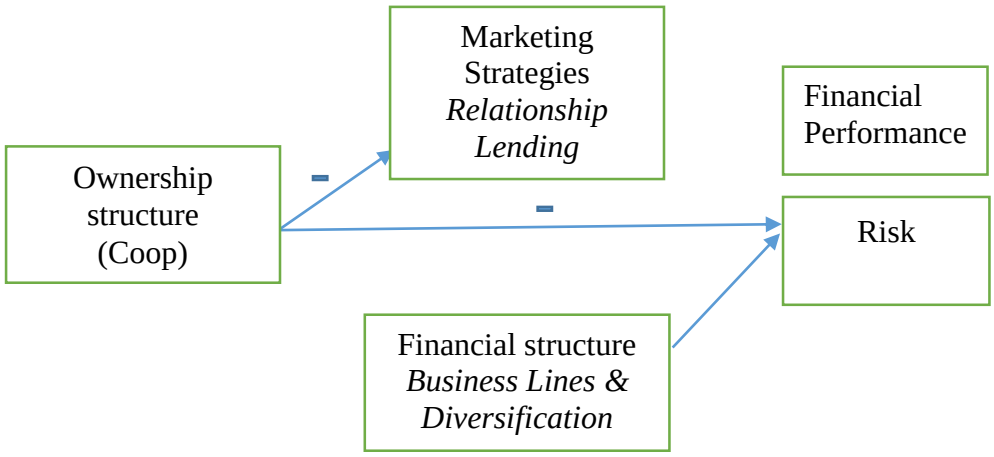
Figure 15: Summary chapter 4

Chapter 5, studies the relationship between ownership structure, relationship lending strategy, financial structure, performance and risk in the US depository institutions sector.

We compare in part A, cooperative thrifts to investor owned ones. Then we extend the analysis on credit unions and community banks in part B.

The findings of part A, as summarized in Figure 16, show that cooperative thrifts have higher levels of financial and social performance, with lower levels of risks as compared to investor-owned ones. Examining the relations, the data show that investor owned thrifts invest more in relationship lending without any significant impact on performance nor risk. While, cooperatives structure has an incremental impact on reducing risk. These findings can show that cooperatives do not spend on relationship lending because their structure allows them to better know their markets (as proved in the chapter) leading to higher levels of returns and lower levels of risks.

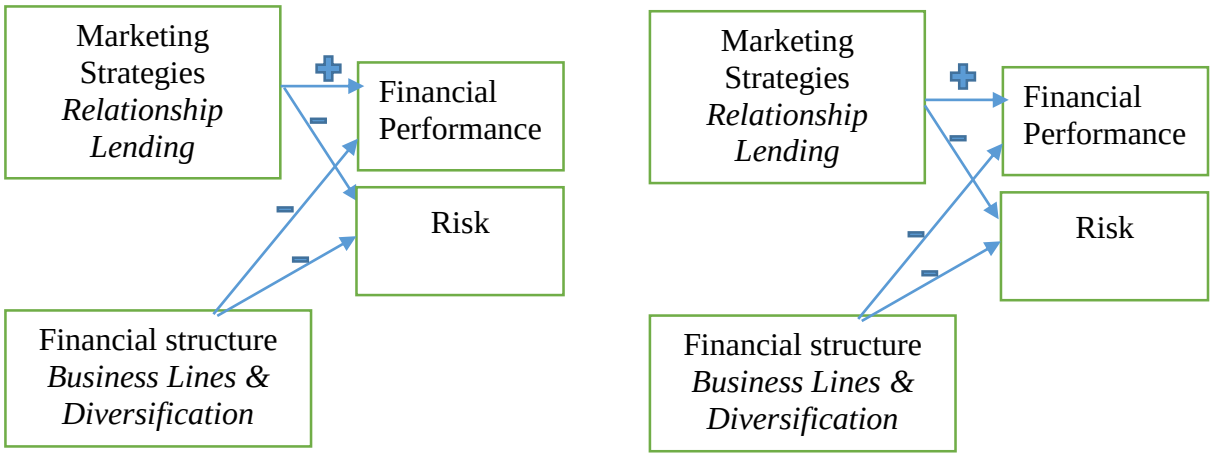
Figure 16: Summary of the results of chapter 5A



And the findings of part B of chapter 5, as summarized in Figure 17 show lower levels of performance and higher levels of risk on average for credit unions (cooperative structure) as compared to community banks. The higher risk is due to the business lines adopted by credit unions that aim to serve the lower income population. Nonetheless, the findings of this study show the same sign of impact of each strategy on performance.

Figure 17: Summary of the results of chapter 5B

Credit Unions		Community banks
Financial Performance	<	Financial Performance
Risk (insolvency and volatility)	>	Risk (insolvency and volatility)



Overall, the findings of these essays show that cooperatives have **lower levels of financial performance except in the case of thrifts**. This result is explained by the objective function of cooperatives that does not rely on profit maximization. The exception of thrifts is due to the seniority of this model in this sector, historically and through the crises. Another explanation of this higher levels of financial performance is the underlying idea that borrowing from your "neighbor" gives more pressure to reimburse their debts rather from an investor owned institution.

Other findings show that that cooperatives have **higher levels of stability of financial performance** (except for credit unions), as measured by the standard deviation of performance or the z-score. The credit unions exception is due to their mission in providing lending activity to the lower income population in the US therefore it can explain the higher insolvency risk and instability.

Common findings of the essays show higher **levels of reserves and equity** for cooperatives confirming their risk averse behavior and ability to absorb shocks by using these reserve.

Cooperatives **do have different market strategies**. The ownership structure feature should be included in the analysis of the strategies adopted. However, there is **no single blueprint for adequate strategy**. We find that in the case of wine cooperatives, the dominant case is using collective branding. While in the case of financial institutions relying on a relationship with the client, this relationship is important for information reduction and better levels of performances without the need for higher levels of investment in this relationship.

II- Contributions

This thesis contributes to the existing literature on cooperatives performance and on the marketing/finance literature from management science's perspective.

(1) It tackles the literature between marketing and finance while focusing on cooperatives.

(2) It dresses new empirical evidence on the performances, risks, and strategies of cooperatives and investor-owned firms using a comparative approach.

(3) It identifies per sector some market strategies adopted by each type of ownership structure.

(4) It also has the specificity of looking into different sectors, exploring different databases and exploring the constraints of each case, either in the lack of data or lack of its comparability ability.

III- Managerial implications

This thesis can lead to several managerial implications that can be suggested to different stakeholders.

At first, for members of cooperatives, the findings show that eventhough the financial performance is lower in the case of cooperatives, this structure allows them a **stability and sustainability in their businesses**. Therefore, they should have a global assessment of the benefits of being part of a cooperative, that includes the lower levels of risks undertaken.

Secondly, it encourages policy makers and regulators to **protect the diversity** generated by the different types of ownership structure. Even though it leads to higher level of complexity in regulation and understanding of the entities, it also allows the economy to have a diverse ecosystem that behaves differently during the crises.

Thirdly, we suggest **higher levels of education on cooperative management**, especially to future cooperative managers derived from business schools and not from the bottom up process of cooperatives. It allows them to be able to better understand these structures, to take into account their specificities in establishing their marketing strategies and not mime the actions taken by investor-owned competition.

Finally, through the work on this thesis, we had a big difficulty in accessing detailed data, either on governance or strategies or non-financial benefits generated by management. A **better divulgation of such information** is beneficial for cooperatives to understand them better and to be able to identify their weaknesses and strengths.

IV- Limits

Regardless the efforts we made to surpass the constraints of the research, the thesis suffers from several limits:

The limitation to access to **non-financial** benefits created by cooperatives in all of the research papers. Only the data on thrifts show that cooperatives have higher Community Reinvestment Act rate than IOFs. There is a global research effort to collect data on the Corporate Social Responsibility of cooperatives, and it is very interesting to be able to evaluate and insert in the performance criteria the non-pecuniary benefits in the framework of cooperatives. Another data would have been also very interesting is the members' specific financial benefits. These data would have helped in a more global evaluation of performance.

Additionally, in this research, we consider the **ownership structure as a dummy variable**, 0 for IOFs and 1 for Cooperatives according to their legal structure. However, the ownership structure and governance is more of a complex issue. And in this thesis in order to serve our research objectives we simplified the analysis.

Another limit of this research, is the **lack of detailed marketing strategies data**. For example, we undertook an extensive research on the ownership structure of 250 firms classified in the ACSI database (American Consumer Satisfaction Index), and found 7 mutuals and cooperatives. The dilemma was the following: Either to use detailed data on marketing strategies leading to lower number of observations and loose the empirical analysis representativeness, or have less marketing information. We selected the latter choice.

We also underline that we did not evaluate the long term impact of marketing actions, that also was a limit for this research.

Finally, in the actual context of **big data** that firms are confronting and allow them to better know their clients and their needs, we do not know if the identity of the owner does really affect their market strategies rather than the orientation provided by the data.

V- Further research

During these four years of research on this field, we were able to identify the existing literature on cooperatives and linking it with financial performance, risk and marketing strategies.

Additionally, we were able to identify the lacks in data concerning cooperatives, and the challenges for collecting new data and the use of the existing databases to study such a field. It is interesting to **collect governance indicators** and details that allow us to better understand the governance of cooperatives while having objectives of collecting empirical evidence. More information on **members 'participation** is interesting such as number of new members 'variable, number of members leaving the cooperative, and the level of participation in voting within the cooperative.

Further research will also be conducted to identify the **best practices** within cooperatives leading to higher levels of performances. We also expect to **identify non-financial performance indicators**. Other variables are to be created in order to revalue the **impact of cooperatives on their communities**.

Résumé

I. Chapitre 1: Introduction

A. Contexte de la recherche

Au cours du siècle dernier, des crises et scandales financiers et économiques se sont succédés suite à la spéculation financière ou à des questions de mauvaise gouvernance résultant des impacts économiques plus ou moins significatifs. Ces faits ont également donné lieu à des changements de politiques publiques ainsi qu'à des nouvelles règlementations. De la grande récession durant les années 30, jusqu'à la bulle Internet et la crise des subprimes en passant par le scandale d'Enron, deux questions suscitent notre intérêt : la propriété et la gouvernance d'entreprise. Le modèle classique et dominant de la fonction de propriété et de la maximisation du profit trouve ses limites dans le maintien de la stabilité économique et dans les questions de gouvernance qui sont de plus en plus complexes et cruciales dans le maintien du bon fonctionnement de l'entreprise.

Notre recherche se situe dans un contexte de crise bancaire débutant en 2007. Depuis septembre 2008, une véritable crise financière mondiale commence, juste après la chute de Lehman Brothers ayant des résultats conséquents sur les économies et sociétés mondiales. D'ailleurs, le contexte de recherche dans un monde ou les inégalités entre les plus pauvres et plus riches deviennent de plus en plus importants[15]. La forme classique actionnariale d'entreprise montre ses limites pour répondre aux besoins économiques. Par conséquent, les modèles alternatifs se forment et se régénèrent. Cette crise encourage également les politiques, les gouvernements, les universitaires et les décideurs à envisager d'autres structures d'entreprises, à explorer leurs avantages et leurs limites. L'Organisation des Nations Unies (ONU) annonce alors en 2012 l'année internationale des coopératives. Cette année aide le mouvement coopératif mondial à s'unir, à se régénérer et à promouvoir ce type d'entreprises. Nous utilisons la définition des coopératives utilisée par l'Alliance Coopérative Internationale (ACI), représentant officiel des coopératives à travers le monde, « *une coopérative est une association autonome de personnes volontairement réunies pour satisfaire leurs aspirations et besoins économiques, sociaux et culturels communs au moyen d'une entreprise détenue conjointement et démocratiquement contrôlée* ». Les coopératives montrant leur résilience aux crises dans différents secteurs (Birchall, 2013a ; Ryder & Chambers, 2009), il

[15] Discours de Joseph Stiglitz Durant le 3ème sommet international des coopératives 2016

apparaît donc intéressant d'examiner en profondeur ces entités et de mieux comprendre leurs stratégies et leurs performances.

Pour autant, la performance marketing devient de plus en plus importante dans la littérature actuelle. Par conséquent, l'Academy of Marketing Science intègre dans ses lignes directrices, l'étude de l'impact financier des actions de marketing. La direction marketing est poussée à démontrer leur légitimité en prouvant la performance de ses actions (Gupta, Lehmann, et Stuart, 2004).

Les dépenses de marketing deviennent de plus en plus conséquentes, conduisant à la nécessité de mesurer leur rentabilité financière (Stewart, 2009). Elles constituent une partie des dépenses principales de l'entreprise avec une difficulté d'évaluer l'impact financier direct de ces dépenses sur les ventes.

Ce double constat nous a conduit à nous intéresser au croisement des actions marketing et de leurs impacts sur la performance financière et risque en différenciant les structures de propriété : coopératives versus actionnariales.

B. Cadre de la recherche

La recherche en économie s'est largement concentrée sur les entreprises coopératives depuis trois siècles, alors que la recherche en gestion de ces entreprises est moins dense[16]. En gestion, la recherche s'est concentrée sur les entreprises à structures actionnariales. De ce fait, exploiter ce domaine nous semble intéressant et enrichissant pour notre recherche. Les principales différences considérées entre ces deux types d'entreprises portent sur leurs objectifs et leurs gouvernances. Les coopératives visent à maximiser la valeur pour leurs membres alors que les entreprises appartenant à des investisseurs ont une fonction objective de maximisation du profit.

La gouvernance coopérative est basée sur la règle d' « un membre, une voix » alors que les entreprises à structure actionnariale ont une gouvernance d'« une action, une voix ». Une autre caractéristique de la gouvernance qui différencie ces deux types d'entreprises est l'identité du propriétaire. Les propriétaires des coopératives peuvent être des clients ou consommateurs,

[16] Par exemple, en exploitant le moteur de recherche Web of Science, 225 articles sur les coopératives sont référencés comme des articles en économie alors que 83 sont en management (Août 2016).

producteurs ou employés tandis que les entreprises actionnariales les propriétaires sont leurs fournisseurs de capitaux.

Nous nous attendons à ce que la structure de propriété et les objectifs de chaque type d'entité conduisent à des stratégies marketing différentes des stratégies de marketing et de niveaux de performance et de risque financiers différents.

Cette recherche est interdisciplinaire en Sciences de Gestion : nous croisons les disciplines de la finance et du marketing dans le cadre des coopératives. Cette approche transversale est intéressante dans le cadre des coopératives et permet de mieux les comprendre. "Lorsque vous étudiez les coopératives, vous devez être interdisciplinaire" M. Cook[17].

1. Les questions de recherche

Le point de départ de la thèse est la théorie de la propriété de Hansmann (1996) qui classifie les différents types d'entreprises en fonction de l'identité de leurs « patrons ». À l'aide de la combinaison de cette classification et l'analyse des parties prenantes de Mitchell, Agle, & Wood, (1997), nous identifions les parties prenantes « définitives » par type de structure. Ainsi, nous avons concentré notre analyse, à chaque fois que possible, sur cette partie prenante identifiée tout en comparant les entreprises coopératives aux structures actionnariales. La gouvernance démocratique des coopératives donne à ces entités des avantages ainsi que des faiblesses en ce qui concerne leurs stratégies et performances, générés par les trois caractéristiques de propriété, de contrôle et de bénéfice (Birchall, 2013b).

Ces caractéristiques permettent aux coopératives d'avoir des niveaux inférieurs d'asymétrie d'information avec leurs parties prenantes « définitive » et d'aligner leurs objectifs avec les membres menant à différentes stratégies marketing.

Cependant, la dispersion de la propriété peut mener à l'enracinement du management et des coûts décisionnels élevés des mauvaises performances. Néanmoins, les coopératives ont établi des comités indépendants et les différents outils de contrôle pour dépasser ces coûts.

[17] Discours à la conférence de recherche de l'alliance international des coopératives, Almeria, Espagne 25-05-2016

Par conséquent nous souhaitons étudier les différences dans les stratégies de marché adoptées par la structure de propriété, l'impact de la propriété sur le rendement et le risque et la relation entre eux. Les éléments ci-dessus nous mènent à la question globale de la recherche :

La structure de propriété impacte-t-elle les stratégies de marché et comment ceux-ci affectent-ils la performance et le risque financier ?

Au travers des essais, nous répondrons à certaines ou à toutes les questions suivantes :

- Les coopératives ont-elles des structures financières ainsi que des niveaux de performances et risques financiers différents des entreprises à structure actionnariale ?

- Les coopératives adoptent-elles des stratégies marketing différentes ?

- Comment la structure coopérative et les stratégies de marché impactent la performance et le risque financier ?

L'objectif de la recherche est d'étudier la relation entre la structure de propriété (coopératives versus les entreprises à structure actionnariale) la stratégie de marketing et la structure financière et la performance. Ces relations sont examinées partiellement ou totalement le long des chapitres de cette thèse et au sein de plusieurs secteurs.

Ces relations mettent l'accent sur la comparaison des coopératives aux entreprises actionnariales en utilisant divers outils. Nous adoptons pour la recherche quantitative à la fois des études d'enquêtes ainsi que des analyses empiriques pour servir l'objet de recherche. Dans chaque article, nous détaillons les données, les choix méthodologiques et la littérature adoptée avec une base commune de connaissances théoriques qui seront détaillés dans le chapitre 2. Chaque article traite un ensemble différent de données appartenant à un secteur, pays ou régions spécifiques.

2. Contributions

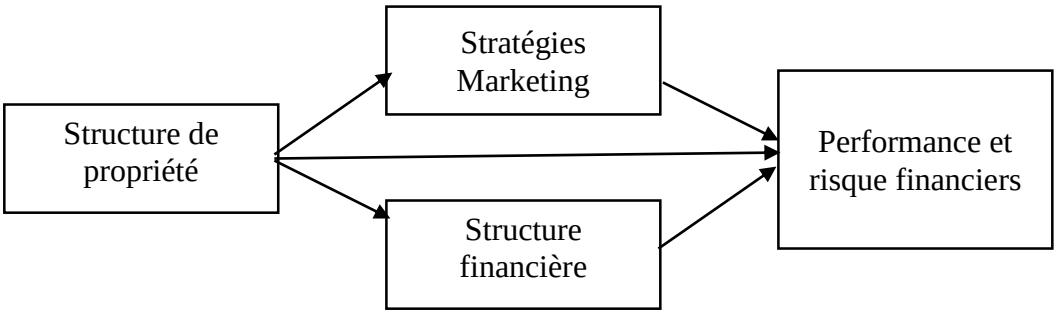
Cette thèse apporte plusieurs contributions à la littérature existante. Tout d'abord, la thèse adopte une approche transdisciplinaire entre le marketing et la finance dans le cadre des coopératives. À notre connaissance, il s'agit de la première étude qui s'intéresse à cette question. Nous étudions également de façon empirique la relation entre la structure de propriété et la structure financière,

les performances et les risques dans des contextes non encore exploités dans la littérature. Ensuite, nous mettons en évidence des stratégies marketing adoptées par chaque type de structure considérée. Pour finir, (4) la thèse adopte une approche multisectorielle. Effectivement, pour un même objet de recherche nous étudions trois secteurs d'activités ainsi que des niveaux d'analyse différents.

3. Design de la recherche

Dans cette recherche, nous explorons la relation entre les éléments considérés, en utilisant trois sources de données différentes, dans trois secteurs et pays différents. Chaque chapitre étudie ces relations avec des contraintes de données à chaque fois. Par conséquent, la conception de la recherche peut être résumée dans la figure 1 qui résume les relations étudiées à travers les articles en fonction des données disponibles par article.

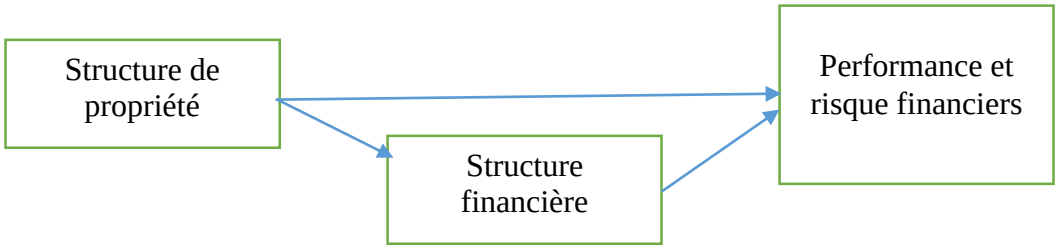
Figure 18: Design de la recherche



Nous concevons la thèse en trois articles de recherche, chacun représentant un chapitre :

Le chapitre 3, étudie la relation entre la structure de propriété et (1) la structure financière, (2) la performance et (3) les risques dans les petites et moyennes entreprises françaises. Les contraintes de données n'ont pas permis l'identification de leurs stratégies de marketing. Le chapitre étudie donc les relations suivantes :

Figure 19: Design du chapitre 3



Le chapitre 4 relie la structure de propriété aux stratégies de marque et à la performance et risque financiers dans le secteur viticole français. Le choix de la stratégie de marque est intéressant car nous étudions des coopératives de producteurs où la marque est un outil important d'identification et d'évaluation du produit. Ainsi nous explorons la fonction d'utilité des membres ainsi que leurs choix décisionnels pour le produit.

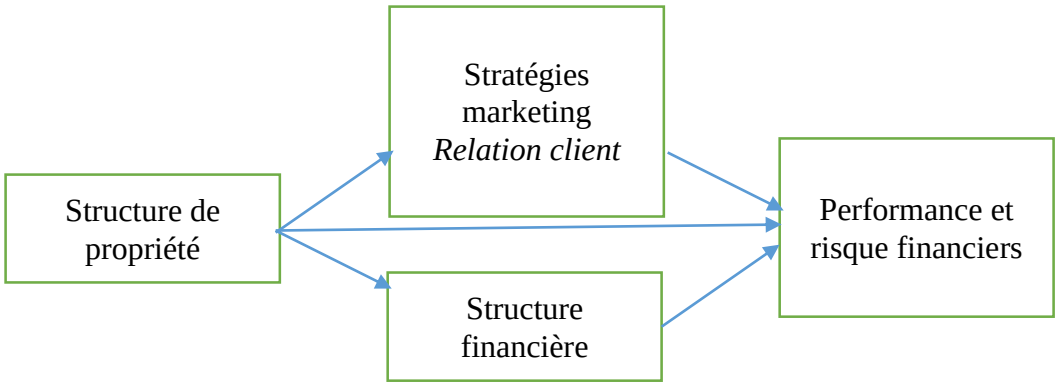
Nous adoptons une approche normative, en premier lieu, avec la théorie de la décision qui nous permettra d'établir des propositions. Ensuite, nous examinons via des résultats d'enquête si certaines de nos propositions sont appliquées aux données. Ainsi ce chapitre étudie les relations suivantes :

Figure 20: Design du chapitre 4

Le chapitre 5 étudie la relation entre la structure de propriété, la relation client, les activités et la performance et les risques dans le secteur des institutions de dépôt des États-Unis. Le choix d'étudier la relation client est justifié par deux raisons : Dans le secteur financier, qui est un secteur de service, la relation avec le client est un facteur crucial dans la stratégie de l'institution ; de plus, dans le cas des coopératives, le propriétaire est le client. Ainsi, ces deux facteurs nous semblent important pour l'étude de ces relations.

Nous comparons dans la partie A de l'article les banques d'épargnes en étudiant la relation entre la propriété, la stratégie relationnelle et la performance et le risque financier. Nous élargissons ensuite les analyses sur les coopératives de crédit et les banques locales dans la partie B du chapitre.

Figure 4: Design du chapitre 5



4. Plan de la thèse

La thèse commence par ce chapitre introductif, puis un aperçu de la littérature, et trois essais répartis en trois chapitres sur la comparaison de coopération structure, la performance et les stratégies et finit par un chapitre de conclusion.

Le chapitre 2 expose la littérature globale concernant nos thématiques. Nous commençons par une analyse des parties prenantes en fonction de la structure de propriété, puis un aperçu de la littérature des coopératives, une évaluation de leurs performances, la relation entre le marketing à la finance, et leur synergie dans le cadre des coopératives.

Dans le chapitre 3, nous étudions la relation entre la structure de propriété et la structure, performance et risque financiers dans le cas des petites et moyennes entreprises françaises. L'étude utilise des informations financières et comptables de 3384 entreprises à structures actionnariales et 679 coopératives entre 2004 et 2012, extraites de la base de données « Altarès » d'« INSEAD OEE data services ».

Le chapitre 4 se concentre sur les stratégies de marque par structure de propriété et la relation de ceux-ci avec la performance financière. Nous utilisons les données d'une enquête tenue en 2005

sur 89 entreprises à structures actionnariales et 118 coopératives dans le secteur du vin français, et l'information financière est extraite de la base de données Diane entre 1999 et 2009.

Dans le chapitre 5, nous examinons le lien entre la relation client, la structure de propriété et de la performance financière dans les institutions de dépôt aux États-Unis. Ce chapitre est composé de deux parties ; la première traite les banques d'épargnes et le second a une vue d'ensemble sur les banques locales et les coopératives de crédit.

Les chapitres 3, 4, 5A et 5B, sont structurés de manière classique avec leurs introductions, un examen des cadres théoriques, les analyses empiriques et les résultats et les discussions ainsi que des conclusions.

Le tableau 46 donne une vue sur les secteurs étudiés, les données et leurs sources dans chaque chapitre.

Table 46: Secteurs et données

Chapitre	Secteur	Années	Données	Sources
3	PME Françaises	2004 -2012	3384 Act 679 Coops	Base de données Altarès (INSEAD Iods)
4	Secteur viticole Francais	1999 -2009	89 Act 118 Coops	Enquête et base de données Diane
5 A	Les banques d'épargnes aux Etats Unis	1999 -2014	218 Act 505 Coops	Base de données SNL Financials (Via une coopération avec le centre de recherche international sur la finance coopérative – HEC Montréal)
5 B	Banques locales et Coopératives de crédit aux Etats Unis	1999 -2014	4 711 Act 6 296 Coops	

II. Chapitre 2 : Revue de littérature

Ce chapitre expose une revue de littérature concernant les différentes thématiques abordées durant la thèse. Néanmoins, vu que ce document est structuré avec une approche multisectorielle, chaque chapitre identifie la littérature adaptée à l'objet de recherche et secteur étudié.

Le point de départ de ce chapitre est une analyse des parties prenantes sur la structure coopérative. Une classification des parties prenantes est réalisée relativement à la structure de propriété selon la typologie de Hansmann (1996) et Mitchell, Agle, & Wood (1997). A partir de ces matrices, nous choisissons dans chaque terrain d'étude le point de vue de la partie prenante « définitive » selon laquelle nous nous intéressons par secteur d'activité étudié.

La deuxième partie du chapitre expose une revue de littérature sur les coopératives, en les définissant et exposant leurs caractéristiques et évolutions. Nous résumons des avantages et inconvénients de cette structure de gouvernance ainsi que son importance dans le champs d'entrepreneuriat social et son comportement en périodes de crises. Ensuite, nous détaillons le cas des coopératives financières vu que le chapitre 5 se concentre sur ce secteur.

Ensuite, une vue globale sur la performance des coopératives est exposée, ainsi que la relation entre la gouvernance et performance de ces derniers. De plus nous visitons le risque de ces institutions ainsi que les études menées qui adoptent des approches comparatives.

La partie V de ce chapitre étudie l'interface entre le marketing et la finance. Elle explore les mesures financières adoptées pour le marketing ainsi que les mesures des stratégies marketing et leurs modélisations. Puis un focus sur la relation entre la structure de propriété et cette interface est exposée. Finalement, les choix de secteurs et des niveaux d'analyses de cette thèse sont expliqués.

III. Chapitre 3 : La structure de propriété impacte-t-elle la structure financière, la performance et le risque ? Une comparaison entre les coopératives et les entreprises à structure actionnariale dans le cadre des PME Françaises

Cet article examine le lien entre la structure de propriété et la performance financière ainsi que le risque d'une entreprise. Nous étudions un échantillon de plus de 6000 coopératives françaises sur la période de 2004-2012 en le comparant avec un échantillon similaire d'entreprises à structure actionnariale. Nous trouvons que les coopératives détiennent plus de réserves et s'endettent à plus long terme montrant une vision à plus long terme de ces structures. Nous trouvons que les coopératives ont une performance positive mais plus faibles que les entreprises actionnariales. Néanmoins, nous trouvons que les coopératives ont un niveau de risque plus faible. Ces résultats contribuent significativement à la littérature existante montrant que les coopératives sont des entités plus adverses au risque tout en restant viables et répondant aux attentes de leurs membres.

MOTS CLEFS : Coopératives, Performance Financière, Structure Financière, Rique, Structure de propriété, PME.

IV. Chapitre 4 : Lien entre la stratégie de marque, la performance et la stabilité financières à la structure de propriété : cas des entreprises viticoles françaises.

Cette recherche explore la relation existante entre la stratégie de marque, la performance financière et la stabilité financière. Elle tient également compte de la structure de propriété. En se basant sur la théorie de la décision, nous appliquons une approche normative pour mieux comprendre les incitations et contraintes dans le choix de marque entre les deux types de structures suivantes : les coopératives et les entreprises à structure actionnariale. Ensuite, nous adoptons une analyse quantitative, basée sur les données d'une enquête réalisée sur 207 entreprises françaises du secteur du vin. Nous montrons que les coopératives ont plus de difficultés à créer une marque privée et qu'elles ont plus intérêt à créer une marque collective, contrairement aux entreprises à structures actionnariales, qui recourent davantage à la création d'une marque privée. De plus, nous trouvons que l'adoption d'une stratégie de marque, entraîne une performance financière et commerciale plus faible. Nos résultats montrent également que la structure coopérative contribue significativement à la stabilité financière, mais pas à la création d'une marque.

Mots clefs : Création d'une marque, Performance financière, Coopératives, Théorie de la décision, Vin.

V. Chapitre 5 : Comparaison des activités, des stratégies de marché, des performances et des risques entre les coopératives et les entreprises à structure actionnariale : cas des institutions de dépôt américaines.

Ce chapitre est composé de deux parties. Il s'appuie sur plusieurs bases de données sur les institutions de dépôt américaines. La première partie examine les différences, dans les stratégies de marque et la performance financière, entre les coopératives et les structures actionnariales, dans le cadre des banques d'épargne américaines. La deuxième partie compare les unions de crédit (à structure coopérative) et les banques locales (à structure actionnariales).

A l'origine, les banques d'épargne sont créées pour servir les besoins de financements immobiliers. Or, pendant la dérégulation, leurs activités ont touché à tous les types d'activités bancaires. Nous comparons leurs activités de marché et leurs relations client, ainsi que l'impact de ces variables sur la performance et le risque financier. Pour cela, nous utilisons un échantillon en *cross section* de 11 280 observations entre 1999 et 2014, pour 505 coopératives et 218 structures actionnariales. Les résultats montrent un niveau plus élevé de performance financière et sociale ainsi qu'un niveau plus faible de risque pour les coopératives. Celles-ci sont capables de mieux gérer leurs risques et d'identifier de meilleurs clients. Les résultats prouvent que la structure coopérative impacte la relation avec le client mais, qu'en définitive, c'est la performance passée qui impacte le plus la performance. Néanmoins, la structure coopérative a un impact incrémental et directe sur la réduction du risque d'insolvabilité et sur la variance de la performance, indépendamment de la stratégie adoptée.

Dans la deuxième partie, nous comparons les banques locales aux unions de crédit aux Etats-Unis. Ces deux types d'institutions sont conçues pour servir leurs économies locales et se basent sur une approche relationnelle avec leurs clients tout en étant soumises à différents régulateurs et contraintes. Nous analysons plus de 4000 banques locales et 6000 unions de crédit entre 1999 et 2014. Nos résultats montrent que les banques locales ont un meilleur niveau de performance et un niveau de risque plus faible que les unions de crédits. Ces résultats sont en contradiction avec ceux

des banques d'épargnes, mais ceci peut être expliqué par le fait que chaque structure a des missions et des types de clientèles différents. Nous trouvons que l'approche relationnelle a un impact positif sur l'augmentation de la performance et sur la réduction du risque. Nos résultats montrent aussi que le type charte (locale ou fédérale) impacte chaque type de structure de façon différente.

Mots clefs : Institutions financières de dépôt, Unions de crédit, Banques locales, Relation client, Activités, Performance financière, Risques financiers.

VI. Chapitre 6: Conclusion

A. Résumé des résultats

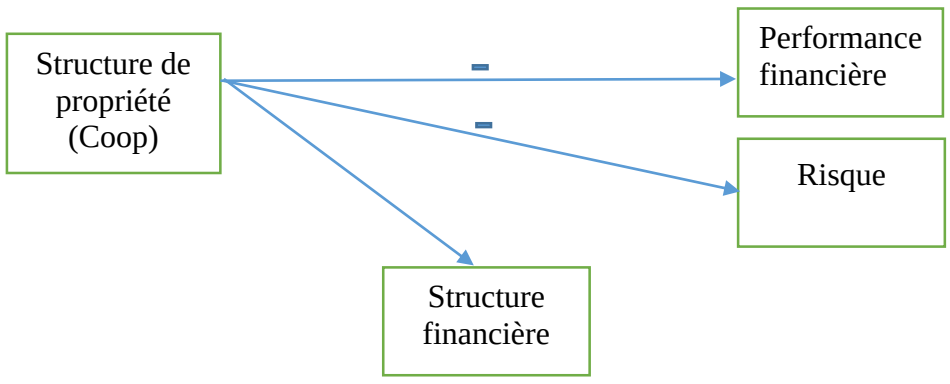
Cette thèse explore l'impact de la structure de propriété sur (1) les stratégies de marché, (2) la performance financière et (3) le risque financier. Le chapitre 2 expose un panorama de la littérature liant les thématiques abordées dans la thèse.

Les chapitres 3 à 5 comportent trois articles. Parmi ces derniers, deux identifient les stratégies de marché adoptées ainsi que leurs relations avec la performance et le risque financier. L'essai qui étudie le secteur du vin identifie la stratégie de marque pour le produit principal commercialisé par l'entreprise, alors que celui des institutions financières identifie les relations clients. Nous étudions le choix de la marque et de la relation client comme des stratégies de marketing pour les chapitres 4 et 5.

En fonction des secteurs, les stratégies marketing sont différentes. Pour le secteur du vin, la stratégie marketing a pour objectif de permettre l'identification d'un produit. Cette dernière est décidée par la direction et est relativement coûteuse. Pour le secteur financier, et même pour tous les secteurs des services, la stratégie marketing a pour objectif de créer une relation avec les clients. Cette relation est créée suite à des opérations répétitives qui s'inscrivent dans la durée

Dans le chapitre 3, nous étudions la relation entre la structure de propriété et (1) la structure financière, (2) la performance et (3) le risque financier dans les entreprises françaises de petites et moyennes tailles. La limitation des données n'a pas permis d'identifier leurs stratégies marketing. Cependant, notre étude, nous a permis de constater un niveau plus élevé de capitaux propres dans les coopératives. Ce niveau élevé de capitaux affecte la performance financière et le risque financier Les coopératives ont des niveaux de performance et de risque plus faibles.

Figure 21: Résultats chapitre 3



Au chapitre 4, dans le cadre des coopératives viticoles françaises, nous relions la structure de propriété : (1) au choix de la stratégie de marque, (2)à la performance et (3) au risque financier. Nous constatons que les coopératives sont plus susceptibles d'adopter une marque collective plutôt que de créer une marque privée. Nos résultats montrent aussi que la stratégie de marque (privée ou collective) amènent à des niveaux de performances financières et commerciales inférieures. Cependant, le facteur affectant le niveau de risque est principalement la structure de propriété coopérative.

Figure 22: Résumé chapitre 4

Le chapitre 5, étudie la relation entre la structure de propriété et (1)la relation client,(2) les lignes d'activités,(3) la performance, (4) le risque financier dans le secteur des institutions de dépôt aux États-Unis.

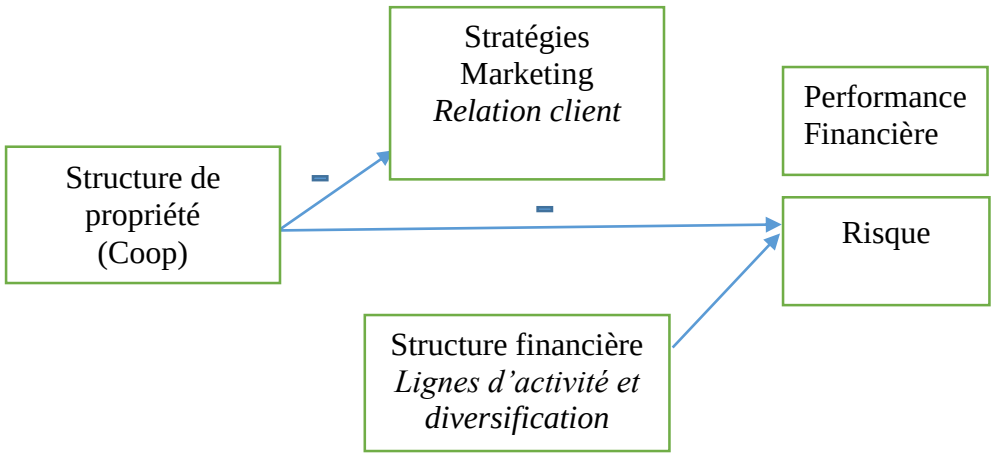
Dans la partie A, nous comparons les institutions d'épargne coopératives à celles des structures actionnariales. Dans la partie B, nous étendons notre analyse aux unions de crédits et aux banques locales.

D'une part, les résultats de la partie A, résumés dans la figure 3, montrent que les institutions d'épargne coopératives ont des niveaux plus élevés de performances financières et sociales, avec des niveaux inférieurs de risque.

En étudiant de plus près les données, les résultats montrent que les institutions à structure actionnariale investissent plus dans la relation client. Ce choix n'impacte pas significativement la performance, ni le risque. D'autre part, la structure coopérative contribue significativement à la

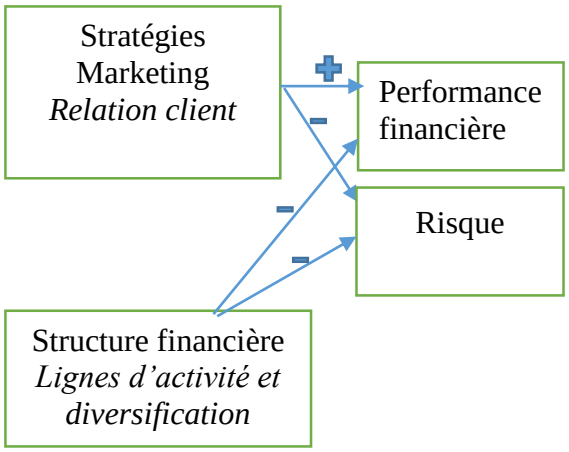
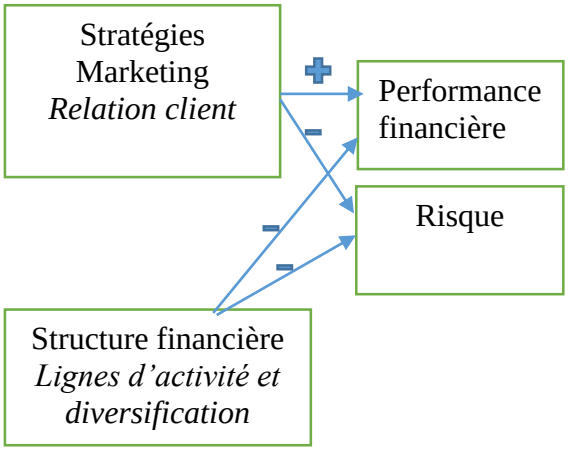
réduction du risque. Ces résultats montrent que malgré le sous-investissement dans la relation client des coopératives, elles réussissent à établir des performances supérieures avec des niveaux de risque plus faibles.

Figure 23: Résumé des résultats du chapitre 5A



D'autre part, les résultats de la partie B du chapitre 5, résumés dans la figure 4 montrent des niveaux de performances plus faibles et des niveaux de risques plus élevés pour les unions de crédit relativement aux banques locales. Ce niveau de risque supérieur est dû au type d'activité engagé par les unions de crédit qui ciblent une population à faible niveau de revenu. Néanmoins, cette étude montre la même direction de l'impact de chaque stratégie sur la performance.

Figure 24: Résumé des résultats du chapitre 5B

Unions de crédit		**Banques locales**
Performance financière	<	Performance financière
Risque	>	Risque
		

Globalement, les résultats de ces articles montrent que les coopératives ont des niveaux de performance financière inferieurs (exception le cas des institutions d'épargne). Les niveaux inférieurs de la performance financière sont expliqués par la fonction objective des coopératives qui ne reposent pas sur la maximisation du profit. L'exception des instituions d'épargne peut être due à l'ancienneté de ce modèle dans ce secteur, et leur résilience historique aux travers les crises.

Ces niveaux de performance supérieurs dans le cas des banques d'épargnes peuvent aussi s'expliquer par une pression sociale de remboursement du prêt quand vu que le prêteur est le « voisin » plutôt que des investisseurs.

D'autres résultats montrent que les coopératives ont des performances plus stables (à l'exception des unions de crédit). Des résultats obtenus en mesurant l'écart type de la rentabilité par rapport aux données ou au z-score. L'exception des unions de crédit peut être expliquée par leur mission de fournir des prêts à la population à faible niveau de revenu aux États-Unis.

Les articles concluent unanimement que les niveaux de capitaux propres sont plus élevés pour les coopératives. De plus, ils confirment leur adversité au risque et leur capacité d'absorber les chocs en utilisant les réserves capitalisées.

Nos résultats prouvent que les coopératives ont des stratégies de marché différentes. Nos résultats montrent que dans le cas des coopératives viticoles, le choix d'une marque collective est dominant, alors que pour les institutions financières la structure de propriété permet une meilleure connaissance du client sans l'utilisation d'investissements plus importants.

1. Contributions

Cette thèse contribue à la littérature existante sur la performance des coopératives et la littérature existante liant le marketing à la finance du point de vue des sciences du management.

(1) Elle aborde la littérature entre le marketing et la finance tout en se concentrant sur les coopératives.

(2) Elle montre de nouvelles preuves empiriques sur les performances, les risques et les stratégies des coopératives et des entreprises actionnariales en utilisant une approche comparative.

(3) Nous identifions par secteur certaines stratégies de marché adoptées par chaque type de structure de propriété.

(4) Elle a la spécificité de tacler plusieurs secteurs en explorant plusieurs bases de données et en tenant compte à chaque fois de leurs limites.

2. Implications managériales

Cette thèse nous permet d'explorer plusieurs implications managériales qui sont à destination de différents types de parties prenantes.

En premier, pour les membres des coopératives, les résultats montrent que malgré une performance financière plus faibles, la structure coopérative leur permet une stabilité et une durabilité de ces entreprises. Par conséquent, une évaluation plus globale des avantages de s'unir en tant que coopérative.

Deuxièmement, nos résultats permettent d'encourager les régulateurs et les organismes de décision de préserver la diversité des types de structures de propriété. Même si cela entraînera des niveaux de complexité de régulation supérieure, cette diversité de structures permet de répondre à des

besoins différents et permet à un tissu d'entreprises diversifiées et donc qui se comporte différemment selon les chocs encourus.

D'ailleurs, nous proposons une meilleure éducation sur le modèle coopératif, ses point forts et faibles, spécialement pour les futurs managers des coopératives sortant des écoles de commerce et universités et émanant au sein de l'entité. Cela leur permettra d'être en mesure de mieux comprendre ces structures afin de tenir compte de leurs spécificités dans la mise en place de leurs stratégies marketing et non pas mimer les actions prises par la concurrence détenue par des investisseurs.

Enfin, durant le travail de cette thèse, nous avons été confrontés à une grande difficulté d'accès à des données détaillées, soit sur la gouvernance ou des stratégies ou des bénéfices non financiers générés. Une meilleure transparence et divulgation de ces informations est bénéfique pour les coopératives pour mieux les comprendre et d'être en mesure d'identifier leurs faiblesses et leurs points forts.

3. Limites

Cette recherche souffre évidement de plusieurs limites :

Les limites des données sur les bénéfices non financiers engendrées par les coopératives. Nous avons pu uniquement avoir des données sur la note de la performance sociale des banques d'épargne vu que ce critère est régulé par l'état. Il existe un effort global de collecte des données RSE des coopératives. Ce sera très intéressant de pouvoir évaluer et insérer ces critères dans l'évaluation de la performance globale. D'autre part, nous n'avons pas pu avoir accès à des données de rémunération des membres afin de pouvoir évaluer la vraie valeur créée pour le membre des coopératives.

De plus, dans cette thèse, nous étudions la structure de propriété comme variable binaire, coop/ non coop selon la structure légale. Néanmoins, la structure de propriété et la gouvernance sont beaucoup plus complexes et à des niveaux différents.

Une autre limite de cette recherche réside dans un manque de données marketing plus détaillées pour les coopératives. Par exemple, nous n'avons mené une étude détaillée sur la structure de propriété de 250 entreprises indexées sur l'indice de l'ACSI (American Consumer Satisfaction Index), et nous n'avons trouvé que 7 structures coopératives et mutuelles. Le dilemme était le

suivant : Soit faire des études marketing spécifiques détaillées amenant à des observations beaucoup plus faibles, ou se baser sur des données empiriques avec moins d'informations marketing. Nous avons choisi la deuxième option.

Nous soulignons de plus que nous n'avons pas pu examiner l'impact à long terme des stratégies marketing engagées.

Finalement, dans le contexte actuel des « big data » auquel les entreprises sont affrontées leur permettant de mieux connaitre leur client et ses besoins, nous ne pouvons pas conclure facilement que c'est l'identité du propriétaire qui est un facteur principal dans le choix des stratégies des entreprises ou les directives de ces données.

4. Voies de recherche future

Au cours de ces quatre années de recherche dans ce domaine, nous avons été en mesure d'identifier la littérature existante sur les coopératives et leur lien aux stratégies marketing et à la performance et risque financiers.

De plus, nous avons pu identifier le manque de données concernant les coopératives et les défis pour la collecte de nouvelles données et l'utilisation des bases de données existantes pour étudier un tel champ. Il est intéressant de recueillir des indicateurs de gouvernance et les détails qui nous permettent de mieux comprendre la gouvernance des coopératives tout en ayant des objectifs de collecte de données empiriques. Plus d'informations sur les membres, leur niveau de participation à la gouvernance est intéressante ainsi que d'autres variables comme le nombre de nouveaux membres de la variable, le nombre de membres qui quittent la coopérative, et le niveau de participation au vote au sein de la coopérative.

D'autres recherches seront également menées afin d'identifier les meilleures pratiques au sein des coopératives menant à des niveaux plus élevés de performances. Nous nous attendons également à identifier des indicateurs de performance non financiers. D'autres variables doivent être créées afin de réévaluer l'impact des coopératives sur leurs communautés.

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Appendices

Appendix 1: Overview of research approaches in marketing and firm value (Srinivasan & Hanssens, 2009)

Approach	Characteristics of Approach	Limitations of Approach	Representative Studies/ Sample from Approach	Dependent/Predictor Variable Used in Study
Four-factor Model	Recognizes systematic sources of cross sectional differences among firms: the size factor, the market-to-book value factor, the market risk factor, and the momentum factor. Relies on EMH. Straightforward to estimate. Can assess cross-sectional variation in investor response.	Inferences from the portfolio approach are sensitive to the choice of the benchmark portfolio. Is correlational in nature. Is subject to omitted variable bias. For application outside the United States, three of the four factors are not readily available.	Rao et al., (2004) (across industries) Barth, Clement, Foster, & Kasznik, (1998) (across industries) Madden, Fehle, & Fournier, (2006)	Tobin's q / branding strategy Firm valuation/brand value estimates Stock returns/brand valuation
Event Study	Assesses the abnormal return for a stock as the *ex post* return of the stock during the course of the event window less the normal expected return, assuming that the event had not taken place. Relies on EMH. Easy to implement because key data are event dates and stock prices around the events. Analysis is causal in nature.	Inappropriate for measuring long-term abnormal returns to events that are clustered in time.	Horsky and Swyngedouw (1987) (across industries) Chaney, Devinney, and Winer (1991) (across industries) Lane and Jacobson (1995) (within industry) Geyskens, Gielens, and Dekimpe (2002) (within industry)	Stock returns/name change events Stock returns/ new product announcements Stock returns/brand extension announcements Stock returns/Internet channel investments
Calendar Portfolio	Constructs a single portfolio including stocks of firms with the event to measure the long-term abnormal returns to that portfolio.	Does not produce separate measures of abnormal returns for each event.	Sorescu, Shankar, and Kushwaha (2007) (within industry)	Stock returns/new product announcements

	Accounts for cross-sectional correlation of returns. Statistical inferences are likely more accurate than those obtained with event studies.	Inferences from the portfolio approach are sensitive to the choice of the benchmark portfolio.		
Stock return response model	Establishes whether investors perceive information on marketing activity, such as advertising spending, as contributing to the projection of future cash flows. Based on the Carhart (1997) four-factor model. Relies on the EMH. Provides insights into the market's expectations of the long-term value prospects associated with changes in marketing strategy. Takes into account the dynamic properties of stock returns.	Requires detailed marketing data at the brand or strategic business unit level. Marketing measures must reflect information that is available to market participants because the stock market reacts to public information. Single-equation models and, thus, no temporal chain leading to stock returns.	Aaker & Jacobson, (1994) (acrossindustries) Aaker and Jacobson (2001) (within industry) Mizik and Jacobson (2003) (across industries) Srinivasan et al. (2009) (within industry)	Stock returns/ perceived quality Stock returns/brand attitude Stock returns/shifts in strategic emphasis Stock returns/marketing actions
Persistence modeling	These models use a system's representation in which each equation tracks the behavior of an important agent: the consumer (demand equation), the manager (decision rule equation), competition (competitive reaction equation), and the investor (stock price equation). A vector autoregressive model provides a flexible treatment of both short-term and long-term effects. Robust to deviations from stationarity. Provides a forecasted, expected baseline for each performance variable.	Requires detailed marketing data at the brand or strategic business unit level. Requires time-series over a long horizon. Inherently reduced-form models.	Pauwels et al. (2004) (within industry) Joshi and Hanssens (2008) (within two industries)	Firm valuation/new product introductions, sales promotions Stock returns/advertising

	Allows for various dynamic feedback loops among marketing and stock performance variables			

Appendix 2: Historical Summary of Credit Unions (Mckillop, 2010)

Schulze-Delitzsch (1850) and Raiffessen (1864) – Germany

- Antecendents of credit unions
- Schulze-Delitzsch First urban cooperative
- Raiffessen First rural cooperative
- Purpose: provide funds for communities as credits not donations
- Conceived as response to market failures in traditional financial institutions
- This model was transferred to several European countries

Desjardins (1990) –Quebec Canada

- Motivation: Catholic revulsion of usury and the Quebec political and religious philosophy of "la survivance"
- The movement got developed though all Canadian territory
- They helped the establishment of the first credit union in the US

The Credit Union National Extension Bureau (1921) - USA

- Put the legal framework for credit unions at state and federal level
- Write the US Federal Credit Union Act (1934)

Appendix 3: Overview of the pioneers of the credit union movement (Mckillop 2010)

Hermann Schulze (1808-1883) was born into a wealthy family in the village of Delitzsch. He attended preparatory school in Leipzig, spent two years at the University of Leipzig, and then attended law school at Halle. In 1848, Schulze stood for parliament and won a seat in his district. When he attended parliamentary sessions, he found so many other members named Schulze that he adopted the name Schulze-Delitzsch. He was quickly identified with the liberal members of the national assembly who were pressing for a constitution and political and economic reforms. This led, in 1850, to his being tried in court on a charge of high treason. He was later acquitted, although he lost his government position.

Friedrich Wilhelm Raiffeisen (1818-1888) was born at Hamm in the Rhine Province. When he was 17 he joined the army but after two years, eye disease forced him to retire from military service. He took the civil service examination and rose from a clerkship to become mayor of Weyerbusch in 1846. Two years later, Flammersfeld and its 33 villages were added to his jurisdiction.

Alphonse Desjardins (1854-1921) was born in Levis in Quebec to impoverished parents (the eighth child of fifteen children). Desjardins was forced to leave school at an early age, possibly to help feed his family. After serving as a volunteer in the Red River uprising, he returned to Quebec, and took up journalism. Between 1879 and 1889, he was recorder of debates for the Quebec Legislative Assembly. In 1891, he founded a short-lived, pro-Conservative political journal. After this enterprise failed, the Conservative government, in gratitude for his loyal political support, appointed him a French stenographer in the House of Commons.

Edward Filene (1860-1937) was an American businessman and philanthropist. He formed a savings and loan association for his employees which later became the Filene Employee's Credit Union. In 1908, Filene and Massachusetts banking commissioner Pierre Jay, helped organize public hearings on creating credit union legislation in Massachusetts. The Massachusetts Credit Union Enabling Act in 1909 was the first credit union law in the US. Inspired by the experience in many European countries, Filene organized the National Association of People's Banks to advance the credit union cause in the US. Together with Bergengren he founded the Credit Union National Extension Bureau.

Appendix 4: Types of field of membership for credit unions	
Types of field of membership	**Field of membership as created by (Ely, 2014)**
Community credit union	Community credit union
Associational - faith based	Common bond of occupation or association
Associational – fraternal	
Associational - other than faith based or fraternal	
Corporate credit union	
Educational	
Federal, State, Local Government	
Manufacturing - all other	
Manufacturing – chemicals	
Manufacturing – machinery	
Manufacturing - petroleum refining	
Manufacturing - primary and fabricated metals	
Military	
Service - communications and utilities	
Service - finance, insurance, real estate, trade	
Service - health care	
Service – transportation	
Single common bond – other	
Multiple common bond – other	Multiple common bond
Multiple common bond - primarily communications and utilities	
Multiple common bond - primarily chemical	
Multiple common bond - primarily educational	
Multiple common bond - primarily faith based	
Multiple common bond - primarily federal, state, local government	
Multiple common bond - primarily finance, insurance, real estate, trade	
Multiple common bond - primarily health care	

Multiple common bond - primarily machinery	
Multiple common bond - primarily military	
Multiple common bond - primarily other manufacturing	
Multiple common bond - primarily petroleum refining	
Multiple common bond - primarily primary and fabricated metals	
Multiple common bond - primarily transportation	
Multiple common bond - primarily transportation equipment	
Non-federal credit union	Non Federal Credit Union

Appendix 5: Worldwide distribution of credit unions

	#of countries	Credit Unions	Members	Savings Shares (USD Millions)	Loans (USD Milllions)	Reserves (USD Milllions)	Assets (USD Milllions)	Penetration
Totals for Africa	25	20 422	18 881 257	5 534	6 391	752	8 080	6.90%
Totals for Asia	21	24 552	43 864 685	135 777	119 571	11 971	183 594	3%
Totals for Caribbean	19	391	3 437 060	5 536	4 532	911	6 706	19.40%
Totals for Europe*	14	2 318	8 259 868	22 463	10 415	3 234	26 361	3.40%
Totals for Latin America	15	2 491	27 351 006	43 439	42 064	9 310	72 476	8.30%
Totals for North America	2	7 093	110 634 985	1 192 702	959 556	148 741	1 419 148	47.20%
Totals for Oceania	9	213	4 944 463	65 412	59 512	6 529	76 570	20.80%
Totals	105	57 480	217 373 324	1 470 863	1 202 040	181 448	1 792 935	8.20%

*Source: (WCCU, 2014) *The total Europe is only for credit unions and does not include European cooperative banks, figures are by December 31st 2014*

Appendix 6: Figures on the European Cooperative Banking Industry

	#of countries	Cooperative Banks	Members	Deposits from customers (EUR Millions)	Loans to customers (EUR Milllions)	Assets (EUR Milllions)
Totals for European Cooperative Banks	20	4 194	81 154 253	3 792 978	3 975 446	7 516 007

Source: European Association of Co-operative Banks EACB, (2015), figures are by December 31st 2014

Appendix 7: Summary of the results for thrifts

	ROAA		Z-score		LnstdevROAA	
	OLS	2SLS	OLS	2SLS	OLS	2SLS
Roaa t-1	+	+	NA	NA	NA	NA
Employees allocated to traditional banking per office	+		-		+	
Employee per Office	+	NA		NA	+	NA
Salary Expenditure per Employee		-	-		+	-
Advertising Expenditures To total assets			-		+	
Number of offices		NA	+	NA	-	NA
Asset Diversity			+		-	-
%Business Loans	+	NA	+	NA	+	NA
%Consumer Loans	+	NA		NA	+	NA
Ownership Structure	+		+	+	-	-
Number of Employees	+	NA		NA	+	NA
HHI			-	-	+	+
Chartering(State 0 federal1)						

Appendix 8: Summary of the results on Credit unions and Community banks

	ROAA		Z-score		LnstdevROAA	
	CU	CB	CU	CB	CU	CB
Roaa t-1	+	+	NA	NA	NA	NA
Employees allocated to traditional banking per office	+	+	+	+	-	-
Employee per Office	+	+	+	+	-	-
Salary Expenditure per Employee		-		-		+
Advertising Expenditures To total assets					-	
Number of offices	+		+		-	
Asset Diversity	-	-	+	+	-	-
% Usecured loans	-	NA	-	NA	+	NA
%Business Loans	+	+	+	+	+	-
%Consumer Loans	NA	+	NA	+	NA	-
% Small amount loans	-	NA	-	NA	+	NA
Number of Employees		+		+		-
HHI			-	-	+	+
Chartering(State 0 federal1)	-	+	-	+	+	-

Table of Contents