MINIMUM CAPITAL REQUIREMENTS X PROFITABILITY
An empirical study

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ABSTRACT

The predominant aspect of this article is the approach of cooperative foundations of doctrine and the requirement of minimum capital to cover risks, and their influence, or not, the profitability of credit cooperatives of Sicoob Central Crediminas. In fact, in many countries around the ghost of the crisis, there is the high indebtedness of banks (even in some notorious heavens of prosperity), and both the academy as the professionals assist with the growth of true horror and corporate accounting problems, including the need for assistance to problem banks (in the U.S., eg). In this context, the activities of credit cooperatives involve taking various types of risks such as credit, market, liquidity, operational and reputation. Aware that non-identification and measurement of exposures taken can lead to imbalances of property and to cause a collapse in the credit cooperative, make the relevant empirical research that is proposed this paper, especially considering the events after August 2008. It is through a regression analysis, the known association of these variables, with the intention of contributing to a better understanding of the current status of cooperative credit to the standards imposed on minimum capital and thus be able to suggest reasons that explain the results.

INTRODUCTION

The historical process has shown that the economic stability of a country is closely linked, among other factors, a solid financial system, and that sound is perceived when the components of the system, and perform their functions of financial intermediation, meet the expectations of their customers and maintain an acceptable standard of confidence in the market. The bodies responsible for banking supervision are also aware of the need for strict and effective controls to ensure the soundness, safety and trust in the institutions of the system.

However, especially considering the notable events that occurred after August 2008 in many countries around the ghost of the crisis, there is the high indebtedness of banks (even in some notorious heavens of prosperity). Both the academy as the professionals assist with the growth of true horror and corporate accounting problems, including the need for relief (a virtual "state") of problem banks (in the U.S., eg). This troubled context, participants, with growing importance, the credit cooperatives.

With the aim to explore whether there is relationship between the minimum capital requirement as the structure of risk weighted assets, and profitability of the credit cooperatives Sicoob Central Crediminas, the hypothesis pursued in this article, in view of the relationships highlighted in the literature, is:

H0 = There is no significant relationship between Basiléia Index (the relationship between heritage and that of cooperatives based on risk weighted assets) and profitability of the Cooperative Credit Sicoob Central Crediminas;

H1 = There is a significant inverse relationship between Basiléia Index and profitability of the Cooperative Credit Sicoob Central Crediminas..

To achieve these objectives, we developed a literature review and empirical research. The review aims to develop the theoretical bases of the article, involving issues such as Cooperatives, Basiléia (Minimum Capital Requirement), Accounting (Return x Risk).

In empirical research it was through the method of regression, knowing the level of correlation exists or not between the Minimum Capital Requirement and Return of the ninety-six cooperatives of Sicoob Central Crediminas the period from 2001 to 2005, and suggest possible reasons that could explain the results.

1. COOPERATIVISM

According to Pinho (2004), the cooperative emerged with Industrial Revolution, as a way to soften the economic and social traumas that it has, because the manufacturer in its first stage has meant that the craftsmen and workers migrate to big cities, attracted by factories in search of better living conditions. This migration has meant that there was an excess of labor, resulting in the exploitation of workers in abusive and inhumane, with journey to work up to 16 hours / day, with low wages they are not guaranteed the purchase of food, forcing women and children to enter the labor market so inhumane.

Menezes (2004, p.142) states that in broad vision and the objective of every cooperative is the sum of two projects: the social and economic. In the social side, the cooperative hoped that the cooperative offers them a dignified life, or less unworthy, through education, health, housing, skills training, among others. The first relates to economic work and income to support the social project. The success of the economy and that ensures the success of the company.

This article comes from “Credit Cooperative”: the first term expresses an organization of people for a common enterprise, in any branch of activity. Already the term credit is and adjective: highlights the cooperative as a branch of business - the cooperative credit branch (MENEZES, 2004, p1).

According Meinen (2002) there are thirty-seven thousand cooperatives, one hundred and twelve million people cooperative in ninety countries from different continents, driven by many reasons, seek the cooperation of credit, whether in the field or in the city in prosperous countries or underdeveloped , the answer to their demands for credit and financial services in general.

The Sicoob Central Crediminas has ninety-six Cooperative Singles, three hundred and twenty-six posts of Cooperative Services and provides financial services to two hundred fifty thousand and seventy-three members. Displays also:

Total Deposits	R$ 786.337.258,76
Loans	R$ 931.484.724,87
Owners' Equity	R$ 337.870.331,23

Source: Intranet Crediminas – Aprill/2006

2. BASILÉIA I AND II : MINIMUM CAPITAL REQUIREMENT

2.1. Basiléia Agreement

In 1988, the BIS (BIS - The Bank for International Settlements - founded in 1930, is an international organization, headquartered in Basiléia, Switzerland, is an open capital company that has many shareholders as Central Banks), published the document "International Convergence of Capital Measurement and Capital Standards ", establishing minimum capital requirement, which is popular as the Basiléia Agreement, signed in Switzerland by banks belonging to the G-10, with the objective of strengthening the stability of the international financial system.

The main objective of the agreement was part of reserve capital to cover potential losses, arising, for example, between active and passive neglect, at times of high volatility of interest rates and financial market. More than one hundred countries have introduced the recommendations of the agreement in their financial systems (BIS, 2001c: 11), which shows the importance and acceptance of the proposals of the Committee on Banking Supervision.

According to Niyama and Gomes (2000), the main objectives of that agreement were, first, minimize the risk of bank failure that could affect the international scene and to maintain reasonable levels of solvency and liquidity of the international financial system. Furthermore, had the goal to unify the standards institutions in different countries, creating more equitable basis for comparative analysis of these institutions in an international context, reducing inequalities.

2.1.1. 1988 Basiléia Agreement - Rationale

The financial system remain, particularly for the credibility it gained with clients. This condition, combined with its liquidity and solvency, are crucial for their survival.

In the eighties, there was a demand by the G10 central banks to the Basiléia Committee in order to access the comparability of different forms of capital adequacy used by member countries and organize recommendations of measurement, in addition to the development of minimum standards of adequacy of capital. The origin of this concern was the weakening of the financial system due to its high degree of exposure to the debts of least developed countries, besides the growth of off-balance transactions (letters of credit, guarantees for loans and derivatives) that were not captured by capital requirements of traditional, based on assets in explicit statements.

Until the implementation of the Basiléia Agreement, the control by the banking supervision was made up of liabilities, which in Brazil, could not be more than fifteen times the value of Owners' Equity, which encouraged banks to capture deposits, giving them greater liquidity. Furthermore, with this emphasis on clients´s capture, had more resources for use in credit operations or even cash. For this system, banks were encouraged to take risks and, in cases of adverse outcomes, would the intervention of the Central Banks.

The Central Bank of Brazil followed the recommendations of the BIS, with respect to minimum percentage applied to the factors of risk weighting of assets and most of the suggestions contained in the 1994 Agreement and its modifications. The weights for the assets at risk at 0, 20, 50 and 100% are suggested in the document published by the BIS in 1988, called the International Convergence of Capital Measurement and Capital Standards.

The main criticism of the agreement is the standardization of rules, which would lead to a more flexible approach to rules of the market practices.

2.2. Additional requirements of the 1988 Agreement

In light of the limitations of the proposed Agreement in 1988, the Committee proposed additional rules to cover the market risks, interest rate and counterparty.

Thus, in accordance with the Amendment of 1996, banks would maintain capital not only in terms of exposure to credit risk, as well as to market risk, which is defined by the BCBS (1996b, p. 1) and risk of loss of positions within and outside the balance sheet according to movements in market prices.

The risk of the market manifests itself when the value of a portfolio varies according to variations occurring in the prices of financial instruments. These variations may be caused by changes in interest rates or exchange rate prevailing in the market, or even by changes in supply and demand for each financial instrument.

2.3. New Agreement – Basiléia II

Seek to implement a framework of rules more flexible and sensitive to the behavior of banks, the new agreement seeks to minimize the problems arising from the standardization imposed by more general rules, however, central to the regulation are the rules of behavior represented by the requirements of adequacy of capital.

To provide an approach to managing risks more complete and sophisticated, the Basiléia Committee's finalized on 26 June 2004 a new version of the agreement of capital, known as Basiléia II, and released the final version of this agreement, known as International Convergence of Capital

Measurement and Capital Standards: a Revised Framework, which came to supplement and replace the first agreement.

The changes in the calculation of minimum capital to be maintained by banks in terms of exposure risk of your portfolio will include not only the credit risks (Agreement 1988) and Market (Amendment 1996), as well as operational risks . The treatment of credit risk has been redesigned, while the risks of the market continued to be measured from the model VAR (Value at Risk - a statistical measure used most, currently, to quantify the market risk and is defined as the maximum expected loss that a asset or portfolio may suffer in certain time, under normal market conditions, and given confidence interval).

Datz (2002) believes that the main novelty of the second agreement is the inclusion, along with the market risks and credit of the need to allocate capital to cover operational risks. As the BIS definition, operational risk is that losses related to failure or inadequacy of: people, systems, processes and external events. This proposal seeks to improve the adequacy of capital structure to the various risk factors, providing incentives for banks to develop internally, more sophisticated mechanisms for managing risk.

As detailed in the document "A New Capital Adequacy Framework" (1999a), the system of capital adequacy proposed by the Committee on Banking Supervision in Basiléia, characterized by the recommendation that financial institutions hold capital against the risks assumed, is based on three pillars, which are complementary and, acting together, are essential elements of a system in which the capital that aims to ensure the soundness and stability of the financial system.

Summarizing the 3 pillars, the pillar I - Application of Capital, proposes methodologies that aim to capture greater differentiation of risk present in financial institutions. The Pillar II suggests a greater proximity to banking supervision, which, combined with offering the Pillar III, requires greater transparency of financial institutions to prevent systemic risk. An important message is that financial institutions will have to find, so spontaneous, advances in its internal controls to identify, quantify and manage risks.

Central Bank of Brazil Resolution 2099 of 17/08/1994, is the first legislative act which provides the framework of Brazil to the principles and recommendations of the International Agreement of Basiléia, 1988. In its Annex IV, the Central Bank of Brazil established a requirement for maintenance, financial institutions, the value of net worth consistent with the degree of risk of the structure of its assets and is seen, therefore, the rules set by the BIS in 1988 , regarding the minimum percentage applied to the factors of risk weighting of assets and most of the suggestions contained in the 1994 Agreement and its modifications.

In 1998, the National Monetary Council through the Central Bank of Brazil fell to Resolution 2554, as amended and supplemented by 2771, making compulsory the implementation of the Basiléia Agreement on Credit Cooperatives, as happens in the banks.

2.4. Impacts caused by the requirement of minimum allocation of capital

The Agreement of Basiléia has been some criticism, and the actual effect of divergent implementation of rules on minimum capital based on risk. The strong point of the Basiléial Agreement of 1988 is its simplicity, the point to have been deployed in several countries that had banking practices and different accounting standards.

Hall (1989) criticizes the very scope and the need for rules made by the agreement, or the adequacy of capital. According to him, a historical analysis of most bank insolvencies show that these were caused much panic in financial mismanagement or fraud, than by inadequate maintenance of capital.

Some critics argue that the agreement contributes to a recession after its deployment, because the weight of higher risk associated with bonds issued by companies with respect to those issued by governments would have allowed a migration of resources to them, restricting the access of firms to credit.

Berger, Herring and Szego (1995) did a study exploring the relationship between capital and profitability with the assumption of finding an inverse relationship between the variables, based on models of perfect markets with symmetric information between banks and investors. Established that, with high capital, the risks are reduced, causing reduction in the return expected by investors.

Based on accounting data of banks in the United States in the period 1983 to 1989, the results were different from those expected, as was evidenced positive relationship between indicators. The author warrants that the fact was due to higher capital values retained in the institutions.

Jackson et al. (1999), reviewed six papers, including research involving the banking markets of Germany, Canada, United States, Holland, England, Japan and Switzerland, trying to verify the relationship between banks' profitability and capital requirements. The authors, after examining the papers, found that the work produced divergent results and not conclusive.

Finally, the Committee in 1999, from the compilation of a series of studies conducted by academics and within central banks and supervisory agencies of the G10, published a review (BCBS, 1999a) on the agreement:

a) The introduction of fixed minimum capital requirements led to increased rates of capital of banks in different countries. This increase can be effect to the Agreement, as well as the increased market discipline.

b) The increase of capital and reduction of assets with higher risk weighting have established the setting of the capital / asset. The type of setting used depends on the phase of the business cycle and the financial situation of the bank.

c) Authors believe that the application of capital requirements in a uniform way to broad classes of assets may induce banks to make changes toward more risky assets, and generally more profitable.

d) With the creation of capital required to meet the standards established in the agreement the banks began to hold arbitrations between the capital who would like to keep as safe for loans and capital they actually have to keep depending on the agreement. An example of such arbitration is securitization.

e) On the assumption that the introduction of minimum capital requirement would have negative effects on competitiveness of banks, the research did not show significant conclusions for this assertion, since it results from a wide range of variables. Sometimes it may be that the requirement of the agreement leads to movements of cuts in borrowing, which degrades the economy as a whole. However, according to the committee to decrease the risk of a breach of the banks would have positive impacts on the real economy.

3. THE ACCOUNTING AND THE COOPERATIVISM

Cooperatives, governed by Law 5764/71 and regulations of the Central Bank of Brazil, they must have an account dedicated to economic and financial situation, informing its members and users about the resources available to the cooperative, and on the social function which must be exercised to its members and society in general.

The Brazilian accounting standards, specifically for Cooperative Entities - NBC-T-10.8, have the purpose of, as your item 10.8.1.1: establish specific procedures and criteria for evaluating property and record of changes in structure of the statements, and minimum information to be included in notes to the Cooperative Entities.

The Central Bank of Brazil, in its manual of Banking Supervision (2002a), advocates the adoption of practices that require the greatest possible transparency by financial institutions "so that" the public is well informed to choose to which institutions like work. Thus, the best are rewarded by the market discipline".

Finally, taking risks is at the heart of the activities of a cooperative, however, maintaining a good image and reliability before the public is a prerequisite for the survival of individuals. In this context, refers to risk management as key element for the success of these, and widely distributed by the regulations, the minimum capital requirement according to the risk taken, and duly supported by accounting.

The objective of this paper is not to delve into the theories of finance, however as the CAPM (Capital Asset Pricing Model), the second and this reinforces ROSS (2002), the expected return of an asset depends on their risk. Therefore, a positive relationship between risk and expected return, so that investors show interest in assets that have returns consistent with the perceived risk.

Therefore, users to make their forecasts about the future performance of cooperatives should not look only for profit and financial flows in the past, should also consider the risks involved. The user's information needs through this, choose the alternative investment that provides a combination of higher returns with lower risk. And considering the relationship between risk and return, it is important that the relevant standards are met the minimum requirement of capital to cover risks assumed by the cooperative, focused in this article.

Gitman (2003) says that risk is the probability that the real return is different from the expected return. In this sense, risk is used in place of uncertainty with reference to variability of returns.

To Datz (2002), the adverse effects of a crisis in an institution all justify the concern of the international financial community with the stability of the financial system. One of the main characteristics of these institutions is their high degree of leverage. How your liability is basically formed with resources from the real sector of the economy, a banking crisis affects the whole society without distinction.

Finally, the accounts incorporating the system of internal controls, provide information accurate, complete and timely manner, so that they serve as a management tool for administration, to enable the identification, evaluation and control of the risks involved in various operations made to minimize the risk of insolvency of the system.

According to GEPLA (Management Planning Sicoob of Central Crediminas), analysis of indices, through experience and statistical and econometric tests, proved to be very effective in situations of insolvency prediction of cooperatives.

Will be addressed, according to GEPLA, the rates of return of the PLA (equity adjusted), Return on Assets, and Global Spread rate debt (which will be used to address Financial Leverage).

To achieve the purpose of this study will be calculated, also the index of Basiléia for the Cooperative Sicoob Central Crediminas, being the dependent variable, and the other (the PLA Profitability, Return on Assets, Spread Global, Index and Degree of Indebtedness of Financial Leverage), independent variables in order to contribute to an analysis of current situation of faith in relation to the application of rules on capital.

4. SEARCH RESULTS

In empirical research it was through the method of regression, knowing the level of correlation exists or not between the Minimum Capital Requirement and Return of the ninety-six cooperatives of Sicoob Central Crediminas the period from 2001 to 2005, and suggest possible reasons that could explain the results.

We used the software used: Minitab 13, Excel 2003 and SPSS 13.0. The descriptive analysis for the following indexes:

Descriptive Statistics	**Basiléia**	**Return of Owners' Equity**	**Retunr of Assets**	**Spread**	**Indebtedness**
Average	32,883	1,625	0,379	1,512	3,522
Median	31,472	1,715	0,422	1,501	3,400
Standard Deviation	10,685	1,640	0,388	0,287	1,339
minimum	-9,948	-5,631	-2,370	0,894	1,481
maximum	71,324	11,46	1,082	2,210	9,619
Percentile – 25	26,913	1,194	0,270	1,328	2,600
Percentile –75	39,075	2,152	0,532	1,717	4,106
Valids	92	92	92	92	92

Source: authors' calculations

The table below shows the correlation coefficient and respective p values of Pearson's test and the index Sperman between Basiléia and the other indices according to Triola (1999):

Statistical Approach	Basiléia			
	Parametric		Non parametric	
	Correlation coefficient	P - Value (*Pearson*)	Correlation coefficient	P – Value *Sperman*)
Return of Owners' Equity	-0,139	0,186	-0,008	0,941
Retunr of Assets	0,597	0,000	0,422	0,000
Spread	0,201	0,055	0,264	0,011
Indebtedness	-0,763	0,000	-0,884	0,000
Degree of financial leverage	-0,331	0,001	-0,409	0,000

5. ANALYSIS OF LINEAR REGRESSIONS

5.1. Regression of Return on Assets and Basiléia Index

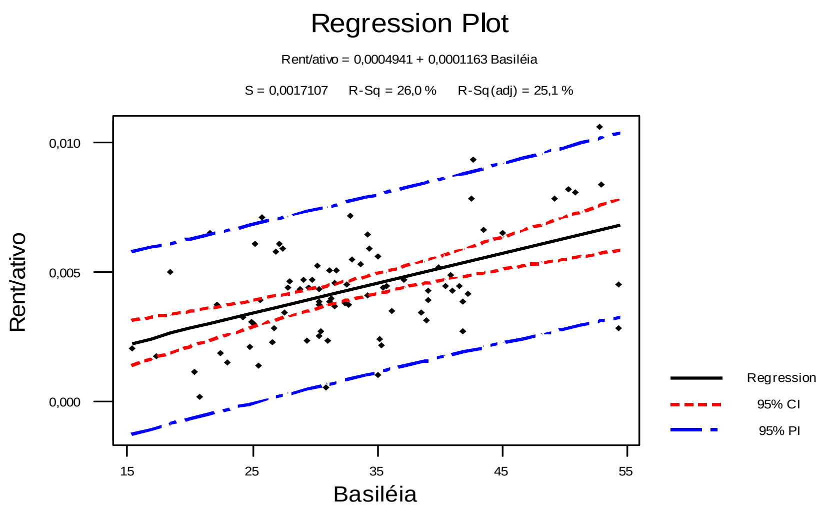
Model: Return of Assets = 0,000494 + 0,000116 * Basiléia Index

Verification of the model assumptions:

- Homoscedasticity - constant variance

- Normality – the waste have normal distribution

- Independence - the waste is not correlated



5.2. Regression of Indebtedness and Basiléia Index

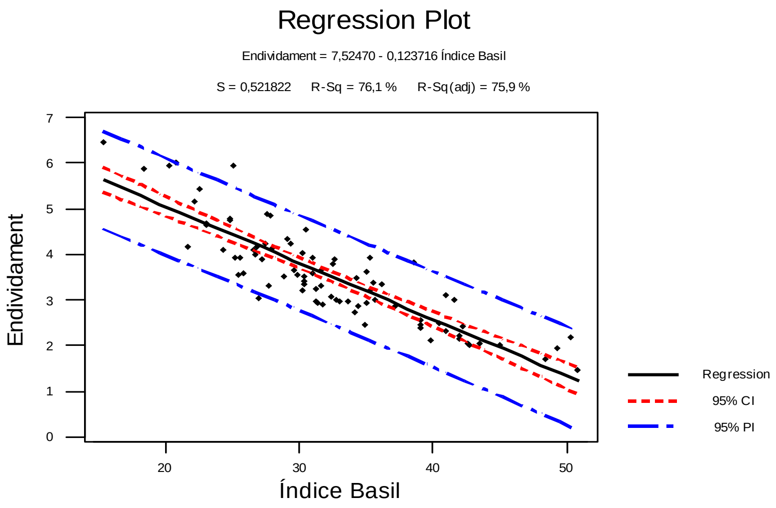
Model: Indebtedness = 7,52 - 0,124 * Basiléia Index

Verification of the model assumptions:

- Homoscedasticity - constant variance

- Normality – the waste have normal distribution

- Independence - the waste is not correlated



5.3. Regression of Degree of financial leverage and Basiléia Index

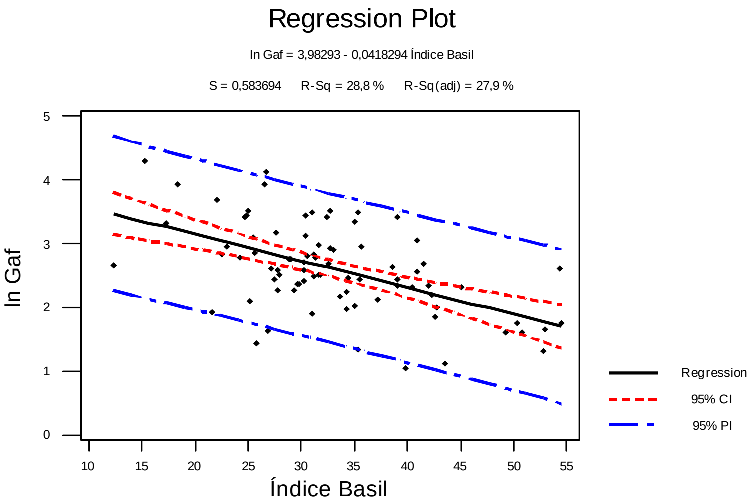
Model: ln degree of financial leverage = 3,98 - 0,0418 * Basiléia Index

Verification of the model assumptions:

- Homoscedasticity - constant variance

- Normality – the waste have normal distribution

- Independence - the waste is not correlated



5.4. Regression of Spread and Basiléia Index

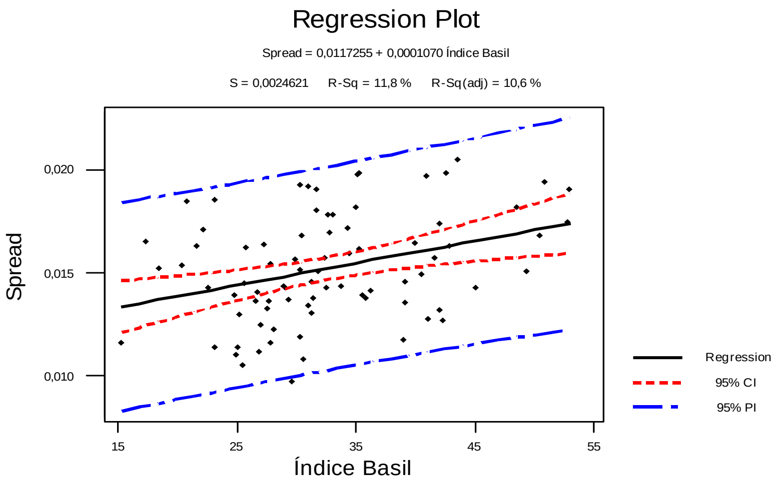
Model: Spread = 0,0117 +0,000107 * Basiléia Index

Verification of the model assumptions:

- Homoscedasticity - constant variance

- Normality – the waste have normal distribution

- Independence - the waste is not correlated



6. ANALYSIS OF RESULTS

According to the Financial Stability Report, published by the Central Bank of Brazil in May 2004, the average rate of Basiléia's National Financial System in December 2003, was 19%. Credit unions in the period studied and the sample involved, had an average of 32.88% and median of 31.42%.

The financial system can make use of loopholes in the agreement on the funding, through the purchase of securities on the capital market, which in certain cases, such as the federal government securities would be exempt from any consideration of equity, as the weighting applied be zero. The cooperative system, object of this study, does not work in the capital market and therefore the results for the index of Basiléia is not affected by this strategy.

Another possible alternative for use by the banking system to reduce the capital requirements without a commensurate reduction in exposure to risk would be the securitization of assets. In this case the banks are merely intermediaries, receiving only its provision of services. Article not found the arbitration of capital by the cooperatives analyzed, which still does not operate with securitization of assets.

The results found in this article:

a) showed no significant relationship between the index of Basiléia and the profitability of the cooperatives Owner´s Equity = Hypothesis H0;

b) However, the index return of assets was identified a positive correlation = refuted the hypothesis H1;

c) has an index of profitability, the Global Spread presented a low correlation, but significant for the test Sperman;

d) Indebtedness of the Index is a index of capital structure and showed a strong negative correlation with the Basiléia Index;

e) found the association between the Basiléia Index with the degree of financial leverage, continued with the logistic regression analysis and identified a negative correlation is reasonable.

The cooperative system works with a relatively low degree of leverage, with greater aversion to risk, or a more cautious and conservative, being associated, usually, the preference for liquidity in the composition of its portfolio of applications. The price to be paid by the system may be the restriction of their growth.

The increase in the degree of leverage of cooperatives as a result of a more aggressive active in its operations, may result in better opportunities for profit, especially in times of greater optimism, so that the institutions grow more quickly. Techniques of administration of passive play a strategic role in order to reduce the need for reserves and increase the amount of money received from third parties, in a manner consistent with the leverage of the loans.

There is a significant inverse relationship and, as cooperatives retain the Basiléia Index well above the minimum required, the indication is that it is working with assets of lower risk and therefore with potential for lower returns, of abdicating earn higher returns .

FINAL CONSIDERATIONS

According to some notable events that occurred after August 2008 in many countries around the ghost of the crisis, there is the high indebtedness of banks (even in some notorious heavens of prosperity) and the need to rescue the financial institutions problems. This troubled context, participants, with growing importance, the credit cooperatives.

The results here suggest that in the case of credit cooperatives Sicoob of Central Crediminas, requirements that deal minimum capital by risk weighted assets, appear to cause significant modifications in the results, and show they are not barriers to management and the management of belief, because the flexibility given to institutions to manage their assets to facilitate clearance of those aspects highlighted capital.

In light of these issues highlighted, the minimum capital requirements can not produce the expected impacts and possible to occur, such as reducing the profitability and risk of insolvency, according to results of empirical research conducted.

REFERENCES

BANCO CENTRAL DO BRASIL**. Resolução Nº 2099, de 17 de Agosto de 1994.** Dispõe sobre as condições relativamente ao acesso ao SFN, aos valores mínimos de capital e PL ajustado em valor compatível com o grau de risco das operações ativas das instituições financeiras. Disponível em: http:// www.bcb.gov.br. Acesso em Janeiro/2006.

.... **Resolução Nº 2554, de 24 de setembro de 1998.** Dispõe sobre a implantação e implementação de sistema de controles internos; bem como torna obrigatória a aplicação do acordo da Basiléia em Cooperativas de Crédito, tal como ocorre com os bancos. Disponível em: http:// www.bcb.gov.br. Acesso em Março/2006.

.... **Resolução Nº 2771, de 30 de agosto de 2000**. Dispõe sobre constituição e Funcionamento das Cooperativas de Crédito. Disponível em: http:// www.bcb.gov.br. Acesso em Dezembro/2005.

.... **Resolução Nº 3442, de 28 de Fevereiro de 2007.** Dispõe sobre a constituição e o funcionamento de cooperativas de Crédito. Disponível em: http:// www.bcb.gov.br. Acesso em Março/2007.

.... **Manual da Supervisão Bancária**. Agosto 2002a Disponível em http://www.bcb.gov.br. Acesso em Fevereiro/2006.

BCBS (1988). International Convergence of Capital Measurement and Capital Standards.

Basle: Basle Committee on Banking Supervision. Disponível em http://www.bis.org. Acesso em Fevereiro/2006.

………(1996a). Overview of the Amendment to the Capital Accord to Incorporate Market Risk. Basle: Basle Committee on Banking Supervision. Disponível em http://www.bis.org. Acesso em Fevereiro/2006

………(1996b). Amendment to the Capital Accord to Incorporate Market Risks. Basle:

Basle Committee on Banking Supervision. Disponível em http://www.bis.org. Acesso em Fevereiro/2006.

………(1999a). Capital Requirement and Bank Behavior: the impact of the Basle Accord.

Basle: Basle Committee on Banking Supervision. Disponível em http://www.bis.org. Acesso em Fevereiro/2006.

………(1999b). A New Capital Adequacy Framework. Basle Committee. (June 1999) Disponível em http://www.bis.org. Acesso em Fevereiro/2006.

………(2001a) The New Basle Accord. Basle: Basle Committee on Banking Supervision. Disponível em http://www.bis.org. Acesso em Fevereiro/2006.

BERGER, Allen N; HERRING, Richard J.; SZEGO, Giorgio P. The role of capital in financial institutions. 1995. Disponível em http://www.bis.org.br. Acesso em Fevereiro/2006.

BRASIL. **Lei 5764, de 16 de dezembro de 1971.** Define a Política Nacional de Cooperativismo, institui o regime Jurídico das sociedades Cooperativas, e dá outras providências. Diário Oficial da União, Brasília, 16.12.1971

CFC – Conselho Federal de Contabilidade. **Entidades Cooperativas**. NBC-T-10.8. Pesquisa no site www.cfc.org.br/legislação, em Março/2006.

DATZ, Marcelo Davi Xavier da Silveira. **Risco Sistêmico e regulação bancária no Brasil**. 2002. Dissertação (Mestrado em Economia) – Programa de Pós graduação em Economia da FGV, Rio de Janeiro.

GITMAN, Laurence J. MADURA, Jeff. **Administração Financeira –** uma abordagem gerencial. São Paulo: Pearson, 2003.

HALL, M.J. **The Bis Capital Adequacy "Rules**": a Critique. Banca Nacionales del Lavoro Quartely Review, n.169, (June 1989).

IUDÍCIBUS, Sérgio de. **Teoria da Contabilidade**. 6.ed. São Paulo: Atlas, 2000.

IUDÍCIBUS, Sérgio de, MARTINS, Eliseu e GELBCKE, Ernest Rubens. **Manual de Contabilidade das Sociedades por ações.** 6.ed., Atlas, São Paulo, 2003.

JACKSON, Patricia et al. **Capital requirements and bank behavior: the impact of the Basle Accord.** 1999. Disponível em http://www.bis.org.br. Acesso em Fevereiro/2006.

LEÃO, Luciano de Castro Garcia . **A determinação do custo médio ponderado do capital em mercados instáveis e recessivos.** In: VIII Congresso Mundial de Custos, 2003, Punta Del Este. Anais do VIII Congresso Internacional de Custos, 2003

MARTINS, Eliseu. **Análise da Correção Monetária das Demonstrações Financeiras – Implicações no Lucro e na Alavancagem Financeira.** São Paulo, Atlas, 1993.

MEINEN, Ênio, DOMINGUES, Jefferson Nercolini, DOMINGUES, Jane Aparecida Stefanes. **Cooperativas de Crédito no Direito Brasileiro.** Editora Sagra Luzzatto, 2002.

MENEZES, Antônio. **Cooperativa de Crédito: O que é e quais seus benefícios.** Editora Confebrás, Brasília, 2004. 216 p.

NIYAMA, Jorge Katsumi; GOMES, Amaro L. Oliveira. **Contabilidade de Instituições Financeira.** 2.ed., São Paulo: Atlas, 2000.

OCB – Organização das Cooperativas do Brasil. http://www.ocb.org.br. Acesso em Março/2006.

PINHO, Diva Benevides; PALHARES, Valdecir Manoel Affonso. **O Cooperativismo de Crédito no Brasil: do século XX ao Século XXI.** Editora Confebrás, São Paulo, 2004. 342 p.

ROSS, Stephen A.; WESTERFIELD, Randolph W.; JAFFE, Jeffrey F. **Administração Financeira.** Corporate Finance. São Paulo: Atlas, 2002.

ROSS, Stephen A.; WESTERFIELD, Randolph W.; JORDAN, Bradford D. **Princípios de Administração Financeira.** São Paulo: Atlas, 2000.

TRIOLA, Mario F. *Introdução à estatística*. 7. ed. Rio de Janeiro: LTC, c1999. 410p. ISBN 8521611544 : (Broch.)