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Doctoral Program in Social Sciences

SMEs Behavioral Models of Risk-Adjusted Performance (A cross-sectoral empirical inquiry from Albanian market)

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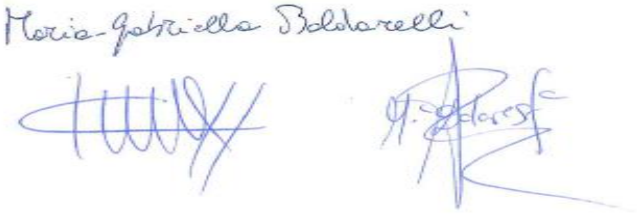
AUTHORIZATION OF THE DIRECTORS OF THE THESIS FOR SUBMISSION

Prof. Dr. Carmen Maria Martinez Franco, Prof. Dr. Maria-Gabriella Baldarelli and Prof. Dr. Maria Dolores Garcia Pérez as Directors of the Doctoral Thesis "SMEs Behavioral Models of Risk-Adjusted Performance, (A cross-sectoral empirical inquiry from Albanian market)" by the Programa de Doctorado en Social Sciences, authorizes for submission since it has the conditions necessary for his defense.

Sign to comply with the Royal Decrees 99/2011, 1393/2007, 56/2005 and 778/98, in Murcia, March 25, 2019.



SMEs Behavioral Models of Risk-Adjusted Performance (A cross-sectoral empirical inquiry from Albanian market)

ABSTRACT

INTRODUCTION: This research study assesses into a business intelligence prospect the performance of SMEs operating in Albanian market and pertaining to trade, service, production and construction sectors.

OBJECTIVE:

MATERIALS AND METHODS: In this light the research put confidence on SMEs organizational behavioral features interacting with financial ratios regarding their performance prediction (estimated through: return on assets, return on equity and gross operative margin) in a cross-sectoral context. On this purpose there are analyzed five qualitative variables and forty one quantitative data (concerning: liquidity/16, operational efficiency/12, risk/6 and growth areas /7). These analyses were conducted through a radial basis function at 95% confidence level referring to a sample of 33 SMEs in each sector.

RESULTS: The prediction of SMEs performance in a cross-sectoral context revealed as main determinant factors: the long-term debts to equity ratio, interest coverage ratio (leverage area), inventories, payments accounts turnover ratio (liquidity area), firm age (growth area), ownership gender, equity origin, borrowers' status and business ownership structure (organizational behavioral features).

CONCLUSIONS: The study highlights the fact that operating through certain levels of relevant indicators (pertaining to liquidity, leverage and growth areas) fosters business performance meanwhile the contrary results risky. Moreover, it is also evidenced the importance of some organizational behaviors that proactively help in the further development of this productive research area.

KEYWORDS:

"Sectoral economy", "Multivariate analysis", "Liquidity", "Leverage", "Performance", "Organizational behavior"

Modelos de comportamiento de las PYMES del desempeño ajustado al riesgo
(Una investigación empírica intersectorial del mercado albanés)

RESUMEN

INTRODUCCIÓN: Este estudio de investigación evalúa en una perspectiva de inteligencia empresarial el desempeño de las PYMES que operan en el mercado albanés y que pertenecen a los sectores de comercio, servicios, producción y construcción.

OBJETIVO: Analizar cómo la gestión de los elementos de emprendimiento: liquidez, apalancamiento y rendimiento, constituye el punto clave del éxito de las PYMES para proporcionar resultados prácticos y las principales claves académicas.

MATERIALES Y MÉTODOS: En este contexto, la investigación se centró en las características del comportamiento organizacional de las PYMES que interactúan con las ratios financieras, respecto a su predicción de rendimiento (estimada a través de: rendimiento de los activos, la rentabilidad del capital y margen operativo bruto) en un contexto intersectorial. Con este propósito se analizan cinco variables cualitativas y cuarenta y un datos cuantitativos (en relación con: liquidez / 16, eficiencia operacional / 12, riesgo / 6 y áreas de crecimiento / 7). Estos análisis se realizaron a través de una función de base radial con un nivel de confianza del 95%, en referencia a una muestra de 33 pymes en cada sector.

RESULTADOS: La predicción del desempeño de las PYMES en un contexto intersectorial reveló como los principales factores determinantes: el índice de deuda a capital a largo plazo, el índice de cobertura de intereses (área de apalancamiento), los inventarios, el índice de rotación de cuentas de pagos (área de liquidez), la edad de la empresa (área de crecimiento), género de

la propiedad, origen de la equidad, estado de los prestatarios y estructura de propiedad de la empresa (características de comportamiento de la organización).

CONCLUSIONES: El estudio destaca el hecho de que operar a través de ciertos niveles de indicadores relevantes (relacionados con las áreas de liquidez, apalancamiento y crecimiento) fomenta el desempeño del negocio, mientras que los resultados contrarios son riesgosos. Además, también se evidencia la importancia de algunos comportamientos organizacionales que ayudan proactivamente en el desarrollo de esta área de investigación productiva.

PALABRAS CLAVES:

"Economía sectorial", "Análisis multivalente", Liquidez "," Apalancamiento "," Desempeño "," Comportamiento organizacional".

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Many thanks for your encouragement!

“Has come the time when business is first and politics second"
Samir Mane (1967 - cont’)

CONTENTS

ACRONYMS AND ABBREVIATIONS

AAB	Albanian Association of Banks
ACP	Average Collection Period
AG	Administrator Gender
A/M	Above Mentioned
APP	Average Payment Period
AT	Assets Turnover
BC	Bolton Committee
BO	Business Ownership
BS	Borrower Status
BoS	Business Size
CA	Current Assets
CC	Contingency Coefficient
CR	Cash Ratio
CV	Collateral Value
EC	The European Commission
EFAC	External Financing and Assistance Capacity
ENTU	European Nomenclature for Territorial Units
EoY	End of Year
EO	Equity Origin
EQ	Equity
EU	European Union
FA	Firms Age
FA	Fixed Assets
FATA	Fixed Assets / Total Assets
FATR	Fixed Assets Turnover Ratio
FCF	Financing Cash Flow
GOM	Gross Operative Margin
GMM	Generalized Method of Moments
GPM	Gross Profit Margin
H	Hidden Layer
ICF	Investment Cash Flow
ICR	Interest Coverage Ratio
ITA	Inventory/Total Assets
INSTAT	Institute of National Statistics
INV	Inventory

ITD	Inventory Turnover in days
ITR	Inventory Turnover Ratio
LTDER	Long Term Debt/Equity Ratio
LEV	Total Leverage Ratio
LTD	Long Term Debts
LT-LEV	Long Term Leverage
MCC	Money Convertion Cycle
MLN	Million
NDTS	Non-Debts Tax Shield
NP	Net Profit
NPM	Net Profit Margin
OCF	Operative Cash Flow
OG	Ownership Gender
ON	Owner No
PATR	Payable Account Turnover Ratio
POLS	Pooled Ordinary Least Squares
QR	Quick Ratio
RA	Receivable Accounts
RATR	Receivables Accounts Turnover Ratio
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investments
SAA	Stabilization and Association Agreement
SAP	Stabilization and Association Process
STD	Short-Term Debts
SME	Small and Medium Enterprises
STA	Short Term Assets
TAN	Total Assets Tangibility
TATR	Total Assets Turnover Ratio
TLR	Total Liability ratio
THSD	Thousand
USD	United Nations Dollar
VIF	Variance Inflation Factor
WC	Working Capital
WCM	Working Capital Management

INDEX OF FIGURES AND TABLES

I. INTRODUCTION

I - INTRODUCTION

Statistically based as in other Balkan economies and worldwide even in Albania small and medium enterprises (SMEs) represent an extremely important partner concerning the contribution to country's gross domestic product (GDP) growth which is expressed also in terms of innovative processes/products stimulated under the flexibility of doing business climate. Correspondingly, they proactively help in the maturation of labor market by contemporaneously fostering the social cohesion and not only. The latest national statistics prove that more dominant activities pertaining to service, trade, production and ultimately to construction sector (respectively constituting 46.65%, 16.85%, 13% and 9% of GDP) are mainly represented from SMEs, thus, sectoral pertinence becomes one of various key-elements of this research ground.

Logically, by generally treating the main country economic indicators during 2015-2016 period concerning macro, financial and fiscal stability through which public finances underwent substantial and ongoing reforms as per Stabilization and Association Process, with the aim of reducing government spending and increasing revenues simultaneously with administrative territory reform implementation it was pointed out the decreasing tendency of indirect tax rates (consumer price pressure) and the increasing tendency of direct taxes (corporate profit and personal income impact). Which clearly reflect the effects of government fiscal policy, concerning the redistribution of revenues by benefiting more from capital gain tax.

Rationally under the above mentioned (a/m) business climate they were affirmed different growth rates referring to sectoral pertinence by reflecting SMEs behavior regarding: their birth rate, ownership structure, employees no, managerial framework, business size, borrowers' status, location, etc.

With special regard to this study, in each 'sector-data pool', statistical examinations are performed at 95% confidence level aiming to figure out the

impact of qualitative and quantitative research variables referring to SMEs internal management as following:

-Liquidity management decisions handled as a pattern recognition process;
-Capital structure approaches under debt reconciliation framework;
-Behavioral Models of Risk-Adjusted Performance.

In this merit, the research questions are hypothetically raised on a single as well as in a multiple examination spectrum.
As by this way it can be possible to initially understand SMEs integrative liquidity management processes with the profitability ones concerning working capital management and other key-indicators related. The latter is considered an important process through which the management can create business health while correcting defective areas not only under liquidity context but even under functional-operability, effectiveness and profitability ones. Under these circumstances, adequate empirical examinations revealed the qualitative and quantitative predictive factors affecting businesses liquidity management strategy. Intuitively the maintenance of the necessary liquidity level due to business constrains requires the appropriate patterns almost when it is externally ensured. And obviously this enhances the businesses prospective in quoting higher profit rates by appropriately designing target strategies.
In this regard businesses are obligated in undertaking short and long–term debts equally sustained from the financial prospective which is also expressed in terms of risk. Whereas worth highlighting and understanding the factors which simultaneously affect liquidity by also creating the leverage effect. Thus, with the help of different statistical results all the significant qualitative variables (examined in the liquidity management section) are re-estimated simultaneously with other predictive factors related to leverage structure. In the first part of the examination short-term leverage structure predictive models are explored. Then, long-term debts structures are further explored by arguing on the significant qualitative factors prevalence (previously examined) simultaneously with other quantitative factors. Closely referring to both leverage-term results it was assumed a more precise result concerning SMEs 'risk-dynamics' approach which

from one hand competes with daily-routines of business doing and from the other one accumulates financial resources to foster growth.
And finally, the SMEs behaviors were reconciled in an aggregated way by dealing with liquidity and leverage risks, in a performance model aiming to enhance additional value-based mechanisms. Considering that the relevance of qualitative and quantitative predictors provides right signs as per profitability increase which concerning SMEs randomly debuts as an efficiency/growth indicator (considering here SMEs operational range).

Unlikely other studies, this research argue how the proper management and interaction of multiple financial and organizational behavioral factors constitutes the key point of SMEs success by simultaneously providing practical results (in a micro-macro challenge context) and foremost academic clues.

ORIGINAL CONTRIBUTION IN THE SCIENTIFIC FIELD AND THEMATIC INTEREST

This research study promotes the capability of Neural Networks Analysis concerning the implementation of Radial Basis Function as an alternative predictive model (useful in a micro and macro context) almost considering the particularity of data explored contemporaneously with SMEs segment weaknesses and the underlying phenomena complexity.

The main advantage of neural networks exploited concerns their flexibility and lack of distributional data assumptions. Thus, the study simultaneously analyzes qualitative and quantitative behavioral data pertaining to four distinctive sectoral-affiliations. Considering that the latest provide the input data produced as a result of strategic policies implemented in SMEs and other external factors affecting their activity. Without forgetting that adequate predictive models could not be solely based upon financial ratios as the latter are often open to manipulations and by this way become less reliable to performance approaches.

Consequently the multi-functionality of SMEs ratios is considered in compliance within the operability of this business segment. In addition to provide a more rational framework though the analysis deployed several behavioral variables are empirically tested trying to find the hidden interaction that exists among themselves as well as among them and quantitative variables, even they often can be difficult to interpret as produce extremely complex models with multiple layers. Maybe that's the reason why none of these models were specifically addressed to SMEs or even targeted to certain SMEs patterns.
Anyway, the algorithms deployed known as 'supervised networks' reserve the opportunity to compare the known values against the targeted variables as the behavioral and financial input data are the result of a certain decision making process.

Foremost in each of three SMEs spectrums (liquidity-leverage and performance) analyzed above there are explored predictive models with more than one predicted variable, which in any case provides a reliable output for the managers concerning the potential stimulation of paths development for the firms' future. And obviously these 'business intelligence models' lead to corrective implications needed to be undertaken aiming the firms' performance optimization while continuously controlling negative business tendencies in different business units or even argue on their simulation procedure.

On a macro context instead worth highlighting that these models can be useful to governmental interventions, as they may use the combined information to assists even SMEs in non-performing status and not only while continuously enhancing and transforming business climate. And ultimately the additional relevance is that through them it can also be studied the impact of different policies implemented which comparatively helps in the designation of sustainable business policies as SMEs are the most vital and significant business segment in the country.

THEORY, EVIDENCES, MEASURES AND MODELS EXPLORED CONCERNING SMEs LIQUIDITY, LEVERAGE, PROFITABILITY AND PERFORMANCE EVALUATION

A fragile economy like the Albanian one has strongly entrusted its development on SMEs catalyst growth system considering that over 80 % of the proactive labor force is concentrated among them compared to the EU average of around 67 % by providing about 68 % of country's total value added meanwhile EU average is around 58 %. Together "high-growth", "start-ups", "life-style" businesses and "social enterprises" account for over 99.9 per cent of the total number of Albanian firms and generate 67.7% of total turnover by also positively affecting country's budget revenues (1 and 2). Moreover, as evidenced SMEs are recognized and acknowledged worldwide as vital and significant contributors to economic development, introduction and diffusion of new technology, ability in generating potential entrepreneurs and skilled workers for the industrialization process both nationally and internationally (3).

In this context, different empirical researches have been undertaken in emerging, developing and developed economies, trying to highlight the economic climate effect on SMEs profitability and growth issues despite their most crucial financial management aspects remain Working Capital Management (WCM), Leverage Effects and Performance/Profitability aiming to simultaneously reach internal and external goals. Related to the first element it was argued that an efficient and effective management makes substantial difference between the success/failure of a SME, thus, liquidity and leverage risks consequently may serve and used as a value-based mechanism (4). Seemingly, other studies are focused on the impact that value-based mechanism has on SME's profitability by almost treating the latter as a performance measure (5-10).

Therefore this study is conceived in the exploitation of a deeper research approach oriented toward the a/m factors as well as potentially other in order to be identified a "value system", in whilst should be trusted and continuously invested regarding the sustainable development of SMEs not only under a multi-sectoral prospect but even in different macro-environments, whereas in unanimity are considered as the most dynamic force of economic growth.

WORKING CAPITAL AWARENESS IN RESPONSE OF PERFORMANCE VALUE CHAIN

By especially considering SMEs patterns financial behavior, WCM is a key feature through which they perceive alert signals toward strength or weakness; hence, various research studies worldwide are further developed. Under a more proactive approach a recent study investigated the impact of WCM practices on the profitability of 150 SMEs in Nigeria. Concretely, it was revealed a positive relationship between cash management, inventory turnover and trade credit practices with profitability by concluding that SMEs efficiency and sustainability mainly depends from good WCM practices (11). In this regard it can be explained that a negative coefficient concerning inventory holding period means that the longer inventory is hold, less working capital is available which causes a reduction on SME's profitability terms.

Except this, on the other hand regarding the accounts receivable period and profitability it can be pretended that a more restrictive credit policy implementation may improve the company profitability by concluding instead that short cash conversion cycles mean more profitable SMEs in compliance with research no 9 argumentation. Meanwhile, the contrary is demonstrated on the positive relationship between accounts payable period and profitability argued that if SMEs payments delay increases the working capital (WC) level maintained and enhances the possibility to increase the profitability.

In a more restrictive line instead remained another research (12) which used a sample of 6,063 Portuguese SMEs, pertaining to 2002-2009 period. It evidenced the simultaneous effect of inventory reduction and cash conversion cycle on business profitability by conducting them toward aggressive working capital management policies.

In controversy with the previous study the conducted studies imply that in a certain way the positive relationship between average payment period and profitability indicates that profitable companies prefer to delay payments aiming to explore all the market opportunities (11).

A prior study undertaken from Gul et al. (13) comparatively examined the relationship between WCM components and SME's profitability in Pakistan for the period between 2006 and 2012, by using as a dependent measure return on

assets (ROA) in the quality of profitability proxy. Here the results confirm that account payables have a positive impact on profitability whereas the contrary occurs per average collection period, inventory turnover and cash conversion cycle.

Few years later another study (14) examined the influence of cash management practices and inventories on SMEs financial performance in trading companies of Machakos Sub-County/Kenya. The findings demonstrate that due to the lack of WCM practices the businesses performance is low. Furthermore the study revealed that SMEs financial performance is positively related to efficient cash management and inventory practices.

Throughout it was determined a significant positive relationship between the time taken to convert inventory into sales and profitability explaining that high inventory levels reduces the costs of possible interruptions in the production process as well as business losses due to scarcity of resources. While in some cases the negative relationship between cash conversion cycle and profitability was explained to consider that the investment minimization in current assets can help in boosting profitability by ensuring that cash is not generally preferred but used to generate profit.

The influence of WCM components such as: cash conversion period, average account receivable days, average inventory turnover days and average accounts payable on 400 SMEs performance operating in Ghana during 2011-2015 period was also treated (15). The study found that cash conversion period, account receivable days and inventory turnover days were significantly and negatively related to performance. In controversy, account payable days were ascertained to have a positive relation with performance. In general it implies that by decreasing the cash conversion period, account receivable days and inventory turnover days, SMEs profitability increases. By this way is strongly recommended to SMEs to review working capital management practices.

Alternatively (16), it was explored ROA as a measure of profitability/performance and examined the relation of WCM components (i.e: cash conversion cycle, inventory, accounts receivable and accounts payable) to evidence the importance of working capital management and its components on the profitability of Indian SMEs by elaborating a sample of 433 SMEs for the period spanning from 2007-

2012. The analysis showed that the number of days of inventory, number of days of accounts receivables, the number of days of accounts payables and cash conversion cycle are negatively correlated with profitability of SMEs in India. Subsequently, the study highlights that the management of inventory and accounts receivables are important for SMEs profitability in India, even the latter is considered relatively less important than inventory management.

Unlike the previous one, a study undertaken in Nigeria (17) demonstrated that mainly SMEs do not care about their working capital position by also acting without a well defined credit–policy framework as the main focus remains only cash receipt. Correspondingly, the firms selected for the a/m research show signs of overtrading and illiquidity that provide not only turbulences concerning profit maximization but also creditors payments delay. Logically, to them is recommended the designation of a 'tailored' credit policy aiming to ensure the control and financial reporting directly correlated to other improved working capital practices as per solvency and growth.

And in accordance with the previous study, is also measured the effect of working capital components on Czech SMEs gross operating profit corresponding to a five year period. It ascertains that the planning of in and out-cash flows manages business liquidity (18). From the other hand, the monitoring and controlling of working capital becomes a further crucial instrument concerning business continuity and performance.

In addition, Greek evidence (7) suggests that an effective working capital management is a necessary component of firm's future growth and profitability expressed in terms of return on assets by considering a sample of 459 SMEs from 2008 to 2012 period. In this case it was highlighted that a proper maintenance of working capital increases the reliability of business processes, backup movements involved in working capital itself and lower funding costs. Accordingly it was suggested that less profitable SMEs' will delay the payments meanwhile the decrease of cash conversion cycle increases their profitability.

With the same intent, it was collected a panel of 8872 Spanish SMEs covering the period from 1996 to 2002 (9) and against return on assets was used as a measure of profitability. The study reveals a significantly negative relationship with: inventory holding, accounts receivable/payable period and cash conversion cycle.

By concluding, that SMEs profitability could be improved by reducing the inventory holding period through adequate marketing campaigns and by contemporaneously implementing a restrictive credit policy toward the customers.

Furthermore there was analyzed the effect of WCM on SMEs profitability over a sample listed in Istanbul SME Industrial Index during 2011 to 2014 period. And the authors confirmed a negative relationship between net margin, short term debt turnover days and cash conversion cycle. Also they interpreted that effective management of working capital such as decrease in short term debt turnover days can positively affect firms' performance (19).

While Afrifa et al. (20) adopted a sample of 802 British quoted SMEs listed on the Alternative Investment Market as per 2004 to 2013 period aiming to capture the relationship between working capital management and their performance by taking into consideration the plausible effect of cash flow. They found out that working capital management has a significantly negative impact on SME performance and the contrary is remarked concerning cash flow. According to the findings, WCM has a significantly negative impact on SME performance. However, regarding the available cash flow, it was found a significantly positive relationship. By this way, it can be argued that SMEs through an accurate management of cash flow are able to enhance their performance.

Trying to further extend the examination context (21) by controlling for unobservable heterogeneity and possible endogeneity in German SMEs, it was against analyzed the relation between working capital management and profitability. The research undertaken proved a non-linear relation between these two variables by demonstrating that there is a non-monotonic relationship between working capital level and firm profitability. Simultaneously the study ascertains that SMEs have an optimal working capital level that maximizes their profitability. In addition, a robustness check of results confirmed that firms' profitability decreases as they move away from respective optimal level.

From another aspect Goel et al. (22) treats the WCM of business operational liquidity framework by involving decisions regarding:

(a) choosing between high costs of leverage due to inventory issues;

(b) the level of receivables to promote;

(c) benefits of payments delay;
(d) cash holding vs. opportunity cost.
Consequently, there can be mainly identified three major approaches to liquidity management namely: aggressive, moderate and conservative. The first one (defined as "risk taker") requires keeping a low level of short term assets and high level of short term liabilities by requiring higher amount of current assets it can be treated as a conservative approach (defined as "risk averse" position). While the hybrid one (the moderate approach) represents an intermediary status of both previously mentioned states and constitutes the most essential status regarding an efficient business operational framework.

The same concept was previously given while targeting the huge amount of working capital as a cost generating instrument referring to unemployed assets funding cost and respective interests (23). The vice versa occurs in case of low working capital limits by causing production breakdowns translated against in losses. Ultimately each specific strategy chosen will determine the current assets/liabilities kept by a company and respectively they impact the profitability level.
In this merit worth highlighted the research of Koury et al. (24) which confirmed that 28.5 % of Canadian SMEs companies follow the conservative strategy, whilst only 10.2 % pursue the aggressive one.

Beyond this, it was confirmed that the degree of aggressiveness of WCM strategy increases the returns (25). But, different disputed empirical results are achieved on behalf of strategy type pursued on the relationship between working capital management and profitability (9, 18 and 26-29).
Nonetheless in practice, it is very common that the potentials associated with an intelligent optimization of capital are strongly correlated with inventories, receivables, liabilities, liquid assets and correspondently to profitability are not systematically addressed. Properly for the a/m reasons if the company holds too much inventories or maintains very high receivables the working capital management process can be expensive.

That's why deemed that the main priority of managers is the settlement of triggers concerning working capital management practices because the necessity may vary from firm to firm regardless the environment as well as from one industry to another one but always keeping in mind the profitability level established as target.

1.3.1. Investment capital efficiency paradigm vs liquidity optimization

The optimization of capital investments is treated as one of the most important levers for improving value-based performance indicators from one hand as well as for securing the availability of sufficient liquidity from the other one. Aiming to provide increase of capital efficiency and install a permanently monitored system, a special attention goes to capital expenditures including also WC investment. As proven especially regarding to SMEs business size, liquidity management is the major issue, thus, it should be managed day by day in order to meet short-term obligations due to agency[1] and asymmetry[2] issues (30-35).

Typically SMEs working capital financing process is closely restricted to respective short assets composition as audited financial statements are missing (36). It can be conveyed in the same result explaining that collaterals used from short-term loans are the receivables while inventory/work-in-progress is the second choice (37). Accordingly (30, 38) it can be added that in order to manage liquidity in long-run SMEs act through the renewal of existing short-term loans and preserve the same strategy toward the suppliers by causing a cost increase. Despite this, even unconventionally due to profitability constraints the credit-rationing pushes they to explore different forms of short-term financing

[1] Agency problems in SMEs occur when managers are delegated from owners to act according their interests. Inherently this relation creates conflict of interests in respect of each individual benefit clue.

[2] An asymmetric information situation occurs when one of the parties involved in economic transaction posses greater information than the other (i.e: buyer vs seller). Under these circumstances it can be deducted that almost all economic transactions involve information asymmetries.

considering that a certain level of liquidity accelerates their growth process by giving the chance to capture additional market opportunities.

Nevertheless (39) in this prospect is confirmed a significant negative relationship between firm's profitability and liquidity levels measured by current ratio. This relationship seems to be more pronounced for firms with high current ratios and long cash conversion cycles. In this regard, different researches have been conducted to examine the industry effect on the financing behavior of SMEs in short and long term liquidity in various countries.

By this way, states that European manufacturing firms have large investment needs in machinery and 'hard' assets, and respectively have greater access to fixed collateralizable assets (40). Michaelas et al. (41) instead examined 3.500 UK small firms representing ten industries by demonstrating that in each case the industry effect is more pronounced on short-term debt ratios compared to long-term debt ones. It's important to highlight also the fact that the difference between the magnitude of the industry effect on short and long term debt varies across industries.

By employing the same database and same number of businesses as (41) another study (42) suggested that the wholesale and retail trade industry on average uses very little long-term debt and that the education, health, and social work industry uses almost equal amount of short and long-term debts. Under this light, it was additionally revealed a significant influence of industry on short-term debt into a 1.000 Spanish SMEs sample conducting to the result that firm size is another important influence on financial behavior (43).

Contemporaneously, two authors (44) explored the relationship of liquidity and cash conversion cycle in Greek food industry. They estimated a considerable positive relationship among cash conversion cycle and current ratio, average age of inventory and average collection period whilst identifying inverse relationship between it and average payment period. Concluding that there was no statistically significant relationship between variables used for liquidity measurement and those used for profitability measurement while the same results are achieved regarding cash conversion cycle and debt ratio.

Comparatively in an Indian study (16) it was examined the national consumer electronic industry and discovered that profitability for the overall industry

hadn't any recognized relationship with liquidity, even majority of the companies belonging to this industry showed a positive performance according to profitability and liquidity measures. A controversial result instead was retrieved from another study handled before (17) conducted on telecommunication & equipment industry by considering a sample of 349 firms. Thus, it was declared that in the a/m industry effective working capital management and financial performance do not have any significant inverse relationship with each other meanwhile exists a strong and inverse relationship between financial performance and liquidity.

Some other authors (45-47) referring to five district clusters of Australian SMEs based on key liquidity funding sources: trade credit, debt, bank loan, related personal debt, other debt equity and owner equity retrieved that industry is not a significant predictor of debt as a source of financing meanwhile trade credit debt cluster is strongly related with wholesale and retail trade sectors. While another study conducted (48) on the matter in the same market focused on the cross-industry differences in SME financing documents that the a/m industry does not simply process for one or more other factors (i.e : age, size, profitability, growth, asset structure of firms).

Generally, as manifested (1,49, 50) the most essential SMEs' values are: the current assets, while current liabilities are one of their main sources of external finance because of the financial constraints they face. In a certain way the argumentation pursued regarding the working capital management and SMEs survival complies with the ones of 51 and 52 studies.

In this prospect it was argued, that unfortunately, the assessment of liquidity management practices in small firms is quite inexistent, and obviously should be improved, being that's based solely on the standards and practices used by large companies or those adopted by professionals such as accountants, consultants, banks, etc., with relatively little attention being paid to the practices actually used by owner-managers themselves (1). In a distinguished way it is accepted that owner-managers in their survey of 200 small firms in the West Midlands did not use financial management techniques very effectively (53). As better explained by Deakins et al. (54), the techniques used in these cases are those designed for large companies and consequently the process of financial liquidity management and the decision-making one in SMEs remains something of "a black box".

Related to the latter some other specific internal problems are identified, such as: the inadequate capital, cash flow mismanagement and inventory control (1, 55) by declaring that 20% of firms' failures were due to bad debts or poor receivables management. In fact, referring to (1,39) an efficient working capital management is ment the adequate planning and controlling of current assets and current liabilities in a manner that eliminates the inability to meet short term obligations from one side and avoid excessive investment in respective assets from the other one. Because referring to liquidity for a performing firm (56), is not reliant on the liquidation of its assets value, but rather on the operating cash flows generated by assets. By this way, working capital management becomes a very sensitive area (57) in the field of financial management and directly impacts the net operative cash flow activity. It engages the decision regarding the level of current assets needed to be maintained as well as the investment on these assets. Considering that current assets represent all assets which can be converted in cash shortly (normally within a year) and otherwise can be treated as speculative investment which can be easily converted into cash upon needs. As far as can be understand the working capital management of a firm closely affected from liquidity management issues in part influences firms' profitability. Intuitively concerning the permanent performance, liquidity preservation remains an important objective. But while trying to increase the profits at the cost of liquidity firms may face serious problems. Therefore, a trade-off between these two firm objectives reveals. In any case, must be clear that one objective should not be treated at cost of the other. As firstly, if we do not think about profit, the firm cannot survive for a long period. And in following, if we do not think about liquidity, the firm may face insolvency or bankruptcy problems. For these kinds of reasons and not only to the working capital management should be given a proper consideration being that in long-run it inevitably affects the entire firms' profitability.

Under the same context, is seen the soundness of liquidity management as the most critical influence on the survival and financial well-being of small enterprises (58). Generally, liquidity management takes the form of cash and credit management. Whilst the most important aspect of cash flow management is avoiding extended cash shortages, and credit management involves not only the giving and receiving of credit to customers and suppliers, but also the

assessment of individual customers, the credit periods allowed as well as the steps taken to ensure that payments are made in time by closely referring to financial planning (59). Considering that, the latter stated that another component which should be considered is the payable accounts component. Thus, the delayed payments to suppliers allow firms to appraise the quality of bought products, by representing a flexible financing source for firm itself. Notwithstanding, the late payment of invoices can be very costly if to the firm is offered a discount option. For this reason instead of working capital measurement is treated cash conversion cycle (i.e. the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods,1). According to empirical results (7) longer this time difference becomes, larger investments are needed for working capital management purposes. For this purpose, it is required a constant supervising to maintain its adequate level in various liquidity components i.e. cash receivables, inventory, payables etc.

Due to liquidity examination, small firm's financial management points out (60) that working capital management takes a major proportion of a small firm owner-manager's time, and precisely the latter is devoted into the management of excess/shortage of liquid funds. In following (61) it is argued that the difference in liquidity between large and small firms supports the belief that working capital shortages are a common problem for small firms, and this difference could be the result of the small firm's limited access to capital markets and/or the basic nature of the enterprise. It is concluded by stating that liquidity should be a matter of concern for the small enterprise because cash is such a critically scarce resource as a result of supply constraints, which do not exist to nearly the same extent for a large firm. Furthermore, as explained from Curran et al. (62) this cause of concern is reinforced by the fact that small firm owner-managers are inclined towards risk-taking in an inherently risky and uncertain environment.

In this respect, liquidity management strategy becomes a crucial factor in the survival of the firm because the survival in a risky and competitive environment requires innovation and innovation requires new knowledge or a new way of combining current knowledge (63).

Correspondingly, it can be understood that the nexus between SMEs structure and liquidity represents another pure "trade-off" in 'value-chain mechanism'. The first is one of the most debatable issues in the theory of finance since the

celebrated work of two authors (1, 64-65). However, a number of theories have been put forth by bringing forward a number of frictions omitted in the original work as to explain firms' optimal capital structure, should this exist, as a function of the various costs and benefits from debt and equity financing. The most celebrated ones : are the Static Trade-off Theory3; Agency Theory (66-67); Signaling Theory[4] (68); the Pecking Order Theory[5] (pioneered by 69 and largely drawing by 70); and the Credit Rationing Theory[6] (71).

But against, the research in the area is mostly confined to the determinants of capital structure, among which there are often performance measures (e.g.; 30, 42, 72-75). While, pecking order theory holds up well for SMEs suggesting that there is a negative relationship between leverage and debt with the more profitable firms needing to borrow less where growth results have been mixed but generally show a positive whereas not always a statistical significant relationship. And the liquidity itself, understood in terms of cash availability or near cash resources to meet short-term obligations, is also associated to the problems posed by asymmetry of information, agency relationships and credit rationing; inevitably it becomes the major problem especially for SMEs (1). So, the latest is an extension issue of capital structure by considering that smaller firms live under tight liquidity constraints and basically seems to be a matter of consensus referring to the researches undertaken (30, 32-35).

Thus, is evidenced the traditional way of liquidity ratios used to analyze the above mentioned problem which fostered the researches to develop alternative liquidity measures by contemporary minimizing respective deficiencies through the implementation of mixed liquidity approaches. Especially, the latter include: working capital leverage ratios, quick and current ratios, net trade cycle, etc even

[3] The trade-off theory of capital structure treats the balancing of costs-benefits idea concerning the amount of debts and equity financed by a certain business.

[4] Alternatively called 'asymmetric information approach' it explains the cases where business insiders preserve information that the market hasn't and properly the capital structure signals to the outsiders above the businesses value change.

[5] In finance, pecking order theory (or pecking order model) argues that the cost of financing increases with asymmetric information.

[6] Credit rationing treats credit limiting by lenders to borrowers who need additional funds, even they are willing to pay higher interests.

it can be explored additional indicators more appropriate regarding the circumstances (1).

As previously mentioned, many studies have dealt with working capital from different views, environments and by using different evaluation techniques. For example the relation between profitability and liquidity was examined, as measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock SMEs (30). The analysis demonstrated that cash conversion cycle has a direct impact on profitability. Furthermore (7) it was treated the impact that working capital has on firms'profitability while revealed a significant negative relationship between gross operating income and the number of days of accounts receivable, inventories and accounts payable in the sample used. Other studies (76-77) support the existence of a positive relationship, insofar as an increase in liquidity can be a consequence of positive operating incomes and financial results. In this manner, high profitability strengthens liquidity, which means that investments/inventories can be self-financed. In parallel with sufficient liquidity, investments boost growth and future profitability in a virtuous cycle. In contrast, low levels of liquidity may lead to higher borrowing requirements and a reduction in the levels of return on investments (ROI).

In this respect, low profitability does not generate sufficient liquidity nor self-financing of investments, which ultimately hinders future growth and profitability in a vicious circle due to equity restrictions. In the same argumentation line merely remain the studies conducted by also noting that liquidity does not hinder performance (78). From the other hand, Harford et al. (79) confirmed that maintaining certain levels of cash can resemble a reserve capacity for possible investments in downturns, reflected in better operating performance and higher post-downturn growth through the maintenance of a solid capital structure as far as in literature this argument is largely elaborated.

THE LEVERAGE EFFECT ON SMEs MANAGEMENT

In principle, debt entails the net sum of money that a business must repay until a precise time frame. Randomly it is not limited to borrowed funds but extends to

outstanding payments and receivables and hence debt management involves maintaining a balanced level of borrowed funds versus advances to customers in form of credit sales. As can be clearly understood debt management practices as integrative part of financial practices applied at small business which logically affect the ability of the latter to grow, while move with the dynamics in the business environment. Sounds also true that small businesses carry different types of debt depending on their services or products delivered (80). Obviously to correctly manage the business debts, is crucial related to the appropriate estimation of current debts, minimum payment schedules and respective interest rates almost considering that the success or failure of a firm depends from the ability to secure adequate funding. Comprehensively it can be typically affirmed that small and medium sized firms suffer from lack of adequate cash flow and working capital at large extend (80). But considering that the same issues also affect big firms, small firms are often at bigger risk since they have greater scarcity of cash flows and limited sources of capital as well as cannot manage the raise of extra capital through equity by issuing shares to the public almost when the latter is strongly related to collateral issue and other environmental restrictions.

Even previously admitted SMEs debt management involves generally two distinct processes which include making financing decisions and defining the level of working capital (81).

The first step follows with the identification of financing source such as: debt, retained profits/earnings and owner funds in form of equity. From a necessity concern the appropriate mixture of cash flows boosts the profitability by this way it can be reconfirmed the evidence regarding small firms which are able to convert stock into cash faster by selling more and collecting receivables faster (80,82). Throughout they generate more capital to run the operations and notably reduce debt levels.

Especially in developing countries the success of the SME depends on appropriate financial management practices. The researchers have found that failure rate of firms is mainly attributed to lack of financing and inappropriate financial management practices mostly related to the debt ones. Being that many businesses seek external financing to meet their cash demands in order to create value leads to the understanding that managers and owners should carefully evaluate their debt management strategies.

Rationally the debt financing strategy significantly differs between SMEs due to the varying motives which may be present also among their owners and

managers, but in any case the exact influence of the debt financing is not clear. Although is opted that debt increase can reduce the agency costs that may result from information imbalance. Accordingly Wu et al. (83) described that the information asymmetry problems are more acute in SMEs than in large firms, so, long-term lending relationships are important for SMEs in order to deal with the resultant agency problems. Recognizing that SMEs' managers have a limited range of debt financing they normally tend to be more dependent to commercial lenders especially to institutional lenders. Comparatively it should be highlighted that the insolvency of many small businesses not depends only from the owner underperformance, but because their firm is not run like a business (84). And at this stage the cash management strategy predicts also the one related to debts. Therefore, it can be added that the poor debt management issue from owner-managers or lack of financial management is the main cause underlying the problems in SMEs (85). Reasonably as of today their big issue remains the maintenance of an optimal capital structure ensuring guaranteed and sustainable growth.

The very first modern theory of capital structure was developed by Modigliani and Miller as manifested per Hillier et al. (86) who in parenthesis posed the irrelevance theorem arguing that the firm's capital structure does not have any impact on its value (the latter was determined strictly to assets value). More specifically the value is generated by the earning power and risk of the underlying asset. Thus, internal funds used to increase equity, stock/bond issuance as well as lending options have the same impact on firm's value.

The first proposition made from them refers to the capital structure, and the second one concerns its cost. In other words, they configured that the value of levered firm is equal to the value of un-levered firm and that cost of equity is a linear function of firm debt to equity ratio.

Later[7] on, there was a necessity to revise their theory consistent to transaction costs and taxes implemented in the market which are also important matters to a firm value as the leveraged firms can take advantage from deducible interests and taxes burden. Under this context firms financed only by debt can maximize their value in comparison with the un-leveraged ones.

The trade-off theory instead points out the balance between benefits and costs from their financing choices, preferring debt financing over equity by using the transversal logic of tax shield. Henceforward more debt is employed, higher becomes debt ratio by giving chances to bankruptcy probability increase, and

[7] Modigliani and Miller corrected their initial work in 1963.

properly for this an optimal capital structure is required. And the latter occurs when the marginal cost of debt is equal to its marginal benefits (87).
Using debt tax benefit arguments the agency-cost theory is further treated. It describes the way how managers of levered firms transfer free cash flow risk to particularly risky investments aiming to spread the binomial effect of gain-losses. As a consequence the owners choose to operate through risk premium mechanism. Thus a contradiction arises, the stakeholders do not focuses on high premium investments if only owners benefit, by constituting a leverage disciplining effect. While it should be assured in any case that debt interests and principals payments are the further most important goals not only for the market but mainly for firm growth itself.
In respect of agency theory, it was also argued that there is less conflict between principals and agents in small and medium size enterprises as is often statistically evidenced that the SMEs' owner and manager are the same person (66). In conformity with their argumentation line, Ang et al. (88), demonstrate that family or small firms can be considered as zero agency cost since the level of conflict quite inexistent. The idea of zero agency cost is further supported and explained how the existing incentive structured in the small and medium size firms create fewer agency conflicts between different claimants (89-90). But obviously the issue consists in SMEs when the principals and agents are separated. Furthermore as explored from Gomez-Mejia et al. (91) and Schulze et al. (92) problems like entrenched ownership and asymmetric altruism within SMEs may create difficulties while describing that generally they face agency cost problem when a separation line is established between owners and stakeholders.

An additional raised issue causing a significant agency cost in SMEs case is that they do not have to disclose their financial information in financial statements and they tend to suffer more the asymmetric information (93). Almost the latter is present when managers give more priority to respective areas of interest considering that monitoring process in these cases is very expensive. As SMEs temp generally to be free from any financial disclosure whilst restrictive rules and regulations force large companies to be transparent regarding financial activities undertaken. Moreover Schulze et al. (92) added that the existence of conflicts may paralyze SMEs to make a decision which threaten its survival. Consequently they increase debt in order to control self- interests of the agents and to limit the negative consequences of altruism within the firm and solve the problem of free ride. Because the phenomenon of altruism shows how the agency problem becomes more apparent in SMEs due to resources misallocation by affecting their

capital structure and properly this idea is supported from the study of Gomez-Mejia et al. (91).

Another capital structure theory is the pecking order one developed while describing the asymmetric information between managers and outside investors leading to adverse selection, so managers may issue new equity only when the firm is overvalued (69-70). Technically, this theory has no predictions about an optimal leverage ratio even keeps always in mind the cost of adverse selection by giving priority to those debt sources which represent less asymmetric information and the lowest adverse selection cost. So, the debt is firstly financed from internal funds and then it is issued in accordance with specific needs and circumstances.

Various approaches pertaining to the same year set of researches (68, 94) related firms' capital structure choice through the outside stakeholder's signal which conveys information from inside to outside investors. The next set of approach is that capital structure is shaped to decrease the inefficiencies in the firm's investment decisions; likewise it was believed that inefficiencies in investment decisions happen due to the information asymmetry among insiders/ managers and outsiders /creditors and investors (69).

Under these circumstances is also believed that an asymmetric information phenomenon is highly destructive due to the fact that well informed group has the power to take advantage to the other one at each transactional basis [8] (95). Barnea et al. (96) charges more likely to the SMEs the asymmetric information as the information transparency is costly almost related to financial statements publishing. And in fact should be admitted that investors instead prefer to have an audited financial statement even the latter isn't yet a legal requirement. In the same time due to the existing circumstances the managers aren't too focused on this point by creating asymmetric information issues.
Credit rationing evidences from the other side (being strictly related to asymmetric information) confirm that it is smaller in short term period for small businesses than in faster growing firms with a low return on assets, added value, quick ratio, cash flow to assets ratio and much less accounts receivable and inventories to offer as collateral. For long term credit instead, credit rationed firms are in general smaller and younger firms, preserving some interesting features such as: low cash flow to assets ratios, low growth rate and much less

[8] Considering that adverse selection phenomenon occurs before executing the transaction and the moral hazard after.

tangible assets to offer as collateral even though they have a higher added value and return on assets ratio (71).

However deemed necessary the examination of capital structure choices depending on SMEs circumstances regarding decisions strongly correlated with 'business-risk appetite' which in turns are supported from performance targets.

1.4.1. Capital structure choices

Basically stating, firms finance their assets through equity, debt or more frequently, a combination of both. The first option represents the amount invested by shareholders while constituting a long term financing source since it does not obligate to an effective and immediate repayment. Intuitively, a certain return is expected by the shareholders for the sustained risk, which vary from firm's profitability whilst the vice-versa leads to a situation of bankruptcy. Debts instead require a strict payment of interest and principals at maturity date to the firms' creditors and is correlated to an increasing risk which should be covered from equity return (97). Throughout debt can be subdivided in short and long-term according to its maturity. Rationally the first types of debts are more relevant when companies need working capital for small equipment purchases, while long-term instruments are more important as per new investments. And finally the strategy used from the company to combine them both represents its capital structure. Mota et al. (98) underlined that restricted to several factors, such as: industry, tax policies, type of asset, costs of financial distress, uncertainty about the future, company's life cycle and borrowing decisions the firms' capital structure varies. Especially referring to Borges et al. (99) and (97) the main indicators related to capital structure choices revealed to be: equity-debt-solvability ratios. It was argued that they determine the level of equity and debt while companies finance their assets independently from respective nature and function, as well as express the ability to pay corresponding debts. Due to the a/m reasons the argument is further elaborated by paying particular interest over capital structure determinants nature evidences even in different theoretical contexts as deemed necessary to better understand the strategy implemented from SMEs accordingly.

1.1.1.1. Capital structure determinants

Various empirical studies have been conducted to analyze which factors affect the capital structure of companies (87, 100-108) and the factors most quoted by the literature are: asset structure, non-debt tax shield (NDTS), size, profitability, growth, liquidity, cash flow and industry.

The very first one regards to the segregation of the economic resources owned by a company in tangible or intangible, thus, is proposed that firms with tangible assets that can be used as collateral in the case of default and with respective debt obligations are expected to issue more debt including here lending and other debt instrument issuance (109, 101). In the same argumentation line remained even other authors (e.g 110) by stating that firms with more tangible assets have higher liquidation rate and consequently have more possibility to issue debts. The assets-debt issuance mechanism was later analyzed while treating assets as the collateral for debt issuance, so, the lending counter-parties undertake a minor risk (107). According to the latter, Michaelas et al. (41) and Hall et al.(42) it is ascertained that tangible assets have a positive correlation with long-term debts (LTD). Comparatively, short-term debts (STD) are disputed about the relationship of tangible asset with debt ratio because some researchers suggest a positive correlation (such as: Michaelas et al. (41); Esperança et al. (106)), while others a negative one (such as: Hall et al. (42) and (107)).

Meanwhile it can be mentioned that tax deductibility of interest payments may be the main benefit of debt, however, the determination of the optimal level of debt is influenced by the existence of other NDTS such as depreciation, provisions, allowances for doubtful accounts and others (100).

The literature also proposes a negative relationship between NDTS and LTD, as well as lack of statistical evidence concerning STD (e.g. Michaelas et al., (41), Esperança et al. (106) and Mira and Garcia (111)). Despite this, a vast literature is contradictive by suggesting a positive correlation between NDTS and LTD and a negative relation between NDTS and STD while arguing that firm size is another feature that may influence capital structure choices (107). In addition referring to the latter is concluded that firm size is positively related to debt (101). Throughout the extensive research work developed over this topic from Michaelas et al. (41); Hall et al.(42), Esperança et al. (106); Vieira and Novo (107) agreed that SMEs are expected to show a positive relationship between size and LTD, but a negative one with STD. Furthermore it was demonstrated that the

transactions cost of financing externally is lower in large firms which makes the debt access harder for smaller ones (112).
Accordingly other researches (112 and 113) followed the argumentation that a diversified strategy enables large firms to stable earnings by reducing the risk of bankruptcy and contemporaneously contributing to meet their debt obligations on time. Meanwhile another study (114) evidenced that SMEs are averse to risk because they are less leveraged and prefer to use more self-financing.

In respect to profitability instead as predicted in another work (69) it's directly related to the pecking order theory which pursues a hierarchical order on behalf of firms' financing decision: first internally with generated funds, then externally by issuing debt, and only as a last resort the new equity issuance. As it can be understand, the previous result contradicts the main study (64) prediction, since firms' don't take advantage of debt tax shields benefits as they prefer to be internally financed almost referring to funding cost (115). In a certain extend (116), it was explained that in small companies the risk is not shared by multiple investors, and managers will be more averse to take risk through borrowing money from outside financers. And the same result is perceived from the vast majority of researchers such as: Michaelas et al. (41), Hall et al. (42), Esperança et al. (106), Mira and Garcia (111), Cabaço (108) and Vieira and Novo (107) referring SMEs by showing a negative relationship between profitability and debt ratios.
Growth is another indicator widely used from investors, creditors and shareholders to measure the growth of an investment or project, leading to a profit derived mainly from sales/asset/earnings before interests and taxes growth. Recognizing this attribute, should be admitted that prior studies are controversial and there is no consensus in the relationship between growth and debt ratios. For example it is positive as a high growth firm rate can transmit a positive signal to creditors and they obviously will operate in favorable terms of credit (38). Due to this, other researches (87 and 102) state that the problem of overinvestment and recognition of companies' growth by the creditors, granting credit easier are the causes of a positive relationship between growth and debt showed by prior empirical studies. In controversy, Hovakimian et al. (117) assume that growth is negatively related to debt, as companies like to finance growth through retained profits over debt in conformity with underinvestment reason as explained in other studies (103 and 118).
Further evidences (67,116) also demonstrated that investment in growth will increase agency costs of debt and this could lead to less borrowing of money outside and consequently to a negative relationship between growth and debt.

Intuitively (119 and 120) it was supported the idea that if market prices were determined by rational investors then bankruptcy costs would not exist. While the development of static trade-off theory (121) proposed that debt should be obtained to balance bankruptcy costs and tax savings. But on the other hand other authors (122) concluded that the existence of bankruptcy costs reduces the value of tax shield.

Additionally, as a quick solvency test is used liquidity ratio being that it measures the company's ability to meet its short-term liabilities. Under this light (104) it is evidenced that liquidity ratio has a negative impact on debt ratios as firms with higher liquidity ratios would use them to finance their investments. Comparatively, the first cause of businesses' default is the lack of liquidity which is perceived as a bad signal from creditors. Hereinafter it can be affirmed that firms with high liquidity ratios prefer to issue LTD instead of STD. So, the conflict between managers and shareholders gets worse when companies generate relevant free cash flow by demonstrating that companies with high cash flows tend to issue more debt in order to discipline and motivate managers to work harder and take right investment decisions instead of wasting those cash flows in projects with lower returns compared with the cost of capital (87 and 102). Similar results were obtained (111) while exploring some SMEs' behavior as it was revealed a negative relationship between cash flow and debt. Concretely, in this case SMEs tend to invest in internal funds instead of accessing external debts. In contradiction with the latest researches (123 and 124) it was argued that asset substitution problem (such as using debt to finance high risk projects instead of equity) could be reduced because of the management's reputation being at stake. Therefore, as a firm gets older, it chooses less risky projects, by reducing its defaults probability which would lead to a lower cost of debt. Trying to go ahead to the problem, agency models have used different factors in order to explore the relation that exists between leverage and firm value, regulatory abidance, probability of defaults, value at the time of liquidation, available cash flows and the significance of managerial reputation. So, the last research conducted manifested that leverage is expected to be negatively correlated with interest coverage, growth opportunities, while firm value is positively correlated with it in response to some exogenous factors. Apart of the latter it was declared that agency problems between owners and managers tend to be insignificant in SMEs because the managers are the companies' owners most of the times (125 and 126). But disputed results were also achieved (127), by this way a negative relationship between the level of the stock market and leverage was found, the contrary instead revealed between bank development and leverage. Special attention is

also given to models based on industrial organization; such theories examine the relationship between a firm capital structure and its strategy whiles other the relationship between firm's capital structure and products/inputs characteristics. Properly, an interesting result was achieved (128) considering that under certain defined oligopolistic assumptions firms in equilibrium chooses positive debt levels. The idea was also consistently supported from another research (129) concluding that debt capacity increases with elasticity of demand for a product and decreases with the discount rate. A previous investigation (130) instead commented the influence of capital structure on customers and suppliers, and stated that capital structure was designed to ensure that shareholders did not liquidate a firm, debt holders from the other side would liquidate a firm only when it declared bankruptcy, as well as that the firm would default only if the net gains to liquidation exceeded the cost to the company's customers. Comparatively, an interesting result (131) is that firms which employed workers with highly transferable skills would have more debt necessity. But usually firms raise funds for new investments through retained earnings and externally through equity issues. Referring to the latest, it was observed a fall in the overall firm leverage between 1946 and 1986 period (132), and a general rise in leverage since the Second World War (133).

Empirically driven it is described that the most firm-specific factors affecting their capital structure are: firm size, profitability, tangibility, growth and volatility while considering among others that industrial characteristics also influence the capital structure (134). Other authors (135) added also that their relative leverage rankings are retained over time. Within the same logic, another examination (101) revealed that leverage increased with non-debt tax shields, fixed assets, size of the firm, and growth opportunities, and decreased with profitability, research and development expenditures, advertising expenditures, uniqueness of the product and volatility.

Properly, the latter is an extremely prominent element which may be addressed to interest rates and stock markets by becoming a particularly key-factor in the academicians, industrialists and regulators attention regarding their theoretical and practical investments. In such cases seems very interesting also the involvement of macro-factors in the firms' capital structure empirical examinations such as: market structure, stock market development, country's financial stability, fiscal characteristics, terrorism threat, direct foreign investments, exchange rate volatility and so on.

As contemporaneously is very interesting even the exploitation of firms' patterns such as: collateral value, sales discount rates, products quality, customer loyalty premiums, etc which may in/directly affect their capital structures choises which afterwards predicts their performance.

1.5. EXOGENOUS RISKY FACTORS AFFECTING SME´S SUCCESS

A special interest obviously goes to different and ambiguous results found from empirical researches dealing with macro factors over SMEs success stories and not. Under the same prospect, Simpson et al. (136) defines the macro-environment as containing factors external to company that present situational variable which may facilitate or inhibit entrepreneurship since the start-up and during all SMEs lifecycle.

Moreover the evidences (137) supported this concept by listing external factors such as: socio-demographics, markets (local, international, emerging and established markets), cultural, economic, political, institutional, legal, productive, technological, infrastructure and other physical factors of environment with respective pros and cons. Notwithstanding, Mazzarol et al. (138) and Viviers et al. (139) point out that these macro environmental factors are unfortunately not controllable and the success of SMEs often depends on management's ability to deal with them either with their volatility over time.

From the other side (140), it is discussed that the success of a new venture depends on the state of specific factors within the boundaries of specific nation-states with their own distinct economic, political and social factors. Obviously these factors have implications for education and skill bases, labor, expertise risk, access to resources, subcontractors and corresponding markets, networks, and so on by defining the entire framework which influences SME's success chances.

Opting to be focused on macro-economic context different arguments regarding SMEs success can be found out referring to following four groups of factors.

1.5.1. Political-institutional factors

As it is clearly predicted from Themba et al. (141) the political climate and legal requirements of doing business in a country represent the prior enhancer regarding entrepreneurship development and vice versa.
In the same line it was additionally stated that macro-economic policies, legislation, frameworks, regulations and laws are factors that can facilitate or hinder entrepreneurship development (142,143). Other author studies such as: Themba et al. (141); Ahwireng-Obeng & Piarary (144) argue that appropriate trade, labor, investments, tax policies and regulations encourages the investments sustainability not only by getting "self-financial wealth" but also by creating new job opportunities. The opposite occurs when the external environment presents legal and regulatory constraints related to entrepreneurship while increasing the costs of doing business (145). Properly referring to the latter deemed necessary to examine some evidences on this regard.

1.5.1.1. The judiciary system

The peculiarities of judiciary help in its reliability enhancement according to Ahwireng-Obeng & Piarary (144) research, furthermore it represents an important mechanism for entrepreneurial development by providing legal protection against intellectual property rights, enforce contractual obligations between parties, implement competition laws, as well as effectively administer commercial and administrative law.

Meaning that legal environment forces constitute labor law, antitrust laws, regulations, occupational health and safety policies implementation on behalf of specific interest in a given business industry (145). In some cases the regulations adopted concerning controlling of a certain industry includes: screening of premises, monitoring or registration of renewal permissions applications, inventories registration etc. But beyond them the combined effect of legal environment with business features provides adequate forces to orient business strategy.

And this sounds true, apart from the apparent burdens established as evidenced in some researches where businesses response was proactive referring to

profitability targets set (146-147), thus, a special attention goes to judiciary system strengthen.

1.5.1.2. Bureaucracy and compliance

The practice demonstrates that bureaucracy and compliance is not welcomed in business routine because according to Ahwireng-Obeng & Piarary (144) white collar crime can significantly increase business costs while takes also too much time to execute business transactions as well as creates an uncompetitive market context. Furthermore is explained that business feels constraint to fulfill the ongoing governmental requirements without having the possibility to a prior negotiation (148 and 149). Anaway seen from a different point of view, bureaucracy and compliance helps in a better understanding of SMEs needs closely related also to training and other government support activities even why evidences may confirm the contrary (150).

1.5.1.3. Public support

In various studies reveals the fundamental role of public infrastructure in businesses performance, concretely it was affirmed that public support is a very important instrument to SME success (148). Through it is ensured that SMEs get ongoing support in the form of knowledge and expertise to provide business sustainability beyond the initial incubation and early survival. In addition, two authors in their work (142) confirmed that the lack of public sector support has a negative impact on SMEs development in a country.

The support is typically provided in the form of incentive programs or inducements to encourage the funding of new enterprises, but no rarely the SMEs have no knowledge about existing government support mechanisms or don't know how to access them (151, 152). Anyway Fielden et al. (153) ascertained that some SMEs find that services like grants or procurement opportunities are complicated, inflexible or inadequate for current SME needs.

In another study it was made a distinction between entrepreneurs in terms of ethnic backgrounds and accordingly government support resulted more important for the success of small indigenous entrepreneurs than for the non-indigenous ones (154). Similarly, in a general way Sarder et al.(155) through a further research found that firms receiving support services, such as: marketing, education and training, technical, extension and consultancy, information, and common facilities from the public / private agencies experienced a significant increase in sales, employment and productivity. Intuitively this makes the public support a relevant mechanism especially in the initial business life-cycle.

1.5.1.4. Political instability

In their study Ahwireng-Obeng & Piarary (144) convincingly express the negative role of the political instability over SMEs development. And the reason is attributed to the turbulences that political instability causes into business environment by negatively influencing the competition and consequently SMEs success. Without forgetting that SMEs environment preservation at early stage is the most necessary action to be undertaken into a business climate almost where they are the majority force of country's economy.
Likewise another research drew a 'spicy' conclusion considering the relationship between SMEs bribe payment, management time wasted with bureaucrats, and cost of capital under political instability conditions (156). This sounds true by recognizing that business needs time to strengthen the steps undertaken to reach the targets set.

However must be admitted that SMEs are more sensitive to economic policies results almost until they mature in 'destination-market', then, additional factors may be predictive to respective success.

1.5.2. Economic policies effectiveness to entrepreneurship

At first sight, the varieties of economic policies implemented reflect at least the country's stage of development through specific incentives or barrier mechanisms. But, some studies (153 and 157) count the social conditions and aspects which create environmental goodwill from which benefit SMEs, or may present pressures that stifle entrepreneurship on behalf of Themba et al. (141, 158 and 159). Basically economic policies effectiveness is ensured through public infrastructure and credit access, labor force promotion, economic resources and technological progress mainly on behalf of socio-cultural context as described in following.

1.5.2.1. Access to public infrastructure

Some studies (e.g: 160, 142 and Ahwireng-Obeng & Piarary (144)) underlined the access to public physical infrastructure services including: water, electricity, serviceable roads, telecommunication, telephones, electronic media and postal services as essential for business start-up, development and growth. By admitting that recently internet is another support-option which avoids different bureaucratic transaction stages as well as reduces costs. Additional researches (142 and 159) explained that limited access to public infrastructure services is a major constraint to SME survival and growth, as it limits operations and restricts access to markets and raw materials.

Nonetheless generally the literature concludes that an adequate quality and accessibility of infrastructure services encourage investments, productivity and growth of businesses; whereas, the vice-versa conducts them into a slowing productivity growth (142, 161,162). Therefore, the public infrastructure access awareness becomes an essential element for business development path and not only.

1.5.2.2. Credit accessibility

The practice dictates that appropriate economic resources availability is important for small and micro business development. In addition, Robertson et al. (163) emphasized that availability enables SMEs to secure the necessary expertise and raw materials to put entrepreneurial ideas into practice, to be competitive, to survive during unfavorable conditions and to grow faster. Another group of studies (164, 151, 165, and 148) instead treated the lack of capital and limited access to finance as a factor that inhibits entrepreneurship and impedes the growth as well as the progress which comes even from timeout application of such essential resources.

Saying that, a special attention goes to the financial institutions which design tailored–SME lending product but in any case worth mentioned that they normally avoid SMEs that are considered risky and have no collateral or dependable track records (166). Under this logic the evidences (158) affirmed that most of those SMEs that are able to secure start-up finance find the cost of capital too high.

From the other side, Cole et al. (167); Beck et al. (168); (169) and (170) papers have investigated over additional SMEs incentive policy orientation factors and obstacles considered significant in constraining bank lending to them. Notwithstanding a considerable literature exists regarding the economic benefits and SMEs products lending between banks and business customers (e.g. 171-181, Bharath et al. (182), 183, Benvenuti et al. (184), Uchida et al. (185)).

Concretely, it is argued that the above mentioned lending benefits derive from:

-*information efficiency in loan origination process* pertaining to screening and quality of lending decisions information availability;

-*cost effectiveness of relationship lending*: risk premium estimation;

-*customer satisfaction*: customer monitoring and advising;

-*business expansion*: due to business relationship the bank expand products portfolio offered to existing customers even implementing preferential charges;

-*loan performance/provisions calculation*: measured by ratio of non-performing loans to total loan portfolio through which the bank can also calculate risk adjusted performance and further think about appropriate SMEs lending policies.

In this purpose it was empirically proved that bank characteristics have decisive effects on loan pricing and maturity (186 and 187). In second stage, the research shows that lending process depends from the technology used from bank and SMEs accordingly, which in a certain level tends to be risky. Another aspect

explored regarding the quantum of their lending infrastructure [9] to SMEs using different lending technologies is that the further key factor is financial institution's structure (188).
Pertaining to different (189, 176) papers elaboration is also raised the hypothesis that the globalization[10] of financial services has an adverse effect on small businesses lend amount even it seems that technological progress has expanded their credit sources. In facts, statistics show that banks offering "standard" lending products worldwide support the strategy through a mix-marketing scheme which somehow is expected to produce respective effects only in the near future. Stating that, it must be admitted that technological progress is another factor which should be taken into consideration on the matter.

1.5.2.3. Labor force, economic resources and technological progress

Some references (190, 191) permit to the understanding that access to labor markets is a key factor pertaining to entrepreneurship management as in compliance with other findings (182) it offers the appropriate expertise that enables ventures to explore all market opportunities. Accordingly skilled and professional human capitals always improve and boost SMEs development process. In this process an indisputable role is maintained from professional schools and universities curricula at each faculty program almost considering inter-faculty opportunities in globalization era.
Properly for this, (193 and 194) studies highly quote the access to other economic resources like: suppliers, lawyers, training and all intermediaries needed affirming that they create the value chain for entrepreneurial success. From the other hand, globalization, technological sophistication, access to technology and technological discoveries have seen an increased numbers of businesses built on quality assurance, high-tech innovations and intellectual property while giving to

[9] Generally refers to the conditions provided by governments/ regulatory authorities affecting financial institutions lending process. Berger and Udell (2006), described it as following: (a) the typology of information retrieved; (b) the legal and (c) fiscal context.

[10] Typically in this process are involved foreign owned banks which pursue the same strategic line as the holding group. So, lending to SMEs isn't a customized process to certain main characteristics which vary from country to country.

them the flexibility to be part of the market and explore respective opportunities which contemporaneously become more competitive. By this way, it was evidenced that inability to secure technology at start-up phase can impact negatively on the entrepreneurship development process (142). However it should be highlighted that technological progress is a vital process inevitably required even for further business climate improvement.

1.5.3. Cultural living context

For many researchers point of view 152, 195 and Stewart et al. (196) culture is considered as shared values, beliefs and norms of a society and therefore represents an important contextual factor, collectively programming and affecting entrepreneurs in a given community, ethnic group, region or country which generate differences across national and regional boundaries.
Even through detailed empirical estimations (148,197) the level of entrepreneurial activity in a country revealed to be affected by cultural norms, thus under this aspect, extensive studies were undertaken (151, 152 and 198).

In this regard, interesting results are achieved from (148) and Dreisler et al. (199) by describing that national culture that emphasizes achievement and social recognition for all forms of entrepreneurial success is more conducive to entrepreneurship. Consequently it was drawn the result that areas with low entrepreneurial culture may discourage entrepreneurs, who fear social pressure and furthermore market competition.

Another indisputable factor affecting SMEs birth and later on their success rate treated from Robertson et al. (163) is health care, especially while dealing with extraction and production activities. The continuous investment on it creates a better work climate for the entrepreneurs. Foremost considering a sustainable business climate Ahwireng-Obeng & Piarary (144) mentioned the low crime rate and security as a key factor for business progress. Particularly, as also previously mentioned is pointed out that crime and insecurity negatively affect investment levels, sales and business success without neglecting that they increase the cost of doing business (148,149).

1.5.4. Economic factors

Thinking about the economic factors impact on business success the studies undertaken from Viviers et al. (139); 148 and 157 demonstrated that the state of the national economy at the time when business is launched is decisive. Relative findings are briefly described as following.

1.5.4.1. Enterprise concentration rate

Merely enterprise concentration rate can be defined as the number of firms in a certain population at a given time while referring to a description it includes also the percentage of existing and possible entrepreneurs (200). Related to this measure, on behalf of a specific investigation work (201) it was concluded that low enterprises concentration rate means expanding opportunities whilst in the same time it can be disincentive for enterprises existence itself. In this regard it can also be affirmed that most successful businesses are those located in highly populated areas.

1.5.4.2. Inflation

Viviers et al. (139) and (148) works demonstrated that inflation affects entrepreneurship. Accordingly high inflation rates discourage venture activity as consumers become conservator in spending while requiring higher salaries. In other words, for the entrepreneurs this means less supply and consequently lowers profitability rates. Otherwise sales may be positively affected by inflation, therefore is important to use several indicators together to study the growth and development of enterprises under inflationary circumstances (202). In the same argumentation line remains the theory which implies that inflation is necessary to business development when it serves as 'business-lubrificant' element otherwise it becomes dangerous.

1.5.4.3. Interest rate

The debate over the interest rate effect on entrepreneurship is blatant because the literacy itself has shown contradictory results, for example a study argues that independently from risk premium attributed to the counterparties during credit worthiness process a liberal monetary policy assures a direct capital access to entrepreneurs (152). Nonetheless another research (203) founded a direct positive relation between SMEs growth inflation rate and interest rate.

The contrary instead was strongly supported from Viviers et al. (139), explaining that higher interest rates obviously implies limited consumption whilst the amount of available capital rises. In addition, over a theoretically basis it can be said that high inflation rates negatively impact capital access as by this way higher interest rates are applied in lending products and this consecutively is translated in higher product and service prices by limiting SMEs access. Thus, the proper addressing of monetary policy is a necessity in the countries with high SME concentration rate.

1.5.4.4. Unemployment rate

As a derivative of monetary policy instrument unemployment impacts the entrepreneurship process on behalf of Viviers et al. (139). From one hand as empirically proved in case of a high unemployment rate a lot of people are obligated to be employed into enterprises on the other one instead as argued, properly because of the high unemployment rate business earnings and markets are naturally limited (152, 204, 205). In controversy high unemployment rates also mean that more people prefer to be engaged in self-employment activities considering that spending power is limited which constitute an important signal in business prospect. Comparatively worth mentioned that lower unemployment rates deal with an extensive technological progress meaning that all skilled workers and professionals are integrative part of proactive labor force which in case is not directly involved in business activities continuously interacts with them.

1.5.4.5. Exchange rate

The studies undertaken from Viviers et al. (139) and (152) promote exchange rate as the major factor affecting entrepreneurship. Generally developing economies which demonstrate a high SMEs birth rate are threaten from import products whilst opt for exporting opportunities by mentioning also that less capital is invested from local SMEs.
Notwithstanding exchange rate fluctuation is considered as another very important factor directly affecting business volume especially while dealing with sensitive activities within SMEs. Concretely, is confirmed a very high sensitivity concerning SMEs performance and cost of operations to exchange rate fluctuations (206) mainly related to financial activities.

1.5.4.6. Taxation

Taxation in the quality of fiscal policy product as per Robertson et al. (163) study represents an inhibiting SME development factor. The same argumentation line was pursued even from Ahwireng-Obeng & Piarary (144) confirming that if tax rates are high the profit incentive can be drastically reduced and contemporary is explained that the complexity of tax system raises the business doing cost including here even the reporting frequency. Without considering the turbulences created from systematically complex challenges implemented in taxation system the SMEs survival and then success becomes quite impossible. Under the latter circumstances the best fiscal approach may be the one designed on business-life-cycle progress.

1.5.4.7. Business climate

The remarkable work of two authors (193) found as key SMEs / entrepreneurial success factors the positive features that a country provides related to opportunities, threats, information and access to role models in compliance also

with Pretorius et al. (207) study. Rationally, worth highlighting that political turbulences make unsecure the business climate by creating different risks which threaten business success and survival realities on behalf of Themba et al. (141). Throughout should be mentioned that Viviers et al. (139) offer as a key success factor the ability that SMEs themselves have to change over time by proactively acting against different risks (208) aiming also to capture the market opportunities. Alternatively it means changing technological practices and why not products' portfolios offer (148).
Because it was also deducted, that SMEs frequently miss the market opportunities while facing eventual extinction concept (149 and 200). And all this seen from a risk-environment framework leads to the understanding that business exposure depends to some risks which by the way influence risk decisions. Correspondingly, staff-quantum issue instead can be translated in a safer environment, considering that they act more proactively toward business risk management process by providing additional chances concerning employment.

1.1.1.2. THE METHODOLOGICAL RESEARCH CONCERNING SMEs LIQUIDITY, LEVERAGE AND PERFORMANCE EVALUATION MODELS

Trying to investigate through the appropriate methodologies used to reveal and further understand different phenomena explored under the a/m context, two researchers (209) affirmation must be highlighted:

> "Research method embraces the examination and explanation of a phenomenon which takes account of the underlying philosophical ideologies assumption, research design and analysis".

Under this light and following the literature examination order, must be added that usually working capital effects on SMEs' profitability in comparative circumstances are tested by using panel data sampling technique. Because as explained from (210) study and by referring to two other authors works (211 and 212) the benefits derived from the above mentioned sample collection methodology refers to:

- *individual heterogeneity control*; Panel data suggests that individuals, firms, states or countries are heterogeneous (213 and 214) while referring to time-series and cross-section studies that can't control this heterogeneity run the risk of obtaining biased.
- *Panel data give more informative data, more variability, less collinearity among the variables, more degrees of freedom and more efficiency*; time-series studies instead suffer multicollinearity meanwhile with additional information it can be produced a more reliable parameter estimates approach.
- *Panel data are better able to study the dynamics of adjustment*; statistically stating is evidenced that cross-sectional distributions that look relatively stable hide a multitude of changes.
- *Panel data are better able to identify and measure effects that are simply not detectable in pure cross-section or pure time-series data*;
- *Panel data models allow constructing and test more complicated behavioral models than purely cross-section or time-series data*; correspondingly the technical efficiency is better investigated and modeled with panels (215-219).
- *Micro panel data gathered on individuals, firms and households may be more accurately measured than similar variables measured at macro level*; In proposition to this, (212 and 220) researches affirmed that biases resulting from aggregation over firms or individuals may be reduced or eliminated.
- *Macro panel data on the other hand have a longer time series and unlike raises the problem of nonstandard distributions typical of unit roots tests in time-series analysis* [11], which are further examined by using fixed and random effects regressions.

From the other hand, prominent studies (16, 39, 104, 208-215) have examined the determinants of SMEs' profitability and liquidity on respective performance by using regression analysis.
Meanwhile through the additional interesting methods used are: the Pooled least square and General least square with cross section weight models implemented from two well-known authors of the field (50) and tested according to independent t-test and Bonferroni, Scheffe and Sidak's tests developed through One Way Anova model (228) as well as Pearson's correlation examined (39 and 229). Furthermore, cross sectional studies also have been conducted by using regression modeling (7).

[11] The Baltagi (2002) study ascertained that that panel unit root tests have standard asymptotic distributions.

Concretely, the cross country-multiple regression trend analysis instead widely used in literature is explored (30, 101, 103, 118, 134, 135 and 230-235) while opting for the satisfaction of all its five assumptions:
-Normal distribution;
- Linearity of each dependent variable from the explanatory ones;
- Homoschedastic distribution (of data and errors);
- Random walk errors (demonstrated through Durbin-Watson test statistics (236));
-Lack of multicollinearity (between explanatory variables examined through variance inflation factor-VIF) while aiming to explore the variables in/ significant impact on the phenomenon under examination.

Comparatively concerning dynamic specification models used to determine SMEs' capital structure attested to panel and not data studies shows up the one explored during 2005 from Gaud et al. (237) and Martin et al. (238), including them with a few SMEs (239) undertaken three years later. Intuitively an adequate estimation procedure obtained is the traditional Pooled Ordinary Least Squares (POLS) and the more advanced one the System of Generalized Method of Moments /GMM (220). In following an important method that prevails regarding the identification of SMEs capital structure differences at a cross-industry level is logistic regression model (48). Moreover, in order to capture the industry heterogeneity the inclusion of dummy variables techniques is used (240). And counting for the treatment of time-specific factors effect instead for each year the (241) study can be taken as example. However should be admitted that "time-trend" factor can be used as a control variable in all kind of models.

In this regard, it can be understand that concerning the influence of economic factors, government policies/tax and business characteristics in risk and financial management decision making the reviewed researches suggest that a very little progress is done.

Concretely it is used a multivariate probit approach to show the importance of individual risk aversion, firm size, household size, household's head literacy among others as factors that increase the likelihood of adopting risk management strategies in SMEs (242). Throughout the dependent latent variable is modeled on behalf of a linear regression function of explanatory variables which assume that error term has a standard normal distribution. Must also be evidenced that probit model is typically implemented in these cases and is estimated by the method of maximum likelihood estimation as well as in some sporadic cases the binary

logistic regression analysis is used. Moreover considering the characteristics of data retrieved in order to capture the behavioral aspects randomly the cross-sectional regressions result the most appropriate technique to be used (243-250). Remarkable, general effects of socio-demographic factors on financial risk management have been reviewed extensively by Gärling et al. (251) while indicating that even through a meta-analysis can be operated (252).

Notwithstanding, a lots remains to be done concerning SMEs' performance behavior investigation according to circumstances, particularities and relevance estimation in a business intelligence context by considering it as a fertile practical and research area.

II. SMEs CLIMATE AND BEHAVIORAL TENDENCY

II. SMEs CLIMATE AND BEHAVIORAL TENDENCY

The term "business" represents the most widely used expression in today's globalized world. Likewise it is commonly used even without any precise definition and subsequently many dilemmas are raised regarding its adequate and consistent meaning.

From a certain point of view, it is associated with the corporate structure of large multinational business entities, otherwise, it emphasis small business entities, ranging from those businesses run at family level (family businesses), to the numerous and complex options performed in various small businesses that are realized in the field of trade, services, production and so on.

Intuitively, the question raised is: which are the factors/criteria that define the size of a business? Theoretical and practical evidences prove that different criteria have been taken into consideration based on which the size of small business is defined (i.e: the number of employees, financial assets´ efficiency, business activity, sales turnover, etc). However, it should be admitted that all these criteria are relevant concerning their behavioral tendency investigation due to different businesses peculiarities.
By using this argumentation line, it can be stated that a business entity, in an industry branch may be categorized as "big" compared to its competitors, on the other hand it can be treated as "small" by closely referring to employees number, assets value, etc. Accordingly seems reasonable to further discuss the referential criteria established and used concerning business size definition in the country and not only, especially referring to small and medium businesses size aiming to compare them among different sectors of pertinence. Under some constraints here it must be highlighted that entrepreneur[12] can be considered the person who develops a business while facing risk, aiming at gaining profit and increasing

[12] With special regard to 'micro' activities owners.

business, taking advantage of the chances by having the ability to secure and manage the invested resources.

Taking into consideration the country circumstances in this part of research will be briefly analyzed the peculiarities of SMEs and the existing philosophy that makes efforts (while fighting the inequality effects, employment and demographic growth contemporaneously with the need for structural change reflected in regional administration development as per social cohesion strengthening), and creates realities to boost these initiatives toward a sustainable performance.

2.1. SMEs CLASSIFICATION FRAMEWORK

For many people, possessing a small business means a total independence and satisfactory financial incomes which contemporary results to be incredibly enticing. Throughout, many people dream to initially have a small business in possession but hesitate to realize that dream because think that do not have the education, experience and why not the money needed. Others are not familiar with the idea that by having a business on their own can completely change their lives. And properly this acting philosophy is very present in developing countries contexts like the Albania's one.
While as by the meaning of the term enterprise itself, is reflected the idea of undertaking something, thus, the owners of micro and small businesses are also called entrepreneurs.

In this light, various definitions are given in the literature for the entrepreneurs, even the essence is the same as in following:

- The entrepreneur can be defined the one that organizes, directs and undertakes the risk of a business enterprise (253);
- The entrepreneur is the one that creates "a powerful business from nothing" (254);
- The entrepreneur is the one that by combining a variety of things - money, materials, and work transforms them into a new product, business, productive process or into an improved body (255).

In parallel different definitions of SMEs across countries exist and the fundamental reasons for this refer to the differences in economic development between countries (256). In other words, it means that a firm which is classified as

a SME in one country may not be part of the same business category in another country and properly this has made difficult the comparison between them. Therefore, the differences between SMEs in developed and developing countries result to be very interesting.

By this way, a medium firm in developed countries refers to a business with 100-499 workers, whilst a firm with 20-99 workers is classed as medium in developing countries (257). A small firm instead in developed countries represents a firm with 99 or less workers, whilst a firm with 5-19 is classed as small in developing countries. In addition (258) in practice is argued that schemes that are normally targeted at SMEs adopt particular objectives.
Anyway, the European Commission (EC) attempted to stabilize the definition of SME across the European Community Area (European Union/EU) by taking into consideration the economic developments that have taken place since 1996[13].

Table 1. Enterprise classification in EU

Enterprise category	Headcounts	Turnover	Or	Balance Sheet
Medium-Sized	<250	≤ € 50 million (before was € 40 million)		≤ € 43 million (before was € 27 million)
Small	<50	≤ € 10 million (before was € 7 million)		≤ € 10 million (before was € 5 million)
Micro	<10	≤ € 2 million (not established)		≤ € 2 million (not established)

Source: European Commission (259), Author elaboration.

Whereas previously, in United Kingdom, Bolton Committee (BC) had formulated the definition of a small firm by arguing even under the sectorial context regarding employee no and turnover, as in following:

[13] The EU definition regarding SMEs excludes agriculture, hunting, forestry and fishing companies and it does not vary according to the sector of enterprise.

Table 2. Enterprise classification in UK

Enterprise Sector	Definition
Manufacturing	200 employees or less
Construction and quarrying	25 employees or less
Retailing, miscellaneous services	Turnover of £50.000 or less
Motor trades	Turnover of £100.000 or less
Wholesales trades	Turnover of £200.000 or less
Road transport	Five vehicles or less
Catering	All types excluding multiplies and brewery-managed houses

Source: Bolton Committee (260), Author elaboration

With special regard to European Commission affirmation, Bolton Committee definition is treated as the best description of a small firm by neglecting the definition of characteristics based in the number of employees, business turnover, managerial approach as well as the fact that the small firm sector is treated as homogeneous. In addition, UK Companies Act of 2006 (276) classifies the SMEs sector into small and medium. Correspondingly three different criteria are set, but at least the firm has to satisfy two of them to be considered as small or medium sized. This approach allows the comparison between industries and reserves the possibility to alternatively define firms across all industries.

Table 3. Enterprise classification in small and medium size in UK

Medium	Small
A turnover ≤ £ 25.9 million	A turnover ≤ £ 6.5 million
A balance sheet total ≤£ 12.9 million	A balance sheet total ≤£ 3.26 million
≤ 250 employees	≤ 50 employees

Source: Companies Act of 2006 (261), Author elaboration

With the intent to approximate Albanian legislation with that of the EU as well as creating premises for SMEs to benefit from donations and EU aid schemes, the Parliamentary Committee of Economy adopted in 2009 amendments to the Law "On Small and Medium Enterprises" no. 10042 dated 22.12.2008 for some changes and additions to Law No. 8957, dated.17.10.2002 (262) by introducing the classification as: micro, small and medium enterprise referring to employees no and annual turnover as following:

Table 4. SMEs classification in Albania

Classification	Headcounts	Annual turnover
Micro	1-9	<10 million ALL
Small	10-49	< 50 million ALL
Medium	50-249	< 250 million ALL

Source: The Law "On Small and Medium Enterprises" (262), Author elaboration

Referring to the a/m legislation it can be highlighted that:
-*Micro businesses* have up to 5 headcounts (which can be credited in the limit of 2.5 million ALL);
-*Small businesses* have 6-20 headcounts and an annual turnover ≤ 40 million ALL (100% of their equity is possessed from small businesses);
-*Medium businesses* have 21-80 headcounts and an annual turnover ≤ 80 million ALL (25% of their equity can be possessed from businesses not classified as small and medium under the a/m law classification).
And properly this classification still remains in force as per fiscal procedures implementation in the country (262).

Comparatively exists another SME classification form deployed from National Statistics Institute (INSTAT) consisting in the headcounts no, such as:
-First business dimension, up to 4 headcounts;
-Second business dimension, 5-9 headcounts;
-Third business dimension, 10-49 headcounts;
-Fourth business dimension, ≥50 headcounts.

Apart from the classifications framework implemented, experience based starting a micro, small or even a medium-size business and make it successful does not always requires a professional or academic education, neither experience in the sphere of direction. Because telling the truth, the enterprise itself has proven the ability to change the economic outlook of an individual, business, branch, and even a national economy. According to many sucessful relalities to effectively run a business is quite enough the owner's entrepreneurial spirit, who in some cases needs only assistants and not managers. In fact, from certain aspects the latest is a wrong view referring to various empirical analysis as the business world recognizes many examples when successful businesses have gone to bankruptcy just because they have not understood the importance and necessity of managers in correspondence of business peculiarities (253-255). In this merit businesses behavior reveals crucial under performance management prospect by also recognizing the goverment role in their development promotion.

2.2. ALBANIA vs REGIONAL DEVELOPMENT MANAGEMENT

The beginnings of preparations for EU[14] funded programs aimed at regional and local development referring to the establishment of Regional Development Fund in 2009 (292) have played an important role in promoting a balanced and stable

[14] During the year 2000 Albania was involved in the Stabilization and Association Process (SAP) together with other five South-Eastern European countries. Precisely, the Stabilization and Association Agreement (SAA) between the country and European Community was signed in 2006 and entered in force during April 2009. Afterwards, the country presented its application for membership in the European Union on 28 April 2009 by achieving the Commission´s negative opinion in November 2010 referring to the accomplishment need of 12 key priorities concerning judicial and public administration reforms as well as parliament's procedure review. The same results were achieved also during 2012. Meanwhile during 2013 a High Level Dialogue on these Key Priorities was launched between Albania and European Union as per a consensual cooperation of opposition and independent institutions regarding the integration process acceleration.

development through Albanian regions[15] considering that as per latest statistics GDP per capita as of 2015 was respectively € 2.516 in Northern, € 3.556 in Center and € 2.897 in Southern area (significantly differentiated from the EU-28 average level which is about 26.500 €).

In order to develop integrated and sustainable regions as well as in compliance with EU standards implementation, Albania has adopted a legislation governing the nomenclature of regions distribution based on European Nomenclature for Territorial Units (ENTU) that is especially used for statistical classification purposes. This has led to the definition of three statistical regions which are: (1) Durrës and the northern part of the country, (2) Tirana and Elbasan, and (3) the Southern area. In different regions, the development has not been generated, due to the lack of a clear policy and stimulating incentives for development as can be evidenced even from low purchasing power.
And according to cross-sectional strategies (263) one of the key challenges associated with country regional development is the lack of proper use of infrastructure and services as a result of population outflow from rural areas and growth congestion in urban ones. Moreover this is mostly evidenced on the inequality of school services delivery, health centers, roads, drinking water supply, aspects of hygiene, water treatment facilities for small and large polluted residential areas, waste management and other related services.
Another underlined challenge relates to the weak governing authorities capacities. Including here the facilities related to regional development management, current weaknesses in districts personnel competencies, weaknesses in relationships and coordination between different levels of planning and their strategic implementation at national, regional and local level by considering the limited capacity of project management within regional administrations.

Actually, Albanian government has launched a clear reform concerning the national long-term development policy concerning regional development with the aim to create competitive regions by promoting a balanced development of the country and increase the competitiveness (264). This reform focuses on a

[15] It doesn`t exist any specific national strategy for regional development because the issue is addressed in different strategies such as: Cross-Sectorial Strategy for Agriculture and Rural Development, 2014-2020, the National Cross- Sectorial Strategy for Decentralization and Local Government, 2014-2020 and other Cross-Sectorial, regional-level strategies (263).

comprehensive strategic, legal and institutional framework on behalf of national/regional development policy with the main focus its alignment with EU cohesion policy as well as to guarantee the preparation for european negotiation process.

The main challenges addressed during the planning period 2014-2020 (263-264) refer to:

(1)- the need to address unbalanced development among regions within the country as well as in international context;

(2)-a balanced development between regions within municipalities, between urban and rural areas and between coastal and peripheral mountain areas;

(3)-the need to address aspects related to immigration and migration (inside and outside the country);

(4)-the treatment of aspects related to overcrowding in the most developed areas and departures from other areas;

(5)-the need to address weaknesses in the policy framework and institutional capacities.

Correspondingly, with the vision of a balanced development and cooperation between the regions/localities of the country (263), aiming to increase its global competitiveness three strategic objectives are undertaken:

I. The increase of competition between regions, by ensuring that they achieve sustainable economic and social development toward their communities through the use of unique resources, thus, deepening the global competitiveness of the country through:

I.1. providing necessary protection for economic development, job creation and professional education in response to labor market needs;

I.2. the improvement of infrastructure links within and between regions and;

I.3. the expansion of zone functions including the diversification of rural economies.

II. The increase of regional cohesion and reduction of significant existing inequalities in the use of resources, production and social/environmental standards (264) through:

II.1. improvements to public infrastructure standards and utility networks;

II.2. providing integrated regional environmental protection; and

II.3. ensuring the growth of public investment in less developed regions.

III. The improvement of management efficiency through a pragmatic approach to regional development by efficiently using limited management resources through :

III.1. building of regional development capacity at all levels of government;

III.2. creation of efficient regional development management mechanisms;

III.3. strengthening the External Financing and Assistance Capacity (EFAC) as the main institution for Regional Development Fund management;

III.4. improvement of inter-ministerial cooperation;

III.5. improvement of drafting strategies in respect of coordination process through the involvement of regional stakeholders aiming to ensure that sectorial strategies (vertical coordination) and take into account regional specifics as well as regional strategies and programs that integrate sectoral strategy objectives; and

III.6. the creation of a monitoring system combined with the implementation of regional strategies according to the same standards set by central government.

Obviously all the a/m premises create a more prosperous reality with special regard to SME development within the country (263-264) by contemporaneously paying a special attention to social cohesion strengthening.

2.3. SMEs MARKET PECULIARITIES

Closely referring to INSTAT business data (see Table 5) micro businesses represent the highest market share (95% of total SME market) by also marking an increase of 28% during 2013-2016 period (265). Then, follow small and medium-sized businesses that demonstrate a growth rate above 38% while respectively representing 4% and 1% of market share. In addition, worth also highlighted that above 29.95% of these businesses are good producers and the rest pertain to services production category.

Table 5. SMEs active businesses statistics as per 2013-2016

SMEs businesses trend	**2013**	**2014**	**2015**	**2016**
Micro (1-9 employed)	80,727	80,365	99,143	102,965
Small (10-49 employed)	3,230	3,977	4,360	4,413
Medium-sized (50-249 employed)	721	733	892	996
SMEs total no (1-249 employed)	**84,678**	**85,075**	**104,395**	**108,373**

Source: INSTAT (265), Author elaboration

As observed, the major part of labor force is employed in micro businesses, then follow medium- sized businesses and ultimately the small ones (see Figure 1).

Figure 1. SMEs business employees no trend as per 2013-2016
Source: INSTAT (265), Author elaboration

Comparatively, with special regard to employees number it can be confirmed that in medium-sized businesses it increased with 49% during 2013-2016 period, followed from small and micro businesses were the employees number respectively increased with 40% and 29%.
The small business marks a turnover increase as per 21% (even considering that it constitutes the highest turnover level during the period in question) meanwhile in medium-sized and micro businesses are obtained lower turnover rates respectively corresponding to an increase of 16% and 11% (refer to Figure 2).

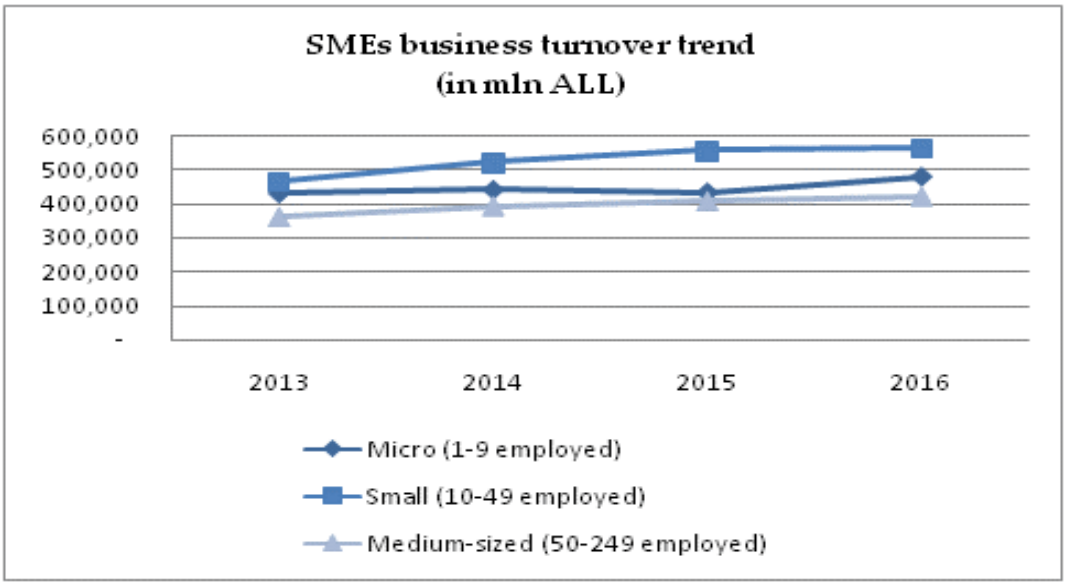


Figure 2. SMEs business turnover trend (in mln ALL) as per 2013-2016
Source: INSTAT (265), Author elaboration

And concerning the investments instead it should be added that compared with large businesses (employees no≥250), the invested amount from SMEs during 2016 is 3 times higher by also being increased with 85% during 2013-2016 period.

In the same way it was verified that the higher investments were done in turns from small business, then from medium-sized and micro ones. While the highest growth trend (see Figure 3) is evidenced in medium-sized businesses (172%) followed from small business (158%) as micro businesses have decreased the investments rate with 20% during the a/m period.

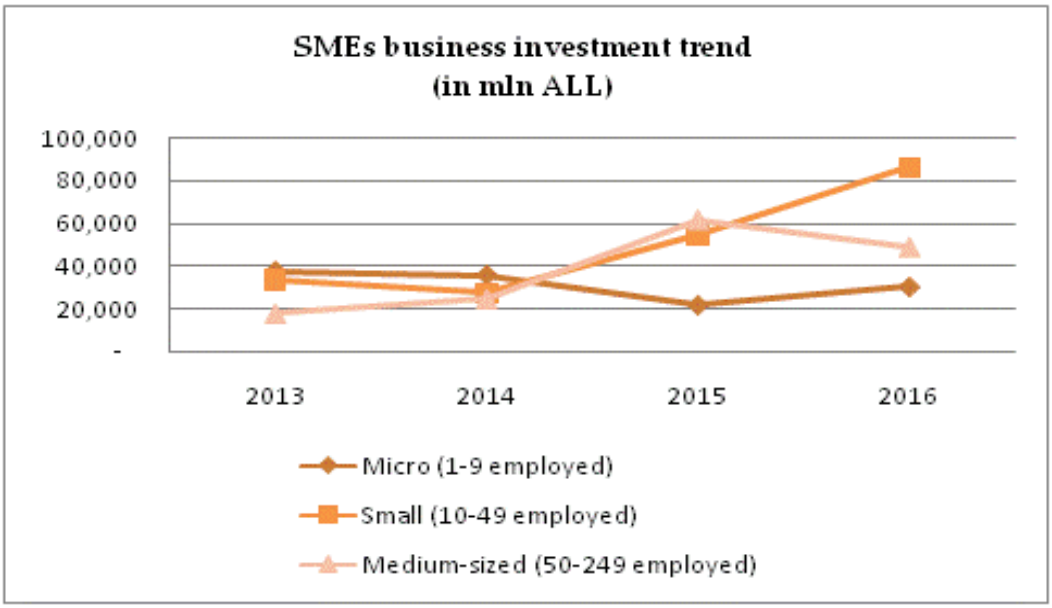


Figure 3. SMEs business investment trend as per 2013-2016.
Source: INSTAT (265), Author elaboration

Seen as a performance measure SMEs businesses valued added for the period under consideration result to be 2 times higher than the one created from large businesses (refer to Figure 16). Considering that the latest value added increased only with 17%.

Under these circumstances results interesting to evidence the fact that 2016 data confirm that micro business represents the highest value added created in comparison with small and medium-sized businesses.

In controversy the medium-sized businesses show the highest value added growth rate (with 27%) followed from small businesses (with 19%) and micro ones (with 14%). What in general terms (referring also to other indicators analyzed) demonstrates the undisputed importance of this business segment in the national economy and why not its growth potential.

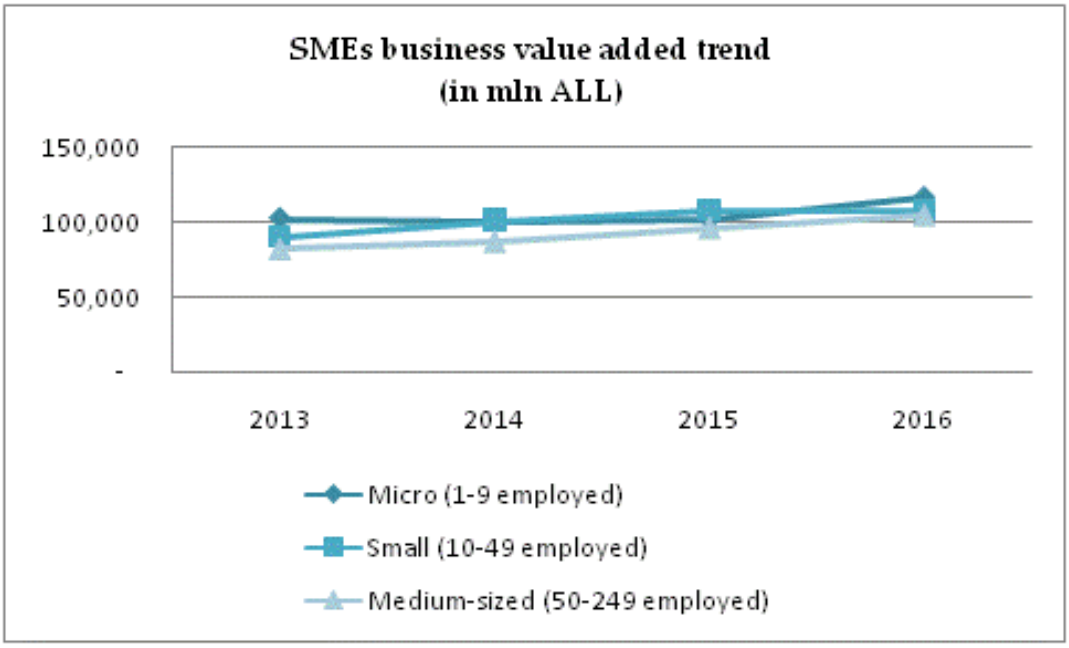


Figure 4. Business value added trend as per 2013-2016
Source: INSTAT (265), Author elaboration

In this merit worth highlighting that SME businesses physiognomy is mainly focused in the production of services (see the following Figures 5&6) represented from trade activities (52%) and other services in the rest. While the production of goods refers to agriculture products, etc (68%), industry (23%) and construction (9%). And as previously evidenced in each case micro businesses represent the highest number of activities among active SMEs.

Nonetheless should be underlined that above 62.83% of active SMEs is registered in physical person status, 17.7% in juridical status and the rest of above 19.5% are farmers.

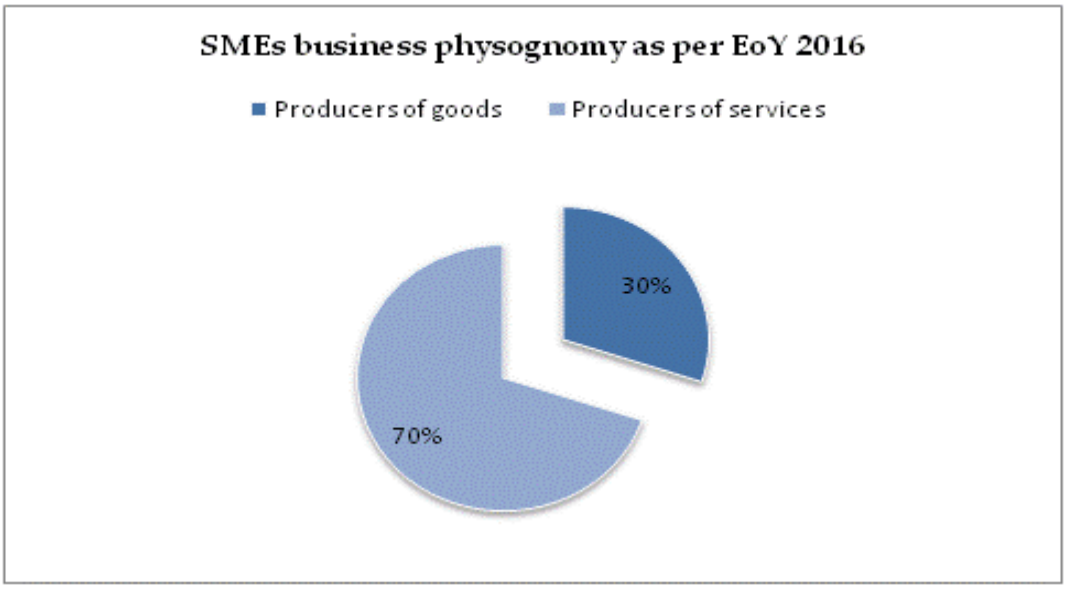


Figure 5. SMEs business physiognomy EoY 2016
Source: INSTAT (265), Author elaboration

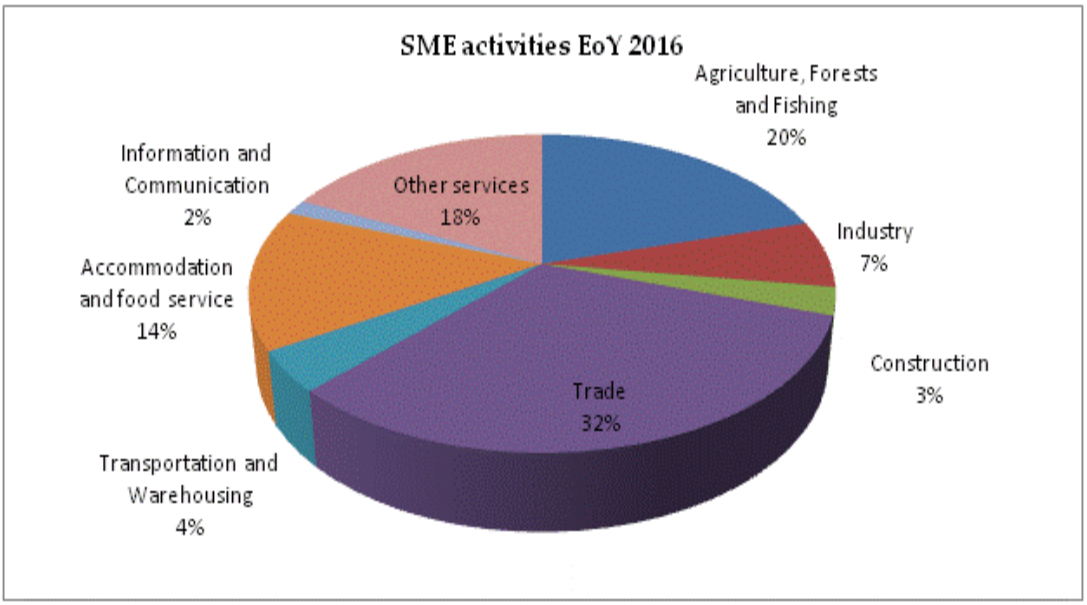


Figure 6. SMEs activities EoY 2016
Source: INSTAT (265), Author elaboratio

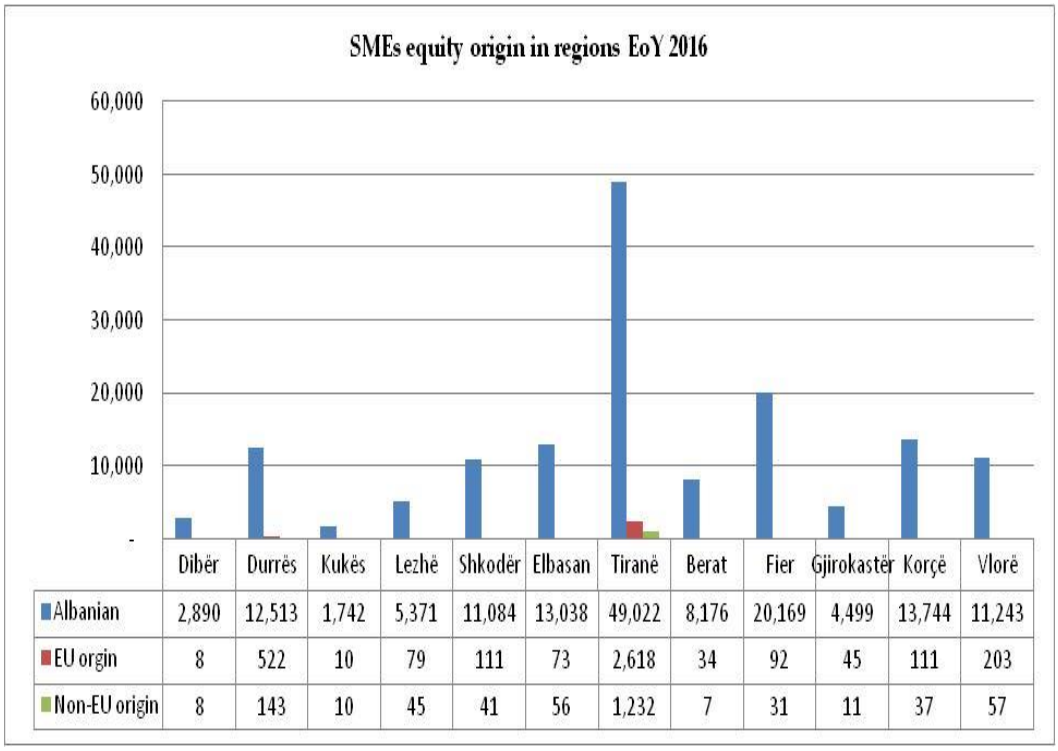
2.4.1. SMEs patterns statistics

On behalf of regional SMEs allocation chart, in Tirana (32%) and then in Fier district (13%) is identified the major frequency of micro businesses. For small businesses instead against Tirana and then Durrës district are the most preferred areas with 48% and 11% respectively. And concerning the medium-sized businesses in Tirana and then Fier district is evidenced their highest presence (with 534 and 205 activities respectively).
In this prospect should be highlighted that in those districts where is observed the highest tax burden on districts' GDP such as: Tirana, Vlora and Durrës then followed from Elbasan, Korça and Lezha, the number of SME businesses increased only in Korçë (20.87%), Elbasan (15.7%), Lezhë (13.21%) and Durrës (1.4%), what in a certain way makes thinking above the fact that taxes impedes the a/m businesses development.

Moreover the statistics show that as per end of year 2016, the major part of SMEs equity origin is Albanian (96% of cases) and the rest of above 4% are foreign equity businesses (refer to Figure 7). Where they are notably present businesses with EU originated equity (above 3%) such as: Italian, Greek, German, French activities, etc. And through the non-EU originated equity activities can be mentioned: Turkish, Serbian, etc. The Albanian SMEs registered during 2016 represent quite 18.6% of active businesses while foreign businesses in overall increased with only 0.75%.

However national business demonstrates a higher annual growth rate (5.93%) in comparison with foreign equity businesses which decreased with 1% (by taking into consideration that additional non-residents tax burden constitutes above 4% of the overall profit amount). With special regard to the latter it can be stated that even new mixed-equity businesses are mainly represented from them which posses more albanian-equity shares (0.18%) in comparison with the ones which posses more foreign-equity shares (0.002%).

The statistics prove that the first ones have increased with 19.8% in the period under consideration while the second ones have decreased with 32.3%. And the major part of SMEs with EU and non-EU equity origin are principally located in Tirana in the quality of the country capital. The rest instead preferred Durrës (0.4%), Vlorë (0.2%), Shkodër (0.1%), and Korçë (0.1%) as coastal and bordering areas.



	Dibër	Durrës	Kukës	Lezhë	Shkodër	Elbasan	Tiranë	Berat	Fier	Gjirokastër	Korçë	Vlorë
Albanian	2,890	12,513	1,742	5,371	11,084	13,038	49,022	8,176	20,169	4,499	13,744	11,243
EU orgin	8	522	10	79	111	73	2,618	34	92	45	111	203
Non-EU origin	8	143	10	45	41	56	1,232	7	31	11	37	57

Figure 7. Regional SMEs allocation as per 2016
Source: INSTAT (265), Author elaboration

By configuring them according to the structure it can be declared that EU originated equity is more frequent under micro businesses (85%) then in small (9%) and medium-sized ones (6%).

The same situation persists even for non-EU originated equity businesses which are more frequent under micro businesses structure (87%) and in turns in small (8%) and 4% in medium-sized ones referring to Figure 8.

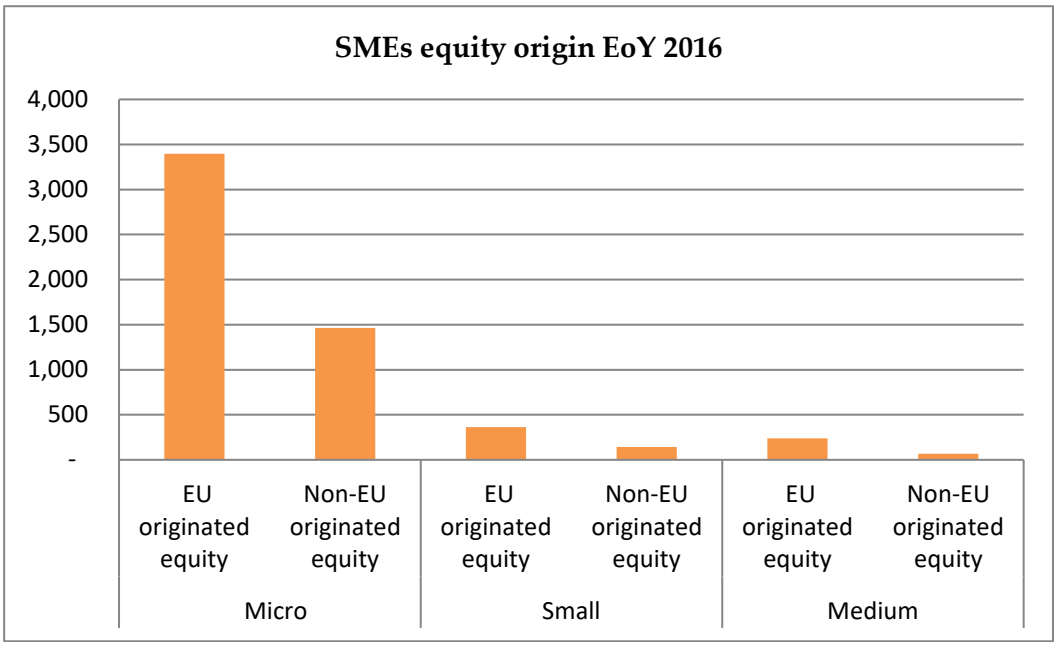


Figure 8. SMEs equity origin per category as per 2016
Source: INSTAT (265), Author elaboration

In the sectorial pertinence context should be affirmed that Albanian equity businesses are more present in trade and other services with 32% and 17% of the overall albanian equity SMEs and the vice versa occurs per foreign equity businesses (35% services and trade 28%).
The same is valid concerning trade and service sectors in SMEs mixed-equity businesses possessed from both foreign and albanian shares in compliance with the following statistics (see Table 6 data):

Table 6. SMEs equity statistics as per EoY 2016

	Albanian	Foreign	More albanian equity	More foreign equity
Agriculture, Forests and Fishing	32,598	29	20	12
Industry	10,293	636	168	205
Construction	4,171	336	54	63
Trade	49,624	1,117	254	250
Transportation and Warehousing	6,431	75	21	21
Accommodation and food service	22,546	206	23	10
Information and Communication	2,251	221	34	24
Other services	27,128	1,404	248	206

Source: INSTAT (265), Author elaboration

And the number of SMEs administrated from female gender has increased during 2016 in comparison with the previous year (Figure 9) considering that in general they represent 26% of active SMEs by demonstrating a satisfactory social cohesion approach.

Precisely the highest number of SMEs administrated from females pertains to Tirana, followed from the ones allocated in Elbasan, Durrës, Vlorë and Fier what relies with society emancipation degree. Notwithstanding, during 2013-2016 period is evidenced a lower increase of SMEs administrated from female gender (39.5%) in comparison with the ones administrated from male gender (46.5%) while the rest of 14% are administrated from mixed-administration cases.

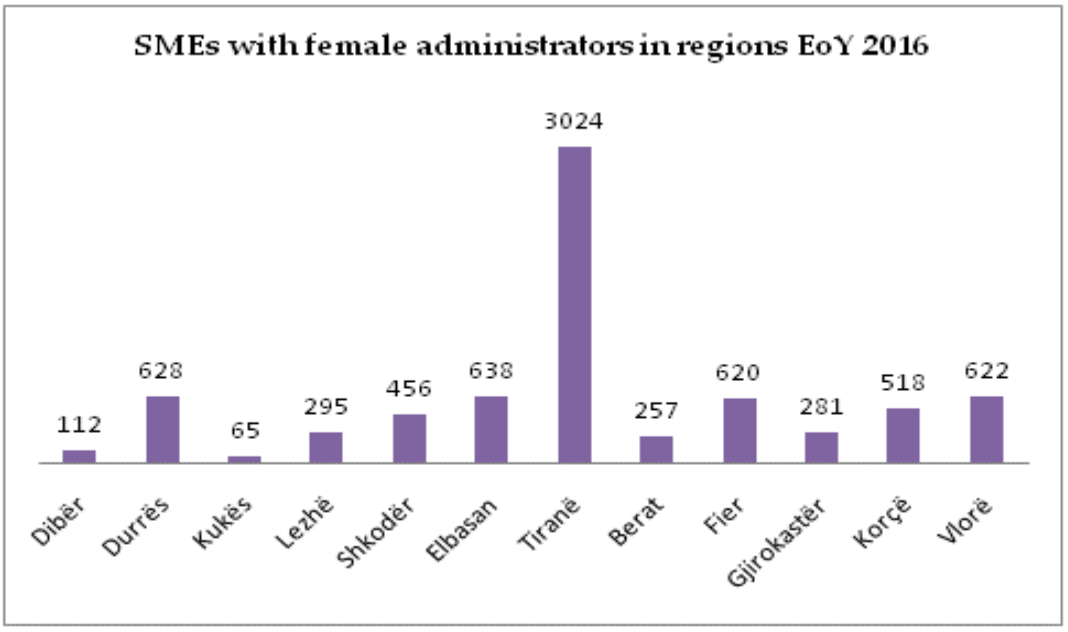


Figure 9. SMEs with female administrators in regions EoY 2016
Source: INSTAT (266), Author elaboration

2.5. SMEs FUNDING STRATEGY

The commercial banks[16] have played the role of the only business promoter in the country, especially for SMEs, by providing financial support through the designation of tailored products.
But currently, beyond the facilities offered even from monetary policy they have pursued a more conservative lending strategy due to stronger requirements established aiming a more proactive credit risk management process.

Correspondingly referring to Albanian Association of Banks (AAB) statistics (267) as per end of year 2016 (see Table 7): BKT (22.9%) then Credins Bank (16.8%),

[16] The other financial institutions represent only 10% of financial sectors' assets mainly related to loan portfolio.

Raiffeisen Bank (16.1%), Societè General Bank (8.1%) and Intesa San Paolo (8%) have generally maintained the credit business weight.

Table 7. Banking sectors' loans outstanding as per EoY 2016 (in thsd EUR)

BANKS	**LOANS**
ALPHA BANK ALBANIA	240,802
AMERICAN BANK OF INVESTMENTS	68,694
BKT	954,487
CREDINS BANK	698,213
CBA	2,299
FIB	52,129
ICB	30,590
INTESA SANPAOLO BANK	334,541
NBG BANK	215,867
PROCREDIT BANK	147,111
RAIFFEISEN BANK	670,425
SOCIETE GENERALE ALBANIA	336,092
TIRANA BANK	186,894
UNION BANK	124,630
UBA	24,593
VENETO BANKA	81,010
BANKS' SECTOR LOANS OUTSTANDING	**4,168,377**

Source: Albanian Association of Banks (267), Author elaboration

With special regard to SMEs it can be affirmed that total amount of loans granted has increased with 12% in comparison with the previous year.

And this, it is especially dedicated to loans granted to small businesses (which increased with 50%) followed from the one granted to medium-sized businesses (increased only with 1%).

In controversy the loans granted to micro businesses have decreased above 13% (referring to Figure 10 data).

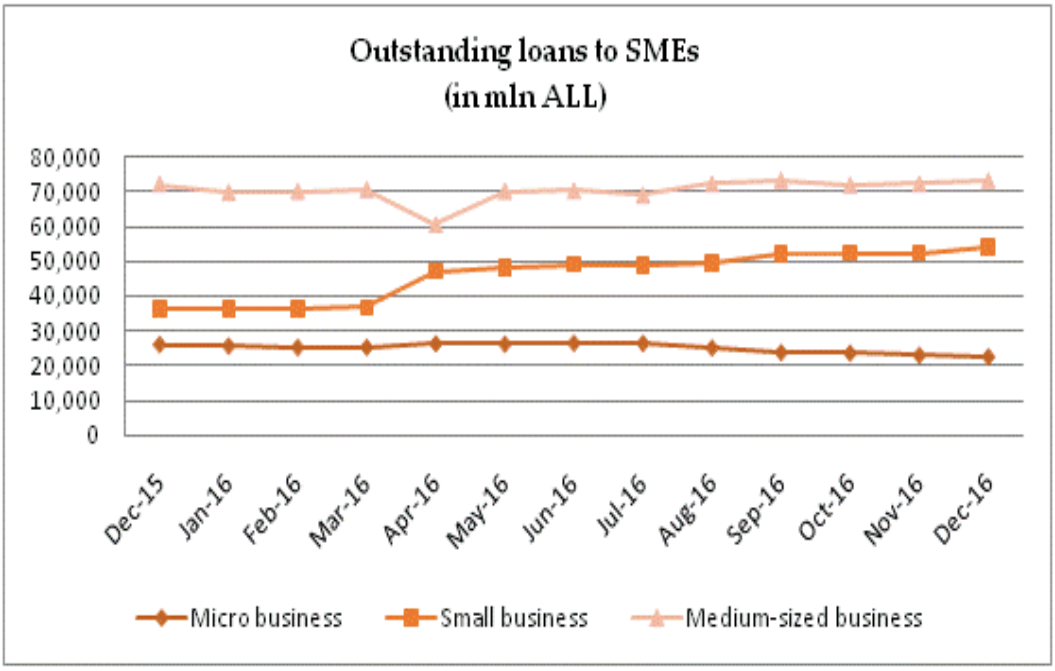


Figure 10. Outstanding loans to SMEs EoY 2016 (in mln ALL)
Source: Albanian Association of Banks (267), Author elaboration

In fact, micro businesses have maintained quite the same credit necessity during Dec 2015-Jul 2016 period, by marking a reduction from Sept 2016.
Meanwhile small businesses have increased the credit amount borrowed from March 2016 which has against suffered a slight increase during Aug 2016. In controversy concerning medium-sized businesses the loans amount granted reduced during Dec 15-Apr 16 period and immediately after increased by maintaining quite the same trend in the period under consideration.

Anyway the loans granted in local currency have marked a higher increase in comparison with the ones granted in foreign currency independently from the tenor. In particular loans granted for short-term periods in ALL have increased with 41%, the ones granted for medium-term periods (1-5 years) increased with 9.1% and the long-term (over five years) loans increased with 28%.

For them granted in foreign currency instead it can be affirmed that decreased with 7% referring to long-term period, and increased with the same rate as per medium-term periods by marking the highest increase with 9% in short-term period.
Afterwards it should be emphasized that loans granted in foreign currency result to be the most preferred in confront with the ones granted in local currency independently from financial products chosen. By this way the 2016 data confirm that 56% of loans amount granted to SMEs is in foreign currency and the rest in local one.

In following (see Figure 11) is demonstrated that medium-size businesses mostly prefer short-term loans in local currency as a consequence of their higher growth trend (annually increased with 45%). Meanwhile in correspondence of previous year the highest short-terms loans trend growth is noted in small businesses (with 69%).

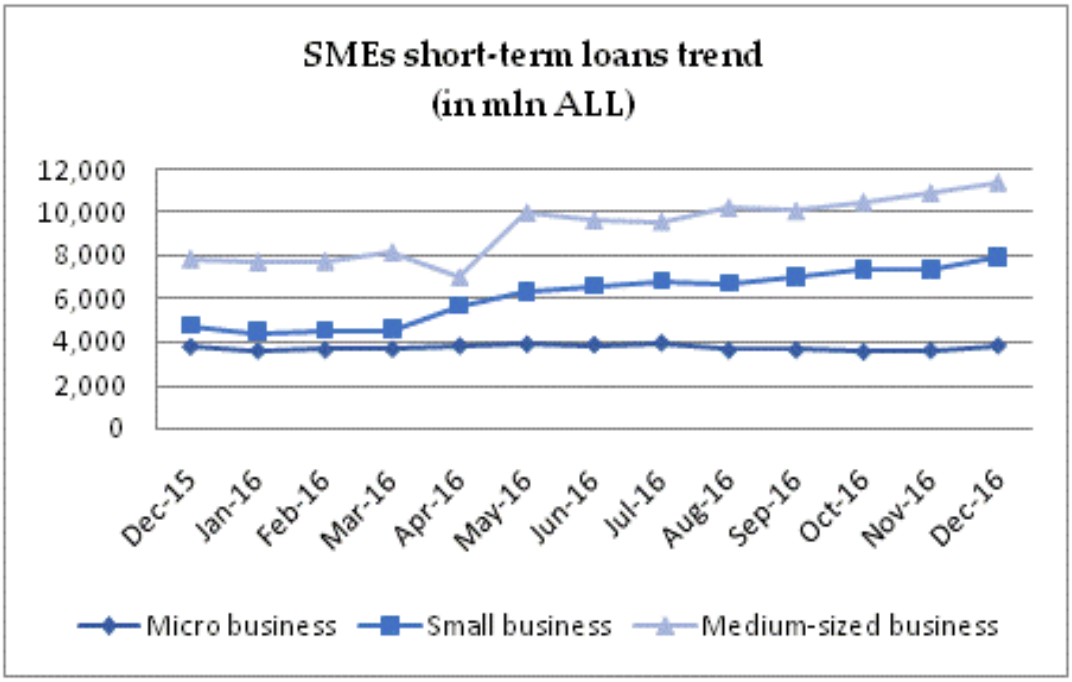


Figure 11. SMEs short-term loans trend (in mln ALL)
Source: Albanian Association of Banks (267), Author elaboration

Small businesses during 2016 resulted to be principally focused on medium-term loans concerning loans granted in local currency (annually increased with 26% as per Figure 12). Then, the second ones which choose to operate through medium-term loans in local currency are the micro businesses (their annual increase was of 0.1%).

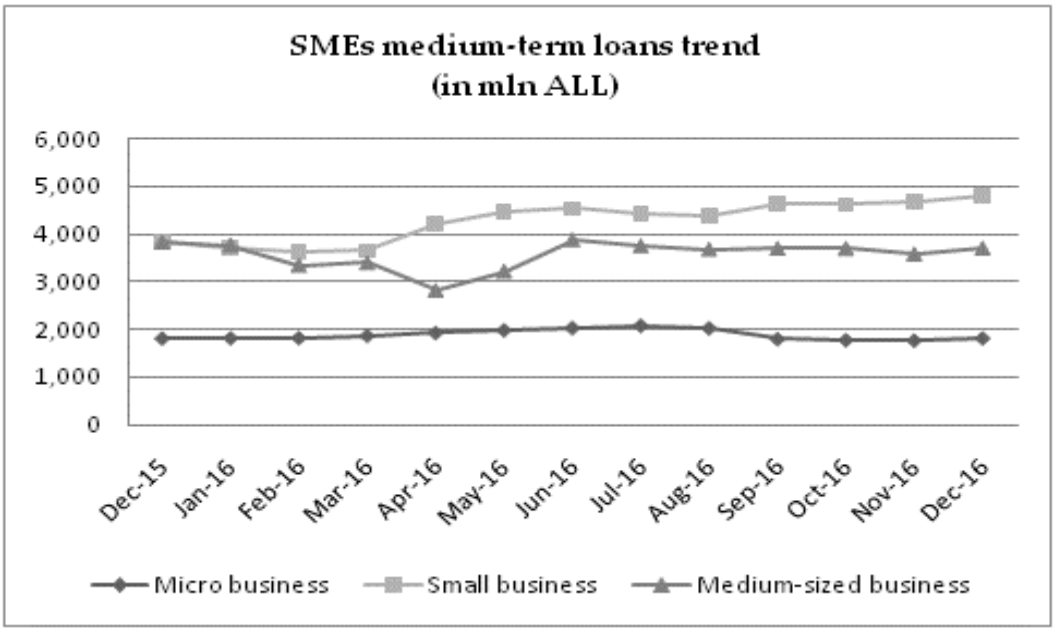


Figure 12. SMEs medium-term loans trend (in mln ALL)
Source: Albanian Association of Banks (267), Author elaboration

Referring to long-term loans instead small and medium-sized businesses seems to be the more interested being that their annual growth is respectively 61% and 32% (Figure 13).

Comparatively, should be admitted that small businesses have obtained significant short-term loans in foreign currency (their annual increase is 65% referring to Figure 14). A slight credit increase is marked also concerning medium-sized businesses with 0.1% in confront of December 2015 figures. And from the other side micro businesses have been less interested in borrowing in short-term period in foreign currency.

While medium-term loans in foreign currency are principally preferred from small and micro businesses considering that they marked an annual growth rate of 50% and 25% respectively. However, even higher amounts are lent to medium-size businesses the trend has decreased during last year with 11% (as presented in Figure 15).

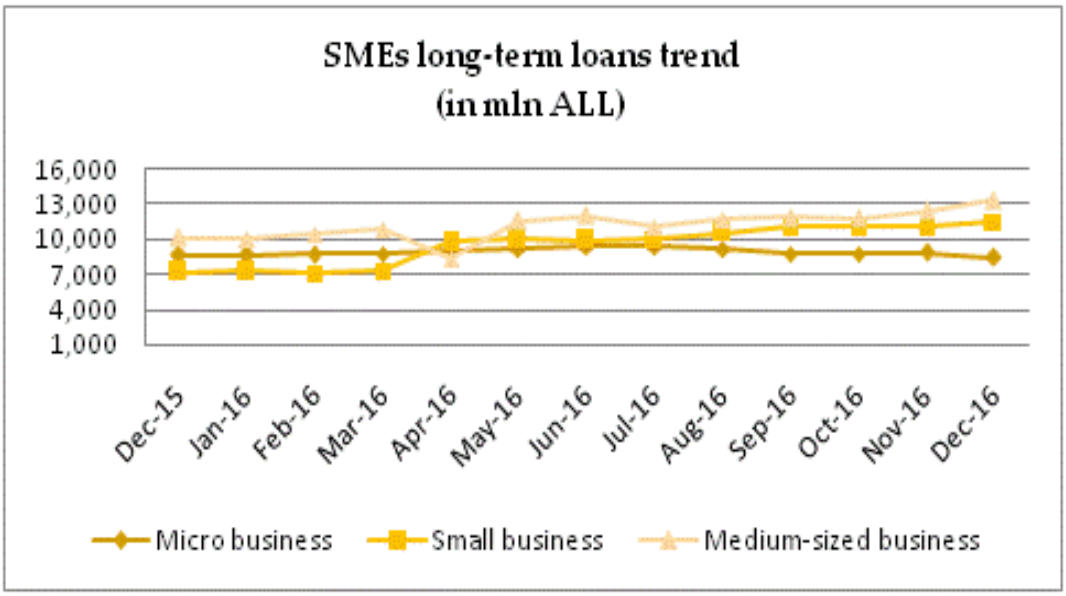


Figure 13. SMEs long-term loans trend (in mln ALL)
Source: Albanian Association of Banks (267), Author elaboration

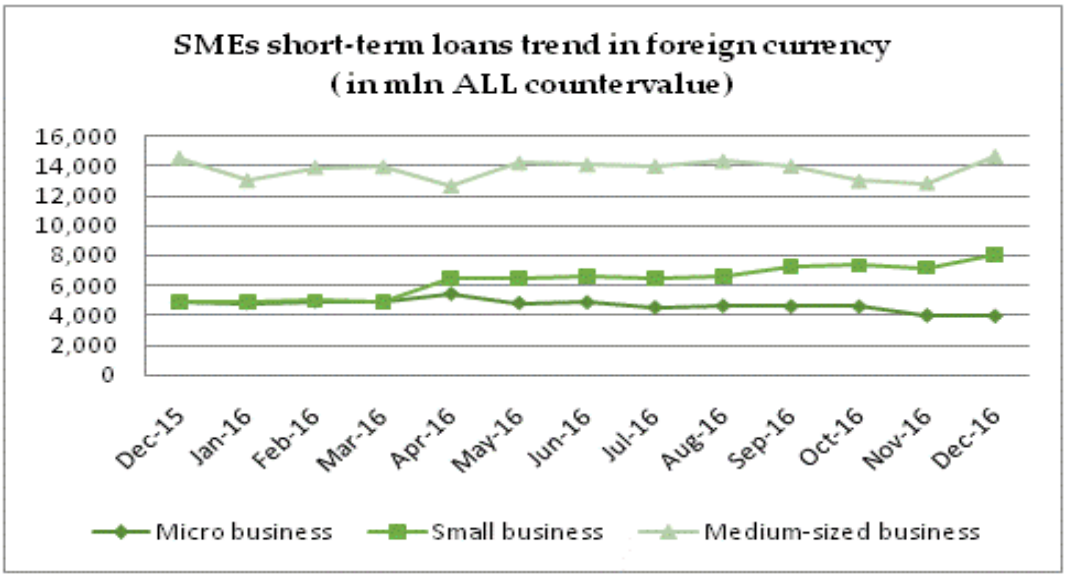


Figure 14.SMEs short-term loans trend in foreign currency (in mln ALL countervalue)
Source: Albanian Association of Banks (267), Author elaboration

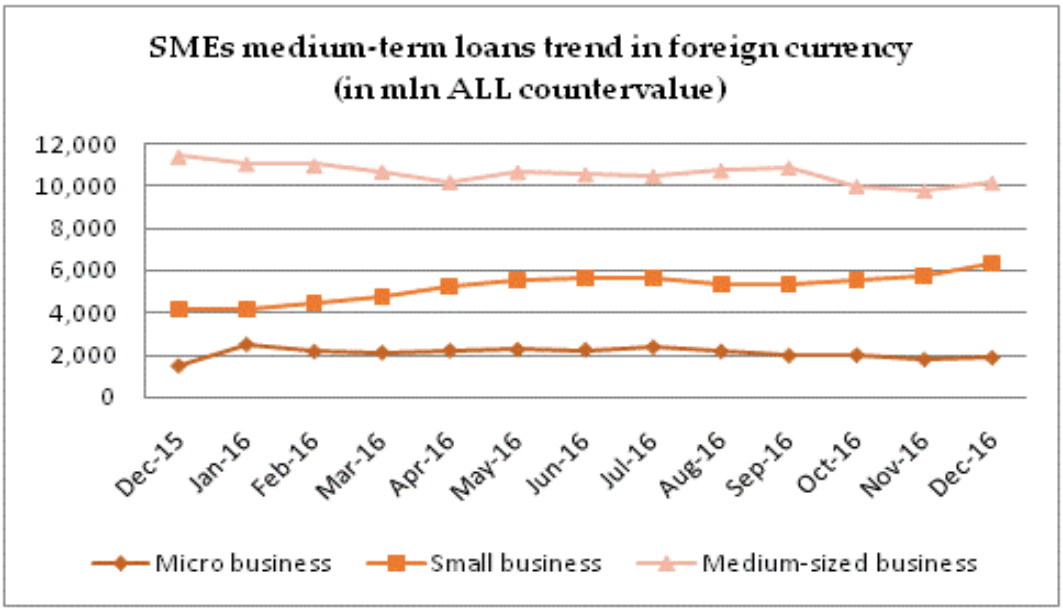


Figure 15. SMEs medium-term loans trend in foreign currency (in mln ALL countervalue)
Source: Albanian Association of Banks (267), Author elaboration

Small businesses prefer also long-term loans in foreign currency by demonstrating a trend increase as of 36% in correspondence of previous year data (see Figure 16). Meanwhile medium-sized and micro businesses have reduced the borrowed amount with respectively 18% and 49%.

Statistically based referring to currencies more frequently used from SMEs financial products, it can be confirmed that them offered in Euro are the most preferred (with 52% of total amount granted), followed from the ones in local currency ALL (with 38% of total amount granted), in USD (with 25% of total amount granted) and the other currencies with only 0.01% of total amount granted.

Particularly, concerning to short-term financial products widely used in all currencies must be stated that overdrafts and working capitals are the most preferred. While as per medium-term loans products instead the most preferred result to be: start-up business loans as well as the one for machineries purchase. And ultimately, concerning long-term loans it can be clearly stated that they are mainly used for investments in real estate.

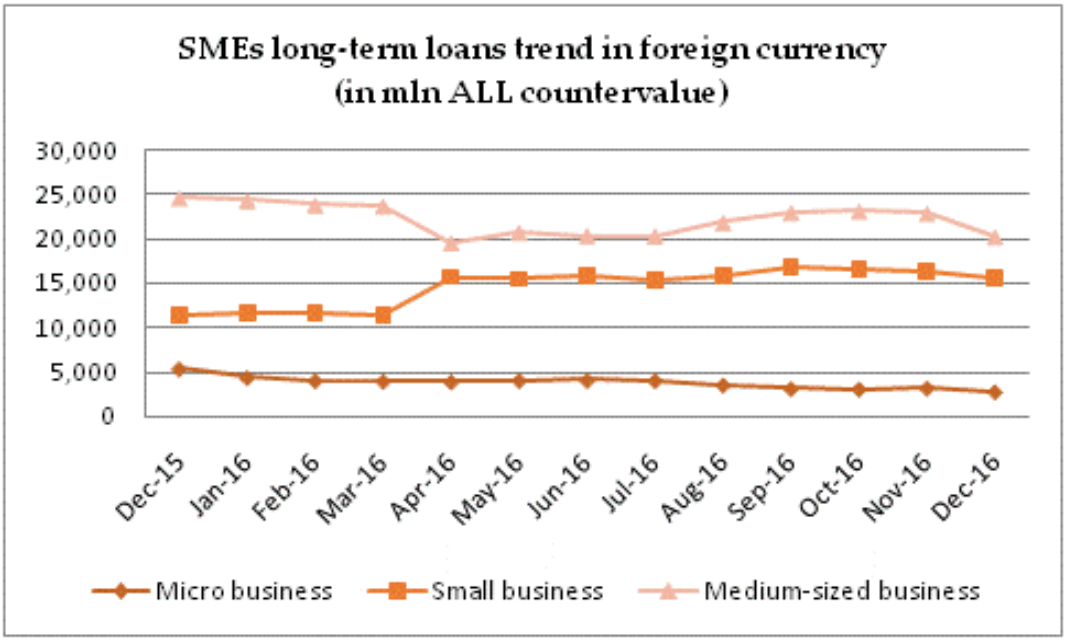


Figure 16. SMEs long-term loans trend in foreign currency (in mln ALL countervalue)
Source: Albanian Association of Banks (267), Author elaboration

2.5.1. Non-performing loans' sectors

Various analytical contexts (265 and 267) converged to three main problems that caused the countinous rise of non-performing loans (estimated in 18% during 2016) in albanian banking sector initiated from 2008:

First reason is addressed to the precedent government accumulated unpaid bills regarding public works and tax refund claims for about 500 million euro. Correspondingly many companies (mainly subcontractors) financed their work through bank loans while waiting for governmental tranch payments. The major part of these companies pertains to public road construction sector, and only a small part operates in the construction of small hydropower plants. In respect to the latest must be added that hydropower builders' non-performing loans were mainly generated as Albanian Power Corporation (APC) did not timely payed-off the obligations for the purchases of energy produced by these companies.

The second problem is related to the fact that fiscal legal framework penalizes banks that would like to classify loans in 'lost status', by charging them with the obligation to pay the profit tax for loans that effectively causes losses.

Third, the judicial and administrative system in Albania regarding seizure and liquidation of non-performing credit collateral did not work efficiently. As long as the owners of such collaterals were able to push the seizures infinitely by fabricating lengthy judicial processes.

In respect of the a/m reasons some actions were taken, mainly thanks to specific projects undertaken from government and Bank of Albania during 2015 concerning the clearance of 'non-performing loans in lost status', loans restructuring, factoring, the orientation toward lending in local currency, etc (268 and 269). In a cross-sectoral aspect, construction sector remains the most problematic for banking sector regarding the outstanding of non-performing loans volume (270). Neither the conclusion of the government's debt repayment process seems to have brought the level of non-performing loans to more acceptable levels. For this purpose in recent years, also banking sector's exposure to construction has declined somewhat.

In parallel the other sector with a high level of non-performing loans is service (especially concerning hotels and restaurants loans and further on telecommunication services, transport, etc), as the non-performing rate is above 29.8%. However, this sector has a relatively low share in total credit to the economy, by about 2.7%.

In following in processing and extracting industry is noted that debt chain reached 1 billion USD, as mainly sector companies are bankrupt and on the other hand, banks' risk is facing a new wave of non-performing loans considering that all companies in the industry sector are currently working under cost. So it's quite impossible for them to go ahead and no longer pay huge loans' outstanding.

In addition trade is another sector which at the same time has high borrowed amounts and poor portfolio quality. Trade credit counts for nearly a quarter of overall credit portfolios outstanding to the economy by evidencing a 28.9% non-performing loan rate.
More or less all these elements constitutes a panorama of Albanian business reality by also reflecting SMEs credit health concerns which are expected to be

accurately addressed considering that they have a catalytic role for the country economic development itself.

2.6. CONCLUSIVE REMARKS

National statistics confirm that above 95% of active businesses are SMEs which operates through 173.070 units where 20% of them are in 'start-up' phase and females manage only 25.8%. Is also evidenced that trade sector result to be the most dominant among others such as: service, production and construction. From the other side, mixed-equity businesses (mainly constituted from Italian, Greek and German investments) have maintained a positive trend during the last five years by proving foreign investitures concrete interest to operate in the country.

Undisputedly that their progress is partially attributed to business framework facilities offered from central and regional government but the major part of efforts are internally managed. As previously demonstrated SMEs have been supported from financial institutions to cover daily and investments needs (above 27.5% of loans portfolios belong to SMEs) considering that liquidity management is their most crucial process on behalf of the circumstances. But in the same time statistically based should be underlined that the sectors where SMEs operates comply with non-performing ones in terms of credit worthiness.

Accordingly results interesting to undertake a deeper research through respective qualitative/organizational behaviour patterns (es: ownership gender, equity origin, administration gender, administration framework, borrowers' status, etc) and quantitative (concerning liquidity, leverage and profitability) in order to predict the ones which while accelerating business growth enhance risk adjusted performance regardless their sectorial pertinence.

III. THE PURPOSE OF STUDY

III-THE PURPOSE OF STUDY

Given the predominant role, efforts and performance of SMEs in domestic market what mostly obviously attracts the attention is their degree of birth and survival rate. Consequently the latter makes think over the factors that affect their success by taking into account the permanent changes of business doing climate.

Hence, this research study highlights that the predictive content of financial ratios (pertaining to: liquidity, operational-efficiency, risk and growth analysis areas) in cooperation with non-financial ones (organizational behavioral features) becomes a powerful instrument concerning SMEs performance evaluation in a multiple endo-exogenous cross-sectoral prospect which simultaneously helps in the transformation of risk areas into growth opportunities aiming to develop and further expand among them a value culture by considering that it also constitutes a fertile research area.

Basically, SMEs dynamism and sectoral pertinence is explored in a context of business survival and growth by rationally arguing that only thereafter they can potentially transform into future large corporations.

For this purpose different dynamic modeling theory elements (stochastic theories/business size; learning theories/managers ability in managing previous and current revenues, costs and profits; hazard theories/persistence of high profit rates) are aggregated aiming to achieve concrete research results.
Moreover, the research treats important issues such as: social cohesion, regional development, implications of financial behavior on SME sector, openess scale toward foreign direct investments, etc which converge with country's European integration proces milestones.

Thereby, the research concept is developed in three different stages as per trade, service, production and construction sectors:

1^{o} - Liquidity management strategies deployment;

2º - Leverage structure choices;
3º - Risk-Adjusted Performance outcomes, by integrating consecutive results with the intent to capture adequate 'business intelligence' signals and prevent business failure while forecasting universal performance models.

In this merit, statistics prove that SMEs fragility necessarily requires the implementation of a permanent control culture which in parallel can also test the validity of above mentioned cross-sectoral predictive 'business intelligence' performance models.

Foremost, it is ascertained that these SMEs tailored performance models which cover a wide spectrum of business activity and life can be able to generate concise performance outcomes valid even for various interested parties (mainly practical results) by supporting the need to continue the research in this direction.

IV. OBJECTIVES AND RESEARCH HYPOTHESES

IV– OBJECTIVES AND RESEARCH HYPOTHESES

4.1.1. General objectives

In an aggregated way the current research study treats SMEs entrepreneurship trinity: liquidity, leverage and growth under a cross-sectoral prospect concerning to the:

- Implementation of pattern recognition process useful as a liquidity management decision making tool;
- Capital structure approaches deployed as a logic consequence of external and internal liquidity risk sources management toward leverage reconciliation framework;
- Development of tailored SMEs' risk-adjusted behavioral models.

4.1.2. Specific objectives

- Exploitation of dynamic modeling theory elements spectrum (stochastic/learning and hazard theories), which are aggregated into neural network analysis aiming to achieve concrete research results;
- Identification of hidden layers between behavioral SMEs data and respective liquidity, operative-efficiency, risk and growth analysis ratios;
- Estimation of the correlation between behavioral /financial variables and hidden layers;
- Testing of neural networks analysis (basic radial function) validity in predicting SME performance;
- Demonstration of radial basis functionalities adaptation into various sectoral affiliations;
- Preservation of warning signals while enhancing correction ability in liquidity management-leverage structure-business profitability/growth aiming to strengthen permanent control culture;

- Stimulating internal dynamic policies implementation (marketing/production/distribution, etc);
- Promotion of alternative management-techniques in compliance with internal needs, external tools and business climate;
- Promotion of a social responsibility culture between SMEs;
- The configuration of results validity as an important element as per further economic policies implementation studies.

4.2 RESEARCH HYPOTHESES

L***iquidity management process*** is analyzed through the following research hypotheses:

H1: The borrowers' status depends from administrators gender regardless sectoral affiliation;

H2: Equity origin is decisive in business ownership composition regardless sectoral affiliation;

H3: There is an inverse relationship between administrators and ownership gender regardless sectoral affiliation;

H4: Equity origin doesn't influence the borrowers' status regardless sectoral affiliation;

H5: Equity origins indicate business administration regardless sectoral affiliation;

H6: Borrowers' status and operative cash flow have a mutual positive impact on businesses working capital regardless sectoral affiliation;

H7: Administrators' gender and gross profit margin can't simultaneously impact businesses' working capital regardless sectoral affiliation;

H8: Equity origin and average payment period contemporaneously negatively affect businesses' working capital regardless sectoral affiliation;

H9: Ownerships gender, total liability ratio (TLR), inventory to total assets ratio (ITA), firm age (FA) and operative cash flow (OCF) as well as ownerships gender and firm's age don't impact working capital (WC), receivables accounts turnover ratio (RATR) and net profit margin (NPM) regardless sectoral affiliation;

H10: Business administration, fixed assets turnover ratio (FATR), long-term leverage ratio (LT-LEV), cash ratio (CR) and business size as well as business administration and long-term leverage ratio positively impact working capital (WC), money conversion cycle (MCC) and net profit (NP) regardless sectoral affiliation;

H11: A radial basis function predicts SMEs working capital (WC), receivables accounts turnover ratio (RATR), money conversion cycle (MCC) and net profit margin (NPM) regardless sectoral affiliation.

The following research hypotheses instead are explored concerning the prediction of ***capital structure approaches***:

H1: Borrowers' status negatively impacts total leverage ratio (LEV) regardless sectoral affiliation;

H2: Equity origin influence long-term debt to equity ratio (LTDER) regardless sectoral affiliation;

H3: Business administration framework impacts total liability ratio (TLR) regardless sectoral affiliation;

H4: Ownerships' gender influence assets tangibility (TAN) regardless sectoral affiliation;

H5: Administrators' gender impacts long-term leverage ratio (LT-LEV) regardless sectoral affiliation;

H6: Equity origin and gross profit margin (GPM) contemporaneously negatively affect long-term debts (LTD) regardless sectoral affiliation;

H7: Administrators gender and business age can't simultaneously impact businesses' fixed assets to total assets ratio (FATA) regardless sectoral affiliation;

H8: Borrowers' status and business size have a mutual positive impact on interest coverage ratio (ICR) and total assets turnover ratio (TATR) regardless sectoral affiliation;

H9: Short-term debts structure is predicted from radial basis function regardless sectoral affiliation;

H10: Long-term debts structure is predicted from radial basis function regardless sectoral affiliation;

H11: A radial basis function reconciles SMEs leverage structure regardless sectoral affiliation.

And the prediction of ***SMEs risk-adjusted performance behavioral models*** considering the a/m functional interactions is explored through the raise of following hypotheses:

H1: Ownerships' gender increases return on equity (ROE) regardless sectoral affiliation;

H2: Equity origin influence gross operative margin (GOM) regardless sectoral affiliation;

H3: Business administration framework impacts return on assets (ROA) regardless sectoral affiliation;

H4: Borrowers' status affects return on equity (ROE) regardless sectoral affiliation;

H5: Administrators gender influence gross operative margin (GOM) regardless sectoral affiliation;

H6: Borrowers' status and long-term debt to equity ratio (LTDER) contemporaneously negatively affect gross operative margin (GOM) regardless sectoral affiliation;

H7: Business administration framework and receivables accounts turnover ratio (RATR) can't simultaneously impact return on equity (ROE) regardless sectoral affiliation;

H8: Equity origin, firm age and business size have a simultaneous impact on return on assets (ROA) regardless sectoral affiliation;

H9: Borrowers' status, firm age and assets tangibility (TAN) have a multiple impact on return on assets (ROA) and return on equity (ROE) regardless sectoral affiliation;

H10: Business administration structure, money conversión cycle (MCC) and net profit margin (NPM) have a multiple impact on return on equity (ROE) regardless sectoral affiliation;

H11: A radial basis function predicts SMEs risk-adjusted performance regardless sectoral affiliation.

V. METHODOLOGY

V – METHODOLOGY

5.1. THE STUDY DESIGN

The methodological approach design (refer to Figure 17) in this study intends to capture qualitative (organizational behavioral) and quantitative variables features while examining the extent of their relationship under a business intelligence prospect. Closely referring to the latter various statistical pre-examinations are deployed in order to initially test pure qualitative interactions by further focusing on mixed and hidden ones (e.g: crosstabs, contingency coefficient, estimated marginal means and Levenes' test in the quality of variance homogeneity analysis tests). In addition, univariate and multivariate regressions are implemented as a pre-requisite for neural network analysis development at 95% confidence level. Then, as robustness checks Bayesian Information Criterion (BIC), model training time and statistical significance of elements were examined. While the business data explored belong to 2015-2016 period.

Concretely**, the quantitative variables** examined pertain to liquidity, operational efficiency, risk and growth analysis ratios as in following:

Table 8. Quantitative variables (financial ratios) explored in the research study

	Quantitative variables	**Abbreviations**
Liquidity	Current Assets	CA
	Working Capital	WC
	Quick Ratio	QR
	Cash Ratio	CR
	Receivables Accounts Turnover Ratio	RATR
	Average Collection Period	ACP
	Inventory Turnover Ratio	ITR
	Inventory Turnover (in days)	ITD

	Payable Account Turnover Ratio	PATR
	Average Payment Period	APP
	Money Conversion Cycle	MCC
	Inventory	INV
	Receivable Accounts	RA
	Fixed Assets	FA
	Short Term Assets	STA
	Short Term Debts	STD
Operational efficiency	Total Assets Turnover Ratio	TATR
	Fixed Assets Turnover Ratio	FATR
	Gross Profit Margin	GPM
	Gross Operative Margin	GOM
	Net Profit Margin	NPM
	Assets Turnover	AT
	Return on Equity	ROE
	Assets Tangibility	TAN
	Inventory/Total assets	ITA
	Fixed assets / Total assets	FATA
	Net Profit	NP
	Business Size	BoS
sk analysisRi	Long Term Debt/Equity Ratio	LTDER
	Total Liability Ratio	TLR
	Interest Coverage Ratio	ICR
	Total Leverage Ratio	LEV
	Long Term Leverage	LT-LEV
	Long Term Debts	LTD
th analysis Grow	Return on Assets	ROA
	Operative Cash Flow	OCF

	Investment Cash Flow	ICF
	Financing Cash Flow	FCF
	Equity	EQ
	Collateral Value	CV
	Owner No	ON
	Firms Age	FA

Source: National Registration Center (NRC) and Credit Registry (CR), Author elaboration

Comparatively, there is also collected and treated the qualitative information concerning Table 9 below.

Table 9. Qualitative variables (organizational behavioral patterns) explored in the research study

Qualitative variables	Abbreviations
Administrator Gender	AG
Business Ownership	BO
Equity Origin	EO
Ownership Gender	OG
Borrower Status	BS

Source: NRC, BoA and CR, Author elaboration

Worth highlighted that referring to the latest official statistics of service, trade, production and ultimately construction sector (respectively constitute 46.65%, 16.85%, 13% and 9% of GDP) which are mainly represented from SMEs, consequently this research study deemed reasonable to collect data from four distinctive 'sectoral-data pools`.

More precisely in trade sector the elaborated data concern: food, agriculture, electronics, medical and cosmetic medicines, building materials, industrial and offices products of trade businesses. In the second one, instead, data were retrieved from gas, steel, sponge, metal/metal products, concrete and dairy production products. While in construction sector the data correspond to buildings, roads, bridges and dams construction businesses. The last sector data

instead refer to: real estate, funeral, internet, design, greenery, restaurants, call centers, financial and accounting counseling, telecommunications, electronics, car wash, and tourism services.

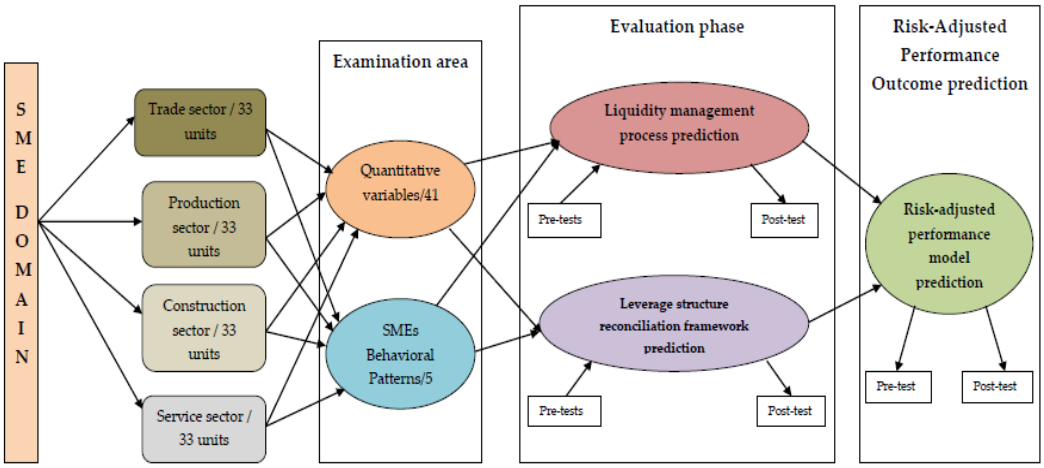


Figure 17. The methodological approach design
Source: Author elaboration

5.2. THE SAMPLING

The investigation sample treats a heterogeneous experimental group of 131 SMEs mainly operating in cities such as: Tirana, Elbasan, Durrës, Fier, Vlorë, etc., where the highest tax burden is paid in correspondence of yearly GDP. By mainly considering that in these areas is observed that tax burden is maintained by the taxpayer base included in the micro (self-employed) and small businesses category, rather than the one where medium and large businesses are included. Consequently each 'sectoral-data pool' is composed with above 33 pertinence businesses and the panel information is retrieved from National Registration Centre online registry and Credit Registry of Bank of Albania. Precisely the quantitative and qualitative data are respectively provided from businesses profit and loss statements, balance sheets, cash-flows, equity prospects and integrative

notes. In addition borrowers' status and collateral values data are accessed through Credit Registry of Central Bank of Albania.

The endogenous-variables elaborated are: liquidity, operational efficiency, risk and growth analysis ratios (previously explained) as well as all the qualitative/behavioral variables excluding borrowers' status and collateral value variables.

According to the 'sectoral-data pool' and almost referring to the qualitative/behavioral variables it must be underlined that:
Firm age is above 4-22 year in trade, production and service sectors while 5-22 years in the construction one.
Administrators' gender: in 6 cases the administrator is female, 26 male and 1 mixed-administration (in trade sector), in 2 cases the administrator is female and 31 male (in production sector), in 32 cases is male and 1 case is mixed-administration (in construction sector) meanwhile service maintains the same male and female administrator rate with trade sector.
Business ownership: in 27 cases administrator is the owner and in 6 cases no (trade sector), 23 cases the owner is the administrator and 10 cases no (production sector), in 27 cases the owner administrates the business and in 6 cases no (construction sector) and in 22 cases the owner is the administrator while in 10 cases no (service sector).
Equity origin: 22 national, 9 foreign and 2 mixed-partnership businesses (in trade sector), 33 national businesses (in production), 13 national, 14 foreign and 6 mixed-partnership businesses (in construction sector) and 29 national and 3 mixed-partnership businesses (in service sector).
Ownerships' gender: in 7 cases female, 23 male and 3 mixed-ownership businesses (trade sector), in 16 cases female, 10 male and 7 mixed-ownership businesses (production sector), in 7 cases female, 22-male and 4 mixed-ownership businesses (construction sector) and in 4 cases female, 23 cases male and 5 mixed-ownership businesses (service sector).

The exogenous-variables retrieved are:
Borrowers' status (which is estimated as a result of financial institutions' loans reimbursement performance as per due date referring to Central Bank criteria, daily reported in its Credit Registry) in the examined sample the default rate ranges from 9%-24% where the highest pertain to construction and the lower to service sector.

Meanwhile collateral value is estimated according to a technical evaluation report prepared from banks' external property valuers referring to precise property characteristics and market prices reported in Credit Registry, where worth mentioned that construction sector maintains the highest collateral values in comparison with other sectors under examination (the lowest collateral rate accepted in each case is 120% of loan disbursement amount).

5.3. DATA MEASUREMENT

Several meetings organized with Certified Accountants, Accounting Experts, Tax Office, National Registration Centre and Banks colleagues, regarding the research study design, helped in the acceleration of data collection process, and also in the validation of quantitative and qualitative variables measurement methods which are presented in the following matrixes:

Table 10. Quantitative variables (financial ratios) measurement method

	Variable	Measurement	Abbreviations
Liquidity-16	Current Assets	Short term assets/Short term debts	CA
	Working Capital	Short term assets-Short term debts	WC
	Quick Ratio	(Cash+trade securities portfolio+receivable accounts)/Short term debts	QR
	Cash Ratio	(Cash+trade securities portfolio)/Short term debts	CR
	Receivables Accounts Turnover Ratio	Net annual sales/Average receivables accounts	RATR
	Average Collection Period	365/Receivables accounts turnover ratio	ACP

	Inventory Turnover Ratio	Cost of goods sold / Average inventory	ITR
	Inventory Turnover in days	365 / Inventory turnover ratio	ITD
	Payable Account Turnover Ratio	Cost of goods sold / Average payable accounts	PATR
	Average Payment Period	365/Payable account turnover ratio	APP
	Money Convertion Cycle	Average collection period+Inventory turnover in days-Average payment period	MCC
	Inventory	End of year inventory	INV
	Receivable Accounts	End of year receivable accounts	RA
	Fixed Assets	End of year fixed assets	FA
	Short Term Assets	Cash+trade securities portfolio+receivable accounts+inventory	STA
	Short Term Debts	Payable accounts, short term loans, etc	STD
Operational efficiency-12	Total Assets Turnover Ratio	Net sales/Average total assets	TATR
	Fixed Assets Turnover Ratio	Net sales/Average fixed assets	FATR
	Gross Profit Margin	Gross profit/Net sales	GPM
	Gross Operative Margin	Earnings before interest and taxes / Net sales	GOM
	Net Profit Margin	Net profit/Net sales	NPM
	Assets Turnover	(Net profit + interest expenses)/Average equity	AT
	Return on Equity	Net profit/Average equity	ROE
	Total Assets Tangibility	Fixed assets/Total assets	TAN

	Inventory/Total assets	Inventory/Total assets	ITA
	Fixed Assets / Total Assets	Fixed assets (without land) / Total assets	FATA
	Net Profit	End of year profit	NP
	Business Size	Ln(total assets)	BoS
Risk analysis-6	Long Lerm Debt/Equity Ratio	Long term debt/equity ratio	LTDER
	Total Liability Ratio	Total debt/Total liability	TLR
	Interest Coverage Ratio	Earnings before interest and taxes / Interest expenses	ICR
	Total Leverage Ratio	Total debts/Total assets	LEV
	Long-Term Leverage	Long term liabilities/Total Assets	LT-LEV
	Long Term Debts	End of year long term debts	LTD
Growth analysis-7	Return on Assets	Net profit/Average assets	ROA
	Operative Cash Flow	In-out operative monetary flows	OCF
	Investment Cash Flow	In-out monetary instruments derived from and for fixed assets purposes	ICF
	Financing Cash Flow	Equity structure movements results	FCF
	Equity	End of year equity	EQ
	Collateral Value	End of year market collateral value	CV
	Owner No	Ownership number	ON
	Firms Age	Analysis period-Business registration period (start-up/grown/matured)	FA

Source: NRC and CR, Author elaboration

Rationally the measurement of quantitative variables (financial variables) includes the effect of various economic, fiscal and financial policies implemented in the country and absorbed from SMEs business segment.

From the other hand, qualitative variables (organizational behaviour variables presented in Table 11) reflect the entire business climate/operational framework.

Table 11. Qualitative variables (organizational behaviour) measurement method

Qualitative variables	**Measurement**	**Abbreviation**
Administrator Gender	Administrators gender (female-0, male-1 and both genders/mixed-2)	AG
Business Ownership	Business owner (adminstrator-0 or no-1)	BO
Equity Origin	Business equity origin (national-0, foreign-1 and mixed-partnership-2)	EO
Ownership Gender	Ownership gender (female-0, male-1 and mixed-ownership-2)	OG
Borrower Status	Borrower Status (non-performing + 30 due days-0 /performing 0-29 due days-1)	BS

Source: NRC, BoA and CR, Author elaboration

VI. LIQUIDITY MANAGEMENT DECISIONS-A PATTERN RECOGNITION PROCESS

VI - LIQUIDITY MANAGEMENT DECISIONS-A PATTERN RECOGNITION PROCESS

Considering the current circumstances and not only liquidity management process in SMEs constitutes the most important element of making business and further on progress. This is obviously seen under the light of internal and sectoral needs in short and long-run prospect. Thereby, this chapter tends to analyze and argue on factors predicting liquidity management process in short-run by recognizing the importance of SMEs patterns.

Disputed empirical and theoretical results make more interesting and valuable this part of research almost when structured qualitative and quantitative data are used to test the raised hypotheses with the main focus the understanding of financial management policies implemented for strategic purposes as well as the identification of hidden relationships that exists between some categorical indicators. Subsequently, it can also be traced the way how these kinds of businesses survive, grow-up and mature by reflecting differentiated sectoral peculiarities and by simultaneously revealing performance signals.

6.1. LIQUIDITY RATIOS ANALYSIS

The literature has explored different liquidity short-run ratios for analytical purposes. However, worth highlighted that in some cases the liquidity ratios especially in SME businesses are strongly correlated with other ones and consequently they cannot be strictly categorized in a certain area. Hence, it can be admitted that sometimes it's worthy using more than one liquidity ratio for analytical purposes and not especially them to predict liquidity management process of a certain sector.

And by recognizing the multicollinearity[17] issues that exists between financial ratios a simultaneous exploitation can be performed. In this regard the most appropriate ratios representing the evaluation of liquidity management process in each sector taken under examination seem to be: WC (working capital), RATR (receivable accounts turnover ratio), MCC (money conversion cycle) and NPM (net profit margin). The first three ratios are strictly categorized as liquidity ratios while the last one is an operative efficiency ratio.

Closely referring to cross-sectoral statistics retrieved it can be understand that production, construction and service businesses examined maintain quite the same minimum levels of working capital (see Table 12). The exception is constituted from trade sector. In average terms instead production reserves the lowest level of working capital followed from trade, construction and service. In addition the data confirm that quite the same trend is preserved even in maximum level.

Table 12. Working Capital cross-sectoral statistics in ALL

SECTORAL DATA (in ALL)	MIN	AVERAGE	MAX
WC-TRADE	(32,758,730)	47,146,761	456,357,082
WC-PRODUCTION	(211,035,039)	36,394,630	573,948,960
WC-CONSTRUCTION	(235,999,204)	62,893,649	1,420,347,085
WC-SERVICE	(241,395,824)	920,004,974	29,665,916,900

Source: Primary data collection, Author elaboration

It can further be noticed that the most fluctuating data pertaining to working capital levels maintained refer to service and construction sector. But from the

[17] The correlation that exists between two variables, meaning the financial indicators in this case. For example the correlation between CR (short term assets/short term debts) and WC (short term assets-short term debts).

procedural framework this aspect can be linked with lending products costs and amounts borrowed considering the payment history and current borrowers' status.

From the other hand, RATR in the quality of a working capital element poses under liquidity weakness trade sector by logically considering the delayed payments offered as a bonus for clients whilst create difficulties not only to SMEs themselves but also to their furnitures. Correspondingly the average return ratio in days is 268 (see Table 13 below) which is a weak feature of trade sector that is translated not in a random liquidity deficit. The contrary instead is observed for service sector where the major part of sales is made on cash-basis. Regarding construction and production sector it can be mentioned the fact that net sales amounts are high and receivables amounts are low as the construction sector typically operates through clearance for the cement, iron furniture, etc or anticipated payments versus delivery of order contracts' for retail buyers while production sector implements discounted collection policies for premium clients (including here the production of semi-final and final products for export activities). The maximum turnover occurs within two and a half years in construction sector and with one and half year in production sector.

Table 13. Receivables accounts turnover ratio cross-sectoral statistics (in days)

SECTORAL DATA (in days)	MIN	AVERAGE	MAX
RATR-TRADE	-[18]	268	294
RATR-PRODUCTION	-	25	593
RATR-CONSTRUCTION	-	34	912
RATR-SERVICE	-	7	88

Source: Primary data collection, Author elaboration

From the money conversion cycle prospect which is also a derivative of RATR it can be marked that due to clearance and sectoral product delivery timeframe, construction sector represents the largest money conversion period (refer to Table 14). Similarly high amounts of inventories are maintained from production sector

[18] Stays for 0

aiming to ensure business continuity as well as capture market opportunities when prices fall and permanent payments are done respectively. Correspondingly the average money conversion cycle refers to two and half years for construction sector, above two as per production sector, followed from one year and eight months for trade and one year and a half for service sector.

Table 14. Money conversion cycle cross-sectoral statistics (in days)

SECTORAL DATA (in days)	MIN	AVERAGE	MAX
MCC-TRADE	(475)	665	870
MCC-PRODUCTION	(927)	725	1,141
MCC-CONSTRUCTION	556	829	1,625
MCC-SERVICE	(297)	573	633

Source: Primary data collection, Author elaboration

Net profit margin is another key element that creates more possibilities concerning an effective liquidity management process as the profit earned can be used for buying needs and payment purposes. Intuitively and in full compliance with the previously mentioned results but also referring to below statistics (Table 15) service demonstrates the highest net profit margin, followed from construction and production sectors and the last remains trade.

Table 15. Net profit margin cross-sectoral statistics in ALL

SECTORAL DATA (in ALL)	MIN	AVERAGE	MAX
NPM-TRADE	(354)%	24%	51%
NPM-PRODUCTION	(89)%	6%	88%
NPM-CONSTRUCTION	(170)%	16%	394%
NPM-SERVICE	(53)%	86%	818%

Source: Primary data collection, Author elaboration

As evidenced the four ratios analyzed provide different aspects of decision making approach under liquidity management process by contemporary casting light even through other patterns which in turns affect additional important financial processes that should be further examined.

6.2. RESEARCH HYPOTHESES

The research hypotheses raised in this chapter tend to aggregate qualitative and quantitative data with the intention to foster the prediction of liquidity management process which is seen as a complex process into different sectoral affiliations. In the first five hypotheses only qualitative data are analyzed aiming to capture the effects of managerial aspect on SMEs business management process.

In following qualitative and quantitative data are match in order to extend the analysis into a more advanced phase and better understand the influence of predictive factors (as derivative results of dynamic financial policies implemented in SMEs) in liquidity decision making process which in turns is expressed in terms of business effectiveness and efficiency:

H1: The borrowers' status depends from administrators gender regardless sectoral affiliation;
H2: Equity origin is decisive in business ownership composition regardless sectoral affiliation;
H3: There is an inverse relationship between administrators and ownership gender regardless sectoral affiliation;
H4: Equity origin doesn't influence the borrowers' status regardless sectoral affiliation;
H5: Equity origins indicate business administration regardless sectoral affiliation;
H6: Borrowers' status and OCF have a mutual positive impact on businesses working capital regardless sectoral affiliation;
H7: Administrators gender and GPM can't simultaneously impact businesses working capital regardless sectoral affiliation;
H8: Equity origin and APP contemporaneously negatively affect businesses working capital regardless sectoral affiliation;

H9: Ownerships gender, TLR, ITA, FA and OCF as well as ownerships gender and firm's age don't impact WC, RATR and NPM regardless sectoral affiliation;
H10: Business administration, FATR, LT-LEV, CR and business size as well as business administration and long-term leverage ratio positively impact WC, MCC and NP regardless sectoral affiliation;
H11: A radial basis function predicts WC, RATR, MCC and NPM regardless sectoral affiliation

6.3. HYPOTHESES EXAMINATION, TESTS AND RESULTS

H1: The borrowers' status depends from administrators gender regardless sectoral affiliation;

The statistical results of H1 hypothesis examination referring to Table 16 demonstrate that in trade sector the borrowers' non-performing status is evidenced only when the administration gender is male even the total rate is lower (15.2%) in confront with the one of borrowers' performing status (84.8%).

Table 16. Administrator gender and Borrower status statistics in trade sector

			Borrowers Status		
			0	1	Total
Administrator Gender	0	Count	0	6	6
		% within Administrator Gender	.0%	100.0%	100.0%
		% within Borrowers Status	.0%	21.4%	18.2%
	1	Count	5	21	26
		% within Administrator Gender	19.2%	80.8%	100.0%
		% within Borrowers Status	100.0%	75.0%	78.8%
	2	Count	0	1	1

	% within Administrator Gender	.0%	100.0%	100.0%
	% within Borrowers Status	.0%	3.6%	3.0%
Total	Count	5	28	33
	% within Administrator Gender	15.2%	84.8%	100.0%
	% within Borrowers Status	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Comparatively in production sector H1 hypothesis results (see Table 17) concerning borrowers' status per administrator gender evidence the same default probability per males. Saying that it can be affirmed that against as in the previous data 5 borrowers' status result to be in default pertaining to administrator gender/male by representing 16.1% of the total category and only 18.2% of sectoral data-pool. Meanwhile in female administration category is observed a 50% default ratio which constitutes 16.7% of total borrowers' status.

Table 17. Administrator gender and Borrower status statistics in production sector

			Borrowers Status		
			0	1	Total
Administrator Gender	0	Count	1	1	2
		% within Administrator Gender	50.0%	50.0%	100.0%
		% within Borrowers Status	16.7%	3.7%	6.1%
	1	Count	5	26	31
		% within Administrator Gender	16.1%	83.9%	100.0%
		% within Borrowers Status	83.3%	96.3%	93.9%
Total		Count	6	27	33
		% within Administrator Gender	18.2%	81.8%	100.0%

			Borrowers Status		
			0	1	Total
Administrator Gender	0	Count	1	1	2
		% within Administrator Gender	50.0%	50.0%	100.0%
		% within Borrowers Status	16.7%	3.7%	6.1%
	1	Count	5	26	31
		% within Administrator Gender	16.1%	83.9%	100.0%
		% within Borrowers Status	83.3%	96.3%	93.9%
Total		Count	6	27	33
		% within Administrator Gender	18.2%	81.8%	100.0%
		% within Borrowers Status	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

In construction sector (refer to Table 18) are manifested 8 default cases pertaining to male business administration gender and there isn't any evidence of non-performing borrowers' status in the cases of mixed business administration. Consecutively the total default ratio of 24.2% pertains to male administrator gender.

Table 18. Administrator gender and Borrower status statistics in construction sector

			Borrowers Status		
			0	1	Total
Administrator Gender	1	Count	8	24	32
		% within Administrator Gender	25.0%	75.0%	100.0%
		% within Borrowers Status	100.0%	96.0%	97.0%
	2	Count	0	1	1

	% within Administrator Gender	.0%	100.0%	100.0%
	% within Borrowers Status	.0%	4.0%	3.0%
Total	Count	8	25	33
	% within Administrator Gender	24.2%	75.8%	100.0%
	% within Borrowers Status	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

In service sector (see Table 19) instead it can be affirmed that no one default borrower status is evidenced concerning female administration gender, while revealed 3 default cases in male business administration category. Accordingly, the total default ratio is 9.4%.

Table 19. Administrator gender and Borrower status statistics in service sector

			Borrowers Status		
			0	1	Total
Administrator Gender	0	Count	0	6	6
		% within Administrator Gender	.0%	100.0%	100.0%
		% within Borrowers Status	.0%	20.7%	18.8%
	1	Count	3	23	26
		% within Administrator Gender	11.5%	88.5%	100.0%
		% within Borrowers Status	100.0%	79.3%	81.2%

Total	Count	3	29	32
	% within Administrator Gender	9.4%	90.6%	100.0%
	% within Borrowers Status	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

According to the statistical results it can be confirmed the acceptance of H1 hypothesis, where the higher default probability is attributed to businesses administrated from men. This leads to the understanding that female and mixed administration categories pay more attention to credit reimbursement which directly handles liquidity management decision process.

H2: Equity origin is decisive in business ownership composition regardless sectoral affiliation;

The statistical results pertaining to trade sector demonstrated in Figure 18, confirm that Albanian businesses are mainly owned from men (69% of cases), then from women with 24.1% meanwhile mix-partnership represents the last preference.
Foreign businesses instead are owned only from men and the same result is evidenced also in the mixed-equity cases. In other words it is admitted that in trade sector from the data examined generally men own the major part of national, foreign and mixed-equity business cases.

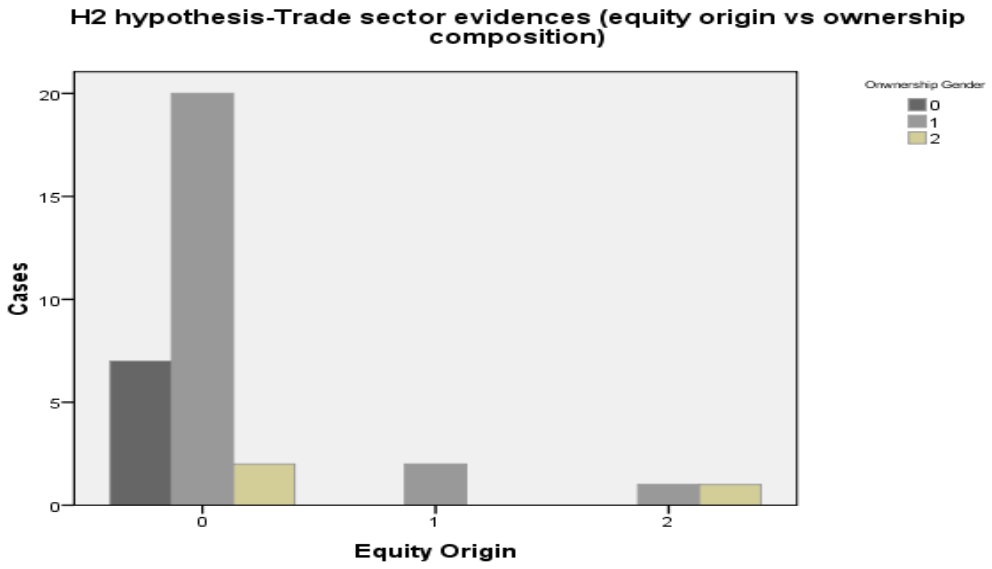


Figure 18. Business equity origin vs Ownership gender statistics in trade sector
Source: Primary data collection, Author elaboration with SPSS

From the other hand H2 hypothesis results confirm that production sector is nationally originated (see Figure 19) and mainly owned from women than from men and mixed partnership (with respectively 54.5%, 33.3% and 12.1%). And this brings contrary results with the one of trade sector previously analyzed.

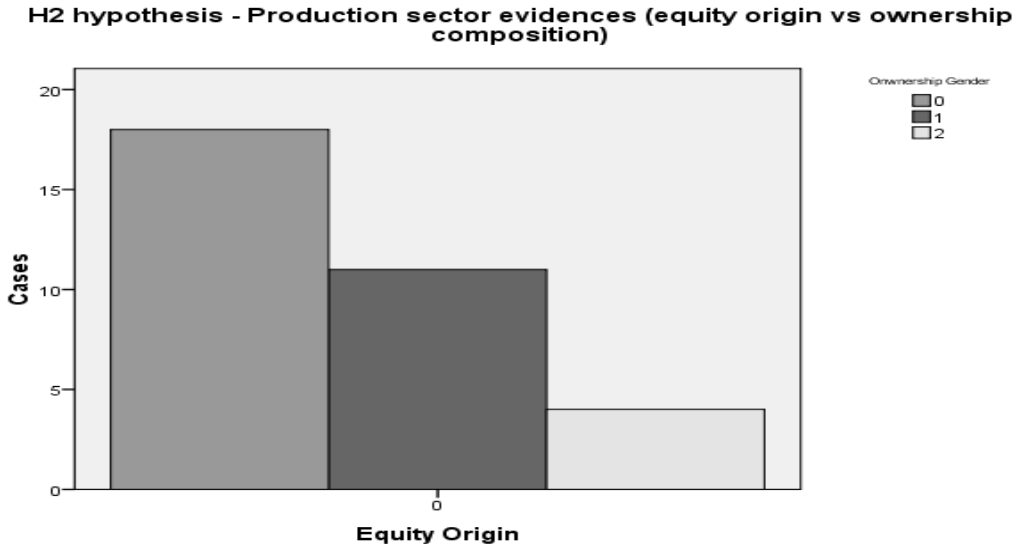


Figure 19. Business equity origin vs Ownership gender statistics in production sector
Source: Primary data collection, Author elaboration with SPSS

The results of construction sector instead concerning the equity origin and ownership composition undisputedly demonstrate that men are the owners of above 65% of Albanian, foreign and mixed-equity businesses (as per Figure 20).

And women are mainly the owners of Albanian businesses (23.1% vs 21.4% and 16.7% in foreign and mixed equity businesses).
Meanwhile it can be also added that foreign businesses operating in the country reflect mixed-partnership (in 14.3% of total cases) exigencies.

Figure 20. Business equity origin vs Ownership gender statistics in construction sector
Source: Primary data collection, Author elaboration with SPSS

On behalf of Figure 21, in service sector is demonstrated that Albanian businesses in 75% of cases are owned from men, in 9.3% from women and in 6.25% of cases are owned from both of them. In the cases of mixed-equity instead businesses have also shared a mixed-ownership tendency.

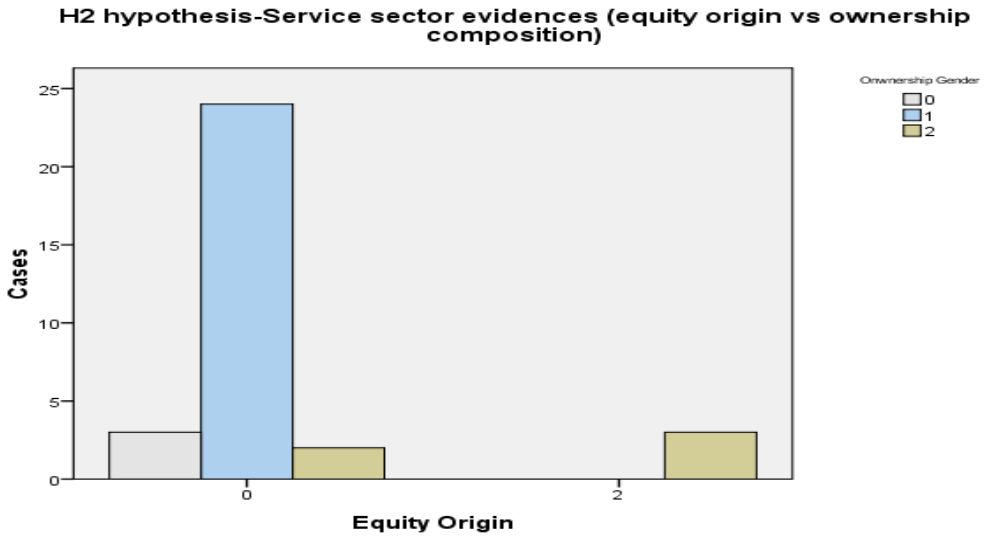


Figure 21. Business equity origin vs Ownership gender statistics in service sector
Source: Primary data collection, Author elaboration with SPSS

The sectoral analysis rejects H2 hypothesis by concluding that business equity origin doesn't imply restrictive preferences on their ownership structure. Nonetheless, a tendency of mixed-equity in delegating the administration to mixed-partnership is evidenced in trade, construction and service sector.

H3: There is an inverse relationship between administrators and ownership gender regardless sectoral affiliation;

The examinations of H3 hypothesis in trade sector (referring to Table 20 data) are very interesting, considering that female ownership delegates administrator responsibilities to women in 83.3% of examined cases. From the other hand similar results are achieved also from male ownership structures that prefer to appoint as administrators men in 84.6% of examined cases. Comparatively also mixed-partnership structures highly opt mixed-administration (100%).

Table 20. Administrator and ownership gender statistics in trade sector

			Ownership Gender			
			0	1	2	Total
Administrator Gender	0	Count	5	1	0	6
		% within Administrator Gender	83.3%	16.7%	.0%	100.0%
		% within Ownership Gender	71.4%	4.3%	.0%	18.2%
	1	Count	2	22	2	26
		% within Administrator Gender	7.7%	84.6%	7.7%	100.0%
		% within Ownership Gender	28.6%	95.7%	66.7%	78.8%
	2	Count	0	0	1	1
		% within Administrator Gender	.0%	.0%	100.0%	100.0%
		% within Ownership Gender	.0%	.0%	33.3%	3.0%
Total		Count	7	23	3	33
		% within Administrator Gender	21.2%	69.7%	9.1%	100.0%
		% within Ownership Gender	100.0%	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

The contingency coefficient[19] (CC) evaluated in these cases demonstrates a moderate positive relationship between two variables taken into consideration (refer to Table 21).

Table 21. The contingency coefficient between administrator and ownership gender data in trade sector

		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.671	.000
N of Valid Cases		33	

Source: Primary data collection, Author elaboration with SPSS

In production sector male administration results the more preferred option regardless ownership structure 93.9%. By this way the respective statistics (see Table 22) show that even female business ownership structures mostly prefer men (54.8%) related to administration issues than women (50%).
While men and mixed-ownership structures have appointed respectively 33.3% men and 12.1% mixed-partnership in the total examined cases.

[19] The contingency coefficient (CC) helps in the understanding if variable b is 'contingent' on variable a. However, it is a rough measure and doesn't quantify the dependence exactly. By this way if : CC is **near zero** (or equal to zero) it can be concluded that there is no association between them. If CC is **close to -1** there is a strong negative association between variables and when it is **close to 1** a strong positive association between variables exists.

Table 22. Administrator and ownership gender statistics in production sector

			Ownership Gender			
			0	1	2	Total
Administrator Gender	0	Count	1	1	0	2
		% within Administrator Gender	50.0%	50.0%	.0%	100.0%
		% within Ownership Gender	5.6%	9.1%	.0%	6.1%
	1	Count	17	10	4	31
		% within Administrator Gender	54.8%	32.3%	12.9%	100.0%
		% within Ownership Gender	94.4%	90.9%	100.0%	93.9%
Total		Count	18	11	4	33
		% within Administrator Gender	54.5%	33.3%	12.1%	100.0%
		% within Ownership Gender	100.0%	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Similar results are handled even while referring to contingency coefficient estimated in production sector. Its value is low (0,115 see Table 23 data) which means that a weak positive relationship between administrator and ownership gender exists.

Table 23. The contingency coefficient between administrator and ownership gender data in production sector

		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.115	.801
N of Valid Cases		33	

Source: Primary data collection, Author elaboration with SPSS

Statistically based, in construction sector the male ownership structure opts men in administrator role (in 65.6% of cases). In addition they also prefer mixed-administration cases. Subsequently are preferred women and mixed-partnership with 21.9% and 12.5% of cases (Table 24).

Table 24. Administrator and ownership gender statistics in construction sector

			Ownership Gender			
			0	1	2	Total
Administrator Gender	1	Count	7	21	4	32
		% within Administrator Gender	21.9%	65.6%	12.5%	100.0%
		% within Ownership Gender	100.0%	95.5%	100.0%	97.0%
	2	Count	0	1	0	1
		% within Administrator Gender	.0%	100.0%	.0%	100.0%
		% within Ownership Gender	.0%	4.5%	.0%	3.0%
Total		Count	7	22	4	33

	% within Administrator Gender	21.2%	66.7%	12.1%	100.0%
	% within Ownership Gender	100.0%	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

The a/m results are reconfirmed from contingency coefficient calculated in construction sector (CC result=0,124-refer to Table 25). Throughout, a weak positive relationship between administrator and ownership gender is revealed in this sector.

Table 25. The contingency coefficient between administrator and ownership gender data in construction sector

		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.124	.773
N of Valid Cases		33	

Source: Primary data collection, Author elaboration with SPSS

In service sector (Table 26), female and mixed-ownership proportionally prefer female administrators. Men ownership instead opt for same gender administrators (75% of total cases) meanwhile mixed-partnerships evidence men administrator preferences (in 7.7% of cases).

Table 26. Administrator and ownership gender statistics in service sector

			Ownership Gender			
			0	1	2	Total
Administrator Gender	0	Count	3	0	3	6
		% within Administrator Gender	50.0%	.0%	50.0%	100.0%
		% within Ownership Gender	100.0%	.0%	60.0%	18.8%
	1	Count	0	24	2	26
		% within Administrator Gender	.0%	92.3%	7.7%	100.0%
		% within Ownership Gender	.0%	100.0%	40.0%	81.2%
Total		Count	3	24	5	32
		% within Administrator Gender	9.4%	75.0%	15.6%	100.0%
		% within Ownership Gender	100.0%	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

The CC result in this case (see Table 27) confirms the existence of a moderate and positive relationship between administrator and ownership gender in service sector.

Table 27. The contingency coefficient between administrator and ownership gender data in service sector

		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.656	.000
N of Valid Cases		32	

Source: Primary data collection, Author elaboration with SPSS

In correspondence of sectoral statistics it can be highlighted that H3 hypothesis doesn't results valid. The contingency test results in each single case confirm a positive even weak relationship between administrator and businesses ownership gender. Accordingly, in general the most preferred administrator gender is male.

H4: Equity origin doesn't influence the borrowers' status regardless sectoral affiliation;

The results elaborated in trade sector referring to equity origin influence on borrowers' status confirm that 6.9% of total examined cases pertain to national equity businesses; the foreign equity default ratio instead is 50% of examined cases while mixed equity is 100%. Alternatively said these results demonstrate that equity conglomerate increases business default probability (Figure 22). The estimated contingency coefficient is 0,554 (see Table 28) by reaffirming a moderate and positive relationship between the a/m variables.

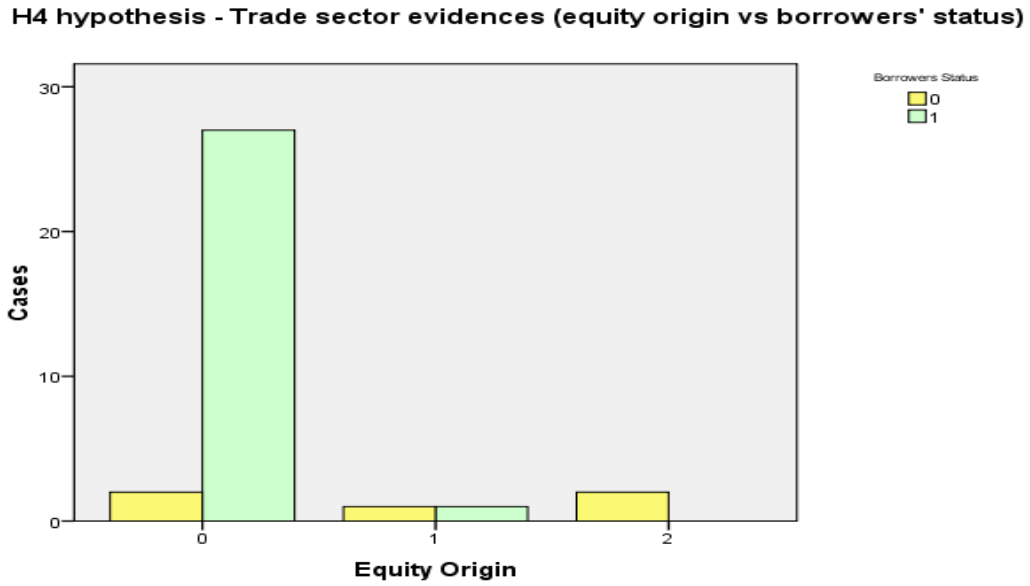


Figure 22. Equity origin and borrower's status statistics in trade sector
Source: Primary data collection, Author elaboration with SPSS

Table 28. The contingency coefficient between equity origin and borrower's status data in trade sector

		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.554	.001
N of Valid Cases		33	

Source: Primary data collection, Author elaboration with SPSS

From the other side in production sector only national equity businesses demonstrate a default status of 18.2% (see Figure 23). For this purpose the contingency coefficient can't be calculated and worth argue only on statistical basis.

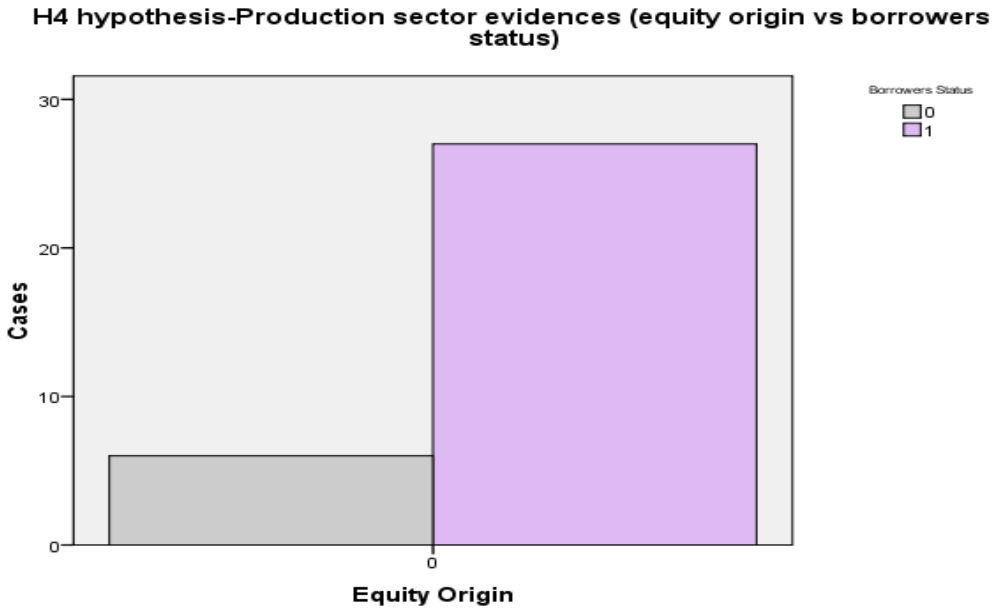


Figure 23. Equity origin and borrower's status statistics in production sector
Source: Primary data collection, Author elaboration with SPSS

Equity origin in construction sector evidences a total impact of 24.2% on default status (with 30.8% and 28.6% respectively in national and foreign cases/4 default cases per each equity category referring to Figure 24). And the contingency coefficient estimated in this case (see Table 29) is weak but positive.

Figure 24. Equity origin and borrower's status statistics in construction sector
Source: Primary data collection, Author elaboration with SPSS

Table 29. The contingency coefficient between equity origin and borrower's status data in construction sector

		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.259	.307
N of Valid Cases		33	

Source: Primary data collection, Author elaboration with SPSS

The statistical results (see Figure 25) pertaining to service sector concerning equity origin on borrowers' status impact conclude that the latter impact is 9.3%. Comparatively CC estimated result is 0,103 (refer Table 30), which declares a weak but positive relationship between two variables taken into consideration.

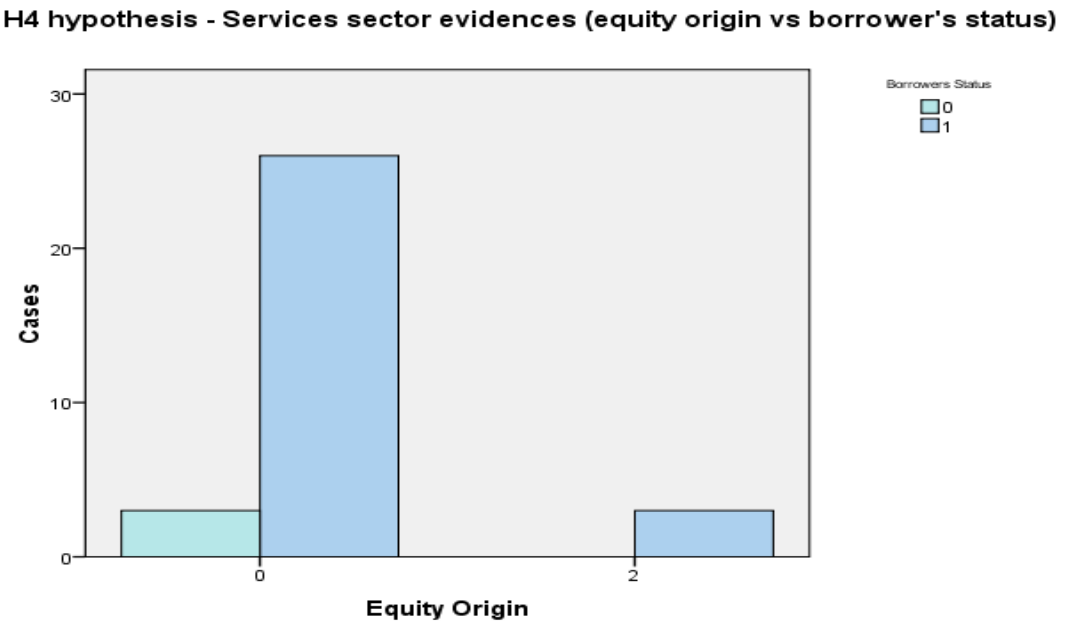


Figure 25. Equity origin and borrower's status statistics in service sector
Source: Primary data collection, Author elaboration with SPSS

Table 30. The contingency coefficient between equity origin and borrower's status data in service sector

		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.103	.558
N of Valid Cases		32	

Source: Primary data collection, Author elaboration with SPSS

In most cases as discussed the equity origin and borrowers' status are positively correlated (especially in national equity businesses where is marked the higher default ratio regardless sectoral affiliations) and obviously these results lead to the rejection of H4 hypothesis. Which is further confirmed from contingency coefficient results in each sectoral examination.

H5: Equity origins indicate business administration regardless sectoral affiliation;

On behalf of H5 hypothesis examination, trade sector evidences regarding equity origin and business administration delegation process clearly demonstrate that in majority of examined cases (in 81.8%), the businesses are managed from the administrators. Specifically, foreign equity companies choose to trust the management process to estrangers in 100% of examined cases followed from the national and mixed-partnership ones with respectively 82.8% and 50% of categorical cases (refer to Table 31).

Table 31. Equity origin and business administration statistics in trade sector

			Business Administration		
			0	1	Total
Equity Origin	0	Count	24	5	29
		% within Equity Origin	82.8%	17.2%	100.0%
		% within Business Administration	88.9%	83.3%	87.9%
	1	Count	2	0	2
		% within Equity Origin	100.0%	.0%	100.0%
		% within Business Administration	7.4%	.0%	6.1%
	2	Count	1	1	2
		% within Equity Origin	50.0%	50.0%	100.0%
		% within Business Administration	3.7%	16.7%	6.1%
Total		Count	27	6	33
		% within Equity Origin	81.8%	18.2%	100.0%
		% within Business Administration	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

In production sector, also national equity businesses evidence that they mainly prefer to nominate skilled professionals as administrators (see Table 32) in 72.7% of examined cases.

Table 32. Equity origin and business administration statistics in production sector

			Business administration		
			0	1	Total
Equity Origin	0	Count	24	9	33
		% within Equity Origin	72.7%	27.3%	100.0%
		% within Business administration	100.0%	100.0%	100.0%
Total		Count	24	9	33
		% within Equity Origin	72.7%	27.3%	100.0%
		% within Business administration	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

The estimated statistics in construction sector concerning business administration in respect of equity origin (Table 33) confirm that in 81.8% of examined cases business owners delegate the administration to skilled managers/administrators (respectively with 76.9%, 85.7% and 83.3% in national, foreign and mixed-partnership cases).

Table 33. Equity origin and business administration statistics in construction sector

			Business Administration		
			0	1	Total
Equity Origin	0	Count	10	3	13
		% within Equity Origin	76.9%	23.1%	100.0%

		% within Business Administration	37.0%	50.0%	39.4%
	1	Count	12	2	14
		% within Equity Origin	85.7%	14.3%	100.0%
		% within Business Administration	44.4%	33.3%	42.4%
	2	Count	5	1	6
		% within Equity Origin	83.3%	16.7%	100.0%
		% within Business Administration	18.5%	16.7%	18.2%
Total		Count	27	6	33
		% within Equity Origin	81.8%	18.2%	100.0%
		% within Business Administration	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

In service sector generally the same but categorical contradictory results are achieved concerning equity origin and business administration process. So, referring to the Table 34 it can be evidenced that in majority of cases national equity businesses delegate to the managers the administrators role (in 72.4% of examined cases). While mixed-partnership businesses prefer more to self-administrate respective businesses (in 66.7% of examined cases).

Table 34. Equity origin and business administration statistics in service sector

			Business Administration		
			0	1	Total
Equity Origin	0	Count	21	8	29
		% within Equity Origin	72.4%	27.6%	100.0%
		% within Business Administration	95.5%	80.0%	90.6%

	2	Count	1	2	3
		% within Equity Origin	33.3%	66.7%	100.0%
		% within Business Administration	4.5%	20.0%	9.4%
Total		Count	22	10	32
		% within Equity Origin	68.8%	31.2%	100.0%
		% within Business Administration	100.0%	100.0%	100.0%

Source: Primary data collection, Author elaboration with SPSS

In general it can be concluded that H5 hypothesis can be rejected as in each sectoral affiliation businesses mostly prefer to nominate skilled and valuable managers concerning respective businesses administration, which demonstrates the owners necessity for trust heading toward a sustainable financial management into fragile business rhythms.
As above the logic brings to the attention implied links between the variables examined, thus, aiming to understand and better reflect on the first five hypotheses as per liquidity management process the correlated qualitative and quantitative data are further examined through the following hypotheses.

H6: Borrowers' status and OCF have a mutual positive impact on businesses working capital regardless sectoral affiliation;

Borrowers' status and OCF doesn't impact working capital in trade sector at 95% confidence level (refer to Table 35) as the mutual variable significance is higher than 0.05. This can be also confirmed from the univariate regression low R squared result (1%). Meanwhile is evidenced that working capital errors'

variance isn't the same between two borrowers' status groups (see Levene's Test[20] results in Appendix A/Table 1).

Table 35. Tests of Between-Subjects Effects (Borrowers' Status and OCF vs WC) in trade sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.028E15[a]	2	2.014E15	.145	.866	.010
Intercept	7.033E16	1	7.033E16	5.056	.032	.144
Borrowers' Status * GA2OCF	4.028E15	2	2.014E15	.145	.866	.010
Error	4.173E17	30	1.391E16			
Total	4.947E17	33				
Corrected Total	4.213E17	32				

a. R Squared = .010 (Adjusted R Squared = -.056)

Source: Primary data collection, Author elaboration with SPSS

Alternatively worth highlighting that the mutual impact of borrowers' status and OCF on working capital is positive and statistically significant in production sector (see Table 36) at 95% confidence level. Correspondingly working capital volatility is predicted in 63.2% from them. From the other hand is evidenced that working capital error's variance isn't the same between two borrowers' status groups (refer to Table 2 in Appendix A).

[20] Levene's test significance >0,05. It tests the null hypothesis that the error variance of dependent variable is equal across the groups examined (in this case two borrowers' status groups/performing and non are considered).

Table 36. Tests of Between-Subjects Effects (Borrowers' Status and OCF vs WC) in production sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.449E16[a]	2	1.224E16	6.884	.018	.632
Intercept	3.209E14	1	3.209E14	.180	.682	.022
Borrowers' Status * GA2OCF	2.449E16	2	1.224E16	6.884	.018	.632
Error	1.423E16	8	1.779E15			
Total	3.876E16	11				
Corrected Total	3.872E16	10				

a. R Squared = .632 (Adjusted R Squared = .541)

Source: Primary data collection, Author elaboration with SPSS

Construction sector working capital data testify also that error's variance isn't the same between two borrowers' status groups (see Table 3 results in Appendix A), but despite this, working capital result to be positively correlated with borrowers' status and OCF (their estimated effect on working capital is 76.2% see Table 37 in following).

Table 37. Tests of Between-Subjects Effects (Borrowers' Status and OCF vs WC) in construction sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.409E18[a]	2	7.046E17	14.410	.002	.762
Intercept	1.709E17	1	1.709E17	3.495	.094	.280

Borrowers' Status * GA2OCF	1.409E18	2	7.046E17	14.410	.002[21]	.762
Error	4.401E17	9	4.890E16			
Total	2.050E18	12				
Corrected Total	1.849E18	11				

a. R Squared = .762 (Adjusted R Squared =. 709)

Source: Primary data collection, Author elaboration with SPSS

Borrowers' status and OCF positively impact working capital corresponding to service sector examined data (refer to Table 38 below). Concretely, they have a full impact on working capital variability independently from the fact that referring to Levenes' test working capital error's variance isn't the same between two borrowers' status (see Table 4 in Appendix A).

Table 38. Tests of Between-Subjects Effects (Borrowers' Status and OCF vs WC) in service sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	8.513E20[a]	2	4.257E20	5.342E4	.000	1.000
Intercept	9.135E14	1	9.135E14	.115	.737	.004
Borrowers' Status * GA2OCF	8.513E20	2	4.257E20	5.342E4	.000	1.000
Error	2.311E17	29	7.969E15			
Total	8.803E20	32				
Corrected Total	8.515E20	31				

a. R Squared = 1.000 (Adjusted R Squared = 1.000)

Source: Primary data collection, Author elaboration with SPSS

[21] Their impact on WC is also statistically significant at 95% confidence level.

As evidenced the mutual impact of borrowers' status and OCF on businesses working capital pertaining to production, construction and service sector is positive but it doesn't result the same in trade sector. Thus, merely H6 hypothesis doesn't result valid. Anyway, it should be admitting that a/m results sound true under liquidity management process. By this way the credit reimbursement capability and positive OCFs may permanently furnish businesses with enough liquidity (considering that the latter can be mainly borrowed from banks/financial institutions).

H7: Administrators gender and GPM can't simultaneously impact businesses working capital regardless sectoral affiliation;

Closely referring to Table 39 trade sector data, administrators gender and GPM simultaneous impact on working capital (as the statistical significance > 0.05) is irrelevant. The same situation persists even individually referring to each of the a/m variables. But from the other side, Levenes' test confirms (see Table 5 in Appendix A) that working capital errors' variance between administrators gender groups isn't equal.

Table 39. Tests of Between-Subjects Effects (Administrators gender and GPM vs WC) in trade sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.683E16[a]	4	6.708E15	.476	.753	.064
Intercept	8.811E15	1	8.811E15	.625	.436	.022
Administrators Gender	5.450E15	1	5.450E15	.387	.539	.014
OE3GPM	1.229E16	1	1.229E16	.872	.358	.030
Administrators Gender * OE3GPM	1.034E16	1	1.034E16	.734	.399	.026

Error	3.945E17	28	1.409E16			
Total	4.947E17	33				
Corrected Total	4.213E17	32				

a. R Squared = .064 (Adjusted R Squared = -.070)

Source: Primary data collection, Author elaboration with SPSS

The same situation is replicated in production sector, where the simultaneous statistical significance of the GPM and administrators gender concerning working capital is higher than 0.05 (see Table 40 below data). Even separately the a/m variables don't represent any significant statistical relationship with working capital. Against here the Levenes' test demonstrates disparity in working capital errors' variance between different administrators gender groups (Table 6 in Appendix A).

Table 40. Tests of Between-Subjects Effects (Administrators' gender and GPM vs WC) in production sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.592E16[a]	3	5.307E15	.276	.842	.029
Intercept	2.572E15	1	2.572E15	.134	.717	.005
Administrators Gender	3.996E15	1	3.996E15	.208	.652	.007
OE3GPM	5.011E15	1	5.011E15	.261	.614	.009
Administrator Gender * OE3GPM	4.878E15	1	4.878E15	.254	.618	.009
Error	5.385E17	28	1.923E16			

Total	5.968E17	32				
Corrected Total	5.544E17	31				

a. R Squared = .029 (Adjusted R Squared = -.075)

Source: Primary data collection, Author elaboration with SPSS

Construction sector statistics instead (see Table 41 in following), show contradictory results concerning the simultaneous impact of administrators gender and GPM on working capital. However they don't simultaneously impact the latter, but separately administrators gender demonstrates a statistical significant impact on working capital. While Levenes' test (Table 7 in Appendix A) confirms the errors' variance disparity in working capital between different administrators gender groups.

Table 41. Tests of Between-Subjects Effects (Administrators' gender and GPM vs WC) in construction sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.900E18[a]	2	9.501E17	100.965	.000	.871
Intercept	2.010E18	1	2.010E18	213.593	.000	.877
Administrators Gender	1.897E18	1	1.897E18	201.578	.000	.870
OE3GPM	4.260E12	1	4.260E12	.000	.983	.000
Administrators Gender * OE3GPM	.000	0	.	.	.	.000
Error	2.823E17	30	9.411E15			
Total	2.313E18	33				
Corrected Total	2.183E18	32				

a. R Squared = .871 (Adjusted R Squared = .862)

Source: Primary data collection, Author elaboration with SPSS

In service sector also, the impact of administrators gender and GPM is inexistent (see Table 42) on working capital. Levenes' test (Table 8 in Appendix A) verifies the working capital errors' variance disparity between different administrators gender groups.

Table 42. Tests of Between-Subjects Effects (Administrators gender and GPM vs WC) in service sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.451E19[a]	3	4.835E18	.162	.921	.017
Intercept	9.401E18	1	9.401E18	.314	.579	.011
Administrators Gender	9.200E18	1	9.200E18	.308	.583	.011
OE3GPM	2.215E18	1	2.215E18	.074	.787	.003
Administrators Gender * OE3GPM	2.185E18	1	2.185E18	.073	.789	.003
Error	8.370E20	28	2.989E19			
Total	8.803E20	32				
Corrected Total	8.515E20	31				

a. R Squared = .017 (Adjusted R Squared = -.088)

Source: Primary data collection, Author elaboration with SPSS

The results examined highlight the inexistence of a simultaneous impact between administrators gender and GPM in working capital. Throughout, H7 hypothesis can be admitted. But it should be also added that merely the individual impact of administrators gender and GPM variables on working capital is irrelevant.

H8: Equity origin and APP contemporaneously negatively affect businesses working capital regardless sectoral affiliation;

The multiple effect of equity origin and APP is inexistent in trade sector (see Table below). Moreover they even separately don't impact working capital. From the other hand, Levenes' test results (see Table 9 in Appendix A) confirm the existence of errors' variance disparity in working capital between different equity origin groups.

Table 43. Tests of Between-Subjects Effects (Equity origin and APP vs WC) in trade sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.046E16[a]	5	8.092E15	.574	.720	.096
Intercept	4.660E14	1	4.660E14	.033	.857	.001
Equity Origin	8.876E15	2	4.438E15	.315	.733	.023
ILR10APP	2.007E13	1	2.007E13	.001	.970	.000
Equity Origin * ILR10APP	1.167E15	2	5.834E14	.041	.960	.003
Error	3.809E17	27	1.411E16			
Total	4.947E17	33				
Corrected Total	4.213E17	32				

a. R Squared = .096 (Adjusted R Squared = -.071)

Source: Primary data collection, Author elaboration with SPSS

In production sector also the simultaneous effects of equity origin and APP on working capital are inexistent (see Table 44). Levenes' test instead (refer to Table 10 in Appendix A) can't be estimated by arguing on working capital error variance dis/parity as in this sector equity origin is only national.

Table 44. Tests of Between-Subjects Effects (Equity origin and APP vs WC) in production sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.074E15[a]	1	2.074E15	.109	.744	.004
Intercept	4.553E16	1	4.553E16	2.396	.133	.076
Equity Origin	.000	0	.	.	.	.000
ILR10APP	2.074E15	1	2.074E15	.109	.744	.004
Equity Origin * ILR10APP	.000	0	.	.	.	.000
Error	5.512E17	29	1.901E16			
Total	5.968E17	31				
Corrected Total	5.533E17	30				

a. R Squared = .004 (Adjusted R Squared = -.031)

Source: Primary data collection, Author elaboration with SPSS

Working capital in construction sector reflects a positive simultaneous relationship with equity origin and APP (see Table 45 in following). The same results persist even considering only APP. Levenes' test (Table 11 in Appendix A) in this case testifies the disparity of errors' variance in working capital data as per different equity origin groups.

Table 45. Tests of Between-Subjects Effects (Equity origin and APP vs WC) in construction sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.815E18[a]	3	6.050E17	91.357	.000	.961
Intercept	2.089E15	1	2.089E15	.315	.586	.028

Equity Origin	1.012E16	1	1.012E16	1.528	.242	.122
ILR10APP	1.574E18	1	1.574E18	237.658	.000	.956
Equity Origin * ILR10APP	1.602E18	1	1.602E18	241.845	.000	.956
Error	7.285E16	11	6.622E15			
Total	2.100E18	15				
Corrected Total	1.888E18	14				

a. R Squared = .961 (Adjusted R Squared = .951)

Source: Primary data collection, Author elaboration with SPSS

Contrary in service sector, equity origin and APP simultaneously don't impact working capital (see Table 46 data), despite Levenes' test even in this case argues on errors' variance disparity in working capital per different equity origin groups (refer to Table 12 in Appendix A).

Table 46. Tests of Between-Subjects Effects (Equity origin and APP vs WC) in service sector

Dependent Variable:ILR-2 WC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.816E18[a]	3	1.605E18	.053	.984	.006
Intercept	1.333E18	1	1.333E18	.044	.835	.002
Equity Origin	1.195E18	1	1.195E18	.040	.844	.001
ILR10APP	6.468E15	1	6.468E15	.000	.988	.000
Equity Origin * ILR10APP	1.712E16	1	1.712E16	.001	.981	.000
Error	8.467E20	28	3.024E19			
Total	8.803E20	32				
Corrected Total	8.515E20	31				

a. R Squared = .006 (Adjusted R Squared = -.101)

Source: Primary data collection, Author elaboration with SPSS

In general the simultaneous effect of equity origin and APP is quite inexistent respectively in trade, production and service sector, by this way H8 hypothesis can be rejected. And in a certain way even the negative effect of APP on working capital is excluded. And obviously this help in the understanding of the existence of additional mechanisms that predict liquidity management decision making process.

H9: Ownerships gender, TLR, ITA, FA and OCF as well as ownerships gender and firm's age don't impact WC, RATR and NPM regardless sectoral affiliation;

The ownerships gender, TLR, ITA, FA and OCF as well as the simultaneous effect of ownerships gender and firm's age can't predict WC, RATR and net NPM volatility in trade sector as described in Table 47. Their impact in each multiple regression analysis is statistically insignificant[22].

Table 47. Tests of Between-Subjects Effects (Ownerships gender, total liability ratio, inventory to total assets ratio, firm age and operative cash flow as well as simultaneously ownerships gender and firm's age vs WC, RATR, NPM) in trade sector

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	ILR-2 WC	7.270E16[a]	8	9.087E15	.626	.748	.173
	ILR-5 RATR	2.780E6[b]	8	347485.255	.380	.921	.112
	OE-5 NPM	7.212[c]	8	.902	.946	.499	.240
Intercept	ILR-2 WC	2.467E15	1	2.467E15	.170	.684	.007
	ILR-5 RATR	57022.412	1	57022.412	.062	.805	.003
	OE-5 NPM	.061	1	.061	.064	.803	.003
Ownership Gender	ILR-2 WC	2.414E16	2	1.207E16	.831	.448	.065

[22] Significance level > 0.05.

	ILR-5 RATR	1369639.425	2	684819.712	.748	.484	.059
	OE-5 NPM	.832	2	.416	.437	.651	.035
RA2TLR	ILR-2 WC	2.915E13	1	2.915E13	.002	.965	.000
	ILR-5 RATR	97753.053	1	97753.053	.107	.747	.004
	OE-5 NPM	.027	1	.027	.028	.868	.001
OE9ITA	ILR-2 WC	1.524E16	1	1.524E16	1.049	.316	.042
	ILR-5 RATR	875215.278	1	875215.278	.956	.338	.038
	OE-5 NPM	1.173	1	1.173	1.230	.278	.049
Firm Age	ILR-2 WC	2.491E14	1	2.491E14	.017	.897	.001
	ILR-5 RATR	64778.339	1	64778.339	.071	.793	.003
	OE-5 NPM	.014	1	.014	.015	.904	.001
GA2OCF	ILR-2 WC	1.216E15	1	1.216E15	.084	.775	.003
	ILR-5 RATR	271.864	1	271.864	.000	.986	.000
	OE-5 NPM	.025	1	.025	.026	.874	.001
Ownerships' Gender * Firm Age	ILR-2 WC	3.205E16	2	1.603E16	1.103	.348	.084
	ILR-5 RATR	969022.490	2	484511.245	.529	.596	.042
	OE-5 NPM	.436	2	.218	.229	.797	.019
Error	ILR-2 WC	3.486E17	24	1.453E16			
	ILR-5 RATR	2.197E7	24	915425.939			
	OE-5 NPM	22.883	24	.953			
Total	ILR-2 WC	4.947E17	33				

	ILR-5 RATR	2.713E7	33				
	OE-5 NPM	32.042	33				
Corrected Total	ILR-2 WC	4.213E17	32				
	ILR-5 RATR	2.475E7	32				
	OE-5 NPM	30.095	32				

a. R Squared = .173 (Adjusted R Squared = -.103)

b. R Squared = .112 (Adjusted R Squared = -.184)

c. R Squared = .240 (Adjusted R Squared = -.014)

Source: Primary data collection, Author elaboration with SPSS

Comparatively the Estimated marginal means[23] of WC, RATR and NPM concerning ownership gender typology vary from each other by however confirming a certain (hidden) relationship between dependent variables and this covariate (see Figure 1 in Appendix A) as can be captured from the examination. Referring to the below examination results (see Table 48), in production sector it can be identified the impact of ownerships gender and firms' age on NPM, as well as their simultaneous effect on the latter by respectively affecting its volatility with 95.9%, 95.8% and 98.3%.

Table 48. Tests of Between-Subjects Effects (Ownerships gender, total liability ratio, inventory to total assets ratio, firm age and operative cash flow as well as simultaneously ownerships gender and firm's age vs WC, RATR, NPM) in production sector

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared

[23] Estimated marginal means in this case explain if there is any difference between ownerships gender typology through and versus different dependent variables in question. And the differentiated significance is expressed with a p_value <0.05.

Corrected Model	ILR-2 WC	2.562E16[a]	8	3.202E15	.489	.808	.662
	ILR-5 RATR	234599.371[b]	8	29324.921	.751	.683	.750
	OE-5 NPM	1724.886[c]	8	215.611	53.714	.018	.995
Intercept	ILR-2 WC	1.231E16	1	1.231E16	1.879	.304	.484
	ILR-5 RATR	5650.308	1	5650.308	.145	.740	.067
	OE-5 NPM	46.854	1	46.854	11.673	.076	.854
Ownerships' Gender	ILR-2 WC	1.205E16	2	6.026E15	.920	.521	.479
	ILR-5 RATR	9537.179	2	4768.590	.122	.891	.109
	OE-5 NPM	186.954	2	93.477	23.287	.041	.959
OE9ITA	ILR-2 WC	9.258E15	1	9.258E15	1.413	.357	.414
	ILR-5 RATR	34510.396	1	34510.396	.883	.447	.306
	OE-5 NPM	4.340	1	4.340	1.081	.408	.351
RA2TLR	ILR-2 WC	1.066E16	1	1.066E16	1.627	.330	.449
	ILR-5 RATR	161040.252	1	161040.252	4.122	.179	.673
	OE-5 NPM	7.677	1	7.677	1.913	.301	.489

Firm Age	ILR-2 WC	5.389E15	1	5.389E15	.823	.460	.291
	ILR-5 RATR	14.488	1	14.488	.000	.986	.000
	OE-5 NPM	182.484	1	182.484	45.461	.021	.958
GA2OCF	ILR-2 WC	5.184E13	1	5.184E13	.008	.937	.004
	ILR-5 RATR	71191.752	1	71191.752	1.822	.310	.477
	OE-5 NPM	10.820	1	10.820	2.696	.242	.574
Ownerships' Gender * Firm Age	ILR-2 WC	1.046E16	2	5.232E15	.799	.556	.444
	ILR-5 RATR	1598.067	2	799.034	.020	.980	.020
	OE-5 NPM	465.368	2	232.684	57.967	.017	.983
Error	ILR-2 WC	1.310E16	2	6.552E15			
	ILR-5 RATR	78136.193	2	39068.096			
	OE-5 NPM	8.028	2	4.014			
Total	ILR-2 WC	3.876E16	11				
	ILR-5 RATR	353738.575	11				
	OE-5 NPM	2077.616	11				
Corrected Total	ILR-2 WC	3.872E16	10				

	ILR-5						
	RATR	312735.564	10				
	OE-5						
	NPM	1732.914	10				

a. R Squared = .662 (Adjusted R Squared = -.692)

b. R Squared = .750 (Adjusted R Squared = -.249)

c. R Squared = .995 (Adjusted R Squared = .977)

Source: Primary data collection, Author elaboration with SPSS

In the meantime it can be affirmed that a contradictory result is evidenced while examining the estimated marginal means of WC and RATR related to ownerships gender typology (Figure 2 in Appendix A). Intuitively, even here the relationship between the latter and WC, RATR and NPM cannot be excluded.

As statistically proved (in the Table 49) the operative cash flow positively impacts WC in 89.9% of its volatility, meanwhile all the other variables considered in the construction sector analysis don't have any impact on the dependent variables examined.

With special regard to estimated marginal means WC demonstrates a different approach through ownerships gender compared with the one maintained from RATR and NPM (as described in Figure 3/Appendix A) which leads to the understanding that also in this sector a (hidden) relationship between variables taken into consideration exists.

Table 49. Tests of Between-Subjects Effects (Ownerships gender, total liability ratio, inventory to total assets ratio, firm age and operative cash flow as well as simultaneously ownerships gender and firm's age vs WC, RATR, NPM) in construction sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	ILR-2 WC	1.673E18[a]	6	2.788E17	7.223	.038	.916
	ILR-5 RATR	238909.181[b]	6	39818.197	.320	.897	.324
	OE-5 NPM	6.329[c]	6	1.055	.278	.921	.294
Intercept	ILR-2 WC	2.776E17	1	2.776E17	7.192	.055	.643
	ILR-5 RATR	18902.929	1	18902.929	.152	.717	.037
	OE-5 NPM	.251	1	.251	.066	.810	.016
Ownerships' Gender	ILR-2 WC	8.020E16	1	8.020E16	2.078	.223	.342
	ILR-5 RATR	12465.904	1	12465.904	.100	.768	.024
	OE-5 NPM	.335	1	.335	.088	.781	.022
OE9ITA	ILR-2 WC	7.488E15	1	7.488E15	.194	.682	.046
	ILR-5 RATR	177807.202	1	177807.202	1.427	.298	.263
	OE-5 NPM	4.312	1	4.312	1.135	.347	.221
RA2TLR	ILR-2 WC	3.765E15	1	3.765E15	.098	.770	.024
	ILR-5 RATR	93250.645	1	93250.645	.748	.436	.158
	OE-5 NPM	2.502	1	2.502	.659	.463	.141
Firm Age	ILR-2 WC	1.668E17	1	1.668E17	4.322	.106	.519

	ILR-5 RATR	14971.154	1	14971.154	.120	.746	.029
	OE-5 NPM	.627	1	.627	.165	.705	.040
GA2OCF	ILR-2 WC	1.380E18	1	1.380E18	35.736	.004	.899
	ILR-5 RATR	70386.094	1	70386.094	.565	.494	.124
	OE-5 NPM	1.927	1	1.927	.507	.516	.113
Ownerships' Gender * Firm Age	ILR-2 WC	5.454E16	1	5.454E16	1.413	.300	.261
	ILR-5 RATR	1976.063	1	1976.063	.016	.906	.004
	OE-5 NPM	.063	1	.063	.016	.904	.004
Error	ILR-2 WC	1.544E17	4	3.860E16			
	ILR-5 RATR	498452.433	4	124613.108			
	OE-5 NPM	15.195	4	3.799			
Total	ILR-2 WC	2.050E18	11				
	ILR-5 RATR	838371.226	11				
	OE-5 NPM	24.166	11				
Corrected Total	ILR-2 WC	1.827E18	10				
	ILR-5 RATR	737361.614	10				
	OE-5 NPM	21.524	10				

a. R Squared = .916 (Adjusted R Squared = .789)

b. R Squared = .324 (Adjusted R Squared = -.690)

c. R Squared = .294 (Adjusted R Squared = -.765)

Source: Primary data collection, Author elaboration with SPSS

Service sector statistics reconfirm the positive relationship and statistically significant (see Table 50 below) between WC and OCF by additionally evidencing another positive relationship between NPM and TLR. Respectively they express 31.7% and 99.9% of the volatility studied. And worth mentioned that dependent variables estimated marginal means differently behave with ownerships gender by preserving in any case a certain relationship (refer to Figure 4 in Appendix A).

Table 50. Tests of Between-Subjects Effects (Ownerships gender, total liability ratio, inventory to total assets ratio, firm age and operative cash flow as well as simultaneously ownerships gender and firm's age vs WC, RATR, NPM) in service sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	ILR-2 WC	8.511E20[a]	8	1.064E20	5.464E3	.000	.999
	ILR-5 RATR	651.664[b]	8	81.458	.242	.978	.078
	OE-5 NPM	1430.383[c]	8	178.798	3.227	.013	.529
Intercept	ILR-2 WC	6.139E15	1	6.139E15	.315	.580	.014
	ILR-5 RATR	3.912	1	3.912	.012	.915	.001
	OE-5 NPM	2.428	1	2.428	.044	.836	.002
Ownerships' Gender	ILR-2 WC	6.917E15	2	3.459E15	.178	.838	.015
	ILR-5 RATR	5.915	2	2.957	.009	.991	.001
	OE-5 NPM	52.172	2	26.086	.471	.630	.039
OE9ITA	ILR-2 WC	8.601E15	1	8.601E15	.442	.513	.019
	ILR-5 RATR	313.674	1	313.674	.932	.344	.039

	OE-5 NPM	2.539	1	2.539	.046	.832	.002
RA2TLR	ILR-2 WC	4.320E14	1	4.320E14	.022	.883	.001
	ILR-5 RATR	112.209	1	112.209	.333	.569	.014
	OE-5 NPM	590.636	1	590.636	10.661	.003	.317
Firm Age	ILR-2 WC	4.851E15	1	4.851E15	.249	.622	.011
	ILR-5 RATR	.148	1	.148	.000	.983	.000
	OE-5 NPM	8.456	1	8.456	.153	.700	.007
GA2OCF	ILR-2 WC	8.080E20	1	8.080E20	4.150E4	.000	.999
	ILR-5 RATR	76.012	1	76.012	.226	.639	.010
	OE-5 NPM	12.555	1	12.555	.227	.639	.010
Ownerships' Gender * Firm Age	ILR-2 WC	5.816E15	2	2.908E15	.149	.862	.013
	ILR-5 RATR	4.311	2	2.155	.006	.994	.001
	OE-5 NPM	123.471	2	61.735	1.114	.345	.088
Error	ILR-2 WC	4.478E17	23	1.947E16			
	ILR-5 RATR	7739.956	23	336.520			

	OE-5 NPM	1274.220	23	55.401			
Total	ILR-2 WC	8.803E20	32				
	ILR-5 RATR	9825.033	32				
	OE-5 NPM	3360.058	32				
Corrected Total	ILR-2 WC	8.515E20	31				
	ILR-5 RATR	8391.620	31				
	OE-5 NPM	2704.603	31				

a. R Squared = .999 (Adjusted R Squared = .999)

b. R Squared = .078 (Adjusted R Squared = -.243)

c. R Squared = .529 (Adjusted R Squared = .365)

Source: Primary data collection, Author elaboration with SPSS

As far as can be understand the H9 hypothesis doesn't result valid for production, construction and service sector while the contrary can be affirmed for trade sector. Intuitively here aren't taken into consideration the hidden/relationships that exist between the independent variables (which can be treated also as multicollinearity issues especially referring to data typology).

H10: Business administration, FATR, LT-LEV, CR and business size as well as business administration and long-term leverage ratio positively impact WC, MCC and NP regardless sectoral affiliation;

The LT-LEV, business size and business administration in trade sector (see Table 51) positively impact WC and NP by conducting respectively 23.6%, 26.2% and 19.9%, of dependent variables volatility. In addition, the estimated marginal

means concerning business administration variable maintain quite the same function form for WC and NP. Money conversion cycle instead behaves in contradiction with first two (refer to Figure 5 in Appendix A).

Table 51. Tests of Between-Subjects Effects (Business administration, fixed assets turnover ratio (FATR) and long-term leverage ratio (LT-LEV), cash ratio (CR) and business size as well as simultaneously business administration and long-term leverage ratio vs WC, MCC, WC and NP) in trade sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	ILR-2 WC	2.349E17[a]	6	3.915E16	5.460	.001	.558
	ILR-11-MCC	7.762E7[b]	6	1.294E7	.875	.527	.168
	NP	2.102E15[c]	6	3.504E14	2.079	.091	.324
Intercept	ILR-2 WC	7.259E16	1	7.259E16	10.124	.004	.280
	ILR-11-MCC	3621591.115	1	3621591.115	.245	.625	.009
	NP	1.251E14	1	1.251E14	.742	.397	.028
Business administration	ILR-2 WC	3.835E15	1	3.835E15	.535	.471	.020
	ILR-11-MCC	1.443E7	1	1.443E7	.976	.332	.036
	NP	1.092E15	1	1.092E15	6.479	.017	.199
OE2FATR	ILR-2 WC	1.256E14	1	1.256E14	.018	.896	.001
	ILR-11-MCC	53568.564	1	53568.564	.004	.952	.000
	NP	6.108E12	1	6.108E12	.036	.851	.001

RA5LTLEV	ILR-2 WC	5.765E16	1	5.765E16	8.039	.009	.236
	ILR-11-MCC	1.340E7	1	1.340E7	.906	.350	.034
	NP	7.881E14	1	7.881E14	4.675	.040	.152
ILR4CR	ILR-2 WC	7.698E15	1	7.698E15	1.074	.310	.040
	ILR-11-MCC	133544.294	1	133544.294	.009	.925	.000
	NP	3.041E13	1	3.041E13	.180	.675	.007
BoS	ILR-2 WC	6.634E16	1	6.634E16	9.252	.005	.262
	ILR-11-MCC	1530457.102	1	1530457.102	.103	.750	.004
	NP	2.943E13	1	2.943E13	.175	.680	.007
Business administration * RA5LTLEV	ILR-2 WC	3.633E14	1	3.633E14	.051	.824	.002
	ILR-11-MCC	5724910.720	1	5724910.720	.387	.539	.015
	NP	1.844E14	1	1.844E14	1.094	.305	.040
Error	ILR-2 WC	1.864E17	26	7.170E15			
	ILR-11-MCC	3.845E8	26	1.479E7			
	NP	4.383E15	26	1.686E14			
Total	ILR-2 WC	4.947E17	33				
	ILR-11-MCC	4.929E8	33				
	NP	6.485E15	33				
Corrected Total	ILR-2 WC	4.213E17	32				
	ILR-11-MCC	4.622E8	32				

	NP	6.485E15	32				

a. R Squared = .558 (Adjusted R Squared = .455)

b. R Squared = .168 (Adjusted R Squared = -.024)

c. R Squared = .324 (Adjusted R Squared = .168)

Source: Primary data collection, Author elaboration with SPSS

The below statistics pertaining to production sector (see Table 52) don't show any significant statistical correlation between examined independent variables and WC, MCC and NP. Beyond this, from estimated marginal means configuration it can captured the effect of business administration on WC and MCC which differs from the one of NP by reconfirming anyway a certain relationship (refer to Table 6 in Appendix A).

Table 52. Tests of Between-Subjects Effects (Business administration, fixed assets turnover ratio (FATR) and long-term leverage ratio (LT-LEV), cash ratio (CR) and business size as well as simultaneously business administration and long-term leverage ratio vs WC, MCC, WC and NP) in production sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	ILR-2 WC	1.516E17[a]	6	2.527E16	1.452	.239	.275
	ILR-11-MCC	1.789E8[b]	6	2.982E7	.476	.819	.110
	NP	2.035E15[c]	6	3.392E14	1.213	.335	.240
Intercept	ILR-2 WC	4.176E16	1	4.176E16	2.399	.135	.094
	ILR-11-MCC	2990530.270	1	2990530.270	.048	.829	.002
	NP	3.514E14	1	3.514E14	1.257	.274	.052

Business administration	ILR-2 WC	8.579E15	1	8.579E15	.493	.490	.021
	ILR-11-MCC	3.296E7	1	3.296E7	.525	.476	.022
	NP	1.980E14	1	1.980E14	.708	.409	.030
OE2FATR	ILR-2 WC	1.892E16	1	1.892E16	1.087	.308	.045
	ILR-11-MCC	4.004E7	1	4.004E7	.638	.432	.027
	NP	2.337E13	1	2.337E13	.084	.775	.004
RA5LTLEV	ILR-2 WC	1.800E16	1	1.800E16	1.034	.320	.043
	ILR-11-MCC	7889931.095	1	7889931.095	.126	.726	.005
	NP	2.815E11	1	2.815E11	.001	.975	.000
ILR4CR	ILR-2 WC	1.962E15	1	1.962E15	.113	.740	.005
	ILR-11-MCC	1.102E8	1	1.102E8	1.757	.198	.071
	NP	1.905E12	1	1.905E12	.007	.935	.000
BoS	ILR-2 WC	4.010E16	1	4.010E16	2.304	.143	.091
	ILR-11-MCC	4997322.398	1	4997322.398	.080	.780	.003
	NP	4.920E14	1	4.920E14	1.760	.198	.071
Business administration *	ILR-2 WC	5.239E15	1	5.239E15	.301	.589	.013

RA5LTLEV	ILR-11-MCC	1.970E7	1	1.970E7	.314	.581	.013
	NP	6.623E13	1	6.623E13	.237	.631	.010
Error	ILR-2 WC	4.003E17	23	1.741E16			
	ILR-11-MCC	1.443E9	23	6.272E7			
	NP	6.431E15	23	2.796E14			
Total	ILR-2 WC	5.968E17	30				
	ILR-11-MCC	1.744E9	30				
	NP	1.005E16	30				
Corrected Total	ILR-2 WC	5.519E17	29				
	ILR-11-MCC	1.622E9	29				
	NP	8.466E15	29				

a. R Squared = .275 (Adjusted R Squared = .085)

b. R Squared = .110 (Adjusted R Squared = .122)

c. R Squared = .240 (Adjusted R Squared = .042)

Source: Primary data collection, Author elaboration with SPSS

Meanwhile the only independent variable with a positive impact on WC and net NP in construction sector is business size. According to Table 53 statistics it predicts the volatility two dependent variables taken into consideration with

15.6% and 21.6% respectively. In the same way behave the estimated marginal means of WC and NP versus business administration variable, while the contrary is evidenced in the case of MCC (Table 7 in Appendix A).

Table 53. Tests of Between-Subjects Effects (Business administration, fixed assets turnover ratio (FATR) and long-term leverage ratio (LT-LEV), cash ratio (CR) and business size as well as simultaneously business administration and long-term leverage ratio vs WC, MCC, WC and NP) in construction sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	ILR-2 WC	5.041E17[a]	6	8.401E16	1.209	.336	.232
	ILR-11-MCC	7.731E8[b]	6	1.288E8	1.921	.118	.324
	NP	4.099E15[c]	6	6.831E14	1.651	.177	.292
Intercept	ILR-2 WC	2.675E17	1	2.675E17	3.849	.061	.138
	ILR-11-MCC	9837153.746	1	9837153.746	.147	.705	.006
	NP	2.112E15	1	2.112E15	5.105	.033	.175
Business administration	ILR-2 WC	2.031E16	1	2.031E16	.292	.594	.012
	ILR-11-MCC	839197.812	1	839197.812	.013	.912	.001
	NP	7.909E12	1	7.909E12	.019	.891	.001
OE2FATR	ILR-2 WC	1.205E17	1	1.205E17	1.733	.200	.067
	ILR-11-MCC	1.019E8	1	1.019E8	1.519	.230	.060
	NP	4.869E14	1	4.869E14	1.177	.289	.047
RA5TLLEV	ILR-2 WC	2.414E14	1	2.414E14	.003	.953	.000

	ILR-11-MCC	5.432E7	1	5.432E7	.810	.377	.033
	NP	6.601E13	1	6.601E13	.160	.693	.007
ILR4CR	ILR-2 WC	6.886E15	1	6.886E15	.099	.756	.004
	ILR-11-MCC	3276599.320	1	3276599.320	.049	.827	.002
	NP	1.337E14	1	1.337E14	.323	.575	.013
BoS	ILR-2 WC	3.091E17	1	3.091E17	4.447	.046	.156
	ILR-11-MCC	1.145E7	1	1.145E7	.171	.683	.007
	NP	2.735E15	1	2.735E15	6.610	.017	.216
Business administration * RA5TLLEV	ILR-2 WC	1.999E13	1	1.999E13	.000	.987	.000
	ILR-11-MCC	32839.290	1	32839.290	.000	.983	.000
	NP	6.713E13	1	6.713E13	.162	.691	.007
Error	ILR-2 WC	1.668E18	24	6.951E16			
	ILR-11-MCC	1.609E9	24	6.706E7			
	NP	9.930E15	24	4.138E14			
Total	ILR-2 WC	2.313E18	31				
	ILR-11-MCC	2.662E9	31				
	NP	1.684E16	31				
Corrected Total	ILR-2 WC	2.172E18	30				
	ILR-11-MCC	2.382E9	30				
	NP	1.403E16	30				

a. R Squared = .232 (Adjusted R Squared = .040)

b. R Squared = .324 (Adjusted R Squared = .156)

c. R Squared = .292 (Adjusted R Squared = .115)

Source: Primary data collection, Author elaboration with SPSS

In service sector it can be evidenced (Table 54) that no one of the independent variables impact WC neither MCC nor NP. Furthermore the estimated marginal means of MCC and NP demonstrate the same functional form against business administration by defining a certain correlation between (see Table 8 in Appendix A) while contrary results are achieved in respect of WC.

Table 54. Tests of Between-Subjects Effects (Business administration, fixed assets turnover ratio (FATR) and long-term leverage ratio (LT-LEV), cash ratio (CR) and business size as well as simultaneously business administration and long-term leverage ratio vs WC, MCC, WC and NP) in service sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Sq
Corrected Model	ILR-2 WC	5.002E16[a]	6	8.336E15	.941	.484	.190
	ILR-11-MCC	3.136E7[b]	6	5227166.849	3.620	.011	.475
	NP	7.331E19[c]	6	1.222E19	1.205	.337	.232
Intercept	ILR-2 WC	1.091E16	1	1.091E16	1.231	.278	.049
	ILR-11-MCC	3886348.506	1	3886348.506	2.692	.114	.101
	NP	3.062E19	1	3.062E19	3.021	.095	.112
Business administration	ILR-2 WC	2.926E16	1	2.926E16	3.303	.082	.121
	ILR-11-MCC	3565340.892	1	3565340.892	2.469	.129	.093
	NP	2.583E19	1	2.583E19	2.548	.124	.096
OE2FATR	ILR-2 WC	1.242E14	1	1.242E14	.014	.907	.001

	ILR-11-MCC	1491926.145	1	1491926.145	1.033	.320	.041
	NP	1.044E17	1	1.044E17	.010	.920	.000
RA5LTLEV	ILR-2 WC	2.278E15	1	2.278E15	.257	.617	.011
	ILR-11-MCC	780.618	1	780.618	.001	.982	.000
	NP	8.142E18	1	8.142E18	.803	.379	.032
ILR4CR	ILR-2 WC	1.738E14	1	1.738E14	.020	.890	.001
	ILR-11-MCC	1032593.550	1	1032593.550	.715	.406	.029
	NP	4.958E17	1	4.958E17	.049	.827	.002
BoS	ILR-2 WC	1.537E16	1	1.537E16	1.736	.200	.067
	ILR-11-MCC	2947713.626	1	2947713.626	2.042	.166	.078
	NP	3.835E19	1	3.835E19	3.784	.064	.136
Business administration * RA5LTLEV	ILR-2 WC	2.354E15	1	2.354E15	.266	.611	.011
	ILR-11-MCC	8976.408	1	8976.408	.006	.938	.000
	NP	8.292E18	1	8.292E18	.818	.375	.033
Error	ILR-2 WC	2.126E17	24	8.858E15			
	ILR-11-MCC	3.465E7	24	1443777.705			
	NP	2.433E20	24	1.014E19			
Total	ILR-2 WC	2.782E17	31				
	ILR-11-MCC	7.619E7	31				
	NP	3.267E20	31				
Corrected Total	ILR-2 WC	2.626E17	30				

	ILR-11-MCC	6.601E7	30				
	NP	3.166E20	30				

a. R Squared = .190 (Adjusted R Squared = .012)

b. R Squared = .475 (Adjusted R Squared = .344)

c. R Squared = .232 (Adjusted R Squared = .039)

Source: Primary data collection, Author elaboration with SPSS

The empirical sectoral analysis confirms that H10 hypothesis can be generally rejected despite the fact that its supportive tests confirm the existence of a certain (hidden) relationship between the variables examined. Nevertheless additional steps need to be undertaken in order to capture the effects of different financial policies implemented on liquidity decision making process.
Thus, more complex functions should be explored in order to be capable to contemporaneously capture the effect of additional qualitative and quantitative data on the variables selected as representatives of liquidity decision making process within examined SMEs.

H11: A radial basis function predicts WC, RATR, MCC and NPM regardless sectoral affiliation

The radial basis function implemented in trade sector reveals 2 hidden layers[24] (refer to Table 55 below) which predict WC, RATR, MCC and NPM variables volatility (see Table 56). The statistical significant independent variables that adequately predict dependent variables volatility (at 95% confidence level) are: TATR, PATR, GOM, ROE, ITA, LTDER, Equity origin, Borrowers' status, LT-LEV, ICR, ROA, Firm age and CV (Table 57). Concerning the layers impact on dependent variables it can be observed that they both have positive and negative impact on the variables analyzed (refer to Table 9, in Appendix A).

[24] The abbreviation is H.

Table 55. Network Information/RBF-in trade sector

Input Layer	Factors	1	OE-1 TATR
		2	ILR-9 PATR
		3	OE-4 GOM
		4	OE-7 ROE
		5	OE-9 ITA
		6	RA-1 LTDER
		7	Administrator Gender
		8	Equity Origin
		9	Borrowers Status
	Covariates	1	RA-3 ICR
		2	RA-5 LT-LEV
		3	GA-1 ROA
		4	GA-2 OCF
		5	Firm Age
		6	INV
		7	STA
		8	STD
		9	CV
		10	NP
		11	BoS
		12	Business Administration
		13	Ownership Gender
	Number of Units		172
	Rescaling Method for Covariates		Standardized

Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	ILR-2 WC
		2	ILR-5 RATR
		3	ILR-11-MCC
		4	OE-5 NPM
	Number of Units		4
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 56. Model Summary/RBF-in trade sector

Model Summary

Training	Sum of Squares Error		45.605
	Average Overall Relative Error		.877
	Relative Error for Scale Dependents	ILR-2 WC	.620
		ILR-5 RATR	.935
		ILR-11-MCC	.960
		OE-5 NPM	.993
	Bayesian Information Criterion (BIC)		-1148.477[a]
	Training Time		00:00:00.078

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 57. Independent variable importance/RBF-in trade sector

	Importance	Normalized Importance
OE-1 TATR	.004	2.8%
ILR-9 PATR	.004	2.8%
OE-4 GOM	.007	5.6%
OE-7 ROE	.005	4.2%
OE-9 ITA	.004	2.8%
RA-1 LTDER	.011	8.5%
Administrator Gender	.014	11.1%
Equity Origin	.006	4.5%
Borrowers Status	.006	4.5%
RA-3 ICR	.025	19.3%
RA-5 LT-LEV	.081	62.8%
GA-1 ROA	.024	18.8%
GA-2 OCF	.091	70.6%
Firm Age	.019	14.9%
INV	.129	100.0%
STA	.120	93.3%
STD	.082	63.5%
CV	.021	16.0%
NP	.120	93.3%
BoS	.118	92.0%
Business Administration	.055	42.9%
Ownership Gender	.055	42.7%

Source: Primary data collection, Author elaboration with SPSS

In production sector the number of hidden layers generated from radial basis function estimation are nine (as in following Table 58), which predict WC, RATR, MCC and NPM volatility (refer to Table 59). And the statistical significant variables result to be: TATR, PATR, GOM, ROE, ITA, LTDER, Administrator gender, Borrowers status, ICR, Firm age, OCF, INV, CV and NP (in Table 60). The statistical data confirm (Table 10 in Appendix A) that only the first layer has merely a positive impact on the dependent variables in question, while the sixth, seventh and ninth layers have positive and negative impact on them the rest of hidden layers instead configure merely a negative impact.

Table 58. Network Information/RBF-in production sector

Input Layer	Factors	1	OE-1 TATR
		2	ILR-9 PATR
		3	OE-4 GOM
		4	OE-7 ROE
		5	OE-9 ITA
		6	RA-1 LTDER
		7	Administrator Gender
		8	Borrowers Status
	Covariates	1	RA-3 ICR
		2	RA-5 LT-LEV
		3	GA-1 ROA
		4	GA-2 OCF
		5	Firm Age
		6	INV
		7	STA
		8	STD
		9	CV
		10	NP

		11	BoS
		12	Business administration
		13	Ownership Gender
	Number of Units		68
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		9[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	ILR-2 WC
		2	ILR-5 RATR
		3	ILR-11-MCC
		4	OE-5 NPM
	Number of Units		4
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 59. Model Summary/RBF-in production sector

Model Summary

Training	Sum of Squares Error		30.83
	Average Overall Relative Error		.927
	Relative Error for Scale	ILR-2 WC	.889

Dependents	ILR-5 RATR	.997
	ILR-11-MCC	.445
	OE-5 NPM	.377
Bayesian Information Criterion (BIC)		130.484[a]
Training Time		00:00:00.015

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 60. Independent variable importance/RBF-in production sector

	Importance	Normalized Importance
OE-1 TATR	.040	33.4%
ILR-9 PATR	.040	33.4%
OE-4 GOM	.037	30.9%
OE-7 ROE	.040	33.4%
OE-9 ITA	.040	33.4%
RA-1 LTDER	.040	33.4%
Administrator Gender	.022	18.9%
Borrowers Status	.027	22.8%
RA-3 ICR	.030	25.5%
RA-5 LT-LEV	.119	100.0%
GA-1 ROA	.070	58.7%
GA-2 OCF	.049	41.5%
Firm Age	.048	40.5%
INV	.048	40.2%
STA	.059	49.9%

STD	.050	41.8%
CV	.035	29.1%
NP	.046	38.9%
BoS	.050	42.0%
Business administration	.058	48.6%
Ownership Gender	.052	43.7%

Source: Primary data collection, Author elaboration with SPSS

Comparatively, the radial basis function implemented in construction sector identifies 5 hidden layers (see Table 61 & 62 below) as per the four dependent variables volatility prediction. By this way, the statistical significant independent variables that adequately predict their volatility are: TATR, PATR, GOM, ROE, ITA, LTDER, Equity origin, Borrowers status, INV, STA, STD, NP, BoS, and Business Administration referring to Table 63. Furthermore it can be statistically proven that the fifth, first and second layers have generally a pronounced negative impact on the dependent variables in question when from the other side the third and fourth layer demonstrate contemporaneously a positive and negative incidence on them (on behalf of Table 11 data in Appendix A).

Table 61. Network Information/RBF-in construction sector

Input Layer	Factors	1	OE-1 TATR
		2	ILR-9 PATR
		3	OE-4 GOM
		4	OE-7 ROE
		5	OE-9 ITA
		6	RA-1 LTDER
		7	Equity Origin

		8	Borrowers Status
	Covariates	1	RA-3 ICR
		2	RA-5 TL-LEV
		3	GA-1 ROA
		4	GA-2 OCF
		5	Firm Age
		6	INV
		7	STA
		8	STD
		9	NP
		10	BoS
		11	Business Administration
		12	Ownership Gender
		13	CV
	Number of Units		46
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		5[a]
	Activation Function		Softmax

Output Layer	Dependent Variables	1	ILR-2 WC
		2	ILR-5 RATR
		3	ILR-11-MCC
		4	OE-5 NPM
	Number of Units		4
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 62. Model Summary/RBF-in construction sector

Model Summary

Training	Sum of Squares Error		34.71
	Average Overall Relative Error		.338
	Relative Error for Scale Dependents	ILR-2 WC	.542
		ILR-5 RATR	.156
		ILR-11-MCC	.695
		OE-5 NPM	.560
	Bayesian Information Criterion (BIC)		-325.930[a]
	Training Time		00:00:00.019

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 63. Independent variable importance/RBF-in construction sector

	Importance	Normalized Importance
OE-1 TATR	.037	37.8%
ILR-9 PATR	.033	32.9%
OE-4 GOM	.037	37.8%
OE-7 ROE	.037	37.8%
OE-9 ITA	.037	37.8%
RA-1 LTDER	.037	37.8%
Equity Origin	.039	39.7%
Borrowers Status	.019	19.5%
RA-3 ICR	.061	61.6%
RA-5 TL-LEV	.073	74.1%
GA-1 ROA	.085	85.9%
GA-2 OCF	.064	65.1%
Firm Age	.052	52.7%
INV	.031	31.3%
STA	.036	36.7%
STD	.037	37.2%
NP	.047	47.9%
BoS	.049	49.5%
Business Administration	.037	37.7%
Ownership Gender	.051	51.9%
CV	.099	100.0%

Source: Primary data collection, Author elaboration with SPSS

While in service sector the radial basis function employed revealed two hidden layers concerning the prediction of WC, RATR, MCC and NPM (see Table 64 & 65). Throughout the variables that statistically impact the previously mentioned dependent variables volatility are: TATR, PATR, GOM, ROE, ITA, LTDER, Administrator gender, Equity origin, Borrowers status, and Business Administration (as per Table 66). Both hidden layers impact on dependent variables is contemporary negative and positive (refer to Table 12 in Appendix A).

Table 64. Network Information/RBF-in service sector

Input Layer	Factors	1	OE-1 TATR
		2	ILR-9 PATR
		3	OE-4 GOM
		4	OE-7 ROE
		5	OE-9 ITA
		6	RA-1 LTDER
		7	Administrator Gender
		8	Equity Origin
		9	Borrowers Status
	Covariates	1	RA-3 ICR
		2	RA-5 LT-LEV
		3	GA-1 ROA
		4	GA-2 OCF
		5	Firm Age
		6	INV
		7	STA
		8	STD
		9	CV

		10	NP
		11	BoS
		12	Business Administration
		13	Ownership Gender
	Number of Units		143
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	ILR-2 WC
		2	ILR-5 RATR
		3	ILR-11-MCC
		4	OE-5 NPM
	Number of Units		4
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 65. Model Summary/RBF-in service sector

Training	Sum of Squares Error		40.10
	Average Overall Relative Error		.911
	Relative Error for Scale Dependents	ILR-2 WC	.997
		ILR-5 RATR	.946
		ILR-11-MCC	.923

	OE-5 NPM	.779
	Bayesian Information Criterion (BIC)	-915.483[a]
	Training Time	00:00:00.047

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 66**. Independent variable importance /RBF-in service sector**

	Importance	Normalized Importance
OE-1 TATR	.004	4.7%
ILR-9 PATR	.004	4.7%
OE-4 GOM	.005	6.2%
OE-7 ROE	.008	9.4%
OE-9 ITA	.004	4.7%
RA-1 LTDER	.017	19.1%
Administrator Gender	.003	3.8%
Equity Origin	.002	2.3%
Borrowers Status	.011	13.2%
RA-3 ICR	.069	80.3%
RA-5 LT-LEV	.076	87.6%
GA-1 ROA	.081	93.6%
GA-2 OCF	.075	86.7%
Firm Age	.071	82.5%
INV	.077	89.0%
STA	.071	82.2%
STD	.078	89.9%

CV	.077	89.1%
NP	.076	88.0%
BoS	.064	73.8%
Business Administration	.040	45.8%
Ownership Gender	.086	100.0%

Source: Primary data collection, Author elaboration with SPSS

The statistics generated from each of radial basis functions implemented in the four sectoral affiliations mark a good model fit (referring to BIC, model prossesing time and statistical significance) on predicting WC, RATR, MCC and NPM by contemporary affirming the H11 hypothesis acceptance. The algorithm fitted with 9 hidden layers in production, with 5 in construction and with 2 in service and trade sectors. Consecutively, the main factors predicting SMEs liquidity result to be: TATR, PATR, GOM, ROE, ITA, LTDER, Equity origin and Borrowers status. As far as can be understand referring to model patterns recognition process, these factors impact on hidden layers is consistent whilst differentiated results are achieved concerning covariate factors with hidden layers which have demonstrated positive and negative associations with dependent variables in question. Anyway, the main covariates result to be: ICR, Firm age, CV, NP, INV and Business Administration.

6.4 CONCLUSIVE REMARKS

In correspondence of the statistical framework examined concerning the eleven hypotheses raised aiming to argue and better understand liquidity decision making process on behalf of qualitative and quantitative data retrieved from four SMEs most representative sectors in the country such as: trade, production, construction and service, revealed:

-Female and mixed-administration perform better in credit reimbursement process, considering that the latest is the key indicator of credit accessibility and pricing option;

-Equity origin doesn't imply concrete preferences regarding ownership status. But however men display to be the more proactive toward business ownership;

-The ownership gender has a positive correlation with administrators one. Male administrators result to be the most preferred, despite the fact that the major part of businesses administrated from men result to be in non-performing borrowers' status as previously evidenced;
-The national businesses demonstrate the highest default ratio, by leading to the understanding that somehow equity origin implies borrowers' status;
-Anyway is declared that equity origin doesn't influence business administration decisions because mainly skilled persons are nominated as administrators. And only in some sporadic cases the owner covers administrators responsibilities;
-Borrowers' status and OCF have a simultaneous and positive impact on working capital in all the examined sectors except of trade.
-Administration gender (female/ male /mixed-administration) and GPM don't have a simultaneous impacto n working capital;
-Equity origin and APP don't simultaneously impact working capital. Statistically based even the negative impact of APP on working capital is excluded;
-Ownerships gender, TLR, ITA, FA and OCF as well as ownerships gender and firm's age sporadically impact WC, RATR and NPM. But suspected relations between liquidity representative variables and ownerships gender exist even why they aren't measurable;
-Business administration, LT-LEV and business size positively impact WC and NP only in trade and construction sector. While hidden relations between business administration and NP, WC and MCC are pronounced.

The deeper examinations performed through the aid of neural network analysis affirm that:

The radial basis function in trade sector demonstrates that the quantitative predictive factors which mainly reflect relationship with the first hidden layer are: TATR, PATR, GOM, ROE, ITA. Comparatively the covariates which have correlation with the first layer are: ICR and CV. The qualitative predictive factors instead such as Equity origin confirm that national businesses have a greater correlation with the second layer in comparison with the first one. While foreign and mixed-equity businesses both correlate only with the first layer. From the other hand, non-performing borrowers status marks a strong correlation with the first layer in contradiction with performing status which results to be more correlated with the second layer than with the first one. Concerning the second

layer it can be remarked the correlation with: LT-LEV, ROA and Firm Age. Meanwhile the covariates which are negatively correlated with first and second layer respectively are: LT-LEV, ROA, Firm Age (H1) and ICR and CV (H2). Especially referring to the layers it should be mentioned that the first one has a lower impact on WC and MCC and a higher on RATR and NPM dependent variables. The contrary occurs concerning the second layer;

Closely referring to production sector radial basis function deployment, the predictive quantitative and qualitative significant variables correlated with WC, RATR, MCC and NPM mark strong or even inexistence of any relationship within the nine hidden layers revealed while implementing the a/m function. Respectively strong correlations are evidenced for TATR within ninth and fifth layers, PATR confirm relationship within first, second, fourth and fifth layers. Worth also highlighted the fact that GOM represents associations with all the layers. From the other hand different relations are confirmed from ROE, which for negative values express a strong relationship with eighth layer, for positive values instead lower than 10% results strongly correlated with second, fifth and seventh layers and for higher values is correlated with first, third, sixth and ninth layers. ITA from the other side for negative values result correlated only with the first layer while for values greater than 42% with all other layers. LTDER for values lower than 1 is correlated with seventh, eight, fifth and fourth layers, for values lower than ten only with the first layer and in controversy is correlated with first, third, sixth and ninth layers. The female administration is correlated only with seventh and ninth layers, meanwhile male administration with the rest of layers. Quite the same behavior presents also the other qualitative variable such as borrowers' status. By this way non-performing borrowers' status is strongly correlated with seventh and eighth layer and with the rest of layers the performing borrowers' status. Moreover the covariates which are simultaneously positively correlated with different layers are: INV (with H3, H4, H6, H7 layers), Firm age (with H1, H3, H7 and H8 layers), CV (with H3, H6 and H7 layers), NP (with H3 and H6 layers), and OCF (with H5 and H6 layers). Each of them is negatively correlated with the rest of layers. In controversy ICR is positively correlated with fifth layer and negatively with the rest. Concerning the layers impact on liquidity variables it must be added that the layers contemporaneously correlated with two or more variables in question are: the first (with WC, MCC and NPM), the seventh (with WC and MCC) and the ninth layer (with MCC and NPM). The layers correlated only with MCC dependent variable are: the fifth and eighth. While the layers correlated only with one of the dependent variables are: the second (with RATR), third (with NPM) and fourth (with WC);

In construction sector radial basis function statistics confirm that the predictive factors such as TATR, PATR, GOM and ROE (with mean 0) are respectively closely related to fourth, first, and third layers. For mean values higher than 0, these variables result to be strongly associated to fifth and fourth layers.
ITA predictor which results in any case lower than 0 demonstrates a relationship with first, second, third, fourth and fifth layers. While LTDER predictor conserves a correlation with second and fourth layers for values lower than 2 and the same occurs for the rest of layers in case of higher values than 2. In respect of qualitative predictors instead it should be mentioned that national equity businesses are correlated with the first layer, the foreign equity businesses with second, third, and fourth layers and the mixed-equity ones with fifth layer. Non-performing borrowers' status is associated with second layer and performing one with the rest of layers. The covariates instead are positively or negatively correlated with the a/m layers. Concretely, the covariates positively correlated with third or other layers are respectively: INV, STA (even with H1), STD, Business Administration, NP (even with H4) and Business size (with H1 and H4). Under this context it can be added that the layers strongly correlated with two or less dependent variables are respectively: H3 and H4 (with WC and NPM) and H1 and H2 with RATR and MCC as H5 is negatively correlated with all dependent variables examined;
In service sector the radial basis function analysis evidence that TATR and PATR predictors are mainly correlated to the second layer. Meanwhile GOM for values lower than 0 is correlated to both first and second layers, for values equal to 0 is correlated to the second layer and for values higher than 0 is more correlated with second layer. From the other hand ROE for values up to 20% is correlated to both layers while for values higher than 20% to the second layer only. In controversy ITA and LTDER predictors are more correlated to the first layer. With special regard to qualitative predictors administrators gender and borrowers' status for values equal to 0 result more correlated to the first layer while for values equal to 1 are more correlated with second layer. In addition equity origin predictor for values equal to 0 results is more correlated to second layer while for values equal to 2 the correlation is stronger with the first layer. Comparatively business administrator predictor is simultaneously correlated with both layers even it can be evidenced a higher correlation with the first layer. Subsequently it can can be affirmed that the first layer is more correlated to MCC dependent variable and less with the others. While the second layer is more correlated to WC and RATR variables and less with the rest of liquidity ratios analyzed.

Statistically based among other it is clearly stated that LTDER in every sectoral analysis reveals a predictive factor concerning liquidity decision making process and this sounds true considering that SMEs operating in the country mainly use leverage as a key instrument for operational efficiency management issues. Foremost simultaneously with other ratios (pertaining to liquidity, operational efficiency, risk and growth analysis area, etc) it influences on the entire process in question by making it an aggregate result of business prospective management which is deeper elaborated in the following chapter

VII. CAPITAL STRUCTURE APPROACHES – DEBT RECONCILIATION FRAMEWORK

VII - CAPITAL STRUCTURE APPROACHES – DEBT RECONCILIATION FRAMEWORK

The SMEs operating in domestic market are conscious that while trying to manage liquidity issues mainly with the help of external funds in order to promote growth they should maintain a certain 'trade-off' related to capital structure leverage effect.

By this way, its widely accepted that SMEs have different optimal capital structures and limited debt instruments offered by various sources at different stages of their organizational lives, however, pecking order theory prevails concerning their financing needs almost referring to a sound risk management context. From the other hand, results interesting to investigate which behavioral specific attributes (sectoral-affiliation, business size, fixed assets, etc) impact the funding structure of firms operations. Therefore, in following is treated SMEs debt structure, initially trying to separately capture the determinant elements of short-run debt structure and further on the long-run ones in order to eventually find out any reconciliation approach.

7.1. SHORT-RUN DEBTS RATIOS ANALYSIS

From a practical point of view, business nature is the main feature reflecting financial needs under a growth prospective. In parallel its true that, also risk management process plays an important role in debt-structure decision making process which produces growth through leverage effect. This argumentation line mainly brings to the conclusion that short-term debt (referring to financing requirements and asymmetry issues) is mostly preferred but contemporaneously the evidences demonstrate contradictory results almost when SMEs have experienced a certain financial history and proactively act in a given market.

Turning to the first element, the literature in general displays contradictory results even in this point but undisputedly admits that the classic short-run debt indicator is short-term debts. Thus, deemed reasonable to initially analyze its trend and not only in cross-sectoral context under examination. Referring to sample statistics (see Table 67) short-term debts maximal values pertains to

service, and then to construction, production and trade sectors. Rationally, this sound true considering that production and construction in compliance with business nature mainly operate with long-run debts. Service instead makes exclusively charge to short-term debts due to its business cycle completion frequency. But more interesting results are achieved while referring to minimal amounts of short-term debts, where only service sector maintains short-term debts. In a certain way these results confirm the sectors role on short-term debts management by also leading to a better integration of liquidity risk management process too (es. furniture, banks payments, etc).

Table 67. Short-term debt ratio cross-sectoral statistics (in thsd ALL)

SECTORAL DATA (in thsd ALL)	MIN	AVERAGE	MAX
STD-TRADE	-	17,170	105,698
STD-PRODUCTION	-	105,910.70	974,363
STD-CONSTRUCTION	-	112,216.70	1,063,062
STD-SERVICE	194,262	1,351,323	41,063,464

Source: Primary data collection, Author elaboration

Moreover interest coverage ratio is used as another key indicator of short-term debts structure. Nonetheless, independently from their debts structure businesses are obligated to pay their interests generally in a monthly basis, which obviously constitutes a short-term debt and the same logic is valid after the loans grace-period. So, interest coverage ratio represents another important element treated in this study.

On a statistical context (refer to Table 68) it can be proven that construction sector is in an uncomfortable circumstance concerning interest coverage ratio. And this is obviouly translated in the practical context referring to the fact that long-term debts (loans) conduct to a monthly interest payment while the incomes in this sector are recognized only after project completion phase as sales are concluded/accounted when the major part of the project is ready. Referring to high return rate they mark the second highest interest coverage ratio after trade. Meanwhile referring to the latest it can be stated that the maintenance of low short-term debts levels is the main reason of a consistent interest coverage ratio.

From the other side, must be added that even service sector represents a consistent coverage ratio considering the 'trade-off' process between short-term debts and incomes generated accordingly. And ultimately production sector which mainly operates with long-term debts marks a low interest coverage ratio caused from the spreading of interest expenses.

Table 68. Interest coverage ratio cross-sectoral statistics (in ALL)

SECTORAL DATA (in ALL)	MIN	AVERAGE	MAX
ICR-TRADE	(59)	2,056	34,696
ICR-PRODUCTION	(10)	1	48
ICR-CONSTRUCTION	(59,241)	(1,626)	5,426
ICR-SERVICE	0	14	177

Source: Primary data collection, Author elaboration

Even in this analysis the sectoral pertinence seems to be a relevant element as per short-term debts structure. Despite the fact that other factors may be predictors of the latter such as: appropriate financial management practices as the major part of SMEs seek to meet the cash demand. Precisely, due to these reasons while targeting growth, business owners/managers should carefully select debt management strategies. Considering that asymmetry issues are more acute in SMEs and a limited lending offer exists, long-term lending result to be very important for them. Consequently they tend to be dependent to commercial/institutional lenders which somehow orient their cash management strategy.

7.2. LONG-RUN DEBTS RATIOS ANALYSIS

The contingency theory[25] assumes that organizations efficiency dependents on its ability to diagnose and understand particular situational factors like environment, while adopting processes and structures that can enhance its performance (271).

[25] The contingency theory of leadership was initially introduced in 1964 by an Austrian psychologist, Fred Edward Fiedler.

Systems theory[26] from the other side, supports the idea that each system is organized through independent components but interrelated. Furthermore the latter sounds meaningful for SMEs recognizing that individuals, working groups or departments operate as a singular unit (272). Obviously this coordination ensures a better information asymmetry management so as to effectively act according to their finances. Contemporaneously it also help owners/managers to better understand and cover internal business needs (here it can be also underlined the role of leadership), therefore they in general prefer to appeal concerning long-term debts in order to ensure business prosperity through profit maximization and smooth operability (referring to Stewardship theory[27]/273).
Based on long-term leverage statistics (Table 69) retrieved in the research 'data-pools' it can be highlighted that production sector quotes the highest ratio, followed from construction, service and trade with respectively 753%, 441%, 97% and 94%. This can be explained by the fact that service and trade maintain low assets level. Meanwhile the production result complies with the fact that long-term debts are the main financing source of machineries and production vehicles (mainly financial leasing products), thus, they exceed assets values. The same argumentation line can be pursued concerning construction sector which uses long-term debts in order to produce assets, therefore, long-term leverage ratio is generally higher than 100%. Furthermore under this light, it can be added that trade sector instead maintains an equilibrated long-term leverage ratio considering its operational flexibility.

Table 69. Long-term leverage ratio cross-sectoral statistics (in %)

SECTORAL DATA (in %)	MIN	AVERAGE	MAX
LT-LEV-TRADE	-	25%	94%
LT-LEV-PRODUCTION	-	68%	753%
LT-LEV-CONSTRUCTION	-	70%	441%
LT-LEV-SERVICE	-	84%	97%

Source: Primary data collection, Author elaboration

[26] The systems theory was initially proposed by Van Bertalanffy (1950).

[27] Stewardship theory is a theory of management initially proposed by David and Donaldson (1993).

Transforming these figures from an equity amount prospective it can be evidenced same results. By this way, construction, production and trade followed by service sector quote the highest ratio with respectively 920%, 760% 489%, and 343% (as per Table 70 data). Simultaneously referring to minimal ratios it can be understand that production maintains it around 547% level and quite half of it is maintained in trade sector. While construction sector in order to better manage cash management process may proceed even with 'bridge-loans agreements' in cooperation with commercial Banks by avoiding long-term debts. Correspondingly, in average terms is displayed that construction followed from production, trade and service maintain high rates of long-term debts to equity ratio by rationally explaining the reality. Turning to the maximal long-term debts to equity ratio and concerning the latest element it can be confirmed that, low equity levels are maintained from construction, trade, production and service sectors in comparison with long-term debts amounts used. And in general terms all this emphasizes the sectoral tendency role in approaching long-term debts structures.

Table 70. Long-term debt to equity ratio cross-sectoral statistics (in %)

SECTORAL DATA (in %)	MIN	AVERAGE	MAX
LTDER-TRADE	216%	326%	489%
LTDER-PRODUCTION	547%	515%	760%
LTDER-CONSTRUCTION	0%	648%	920%
LTDER-SERVICE	0%	131%	343%

Source: Primary data collection, Author elaboration

Under a managerial metrics the above panorama helps in the understanding of businesses risk management strategy which leverages long-term debts externally financed. Concretely, referring to Table 71 data it can be affirmed that the sector ranking by maximal long-term debts is: production, construction, trade and service. In conformity with this logic it can be said that production sector requires, investments in new technologies, and machineries which help in the entire business profitability and further on competitiveness by giving effective growth signals. Construction sector instead requires long-term debts renovation after project completion. Trade operates with long-term debts structures almost

when acts for 'sale-exclusivity', mainly referring to logistic investments. And service sector mainly prefer short-term debts structures, considering that the major part of its operations are handled in 'cash-basis' or through a quick money conversion cycle.

Table 71. Long-term debt value cross-sectoral statistics (in thsd ALL)

SECTORAL DATA (in thsd ALL)	MIN	AVERAGE	MAX
LTD-TRADE	-	40,694	424,526
LTD-PRODUCTION	-	166,780.70	3,260,503
LTD-CONSTRUCTION	-	89,124.60	445,543
LTD-SERVICE	-	28,170	319,995

Source: Primary data collection, Author elaboration

Referring to debts pilasters (short and long-term debts structures) as previously underlined is reconfirmed that sectors maintain a persistent behavior. Therefore, high short-term debts strategy is mostly preferred from: service, construction, production and ultimately trade sector. While long-term strategy is mostly preferred from: production, construction, trade and ultimately from service sector. And in a certain way it can be revealed that only service sector seems to maintain a different ranking concerning short and long-term debts structures. Meanwhile all the other indicators analyzed in confront with sectoral pertinence show quite the same behavior. Accordingly, the main reason may be financial risk management practices used, or managerial role in managing short-long term risks while handling liquidity issues consisting in in/out cash inflows and not only. Anyway considering that choices primarily influence SMEs ability to provide external funding.

Thus, the role of leadership among them in a particular aspect becomes relevant in decision making process with special regard to risk management practices and permanent control culture, as per following reasons:
- right business orientation;
- target/s coordination;
- good business performance can enhance financial management guidance by ensuring growth perspective (271).

From the other hand, equity ownership, administrators and ownerships gender, borrowers' status, business size and age, etc role should be analyzed in order to capture and understand the behavioral factors which may be predictive to SMEs debts structures. By having as final goal the understanding of those predictive factors (financial and non-financial ones) that reconcile debts structures regardless sectoral- affiliations.

Likewise, the chances toward a sustainable growth may be increased considering that SMEs segment is less advised almost referring to the inadequate financial book keeping methods implemented, which prevent the understanding and designation of more appropriate business policies.

7.3. RESEARCH HYPOTHESES

Being interested to understand more concerning SMEs debt structures, various hypotheses are raised in following. The first group of hypotheses tends to reveal the effect of contingency system, leadership and stewardship theories elements (es: borrowers' status, equity origin, business administration framework, ownership and administrators gender) and other covariates on debt structure factors (es: total leverage ratio, assets tangibility, fixed assets to total assets ratio, etc). Unlike the second group of hypotheses raised attempt in the prediction of short and long-term debts structures. While the examinations performed under both contexts are used to test the eventual reconciliation approaches implemented from SMEs into a general debt structure. A process this which is technically and practically based on risk management decisions on behalf of business running routine in one hand and from the other one to its performance enhancement.

H1: Borrowers' status negatively impacts total leverage ratio (LEV) regardless sectoral affiliation;
H2: Equity origin influence long-term debt to equity ratio (LTDER) regardless sectoral affiliation;
H3: Business administration framework impacts total liability ratio (TLR) regardless sectoral affiliation;
H4: Ownerships gender influence assets tangibility (TAN) regardless sectoral affiliation;

H5: Administrators gender impacts long-term leverage ratio (LT-LEV) regardless sectoral affiliation;
H6: Equity origin and gross profit margin (GPM) contemporaneously negatively affect long-term debts (LTD) regardless sectoral affiliation;
H7: Administrators gender and business age can't simultaneously impact businesses fixed assets to total assets ratio (FATA) regardless sectoral affiliation;
H8: Borrowers' status and business size have a mutual positive impact on interest coverage ratio (ICR) and total assets turnover ratio (TATR) regardless sectoral affiliation;
H9: Short-term debts structure is predicted from radial basis function regardless sectoral affiliation;
H10: Long-term debts structure is predicted from radial basis function regardless sectoral affiliation;
H11: A radial basis function reconciles SMEs leverage structure regardless sectoral affiliation.

7.4. HYPOTHESES EXAMINATION, TESTS AND RESULTS

H1: Borrowers' status negatively impacts total leverage ratio (LEV) regardless sectoral affiliation;

Borrowers' status doesn't impact LEV in trade sector at 95% confidence level (refer to Table 72) as its statistical significance is higher than 0.05. And the same can be confirmed from the univariate regression low R squared result (4.7%). But while analyzing LEVs errors variance it isn't ascertained the same variance between two borrowers' status groups (see Levene's Test/Table 1 results in Appendix B).

Table 72. Tests of Between-Subjects Effects (Borrowers' Status vs Total LEV) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:RA-4 TOTAL LEV

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.266[a]	1	.266	1.521	.227	.047
Intercept	9.180	1	9.180	52.415	.000	.628
Borrowers' Status	.266	1	.266	1.521	.227	.047
Error	5.430	31	.175			
Total	19.561	33				
Corrected Total	5.696	32				

a. R Squared = .047 (Adjusted R Squared = .016)

Source: Primary data collection, Author elaboration with SPSS

In addition the estimated marginal means elaborated from borrowers' status in relation with LEV (in Figure 26) demonstrate that non-performing borrowers' group present a higher total leverage ratio and the vice versa occurs for performing borrowers' status group.

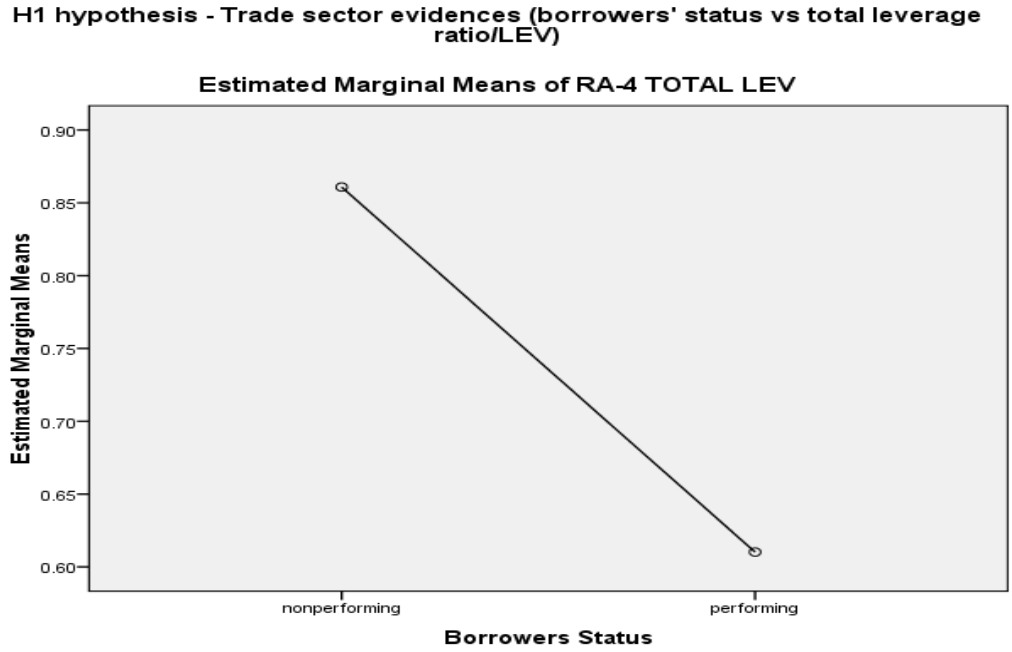


Figure 26. Estimated marginal means of total leverage ratio TLR/LEV concerning borrowers' status in trade sector
Source: Primary data collection, Author elaboration with SPSS

Production sector statistics also affirm that borrowers' status doesn't impact LEV at 95% confidence level (refer to Table 73) as its significance is higher than 0.05. And correspondingly low R squared result (1.2%) are achieved from the univariate regression estimation. But the analysis of LEVs errors variance observes differences between two borrowers' status groups (see Levene's Test/Table 2 results in Appendix B).

Table 73. Tests of Between-Subjects Effects (Borrowers' Status vs Total LEV) in production sector

Tests of Between-Subjects Effects

Dependent Variable:RA-4 Total LEV

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.636[a]	1	.636	.377	.544	.012
Intercept	17.209	1	17.209	10.204	.003	.248
Borrowers' Status	.636	1	.636	.377	.544	.012
Error	52.281	31	1.686			
Total	89.347	33				
Corrected Total	52.917	32				

a. R Squared = .012 (Adjusted R Squared = -.020)

Source: Primary data collection, Author elaboration with SPSS

The estimated marginal means results in following clearly evidence that non-performing borrowers' status demonstrates a lower LEV and the vice versa occurs for performing borrowers' status.

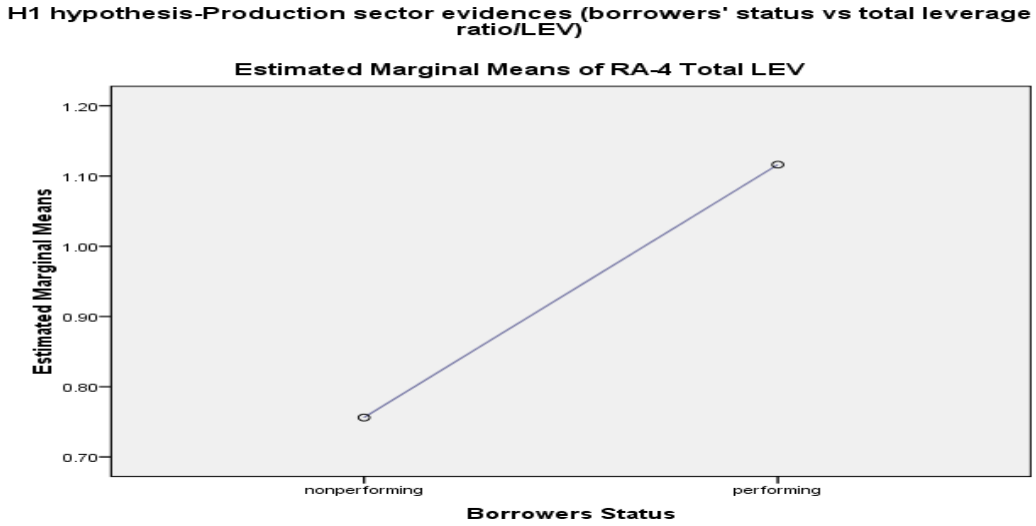


Figure 27. Estimated marginal means of total leverage ratio TLR/LEV concerning borrowers' status in production sector
Source: Primary data collection, Author elaboration with SPSS

The same results are achieved in construction sector considering that borrowers' status statistical significance is higher than 0.05 (see Table 74) and throughout it can't impact LEV. Furthermore the latest errors variance is the same for two borrowers' status (refer to Table 3 in Appendix B). But beyond this, from estimated marginal means (see Figure 28) it can be observed that non-performing status coincides with a higher LEV while the contrary can be affirmed for borrowers' performing status.

Table 74. Tests of Between-Subjects Effects (Borrowers' Status vs Total LEV) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:RA-4 LEV

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	17.909[a]	1	17.909	2.115	.156	.064
Intercept	91.928	1	91.928	10.859	.002	.259
Borrowers' Status	17.909	1	17.909	2.115	.156	.064
Error	262.442	31	8.466			
Total	355.051	33				
Corrected Total	280.351	32				

a. R Squared = .064 (Adjusted R Squared = .034)

Source: Primary data collection, Author elaboration with SPSS

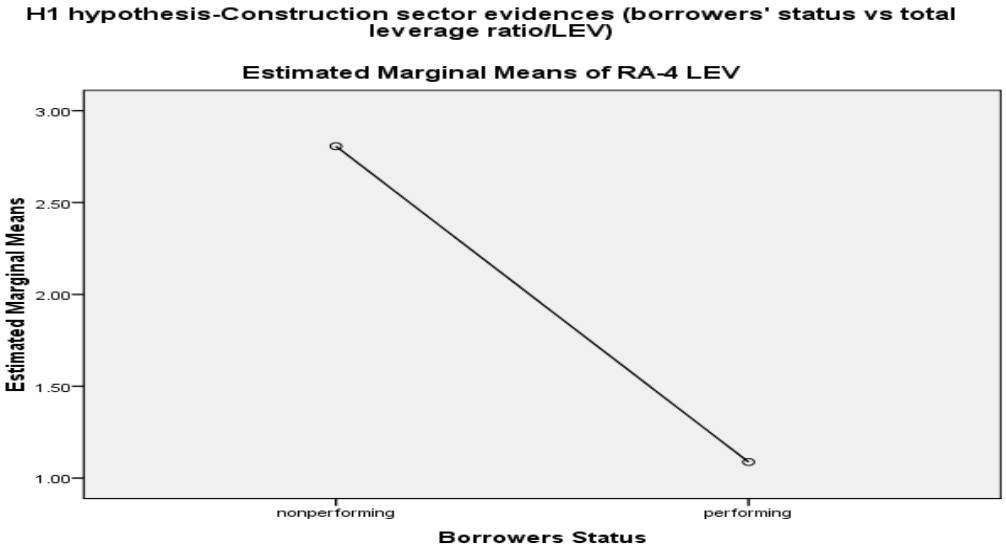


Figure 28. Estimated marginal means of total leverage ratio TLR/LEV concerning borrowers' status in construction sector

Source: Primary data collection, Author elaboration with SPSS

Borrowers' status in service sector instead impacts total leverage ratio at 95% confidence level (Table 75). The Levenes' test results (see Table 4 in Appendix B) confirm also that LEV errors variance between two borrowers' group is the same. Despite these, estimated marginal means statistics demonstrate that non-performing borrowers' status maintains a higher LEV while the vice versa occurs for performing borrowers' status (in Figure 29).

Table 75. Tests of Between-Subjects Effects (Borrowers' Status vs Total LEV) in service sector

Tests of Between-Subjects Effects

Dependent Variable:RA-4 LEV

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	255.616[a]	1	255.616	12.999	.001	.302
Intercept	325.625	1	325.625	16.559	.000	.356
Borrowers' Status	255.616	1	255.616	12.999	.001	.302
Error	589.931	30	19.664			
Total	920.733	32				
Corrected Total	845.547	31				

a. R Squared = .302 (Adjusted R Squared = .279)

Source: Primary data collection, Author elaboration with SPSS

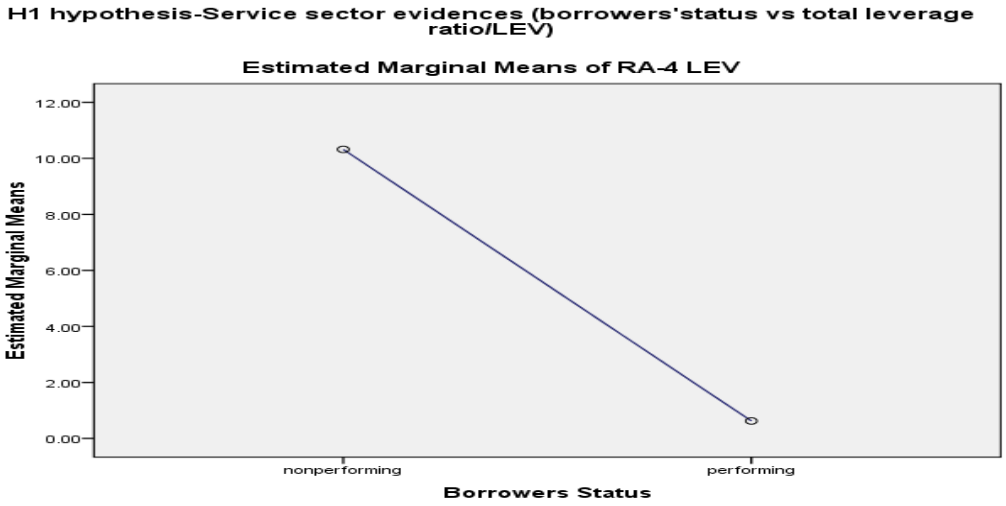


Figure 29. Estimated marginal means of total leverage ratio TLR/LEV concerning borrowers' status in service sector
Source: Primary data collection, Author elaboration with SPSS

The a/m sectoral analysis in general verifies that borrowers' status don't impact LEV mainly referring to trade, production and construction statistical data, while a positive impact was found in service sector. By this way, H1 hypothesis can be rejected even when interesting results are achieved while dealing with estimated marginal means which persistently show a certain relationship between borrowers' status and LEV where in the majority of cases non-performing borrowers' status coincide with a higher LEV in comparison with performing borrowers' status.

H2: Equity origin influence long-term debt to equity ratio (LTDER) regardless sectoral affiliation;

Referring to the following statistics it can be underlined that equity origin doesn't influence LTDER (see Table 76) in trade sector. From the other hand, Levenes' test (see Table 5 in Appendix B) confirms that the latest errors variance in three equity origin groups isn't the same. Meanwhile regarding estimated marginal means (Figure 30) is demonstrated that national businesses make more use of long-term debts followed in turns by foreign and mix-equity businesses.

Table 76. Tests of Between-Subjects Effects (Equity origin vs LTDER) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:RA-1 LTDER

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	41.900[a]	2	20.950	.216	.807	.014
Intercept	16.641	1	16.641	.171	.682	.006
Equity Origin	41.900	2	20.950	.216	.807	.014
Error	2911.459	30	97.049			
Total	3305.388	33				
Corrected Total	2953.359	32				

a. R Squared = .014 (Adjusted R Squared = -.052)

Source: Primary data collection, Author elaboration with SPSS

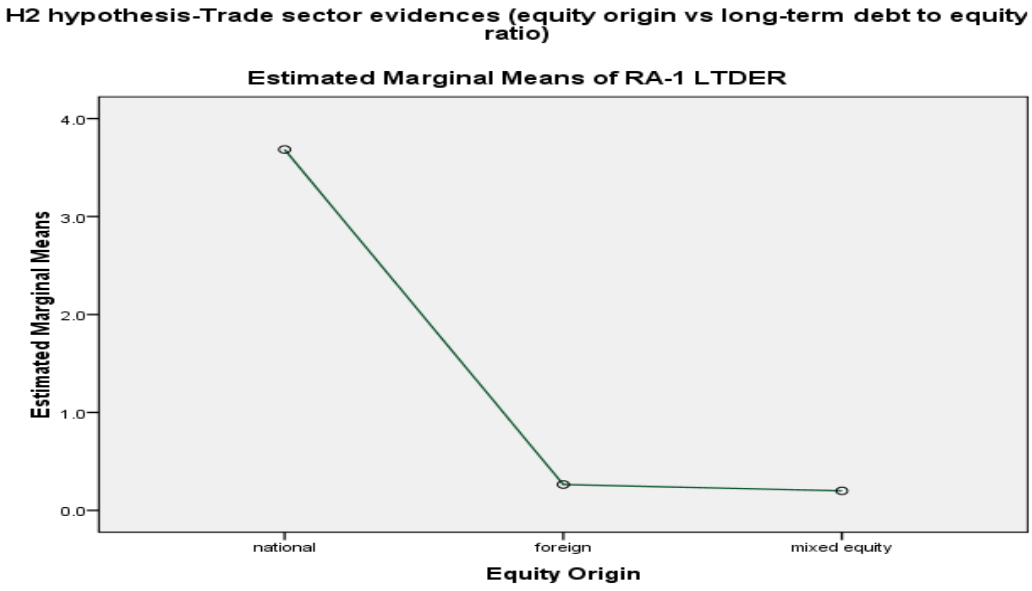


Figure 30. Estimated marginal means of long-term debt to equity ratio LTDER concerning equity origin in trade sector

Source: Primary data collection, Author elaboration with SPSS

Comparatively same results with the one of trade sector are achieved even in production sector where equity origin doesn't affect LTDER (refer to Table 77). Being that the sectoral data belong only to national businesses Levenes' test isn't estimable. And the analysis is alternatively elaborated and confirmed by using estimated marginal means (see Figure 31) results.

Table 77. Tests of Between-Subjects Effects (Equity origin vs LTDER) in production sector

Tests of Between-Subjects Effects

Dependent Variable:RA-1

LTDER

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.000[a]	0	.	.	.	.000
Intercept	2834892.510	1	2834892.510	8.658	.006	.213
Equity Origin	.000	0	.	.	.	.000
Error	1.048E7	32	327429.647			
Total	1.331E7	33				
Corrected Total	1.048E7	32				

a. R Squared = .000 (Adjusted R Squared = .000)

Source: Primary data collection, Author elaboration with SPSS

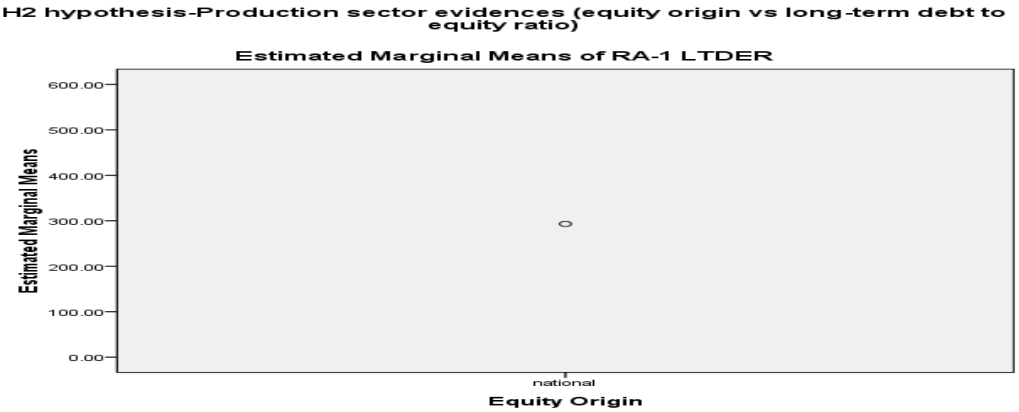


Figure 31. Estimated marginal means of long-term debt to equity ratio LTDER concerning equity origin in production sector
Source: Primary data collection, Author elaboration with SPSS

The equity origin doesn't impact long-term debt equity ratio even in construction sector (refer to Table 78). Interpreting LTDER errors variance it can be added that it isn't the same between three equity origin groups (see Levenes' test results in Table 6 / Appendix B). Contemporaneously estimated marginal means (in Figure 32) highlight that national businesses opt for higher LTDER followed by foreign and mixed-equity businesses.

Table 78. Tests of Between-Subjects Effects (Equity origin vs LTDER) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:RA-1 LTDER

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	142.380[a]	2	71.190	.303	.741	.020
Intercept	1066.133	1	1066.133	4.533	.042	.131
Equity Origin	142.380	2	71.190	.303	.741	.020
Error	7055.660	30	235.189			
Total	8582.790	33				
Corrected Total	7198.039	32				

a. R Squared = .020 (Adjusted R Squared = -.046)

Source: Primary data collection, Author elaboration with SPSS

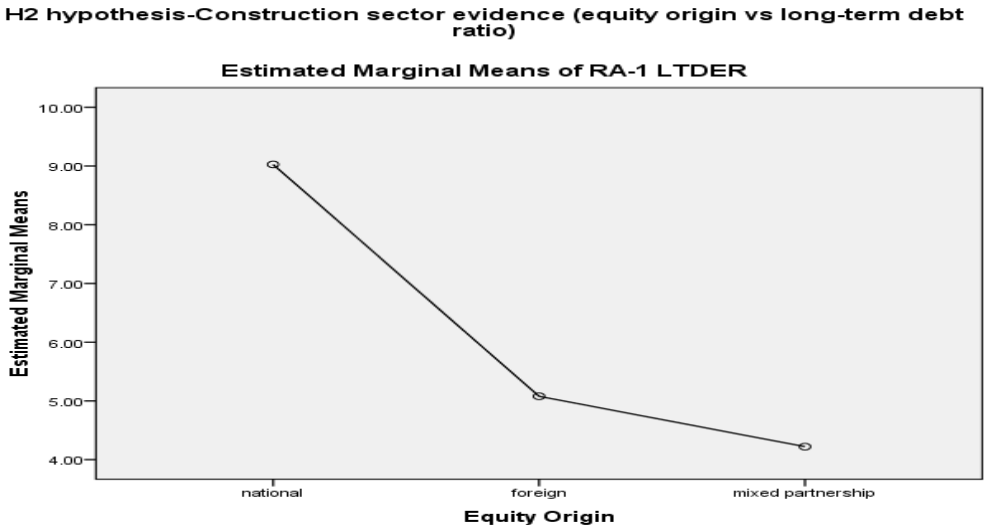


Figure 32. Estimated marginal means of long-term debt to equity ratio LTDER concerning equity origin in construction sector
Source: Primary data collection, Author elaboration with SPSS

The same situation persists in service sector too as equity origin doesn't impact LTDER (Table 79). Even Levenes' test results confirm differences in the latter errors variance between equity groups (Table 7/Appendix C). And against estimated marginal means in following mark the exigencies of national businesses in maintaining higher LTDER in contradiction with mixed-equity ones.

Table 79. Tests of Between-Subjects Effects (Equity origin vs LTDER) in service sector

Tests of Between-Subjects Effects

Dependent Variable:RA-4 LEV

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.559[a]	1	4.559	.163	.690	.005
Intercept	11.022	1	11.022	.393	.535	.013
Equity Origin	4.559	1	4.559	.163	.690	.005
Error	840.988	30	28.033			
Total	920.733	32				
Corrected Total	845.547	31				

a. R Squared = .005 (Adjusted R Squared = -.028)

Source: Primary data collection, Author elaboration with SPSS

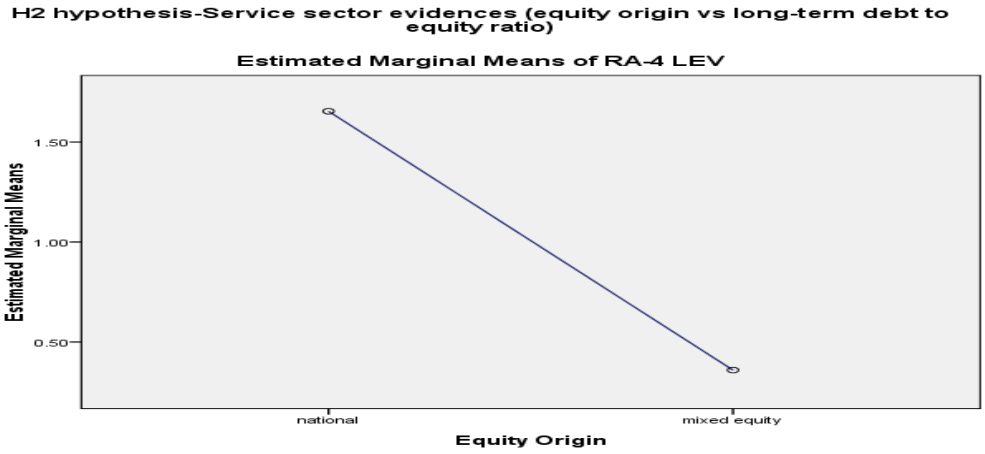


Figure 33. Estimated marginal means of long-term debt to equity ratio LTDER concerning equity origin in service sector
Source: Primary data collection, Author elaboration with SPSS

Under these circumstances it can be highlighted that equity origin doesn't impact LTDER in none of the sectors examined. Thus, H2 hypothesis can be rejected. In the same time worth mentioned that estimated marginal means data confirm a certain relation between equity origin and LTDER by generally concluding that

national businesses maintain a higher level followed by foreign and mixed-equity businesses.

H3: Business administration framework impacts total liability ratio (TLR) regardless sectoral affiliation;

Business administration can't impact TLR based on the following results (see Table 80) in trade sector. But differences exist between TLR errors variance in two business administration groups (refer to Table 8 in Appendix B). Hereinafter, the sector evidences show that administrators prefer lower TLR and the contrary reveals for owners (as per Figure 34).

Table 80. Tests of Between-Subjects Effects (Business administration vs TLR) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:RA-2 TLR

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.632[a]	1	11.632	.022	.882
Intercept	1251.601	1	1251.601	2.420	.130
Business administration	11.632	1	11.632	.022	.882
Error	16033.703	31	517.216		
Total	17898.557	33			
Corrected Total	16045.336	32			

a. R Squared = .001 (Adjusted R Squared = -.032)

Source: Primary data collection, Author elaboration with SPSS

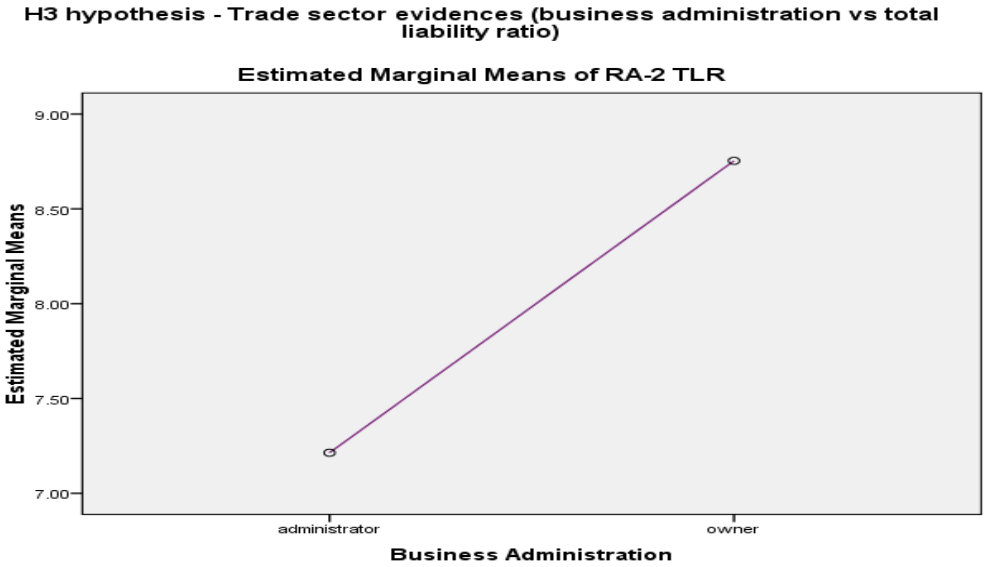


Figure 34. Estimated marginal means of total liability ratio TLR concerning business administration in trade sector
Source: Primary data collection, Author elaboration with SPSS

Business administration framework doesn't represent any impact on TLR in production sector (refer to Table 81). Also Levenes' test (see Table 9 in Appendix B) doesn't confirm differences TLR errors variance between two business administration groups. While it can be marked the tendency of administrators to maintain low TLR meanwhile concerning owners the contrary is evidenced (in Figure 35).

Table 81. Tests of Between-Subjects Effects (Business administration vs TLR) in production sector

Tests of Between-Subjects Effects

Dependent Variable:RA-2 TLR

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	143765.587[a]	1	143765.587	2.669	.112
Intercept	310816.127	1	310816.127	5.770	.022
Business administration	143765.587	1	143765.587	2.669	.112
Error	1669957.631	31	53869.601		
Total	2000705.189	33			
Corrected Total	1813723.218	32			

a. R Squared = .079 (Adjusted R Squared = .050)

Source: Primary data collection, Author elaboration with SPSS

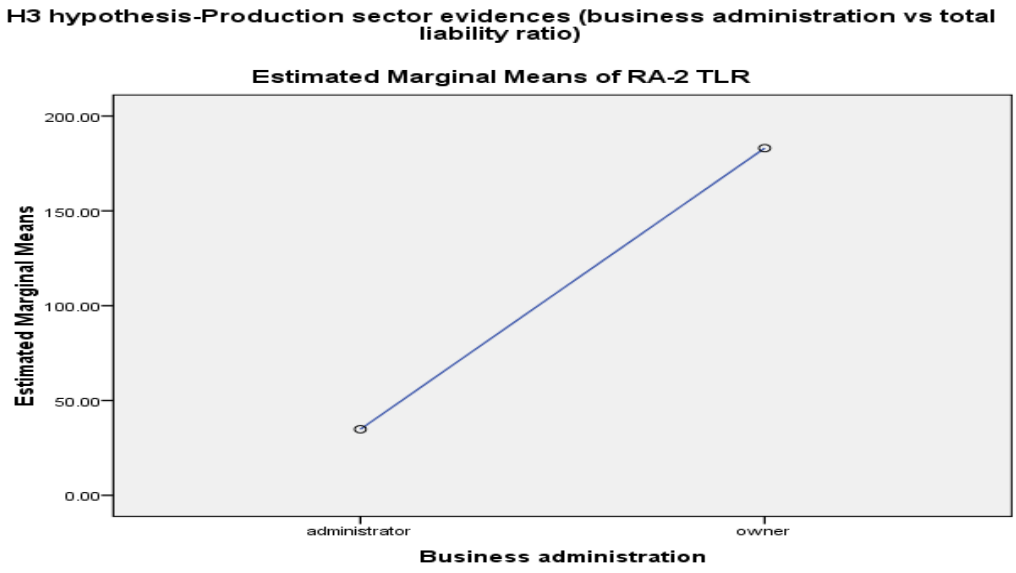


Figure 35. Estimated marginal means of total liability ratio TLR concerning business administration in production sector

Source: Primary data collection, Author elaboration with SPSS

The business administration framework doesn't impact total liability ratio in construction sector (see the Table 82 in following). In compliance with Levenes' test (refer to Table 10 in Appendix B) is demonstrated that TLR errors variance result to be different as per two business administration groups. Furthermore even in construction sector it can be affirmed (see Figure 36) that administrators prefer to act with lower TLR in comparison with the ones maintained from owners.

Table 82. Tests of Between-Subjects Effects (Business administration vs TLR) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:RA-2 TLR

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.463[a]	1	.463	.001	.973
Intercept	846.329	1	846.329	2.135	.154
Business administration	.463	1	.463	.001	.973
Error	11891.997	30	396.400		
Total	13241.017	32			
Corrected Total	11892.460	31			

a. R Squared = .000 (Adjusted R Squared = -.033)

Source: Primary data collection, Author elaboration with SPSS

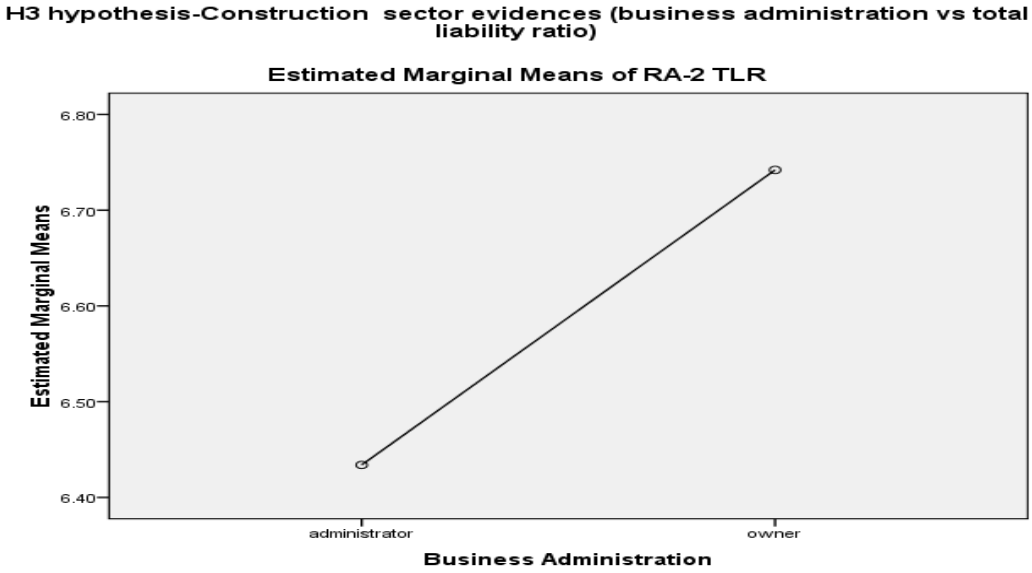


Figure 36. Estimated marginal means of total liability ratio TLR concerning business administration in construction sector
Source: Primary data collection, Author elaboration with SPSS

The above results evidence that business administration framework doesn't impact TLR in service sector (see Table 83). Levenes' test results (Table 11 in Appendix B) ascertain that TLR errors variance isn't the same between two business administration groups. And referring to the estimated marginal means is stated that businesses that delegate the management responsibilities to administrators opt for higher TLR while owners who manage the businesses prefer to maintain lower liability ratios (Figure 37).

Table 83. Tests of Between-Subjects Effects (Business administration vs TLR) in service sector

Tests of Between-Subjects Effects

Dependent Variable:RA-2 TLR

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	7.137[a]	1	7.137	.253	.619	.008
Intercept	35.635	1	35.635	1.262	.270	.040
Business administration	7.137	1	7.137	.253	.619	.008
Error	847.084	30	28.236			
Total	910.772	32				
Corrected Total	854.221	31				

a. R Squared = .008 (Adjusted R Squared = -.025)

Source: Primary data collection, Author elaboration with SPSS

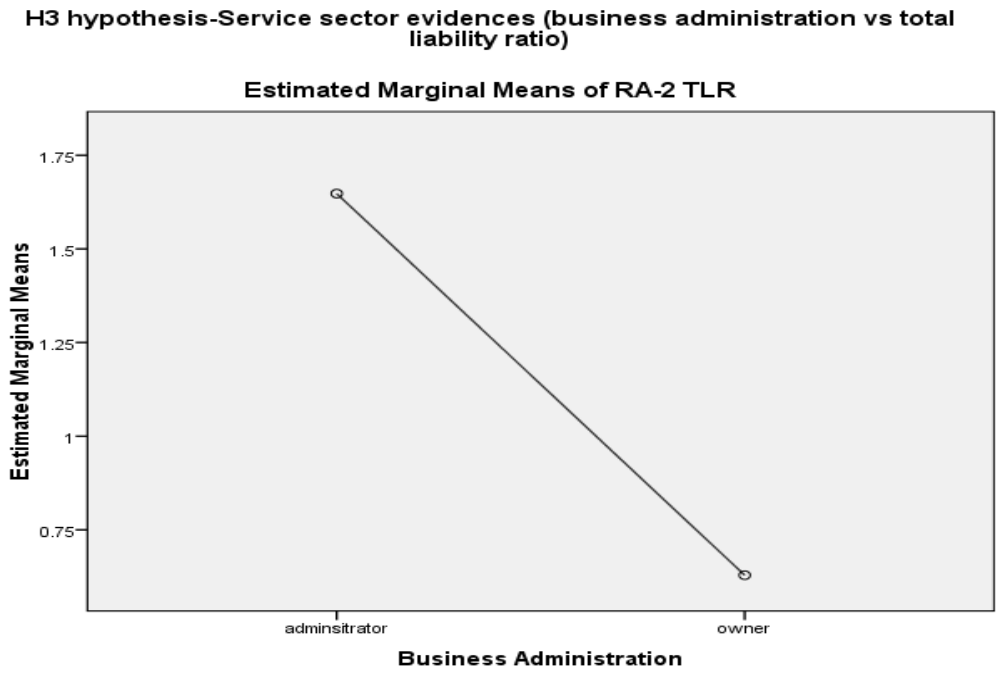


Figure 37. Estimated marginal means of total liability ratio TLR concerning business administration in service sector
Source: Primary data collection, Author elaboration with SPSS

The results elaborated from sectoral analysis demonstrate that business administration framework doesn't impact TLR , correspondingly H3, hypothesis can be rejected. Despite this, it can be mentioned that in major part statistical evidences confirm that business owners maintain higher TLR then the one preferred to be maintained from administrators.

H4: Ownerships gender influence assets tangibility (TAN) regardless sectoral affiliation;

Ownerships gender isn't a determinant factor as per TAN (refer to Table 84) in trade sector. Levenes' test results demonstrate that TAN errors variance is the same between three ownership genders groups (refer to Table 12 in Appendix B). But interesting data are revealed from TAN, by implying that it's higher in case of mixed-partnership and decreases respectively for male and female ownership structures (refer to Figure 38).

Table 84. Tests of Between-Subjects Effects (Ownerships gender vs TAN) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:OE-8 TAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.416[a]	2	.208	2.613	.090
Intercept	1.308	1	1.308	16.417	.000
Ownerships Gender	.416	2	.208	2.613	.090
Error	2.389	30	.080		
Total	5.602	33			
Corrected Total	2.806	32			

a. R Squared = .148 (Adjusted R Squared = .092)

Source: Primary data collection, Author elaboration with SPSS

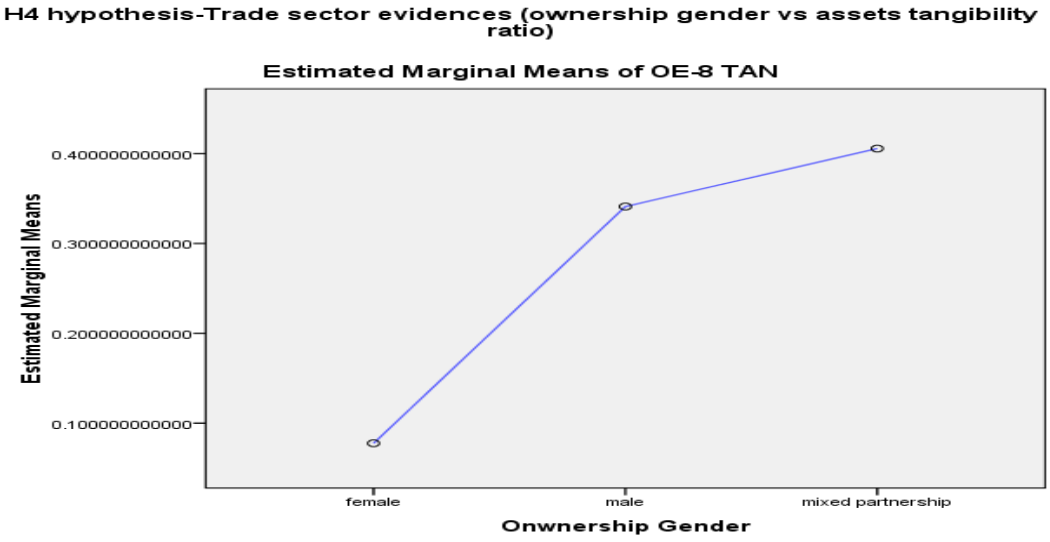


Figure 38. Estimated marginal means of asset tangibility ratio TAN concerning business ownerships gender in trade sector

Source: Primary data collection, Author elaboration with SPSS

The examinations referring to ownership structure influence on TAN remains under the same context also in production sector (Table 85). In addition reveals that TAN errors variance is differentiated in three ownership groups (see Levenes' test results in Appendix B/Table 13). Meanwhile estimated marginal means (in Figure 39) confirm again that mixed-partnership maintains higher TAN in comparison with the ones respectively owned from male and females.

Table 85. Tests of Between-Subjects Effects (Ownership gender vs TAN) in production sector

Tests of Between-Subjects Effects

Dependent Variable:OE-8 TAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.477[a]	2	.239	2.862	.073
Intercept	6.507	1	6.507	78.062	.000
Ownerships Gender	.477	2	.239	2.862	.073
Error	2.501	30	.083		
Total	9.792	33			
Corrected Total	2.978	32			

a. R Squared = .160 (Adjusted R Squared = .104)

Source: Primary data collection, Author elaboration with SPSS

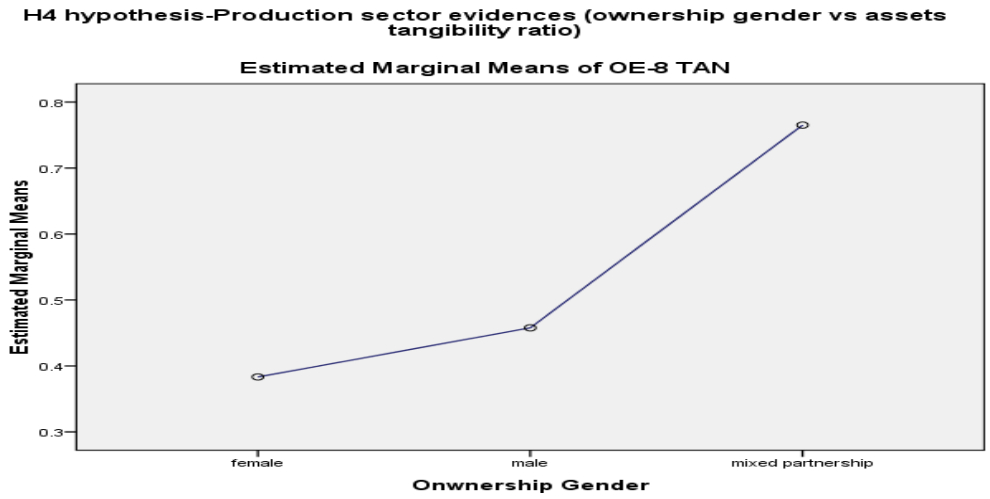


Figure 39. Estimated marginal means of asset tangibility ratio TAN concerning business ownerships gender in production sector
Source: Primary data collection, Author elaboration with SPSS

The ownership gender statistics confirm that they don't have any impact on TAN even in construction sector (Table 86). The latest errors variance differences persist into three ownership groups (see Levenes' test results in Table 14/ Appendix B). While estimated marginal means (refer to Figure 40) clearly state that mixed-partnership prefer higher TAN respectively followed from those of female and male ownership structures.

Table 86. Tests of Between-Subjects Effects (Ownership gender vs TAN) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:OE-8 TAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.342[a]	2	.171	1.459	.248
Intercept	3.656	1	3.656	31.199	.000
Ownerships Gender	.342	2	.171	1.459	.248
Error	3.515	30	.117		
Total	7.915	33			
Corrected Total	3.857	32			

a. R Squared = .089 (Adjusted R Squared = .028)

Source: Primary data collection, Author elaboration with SPSS

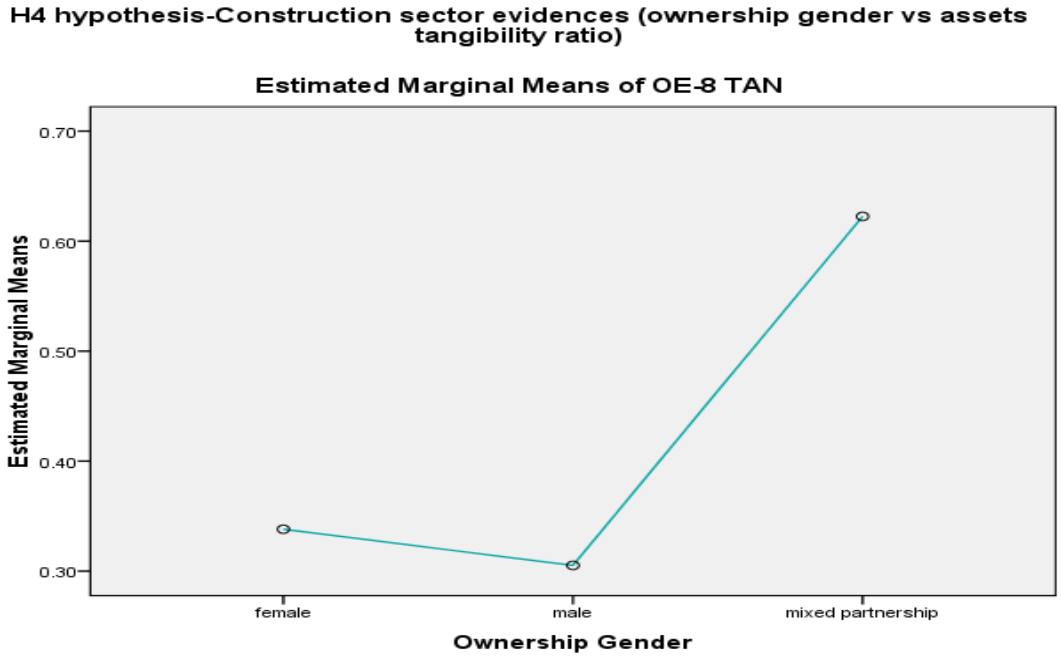


Figure 40. Estimated marginal means of asset tangibility ratio TAN concerning business ownerships gender in construction sector

Source: Primary data collection, Author elaboration with SPSS

Ownership gender doesn't influence TAN in service sector (see Table 87 below). The dependent variable errors variance is different as per three ownership groups (see Table 15 in Appendix B). Beyond this, estimated marginal means results reveal a higher TAN from female ownership followed respectively by the ones of male and mixed-partnership (see Figure 41).

Table 87. Tests of Between-Subjects Effects (Ownership gender vs TAN) in service sector

Tests of Between-Subjects Effects

Dependent Variable:OE-8 TAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3315.864[a]	2	1657.932	2.023	.150
Intercept	25610.160	1	25610.160	31.251	.000
Ownerships Gender	3315.864	2	1657.932	2.023	.150
Error	23765.106	29	819.486		
Total	60232.527	32			
Corrected Total	27080.970	31			

a. R Squared = .122 (Adjusted R Squared = .062)

Source: Primary data collection, Author elaboration with SPSS

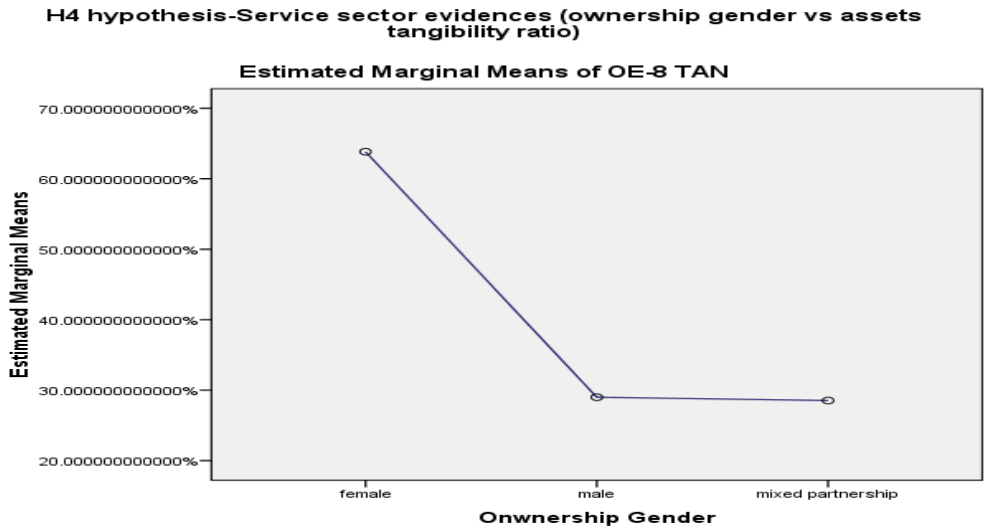


Figure 41. Estimated marginal means of asset tangibility ratio TAN concerning business ownerships gender in service sector
Source: Primary data collection, Author elaboration with SPSS

The sectoral elaborations show that ownership gender doesn't influence TAN which lead to the rejection of H4 hypothesis. However, Levene's errors variance test reveals some alterations which were further explored within the aid of estimated marginal means. Throughout it can be stated that mainly mixed-partnership and then female ownership opt for higher TAN.

H5: Administrators gender impacts long-term leverage ratio (LT-LEV) regardless sectoral affiliation;

As statistically displayed administrators gender doesn't influences LT-LEV ratio in trade sector (Table 88) but differences pertaining to the latter errors variance persist (see Levenes' test results in Appendix B/Table 16). Meanwhile estimated marginal means (Figure 42) confirm that male administrators prefer to act through high LT-LEV rates but in any case lower than the one maintained from female administrators which in turn result to be lower tan the one of mixed-administration.

Table 88. Tests of Between-Subjects Effects (Administrators gender vs LT-LEV) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:RA-5 LT-LEV

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9.009E-5[a]	2	4.505E-5	.001	.999
Intercept	.477	1	.477	5.643	.024
Administrators Gender	9.009E-5	2	4.505E-5	.001	.999
Error	2.538	30	.085		
Total	4.614	33			
Corrected Total	2.538	32			

a. R Squared = .000 (Adjusted R Squared = -.067)

Source: Primary data collection, Author elaboration with SPSS

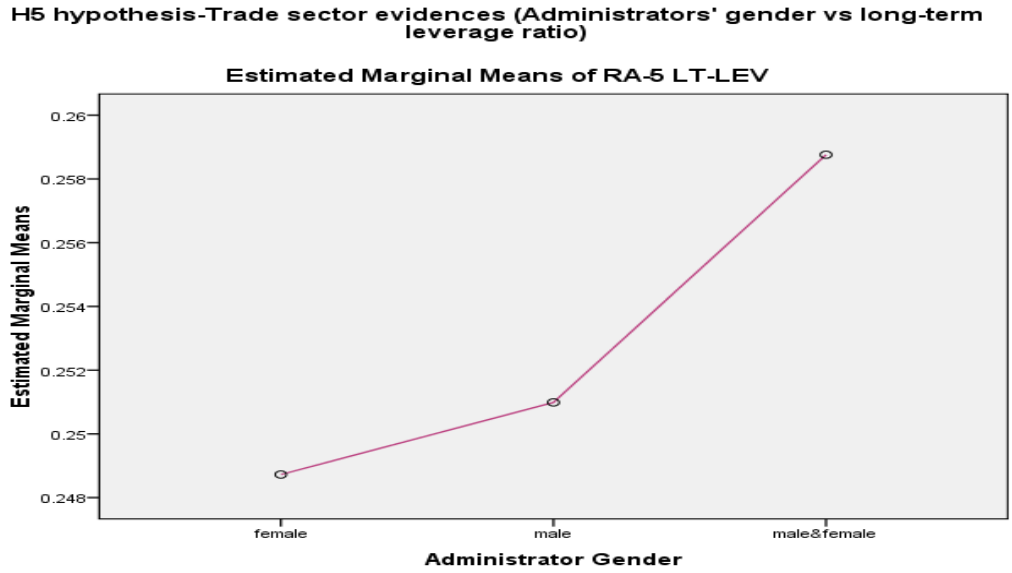


Figure 42. Estimated marginal means of long-term leverage ratio LT-LEV concerning business administrators gender in trade sector

Source: Primary data collection, Author elaboration with SPSS

The production sector data confirm that administrators gender doesn't impact LT-LEV ratio (refer to Table 89). Contradictory results instead are generated from Levenes' test (Table 17 in Appendix B) which argues on consistent differences between administrator gender groups in LT-LEV ratios preferences.
Hereinafter estimated marginal means (see Figure 43) declares that male administrators opt for higher LT-LEV ratios than female administrators.

Table 89. Tests of Between-Subjects Effects (Administrators gender vs LT-LEV) in production sector

Tests of Between-Subjects Effects

Dependent Variable:RA-5 LT-LEV

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.367[a]	1	.367	.214	.647
Intercept	1.786	1	1.786	1.043	.315
Administrators Gender	.367	1	.367	.214	.647
Error	53.101	31	1.713		
Total	68.808	33			
Corrected Total	53.468	32			

a. R Squared = .007 (Adjusted R Squared = -.025)

Source: Primary data collection, Author elaboration with SPSS

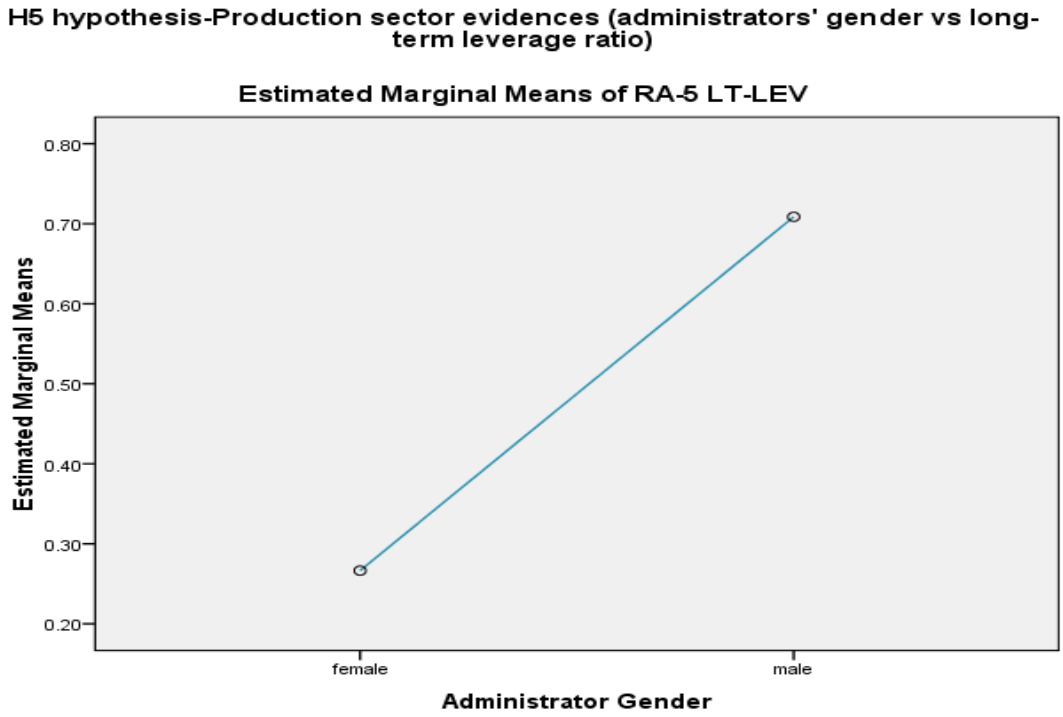


Figure 43. Estimated marginal means of long-term leverage ratio LT-LEV concerning business administrators gender in production sector
Source: Primary data collection, Author elaboration with SPSS

In construction sector as can be evidenced (see Table 90), administrators gender hasn't any impact on LT-LEV ratio even though Levenes' test results implies additional links (Table18/Appendix B). Moreover, estimated marginal means (Figure 44) show that male administrators maintain higher LT-LEV ratios than mixed-administration.

Table 90. Tests of Between-Subjects Effects (Administrators gender vs LT-LEV) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:RA-5 TL-LEV

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.301[a]	1	.301	.251	.620
Intercept	.742	1	.742	.618	.438
Administrators Gender	.301	1	.301	.251	.620
Error	37.174	31	1.199		
Total	53.599	33			
Corrected Total	37.475	32			

a. R Squared = .008 (Adjusted R Squared = -.024)

Source: Primary data collection, Author elaboration with SPSS

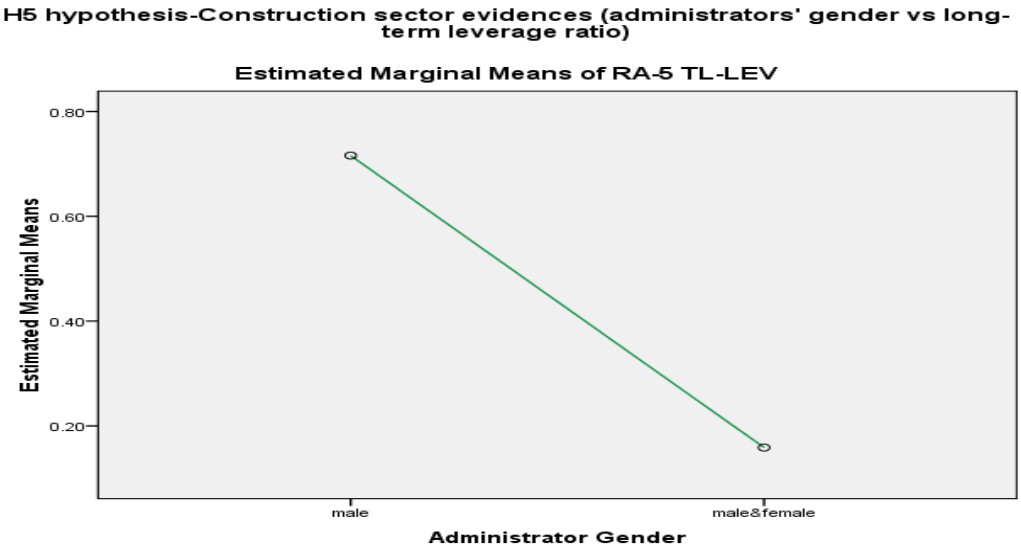


Figure 44. Estimated marginal means of long-term leverage ratio LT-LEV concerning business administrators gender in construction sector

Source: Primary data collection, Author elaboration with SPSS

The same results are valid for service sector by recognizing the missing impact of administrators gender on LT-LEV ratio. But almost referring to the latter errors variance (Table 19 in Appendix B) results it can be concluded over differences between administrators gender groups. Stating that it can be further added (see Figure 45) that male administrators quote higher long-term leverage ratios then female administrators.

Table 91. Tests of Between-Subjects Effects (Administrators gender vs LT-LEV) in service sector

Tests of Between-Subjects Effects

Dependent Variable:RA-5 LT-LEV

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.930[a]	1	6.930	.242	.626
Intercept	8.751	1	8.751	.306	.584
Administrators Gender	6.930	1	6.930	.242	.626
Error	858.011	30	28.600		
Total	899.719	32			
Corrected Total	864.941	31			

a. R Squared = .008 (Adjusted R Squared = -.025)

Source: Primary data collection, Author elaboration with SPSS

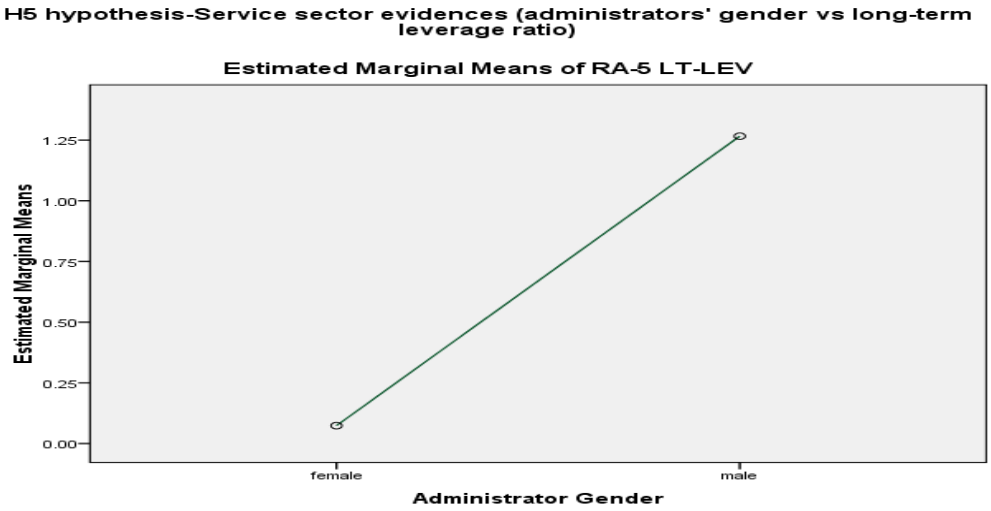


Figure 45. Estimated marginal means of long-term leverage ratio LT-LEV concerning business administrators gender in service sector
Source: Primary data collection, Author elaboration with SPSS

On a statistical context administrators gender doesn't impact LT-LEV, thus, H5 hypothesis can be rejected. From the other hand, considering the estimated marginal means it can be said that in some cases contradictory results are achieved as per different LT-LEV ratios in sectoral affiliations. Notwithstanding it can be concluded that male administration quotes higher LT-LEV ratios followed from the ones maintained from mixed and female administration.

H6: Equity origin and gross profit margin (GPM) contemporaneously negatively affect long-term debts (LTD) regardless sectoral affiliation;

The simultaneous impact of equity origin and GPM on LTD is inexistent in trade sector (see Table 92). Anyway other results can be achieved while referring to LTD errors variance in different equity origin groups (Table 20/Appendix B). A further examination (refer to Figure 46) determines that national equity businesses maintain higher LTD levels compared with foreign and mixed-equity ones.

Table 92. Tests of Between-Subjects Effects (Equity origin vs LTD) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:LTD

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.406E15[a]	3	1.469E15	.144	.933
Intercept	5.730E16	1	5.730E16	5.623	.025
Equity Origin * OE3GPM	4.406E15	3	1.469E15	.144	.933
Error	2.955E17	29	1.019E16		
bbTotal	3.546E17	33			
Corrected Total	2.999E17	32			

a. R Squared = .015 (Adjusted R Squared = -.087)

Source: Primary data collection, Author elaboration with SPSS

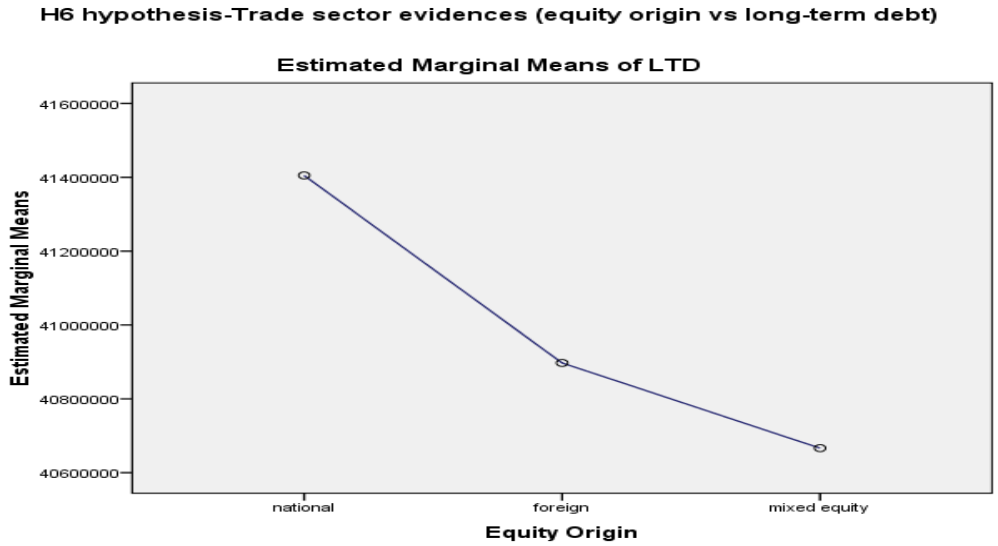


Figure 46. Estimated marginal means of long-term debt LTD concerning equity origin in trade sector

Source: Primary data collection, Author elaboration with SPSS

Equity origin is reflected in only one category in production sector (see Figure 47) which is national businesses one. For this purpose Levenes' test can't be calculated while statistics show that even in this case the variable in question together with GPM don't have any statistical significant impact on LTD (refer to the below Table).

Table 93.Tests of Between-Subjects Effects (Equity origin vs LTD) in production sector

Tests of Between-Subjects Effects

Dependent Variable: LTD

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7.711E16[a]	1	7.711E16	.237	.630
Intercept	9.677E17	1	9.677E17	2.978	.094
Equity Origin * OE3GPM	7.711E16	1	7.711E16	.237	.630
Error	1.007E19	31	3.250E17		
Total	1.107E19	33			
Corrected Total	1.015E19	32			

a. R Squared = .008 (Adjusted R Squared = -.024)

Source: Primary data collection, Author elaboration with SPSS

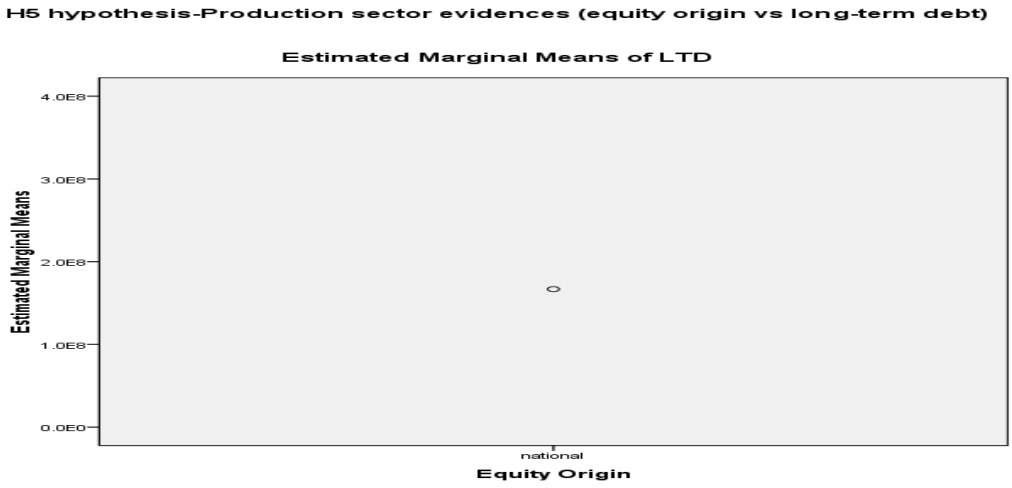


Figure 47. Estimated marginal means of long-term debt LTD concerning equity origin in production sector

Source: Primary data collection, Author elaboration with SPSS

Statistically based the mutual impact of equity origin and GPM in LTD is insignificant (see Table 94) in construction sector. Levenes' test rumors (Table 21 in Appendix B) confirm differences in LTD errors variance for different equity origin groups. While estimated marginal means (in Figure 48) configure higher LTD preferences for mixed-equity businesses than for foreign and national ones.

Table 94. Tests of Between-Subjects Effects (Equity origin vs LTD) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:LTD

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.257E15[a]	3	1.419E15	.077	.972
Intercept	2.219E17	1	2.219E17	11.993	.002
Equity Origin * OE3GPM	4.257E15	3	1.419E15	.077	.972
Error	5.366E17	29	1.850E16		
Total	8.030E17	33			
Corrected Total	5.408E17	32			

a. R Squared = .008 (Adjusted R Squared = -.095)

Source: Primary data collection, Author elaboration with SPSS

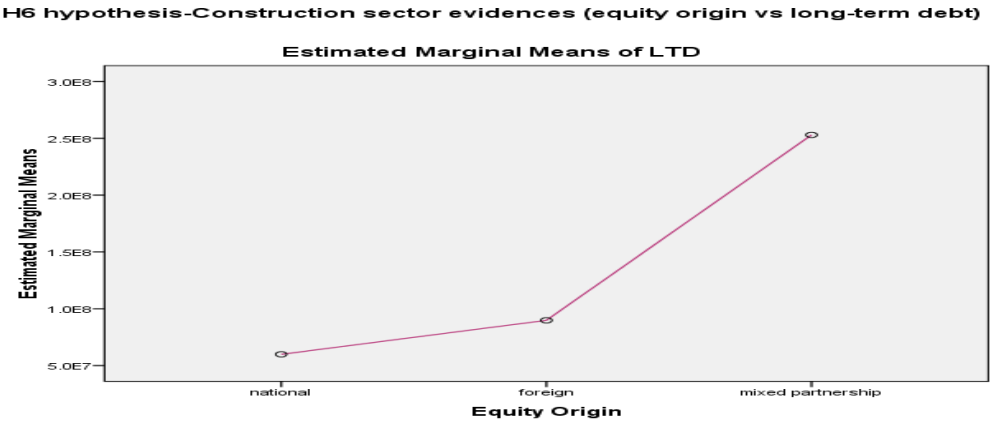


Figure 48. Estimated marginal means of long-term debt LTD concerning equity origin in construction sector

Source: Primary data collection, Author elaboration with SPSS

The same situation persists also in service sector while considering that the multiple impact of equity origin and GPM on LTD is inexistent (refer to Table 95). Differences are also found in LTD errors variance between existing equity groups (Table 22/Appendix B). Under these circumstances national businesses maintain higher LTD than mixed equity ones as displayed in Figure 49.

Table 95. Tests of Between-Subjects Effects (Equity origin vs LTD) in service sector

Tests of Between-Subjects Effects

Dependent Variable: LTD

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.716E15[a]	2	8.578E14	.195	.824
Intercept	1.410E16	1	1.410E16	3.209	.084
Equity Origin * OE3GPM	1.716E15	2	8.578E14	.195	.824
Error	1.275E17	29	4.396E15		
Total	1.546E17	32			
Corrected Total	1.292E17	31			

a. R Squared = .013 (Adjusted R Squared = -.055)

Source: Primary data collection, Author elaboration with SPSS

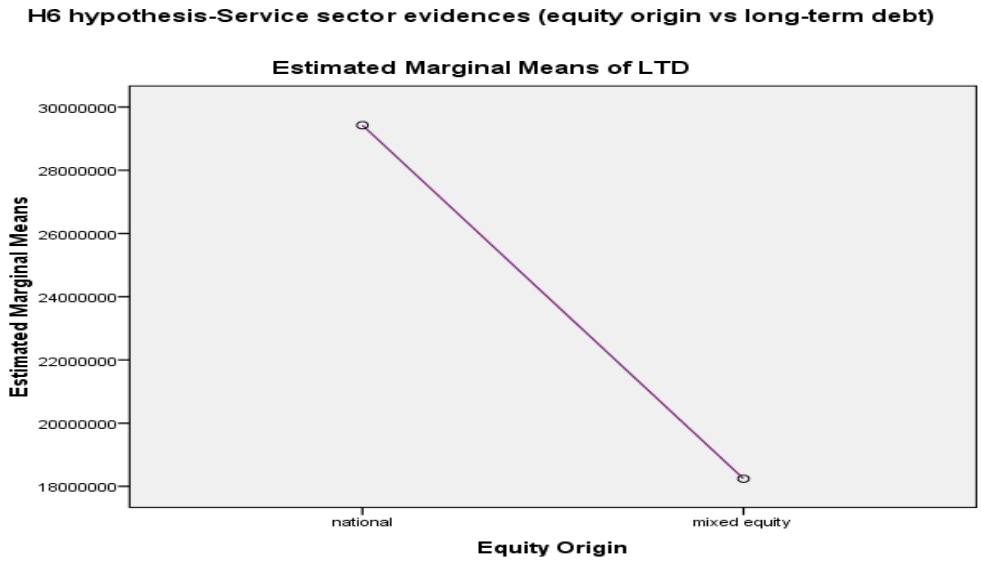


Figure 49. Estimated marginal means of long-term debt LTD concerning equity origin in service sector
Source: Primary data collection, Author elaboration with SPSS

The multiple effects of equity origin and GPM on LTD aren't identified in no one of sectoral affiliations and correspondingly, H6 hypothesis is rejected. Despite these, the further data elaborations have found out that trade and construction sectors prove contradictory results pertaining to national, foreign and mixed equity businesses preferences in respect of LTD. Obviously, these together with other sectoral evidences confirm the existence of a certain relationship between different equity origin groups and the variable in question.

H7: Administrators gender and business age can't simultaneously impact businesses fixed assets to total assets ratio (FATA) regardless sectoral affiliation;

The mutual effect of administrators gender and firm age isn't statistically significant on FATA ratio (see Table 96). Nevertheless Levenes' test evidences demonstrate significant differences in FATA ratio errors variance between administrators gender groups (Table 23/Appendix B). Comparatively the additional examinations contribute in the understanding of administrators gender preferences concerning FATA ratio. Thus, in trade sector male administrators

prefer to maintain more fixed assets than in female and mixed-administrator cases (see Figure 50).

Table 96. Tests of Between-Subjects Effects (Administrators gender vs FATA) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:OE-10 FATA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.190[a]	3	.063	.702	.559
Intercept	.054	1	.054	.594	.447
Administrator Gender * Firm Age	.190	3	.063	.702	.559
Error	2.616	29	.090		
Total	5.602	33			
Corrected Total	2.806	32			

a. R Squared = .068 (Adjusted R Squared = -.029)

Source: Primary data collection, Author elaboration with SPSS

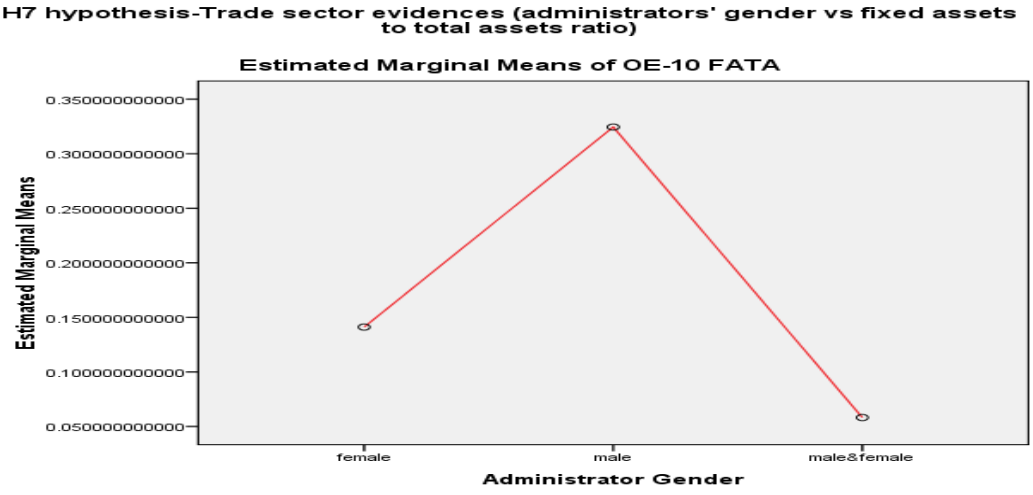


Figure 50. Estimated marginal means of fixed assets to total assets FATA ratio concerning administrators gender in trade sector

Source: Primary data collection, Author elaboration with SPSS

Referring to production sector statistics the administrators gender and firm age mutual impact on FATA ratio is inexistent (see Table 97). Levenes' test results (in Table 24 / Appendix B) from the other side confirm differences between the latest errors variance and three administrators gender groups. Foremost the estimated marginal means (see Figure 51) confirm higher fixed assets preferences in female administrators cases compared with male ones.

Table 97. Tests of Between-Subjects Effects (Administrators gender vs FATA) in production sector

Tests of Between-Subjects Effects

Dependent Variable:OE-10 FATA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.466[a]	2	.233	2.780	.078
Intercept	.012	1	.012	.145	.706
Administrator Gender * Firm Age	.466	2	.233	2.780	.078
Error	2.512	30	.084		
Total	9.792	33			
Corrected Total	2.978	32			

a. R Squared = .156 (Adjusted R Squared = .100)

Source: Primary data collection, Author elaboration with SPSS

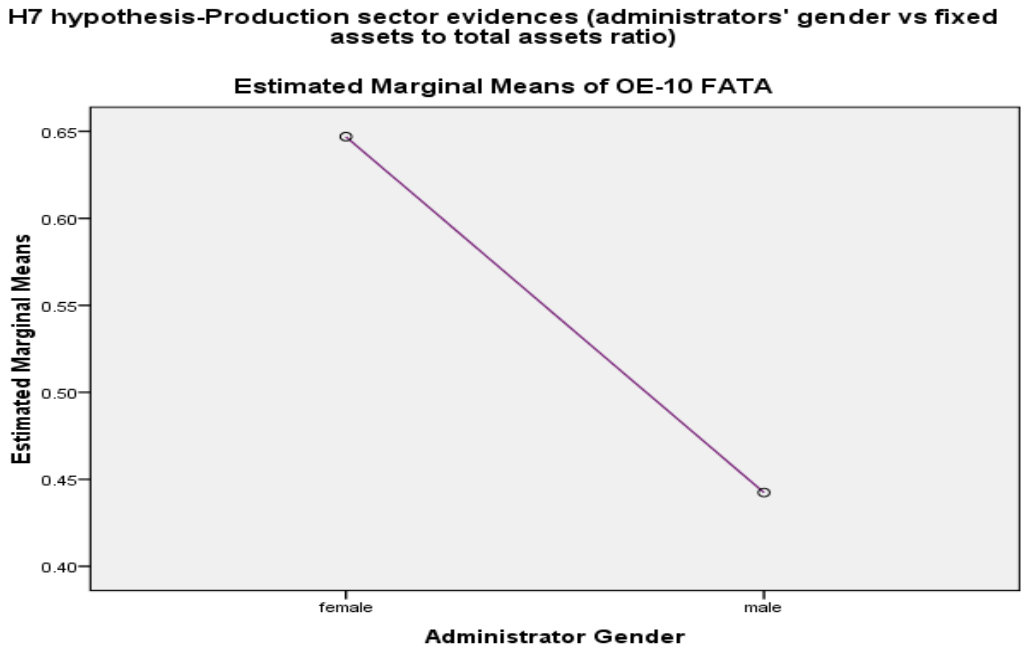


Figure 51. Estimated marginal means of fixed assets to total assets FATA ratio concerning administrators gender in production sector
Source: Primary data collection, Author elaboration with SPSS

The same context is evidenced in construction sector where mutually administrators gender and firm age don't impact fixed assets to total assets FATA ratio. The Levenes' tests examinations comply with estimated marginal means (see Figure 52 below) that clearly declare that male administrators opt for higher FATA ratios than the ones administrated from mixed cases.

Table 98. Tests of Between-Subjects Effects (Administrators gender vs FATA) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:OE-10 FATA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.248[a]	2	.124	1.031	.369
Intercept	.087	1	.087	.726	.401
Administrator Gender * Firm Age	.248	2	.124	1.031	.369
Error	3.609	30	.120		
Total	7.915	33			
Corrected Total	3.857	32			

a. R Squared = .064 (Adjusted R Squared = .002)

Source: Primary data collection, Author elaboration with SPSS

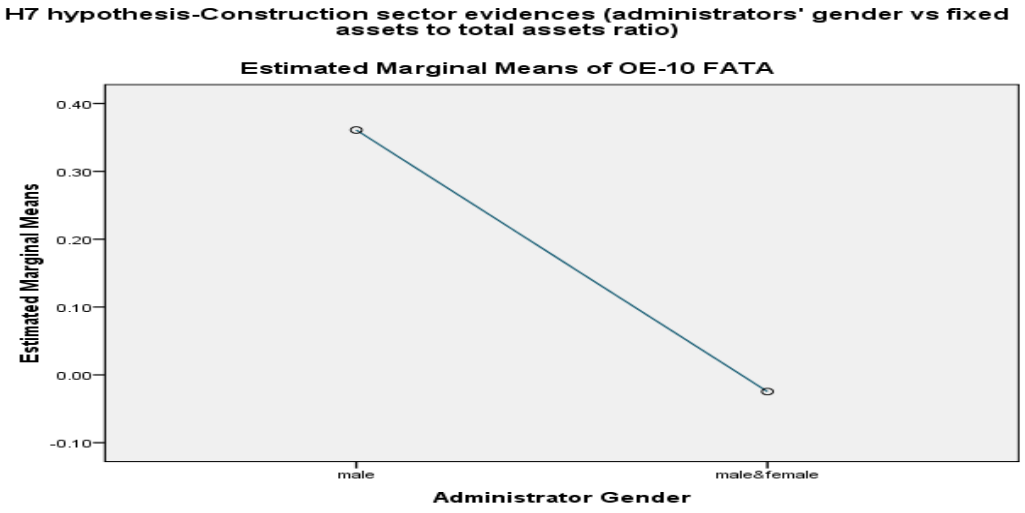


Figure 52. Estimated marginal means of fixed assets to total assets FATA ratio concerning administrators gender in construction sector

Source: Primary data collection, Author elaboration with SPSS

And same results are achieved in service sector concerning the lack of mutual effects of administrators gender and firm age on FATA ratio (Table 99 below). Levenes' test results (Table 26/Appendix B) on FATA errors variance between three administrators gender group, prove that female administrators maintain higher FATA ratio compared with the ones administrated from male (see Figure 53).

Table 99. Tests of Between-Subjects Effects (Administrators gender vs FATA) in service sector

Tests of Between-Subjects Effects

Dependent Variable:OE-10 FATA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2747.417[a]	2	1373.709	1.637	.212
Intercept	3838.520	1	3838.520	4.575	.041
Administrator Gender * Firm Age	2747.417	2	1373.709	1.637	.212
Error	24333.553	29	839.088		
Total	60232.527	32			
Corrected Total	27080.970	31			

a. R Squared = .101 (Adjusted R Squared = .039)

Source: Primary data collection, Author elaboration with SPSS

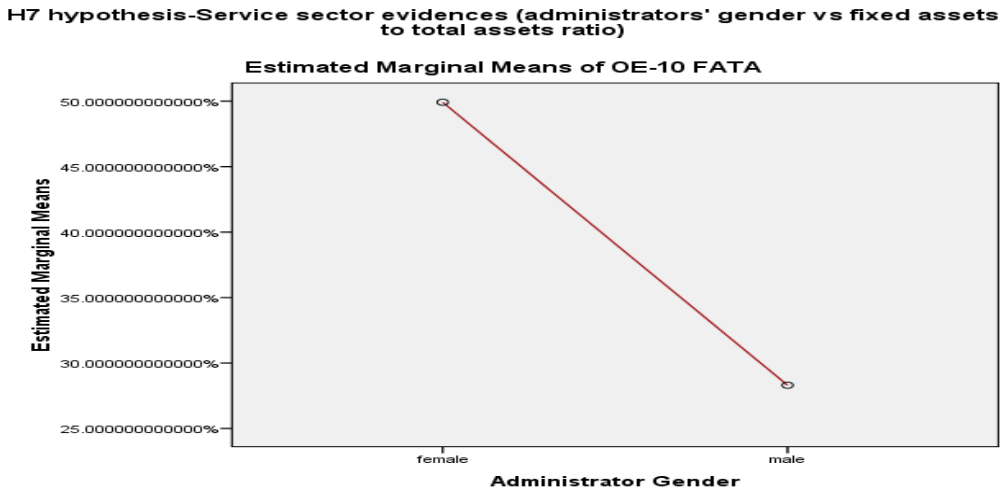


Figure 53. Estimated marginal means of fixed assets to total assets FATA ratio concerning administrators gender in service sector
Source: Primary data collection, Author elaboration with SPSS

The statistical results elaborated in the a/m sectoral affiliations highlighted that mutual impact of administrators gender and firm age on FATA ratio is inexistent. Nonetheless, indirectly deeper examinations revealed that female administrators maintain higher FATA ratios in comparison with male and mixed administration cases.

H8: Borrowers' status and business size have a mutual positive impact on interest coverage ratio (ICR) and total assets turnover ratio (TATR) regardless sectoral affiliation;

On a multivariate analysis context as can be clearly described in trade sector the mutual effect of borrowers' status and business size respectively on ICR and TATR is statistically insignificant (Table 100). From the other hand, the additional multivariate tests [28] performed demonstrate that no differences between groups' means exist concerning examined variables impact on two dependent variables in question (see Table 27 in Appendix B).

[28] According to Wilks' lamdda, Pillai's trace, Hotelling's trace, Roy's largest root tests estimated in Appendix B.

But in controversy Levenes' test results (Table 28 in Appendix B) argue on differences between errors variance groups between two borrowers' status in each case. Further the estimated marginal means results confirm that in each single case borrowers' performing status deals with higher ICR and TATR than the one of non-performing status (Figure 54).

Table 100. Tests of Between-Subjects Effects (Borrowers' status and Business size vs ICR and TATR) in trade sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	RA-3 ICR	2.627E7[a]	3	8755916.312	.161	.922
	OE-1 TATR	13.483[b]	3	4.494	.361	.781
Intercept	RA-3 ICR	683150.838	1	683150.838	.013	.912
	OE-1 TATR	.102	1	.102	.008	.928
Borrowers' Status * BoS	RA-3 ICR	68201.841	1	68201.841	.001	.972
	OE-1 TATR	.016	1	.016	.001	.972
BoS	RA-3 ICR	142732.936	1	142732.936	.003	.960
	OE-1 TATR	.003	1	.003	.000	.988
Borrowers' Status	RA-3 ICR	517073.045	1	517073.045	.009	.923
	OE-1 TATR	.213	1	.213	.017	.897
Error	RA-3 ICR	1.580E9	29	5.449E7		
	OE-1 TATR	360.713	29	12.438		
Total	RA-3 ICR	1.746E9	33			
	OE-1 TATR	459.777	33			
Corrected Total	RA-3 ICR	1.607E9	32			
	OE-1 TATR	374.196	32			

a. R Squared = .016 (Adjusted R Squared = -.085)

b. R Squared = .036 (Adjusted R Squared = -.064)

Source: Primary data collection, Author elaboration with SPSS

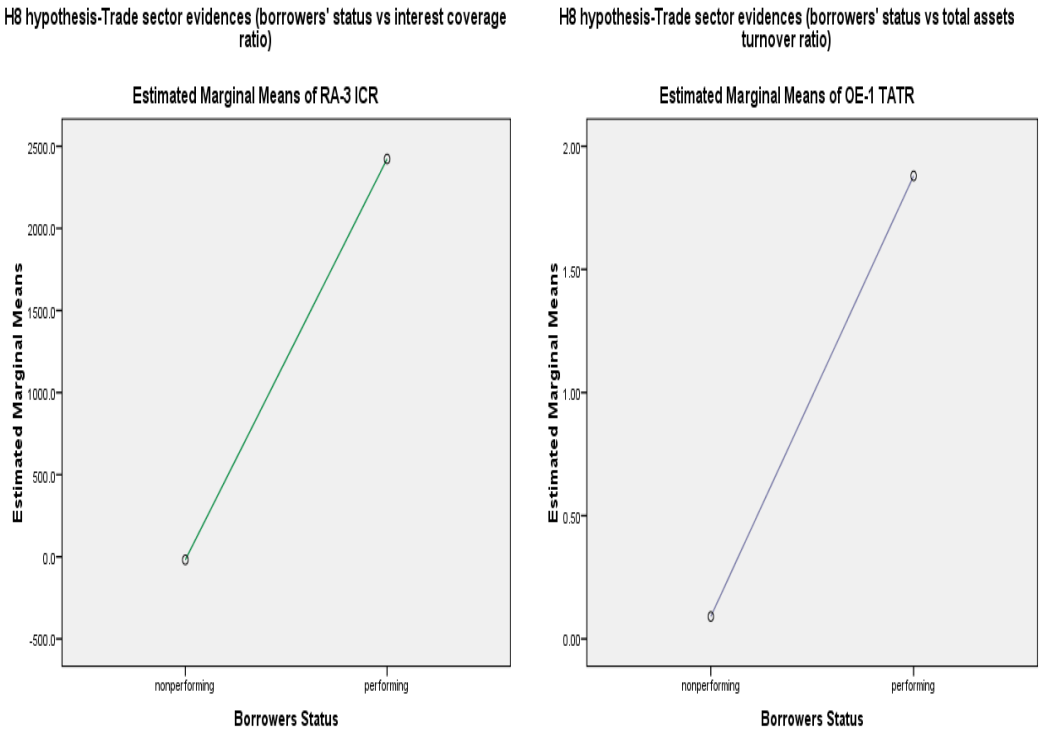


Figure 54. Estimated marginal means of ICR and TATR concerning Borrowers' status impact in trade sector
Source: Primary data collection, Author elaboration with SPSS

In production sector also the simultaneous impact of borrowers' status and business size on ICR and TATR is inexistent (refer to Table 101). The same statistical confirmation is given even through multivariate tests statistics (Table 29 in Appendix B). Exception does only Levenes' statistics (see Table 30 in Appendix B) which prove differences between dependent variables errors variance in two borrowers' status groups. This led to the estimation of marginal means which demonstrates that non-performing borrowers' status maintain higher levels of ICR and lower TATR while the vice versa occurs for performing borrowers' status (Figure 55).

Table 101. Tests of Between-Subjects Effects (Borrowers' status and Business size vs ICR and TATR) in production sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	RA-3 ICR	9996.263[a]	3	3332.088	.240	.868
	OE-1 TATR	1.785[b]	3	.595	.382	.767
Intercept	RA-3 ICR	7930.666	1	7930.666	.571	.456
	OE-1 TATR	.093	1	.093	.060	.809
Borrowers' Status * BoS	RA-3 ICR	9894.188	1	9894.188	.713	.405
	OE-1 TATR	.268	1	.268	.172	.682
Borrowers' Status	RA-3 ICR	9936.398	1	9936.398	.716	.404
	OE-1 TATR	.175	1	.175	.112	.740
BoS	RA-3 ICR	6357.259	1	6357.259	.458	.504
	OE-1 TATR	.015	1	.015	.010	.921
Error	RA-3 ICR	402450.383	29	13877.599		
	OE-1 TATR	45.197	29	1.559		
Total	RA-3 ICR	432605.807	33			
	OE-1 TATR	61.385	33			
Corrected Total	RA-3 ICR	412446.646	32			
	OE-1 TATR	46.983	32			

a. R Squared = .024 (Adjusted R Squared = -.077)

b. R Squared = .038 (Adjusted R Squared = -.062)

Source: Primary data collection, Author elaboration with SPSS

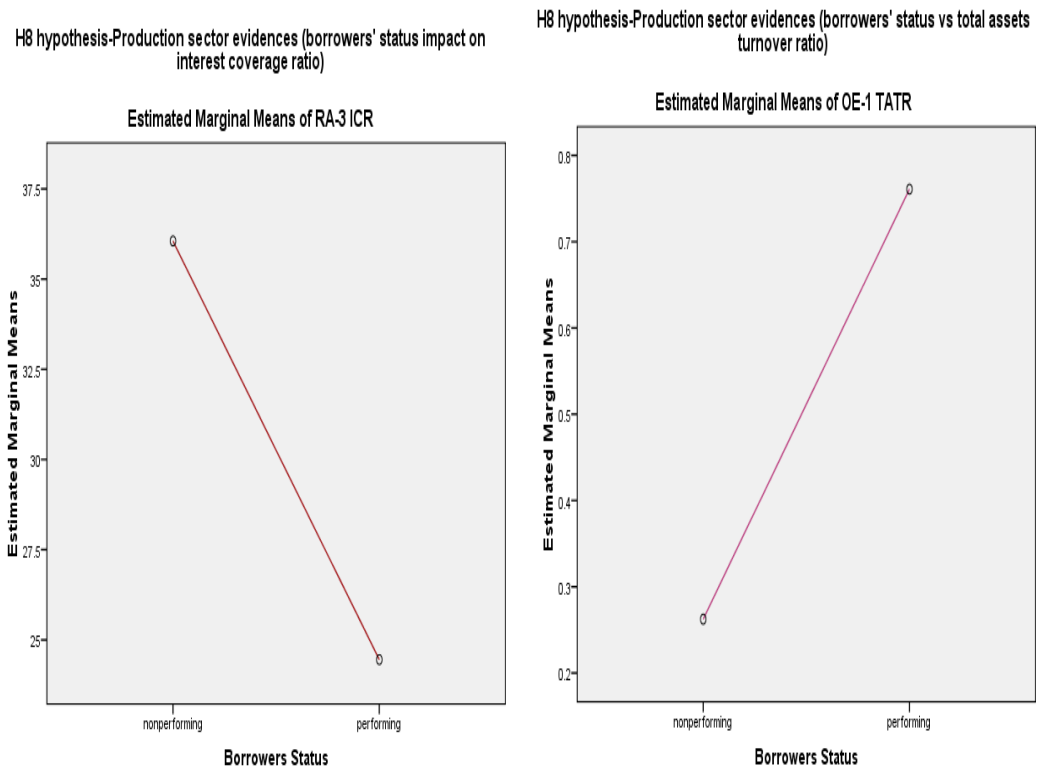


Figure 55. Estimated marginal means of ICR and TATR concerning Borrowers' status impact in production sector
Source: Primary data collection, Author elaboration with SPSS

The inexistence of borrowers' status and business size mutual impact on ICR and TATR is persistent even in construction sector (refer to Table 102 statistics). This is comparatively supported from the examined multivariate tests statistics (see Table 31 in Appendix B) because Levenes' test (ibid, Table 32) results confirm above the differences that exists between two borrowers' status groups and TATR.
Meanwhile estimated marginal means confirm that non-performing borrowers' status opt for lower ICR and TATR (Figure 56) in comparison with borrowers' performing status.

Table 102. Tests of Between-Subjects Effects (Borrowers' status and Business size vs ICR and TATR) in construction sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	RA-3 ICR	3.158E8[a]	3	1.053E8	.974	.419
	OE-1 TATR	29.397[b]	3	9.799	1.149	.346
Intercept	RA-3 ICR	8462323.921	1	8462323.921	.078	.782
	OE-1 TATR	7.549	1	7.549	.886	.354
Borrowers' Status * BoS	RA-3 ICR	2.732E7	1	2.732E7	.253	.619
	OE-1 TATR	8.002	1	8.002	.939	.341
Borrowers' Status	RA-3 ICR	8585406.627	1	8585406.627	.079	.780
	OE-1 TATR	7.250	1	7.250	.850	.364
BoS	RA-3 ICR	2.707E7	1	2.707E7	.250	.621
	OE-1 TATR	8.956	1	8.956	1.051	.314
Error	RA-3 ICR	3.136E9	29	1.081E8		
	OE-1 TATR	247.227	29	8.525		
Total	RA-3 ICR	3.539E9	33			
	OE-1 TATR	298.629	33			
Corrected Total	RA-3 ICR	3.452E9	32			
	OE-1 TATR	276.624	32			

a. R Squared = .091 (Adjusted R Squared = -.002)

b. R Squared = .106 (Adjusted R Squared = .014)

Source: Primary data collection, Author elaboration with SPSS

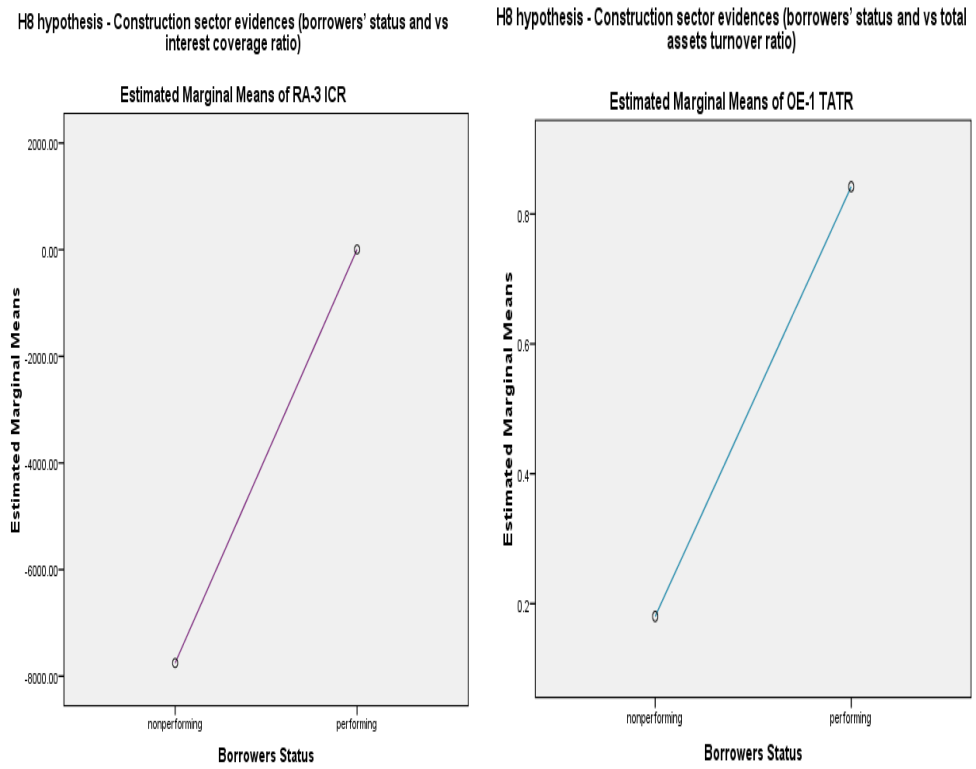


Figure 56. Estimated marginal means of ICR and TATR concerning Borrowers' status impact in construction sector
Source: Primary data collection, Author elaboration with SPSS

Even in service sector the statistical diagnosis performed (see Table 103) argue on the lack of any mutual impact of borrowers' status and business size on ICR and TATR. The multivariate tests also produced same results (Table 33/ Appendix B) concerning the relationships examined. While Levenes' test results defend the errors variance differences that exist between two dependent variables analyzed and two borrowers' status groups (Table 34/Appendix B).
And ultimately the estimated marginal means confirm that borrowers' performing status maintains higher ICR and TATR in confront with borrowers' non-performing status (in Figure 57).

Table 103. Tests of Between-Subjects Effects (Borrowers' status and Business size vs ICR and TATR) in service sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	OE-1 TATR	1.794[a]	3	.598	1.070	.378
	RA-3 ICR	667.666[b]	3	222.555	.164	.919
Intercept	OE-1 TATR	1.026	1	1.026	1.835	.186
	RA-3 ICR	4.189	1	4.189	.003	.956
Borrowers' Status * BoS	OE-1 TATR	1.152	1	1.152	2.061	.162
	RA-3 ICR	1.958	1	1.958	.001	.970
BoS	OE-1 TATR	1.755	1	1.755	3.138	.087
	RA-3 ICR	1.365	1	1.365	.001	.975
Borrowers' Status	OE-1 TATR	1.181	1	1.181	2.112	.157
	RA-3 ICR	3.162	1	3.162	.002	.962
Error	OE-1 TATR	15.655	28	.559		
	RA-3 ICR	37894.204	28	1353.364		
Total	OE-1 TATR	36.996	32			
	RA-3 ICR	44960.607	32			
Corrected Total	OE-1 TATR	17.449	31			
	RA-3 ICR	38561.870	31			

a. R Squared = .103 (Adjusted R Squared = .007)

b. R Squared = .017 (Adjusted R Squared = -.088)

Source: Primary data collection, Author elaboration with SPSS

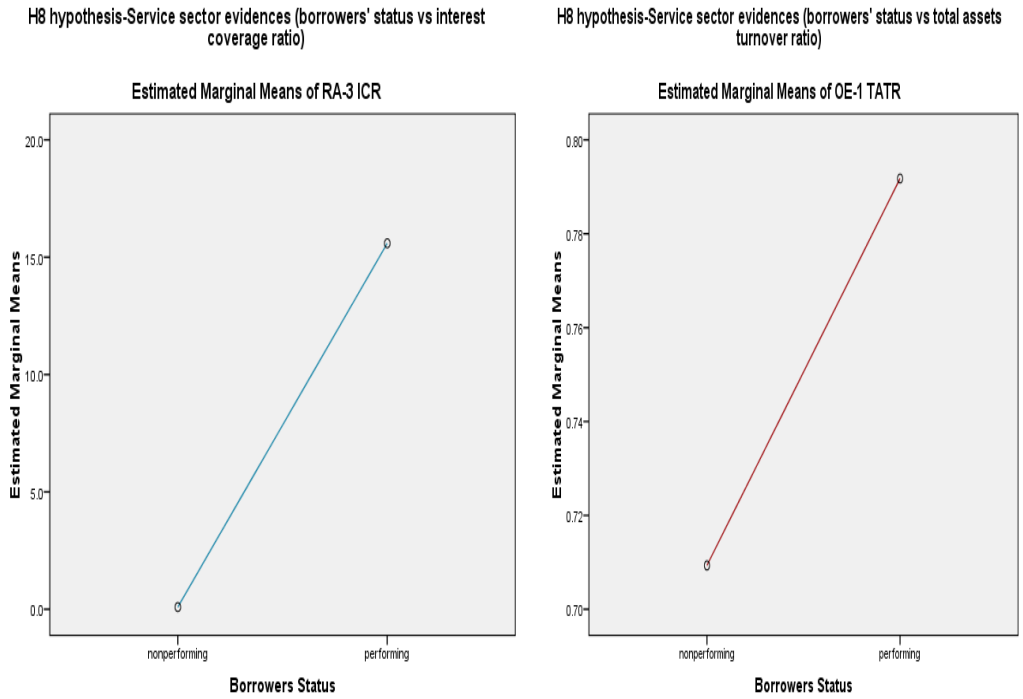


Figure 57. Estimated marginal means of ICR and TATR concerning Borrowers' status impact in service sector
Source: Primary data collection, Author elaboration with SPSS

The cumulative results prove that don't exist any mutual impact concerning borrowers' status and business size on ICR and TATR, by this way, the H8 hypothesis can be rejected. Notwithstanding there is noted a general tendency of the performing borrowers' status in preferring higher ICR and TATR in trade, construction and service sectors.

The only exception is the one of production sector where is partially performed concerning TATR and where the vice versa happens as per ICR in case of performing borrowers' in contradiction with non-performing ones.

H9: Short-term debts structure is predicted from radial basis function regardless sectoral affiliation;

The predictors of ICR and STD on behalf of radial basis function implemented within 2 hidden layers in trade sector (at 95% confidence level[29], see 104 & 105 Tables) are: ROA, ROE, Firm age, CV, GPM, NP, EQ, FA, RA, Borrowers' Status, Equity Origin, Business Administration, PATR and AT (refer to Table 106). Properly, the first layer has a lower impact on ICR and a higher one on STD, while the vice versa is evidenced according to second layer examinations (refer to Table 35/Appendix B).

Table 104. Network Information/RBF-in trade sector

Input Layer	Factors	1	OE-7 ROE
		2	GA-1 ROA
		3	Firm Age
		4	CV
		5	OE-3 GPM
		6	NP
		7	EQ
		8	FA
		9	RA
		10	Borrowers' Status
		11	Equity Origin
		12	Business Administration
		13	ILR-9 PATR
	Covariates	1	OE-6 AT
		2	Ownership Gender
		3	Administrator Gender
		4	GA-2 OCF

[29] The same confidence level as previously is used even in the following examinations of this chapter.

		5	INV
		6	ILR-2 WC
		7	ILR-4 CR
		8	ILR-7 ITR
		9	BoS
	Number of Units		289
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-3 ICR
		2	STD
	Number of Units		2
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 105. Model Summary/RBF-in trade sector

Training	Sum of Squares Error		26.993
	Average Overall Relative Error		.900
	Relative Error for Scale Dependents	RA-3 ICR	.931
		STD	.868
	Bayesian Information Criterion (BIC)		1996.868[a]
	Training Time		00:00:00.127

Training	Sum of Squares Error		26.993
	Average Overall Relative Error		.900
	Relative Error for Scale	RA-3 ICR	.931
	Dependents	STD	.868
	Bayesian Information Criterion (BIC)		1996.868[a]
	Training Time		00:00:00.127

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 106. Independent variable importance /RBF-in trade sector

	Importance	Normalized Importance
OE-7 ROE	.005	3.6%
GA-1 ROA	.005	3.6%
Firm Age	.021	13.6%
CV	.017	11.4%
OE-3 GPM	.008	5.0%
NP	.008	5.0%
EQ	.008	5.0%
FA	.017	11.4%
RA	.005	3.6%
Borrowers' Status	.020	12.9%

Equity Origin	.020	12.9%
Business Administration	.018	11.6%
ILR-9 PATR	.005	3.6%
OE-6 AT	.026	17.3%
Ownership Gender	.091	59.9%
Administrator Gender	.109	71.4%
GA-2 OCF	.087	57.2%
INV	.125	81.9%
ILR-2 WC	.128	83.7%
ILR-4 CR	.064	41.6%
ILR-7 ITR	.059	38.9%
BoS	.153	100.0%

Source: Primary data collection, Author elaboration with SPSS

The ICR and STD prediction (see Table 107) through radial basis function deployment in production sector revealed again 2 hidden layers which are correlated with: ROA, ROE, Firm age, CV, GPM, NP, EQ, FA, RA, Borrowers' Status, PATR, Ownership gender, WC, CR and Business size (refer to Table 108 and 109). As noted (Table 36 in Appendix B) the first layer is more correlated to ICR and less to STD while the vice versa occurs in correspondence of second layer.

Table 107. Network Information/RBF-in production sector

Input Layer	Factors	1	OE-7 ROE
		2	GA-1 ROA
		3	Firm Age
		4	CV
		5	OE-3 GPM
		6	NP
		7	EQ
		8	FA
		9	RA
		10	Borrowers' Status
		11	Business administration
		12	ILR-9 PATR
	Covariates	1	OE-6 AT
		2	Ownership Gender
		3	Administrator Gender
		4	GA-2 OCF
		5	INV
		6	ILR-2 WC
		7	ILR-7 ITR
		8	ILR-4 CR
		9	BoS
	Number of Units		98
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]

	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-3 ICR
		2	STD
	Number of Units		2
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 108. Model Summary/RBF-in production sector

Training	Sum of Squares Error		77.83
	Average Overall Relative Error		.973
	Relative Error for Scale Dependents	RA-3 ICR	.946
		STD	1.000
	Bayesian Information Criterion (BIC)		441.225[a]
	Training Time		00:00:00.009

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 109. Independent variable importance /RBF-in production sector

	Importance	Normalized Importance
OE-7 ROE	.023	13.4%
GA-1 ROA	.031	18.4%
Firm Age	.046	27.1%
CV	.023	13.4%
OE-3 GPM	.031	18.4%
NP	.023	13.4%
EQ	.023	13.4%
FA	.023	13.4%
RA	.023	13.4%
Borrowers' Status	.004	2.4%
Business administration	.055	32.5%
ILR-9 PATR	.031	18.3%
OE-6 AT	.050	29.3%
Ownership Gender	.029	17.0%
Administrator Gender	.127	74.7%
GA-2 OCF	.170	100.0%
INV	.074	43.8%
ILR-2 WC	.039	22.9%

ILR-7 ITR	.128	75.2%
ILR-4 CR	.034	20.0%
BoS	.016	9.2%

Source: Primary data collection, Author elaboration with SPSS

The implementation of radial basis function in construction sector with two hidden layers found as predictors of ICR and STD: ROA, ROE, Firm age, CV, GPM, NP, Equity Origin, EQ, FA, RA, Borrowers' Status, Business Administration, PATR, WC and ITR (refer to Tables 110-112). Also it must be added that the first layer is more related to ICR than to STD, in controversy the second layer is negatively correlated to both of them (refer to Table 37/Appendix B).

Table 110**. Network Information/RBF-in construction sector**

Input Layer	Factors	1	OE-7 ROE
		2	GA-1 ROA
		3	Firm Age
		4	CV
		5	OE-3 GPM
		6	NP

	7	Equity Origin
	8	FA
	9	RA
	10	Borrowers' Status
	11	EQ
	12	Business Administration
	13	ILR-9 PATR
Covariates	1	OE-6 AT
	2	Ownership Gender
	3	GA-2 OCF
	4	INV
	5	ILR-2 WC
	6	ILR-7 ITR
	7	ILR-4 CR
	8	BoS
Number of Units		69

	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-3 ICR
		2	STD
	Number of Units		2
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 111. Model Summary/RBF-in construction sector

Training	Sum of Squares Error	36.89
	Average Overall Relative Error	.738
	Relative Error for Scale Dependents RA-3 ICR	.715
	STD	.760
	Bayesian Information Criterion (BIC)	252.177[a]
	Training Time	00:00:00.005

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 112. Independent variable importance /RBF-in construction sector

	Importance	Normalized Importance
OE-7 ROE	.013	5.9%
GA-1 ROA	.029	13.4%
Firm Age	.016	7.6%
CV	.013	5.9%
OE-3 GPM	.010	4.8%
NP	.013	5.9%
Equity Origin	.009	4.3%

FA	.013	5.9%
RA	.013	5.9%
Borrowers' Status	.046	21.7%
EQ	.013	5.9%
Business Administration	.015	7.1%
ILR-9 PATR	.012	5.8%
OE-6 AT	.214	100.0%
Ownership Gender	.080	37.5%
GA-2 OCF	.149	69.4%
INV	.122	56.9%
ILR-2 WC	.018	8.4%
ILR-7 ITR	.018	8.2%
ILR-4 CR	.074	34.7%
BoS	.110	51.4%

Source: Primary data collection, Author elaboration with SPSS

The radial basis function pertaining to service sector also revealed two hidden layers concerning the prediction of ICR and STD (see Tables 113-115). Consequently the variables that can statistically predict the previously mentioned dependent variables volatility are: ROA, ROE, FA, Firm age, CV, GPM, NP, EQ, Equity origin and PATR (refer to Table 115). In conformity with the a/m results

the first layer is positively correlated with both depend variables while the second one is negative correlated with them (Table 38/Appendix B).

Table 113. Network Information/RBF-in service sector

Input Layer	Factors	1	OE-7 ROE
		2	GA-1 ROA
		3	FA
		4	Firm Age
		5	CV
		6	OE-3 GPM
		7	NP
		8	EQ
		9	Equity Origin
		10	Business Administration
		11	ILR-9 PATR
	Covariates	1	OE-6 AT
		2	Ownership Gender
		3	Administrator Gender
		4	GA-2 OCF
		5	INV
		6	ILR-2 WC
		7	ILR-7 ITR
		8	ILR-4 CR
		9	BoS
	Number of Units		265
	Rescaling Method for Covariates		Standardized

Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-3 ICR
		2	STD
	Number of Units		2
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 114. Model Summary/RBF-in service sector

Training	Sum of Squares Error		29.880
	Average Overall Relative Error		.964
	Relative Error for Scale Dependents	RA-3 ICR	.960
		STD	.968
	Bayesian Information Criterion (BIC)		1853.248[a]
	Training Time		00:00:00.120

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 115. Independent variable importance /RBF-in service sector

	Importance	Normalized Importance
OE-7 ROE	.032	32.0%
GA-1 ROA	.032	32.1%
FA	.006	6.4%
Firm Age	.020	20.3%
CV	.006	6.4%
OE-3 GPM	.006	6.4%
NP	.011	11.1%
EQ	.011	11.1%
Equity Origin	.043	43.0%
Business Administration	.058	58.8%
ILR-9 PATR	.006	6.4%
OE-6 AT	.074	74.2%
Ownership Gender	.070	70.7%
Administrator Gender	.081	81.6%
GA-2 OCF	.088	88.5%
INV	.088	88.3%
ILR-2 WC	.088	88.5%
ILR-7 ITR	.090	90.8%
ILR-4 CR	.089	89.4%
BoS	.099	100.0%

Source: Primary data collection, Author elaboration with SPSS

The statistics elaborated from each of radial basis functions implemented in the four sectoral affiliations mark a good model fit on predicting short-term debts structure estimated through ICR and STD, by contemporary affirming H9 hypothesis acceptance. The algorithmic estimations in each single case produced 2 hidden layers correlated with main predictive variables (financial and non-financial ones) such as: ROA, ROE, Firm age, CV, GPM, NP, EQ, FA, RA, Borrowers' Status, Business Administration and PATR. While statistically significant covariate variables concerning ICR and STD prediction are: WC and CR. In this merit worth mentioned that generally the first layers are more correlated to ICR while the second result to be less correlated to STD.

H10: Long-term debts structure is predicted from radial basis function regardless sectoral affiliation;

The forecasting of LT-LEV, LTDER and LTD through radial basis function in trade sector was made possible within the aid of two hidden layers to which are correlated to: ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Ownership gender, Equity origin, Borrowers' status, CV, Total LEV and Business size (refer to the below 116-118 Tables). The second layer is more correlated with each of three dependent variables in question then the first one (Table 39/Appendix B).

Table 116. Network Information/RBF-in trade sector

Input Layer	Factors	1	ILR-6 ACP
		2	ILR-9 PATR
		3	ILR-10 APP
		4	OE-5 NPM
		5	GA1-ROE
		6	GA-1 ROA
		7	OE-8 TAN
		8	EQ
		9	Ownership Gender

		10	Equity Origin
		11	Borrowers' Status
		12	CV
		13	RA-4 TOTAL LEV
	Covariates	1	OE-10 FATA
		2	Administrator Gender
		3	Owners No
		4	Firm Age
		5	Business Administration
		6	INV
		7	ILR-2 WC
		8	ILR-4 CR
		9	OE-2 FATR
		10	BoS
	Number of Units		310
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-5 LT-LEV
		2	RA-1 LTDER
		3	LTD
	Number of Units		3
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 117. Model Summary/RBF-in trade sector

Training	Sum of Squares Error		36.661
	Average Overall Relative Error		.815
	Relative Error for Scale Dependents	RA-5 LT-LEV	.842
		RA-1 LTDER	.873
		LTD	.729
	Bayesian Information Criterion (BIC)		2134.434[a]
	Training Time		00:00:00.171

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 118. Independent variable importance /RBF-in trade sector

	Importance	Normalized Importance
ILR-6 ACP	.010	7.1%
ILR-9 PATR	.006	4.6%
ILR-10 APP	.006	4.6%
OE-5 NPM	.015	11.1%
GA1-ROE	.009	6.6%
GA-1 ROA	.006	4.6%
OE-8 TAN	.019	14.3%
EQ	.009	6.6%
Ownership Gender	.005	3.5%
Equity Origin	.023	17.1%

Borrowers' Status	.023	17.0%
CV	.019	14.3%
RA-4 TOTAL LEV	.009	6.6%
OE-10 FATA	.124	91.6%
Administrator Gender	.072	53.3%
Owners No	.135	100.0%
Firm Age	.094	69.9%
Business Administration	.054	40.4%
INV	.064	47.2%
ILR-2 WC	.089	65.9%
ILR-4 CR	.062	46.3%
OE-2 FATR	.134	99.4%
BoS	.012	9.2%

Source: Primary data collection, Author elaboration with SPSS

The radial basis function analysis deployed in production sector reveals that the prediction of LT-LEV, LTDER and LTD is developed through two hidden layers and where ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Ownership gender, Borrowers' status, CV, Total LEV, Business size and Business administration have a statistical significant impact (see Tables 119-121). In this context, it must be admitted that the impact of the first layer is higher in each of dependent variables predicted in confront with the second one (see Table 40/Appendix B).

Table 119. Network Information/RBF-in production sector

Input Layer	Factors	1	ILR-6 ACP
		2	ILR-9 PATR
		3	ILR-10 APP
		4	OE-5 NPM
		5	OE-7 ROE

		6	GA-1 ROA
		7	OE-8 TAN
		8	EQ
		9	RA-4 Total LEV
		10	BoS
		11	Ownership Gender
		12	Borrowers' Status
		13	CV
	Covariates	1	OE-10 FATA
		2	Administrator Gender
		3	Owners No
		4	Firm Age
		5	INV
		6	ILR-2 WC
		7	ILR-4 CR
		8	OE-2 FATR
		9	Business administration
	Number of Units		249
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-5 LT-LEV
		2	RA-1 LTDER
		3	LTD
	Number of Units		3
	Rescaling Method for Scale Dependents		Standardized

	Activation Function	Identity
	Error Function	Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 120. Model Summary/RBF-in production sector

Training	Sum of Squares Error		32.183
	Average Overall Relative Error		.933
	Relative Error for Scale Dependents	RA-5 LT-LEV	.978
		RA-1 LTDER	.862
		LTD	.958
	Bayesian Information Criterion (BIC)		1600.025[a]
	Training Time		00:00:00.067

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 121. Independent variable importance /RBF-in production sector

	Importance	Normalized Importance
ILR-6 ACP	.008	5.9%
ILR-9 PATR	.019	15.0%
ILR-10 APP	.019	14.4%
OE-5 NPM	.009	6.9%
OE-7 ROE	.012	9.5%

GA-1 ROA	.009	6.9%
OE-8 TAN	.006	4.7%
EQ	.006	4.7%
RA-4 Total LEV	.006	4.7%
BoS	.006	4.7%
Ownership Gender	.015	11.5%
Borrowers' Status	.031	23.9%
CV	.006	4.7%
OE-10 FATA	.105	80.5%
Administrator Gender	.094	72.3%
Owners No	.097	74.8%
Firm Age	.041	31.6%
INV	.130	100.0%
ILR-2 WC	.111	85.6%
ILR-4 CR	.101	77.4%
OE-2 FATR	.126	96.9%
Business administration	.043	32.8%

Source: Primary data collection, Author elaboration with SPSS

The forecasting process of LT-LEV, LTDER and LTD in construction sector developed with the aid of radial basis function has again generated two hidden layers to which the predictors such as: ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Ownership gender, Borrowers' status, CV, Total LEV, Business size and Equity origin, Firm age, WC, CR, result to be correlated (refer to Tables 122-124). In this sector only the first layer results to be closely correlated to each of three predicted variables (Table 41/Appendix B).

Table 122. Network Information/RBF-in construction sector

Input Layer	Factors	1	ILR-6 ACP
		2	ILR-9 PATR
		3	ILR-10 APP
		4	OE-5 NPM
		5	OE-7 ROE
		6	GA-1 ROA
		7	OE-8 TAN
		8	EQ
		9	RA-4 LEV
		10	BoS
		11	Ownership Gender
		12	Equity Origin
		13	Borrowers' Status
		14	CV
	Covariates	1	OE-10 FATA
		2	Owners No
		3	Firm Age
		4	Business Administration
		5	INV
		6	ILR-2 WC
		7	ILR-4 CR
		8	OE-2 FATR
	Number of Units		119
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]

	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-5 TL-LEV
		2	RA-1 LTDER
		3	LTD
	Number of Units		3
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 123. Model Summary/RBF-in construction sector

Training	Sum of Squares Error		125.77
	Average Overall Relative Error		.838
	Relative Error for Scale Dependents	RA-5 TL-LEV	.908
		RA-1 LTDER	.847
		LTD	.760
	Bayesian Information Criterion (BIC)		580.922[a]
	Training Time		00:00:00.012

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 124. Independent variable importance /RBF-in construction sector

	Importance	Normalized Importance
ILR-6 ACP	.013	10.2%
ILR-9 PATR	.038	29.9%
ILR-10 APP	.031	24.6%
OE-5 NPM	.020	15.6%
OE-7 ROE	.013	10.1%
GA-1 ROA	.020	15.6%
OE-8 TAN	.013	10.2%
EQ	.013	10.2%
RA-4 LEV	.013	10.2%
BoS	.013	10.2%
Ownership Gender	.033	25.6%
Equity Origin	.038	29.9%
Borrowers' Status	.036	28.3%
CV	.013	10.2%
OE-10 FATA	.128	100.0%
Owners No	.117	91.1%
Firm Age	.041	31.7%
Business Administration	.086	66.8%

INV	.124	96.9%
ILR-2 WC	.048	37.5%
ILR-4 CR	.026	20.2%
OE-2 FATR	.122	95.4%

Source: Primary data collection, Author elaboration with SPSS

The predictive factors instead in service sector concerning LT-LEV, LTDER and LTD explored through radial basis function are: ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Total LEV, CV, Ownership gender, Equity origin, Borrowers' status and Business size (as per Tables 125-127). The two existing hidden layers here demonstrate contrary impact on dependent variables in question. For instance the first layer impacts more LT-LEV while the second one the rest of dependent variables (Table 42/Appendix B).

Table 125. Network Information/RBF-in service sector

Input Layer	Factors	1	ILR-6 ACP
		2	ILR-9 PATR
		3	ILR-10 APP
		4	OE-5 NPM
		5	OE-7 ROE
		6	GA-1 ROA
		7	OE-8 TAN
		8	EQ
		9	RA-4 LEV
		10	BoS
		11	Ownership Gender

		12	Equity Origin
		13	Borrowers' Status
		14	CV
	Covariates	1	OE-10 FATA
		2	Administrator Gender
		3	Business Administration
		4	Owners No
		5	Firm Age
		6	INV
		7	ILR-2 WC
		8	ILR-4 CR
		9	OE-2 FATR
	Number of Units		346
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-5 LT-LEV
		2	RA-1 LTDER
		3	LTD
	Number of Units		3
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 126. Model Summary/RBF-in service sector

Training	Sum of Squares Error		46.239
	Average Overall Relative Error		.994
	Relative Error for Scale Dependents	RA-5 LT-LEV	.997
		RA-1 LTDER	.999
		LTD	.987
	Bayesian Information Criterion (BIC)		2422.426[a]
	Training Time		00:00:00.150

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 127. Independent variable importance /RBF-in service sector

	Importance	Normalized Importance
ILR-6 ACP	.008	8.9%
ILR-9 PATR	.005	5.3%
ILR-10 APP	.005	5.3%
OE-5 NPM	.010	10.6%
OE-7 ROE	.019	19.8%
GA-1 ROA	.019	19.8%
OE-8 TAN	.005	5.3%
EQ	.008	8.9%
RA-4 LEV	.005	5.3%

BoS	.005	5.3%
Ownership Gender	.041	42.7%
Equity Origin	.032	33.8%
Borrowers' Status	.033	34.3%
CV	.005	5.3%
OE-10 FATA	.066	68.9%
Administrator Gender	.082	86.1%
Business Administration	.084	88.5%
Owners No	.094	98.9%
Firm Age	.093	97.8%
INV	.094	98.9%
ILR-2 WC	.094	99.0%
ILR-4 CR	.095	100.0%
OE-2 FATR	.095	99.8%

Source: Primary data collection, Author elaboration with SPSS

The sectoral forecasting analysis developed through radial basis function concerning long-term debt structure confirms the relevance of ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Total LEV, CV, Ownership gender, Equity origin, Borrowers' status, and Business size in exploring SMEs debt structure decision making process. By this way, the H10 hypothesis validity is confirmed. Furthermore it must be underlined that two hidden layers generated in each sector differently behave in respect of long-term debt structure indicators. However, it must be stated that the first layer impact is positive in each of dependent variables in question in production and construction sectors while quite the same behavior is replicated from the second layer in trade and service sectors.

H11: A radial basis function reconciles SMEs leverage structure regardless sectoral affiliation

The leverage structure prediction (ICR, STD, LT-LEV, LTDER and LTD) achieved through radial basis function in trade sector highlights the correlation of: ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Total LEV, CV, Ownership gender, Equity origin, Borrowers' status, Business size, GPM, NP, FA, RA, Business administration, Administrators gender, Firm age and OCF with two hidden layers (see Tables 128-130). Respectively they have a negative and positive impact on the dependent variables in question (Table 43/ Appendix B).

Table 128. Network Information/RBF-in trade sector

Input Layer	Factors	1	ILR-6 ACP
		2	ILR-9 PATR
		3	ILR-10 APP
		4	OE-5 NPM
		5	OE-7 ROE
		6	GA-1 ROA
		7	OE-8 TAN
		8	EQ
		9	RA-4 TOTAL LEV
		10	BoS
		11	Ownership Gender
		12	Equity Origin
		13	Borrowers' Status
		14	CV
		15	OE-3 GPM

		16	NP	
		17	FA	
		18	RA	
	Covariates	1	OE-10 FATA	
		2	Business Administration	
		3	Administrator Gender	
		4	Owners No	
		5	Firm Age	
		6	INV	
		7	ILR-2 WC	
		8	ILR-4 CR	
		9	OE-2 FATR	
		10	GA-2 OCF	
		11	OE-6 AT	
		12	ILR-7 ITR	
	Number of Units			457
	Rescaling Method for Covariates		Standardized	
Hidden Layer	Number of Units			2[a]
	Activation Function		Softmax	
Output Layer	Dependent Variables	1	RA-3 ICR	
		2	STD	
		3	RA-5 LT-LEV	
		4	RA-1 LTDER	
		5	LTD	
	Number of Units			5
	Rescaling Method for Scale Dependents		Standardized	

	Activation Function	Identity
	Error Function	Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 129. Model Summary/RBF-in trade sector

Training	Sum of Squares Error		61.670
	Average Overall Relative Error		.822
	Relative Error for Scale Dependents	RA-3 ICR	.999
		STD	.924
		RA-5 LT-LEV	.605
		RA-1 LTDER	.918
		LTD	.666
	Bayesian Information Criterion (BIC)		3144.458[a]
	Training Time		00:00:00.196

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 130. Independent variable importance /RBF-in trade sector

	Importance	Normalized Importance
ILR-6 ACP	.006	5.2%
ILR-9 PATR	.004	3.3%
ILR-10 APP	.004	3.3%

OE-5 NPM	.010	8.5%
OE-7 ROE	.006	4.8%
GA-1 ROA	.006	4.8%
OE-8 TAN	.008	7.1%
EQ	.006	4.8%
RA-4 TOTAL LEV	.006	4.8%
BoS	.006	4.8%
Ownership Gender	.008	6.9%
Equity Origin	.015	13.2%
Borrowers' Status	.015	13.2%
CV	.008	7.1%
OE-3 GPM	.006	4.8%
NP	.006	4.8%
FA	.008	7.1%
RA	.004	3.7%
OE-10 FATA	.066	55.9%
Business Administration	.006	5.4%
Administrator Gender	.044	37.5%
Owners No	.106	90.8%
Firm Age	.018	15.5%
INV	.075	63.8%
ILR-2 WC	.086	73.6%

ILR-4 CR	.109	93.0%
OE-2 FATR	.103	87.5%
GA-2 OCF	.032	27.3%
OE-6 AT	.107	91.0%
ILR-7 ITR	.117	100.0%

Source: Primary data collection, Author elaboration with SPSS

The forecasting of leverage structure (ICR, STD, LT-LEV, LTDER, LTD) through radial basis function in production sector generated two hidden layers which impact: ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Total LEV, CV, Ownership gender, Borrowers' status, Business size, GPM, NP, FA, RA, Administrator gender and Owner no (refer to Tables 131-133). With special regard to first layer worth evidencing that in comparison with second one it has a higher impact (and positive) on all dependent variables in question (Table 44 in Appendix B).

Table 131. Network Information/RBF-in production sector

Input Layer	Factors	1	ILR-6 ACP
		2	ILR-9 PATR
		3	ILR-10 APP
		4	OE-5 NPM
		5	OE-7 ROE
		6	GA-1 ROA
		7	OE-8 TAN
		8	EQ
		9	RA-4 Total LEV

		10	BoS
		11	Ownership Gender
		12	Borrowers' Status
		13	CV
		14	OE-3 GPM
		15	NP
		16	FA
		17	RA
	Covariates	1	Administrator Gender
		2	Business administration
		3	Owners No
		4	Firm Age
		5	INV
		6	ILR-2 WC
		7	ILR-4 CR
		8	OE-2 FATR
		9	OE-6 AT
		10	ILR-7 ITR
	Number of Units		304
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-3 ICR
		2	STD
		3	RA-5 LT-LEV
		4	RA-1 LTDER
		5	LTD

	Number of Units	5
	Rescaling Method for Scale Dependents	Standardized
	Activation Function	Identity
	Error Function	Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 132. Model Summary/RBF-in production sector

Training	Sum of Squares Error		47.019
	Average Overall Relative Error		.940
	Relative Error for Scale Dependents	RA-3 ICR	.937
		STD	.955
		RA-5 LT-LEV	.963
		RA-1 LTDER	.867
		LTD	.980
	Bayesian Information Criterion (BIC)		1876.026[a]
	Training Time		00:00:00.062

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 133. Independent variable importance /RBF-in production sector

	Importance	Normalized Importance
ILR-6 ACP	.012	10.3%
ILR-9 PATR	.030	26.8%

ILR-10 APP	.027	24.0%
OE-5 NPM	.015	13.1%
OE-7 ROE	.015	13.1%
GA-1 ROA	.018	15.7%
OE-8 TAN	.009	7.8%
EQ	.009	7.8%
RA-4 Total LEV	.009	7.8%
BoS	.009	7.8%
Ownership Gender	.029	25.7%
Borrowers' Status	.003	2.3%
CV	.009	7.8%
OE-3 GPM	.021	18.4%
NP	.015	13.1%
FA	.009	7.8%
RA	.009	7.8%
Administrator Gender	.023	20.2%
Business administration	.090	80.0%
Owners No	.021	19.0%
Firm Age	.092	81.1%
INV	.113	100.0%
ILR-2 WC	.063	55.8%
ILR-4 CR	.106	93.6%
OE-2 FATR	.090	79.6%
OE-6 AT	.055	48.8%
ILR-7 ITR	.101	89.3%

Source: Primary data collection, Author elaboration with SPSS

The prediction of ICR, STD, LT-LEV, LTDER and LTD in construction sector (see Tables 134 & 136) through radial basis function on behalf of two hidden layers

reveals that the statistical significant variables are: ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Total LEV, Business size, Equity origin, Borrowers' status, CV, GPM, NP, FA, RA,FATA, Business administration, Firm age, WC, CR and ITR. Concretely, the first layer has a positive impact on all dependent variables in question except of LT-LEV and the vice versa occurs for second layer (refer to Table 45/Appendix B).

Table 134. Network Information/RBF-in construction sector

Input Layer	Factors	1	ILR-6 ACP
		2	ILR-9 PATR
		3	ILR-10 APP
		4	OE-5 NPM
		5	OE-7 ROE
		6	GA-1 ROA
		7	OE-8 TAN
		8	EQ
		9	RA-4 LEV
		10	BoS
		11	Ownership Gender
		12	Equity Origin
		13	Borrowers' Status
		14	CV
		15	OE-3 GPM
		16	NP
		17	FA
		18	RA
	Covariates	1	OE-10 FATA
		2	Business Administration

		3	Owners No
		4	Firm Age
		5	INV
		6	ILR-2 WC
		7	ILR-4 CR
		8	OE-2 FATR
		9	OE-6 AT
		10	ILR-7 ITR
	Number of Units		162
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-3 ICR
		2	STD
		3	RA-5 TL-LEV
		4	RA-1 LTDER
		5	LTD
	Number of Units		5
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 135. Model Summary/RBF-in construction sector

Training	Sum of Squares Error		21.215
	Average Overall Relative Error		.849
	Relative Error for Scale Dependents	RA-3 ICR	.967
		STD	.659
		RA-5 TL-LEV	.924
		RA-1 LTDER	.850
		LTD	.844
	Bayesian Information Criterion (BIC)		791.422[a]
	Training Time		00:00:00.016

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 136. Independent variable importance /RBF-in construction sector

	Importance	Normalized Importance
ILR-6 ACP	.012	7.0%
ILR-9 PATR	.038	23.0%
ILR-10 APP	.037	22.0%
OE-5 NPM	.022	12.9%
OE-7 ROE	.016	9.9%
GA-1 ROA	.022	12.9%
OE-8 TAN	.012	7.0%
EQ	.012	7.0%
RA-4 LEV	.012	7.0%

BoS	.012	7.0%
Ownership Gender	.057	34.0%
Equity Origin	.001	.8%
Borrowers' Status	.032	19.0%
CV	.012	7.0%
OE-3 GPM	.016	9.8%
NP	.016	9.9%
FA	.012	7.0%
RA	.012	7.0%
OE-10 FATA	.044	26.7%
Business Administration	.006	3.5%
Owners No	.167	100.0%
Firm Age	.010	6.1%
INV	.069	41.2%
ILR-2 WC	.023	13.9%
ILR-4 CR	.018	10.7%
OE-2 FATR	.157	94.3%
OE-6 AT	.142	85.4%
ILR-7 ITR	.014	8.6%

Source: Primary data collection, Author elaboration with SPSS

The radial basis function deployed in service sector for the forecasting of leverage structure (ICR, STD, LT-LEV, LTDER, LTD), operated again with two hidden layers (Tables 137 & 138) which result to be correlated with : ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Total LEV, Business size, Equity origin, Ownership gender, Borrowers' status, CV, GPM, NP, FA, RA and Business administration (Table 139). The first layer has a stronger impact on dependent variables analyzed except of LTD, meanwhile the contrary is evidenced for the second one (refer to Table 46/Appendix B).

Table 137. Network Information/RBF-in service sector

Input Layer	Factors	1	ILR-6 ACP
		2	ILR-9 PATR
		3	ILR-10 APP
		4	OE-5 NPM
		5	OE-7 ROE
		6	GA-1 ROA
		7	OE-8 TAN
		8	EQ
		9	RA-4 LEV
		10	BoS
		11	Ownership Gender
		12	Equity Origin
		13	Borrowers' Status
		14	CV
		15	OE-3 GPM
		16	NP
		17	FA
		18	RA
	Covariates	1	OE-10 FATA
		2	Administrator Gender
		3	Business Administration
		4	Owners No
		5	Firm Age
		6	INV
		7	ILR-2 WC

		8	ILR-4 CR
		9	OE-2 FATR
		10	OE-6 AT
		11	ILR-7 ITR
	Number of Units		472
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	RA-3 ICR
		2	STD
		3	RA-5 LT-LEV
		4	RA-1 LTDER
		5	LTD
	Number of Units		5
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 138. Model Summary/RBF-in service sector

Training	Sum of Squares Error		76.326
	Average Overall Relative Error		.985
	Relative Error for Scale Dependents	RA-3 ICR	.987
		STD	.956
		RA-5 LT-LEV	.999
		RA-1 LTDER	.984

	LTD	.999
	Bayesian Information Criterion (BIC)	3305.721[a]
	Training Time	00:00:00.187

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 139. Independent variable importance /RBF-in service sector

	Importance	Normalized Importance
ILR-6 ACP	.006	7.2%
ILR-9 PATR	.004	4.3%
ILR-10 APP	.004	4.3%
OE-5 NPM	.006	7.2%
OE-7 ROE	.013	14.3%
GA-1 ROA	.013	14.4%
OE-8 TAN	.004	4.3%
EQ	.006	7.2%
RA-4 LEV	.004	4.3%
BoS	.004	4.3%
Ownership Gender	.031	34.9%
Equity Origin	.024	27.0%
Borrowers' Status	.024	27.3%
CV	.004	4.3%
OE-3 GPM	.004	4.3%
NP	.006	7.2%
FA	.004	4.3%
RA	.006	7.2%

OE-10 FATA	.062	70.0%
Administrator Gender	.067	76.6%
Business Administration	.043	48.9%
Owners No	.087	99.0%
Firm Age	.068	77.2%
INV	.086	97.9%
ILR-2 WC	.086	98.1%
ILR-4 CR	.087	98.8%
OE-2 FATR	.084	95.2%
OE-6 AT	.076	86.2%
ILR-7 ITR	.088	100.0%

Source: Primary data collection, Author elaboration with SPSS

The prediction of SMEs leverage structure reconciliation at 95% confidence level handled through the implementation of radial basis function (tested through BIC, and model processing time) in each sectoral analysis generated two hidden layers which result to be mainly correlated with: ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Total LEV, CV, Ownership gender, Equity origin, Borrowers' status, Business size, GPM, NP, FA, RA, Business administration, and Firm age. Foremost the model fits well in each case and by this way H11 hypothesis is valid. In addition, is also noted that first layer is mainly positively correlated with all dependent variables in question in production, construction and service sectors and the vice versa occurs for the second layer in trade sector.

7.5. CONCLUSIVE REMARKS

The statistical examinations performed on univariate, multivariate and radial basis functions concerning SMEs debt structure management on behalf of financial and non-financial predictors implemented confirm that:

-It can be affirmed that borrowers' non-performing status coincide with a higher LEV by highlighting the fact that if debts grow at faster rates than those of their conversion into assets it makes difficult for assets themselves to generate

consistent cash-flows. And all this not only creates problems with loans repayment plan but also doesn't contribute in efficient assets exploitation;
-In general terms equity origin isn't a business determinant factor concerning LTDER maintenance. Apart from the statistical evaluations which prove that national business can maintain higher LTDER, obviously mainly referring to long-debts insured through collaterals located within the country. And apparently the lack of the latter prevents other businesses (foreign and mixed-equity) from approaching the a/m debt structure;
-Even why business administration framework doesn't influence TLR is clearly noted that mainly businesses administrated from owners appeal for higher debts rates than the one managed from administrators. In fact, this coincide with their own as well as respective businesses exigencies to cover the risks undertaken with higher and possible faster returns by exploring all possible market opportunities. In controversy administrators are presented as more conservative while undertaking debts (independently from their structure) by realizing the responsibilities in case of default and why not with stronger capabilities they prefer to manage the business and achieve expected results with lower debt costs;
-Ownership gender is another non-determinant pattern related to TAN. Notwithstanding, the consideration of additional statistics brings to the attention the fact that female and mixed ownership operate with a higher security margin. Accordingly, they quote for higher fixed assets and this especially results to be a female–decision making pattern;
-Congruent results are achieved while examining business administration gender and respective effects on LT-LEV structure. Therefore, at first sign it was statistically proven that administration gender can't affect the latter. But comparatively sectorial analysis confirm that male administration is eager to grow-up through long-term leverage option by hedging the costs for a certain period of time and hereinafter by giving more priority to business run. In this regard mixed and female ownership prefer less long-term leverage structures by differently arguing under a given risk context;
-The multiple effects of equity origin and GPM on LTD structure are statistically insignificant. Despite this, in general terms it can be reconfirmed the persistence of national businesses preferences in LTD, followed from foreign and mixed-partnership ones. In a certain light this leads to the understanding of financing accessibility within the country which is more accomodative to national businesses considering the asymmetrical circumstances under which is operated in case of foreign and mixed-equity businesses;

-The simultaneous impact of administrators gender and business age on FATA ratio results to be inexistent. This remains in line with H4 hypothesis indirect results where female administration opts for higher fixed assets as male and mixed-administration maintains lower levels. Therefore, independently from business age the relevance of fixed assets is preserved only from women who believe in business continuity and then growth by permanently investing on them. Without forgetting that assets may be further used as collaterals to ensure short-long term financing opportunities;
-The contemporaneous impact of borrowers' status and business size on ICR and TATR isn't statistically significant. But further statistical evidences suggest that merely borrowers' performing status quotes for higher ICR as well as TATR. Properly the credit performance demonstrates that businesses can support interest coverage expenses and adequately operate by ensuring sales growth which can be further converted in fixed and other assets due to exigencies which in turn help in boosting entire business performance.

Short-term debt structure (ICR and STD) prediction in each sectoral affiliation fits well with the aid of radial basis function which operates respectively with two hidden layers. While in respect of statistically significant variables predicting ICR and STD it should be highlighted that:
ROA and PATR ratios are consistently related to first layer, the same behavior is reflected also from ROE which is more correlated with first layer and less with second one. From the other side, even firm age variable results to be more frequently correlated with first layer considering here that the correlation with the second one is stronger and the same situation persists as per collateral value, GPM, NP, EQ, FA, RA variables. Non-performing borrowers' status results are contradictory while performing status is more correlated to the first layer. Business administration instead is more correlated to the second layer and vice versa occurs with the first one. While WC and CR covariates have a higher impact on the first layer without forgetting that the first layers are more correlated to ICR while the seconds are less correlated to STD.

The validity of long-term debt structure (LT-LEV, LTDER, LTD) prediction through the implementation of radial basis function which acts on behalf of two hidden layers reveals as determinant factors: ACP, PATR, APP, NPM, ROA, ROE, TAN, EQ, Total LEV, CV, Ownership gender, Equity origin, Borrowers' status and Business size. Respectively:
ACP, TAN and Equity origin are more frequently correlated to the first layer but a stronger correlation exists with second one. ROE, CV and business size

variables instead are more frequently correlated to the second layer but stronger with first one. Meanwhile ROA, APP, LEV and Borrowers' status are equally correlated with both layers.
In addition in the case of NPM, PATR and EQ prevails the correlation with the first layer and the vice versa happens for ownership gender in respect of second layer. As previously mentioned should be further considered the positive impact of first layer in each of dependent variables in question in production and construction sectors while quite the same situation is evidenced in trade and service sectors concerning second layer.

The radial basis function reconciles SMEs leverage structure through two hidden layers by reflecting the predictors behavior as following:
ACP less than 50 days is more frequently correlated to the first layer and stronger correlated with second one. Meanwhile when is higher than 50 days it is more frequently correlated to the second layer but stronger with the first one one and the same is observed for APP, NPM, ROA, EQ, CV, GPM, NP, FA, RA, and business size predictors. A mixed correlation with both layers is reflected from PATR which is partially more correlated to the first layer and strongly correlated with the second one and from the other side more frequently and strongly correlated only with the first layer. ROE instead in certain circumstances is more correlated to the first layer and stronger with the second one as well as more and strongly correlated only to the second layer in other circumstances and properly the last behavior coincides with the one of TAN and LEV predictors.
Meanwhile closely referring to qualitative predictors, worth highlighted that: female ownership results to be more correlated to the first layer, the vice versa occurs for male ownership while mixed ownership is equally correlated to both layers. In addition, national businesses are frequently and strongly correlated to the second layer, foreign businesses instead are correlated only to the first layer meanwhile mixed–equity businesses are more correlated to the latest. In contradiction, non-performing borrowers' status reveals to be more correlated with the second layer and the performing status is partially correlated with both layers. Beyond this, business administration predictor has a higher impact on the second layer and the same can be confirmed for firm age variable. As far as can be understand the results of short-term debt structure prediction through radial basis function comply with the one of total leverage structure. And the same can be affirmed for long-term debt structure prediction, despite the existence of one exception concerning business size and CV predictors which as previously demonstrated have a more frequent correlation with the second layer but stronger

with the first one. Under these circumstances it can be clearly stated that radial basis function is capable to reconcile SMEs short-long term debt structure prediction regardless sectoral affiliation.

Hereto, the a/m results lead to a better understanding of SMEs interactive liquidity and leverage risk management processes by providing the potential to exploit business performance dimension prediction almost when particular elements of contingency-systems-stewardship theories prevail.

VIII. SMEs BEHAVIORAL RISK-ADJUSTED PERFORMANCE MODEL

VIII- SMEs BEHAVIORAL RISK-ADJUSTED PERFORMANCE MODEL

It's widely accepted that in respect of small businesses role in a healthy developing economy, smart working capital management practices enhance the chances for value creation. By pursuing this phylosophy and taking into consideration the balance between liquidity and profitability/performance the business should run its daily operations under a certain efficiency rate. Accordingly, an asset-liability mismatch may occur which increases firm performance in short runs by contemporaneously exposing it at insolvency risk while admitting that the major part of liquidity management practices are supported from external funding such as lending.
And this obviously brings into the attention the undisputed capital structure effect on firms financial performance. Throughout orients the managers in the designation of optimal debts structure strategies aiming the maximization of firms performance by taking care even of working capital necessities because in some cases the high gearing may be positively related to asset and negatively to profit margins.

Thus, in order to survive and further progress, SMEs are encouraged to implement an entrepreneurial mindset focused in threats recognition while attempting to capture environmental opportunities by assuming smart behaviors.
Due to the a/m context, businesses key differences (e.s: age and sectoral-affiliation) and other organizational patterns (such as: ownership gender, business administration framework, borrowers' status, equity origin, etc) concerning entrepreneurial strategic orientation are explored in order to predict behavioral risk-adjusted performance models.

8.1. BEHAVIORAL PERFORMANCE MEASURES ANALYSIS

Due to globalization turbulences and not only, SMEs continuously face pressure into their growth path and properly this causes difficulty in maintaining and improving performance targets set. The most frequent turbulences are the environmental ones and due to them managers are invited to understand and effectively manage the circumstances in compliance with the adequate

environmental orientation. The latest is developed in accordance with decision-making styles, practices, processes and behaviors that constitute 'the business entry as well as maturity' into new or existing markets. Correspondently the additional environmental business dimensions explored pertain to: innovativeness[30], proactiveness[31] and risk-taking capacity[32] which vary according to business age, sectoral-affiliation etc by providing different effects on businesses performance almost considering their organizational patterns.

For this purpose, in following sections are analyzed qualitative and quantitative behavioral elements under the sectoral– affiliation logic, trying to capture and better understand businesses orientation on behalf of risk-adjusted performance measures.
Assuming that even innovativeness, proactiveness and risk-taking capacity increases in respect of business experience/age [start-up (0-5 years), growth (5-15 years), and matured businesses >15 years], the latter is used as a control measure as per such businesses organizational patterns identification (such as: administrators gender, business administration framework, equity origin, ownership gender and borrowers' status) with a clear focus: performance prediction.

Correspondently:
Trade sector statistics (see Table 140) confirm that female administrators are more present in grown businesses than in maturity ones meanwhile male administrators are equally present in these businesses. The only mixed-administration case is present in start-up businesses but worth also added that grown size businesses represent the highest share in the examined sample. The association between the a/m variables is moderate (0.710 referring to Table 141 data) even prevail male gender as administrator.

[30] Innovativeness consists in pursuing and giving support to novelty, creative processes and ideas through experimentation (274).

[31] Proactiveness means ''seeking new opportunities which may be or not related to the present line of operations, introduction of new products and strategically eliminating operations which are in the mature or declining stages of processes life cycle'' (275).

[32] Risk-taking is often used to describe the uncertainty that follows from business behavior and the focus is on moderated and calculated risk-taking instead of extreme and uncontrolled risk-taking projects (276). And precisely the value of the risk-taking dimension is that which orients the firm towards the absorption of uncertainty.

Table 140. Administrators gender and firm age statistics in trade sector

Administrator Gender * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Administrator Gender	female	Count	0	4	2	6
		Expected Count	.2	3.1	2.7	6.0
		% within Administrator Gender	.0%	66.7%	33.3%	100.0%
		% within Firm age	.0%	23.5%	13.3%	18.2%
		% of Total	.0%	12.1%	6.1%	18.2%
	male	Count	0	13	13	26
		Expected Count	.8	13.4	11.8	26.0
		% within Administrator Gender	.0%	50.0%	50.0%	100.0%
		% within Firm age	.0%	76.5%	86.7%	78.8%
		% of Total	.0%	39.4%	39.4%	78.8%
	Male & female	Count	1	0	0	1
		Expected Count	.0	.5	.5	1.0
		% within Administrator Gender	100.0%	.0%	.0%	100.0%
		% within Firm age	100.0%	.0%	.0%	3.0%
		% of Total	3.0%	.0%	.0%	3.0%
Total		Count	1	17	15	33
		Expected Count	1.0	17.0	15.0	33.0

	% within Administrator Gender	3.0%	51.5%	45.5%	100.0%
	% within Firm age	100.0%	100.0%	100.0%	100.0%
	% of Total	3.0%	51.5%	45.5%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 141. Trade sector contingency coefficient data between administrators gender and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.710			.000
Ordinal by Ordinal	Gamma	-.055	.423	-.127	.899
	Spearman Correlation	-.030	.207	-.167	.868[c]
Interval by Interval	Pearson's R	-.111	.231	-.621	.539[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Female administration is equally present in grown sized and maturity businesses in production sector (see Table 142). Male administrators instead are present respectively in: grown, maturity and start-up businesses. As well as they represent the highest administration share in comparison with females, especially in grown sized businesses. However, their is very weak (0.069 refer to Table 143).

Table 142. Administrators gender and firm age statistics in production sector

Administrator Gender * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Administrator Gender	female	Count	0	1	1	2
		Expected Count	.1	1.0	.8	2.0
		% within Administrator Gender	.0%	50.0%	50.0%	100.0%
		% within Firm age	.0%	5.9%	7.1%	6.1%
		% of Total	.0%	3.0%	3.0%	6.1%
	male	Count	2	16	13	31
		Expected Count	1.9	16.0	13.2	31.0
		% within Administrator Gender	6.5%	51.6%	41.9%	100.0%
		% within Firm age	100.0%	94.1%	92.9%	93.9%
		% of Total	6.1%	48.5%	39.4%	93.9%
Total		Count	2	17	14	33
		Expected Count	2.0	17.0	14.0	33.0
		% within Administrator Gender	6.1%	51.5%	42.4%	100.0%
		% within Firm age	100.0%	100.0%	100.0%	100.0%
		% of Total	6.1%	51.5%	42.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 143. Production sector contingency coefficient data between administrators gender and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.069			.924
Interval by Interval	Pearson's R	-.058	.149	-.325	.747[c]
Ordinal by Ordinal	Spearman Correlation	-.053	.161	-.293	.771[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Construction sector examinations evidence that male administration is typical, but male administrators are more frequent in maturity than in grown and start-up businesses (see Table 144 data). Whereas the association between these variables in the a/m sector is weak (0.228, according to Table 145).

Table 144. Administrators gender and firm age statistics in construction sector

Administrator Gender * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Administrator Gender	male	Count	2	11	19	32
		Expected Count	1.9	11.6	18.4	32.0
		% within Administrator Gender	6.2%	34.4%	59.4%	100.0%

		% within Firm age	100.0%	91.7%	100.0%	97.0%
		% of Total	6.1%	33.3%	57.6%	97.0%
	Male & female	Count	0	1	0	1
		Expected Count	.1	.4	.6	1.0
		% within Administrator Gender	.0%	100.0%	.0%	100.0%
		% within Firm age	.0%	8.3%	.0%	3.0%
		% of Total	.0%	3.0%	.0%	3.0%
Total		Count	2	12	19	33
		Expected Count	2.0	12.0	19.0	33.0
		% within Administrator Gender	6.1%	36.4%	57.6%	100.0%
		% within Firm age	100.0%	100.0%	100.0%	100.0%
		% of Total	6.1%	36.4%	57.6%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 145. Construction sector contingency coefficient data between administrators gender and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.228			.406
Interval by Interval	Pearson's R	-.150	.084	-.842	.406[c]
Ordinal by Ordinal	Spearman Correlation	-.181	.096	-1.024	.314[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

In service sector it can also be noted that more male than females administrate the examined businesses (Table 146). But more female administrators are present in grown businesses than in maturity ones. While the contrary is valid in male administrator cases and the association between these variables is weak 0.247 (as per Table 147 data).

Thus, in general it can be affirmed that prevail male administration in maturity businesses followed from them in growth phase. Even why CC in each sectoral examination confirms that the association between administrators gender and firm age is weak.

Table 146. Administrators gender and firm age statistics in service sector

Administrator Gender * Firm age Cross tabulation

			Firm age		
			growth	maturity	Total
Administrator Gender	female	Count	4	2	6
		Expected Count	2.4	3.6	6.0
		% within Administrator Gender	66.7%	33.3%	100.0%
		% within Firm age	30.8%	10.5%	18.8%
		% of Total	12.5%	6.2%	18.8%
	male	Count	9	17	26
		Expected Count	10.6	15.4	26.0
		% within Administrator Gender	34.6%	65.4%	100.0%
		% within Firm age	69.2%	89.5%	81.2%
		% of Total	28.1%	53.1%	81.2%
Total		Count	13	19	32
		Expected Count	13.0	19.0	32.0
		% within Administrator Gender	40.6%	59.4%	100.0%
		% within Firm age	100.0%	100.0%	100.0%
		% of Total	40.6%	59.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 147. Service sector contingency coefficient data between administrators gender and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.247			.150
Interval by Interval	Pearson's R	.255	.174	1.443	.159[c]
Ordinal by Ordinal	Spearman Correlation	.255	.174	1.443	.159[c]
N of Valid Cases		32			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Business administration statistics (see Table 148 below) in trade sector demonstrate that the major part of businesses delegate the administration to skilled professionals (27 administrators/ 6 owners). Concretely administrators manage principally grown and then maturity businesses (55.6% and 40.7%). And the contrary occurs when businesses are managed from owners themselves (33.3% vs 66.7%). In any case the association between two variables is weak (0.203) referring to Table 149 statistics.

Table 148. Business administration and firm age statistics in trade sector

Business administration (No admin/Yes admin) * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Business administration (No admin/Yes admin)	administrator	Count	1	15	11	27
		Expected Count	.8	13.9	12.3	27.0

		% within Business administration (No admin/Yes admin)	3.7%	55.6%	40.7%	100.0%
		% within Firm age	100.0%	88.2%	73.3%	81.8%
		% of Total	3.0%	45.5%	33.3%	81.8%
	owner	Count	0	2	4	6
		Expected Count	.2	3.1	2.7	6.0
		% within Business administration (No admin/Yes admin)	.0%	33.3%	66.7%	100.0%
		% within Firm age	.0%	11.8%	26.7%	18.2%
		% of Total	.0%	6.1%	12.1%	18.2%
Total		Count	1	17	15	33
		Expected Count	1.0	17.0	15.0	33.0
		% within Business administration (No admin/Yes admin)	3.0%	51.5%	45.5%	100.0%
		% within Firm age	100.0%	100.0%	100.0%	100.0%
		% of Total	3.0%	51.5%	45.5%	100.0%

Source: Primary data collection, Author elaboration with SPSSS

Table 149. Trade contingency coefficient data between business administration framework and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.203			.492
Ordinal by Ordinal	Gamma	.500	.348	1.216	.224
	Spearman Correlation	.207	.162	1.177	.248[c]
Interval by Interval	Pearson's R	.207	.154	1.178	.248[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Production sector examinations also confirm that in major part of them business management processes are delegated to administrators respectively in grown, maturity and start-up cases (Table 150). And the contrary is noted when owners themselves manage the businesses, mainly in maturity and growth phases (55.6% vs 44.4% see below Table). In overall the association between these variables is weak (0.2) referring to Table 151 data.

Table 150. Business administration and firm age statistics in production sector

Business administration * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Business administration	administrator	Count	2	13	9	24
		Expected Count	1.5	12.4	10.2	24.0
		% within Business administration	8.3%	54.2%	37.5%	100.0%
		% within Firm age	100.0%	76.5%	64.3%	72.7%

		% of Total	6.1%	39.4%	27.3%	72.7%
	owner	Count	0	4	5	9
		Expected Count	.5	4.6	3.8	9.0
		% within Business administration	.0%	44.4%	55.6%	100.0%
		% within Firm age	.0%	23.5%	35.7%	27.3%
		% of Total	.0%	12.1%	15.2%	27.3%
Total		Count	2	17	14	33
		Expected Count	2.0	17.0	14.0	33.0
		% within Business administration	6.1%	51.5%	42.4%	100.0%
		% within Firm age	100.0%	100.0%	100.0%	100.0%
		% of Total	6.1%	51.5%	42.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 151. Production contingency coefficient data between business administration framework and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.200			.503
Interval by Interval	Pearson's R	.198	.150	1.124	.270[c]
Ordinal by Ordinal	Spearman Correlation	.189	.162	1.073	.292[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

The statistics in following pertaining to construction sector (Table 152) demonstrate that even here the major part of businesses is managed from administrators. They are more frequently present in maturity, then in grown and start-up businesses with respectively 51.9%, 40.7%v and 7.4%. Also businesses managed from owners demonstrate that owners management is concentrated in maturity businesses (83.3%) and then in growth ones (16.7%). Despite this, CC confirms a weak (0.243) association between these variables (refer to Table 153).

Table 152. Business administration and firm age statistics in construction sector

Business administration * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Business administration	administrator	Count	2	11	14	27
		Expected Count	1.6	9.8	15.5	27.0
		% within Business administration	7.4%	40.7%	51.9%	100.0%
		% within Firm age	100.0%	91.7%	73.7%	81.8%
		% of Total	6.1%	33.3%	42.4%	81.8%
	owner	Count	0	1	5	6
		Expected Count	.4	2.2	3.5	6.0
		% within Business administration	.0%	16.7%	83.3%	100.0%
		% within Firm age	.0%	8.3%	26.3%	18.2%

	% of Total	.0%	3.0%	15.2%	18.2%
Total	Count	2	12	19	33
	Expected Count	2.0	12.0	19.0	33.0
	% within Business administration	6.1%	36.4%	57.6%	100.0%
	% within Firm age	100.0%	100.0%	100.0%	100.0%
	% of Total	6.1%	36.4%	57.6%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 153. Construction contingency coefficient data between business administration framework and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.243			.355
Interval by Interval	Pearson's R	.246	.121	1.415	.167[c]
Ordinal by Ordinal	Spearman Correlation	.251	.135	1.441	.160[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Again in service sector (Table 154) is statistically confirmed that businesses administrated from skilled professionals mainly pertain to maturity phase (63.6% vs 36.4 in grown phase). While the ones managed from owners are equally

concentrated in growth and maturity businesses. The CC even here is weak (0.128 in Table 155).
Anyway it can be confirmed that merely administrators and owners are focused on grown and matured businesses regardless sectoral-affiliation.

Table 154. Business administration and firm age statistics in service sector

Business administration * Firm age Cross tabulation

			Firm age		
			growth	maturity	Total
Business administration	administrator	Count	8	14	22
		Expected Count	8.9	13.1	22.0
		% within Business administration	36.4%	63.6%	100.0%
		% within Firm age	61.5%	73.7%	68.8%
		% of Total	25.0%	43.8%	68.8%
	owner	Count	5	5	10
		Expected Count	4.1	5.9	10.0
		% within Business administration	50.0%	50.0%	100.0%
		% within Firm age	38.5%	26.3%	31.2%
		% of Total	15.6%	15.6%	31.2%
Total		Count	13	19	32
		Expected Count	13.0	19.0	32.0
		% within Business administration	40.6%	59.4%	100.0%
		% within Firm age	100.0%	100.0%	100.0%
		% of Total	40.6%	59.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 155. Service contingency coefficient data between business administration framework and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.128			.467
Interval by Interval	Pearson's R	-.129	.178	-.711	.483[c]
Ordinal by Ordinal	Spearman Correlation	-.129	.178	-.711	.483[c]
N of Valid Cases		32			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

According to equity origin instead in trade sector (Table 156) is evidenced that national equity businesses are mainly grown, followed from the one in maturity phase and then from start-up ones (respectively with 55.2%, 41.4% and 3.4%). Foreign businesses are equally concentrated in maturity and growth phases. Meanwhile mixed-equity ones pertain only to maturity businesses. But referring to CC (see Table 157) the association of two variables is weak (0. 274).

Table 156. Equity origin and firm age statistics in trade sector

Equity Origin * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Equity Origin	national	Count	1	16	12	29
		Expected Count	.9	14.9	13.2	29.0
		% within Equity Origin	3.4%	55.2%	41.4%	100.0%

		% within Firm age	100.0%	94.1%	80.0%	87.9%
		% of Total	3.0%	48.5%	36.4%	87.9%
	foreign	Count	0	1	1	2
		Expected Count	.1	1.0	.9	2.0
		% within Equity Origin	.0%	50.0%	50.0%	100.0%
		% within Firm age	.0%	5.9%	6.7%	6.1%
		% of Total	.0%	3.0%	3.0%	6.1%
	mixed-equity	Count	0	0	2	2
		Expected Count	.1	1.0	.9	2.0
		% within Equity Origin	.0%	.0%	100.0%	100.0%
		% within Firm age	.0%	.0%	13.3%	6.1%
		% of Total	.0%	.0%	6.1%	6.1%
Total		Count	1	17	15	33
		Expected Count	1.0	17.0	15.0	33.0
		% within Equity Origin	3.0%	51.5%	45.5%	100.0%
		% within Firmage	100.0%	100.0%	100.0%	100.0%
		% of Total	3.0%	51.5%	45.5%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 157. Trade contingency coefficient data between equity origin and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.274			.615
Ordinal by Ordinal	Gamma	.636	.346	1.344	.179

	Spearman Correlation	.233	.151	1.331	.193[c]
Interval by Interval	Pearson's R	.259	.118	1.495	.145[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Production sector sample is composed only from national businesses (refer to Table 158) which in turns are concentrated in growth, maturity and start-up businesses (with respectively 51.5%, 42.4% and 6.1%). Under these circumstances the CC can't be estimated.

Table 158. Equity origin and firm age statistics in production sector

Equity Origin * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Equity Origin	national	Count	2	17	14	33
		Expected Count	2.0	17.0	14.0	33.0
		% within Equity Origin	6.1%	51.5%	42.4%	100.0%
		% within Firm age	100.0%	100.0%	100.0%	100.0%
		% of Total	6.1%	51.5%	42.4%	100.0%
Total		Count	2	17	14	33
		Expected Count	2.0	17.0	14.0	33.0
		% within Equity Origin	6.1%	51.5%	42.4%	100.0%
		% within Firm age	100.0%	100.0%	100.0%	100.0%
		% of Total	6.1%	51.5%	42.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

In construction sector (Table 159), national businesses are equally concentrated in grown and maturity businesses, and less present in start-up ones (respectively with 46.2%, 46.2% and 7.7%). Foreign businesses are mainly represented in maturity businesses, and then in growth and start-up phases (with respectively 57.1%, 35.7% and 7.1%). The same logic is pursued also from mixed-equity businesses (with respectively 83.3%, 16.7% and 0%). But again the correlation between two variables is weak (0.261 see Table 160).

Table 159. Equity origin and firm age statistics in construction sector

Equity Origin * Firm age Cross tabulation

			Firm age			
			start-up	Growth	maturity	Total
Equity Origin	national	Count	1	6	6	13
		Expected Count	.8	4.7	7.5	13.0
		% within Equity Origin	7.7%	46.2%	46.2%	100.0%
		% within Firm age	50.0%	50.0%	31.6%	39.4%
		% of Total	3.0%	18.2%	18.2%	39.4%
	foreign	Count	1	5	8	14
		Expected Count	.8	5.1	8.1	14.0
		% within Equity Origin	7.1%	35.7%	57.1%	100.0%
		% within Firm age	50.0%	41.7%	42.1%	42.4%
		% of Total	3.0%	15.2%	24.2%	42.4%
	mixed equity	Count	0	1	5	6
		Expected Count	.4	2.2	3.5	6.0
		% within Equity Origin	.0%	16.7%	83.3%	100.0%

	% within Firm age	.0%	8.3%	26.3%	18.2%
	% of Total	.0%	3.0%	15.2%	18.2%
Total	Count	2	12	19	33
	Expected Count	2.0	12.0	19.0	33.0
	% within Equity Origin	6.1%	36.4%	57.6%	100.0%
	% within Firm age	100.0%	100.0%	100.0%	100.0%
	% of Total	6.1%	36.4%	57.6%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 160. Construction sector contingency coefficient data between equity origin and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.261			.659
Interval by Interval	Pearson's R	.246	.147	1.415	.167[c]
Ordinal by Ordinal	Spearman Correlation	.246	.158	1.416	.167[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Service sector data confirm that national businesses pertain (respectively with 58.6% and 41.1%) to maturity and growth businesses (refer to Table 161). The same is valid also for mixed-equity ones (with respectively 66.7% and 33.3%). But the CC result (Table 162) confirms that the relationship between these variables is very weak (0.048). Closely referring to the statistics retrieved it can be affirmed that equity origin and firm age variables correlation is weak regardless sectoral-affiliation.

Table 161. Equity origin and firm age statistics in service sector

Equity Origin * Firm age Cross tabulation

			Firm age		
			Growth	maturity	Total
Equity Origin	national	Count	12	17	29
		Expected Count	11.8	17.2	29.0
		% within Equity Origin	41.4%	58.6%	100.0%
		% within Firm age	92.3%	89.5%	90.6%
		% of Total	37.5%	53.1%	90.6%
	mixed equity	Count	1	2	3
		Expected Count	1.2	1.8	3.0
		% within Equity Origin	33.3%	66.7%	100.0%
		% within Firm age	7.7%	10.5%	9.4%
		% of Total	3.1%	6.2%	9.4%
Total		Count	13	19	32
		Expected Count	13.0	19.0	32.0
		% within Equity Origin	40.6%	59.4%	100.0%
		% within Firm age	100.0%	100.0%	100.0%
		% of Total	40.6%	59.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 162. Service sector contingency coefficient data between equity origin and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.048			.787
Interval by Interval	Pearson's R	.048	.171	.262	.795[c]
Ordinal by Ordinal	Spearman Correlation	.048	.171	.262	.795[c]
N of Valid Cases		32			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

And in respect of ownership gender behavior context referring to the below trade statistics it can be stated that female gender is more present in grown businesses, followed from the maturity ones (85.7% vs 14.3%). Meanwhile concerning male gender the contrary is valid as they are more present in maturity businesses than in grown phase ones (52.2% vs 47.8%). Mixed-partnership cases are primarily concentrated in maturity businesses and then in start-up ones (66.7% vs 33.3%, in Table 163). Anyway the correlation between these variables is moderate referring to contingency coefficient data (see Table 164).

Table 163. Ownership gender and firm age statistics in trade sector

Ownership Gender * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Ownership Gender	female	Count	0	6	1	7
		Expected Count	.2	3.6	3.2	7.0

		% within Ownership Gender	.0%	85.7%	14.3%	100.0%
		% within Firm age	.0%	35.3%	6.7%	21.2%
		% of Total	.0%	18.2%	3.0%	21.2%
	male	Count	0	11	12	23
		Expected Count	.7	11.8	10.5	23.0
		% within Ownership Gender	.0%	47.8%	52.2%	100.0%
		% within Firm age	.0%	64.7%	80.0%	69.7%
		% of Total	.0%	33.3%	36.4%	69.7%
	mixed partnership	Count	1	0	2	3
		Expected Count	.1	1.5	1.4	3.0
		% within Ownership Gender	33.3%	.0%	66.7%	100.0%
		% within Firm age	100.0%	.0%	13.3%	9.1%
		% of Total	3.0%	.0%	6.1%	9.1%
Total		Count	1	17	15	33
		Expected Count	1.0	17.0	15.0	33.0
		% within Ownership Gender	3.0%	51.5%	45.5%	100.0%
		% within Firm age	100.0%	100.0%	100.0%	100.0%
		% of Total	3.0%	51.5%	45.5%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 164. Trade sector contingency coefficient data between ownership gender and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.562			.004
Ordinal by Ordinal	Gamma	.442	.352	1.320	.187
	Spearman Correlation	.246	.194	1.412	.168[c]
Interval by Interval	Pearson's R	.173	.228	.981	.334[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

In production sector (see Table 165) also female ownership is more present in grown businesses than in maturity ones (50% vs 44.4%) and for male gender the same situation persists (54.5% vs 36.4%). Mixed-partnership businesses instead are equally concentrated in grown and maturity businesses. Nonetheless the correlation between these variables is weak, 0.135 (see Table 166).

Table 165. Ownership gender and firm age statistics in production sector

Ownership Gender * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Ownership Gender	female	Count	1	9	8	18
		Expected Count	1.1	9.3	7.6	18.0

		% within Ownership Gender	5.6%	50.0%	44.4%	100.0%
		% within Firm age	50.0%	52.9%	57.1%	54.5%
		% of Total	3.0%	27.3%	24.2%	54.5%
	male	Count	1	6	4	11
		Expected Count	.7	5.7	4.7	11.0
		% within Ownership Gender	9.1%	54.5%	36.4%	100.0%
		% within Firm age	50.0%	35.3%	28.6%	33.3%
		% of Total	3.0%	18.2%	12.1%	33.3%
	mixed partnership	Count	0	2	2	4
		Expected Count	.2	2.1	1.7	4.0
		% within Ownership Gender	.0%	50.0%	50.0%	100.0%
		% within Firm age	.0%	11.8%	14.3%	12.1%
		% of Total	.0%	6.1%	6.1%	12.1%
Total		Count	2	17	14	33
		Expected Count	2.0	17.0	14.0	33.0
		% within Ownership Gender	6.1%	51.5%	42.4%	100.0%

	% within Firm age	100.0%	100.0%	100.0%	100.0%
	% of Total	6.1%	51.5%	42.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 166. Production sector contingency coefficient data between ownership gender and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.135			.962
Interval by Interval	Pearson's R	.007	.164	.037	.971[c]
Ordinal by Ordinal	Spearman Correlation	-.018	.172	-.098	.923[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Female gender ownership again in construction sector is more present in grown businesses than in maturity ones (57.1% vs 42.9% as per Table 167 data). Male gender in controversy is more present in maturity businesses than in grown ones (59.1% vs 31.8%) and the same worth for mixed-partnership businesses (with respectively 75% vs 25%). But the correlation between two variables is weak, 0.269 (refer to Table 168).

Table 167. Ownership gender and firm age statistics in construction sector

Ownership Gender * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Ownership Gender	female	Count	0	4	3	7
		Expected Count	.4	2.5	4.0	7.0
		% within Ownership Gender	.0%	57.1%	42.9%	100.0%
		% within Firm age	.0%	33.3%	15.8%	21.2%
		% of Total	.0%	12.1%	9.1%	21.2%
	male	Count	2	7	13	22
		Expected Count	1.3	8.0	12.7	22.0
		% within Ownership Gender	9.1%	31.8%	59.1%	100.0%
		% within Firm age	100.0%	58.3%	68.4%	66.7%
		% of Total	6.1%	21.2%	39.4%	66.7%
	mixed partnership	Count	0	1	3	4
		Expected Count	.2	1.5	2.3	4.0
		% within Ownership Gender	.0%	25.0%	75.0%	100.0%
		% within Firm age	.0%	8.3%	15.8%	12.1%

	% of Total	.0%	3.0%	9.1%	12.1%
Total	Count	2	12	19	33
	Expected Count	2.0	12.0	19.0	33.0
	% within Ownership Gender	6.1%	36.4%	57.6%	100.0%
	% within Firm age	100.0%	100.0%	100.0%	100.0%
	% of Total	6.1%	36.4%	57.6%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 168. Construction sector contingency coefficient data between ownership gender and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.269			.630
Interval by Interval	Pearson's R	.135	.141	.758	.454[c]
Ordinal by Ordinal	Spearman Correlation	.161	.157	.911	.369[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

The service sector statistics (Table 169) display that female gender ownership is totally focused in grown businesses. Male ownership instead is focused both in maturity and grown businesses (66.7% and 33.3%) and the same can be confirmed for mixed-partnership cases (60% vs 40%). And the correlation between two a/m

variables results to be quite moderate (see Table 170). Consequently, in general it must be admitted that the correlation between these two variables is consistent.

Table 169. Ownership gender and firm age statistics in service sector

Ownership Gender * Firm age Cross tabulation

			Firm age		
			growth	maturity	Total
Ownership Gender	female	Count	3	0	3
		Expected Count	1.2	1.8	3.0
		% within Ownership Gender	100.0%	.0%	100.0%
		% within Firm age	23.1%	.0%	9.4%
		% of Total	9.4%	.0%	9.4%
	male	Count	8	16	24
		Expected Count	9.8	14.2	24.0
		% within Ownership Gender	33.3%	66.7%	100.0%
		% within Firm age	61.5%	84.2%	75.0%
		% of Total	25.0%	50.0%	75.0%
	mixed partnership	Count	2	3	5
		Expected Count	2.0	3.0	5.0

	% within Ownership Gender	40.0%	60.0%	100.0%
	% within Firm age	15.4%	15.8%	15.6%
	% of Total	6.2%	9.4%	15.6%
Total	Count	13	19	32
	Expected Count	13.0	19.0	32.0
	% within Ownership Gender	40.6%	59.4%	100.0%
	% within Firm age	100.0%	100.0%	100.0%
	% of Total	40.6%	59.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 170. Service sector contingency coefficient data between ownership gender and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.365			.086
Interval by Interval	Pearson's R	.232	.174	1.309	.200[c]
Ordinal by Ordinal	Spearman Correlation	.223	.183	1.252	.220[c]
N of Valid Cases		32			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

With special regard to trade sector as per borrowers' status (Table 171), it can be highlighted that the major part of non-performing borrowers pertains to maturity phase businesses (80%) in comparison with the ones in grown phase (20%). Performing borrowers from the other side are mainly concentrated in growth phase than in maturity and start-up ones (with respectively 57.1%, 39.3% and 3.6%). Moreover is demonstrated that the relationship between these variables is weak, 0.282 (refer to Table 172 data).

Table 171. Borrowers' status and firm age statistics in trade sector

Borrowers Status * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Borrowers Status	non-performing	Count	0	1	4	5
		Expected Count	.2	2.6	2.3	5.0
		% within Borrowers Status	.0%	20.0%	80.0%	100.0%
		% within Firm age	.0%	5.9%	26.7%	15.2%
		% of Total	.0%	3.0%	12.1%	15.2%
	performing	Count	1	16	11	28
		Expected Count	.8	14.4	12.7	28.0
		% within Borrowers Status	3.6%	57.1%	39.3%	100.0%
		% within Firm age	100.0%	94.1%	73.3%	84.8%
		% of Total	3.0%	48.5%	33.3%	84.8%

Total	Count	1	17	15	33
	Expected Count	1.0	17.0	15.0	33.0
	% within Borrowers Status	3.0%	51.5%	45.5%	100.0%
	% within Firm age	100.0%	100.0%	100.0%	100.0%
	% of Total	3.0%	51.5%	45.5%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 172. Trade sector contingency coefficient data between borrowers' status and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.282			.239
Ordinal by Ordinal	Gamma	-.725	.277	-1.718	.086
	Spearman Correlation	-.293	.147	-1.708	.098[c]
Interval by Interval	Pearson's R	-.288	.140	-1.672	.105[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Against the production sector statistics pertaining to borrowers' status (Table 172) demonstrate that non-performing borrowers mainly consists in maturity businesses and less are businesses in growth phase (66.7% vs 33.3%). And the

same occurs for performing borrowers' status in comparison with trade sector, as the major part of them are businesses in growth phase (55.6%), followed from the one in maturity (37%) and start-up phases (7.4%). Even here the correlation between two variables is weak, 0.235 as resulted in trade sector too (refer to Table 173).

Table 173. Borrowers' status and firm age statistics in production sector

Borrowers Status * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Borrowers Status	non-performing	Count	0	2	4	6
		Expected Count	.4	3.1	2.5	6.0
		% within Borrowers ' Status	.0%	33.3%	66.7%	100.0%
		% within Firm age	.0%	11.8%	28.6%	18.2%
		% of Total	.0%	6.1%	12.1%	18.2%
	performing	Count	2	15	10	27
		Expected Count	1.6	13.9	11.5	27.0
		% within Borrowers ' Status	7.4%	55.6%	37.0%	100.0%
		% within Firm age	100.0%	88.2%	71.4%	81.8%
		% of Total	6.1%	45.5%	30.3%	81.8%
Total		Count	2	17	14	33
		Expected Count	2.0	17.0	14.0	33.0
		% within Borrowers' Status	6.1%	51.5%	42.4%	100.0%

	% within Firm age	100.0%	100.0%	100.0%	100.0%
	% of Total	6.1%	51.5%	42.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 174. Production sector contingency coefficient data between borrowers' status and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.235			.381
Interval by Interval	Pearson's R	-.241	.145	-1.380	.177[c]
Ordinal by Ordinal	Spearman Correlation	-.242	.156	-1.387	.175[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Quite the same situation with trade and production sectors is evidenced even in construction one (refer to Table 174). As the major parts of non-performing borrowers are businesses in maturity phase and the same is valid concerning performing businesses. The correlation between two variables also here is weak, 0.183 (see Table 175).

Table 175. Borrowers' status and firm age statistics in construction sector

Borrowers Status * Firm age Cross tabulation

			Firm age			
			start-up	growth	maturity	Total
Borrowers Status	non-performing	Count	1	2	5	8
		Expected Count	.5	2.9	4.6	8.0
		% within Borrowers' Status	12.5%	25.0%	62.5%	100.0%
		% within Firm age	50.0%	16.7%	26.3%	24.2%
		% of Total	3.0%	6.1%	15.2%	24.2%
	performing	Count	1	10	14	25
		Expected Count	1.5	9.1	14.4	25.0
		% within Borrowers' Status	4.0%	40.0%	56.0%	100.0%
		% within Firm age	50.0%	83.3%	73.7%	75.8%
		% of Total	3.0%	30.3%	42.4%	75.8%
Total		Count	2	12	19	33
		Expected Count	2.0	12.0	19.0	33.0
		% within Borrowers' Status	6.1%	36.4%	57.6%	100.0%
		% within Firm age	100.0%	100.0%	100.0%	100.0%
		% of Total	6.1%	36.4%	57.6%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 176. Construction sector contingency coefficient data between borrowers' status and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.183			.565
Interval by Interval	Pearson's R	.014	.193	.078	.938[c]
Ordinal by Ordinal	Spearman Correlation	-.021	.183	-.118	.906[c]
N of Valid Cases		33			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

The service sector data (Table 176) from the other side confirm that non-performing as well as performing borrowers' statuses are businesses in maturity phase (with respectively 66.7% and 58.6%). But the correlation of a/m variables is still very weak (0.048 in Table 177).
And in a general prospect statistically based it can be affirmed that the relation between these two variables even is weak is present regardless sectoral-affiliation.

Table 177. Borrowers' status and firm age statistics in service sector

Borrowers Status * Firm age Cross tabulation

			Firm age		
			growth	maturity	Total
Borrowers Status	non-performing	Count	1	2	3
		Expected Count	1.2	1.8	3.0
		% within Borrowers' Status	33.3%	66.7%	100.0%

		% within Firm age	7.7%	10.5%	9.4%
		% of Total	3.1%	6.2%	9.4%
	performing	Count	12	17	29
		Expected Count	11.8	17.2	29.0
		% within Borrowers' Status	41.4%	58.6%	100.0%
		% within Firm age	92.3%	89.5%	90.6%
		% of Total	37.5%	53.1%	90.6%
Total		Count	13	19	32
		Expected Count	13.0	19.0	32.0
		% within Borrowers' Status	40.6%	59.4%	100.0%
		% within Firm age	100.0%	100.0%	100.0%
		% of Total	40.6%	59.4%	100.0%

Source: Primary data collection, Author elaboration with SPSS

Table 178. Service sector contingency coefficient data between borrowers' status and firm age

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.[a]
Nominal by Nominal	Contingency Coefficient	.048			.787
Interval by Interval	Pearson's R	-.048	.171	-.262	.795[c]
Ordinal by Ordinal	Spearman Correlation	-.048	.171	-.262	.795[c]
N of Valid Cases		32			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Primary data collection, Author elaboration with SPSS

Rationally the examinations performed introduce some important signs concerning businesses environmental behavior which should be further explored in order to predict the aspired risk-adjusted performance models.
Comparatively even considering various disputed theoretical and practical measures concerning risk-taking capacity and returns in quality of business performance hereinafter are explored gross operative margin (GOM, as an uncertainty measure), and return on assets and equity (ROA and ROE) as the most appropriate ones referring to sectoral-pertinence and business strategic perspective.
This logic complies with the fact that a successful uncertainty management produces profit and then the latter is used to increase assets value in order to accelerate business profitability and further on its equity by ensuring the ongoing performance progress.
Concretely, the 'sectoral data-pool' statistics referring to GOM demonstrate (see Table 178) that in general service activity is the most risky one, followed from trade. In controversy construction and production activities result to be less risky on behalf of the assumption 'high risk-high return'.

Table 179. Gross operative margin GOM cross-sectoral statistics in %

SECTORAL DATA (in %)	MIN	AVERAGE	MAX
GOM-TRADE	-36%	-24%	66%
GOM-PRODUCTION	0%	15%	110%
GOM-CONSTRUCTION	-170%	24%	499%
GOM-SERVICE	-40%	-15.2%	40%

Source: Primary data collection, Author elaboration with SPSS

Under this context, in a 'stress-scenario' case must be added that due to business cycle construction (which marks the lowest GOM) represents the most risky activity, thus, worth mentioned that here sales and costs are accounted only when the major part of project is concluded and that's why partially results aren't considered. Meanwhile seasonality may be the issue concerning trade sector. And foremost service activities may operate even under cost in a start-up phase in order to compete with experienced businesses that charge even higher service prices. Comparatively, the results in 'best-case scenario' are fully compliant with 'return margins' managed under 'uncertainty conditions'.

Taking clue to return on assets evidences (in Table 179) reveal that in general businesses pertaining to service, trade and construction invest less in assets. And this sound true in conformity with business nature. Excluding the last one which constructs for sale purposes, the other two sectors are focused in a short-business cycle, in the meaning that no huge amounts of assets are required to run their daily activities and perform well with a futuristic target. Production sector instead may require a continuous investment in assets almost related to innovation and business proactivity by reducing 'human labor cost' while increasing profitability. But referring to the context they operate for a long-time with same productive mechanisms closely referring to financial leasing costs.

Table 180. Return on assets ROA cross-sectoral statistics in %

SECTORAL DATA (in %)	MIN	AVERAGE	MAX
ROA-TRADE	-78%	4%	47%
ROA-PRODUCTION	-102%	31%	174%
ROA-CONSTRUCTION	-1%	6%	34%
ROA-SERVICE	-138%	-19%	122%

Source: Primary data collection, Author elaboration

Additionally considering their experience it must be said, that they also tend to exploit the assets remained value, which obviously increases profitability. As well as productive mechanism may be sold out to be substituted with new equipments and machineries, and this leads to the understand that why its ROA vary.

Quite same logic is valid also concerning return on equity statistics (refer to Table 180), as trade, service and production sectors in general don't require huge amounts of equity considering business cycle flexibility and precisely the activity undertaken. In controversy construction sector needs enough equity to accomplish the projects undertaken before being available for sale, even some expenses are mainly supported from clearing activities. Thus, its ROE is the lowest in a 'best-case scenario'. Meanwhile trade, production and service sectors continuously generate profits which cover the equity (and the latest vary according to the strategic goals set from businesses in compliance with their

age/market experience, as some of them may account the profits as equity increase or distribute them to owners).

Table 181. Return on equity ROE cross-sectoral statistics in %

SECTORAL DATA (in %)	MIN	AVERAGE	MAX
ROE-TRADE	-22%	71%	128%
ROE-PRODUCTION	-8%	22%	127%
ROE-CONSTRUCTION	-5%	13%	77%
ROE-SERVICE	-28%	8%	144%

Source: Primary data collection, Author elaboration

Subsequently, in a more complex and why not realistic overview deemed necessary to deploy deeper examinations concerning businesses differences and respective organizational patterns trying to successfully capture environmental turbulences from one side and predict risk-adjusted performance models in the other one. What helps in lessons learning as well as in the establishment and development of value culture dimensions within the organizations.

8.2. RESEARCH HYPOTHESES

For the a/m reasons and almost closely referring to 'sectoral data-pools', the behavioral and organizational qualitative patterns examined in following are: ownership gender, equity origin, business administration framework, borrowers' status and firm age. Meanwhile as predictive factors are implemented the one of liquidity management decision making process (such as: MCC, NPM, RATR and WC) contemporaneously with the ones of debt reconciliation structure (such as: LTDER, LT-LEV, LTD, ICR and STD) and TAN considering the circumstances. By especially assuming the exploitation of environmental opportunities supported even from the existence of indirect relations of ACP, PATR, CV, FA, ITA, INV, STA and owners number toward risk-adjusted performance indicators such as: ROE, ROA and GOM.

Correspondingly, in following are presented the hypotheses examined aiming the prediction of SMEs risk-adjusted performance models.

H1: Ownerships gender positively impacts ROE regardless sectoral affiliation;
H2: Equity origin influence GOM regardless sectoral affiliation;
H3: Business administration framework impacts ROA regardless sectoral affiliation;
H4: Borrowers' status affects ROE regardless sectoral affiliation;
H5: Administrators gender influence GOM regardless sectoral affiliation;
H6: Borrowers' status and LTDER contemporaneously negatively affect GOM regardless sectoral affiliation;
H7: Business administration framework and RATR can't simultaneously impact ROE regardless sectoral affiliation;
H8: Equity origin, firm age and business size have a simultaneous impact on ROA regardless sectoral affiliation;
H9: Borrowers' status, firm age and TAN have a multiple impact on ROA and ROE regardless sectoral affiliation;
H10: Business administration framework, MCC and NPM have a multiple impact on ROE regardless sectoral affiliation;
H11: A radial basis function predicts SMEs risk-adjusted performance regardless sectoral affiliation.

8.3. HYPOTHESES EXAMINATION, TESTS AND RESULTS

H1: Ownerships gender positively impacts ROE regardless sectoral affiliation;

Trade sector evidences confirm that ownerships gender doesn't impacts ROE (see Table 181). In contradiction Levenes' test (Table 1/ Appendix C) demonstrates that ROE errors variance isn't the same between three ownership gender groups.

Foremost estimated marginal means (see Figure 58) show that ROE is higher in female ownership gender cases then pursued from mixed-partnership and male gender ones.

Table 182. Tests of Between-Subjects Effects (Ownership gender vs ROE) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:GA1-ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.512[a]	2	2.256	.224	.800	.015
Intercept	.413	1	.413	.041	.841	.001
Ownerships Gender	4.512	2	2.256	.224	.800	.015
Error	301.787	30	10.060			
Total	312.160	33				
Corrected Total	306.299	32				

a. R Squared = .015 (Adjusted R Squared = -.051)

Source: Primary data collection, Author elaboration with SPSS

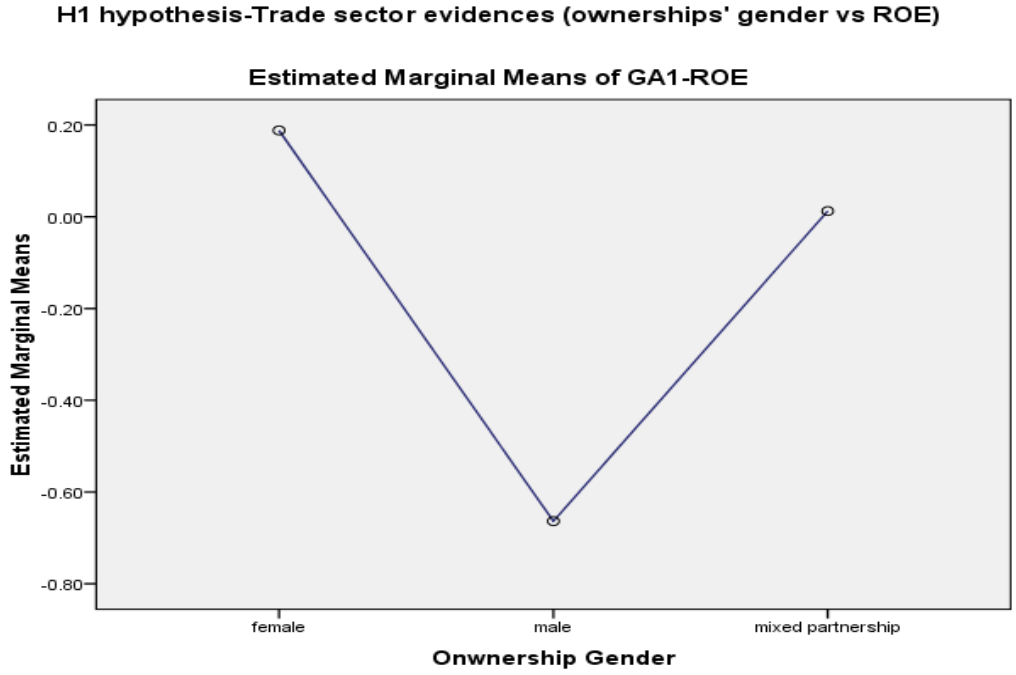


Figure 58. Estimated marginal means of ROE concerning ownership gender in trade sector
Source: Primary data collection, Author elaboration with SPSS

Ownerships gender statistics doesn't confirm any impact on ROE even in production sector (Table 182 data). Despite Levenes' test again shows inequality

(refer to Table 2 in Appendix C) in ROE errors variance between three ownership groups. While in estimated marginal means (Figure 59) is noted a higher ROE concerning male ownership gender and lower ROE levels for female and mixed-partnership cases.

Table 183. Tests of Between-Subjects Effects (Ownership gender vs ROE) in production sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Sq.	Noncent. Param.	Obs Power[b]
Corrected Model	469.627[a]	2	234.814	.531	.594	.034	1.061	.129
Intercept	1873.743	1	1873.743	4.233	.048	.124	4.233	.513
Ownerships Gender	469.627	2	234.814	.531	.594	.034	1.061	.129
Error	13278.672	30	442.622					
Total	17204.894	33						
Corrected Total	13748.299	32						

a. R Squared = .034 (Adjusted R Squared = -.030)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

Figure 59. Estimated marginal means of ROE concerning ownership gender in production sector
Source: Primary data collection, Author elaboration with SPSS

The same context is presented even in construction sector concerning the impact of ownerships gender in ROE (see Table 183) and its errors variance inequality (refer to Levenes' test Table 3 in Appendix C). Meanwhile estimated marginal means data (Figure 60) demonstrate that mixed-partnership quotes higher ROEs in comparison with male and female gender cases.

Table 184. Tests of Between-Subjects Effects (Ownership gender vs ROE) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	.002[a]	2	.001	.032	.968	.002	.064	.054
Intercept	.416	1	.416	12.183	.002	.303	12.183	.921

Ownerships Gender	.002	2	.001	.032	.968	.002	.064	.054
Error	.956	28	.034					
Total	1.558	31						
Corrected Total	.958	30						

a. R Squared = .002 (Adjusted R Squared = .069)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

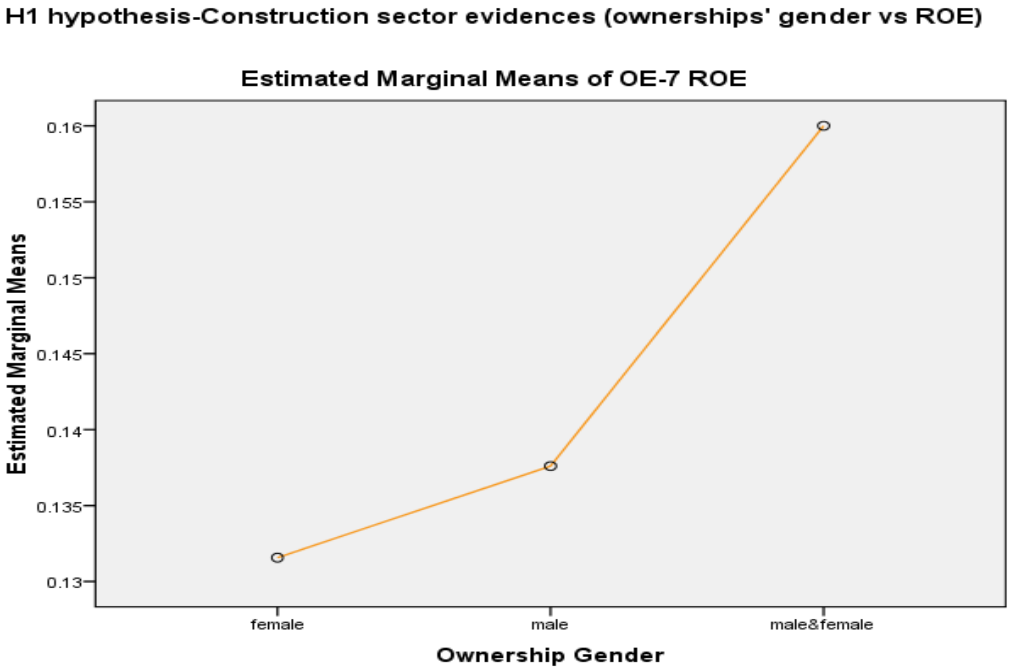


Figure 60. Estimated marginal means of ROE concerning ownership gender in construction sector

Source: Primary data collection, Author elaboration with SPSS

Ownerships gender isn't a determinant factor for ROE even in service sector (refer to below Table data). Levenes' test results confirm inequality data in ROEs errors variance concerning three ownership gender groups (Table 4/Appendix C). And estimated marginal means data (Figure 61) comply with the ones of construction sector.

Table 185. Tests of Between-Subjects Effects (Ownership gender vs ROE) in service sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Sq.	Noncent. Param.	Obsr. Power[b]
Corrected Model	839.531[a]	2	419.765	.570	.572	.038	1.139	.135
Intercept	1682.689	1	1682.689	2.283	.142	.073	2.283	.309
Ownerships Gender	839.531	2	419.765	.570	.572	.038	1.139	.135
Error	21371.527	29	736.949					
Total	26037.870	32						
Corrected Total	22211.058	31						

a. R Squared = .038 (Adjusted R Squared = -.029)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

Figure 61. Estimated marginal means of ROE concerning ownership gender in service sector

Source: Primary data collection, Author elaboration with SPSS

Whereas the statistics demonstrate that ownerships gender doesn't impact ROE, Levenes' test results confirm some rumors but despite this, H1 hypothesis can be rejected. From the other hand, contradictory results reveal through estimated marginal means in trade and production sectors considering that female owners opt for higher ROE, and the vice-versa occurs in construction and service sectors where first mixed-partnership and then male and female gender opts for high ROE levels.

H2: Equity origin influence GOM regardless sectoral affiliation;

Equity origin statistically based reveals a determinant factor in trade sectors GOM (Table 185). Levenes' test argues that no differences exist in GOMs errors variance between three equity origin groups (refer to Table 5 in Appendix C). Through estimated marginal means (Figure 62) data instead it can be confirmed that in turns national, then foreign and mixed equity cases opt for higher GOM.

Table 186. Tests of Between-Subjects Effects (Equity origin vs GOM) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4

GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	9.348[a]	2	4.674	6.386	.005	.299	12.773	.870
Intercept	11.027	1	11.027	15.067	.001	.334	15.067	.964
Equity Origin	9.348	2	4.674	6.386	.005	.299	12.773	.870
Error	21.957	30	.732					
Total	33.263	33						
Corrected Total	31.305	32						

a. R Squared = .299 (Adjusted R Squared = .252)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

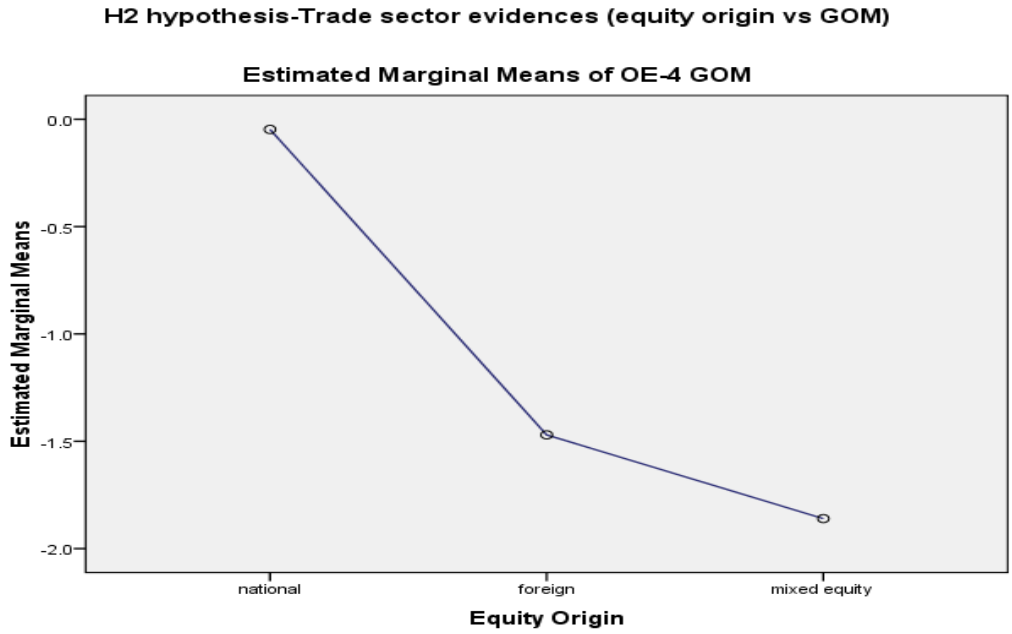


Figure 62. Marginal means of GOM concerning equity origin in trade sector
Source: Primary data collection, Author elaboration with SPSS

Production sector data clearly demonstrate that equity origin doesn't influence GOM (Table 186 data). Levenes' test can't be estimated as production sector is composed only from national equity businesses and under this circumstances even estimated marginal means can't show more information (refer to Figure 63).

Table 187. Tests of Between-Subjects Effects (Equity origin vs GOM) in production sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4

GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	.000[a]	0	.	.	.	.000	.000	.
Intercept	7183.988	1	7183.988	10.989	.002	.256	10.989	.895

Equity Origin	.000	0	.	.	.	.000	.000	.
Error	20919.662	32	653.739					
Total	28103.650	33						
Corrected Total	20919.662	32						

a. R Squared = .000 (Adjusted R Squared = .000)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

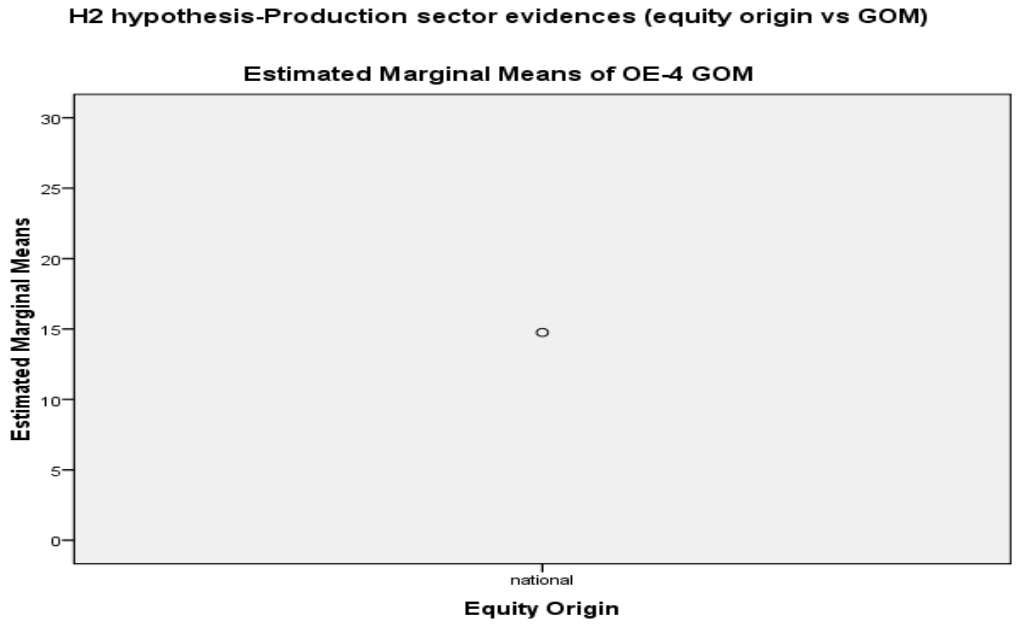


Figure 63. Estimated marginal means of GOM concerning equity origin in production sector

Source: Primary data collection, Author elaboration with SPSS

Referring to the below construction sector statistics (Table 187) equity origin doesn't influence GOM. Levenes' test data evidence GOM errors variance differences in the equity groups (Table 6 in Appendix C). And furthermore estimated marginal means (Figure 64) demonstrate that foreign equity businesses prefer to maintain higher GOM followed from mixed and then national equity ones.

Table 188. Tests of Between-Subjects Effects (Equity origin vs GOM) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4

GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	1319.682[a]	2	659.841	.524	.597	.034	1.049	.128
Intercept	1497.412	1	1497.412	1.190	.284	.038	1.190	.184
Equity Origin	1319.682	2	659.841	.524	.597	.034	1.049	.128
Error	37746.211	30	1258.207					
Total	41026.532	33						
Corrected Total	39065.894	32						

a. R Squared = .034 (Adjusted R Squared = -.031)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

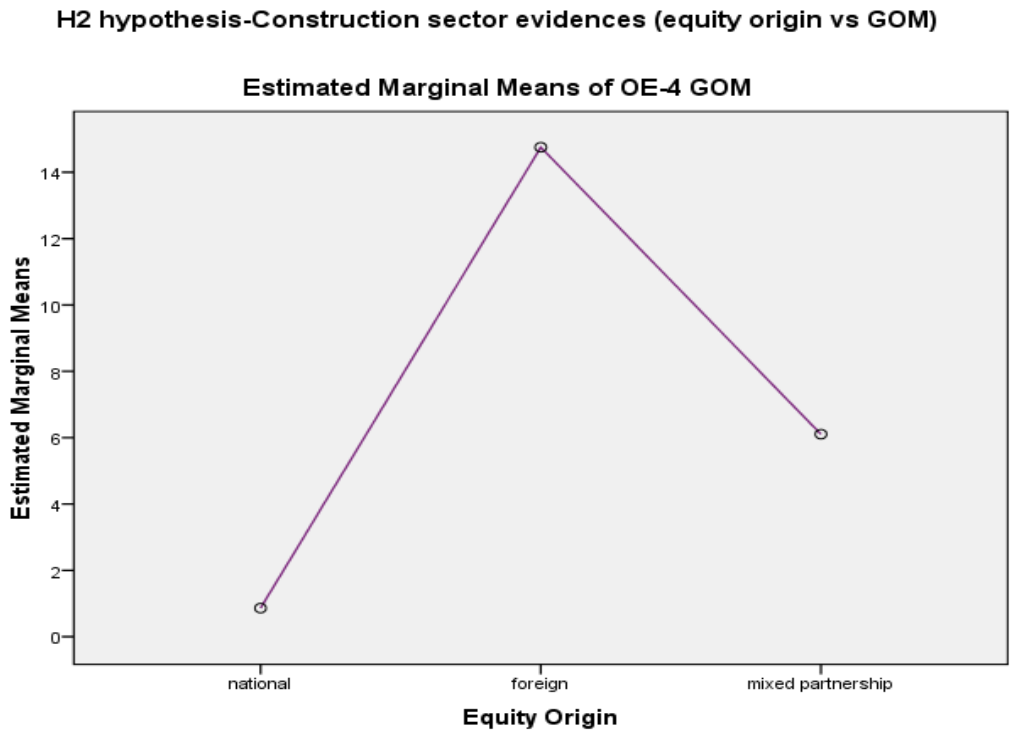


Figure 64. Estimated marginal means of GOM concerning equity origin in construction sector
Source: Primary data collection, Author elaboration with SPSS

Equity origin doesn't influence GOM in service sector (refer to below table) and the same can be confirmed from Levenes' test results (Table 7 in Appendix C) as the GOMs errors variance is the same in three equity groups. But from estimated marginal means (Figure 65) it can be evidenced that mixed-equity cases prefer to maintain higher GOM and the vice versa occurs as per national business capital preferences.

Table 189. Tests of Between-Subjects Effects (Equity origin vs GOM) in service sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4

GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	335.316[a]	1	335.316	3.393	.078	.129	3.393	.423
Intercept	637.426	1	637.426	6.449	.018	.219	6.449	.682
Equity Origin	335.316	1	335.316	3.393	.078	.129	3.393	.423
Error	2273.212	23	98.835					
Total	2912.456	25						
Corrected Total	2608.528	24						

a. R Squared = .129 (Adjusted R Squared = .091)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

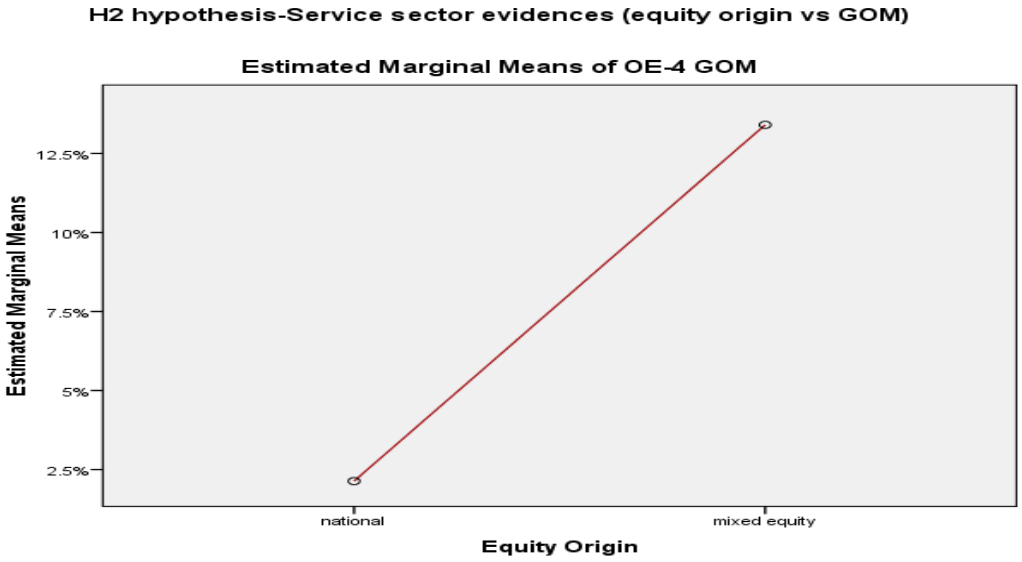


Figure 65. Estimated marginal means of GOM concerning equity origin in service sector
Source: Primary data collection, Author elaboration with SPSS

Excluding trade sector, equity origin isn't a determinant factor as per GOM, so H2 can be rejected. In the major part of cases also Levenes' tests confirm the inexistence of errors variance differences between equity origin groups. But however, estimated marginal means produce contradictory results in trade and construction sector.

H3: Business administration framework impacts ROA regardless sectoral affiliation;

Trade sector statistical evidences demonstrate that business administration framework impacts ROA (Table 189). But differences between two business administration groups are quite inexistent (refer to Table 8 in Appendix C). Estimated marginal means data from the other hand, explain that administrators opt for higher ROA levels than the ones quoted from owners (see Figure 66).

Table 190. Tests of Between-Subjects Effects (Business administration vs ROA) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:GA-1 ROA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	.245[a]	1	.245	7.685	.009	.199	7.685	.766
Intercept	.025	1	.025	.790	.381	.025	.790	.138
Business administration	.245	1	.245	7.685	.009	.199	7.685	.766
Error	.989	31	.032					
Total	1.275	33						
Corrected Total	1.234	32						

a. R Squared = .199 (Adjusted R Squared = .173)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

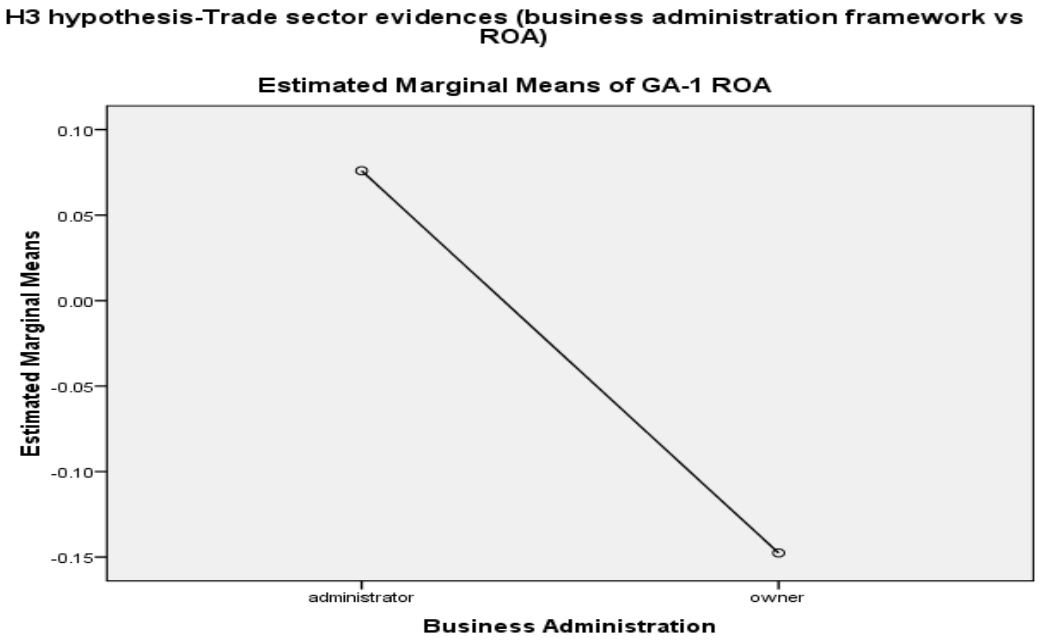


Figure 66. Estimated marginal means of ROA concerning business administration framework in trade sector
Source: Primary data collection, Author elaboration with SPSS

The exact contrary with trade sector reveals in the production sector as business administration framework doesn't impact ROA (Table 190 data). Differences even here don't exist concerning ROAs errors variance between two business administration groups (Table 9/ Appendix C). In controversy, estimated marginal means data confirm that owners who administrate businesses by themselves opt for higher ROA levels than the ones managed from administrators (Figure 77).

Table 191. Tests of Between-Subjects Effects (Business administration vs ROA) in production sector

Tests of Between-Subjects Effects

Dependent Variable:GA-1 ROA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	8.676[a]	1	8.676	3.187	.084	.093	3.187	.409
Intercept	8.447	1	8.447	3.102	.088	.091	3.102	.400
Business administration	8.676	1	8.676	3.187	.084	.093	3.187	.409
Error	84.407	31	2.723					
Total	96.180	33						
Corrected Total	93.083	32						

a. R Squared = .093 (Adjusted R Squared = .064)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

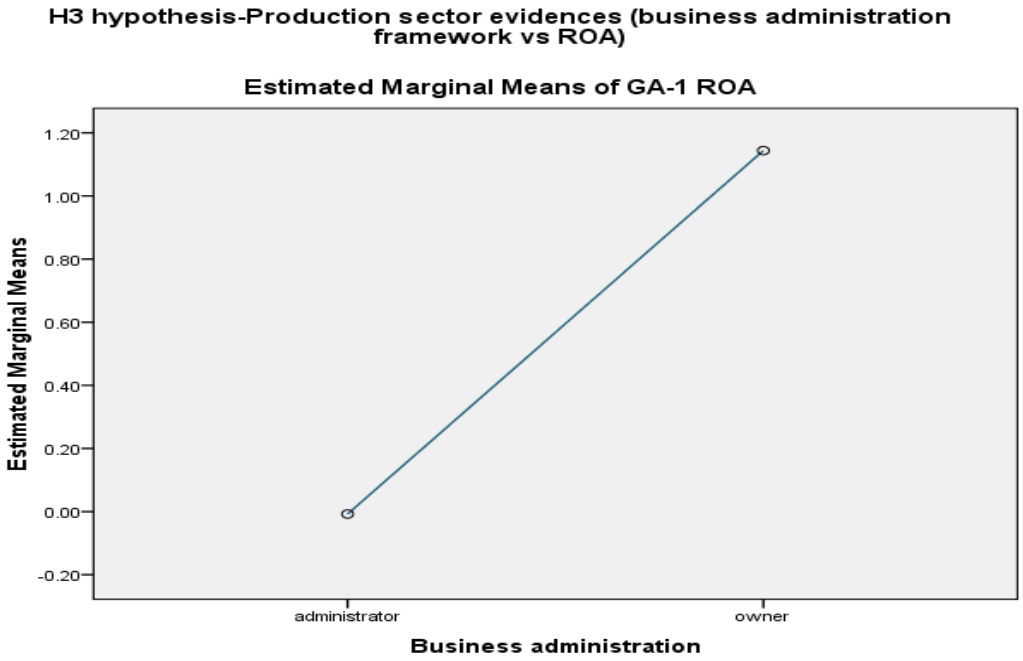


Figure 67. Estimated marginal means of ROA concerning business administration framework in production sector
Source: Primary data collection, Author elaboration with SPSS

Business administration results in construction sector confirm that they don't impact ROA (Table 191). Levenes' test reveals some rumors concerning differences in ROA errors variance between two administrators groups (see data in Table 10/Appendix C). Despite this, estimated marginal means show (Figure 68) that administrators prefer to maintain higher ROA levels in comparison with those cases when owners themselves administrate the business.

Table 192. Tests of Between-Subjects Effects (Business administration vs ROA) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:GA-1 ROA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	.006[a]	1	.006	.816	.374	.026	.816	.141
Intercept	.040	1	.040	5.353	.028	.151	5.353	.610
Business administration	.006	1	.006	.816	.374	.026	.816	.141
Error	.222	30	.007					
Total	.329	32						
Corrected Total	.228	31						

a. R Squared = .026 (Adjusted R Squared = -.006)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

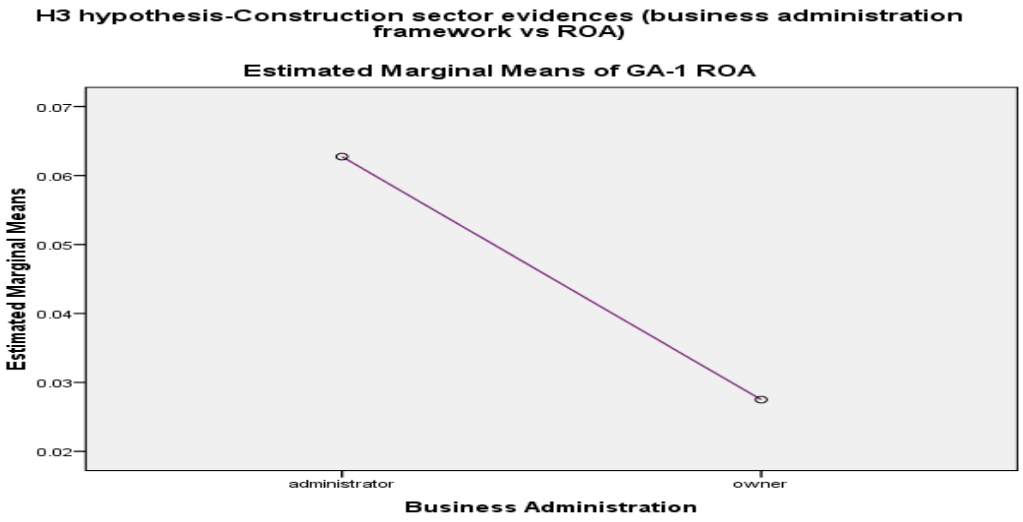


Figure 68. Estimated marginal means of ROA concerning business administration framework in construction sector

Source: Primary data collection, Author elaboration with SPSS

Business administration isn't a determinant factor of ROA in service sector (see the following data) almost when there are no identified differences in ROAs errors variance between two business administration groups (refer to Appendix C/Table 11). While estimated marginal means (see Figure 69) demonstrate that administrators perform better by reaching higher ROA levels in comparison with businesses that are administrated from owners themselves.

Table 193. Tests of Between-Subjects Effects (Business administration vs ROA) in service sector

Tests of Between-Subjects Effects

Dependent Variable:GA-1 ROA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	.217[a]	1	.217	.023	.879	.001	.023	.053
Intercept	1.427	1	1.427	.154	.697	.005	.154	.067
Business administration	.217	1	.217	.023	.879	.001	.023	.053
Error	277.610	30	9.254					
Total	279.037	32						
Corrected Total	277.827	31						

a. R Squared = .001 (Adjusted R Squared = -.033)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

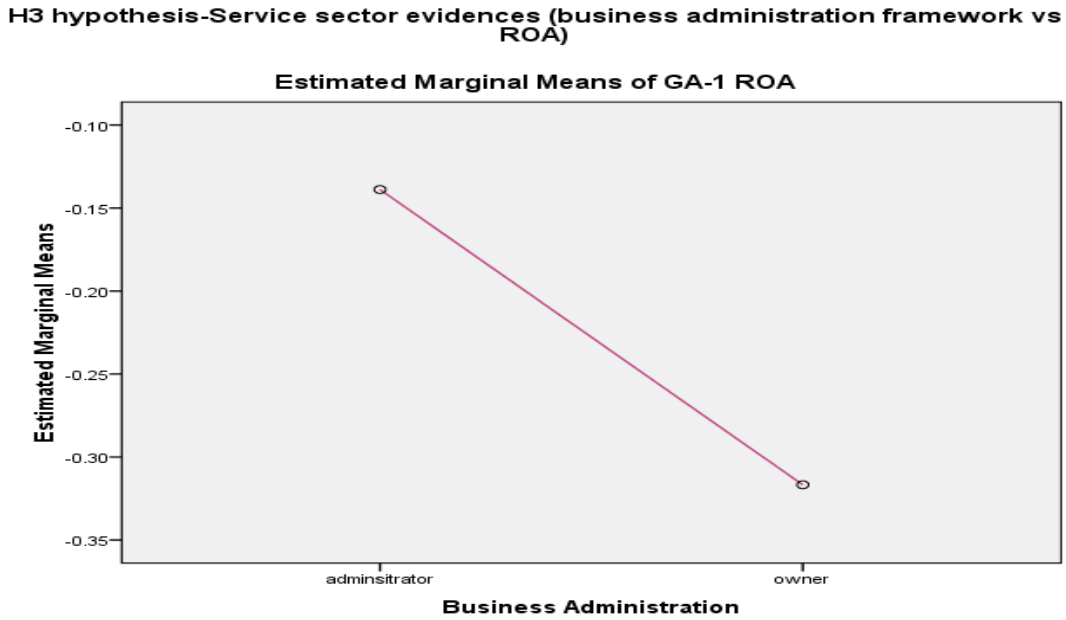


Figure 69. Estimated marginal means of ROA concerning business administration framework in service sector
Source: Primary data collection, Author elaboration with SPSS

According to the a/m statistics it can be affirmed that business administration framework isn't a determinant factor as per ROA (excluding trade sector), by this way H3 hypothesis can be rejected. Contemporaneously worth highlighted also that Levenes' test doesn't demonstrate differences in ROAs errors variance between business administration groups. But the sectoral tendence (excluding production for which the contrary is valid) is that businesses administrated from skilled managers opt for higher ROA levels in comparison with them managed from owners themselves.

H4: Borrowers' status affects ROE regardless sectoral affiliation;

Borrowers' status doesn't affect ROE in trade sector according to the a/m statistics (Table 193). Hereinafter Levenes' test confirms differences in ROE errors variance between two different borrowers' groups (Table 12/Appendix C). Which are further examined from estimated marginal means (refer to Figure 70) by confirming that performing businesses generate higher ROE levels in comparison with non-performing ones.

Table 194. Tests of Between-Subjects Effects (Borrowers' status vs ROE) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7

ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	6965.025[a]	1	6965.025	.164	.688	.005	.164	.068
Intercept	9007.981	1	9007.981	.212	.648	.007	.212	.073
Borrowers' Status	6965.025	1	6965.025	.164	.688	.005	.164	.068
Error	1315768.889	31	42444.158					
Total	1368302.003	33						
Corrected Total	1322733.914	32						

a. R Squared = .005 (Adjusted R Squared = -.027)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

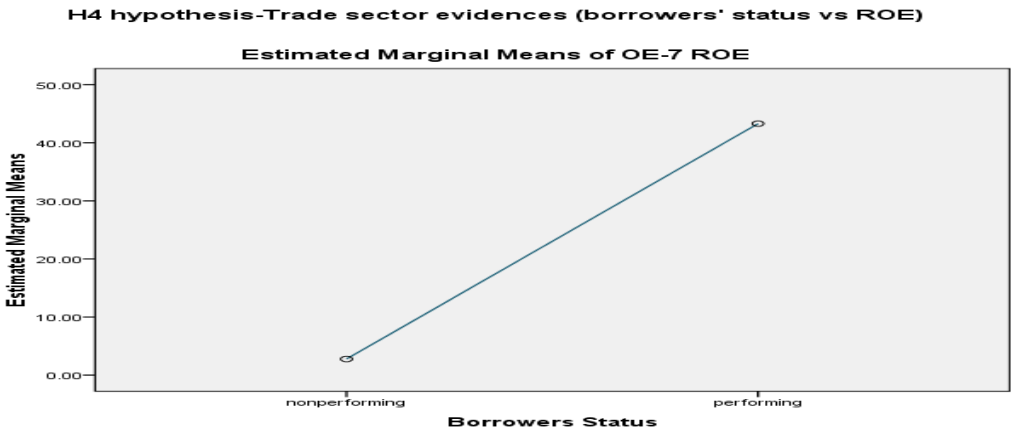


Figure 70. Estimated marginal means of ROE concerning borrowers' status in trade sector
Source: Primary data collection, Author elaboration with SPSS

The production sector statistics show (Table 194) that borrowers' status doesn't affect ROE and Levenes' test results confirm the absence of differences between ROE errors variance in two borrowers' status (see Table 13 in Appendix C). Notwithstanding here estimated marginal means (Figure 71) confirm that performing status businesses opt for higher ROE levels than non-performing ones.

Table 195. Tests of Between-Subjects Effects (Borrowers' status vs ROE) in production sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7

ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	979.050[a]	1	979.050	2.377	.133	.071	2.377	.321
Intercept	647.217	1	647.217	1.571	.219	.048	1.571	.229
Borrowers' Status	979.050	1	979.050	2.377	.133	.071	2.377	.321
Error	12769.249	31	411.911					

Total	17204.894	33						
Corrected Total	13748.299	32						

a. R Squared = .071 (Adjusted R Squared = .041)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

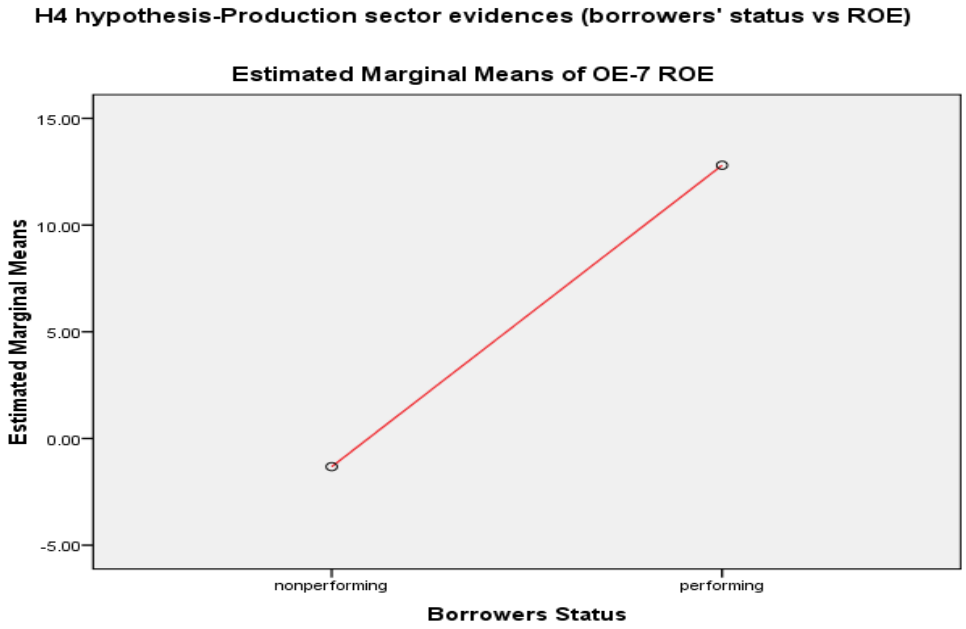


Figure 71. Estimated marginal means of ROE concerning borrowers' status in production sector

Source: Primary data collection, Author elaboration with SPSS

Borrowers' status in construction sector doesn't impact ROE (see Table 195 data). But Levenes' test confirms the existence of differences in ROE errors variance between two borrowers' groups (Table 14 in Appendix C). And estimated marginal means (in Figure 72) show that even here as in the previously examined sectors performing businesses quote higher ROE levels than non-performing ones.

Table 196. Tests of Between-Subjects Effects (Borrowers' status vs ROE) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	.086[a]	1	.086	2.871	.101	.090	2.871	.374
Intercept	.237	1	.237	7.879	.009	.214	7.879	.774
Borrowers' Status	.086	1	.086	2.871	.101	.090	2.871	.374
Error	.872	29	.030					
Total	1.558	31						
Corrected Total	.958	30						

a. R Squared = .090 (Adjusted R Squared = .059)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

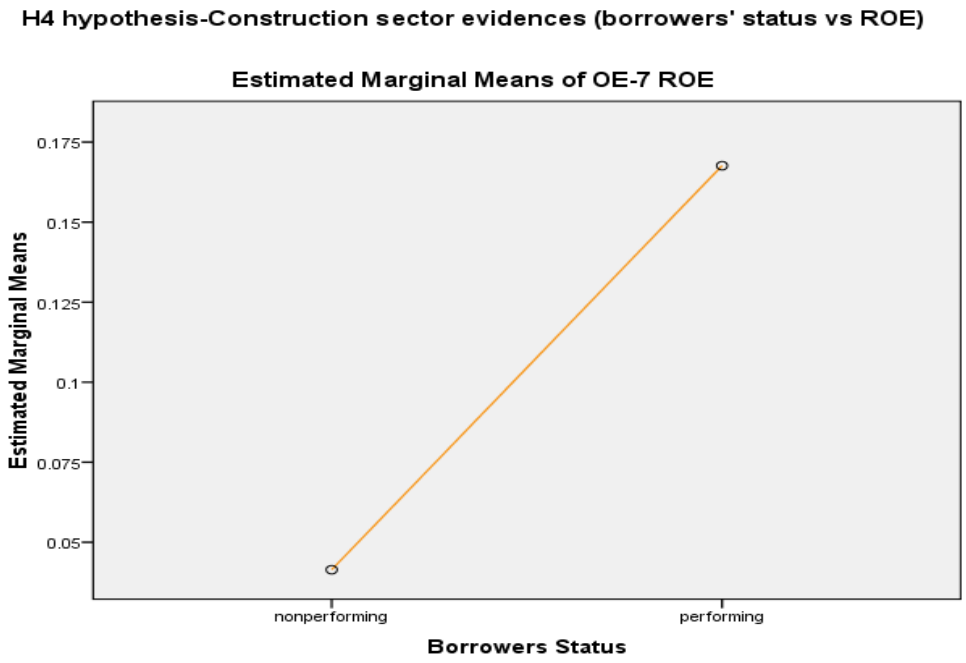


Figure 72. Estimated marginal means of ROE concerning borrowers' status in construction sector
Source: Primary data collection, Author elaboration with SPSS

Service sector statistics also confirm that borrowers' status doesn't affect business ROE (see Table below). But differences exist in the latest errors variance concerning two different borrowers' groups (Appendix C–Table 15). Simultaneously estimated marginal means (Figure 73) clearly state that performing businesses mark higher ROE values.

Table 197. Tests of Between-Subjects Effects (Borrowers' status vs ROE) in service sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7

ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observ. Power[b]
Corrected Model	380.961[a]	1	380.961	.524	.475	.017	.524	.108
Intercept	408.208	1	408.208	.561	.460	.018	.561	.112
Borrowers' Status	380.961	1	380.961	.524	.475	.017	.524	.108
Error	21830.097	30	727.670					
Total	26037.870	32						
Corrected Total	22211.058	31						

a. R Squared = .017 (Adjusted R Squared = -.016)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

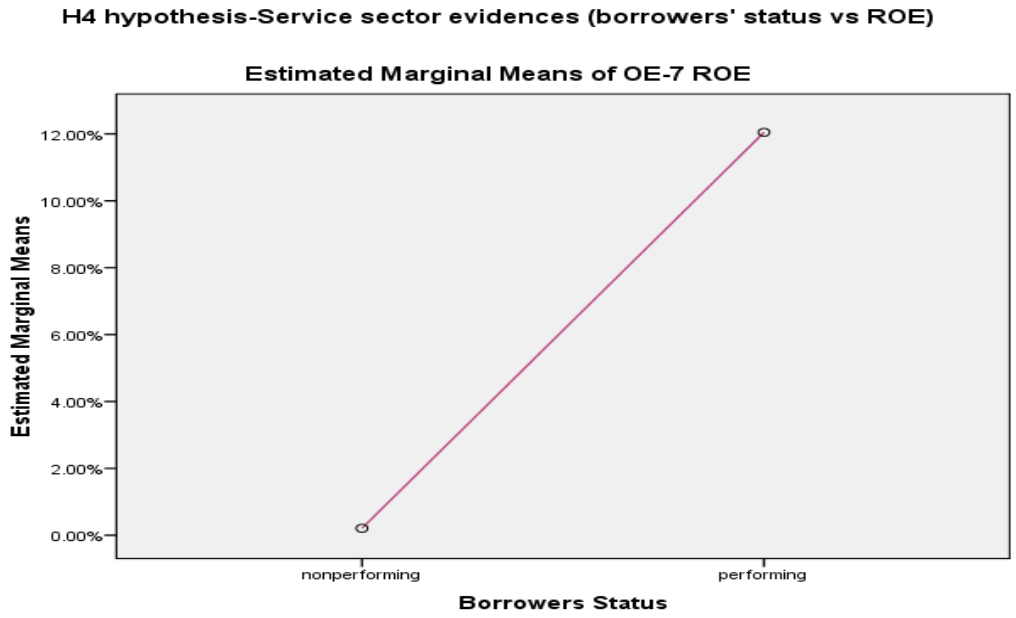


Figure 73. Estimated marginal means of ROE concerning borrowers' status in service sector
Source: Primary data collection, Author elaboration with SPSS

Substantially, the H4 hypothesis, can be rejected as in none of the examined sectors borrowers' status doesn't affect ROE. But correspondingly Levenes' test argued on the existence of differences in ROE errors variance between borrowers' groups. And furthermore in each of the examined sectors performing businesses quoted higher ROE levels than non-performing ones.

H5: Administrators gender influence GOM regardless sectoral affiliation;

The statistics elaborated in trade sector (Table 197) revealed that administrators gender doesn't impact GOM. While Levenes' test confirms differences in GOM errors variance between administrators gender groups (Table 16/Appendix C). In addition from estimated marginal means (in Figure 74) is confirmed that mixed administration maintains higher ROE levels, than pursue female cases and ultimately male administrators.

Table 198. Tests of Between-Subjects Effects (Administrators gender vs GOM) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4 GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	.858[a]	2	.429	.423	.659	.027	.845	.112
Intercept	.020	1	.020	.020	.888	.001	.020	.052
Administrators Gender	.858	2	.429	.423	.659	.027	.845	.112
Error	30.448	30	1.015					
Total	33.263	33						
Corrected Total	31.305	32						

a. R Squared = .027 (Adjusted R Squared = -.037)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

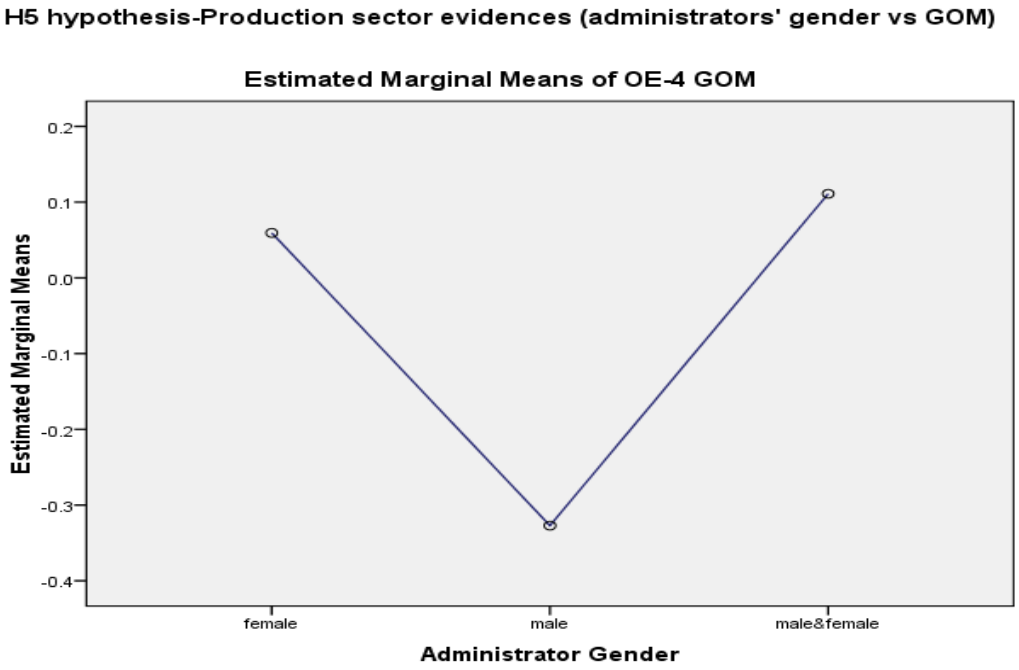


Figure 74. Estimated marginal means of GOM concerning administrators gender in trade sector
Source: Primary data collection, Author elaboration with SPSS

Production sector data also confirm that administrators gender doesn't influence GOM (Table 198). However, Levenes' test argues on differences on GOM errors variance between administrators groups (see Table 17 in Appendix C). Estimated marginal means from the other side demonstrate that female administrators opt for higher GOM than male administrators (Figure 75).

Table 199. Tests of Between-Subjects Effects (Administrators gender vs GOM) in production sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4 GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	20.400[a]	1	20.400	.030	.863	.001	.030	.053
Intercept	1972.865	1	1972.865	2.926	.097	.086	2.926	.381
Administrators Gender	20.400	1	20.400	.030	.863	.001	.030	.053
Error	20899.262	31	674.170					
Total	28103.650	33						
Corrected Total	20919.662	32						

a. R Squared = .001 (Adjusted R Squared = -.031)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

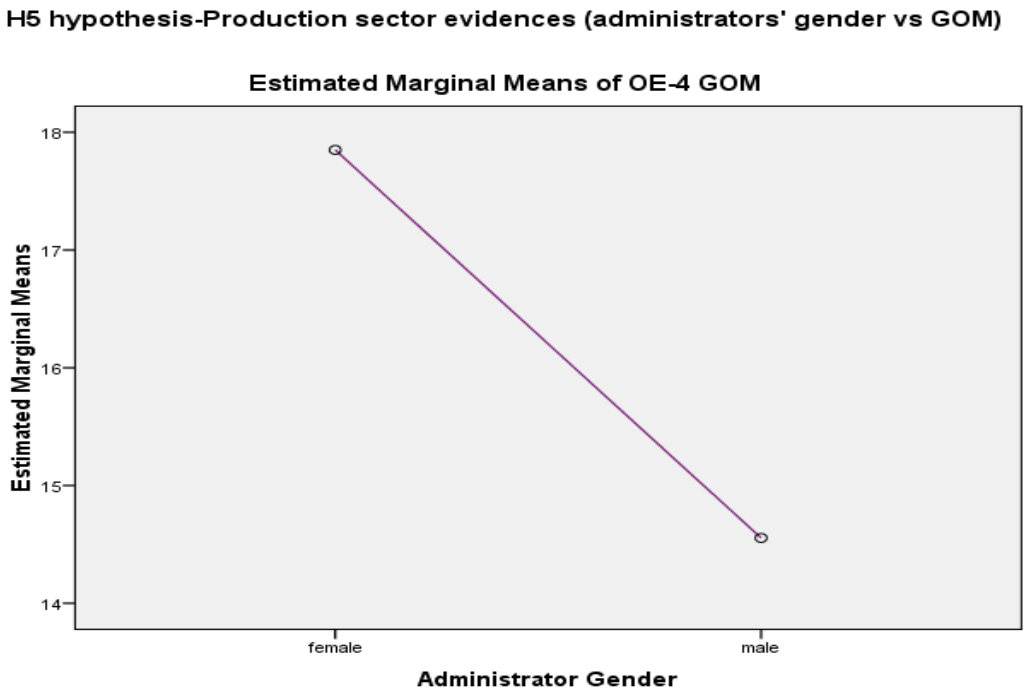


Figure 75. Estimated marginal means of GOM concerning administrators gender in production sector
Source: Primary data collection, Author elaboration with SPSS

Administrators gender doesn't influence GOM referring to construction sector data (see Table 199). And Levenes' test confirms differences in GOM error variance between administrators' gender groups (Table 18 in Appendix C). The accordingly estimated marginal means identified (as per Figure 76) that male administrators maintain higher GOM than mixed-administrators cases.

Table 200. Tests of Between-Subjects Effects (Administrators gender vs GOM) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4 GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	61.270[a]	1	61.270	.049	.827	.002	.049	.055
Intercept	61.270	1	61.270	.049	.827	.002	.049	.055
Administrators Gender	61.270	1	61.270	.049	.827	.002	.049	.055
Error	39004.624	31	1258.214					
Total	41026.532	33						
Corrected Total	39065.894	32						

a. R Squared = .002 (Adjusted R Squared = -.031)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

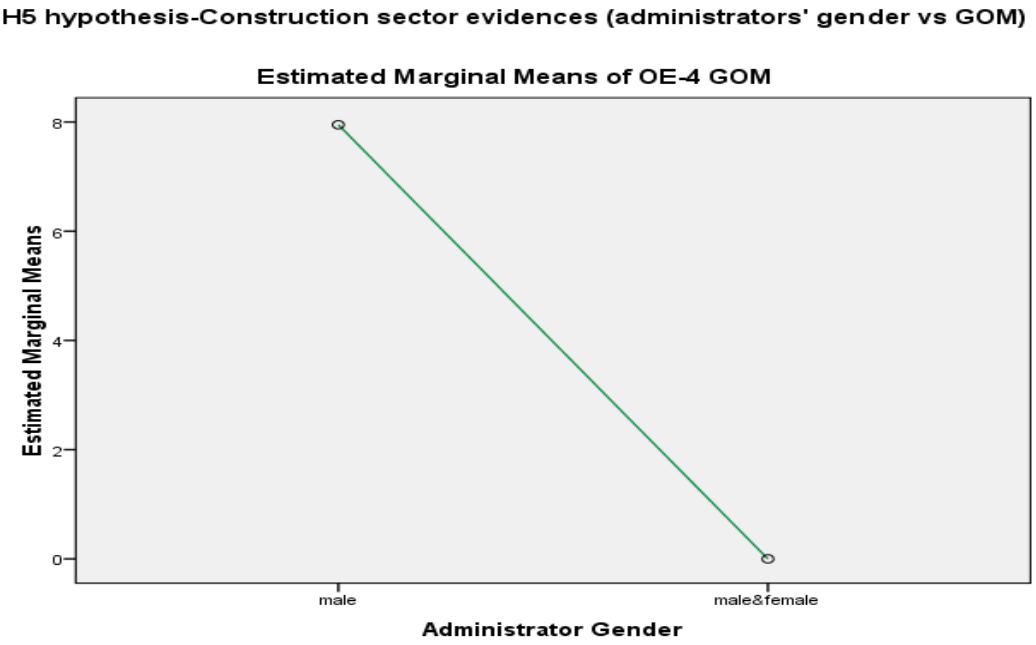


Figure 76. Estimated marginal means of GOM concerning administrators gender in construction sector.
Source: Primary data collection, Author elaboration with SPSS

Administrators gender even in service sector doesn't influence GOM (see Table 200). In addition Levenes' test (Table 19 in Appendix C) demonstrates the inexistence of GOM errors variance differences between different administrators gender groups. But estimated marginal means (Figure 77) confirm that male administrators operate with higher GOM than female administrators.

Table 201. Tests of Between-Subjects Effects (Administrators gender vs GOM) in service sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4 GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	69.393[a]	1	69.393	.629	.436	.027	.629	.118
Intercept	80.079	1	80.079	.725	.403	.031	.725	.129
Administrators Gender	69.393	1	69.393	.629	.436	.027	.629	.118
Error	2539.135	23	110.397					
Total	2912.456	25						
Corrected Total	2608.528	24						

a. R Squared = .027 (Adjusted R Squared = -.016)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

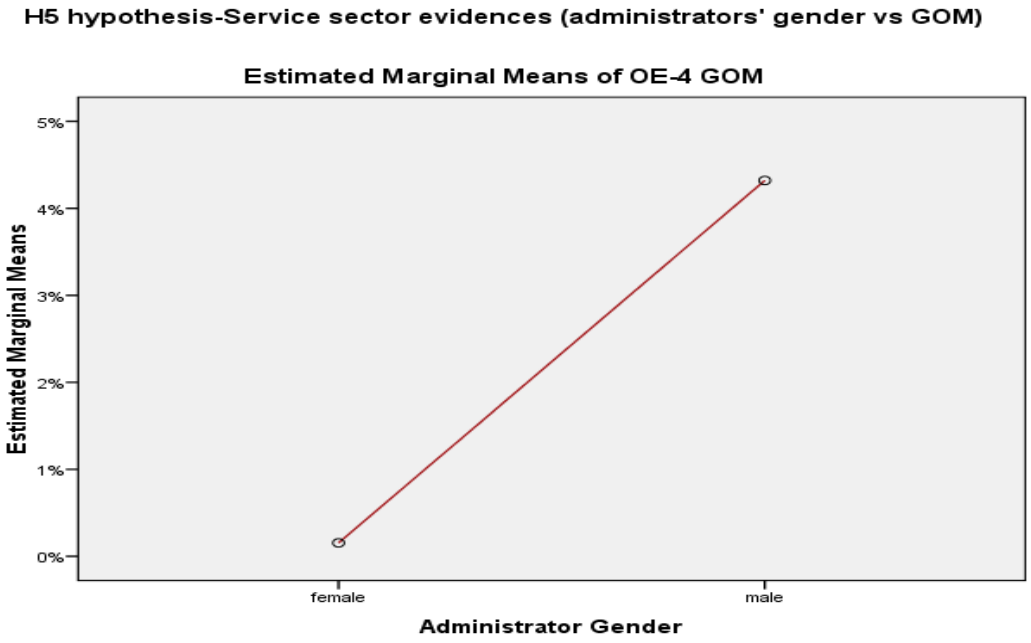


Figure 77. Estimated marginal means of GOM concerning administrators gender in service sector
Source: Primary data collection, Author elaboration with SPSS

Closely referring to the examinations performed it can be underlined that merely administrators gender doesn't influence GOM, thus, H5 hypothesis can be rejected. Levenes' test demonstrated differences in the major part of examinations concerning GOM errors variance differences between administrators gender groups. While estimated marginal means instead generated contradictory results (trade vs construction and service vs production) regarding administrators gender preferences on GOM.

H6: Borrowers' status and LTDER contemporaneously negatively affect GOM regardless sectoral affiliation;
Borrowers' status and LTDER don't simultaneously affect GOM in trade sector closely referring to the below statistics (Table 201). Separately instead only LTDER affects GOM. And Levenes' test demonstrates that differences exist in GOM errors variance between borrowers' groups (Table 20 in Appendix C). According to estimated marginal means (Figure 78) it should be added that performing borrowers' status quotes for higher GOM in comparison with non-

performing status. The LTDER instead marks the highest GOM of 0.7% as per its 1.5%, the lowest instead of -3.8% at 4% by averagely fluctuating at 0%.

Table 202. Tests of Between-Subjects Effects (Borrowers' status and LTDER vs GOM) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4 GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Sq.	Noncent. Param.	Observ Power[b]
Corrected Model	31.056[a]	26	1.194	28.692	.000	.992	746.004	1.000
Intercept	5.501	1	5.501	132.153	.000	.957	132.153	1.000
RA1LTDER * Borrowers' Status	.002	1	.002	.046	.837	.008	.046	.054
RA1LTDER	13.397	24	.558	13.409	.002	.982	321.821	.998
Borrowers' Status	.003	1	.003	.070	.800	.012	.070	.056
Error	.250	6	.042					
Total	33.263	33						
Corrected Total	31.305	32						

a. R Squared = .992 (Adjusted R Squared = .957)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

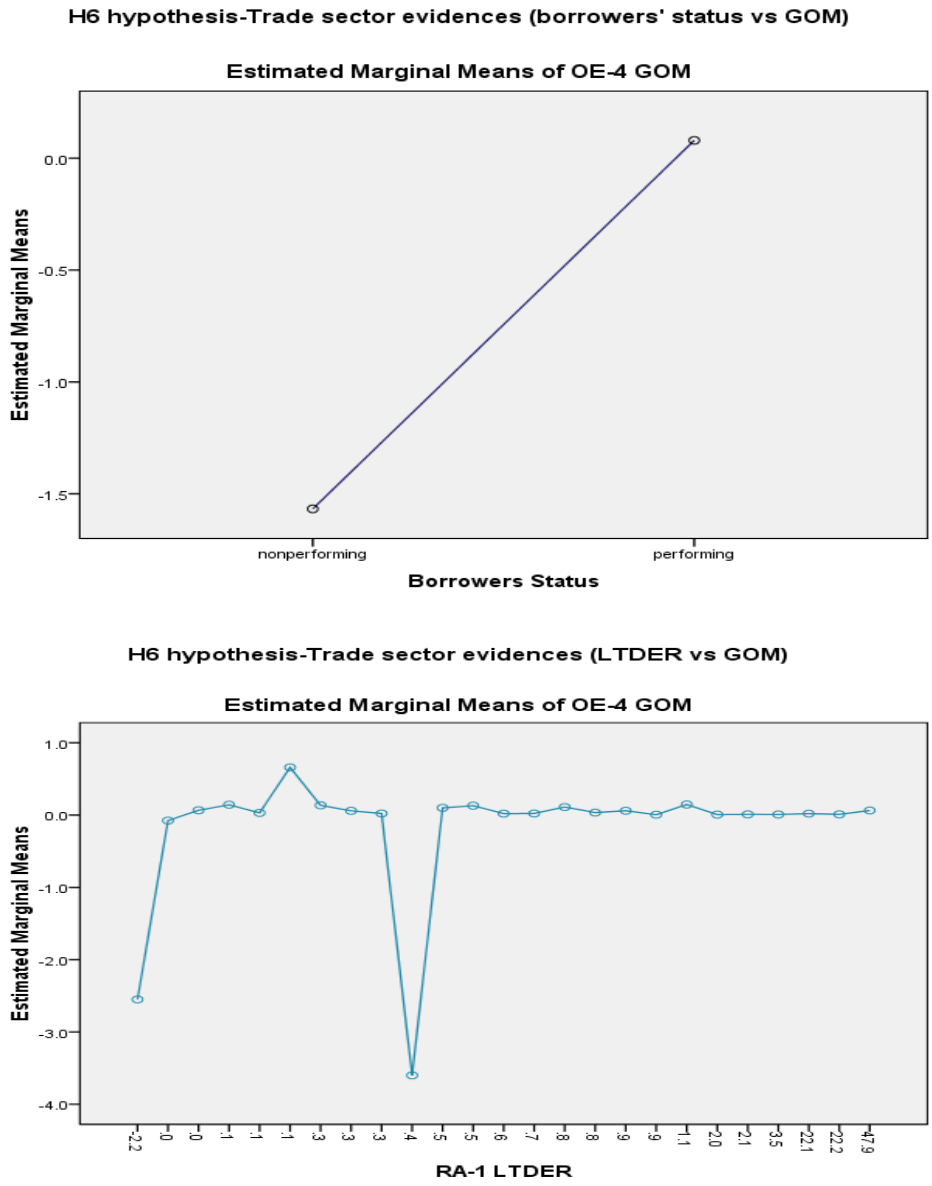


Figure 78. Estimated marginal means of GOM concerning Borrowers' status and LTDER impact in trade sector
Source: Primary data collection, Author elaboration with SPSS

Production sector evidences reveals that LTDER and borrowers' status don't simultaneously affect GOM (Table 202). Neither of a/m variables doesn't even separately affect GOM. Comparatively, Levenes' test confirms significant differences in GOM errors variance between borrowers' status groups (Appendix 21/Table X). While estimated marginal means affirm (see Figure 79) the contrary of relationship between borrowers' status and GOM with the one of trade sector.

And for LTDER and GOM relationship it is confirmed that the first fluctuates above 30% on GOM level, and the highest GOM of 120% is marked at 346% LTDER level.

Table 203. Tests of Between-Subjects Effects (Borrowers' status and LTDER vs GOM) in production sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4 GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	20919.662[a]	32	653.739	.	.	1.000	.	.
Intercept	6520.811	1	6520.811	.	.	1.000	.	.
RA1LTDER	20552.194	31	662.974	.	.	1.000	.	.
Borrowers' Status	.000	0	.	.	.	.	.	.
RA1LTDER * Borrowers' Status	.000	0	.	.	.	.	.	.
Error	.000	0	.					
Total	28103.650	33						
Corrected Total	20919.662	32						

a. R Squared = 1.000

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

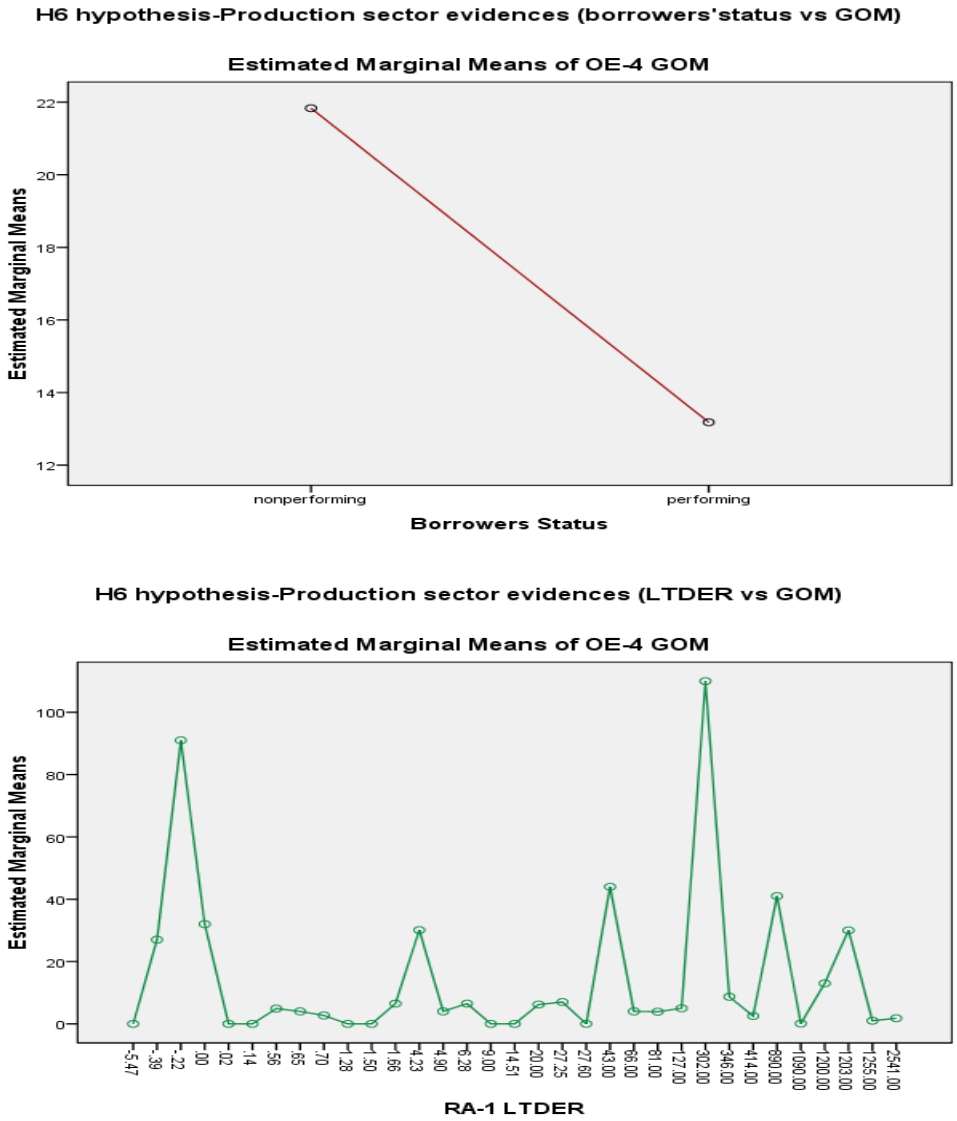


Figure 79. Estimated marginal means of GOM concerning Borrowers 'status and LTDER impact in production sector
Source: Primary data collection, Author elaboration with SPSS

Even in construction sector borrowers' status and LTDER don't have a simultaneous impact on GOM (Table 203). Any significant relation doesn't exist even by separately treating the examined variables. In controversy the differences existence in GOM errors variance between borrowers' status groups is confirmed through Levenes' test data (Table 22 in Appendix C). Estimated marginal means also confirm (see Figure 80) that performing status businesses maintain higher GOM in comparison with non-performing ones. LTDER instead shows that averagely it is maintained a low GOM within the sector.

Table 204. Tests of Between-Subjects Effects (Borrowers' status and LTDER vs GOM) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4 GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	39065.894[a]	32	1220.809	.	.	1.000	.	.
Intercept	759.084	1	759.084	.	.	1.000	.	.
RA1LTDER	38403.608	31	1238.826	.	.	1.000	.	.
Borrowers' Status	.000	0	.	.	.	.	.	.
RA1LTDER * Borrowers' Status	.000	0	.	.	.	.	.	.
Error	.000	0	.					
Total	41026.532	33						
Corrected Total	39065.894	32						

a. R Squared = 1.000

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

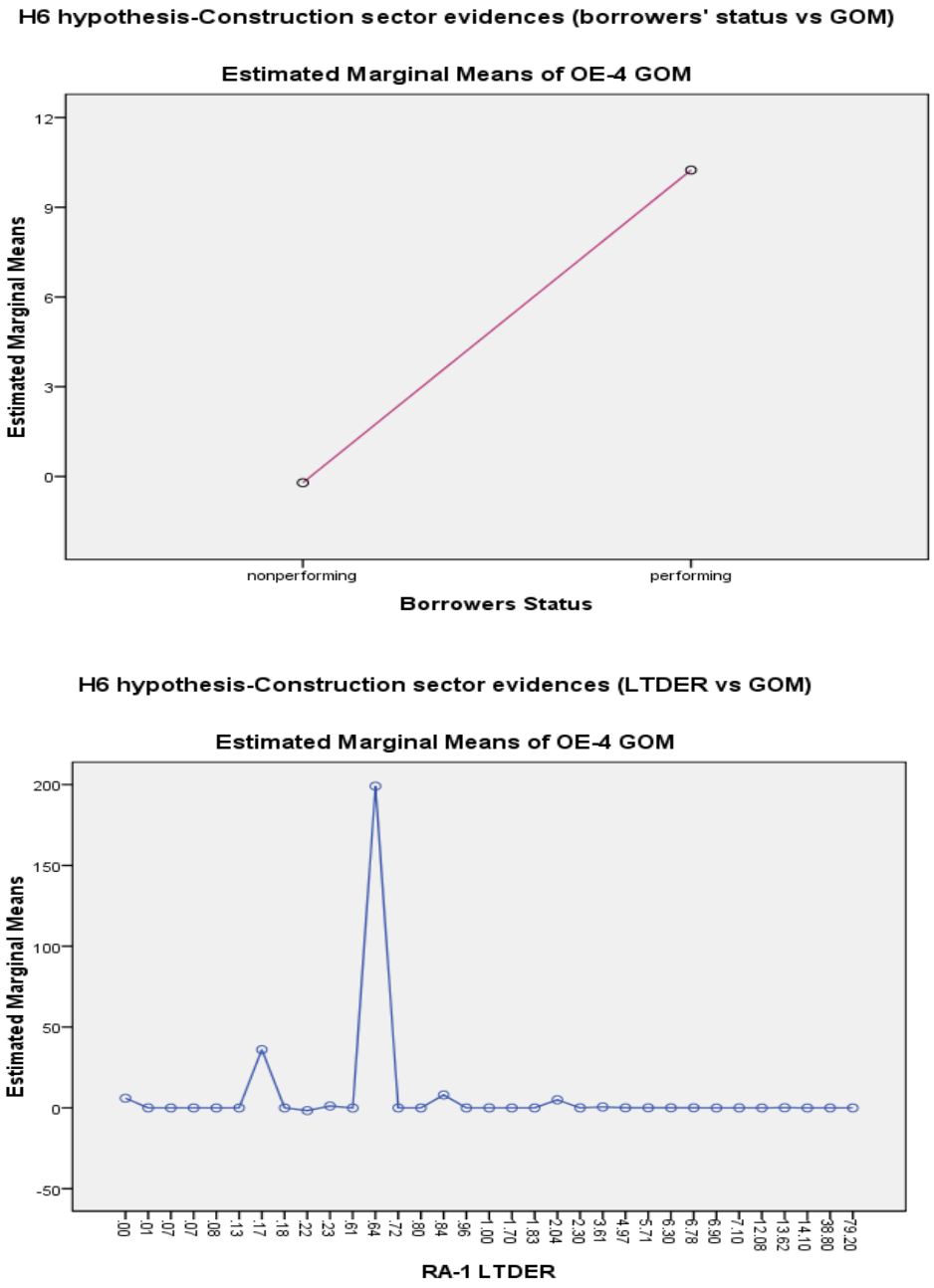


Figure 80. Estimated marginal means of GOM concerning Borrowers' status and LTDER impact in construction sector
Source: Primary data collection, Author elaboration with SPSS

Under the same context remain also service sector statistics concerning borrowers' status and LTDER simultaneous impact on GOM. Furthermore it doesn't exist any individual relationship between variables taken into consideration (Table 204) and GOM. However Levenes' test confirms differences in GOM errors variance between borrowers' groups (refer to Table 23 in Appendix C). And in following the estimated marginal means data (see Figure 81) confirm that performing borrowers' status maintains higher GOM levels than non-performing one, for GOM instead it confirms that its average level according to LTDER values is 7%.

Table 205. Tests of Between-Subjects Effects (Borrowers' status and LTDER vs GOM) in service sector

Tests of Between-Subjects Effects

Dependent Variable:OE-4 GOM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	1069.910[a]	16	66.869	.348	.966	.410	5.563	.107
Intercept	5.623	1	5.623	.029	.868	.004	.029	.053
Borrowers' Status	.000	0	.	.	.	.000	.000	.
RA1LTDER	809.317	15	53.954	.281	.984	.345	4.208	.095
Borrowers' Status * RA1LTDER	.000	0	.	.	.	.000	.000	.
Error	1538.618	8	192.327					
Total	2912.456	25						
Corrected Total	2608.528	24						

a. R Squared = .410 (Adjusted R Squared = -.770)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

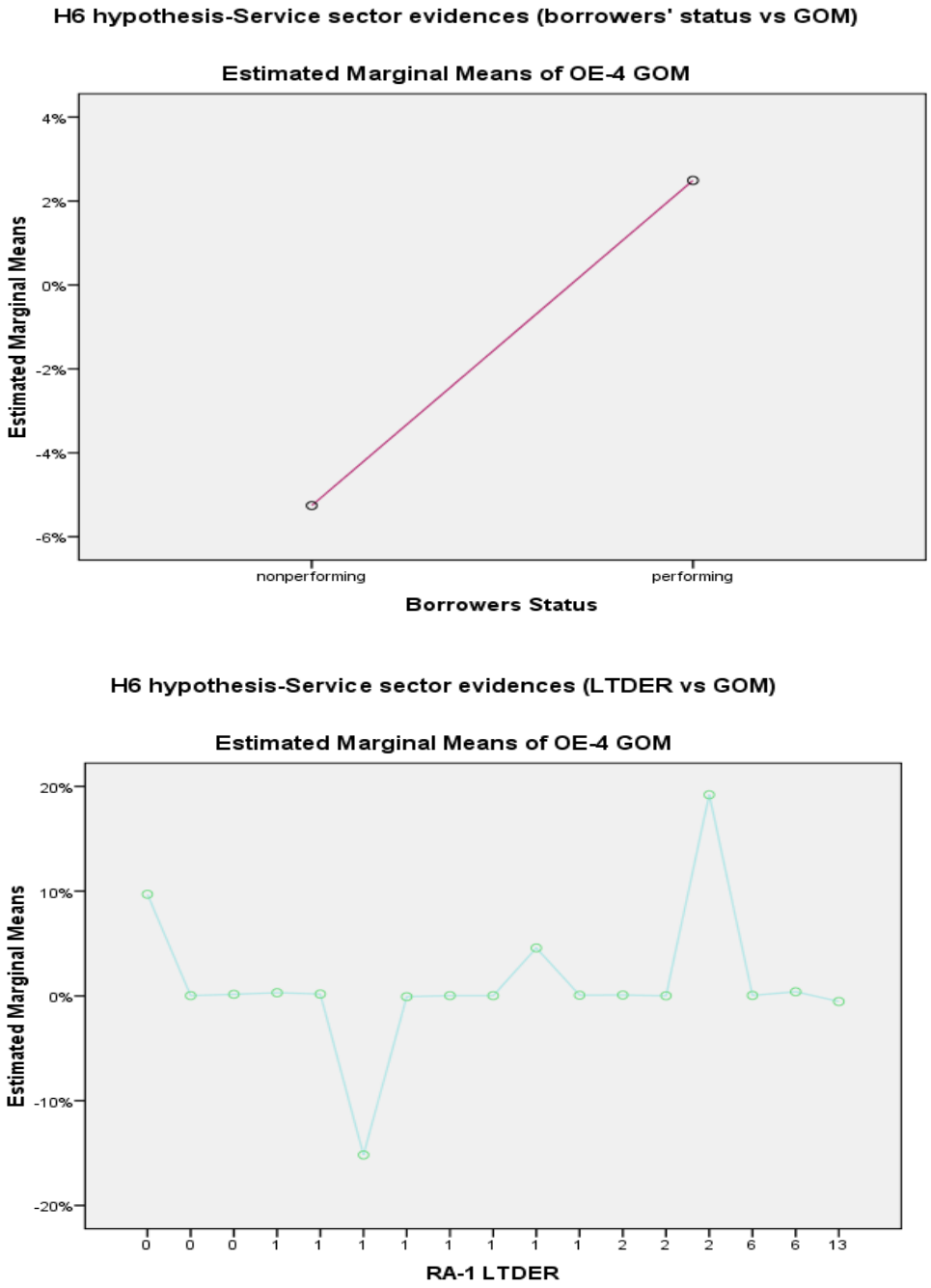


Figure 81. Estimated marginal means of GOM concerning Borrowers' status and LTDER impact in service sector
Source: Primary data collection, Author elaboration with SPSS

In general it should be confirmed that borrowers' status and LTDER don't have a simultaneous significant impact on GOM in each of sector-affiliations examined, throughout, H6 hypothesis can be rejected. Nonetheless, Levenes' test statistics confirm the existence of differences in GOM errors variance between borrowers' groups. As well as in the major part of estimated marginal means data revealed that performing borrowers' status opt for higher GOM levels (excluding production sector where the contrary occurs). Meanwhile in respect of LTDER estimated marginal means data confirmed that in trade and construction sectors the average GOM level is above 0%, and increases in service sector (with an average of 7%) followed from the one of production sector (averagely 30%).

H7: Business administration framework and RATR can't simultaneously impact ROE regardless sectoral affiliation;

Business administration framework and RATR can't simultaneously impact ROE in trade sector. Different circumstances reveals while examining independently each of these variables relationship (Table 205 data). Accordingly Levenes' test results (Table 24 in Appendix C) prove the differences in ROE errors variance between business administration groups. In addition estimated marginal means data (Figure 82) show that businesses administrated from owners realize higher ROE values and the contrary worth for them administrated from delegated persons. In addition concerning RATR and its relation with ROE the data confirm that in average ROE is above 0%.

Table 206. Tests of Between-Subjects Effects (Business administration and RATR vs ROE) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:GA1-ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	306.297[a]	31	9.881	4.429E3	.012	1.000	137283.917	1.000
Intercept	2.522	1	2.522	1.131E3	.019	.999	1130.508	.992
ILR5RATR	305.598	30	10.187	4.566E3	.012	1.000	136970.837	1.000
Business administration	.057	1	.057	25.407	.125	.962	25.407	.308
ILR5RATR * Business administration	.000	0	.	.	.	.000	.000	.
Error	.002	1	.002					
Total	312.160	33						
Corrected Total	306.299	32						

a. R Squared = 1.000 (Adjusted R Squared = 1.000)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

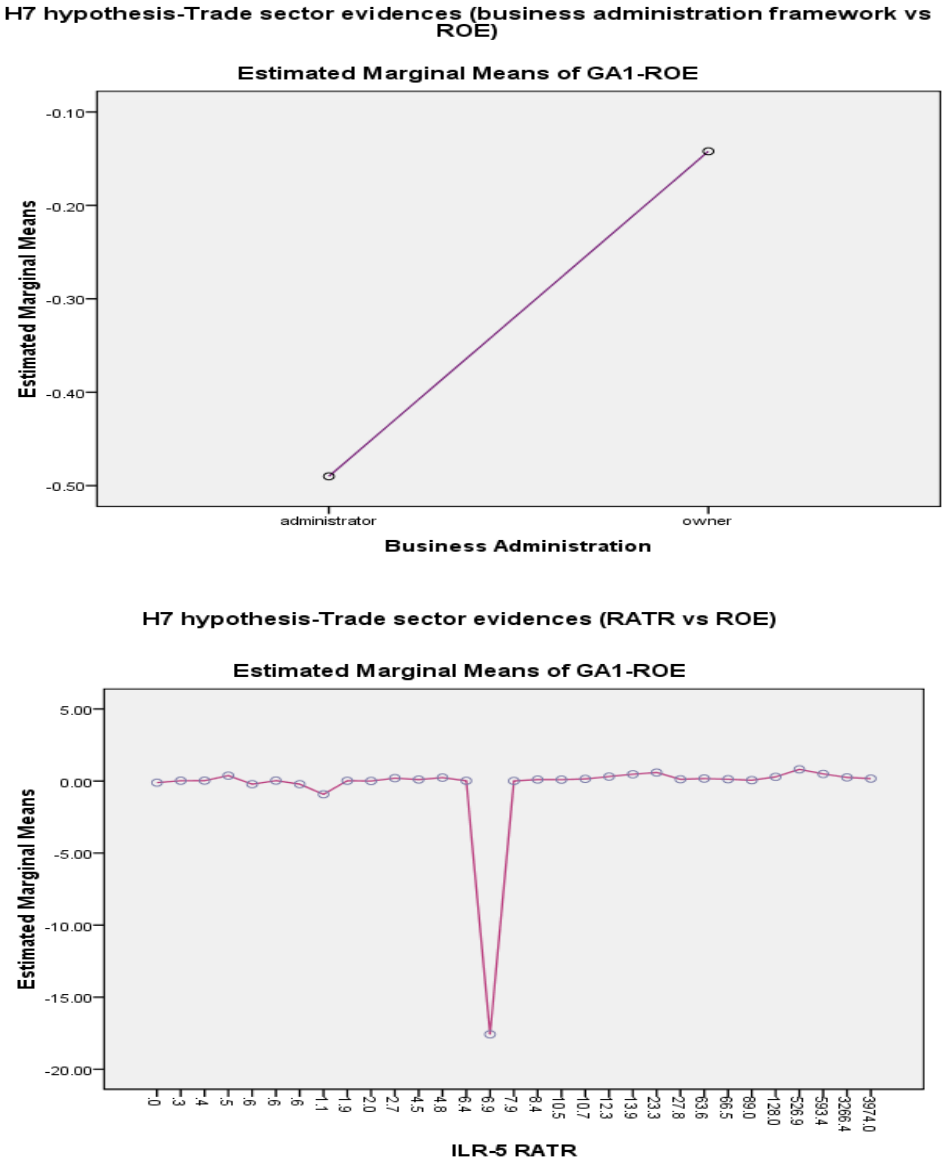


Figure 82. Estimated marginal means of ROE concerning Business administration framework and RATR impact in trade sector
Source: Primary data collection, Author elaboration with SPSS

Production sector data reveal that business administration framework and RATR can't impact ROE (Table 206) but individual relations exist. Simultaneously Levenes' test data show the existence of differences in ROE errors variance between business administration groups as per Table 25 in Appendix C. Through, as evidenced even in trade sector estimated marginal means is confirmed that

businesses administrated from owners generate higher ROE levels than the one managed from administrators (Figure 83). Higher ROE levels instead are averagely evaluated (above 20%) concerning RATR relationship with the latter.

Table 207. Tests of Between-Subjects Effects (Business administration and RATR vs ROE) in production sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	13174.535[a]	23	572.806	8.985	.001	.958	206.654	.999
Intercept	4055.021	1	4055.021	63.607	.000	.876	63.607	1.000
ILR5RATR	13154.438	22	597.929	9.379	.001	.958	206.339	.999
Business administration	4.909	1	4.909	.077	.788	.008	.077	.057
ILR5RATR * Business administration	.000	0	.	.	.	.000	.000	.
Error	573.764	9	63.752					
Total	17204.894	33						
Corrected Total	13748.299	32						

a. R Squared = .958 (Adjusted R Squared = .852)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

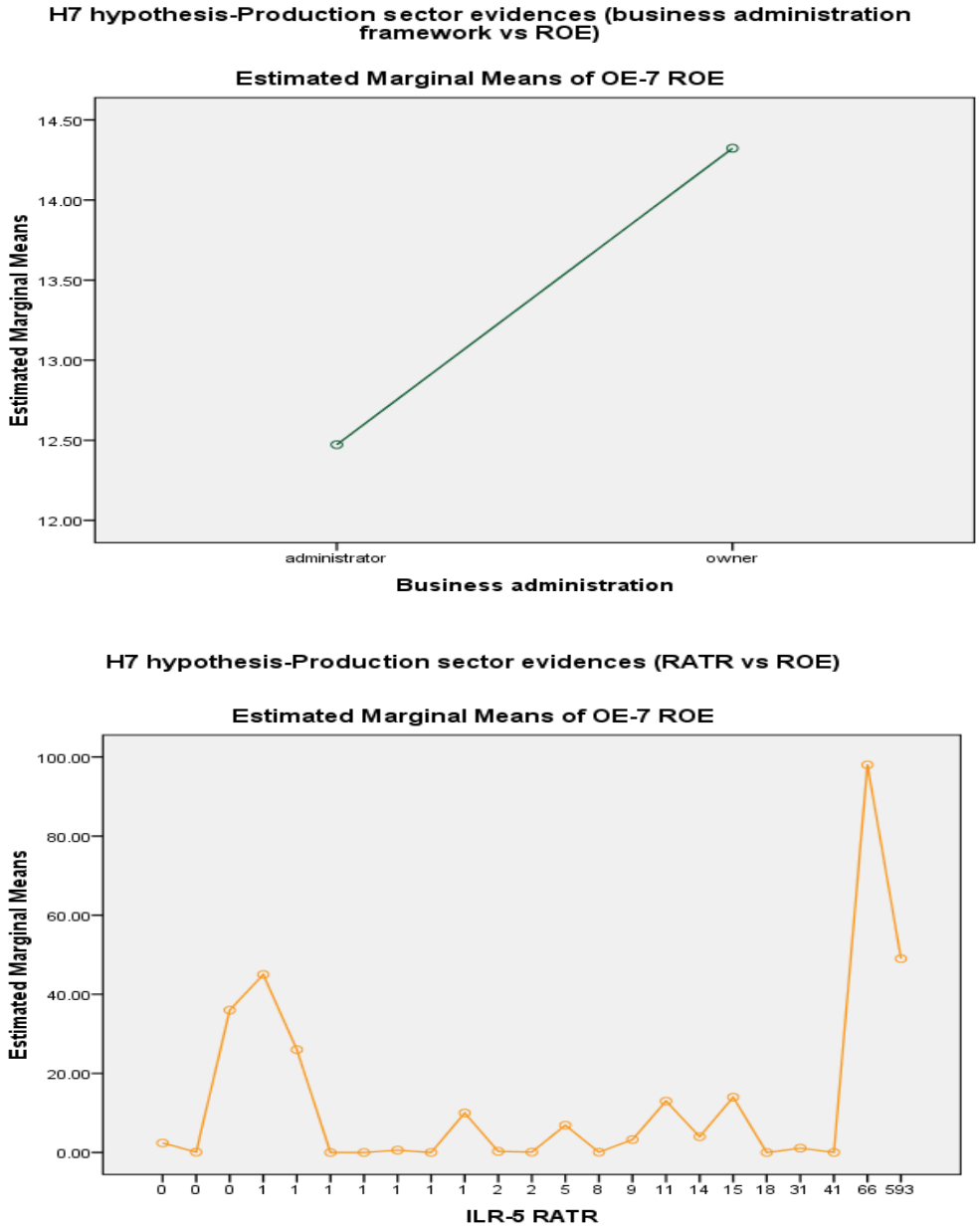


Figure 83. Estimated marginal means of ROE concerning Business administration framework and RATR impact in production sector
Source: Primary data collection, Author elaboration with SPSS

The simultaneous impact of business administration framework and RATR on construction sector ROE is statistically insignificant. The same is valid even considering the individual variables relations (refer to Table below). From the other side rumors are evidenced referring to Levenes' test data as per the existence of differences in ROE errors variance between two business administration groups (Appendix C/Table 26).

Here the estimated marginal means confirm that businesses administrated from professionals perform better in term of ROE than the one managed from owners themselves. While RATR results affirm that average ROE level is above 25% (as per Figure 84).

Table 208. Tests of Between-Subjects Effects (Business administration and RATR vs ROE) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	.363[a]	19	.019	.353	.977	.379	6.716	.125
Intercept	.240	1	.240	4.432	.059	.287	4.432	.484
ILR5RATR	.350	18	.019	.360	.974	.371	6.479	.126
Business administration	.027	1	.027	.493	.497	.043	.493	.099
ILR5RATR * Business administration	.000	0	.	.	.	.000	.000	.
Error	.595	11	.054					
Total	1.558	31						
Corrected Total	.958	30						

a. R Squared = .379 (Adjusted R Squared = -.693)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

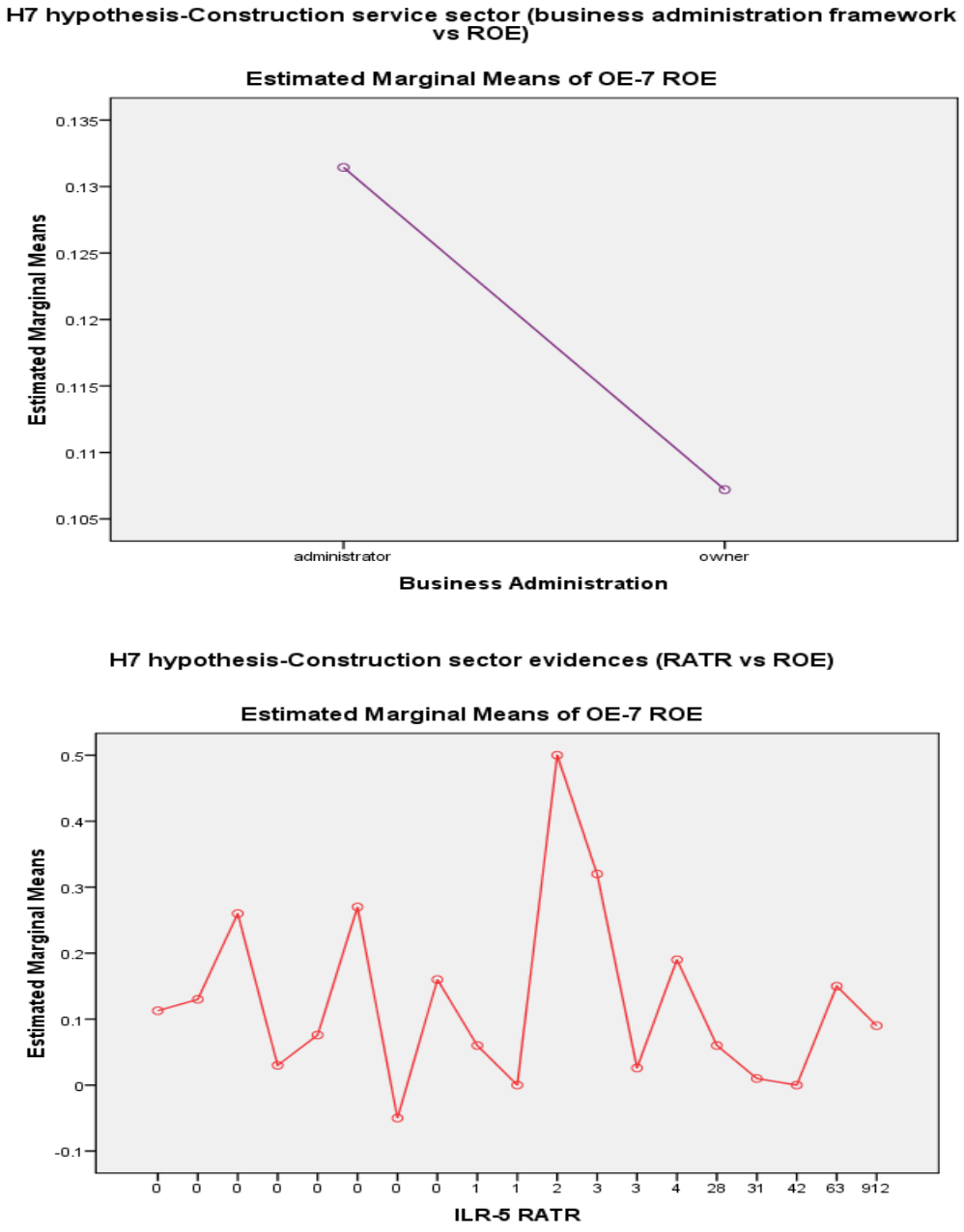


Figure 84. Estimated marginal means of ROE concerning Business administration framework and RATR impact in construction sector
Source: Primary data collection, Author elaboration with SPSS

Statistically based business administration framework and RATR can't simultaneously affect ROE in service sector (below Table). The same is valid for

the a/m variables individual relationships. But Levenes' test argues on significant differences between ROE errors variance between business administration groups (Table 27 in Appendix C). Comparatively estimated marginal means (Figure 85) data confirm that businesses administrated from skilled professionals opt for higher ROE levels in controversy with them managed from owners themselves. With special regard to RATR data, here it can be demonstrated that average ROE level maintained is above 20%.

Table 209. Tests of Between-Subjects Effects (Business administration and RATR vs ROE) in service sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	22150.558[a]	30	738.352	12.204	.223	.997	366.125	.182
Intercept	3348.696	1	3348.696	55.350	.085	.982	55.350	.441
ILR5RATR	22137.990	29	763.379	12.618	.220	.997	365.917	.184
Business administration	235.126	1	235.126	3.886	.299	.795	3.886	.124
ILR5RATR * Business administration	.000	0	.	.	.	.000	.000	.
Error	60.500	1	60.500					
Total	26037.870	32						
Corrected Total	22211.058	31						

a. R Squared = .997 (Adjusted R Squared = .916)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

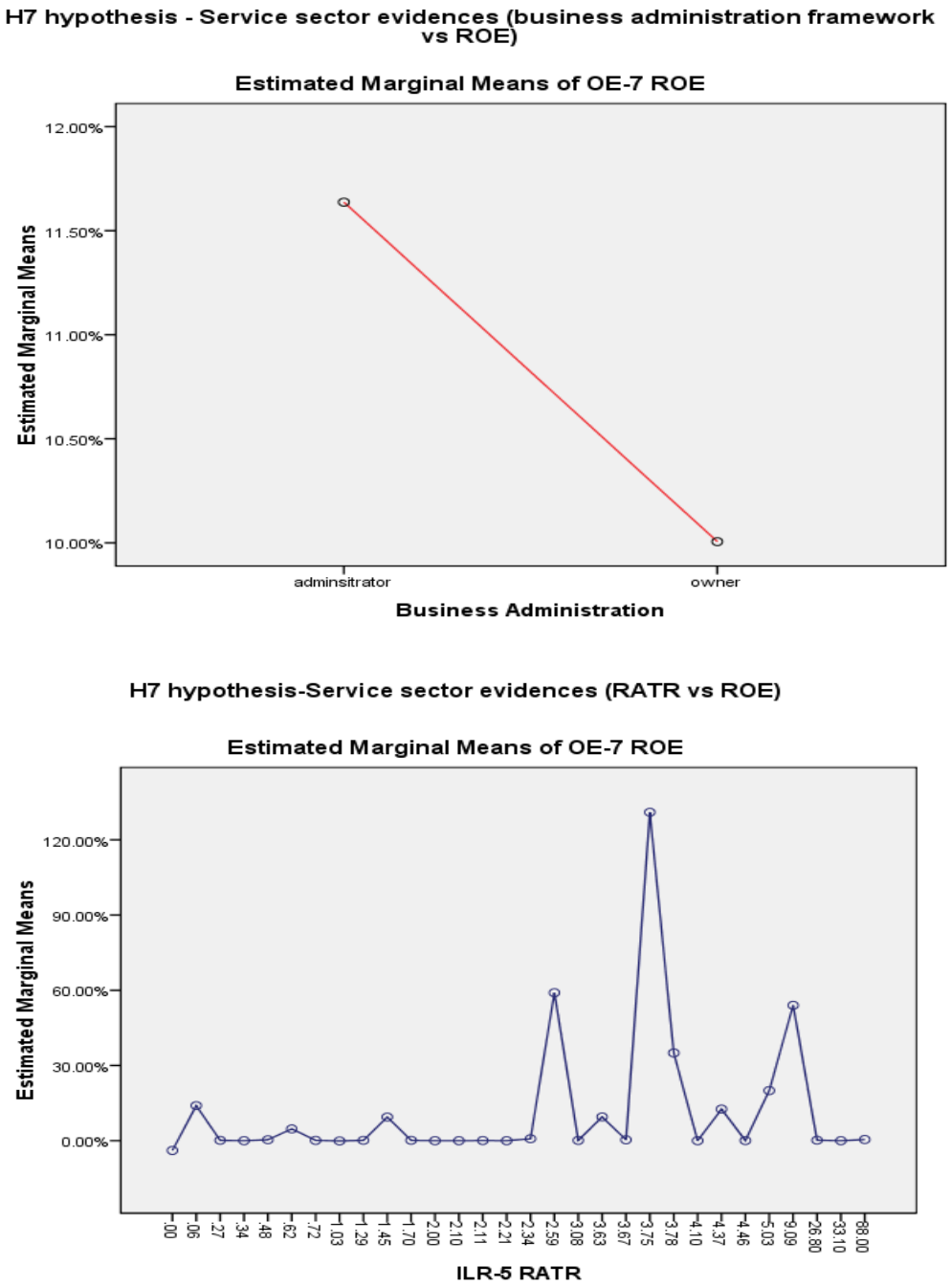


Figure 85. Estimated marginal means of ROE concerning Business administration framework and RATR impact in service sector
Source: Primary data collection, Author elaboration with SPSS

According to the statistical evaluations it can be affirmed that, in each sectoral examination the simultaneous effect of business administration framework and RATR on ROE is statistically insignificant at 95% confidence level. By this way, H7 hypothesis results valid. In addition RATR had a statistical significant impact at the same confidence level on ROE in production sector. As well as worth mentioned that Levenes' test results affirm the existence of differences in ROE errors variance between business administration groups. Estimated marginal means from the other side confirmed contradictory results concerning ROE performance on behalf of different business administration phylosophies. Thus, in trade and production sector the owners management provides higher ROE levels than the one generated from administrators and vice versa occurs as per construction and service sectors. Meanwhile averagely, in production, construction and service sector RATR data correspond to 20%-25% ROE level (the lowest average ROE level is marked in trade sector with above 0%).

H8: Equity origin, firm age and business size have a simultaneous impact on ROA regardless sectoral affiliation;

Neither simultaneously nor independently equity origin, business size and firm age can't impact ROA in trade sector (refer to below Table). The differences instead in ROA errors variance are confirmed through Levenes' test result (Table 28 in Appendix C). The estimated marginal means results demonstrate that foreign, than national and mixed equity businesses prefer to maintain high ROA levels (Figure 86).

The business size and firm age results instead confirm that respectively maintain ROA at 17% and 20% levels.

Table 210. Tests of Between-Subjects Effects (Equity origin, business size and firm age vs ROA) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:GA-1 ROA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	1.234[a]	32	.039	.	.	1.000	.	.
Intercept	.005	1	.005	.	.	1.000	.	.
Equity Origin	2.592E-5	1	2.592E-5	.	.	1.000	.	.
BoS	.269	20	.013	.	.	1.000	.	.
Firm Age	.000	0	.	.	.	.	.	.
Equity Origin * BoS * Firm Age	.000	0	.	.	.	.	.	.
Error	.000	0	.					
Total	1.275	33						
Corrected Total	1.234	32						

a. R Squared = 1.000 (Adjusted R Squared = .)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

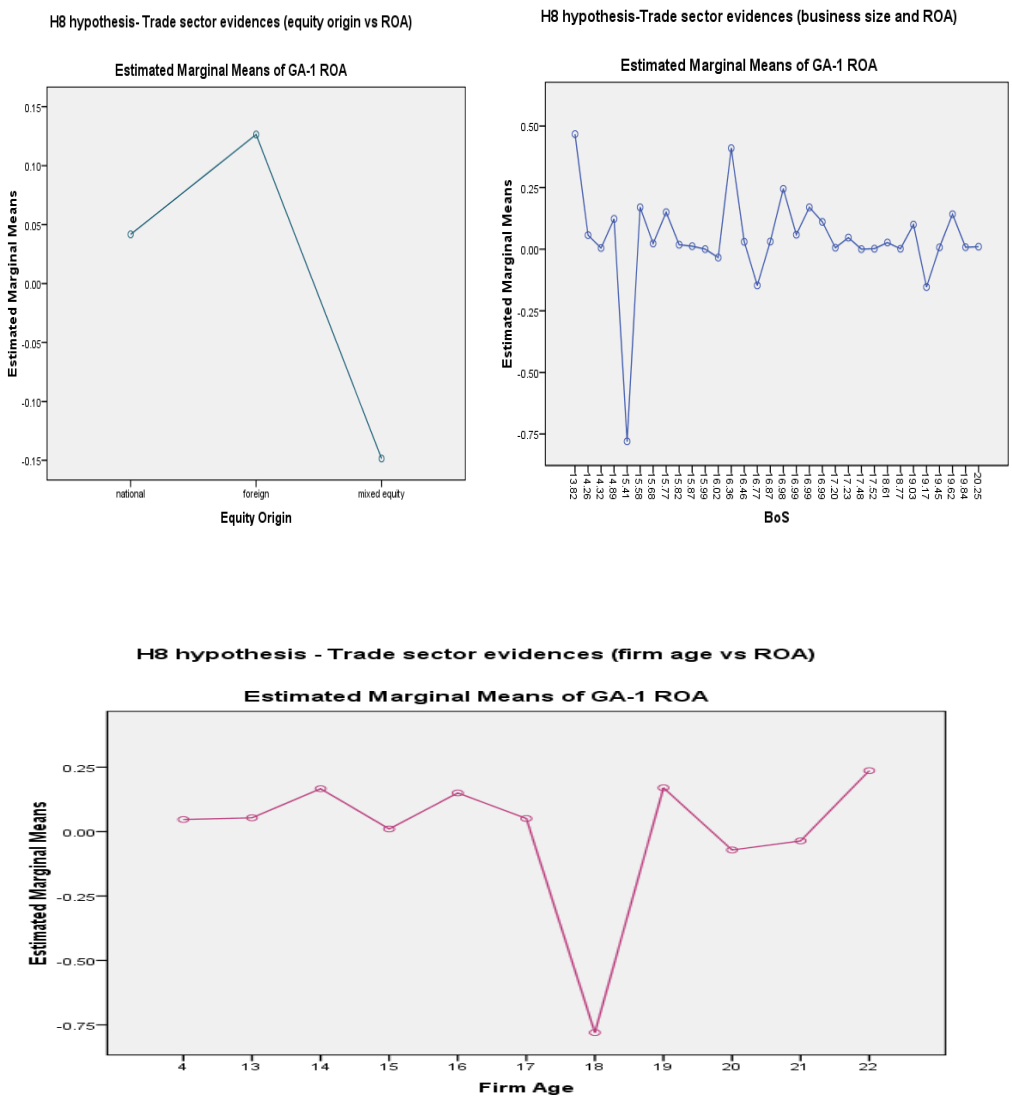


Figure 86. Estimated marginal means of ROA concerning Equity origin, Firm age and Size impact in trade sector
Source: Primary data collection, Author elaboration with SPSS

The same situation persists even in production sector regarding the simultaneous statistically insignificant impact of equity origin, business size and age on ROA (Table 210). Levenes' test doesn't produce results as only national equity businesses pertain to production sector (Table 29/Appendix C). But from the estimated marginal means results (in Figure 87) it can be concluded that averagely ROA concerning firm age and business size respectively captures 13% and 0% levels.

Table 211. Tests of Between-Subjects Effects (Equity origin, business size and firm age vs ROA) in production sector

Tests of Between-Subjects Effects

Dependent Variable:GA-1 ROA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	93.083[a]	32	2.909	.	.	1.000	.	.
Intercept	.836	1	.836	.	.	1.000	.	.
Equity Origin	.000	0	.	.	.	.	.	.
Firm Age	.000	0	.	.	.	.	.	.
BoS	79.151	19	4.166	.	.	1.000	.	.
Equity Origin * Firm Age * BoS	.000	0	.	.	.	.	.	.
Error	.000	0	.					
Total	96.180	33						
Corrected Total	93.083	32						

a. R Squared = 1.000 (Adjusted R Squared = .)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

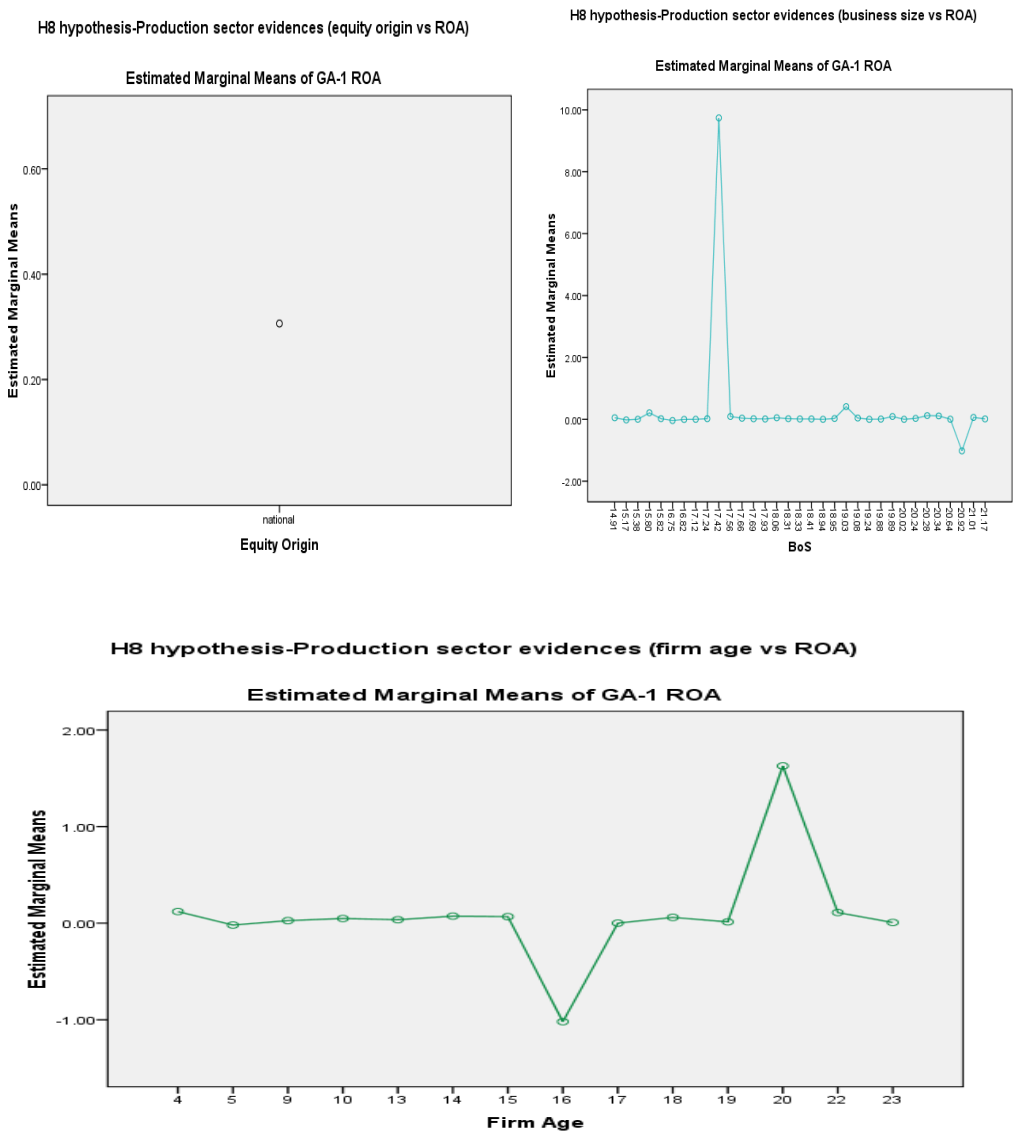


Figure 87. Estimated marginal means of ROA concerning Equity origin, Firm age and Size impact in production sector
Source: Primary data collection, Author elaboration with SPSS

According to the following statistics it can be highlighted the fact that the simultaneous impact on ROA of equity origin, business size and age in construction sector is insignificant (see Table 211). Levenes' test result confirms that differences in ROA errors variance exist between equity origin groups referring to Table 30 in Appendix C. Furthermore on behalf of estimated marginal means (in Figure 88) mixed-equity businesses generate higher ROA than foreign

and national ones. Whereas business size and age relation with ROA demonstrates that in average the latter is above 10% and 15% respectively.

Table 212. Tests of Between-Subjects Effects (Equity origin, business size and firm age vs ROA) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:GA-1 ROA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	.228[a]	31	.007	.	.	1.000	.	.
Intercept	.081	1	.081	.	.	1.000	.	.
Firm Age	.000	0	.	.	.	.	.	.
Equity Origin	.000	0	.	.	.	.	.	.
BoS	.148	17	.009	.	.	1.000	.	.
Firm Age * Equity Origin * BoS	.000	0	.	.	.	.	.	.
Error	.000	0	.					
Total	.329	32						
Corrected Total	.228	31						

a. R Squared = 1.000 (Adjusted R Squared = .)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

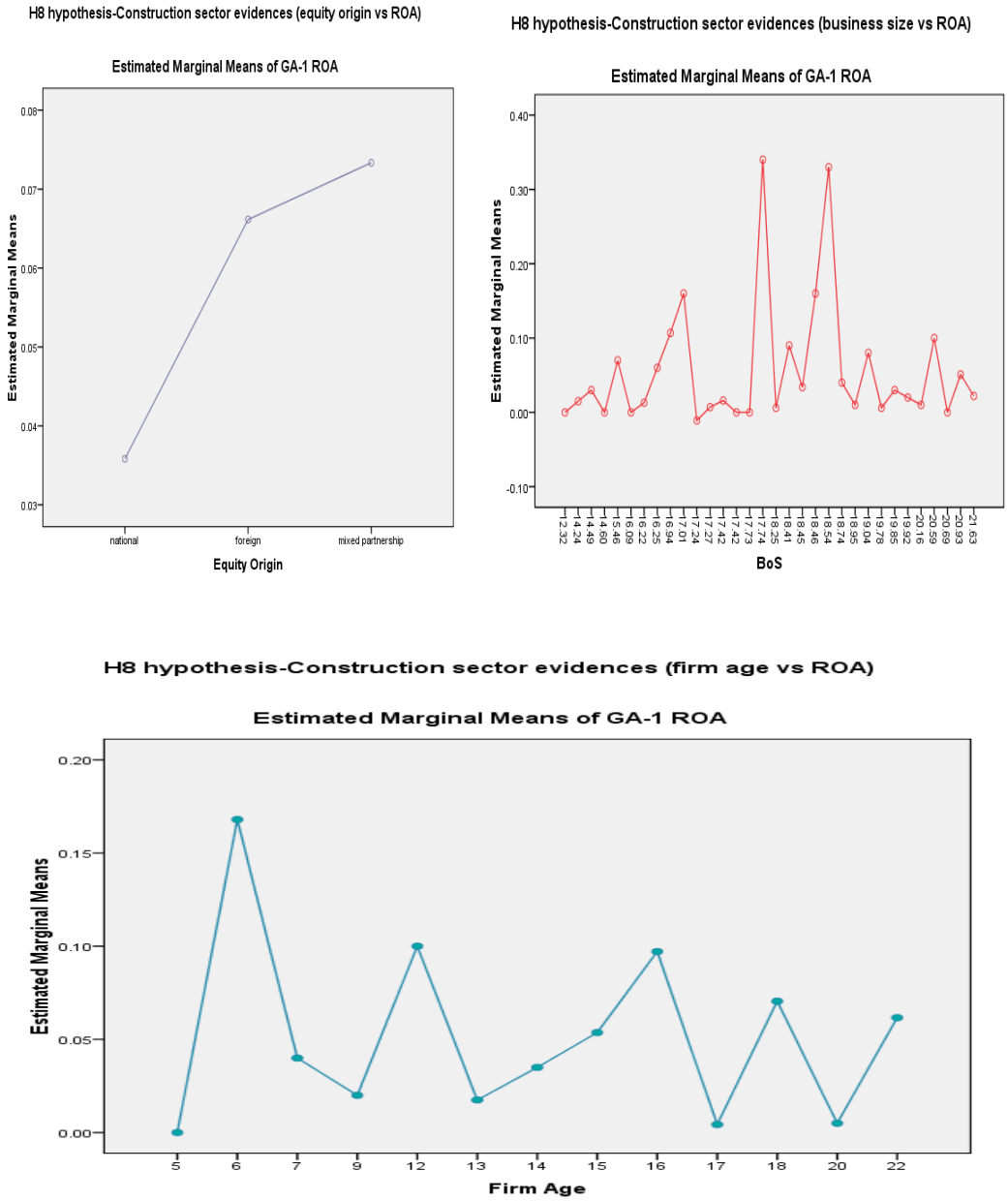


Figure 88. Estimated marginal means of ROA concerning Equity origin, Firm age and Size impact in construction sector

Source: Primary data collection, Author elaboration with SPSS

On a statistical context (see Table 212) it can be highlighted that firm age, size and equity origin can't simultaneously impact ROA in service sector. Levenes' test confirms the differences that exist between ROA errors variance and equity origin

groups (as can be evidenced in Table 31/Appendix C). Almost referring to the latter, the estimated marginal means (Figure 89) demonstrated that mixed equity businesses generate a higher ROA than national ones. While business size and age relation in confront of ROA respectively confirms that its average level is maintained in 3-4%.

Table 213. Tests of Between-Subjects Effects (Equity origin, business size and firm age vs ROA) in service sector

Tests of Between-Subjects Effects

Dependent Variable:GA-1 ROA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	277.827[a]	31	8.962	.	.	1.000	.	.
Intercept	3.583	1	3.583	.	.	1.000	.	.
Firm Age	.000	0	.	.	.	.	.	.
Equity Origin	.000	0	.	.	.	.	.	.
BoS	56.827	19	2.991	.	.	1.000	.	.
Firm Age * Equity Origin * BoS	.000	0	.	.	.	.	.	.
Error	.000	0	.					
Total	279.037	32						
Corrected Total	277.827	31						

a. R Squared = 1.000 (Adjusted R Squared = .)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

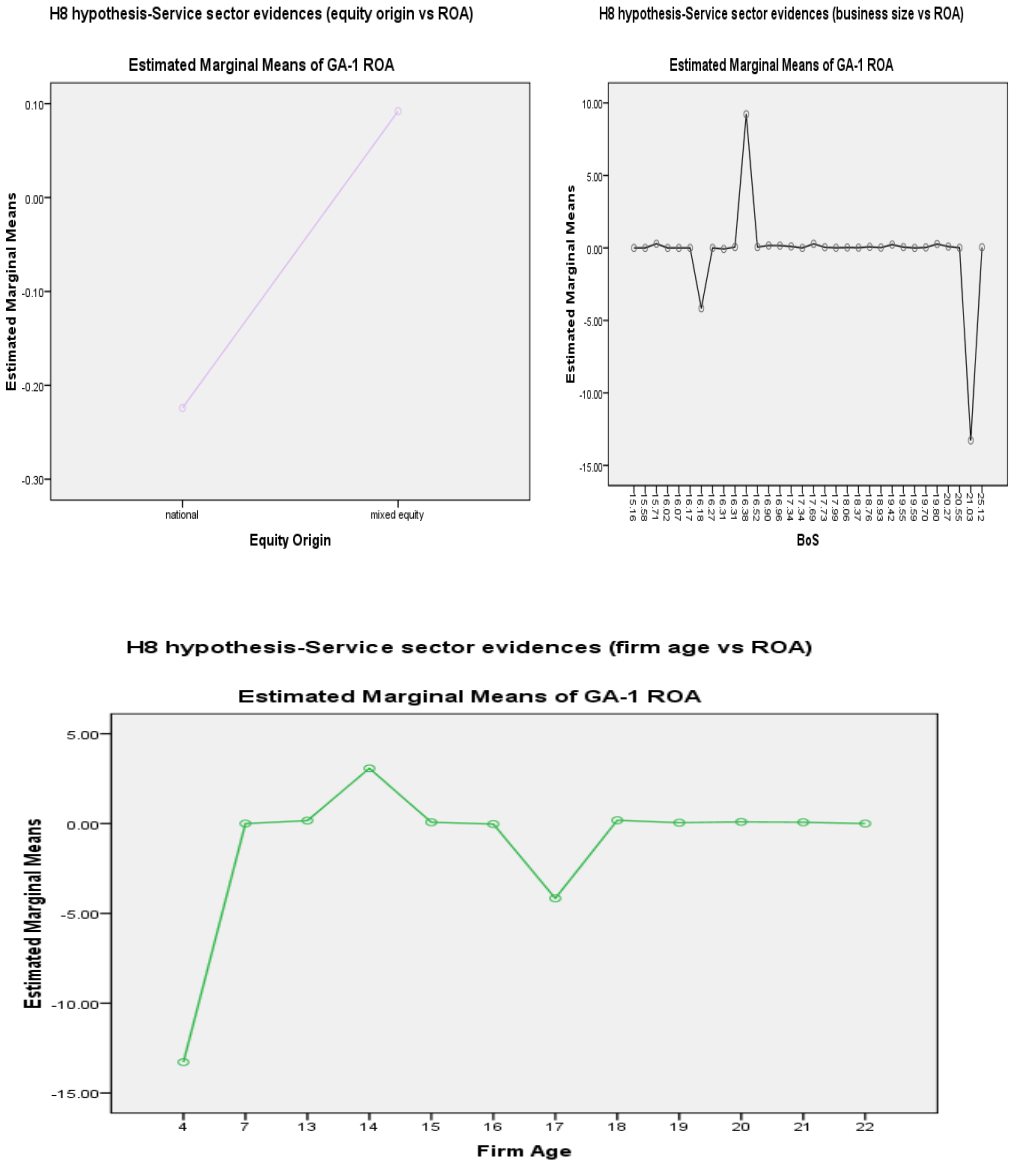


Figure 89. Estimated marginal means of ROA concerning Equity origin, Firm age and Size impact in service sector
Source: Primary data collection, Author elaboration with SPSS

As per above mentioned statistics, the H8 hypothesis can be rejected. Despite the fact that rumors concerning ROA errors variance between equity origin groups are evidenced in each of the sectoral examinations as well as estimated marginal means contradictory results revealed in trade and construction sector concerning highest ROA level generation. By the same way, referring to business size and age

concerning ROA it can be affirmed that the highest levels are identified in trade sector (with 17% and 20% respectively), followed from the ones of construction sector (with 10% and 15% respectively), production sector (with 0% and 13% respectively) and ultimately service sector (with 3-4% respectively).

H9: Borrowers' status, firm age and TAN have a multiple impact on ROA and ROE regardless sectoral affiliation;

In a deeper examination framework trying to capture the exact impact of business age on performance measures such as ROA and ROE, the business size classification in start-up, growth and maturity phase was implemented.

Accordingly:
Trade sector examined statistics demonstrate that doesn't exist the multiple impact of borrowers' status, firm age and TAN on ROA and ROE (see Table 213 data). TAN is statistically significant to ROE and the same can be confirmed for borrowers' status as per both dependent variables. Contemporaneously, Levenes' test argues on the existence of differences in ROA and ROEs errors variance between borrowers' groups and firm age (see Table 32 in Appendix C). In reference to the borrowers' status estimated marginal means it can be affirmed that performing borrowers generate higher ROAs and ROEs and the vice versa occurs as per non-performing ones. Meanwhile the highest ROA is respectively noted in grown, start-up and maturity businesses. For ROE instead the highest is marked in start-up, grown and maturity businesses. According to TAN statistics it can be said that the average ROA and ROE respectively remain at 18% and 3% levels (see Figure 90).

Table 214. Tests of Between-Subjects Effects (Borrowers' status, Assets tangibility and Firm age vs ROA and ROE) in trade sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	GA-1 ROA	1.118[a]	29	.039	.994	.596	.906	28.814	.126
	GA1-ROE	306.108[c]	29	10.555	165.719	.001	.999	4805.843	1.000
Intercept	GA-1 ROA	.117	1	.117	3.008	.181	.501	3.008	.232
	GA1-ROE	42.239	1	42.239	663.145	.000	.995	663.145	1.000
OE8TAN	GA-1 ROA	.620	26	.024	.614	.793	.842	15.972	.096
	GA1-ROE	234.892	26	9.034	141.837	.001	.999	3687.763	1.000
Firm age_A	GA-1 ROA	.015	1	.015	.381	.581	.113	.381	.073
	GA1-ROE	.244	1	.244	3.831	.145	.561	3.831	.279
Borrowers' Status	GA-1 ROA	.716	1	.716	18.467	.023	.860	18.467	.807
	GA1-ROE	1.008	1	1.008	15.832	.028	.841	15.832	.751
OE8TAN * Firm age_A * Borrowers' Status	GA-1 ROA	.000	0	.	.	.	.000	.000	.
	GA1-ROE	.000	0	.	.	.	.000	.000	.

Error	GA-1 ROA	.116	3	.039					
	GA1-ROE	.191	3	.064					
Total	GA-1 ROA	1.275	33						
	GA1-ROE	312.160	33						
Corrected Total	GA-1 ROA	1.234	32						
	GA1-ROE	306.299	32						

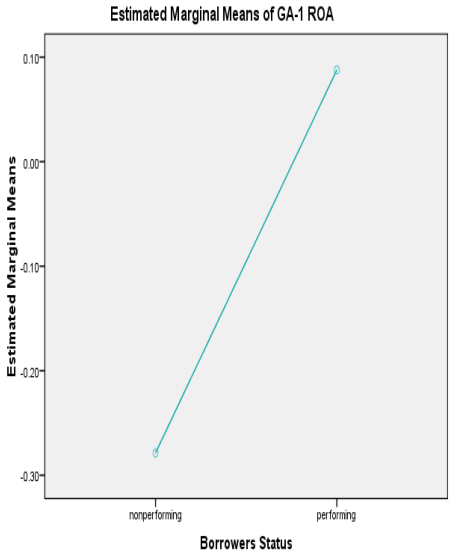
a. R Squared = .906 (Adjusted R Squared = -.006)

b. Computed using alpha = .05

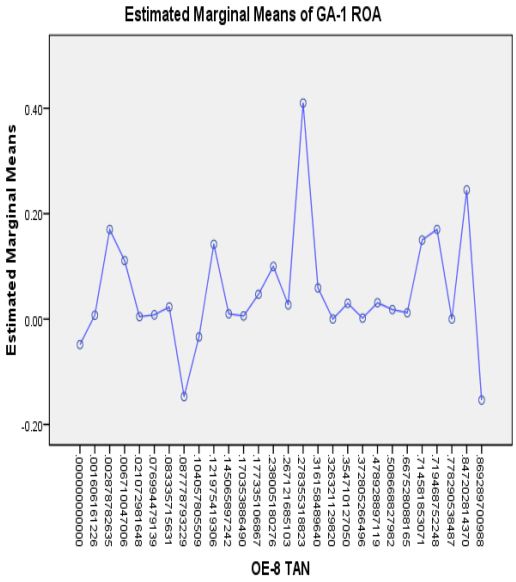
c. R Squared = .999 (Adjusted R Squared = .993)

Source: Primary data collection, Author elaboration with SPSS

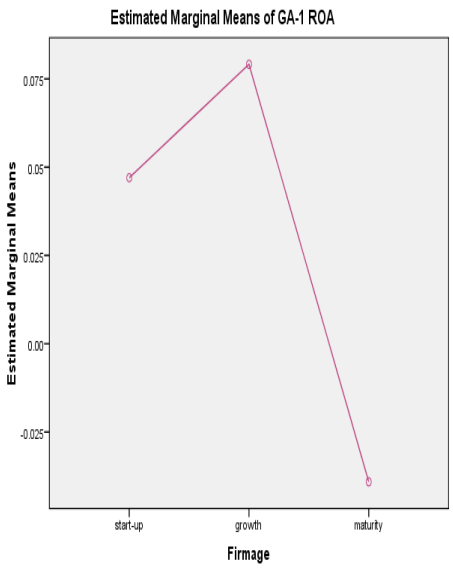
H9-Trade sector evidences (borrowers' status vs ROA)



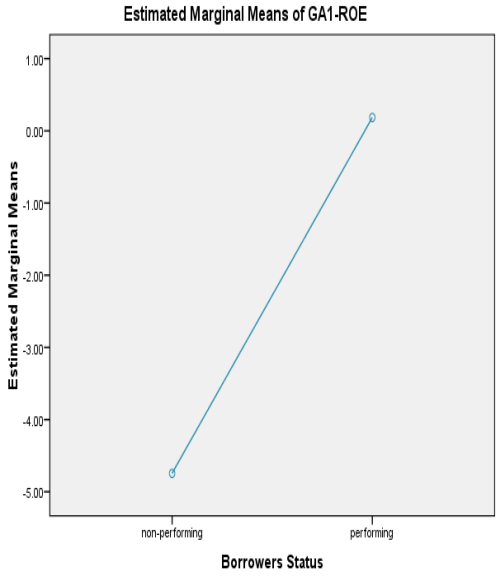
H9-Trade sector evidences (TAN vs ROA)



H9 hypothesis-Trade sector evidences (firm age vs ROA)



H9 hypothesis-Trade sector evidences (borrowers' status vs ROE)



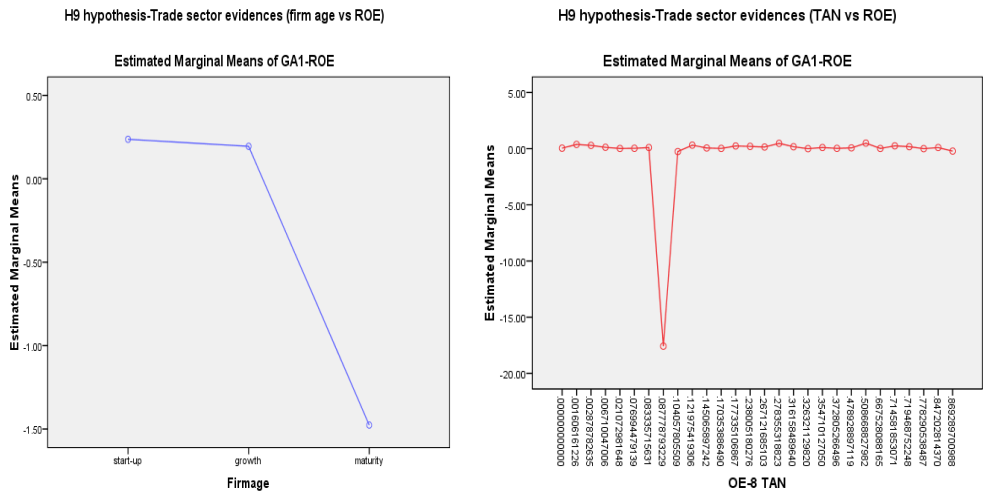


Figure 90. Estimated marginal means of ROA and ROE concerning Borrowers' status, Firm age and TAN impact in trade sector
Source: Primary data collection, Author elaboration with SPSS

As per statistical examinations performed in production sector it can be highlighted that the multiple impact of firm age, borrowers' status and TAN on ROA and ROE doesn't exist (excluding the statistically significant impact of TAN on ROA as per Table 214). Moreover accordingly, Levenes' test confirmed rumors concerning borrowers' status and firm age relationship with ROA and ROE (Table 33 in Appendix C). And estimated marginal means revealed that performing borrowers' status generates higher ROAs and ROEs than non-performing ones. Foremost, start-up, grown and then maturity businesses maintain the highest ROE levels and the contrary is valid for ROA (refer to Figure 91). While the results pertaining to TAN relationship with ROA and ROE confirm that they are above 4% and 12% levels.

Table 215. Tests of Between-Subjects Effects (Borrowers' status, Assets tangibility and Firm age vs ROA and ROE) in production sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Sq	F	Sig.	Part Eta Sq	Noncent. Parameter	Ob. Power[b]
Corrected Model	OE-7 ROE	13547.298[a]	31	437.010	2.174	.497	.985	67.399	.089
	GA-1 ROA	93.081[c]	31	3.003	1.379E3	.021	1.000	42736.962	.981

Intercept	OE-7 ROE	2987.953	1	2987.953	14.865	.162	.937	14.865	.238
	GA-1 ROA	.080	1	.080	36.652	.104	.973	36.652	.365
OE8TAN	OE-7 ROE	9642.217	28	344.365	1.713	.549	.980	47.971	.083
	GA-1 ROA	87.359	28	3.120	1.432E3	.021	1.000	40109.543	.983
Firm age_A	OE-7 ROE	.000	0	.	.	.	.000	.000	.
	GA-1 ROA	.000	0	.	.	.	.000	.000	.
Borrowers' Status	OE-7 ROE	.000	0	.	.	.	.000	.000	.
	GA-1 ROA	.000	0	.	.	.	.000	.000	.
OE8TAN * Firm age_A * Borrowers' Status	OE-7 ROE	.000	0	.	.	.	.000	.000	.
	GA-1 ROA	.000	0	.	.	.	.000	.000	.
Error	OE-7 ROE	201.001	1	201.001					
	GA-1 ROA	.002	1	.002					
Total	OE-7 ROE	17204.894	33						
	GA-1 ROA	96.180	33						
Corrected Total	OE-7 ROE	13748.299	32						
	GA-1 ROA	93.083	32						

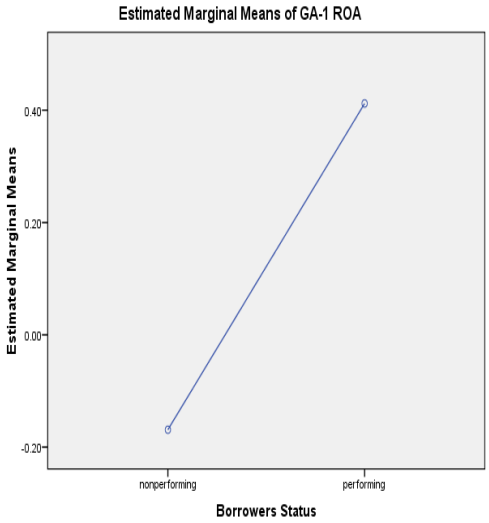
a. R Squared = .985 (Adjusted R Squared = .532)

b. Computed using alpha = .05

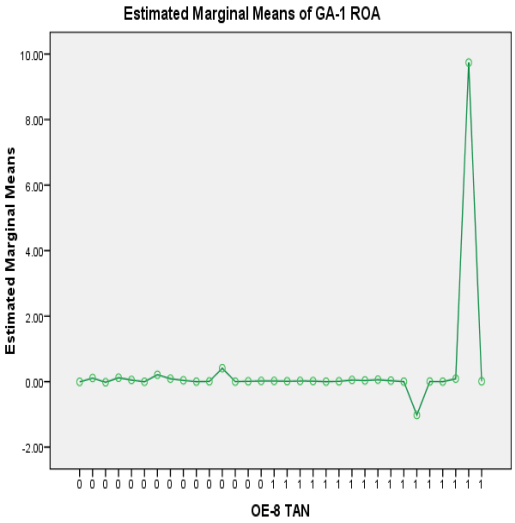
c. R Squared = 1.000 (Adjusted R Squared = .999)

Source: Primary data collection, Author elaboration with SPSS

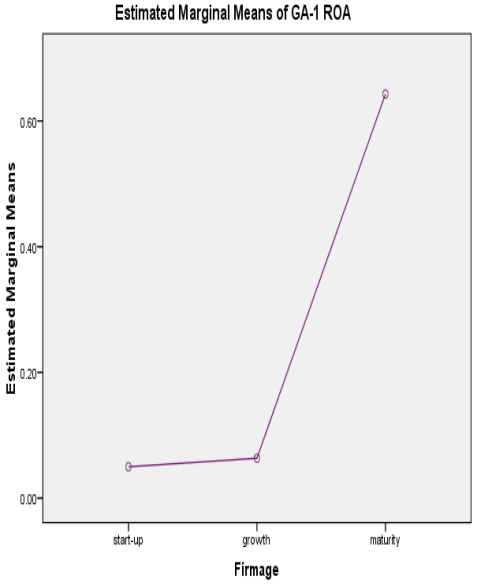
H9 hypothesis-Production sector evidences (borrowers' status vs ROA)



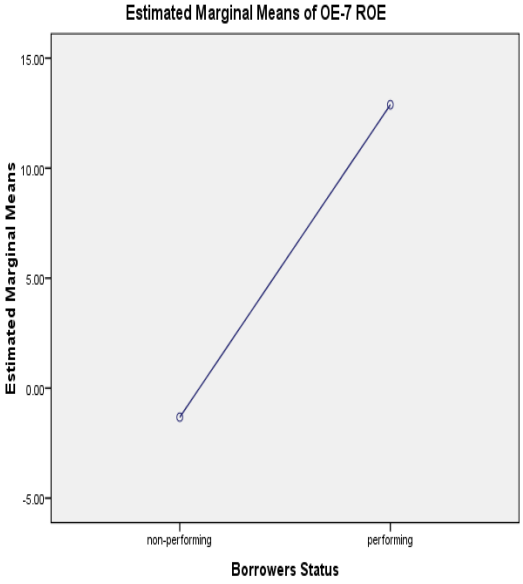
H9 hypothesis- Production sector evidences (TAN vs ROA)



H9 hypothesis-Production sector evidences (firm age vs ROA)



H9 hypothesis-Production sector evidences (borrowers' status vs ROE)



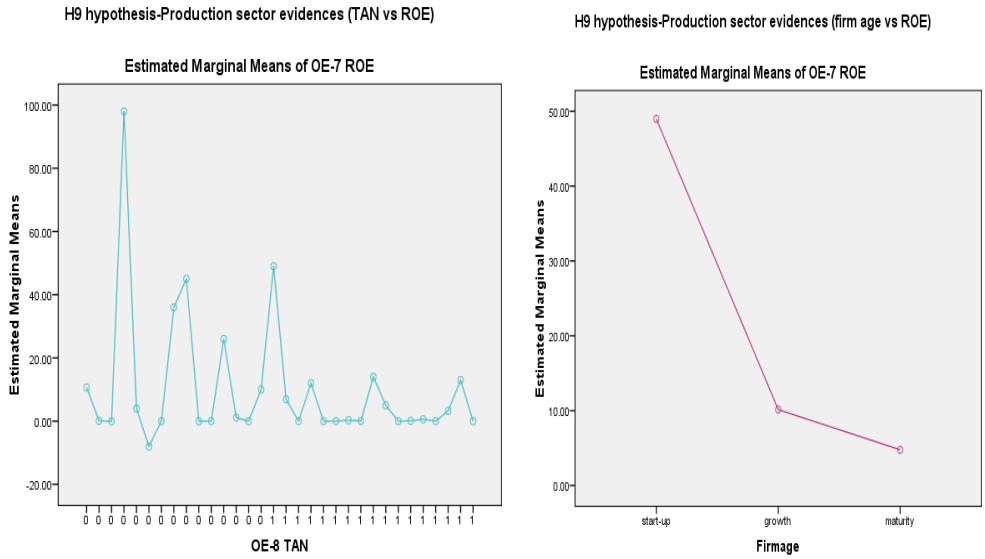


Figure 91. Estimated marginal means of ROA and ROE concerning Borrowers' status, Firm age and TAN impact in production sector
Source: Primary data collection, Author elaboration with SPSS

The below statistics (see Table 215) pertaining to construction sector also confirm that the multiple impact of borrowers' status, TAN and firm age on ROA and ROE is insignificant. However, Levenes' test argues on a potential relation between borrowers' status, and firm age with ROA and ROE (refer to Table 34 in Appendix C). Moreover estimated marginal means (Figure 92) confirm that borrowers' performing status generates higher ROA and ROE levels in controversy with non-performing ones. In addition estimated marginal means data as per firm age confirm that the highest ROE is maintained from start-up businesses, followed from maturity and grown ones.
And as per ROA, the highest is maintained from grown, followed from maturity and start-up businesses. Comparatively, TAN data confirm that generally ROA and ROE are maintained at 17% and 16% levels.

Table 216. Tests of Between-Subjects Effects (Borrowers' status, Assets tangibility and Firm age vs ROA and ROE) in construction sector

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum Sq	df	Mean Sq	F	Sig.	Partial Eta Sq	Noncent. Param	Observ Power[b]
Corrected Model	OE-7 ROE	.882[a]	29	.030	.400	.875	.921	11.597	.059
	GA-1 ROA	.186[c]	29	.006	.164	.980	.826	4.746	.054
Intercept	OE-7 ROE	.298	1	.298	3.912	.298	.796	3.912	.124
	GA-1 ROA	.014	1	.014	.367	.653	.268	.367	.059
OE8TAN	OE-7 ROE	.610	26	.023	.308	.917	.889	8.021	.057
	GA-1 ROA	.168	26	.006	.165	.979	.811	4.291	.054
Firm age_A	OE-7 ROE	.031	1	.031	.405	.639	.288	.405	.060
	GA-1 ROA	.021	1	.021	.539	.597	.350	.539	.063
Borrowers' Status	OE-7 ROE	.000	0	.	.	.	.000	.000	.
	GA-1 ROA	.000	0	.	.	.	.000	.000	.
OE8TAN * Firm age_A * Borrowers' Status	OE-7 ROE	.000	0	.	.	.	.000	.000	.
	GA-1 ROA	.000	0	.	.	.	.000	.000	.
Error	OE-7 ROE	.076	1	.076					
	GA-1 ROA	.039	1	.039					
Total	OE-7 ROE	1.558	31						
	GA-1 ROA	.329	31						
Corrected Total	OE-7 ROE	.958	30						
	GA-1 ROA	.225	30						

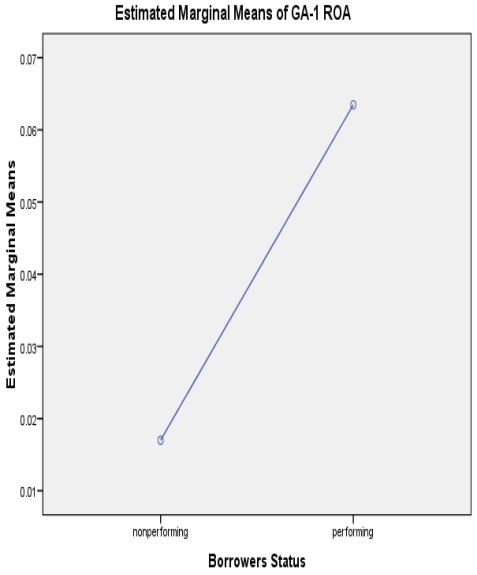
a. R Squared = .921 (Adjusted R Squared = -1.381)

b. Computed using alpha = .05

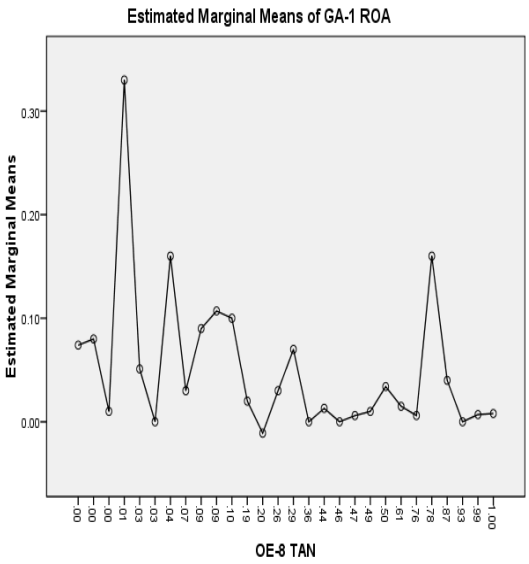
c. R Squared = .826 (Adjusted R Squared = -4.221)

Source: Primary data collection, Author elaboration with SPSS

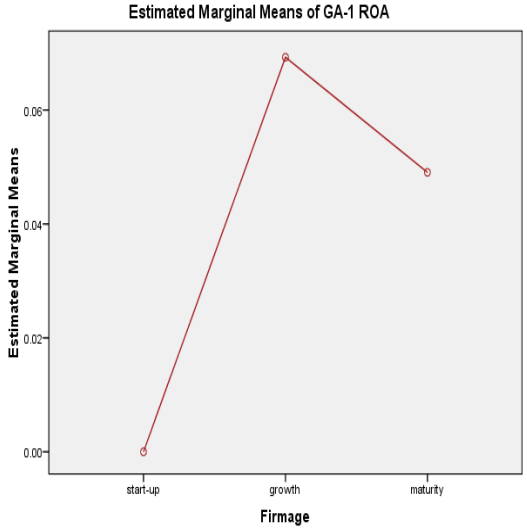
H9 hypothesis-Construction sector evidences (borrowers' status vs ROA)



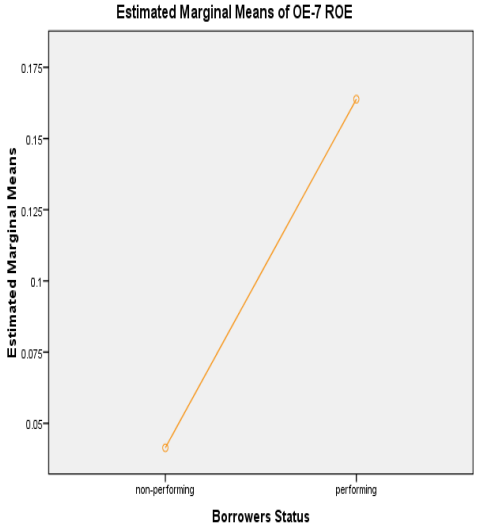
H9 hypothesis-Construction sector evidences (TAN vs ROA)



H9 hypothesis-Construction sector evidences (firm age vs ROA)



H9 hypothesis-Construction sector evidences (borrowers' status vs ROE)



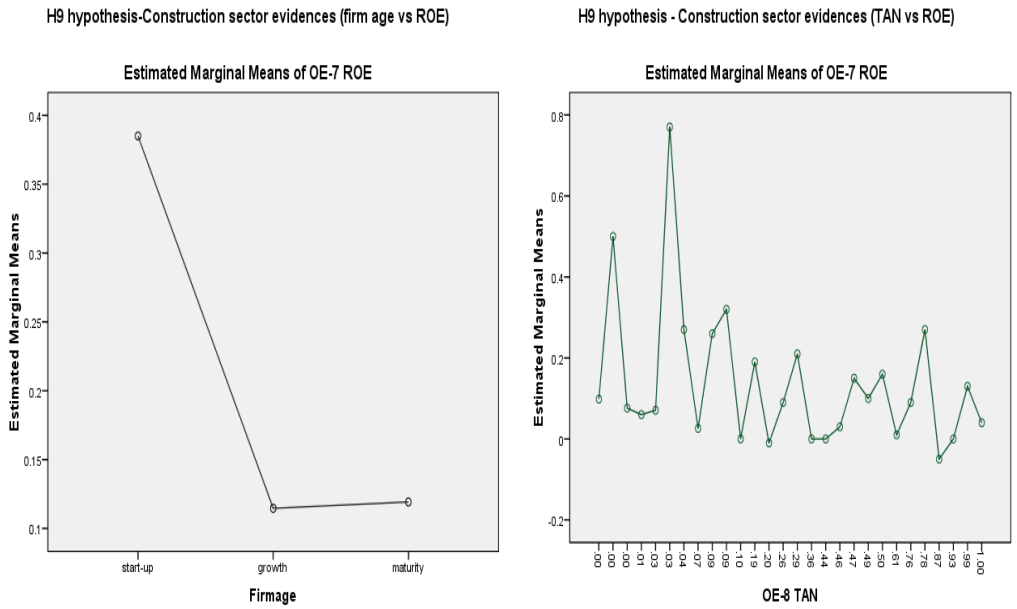


Figure 92. Estimated marginal means of ROA and ROE concerning Borrowers' status, Firm age and TAN impact in construction sector
Source: Primary data collection, Author elaboration with SPSS

Borrowers' status, TAN and firm age don't have a simultaneous impact on ROA and ROE in service sector (see the following data). The contrary is evidenced in Levenes' test results concerning ROA and ROE differences in errors variance between borrowers' status and firm age (see Table 35 in Appendix C).

Precisely estimated marginal means (in Figure 93) show that performing businesses generate higher ROA and ROE than non-performing ones. As well as maturity and then grown businesses maintain highest ROE and ROA levels. Comparatively, TAN in general is maintained at 5% and 15% of ROA and ROE levels.

Table 217. Tests of Between-Subjects Effects (Borrowers' status, Assets tangibility and Firm age vs ROA and ROE) in service sector

Tests of Between-Subjects Effects

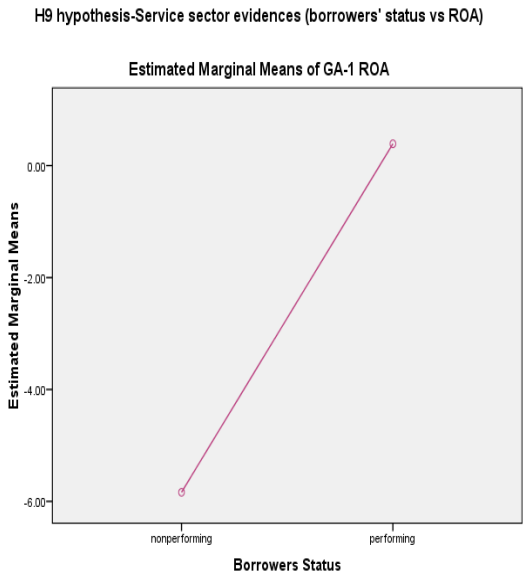
Source	Depend Variabl	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	OE-7 ROE	22211.058[a]	31	716.486	.	.	1.000	.	.
	GA-1 ROA	277.827[a]	31	8.962	.	.	1.000	.	.
Intercept	OE-7 ROE	456.123	1	456.123	.	.	1.000	.	.
	GA-1 ROA	65.881	1	65.881	.	.	1.000	.	.
OE8TAN	OE-7 ROE	19022.031	29	655.932	.	.	1.000	.	.
	GA-1 ROA	171.828	29	5.925	.	.	1.000	.	.
Firm age_A	OE-7 ROE	.000	0	.	.	.	.	.	.
	GA-1 ROA	.000	0	.	.	.	.	.	.
Borrowers' Status	OE-7 ROE	.000	0	.	.	.	.	.	.
	GA-1 ROA	.000	0	.	.	.	.	.	.
OE8TAN * Firm age_A * Borrowers' Status	OE-7 ROE	.000	0	.	.	.	.	.	.
	GA-1 ROA	.000	0	.	.	.	.	.	.

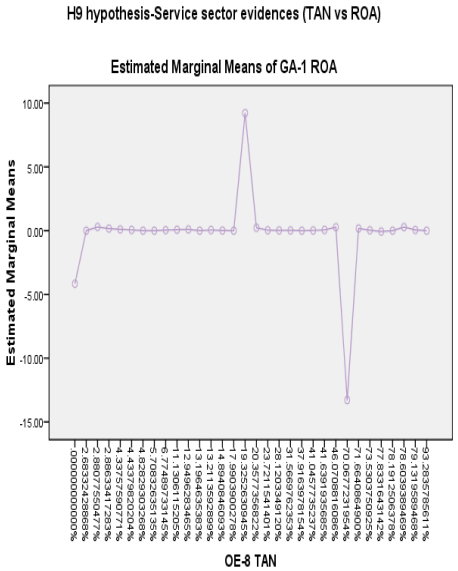
Error	OE-7 ROE	.000	0	.					
	GA-1 ROA	.000	0	.					
Total	OE-7 ROE	26037.870	32						
	GA-1 ROA	279.037	32						
Corrected Total	OE-7 ROE	22211.058	31						
	GA-1 ROA	277.827	31						

a. R Squared = 1.000 (Adjusted R Squared = .)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS





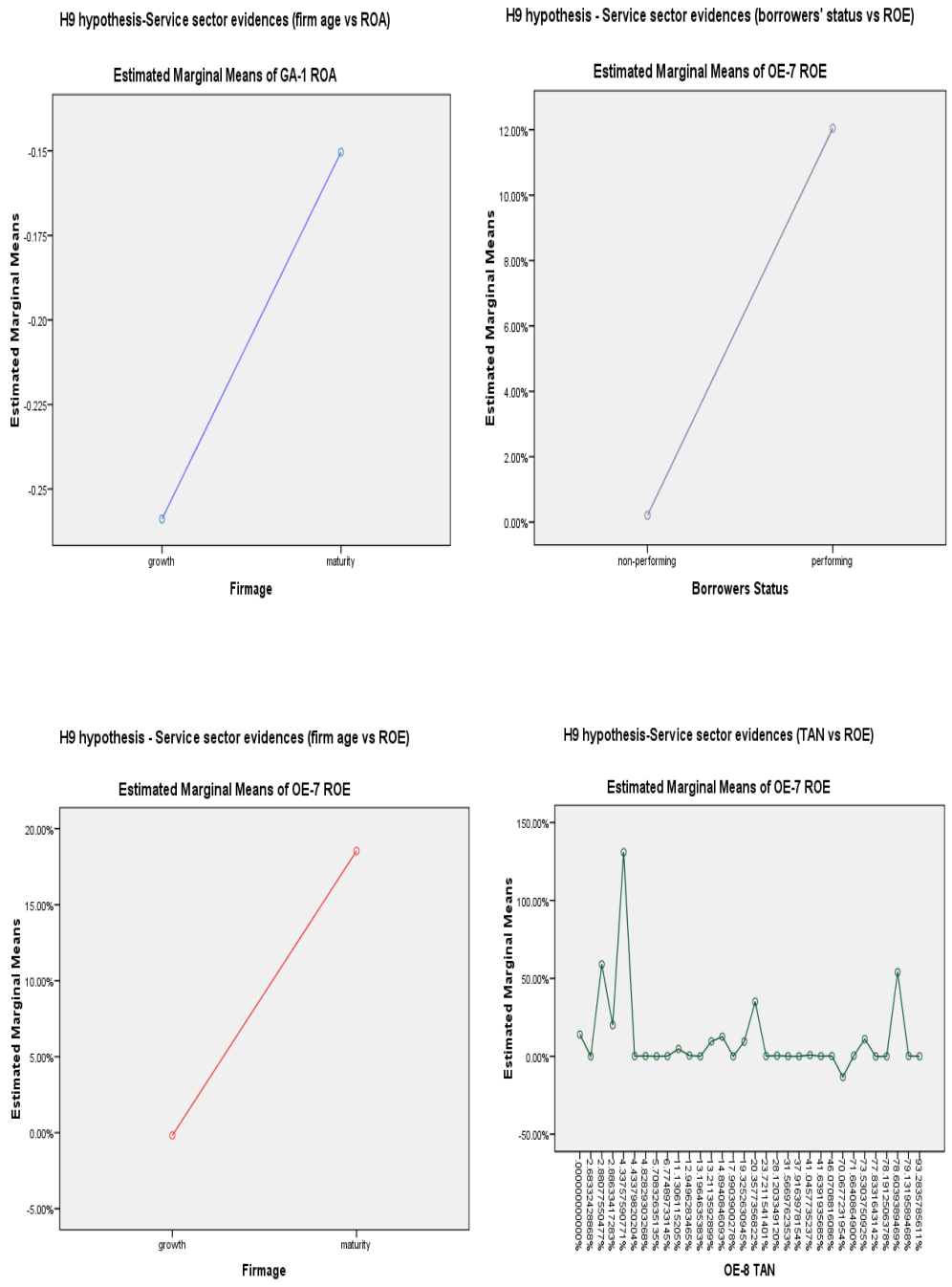


Figure 93. Estimated marginal means of ROA and ROE concerning Borrowers' status, Firm age and TAN impact in service sector
Source: Primary data collection, Author elaboration with SPSS

The H9 hypothesis on behalf to the a/m examinations can be rejected. But worth underlining that in each sector is evidenced that performing borrowers' status generates higher ROAs and ROEs than non-performing ones. And according to firm age can be added that grown and in following start-up businesses mainly maintain the highest ROAs and ROEs levels. TAN instead maintains ROE and ROAs levels around 15%.

H10: Business administration framework, MCC and NPM have a multiple impact on ROE regardless sectoral affiliation;

The multiple impact of business administration framework, MCC and NPM on ROE in trade sector referring to the a/m statistics (Table 217) is statistically insignificant Independently Levenes' test data confirm differences in ROE errors variance between business administration groups (Table 36 in Appendix C). And the estimated marginal means data precisely determine that businesses managed from delegated professionals such as administrators generate higher ROE levels in comparison with the one managed from owners themselves (Figure 94). The same data pertaining to MCC and NPM relationship with ROE confirm that respectively the average ROE levels maintained are: 5% and 3%.

Table 218. Tests of Between-Subjects Effects (Business administration framework, MCC and NPM vs ROE) in trade sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

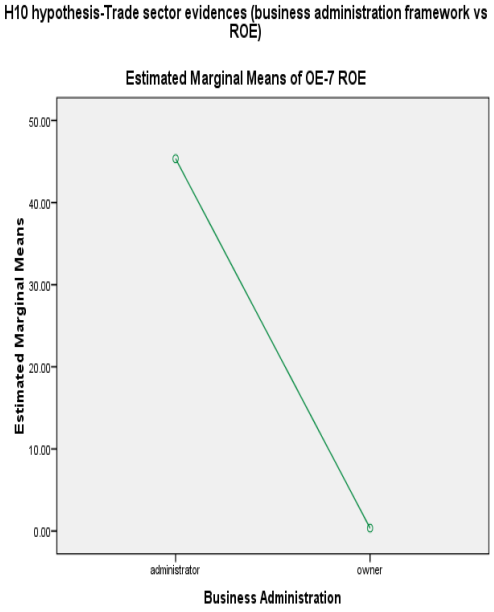
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	1.323E6[a]	32	41335.435	.	.	1.000	.	.
Intercept	20513.629	1	20513.629	.	.	1.000	.	.

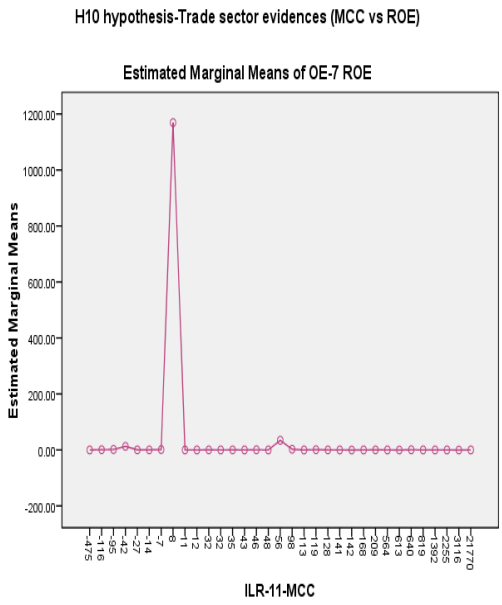
Business administration	.000	0	.	.	.	.	.	.	.
ILR11MCC	.859	4	.215	.	.	1.000	.	.	.
OE5NPM	.000	0	.	.	.	.	.	.	.
Business administration * ILR11MCC * OE5NPM	.000	0	.	.	.	.	.	.	.
Error	.000	0	.						
Total	1368302.003	33							
Corrected Total	1322733.914	32							

a. R Squared = 1.000 (Adjusted R Squared = .)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS





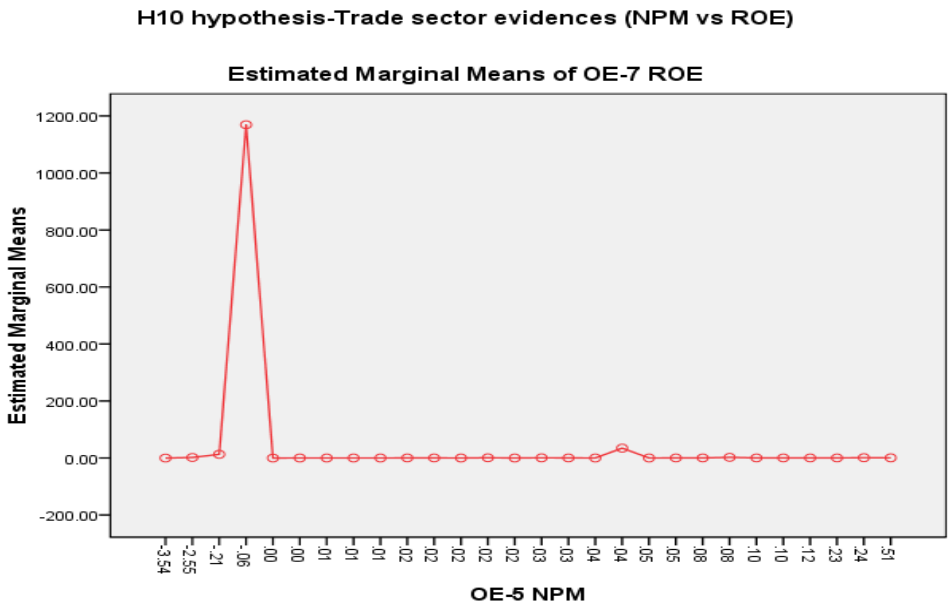


Figure 94. Estimated marginal means of ROE concerning Business administration framework, MCC and NPM impact in trade sector
Source: Primary data collection, Author elaboration with SPSS

Production sector examination statistics reveal that don't exist any multiple impact of business administration, MCC and NPM on ROE (see Table 218), considering here that only MCC effect on ROE is statistically significant. Levenes' test also identifies differences on ROE errors variance between business administration groups (Appendix C/Table 37). Further examined from estimated marginal means data (see Figure 95) it was observed that businesses managed from owners themselves opt for higher ROE levels in comparison with them managed from administrators. In terms of MCC and NPM relationships with ROE it can be concluded that they respectively quote 20% and 10% levels.

Table 219. Tests of Between-Subjects Effects (Business administration framework, MCC and NPM vs ROE) in production sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	13653.565[a]	29	470.813	7.434E5	.000	1.000	2.156E7	1.000
Intercept	3836.135	1	3836.135	6.057E6	.000	1.000	6057055.382	1.000
ILR11MCC	5.314	3	1.771	2.797E3	.000	1.000	8390.855	1.000
OE5NPM	.000	0	.	.	.	.000	.000	.
Business administration	.000	1	.000	.645	.506	.244	.645	.079
ILR11MCC * OE5NPM * Business administration	.000	0	.	.	.	.000	.000	.
Error	.001	2	.001					
Total	17204.472	32						
Corrected Total	13653.566	31						

a. R Squared = 1.000 (Adjusted R Squared = 1.000)

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

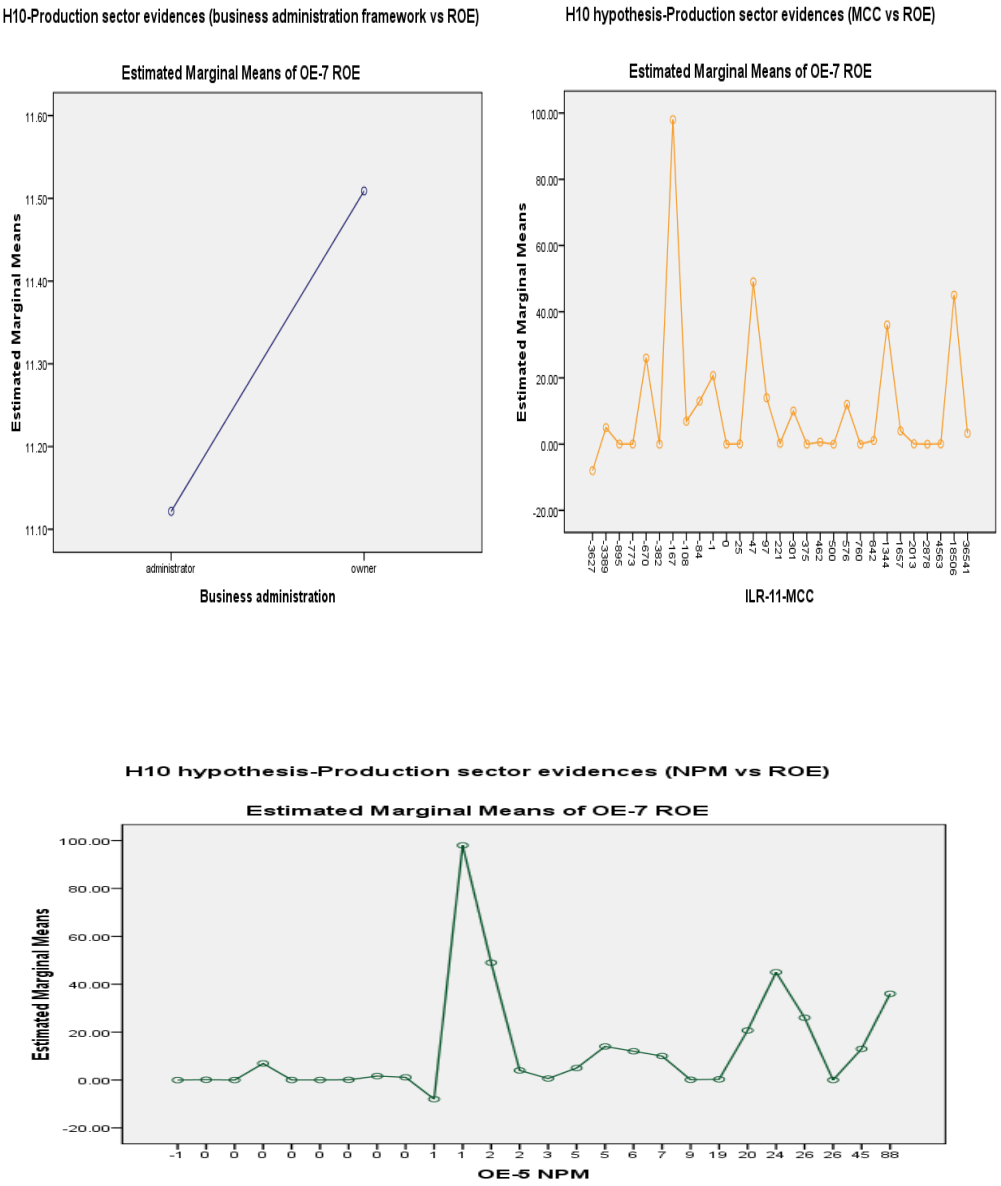


Figure 95. Estimated marginal means of ROE concerning Business administration framework, MCC and NPM impact in production sector
Source: Primary data collection, Author elaboration with SPSS

The multiple effect of business administration, MCC and NPM on ROE in construction sector is inexistent (Table 219). However, the Levenes' test data confirm a certain relationship between business administration framework and ROE (Table 38 in Appendix C). For this purpose the examination performed on estimated marginal means terms (Figure 96) demonstrated that administrators can generate higher ROE than owners while managing respective businesses. And with special regard to MCC and NPM relationships with ROE is evidenced that they quote averagely 18% and 24% ROE level

Table 220. Tests of Between-Subjects Effects (Business administration framework, MCC and NPM vs ROE) in construction sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Sq	F	Sig.	Partial Eta Sq	Noncent. Param	Observ Power[b]
Corrected Model	.495[a]	24	.021	.268	.991	.517	6.421	.085
Intercept	.224	1	.224	2.910	.139	.327	2.910	.302
OE5NPM	.114	3	.038	.491	.701	.197	1.472	.104
ILR11MCC	.181	6	.030	.392	.860	.282	2.353	.097
Business administration	.057	1	.057	.742	.422	.110	.742	.113
OE5NPM * ILR11MCC * Business administration	.000	0	.	.	.	.000	.000	.
Error	.463	6	.077					
Total	1.558	31						
Corrected Total	.958	30						

a. R Squared = .517 (Adjusted R Squared = -1.415)

ccbb. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

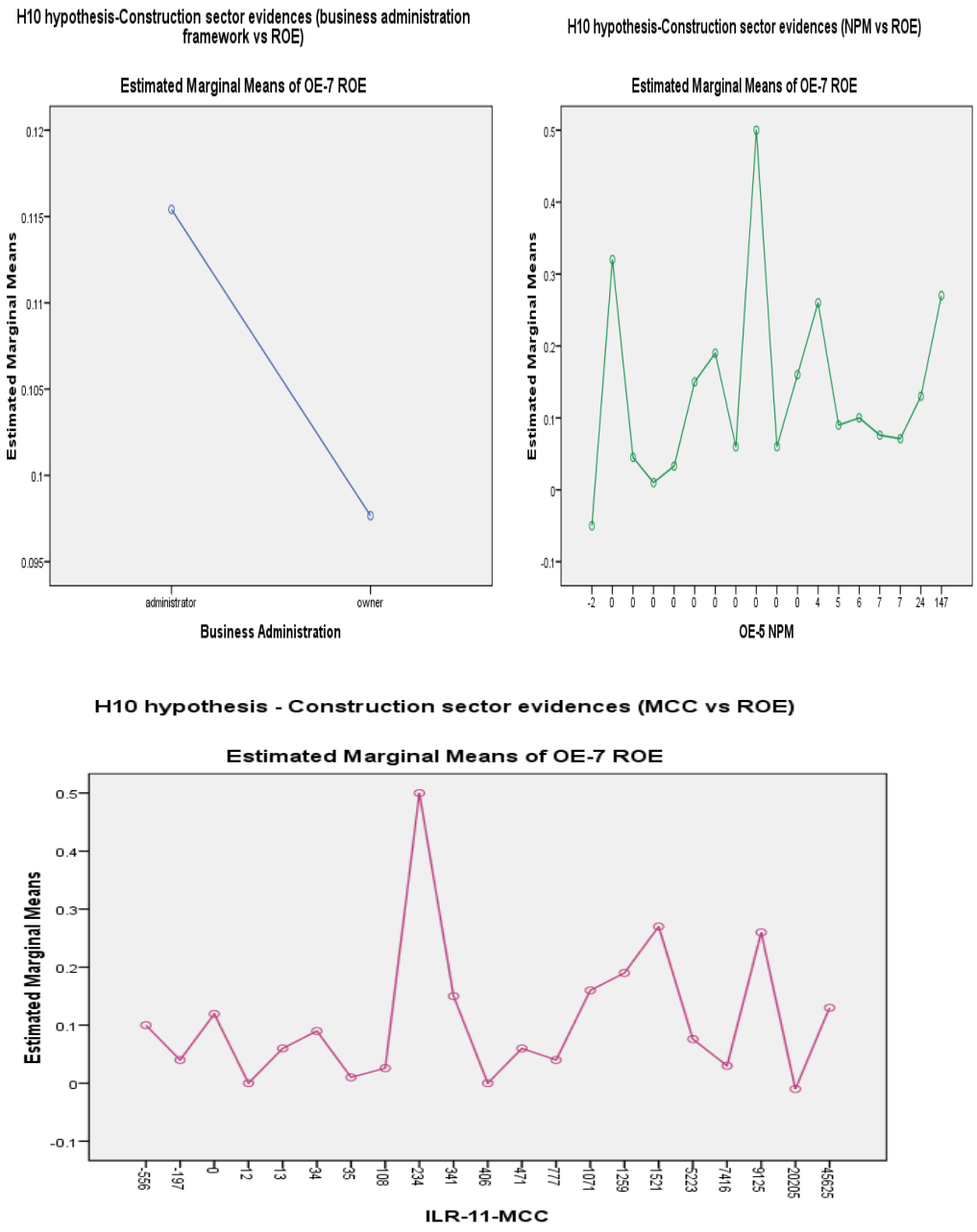


Figure 96. Estimated marginal means of ROE concerning Business administration framework, MCC and NPM impact in construction sector
Source: Primary data collection, Author elaboration with SPSS

The statistical results elaborated in service sector prove (below Table 220) that even here the multiple impact of business administration, MCC and NPM on ROE is inexistent. But this again is in contradiction with Levenes' test data which

argue on a potential relationship of ROE and business administration (Table 39/Appendix C). Under these circumstances estimated marginal means (in Figure 97) confirm that administrators perform better than owners in terms of business ROE generation. In respect of MCC and NPM relationships with ROE in general context they respectively mark the 20% and 25% levels.

Table 221. Tests of Between-Subjects Effects (Business administration framework, MCC and NPM vs ROE) in service sector

Tests of Between-Subjects Effects

Dependent Variable:OE-7 ROE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	22208.930[a]	30	740.298	.	.	1.000	.	.
Intercept	3301.132	1	3301.132	.	.	1.000	.	.
ILR11MCC	1215.245	2	607.623	.	.	1.000	.	.
OE5NPM	11.045	1	11.045	.	.	1.000	.	.
Business administration	.000	0	.	.	.	.	.	.
ILR11MCC * OE5NPM * Business administration	.000	0	.	.	.	.	.	.
Error	.000	0	.					
Total	25947.620	31						
Corrected Total	22208.930	30						

a. R Squared = 1.000

b. Computed using alpha = .05

Source: Primary data collection, Author elaboration with SPSS

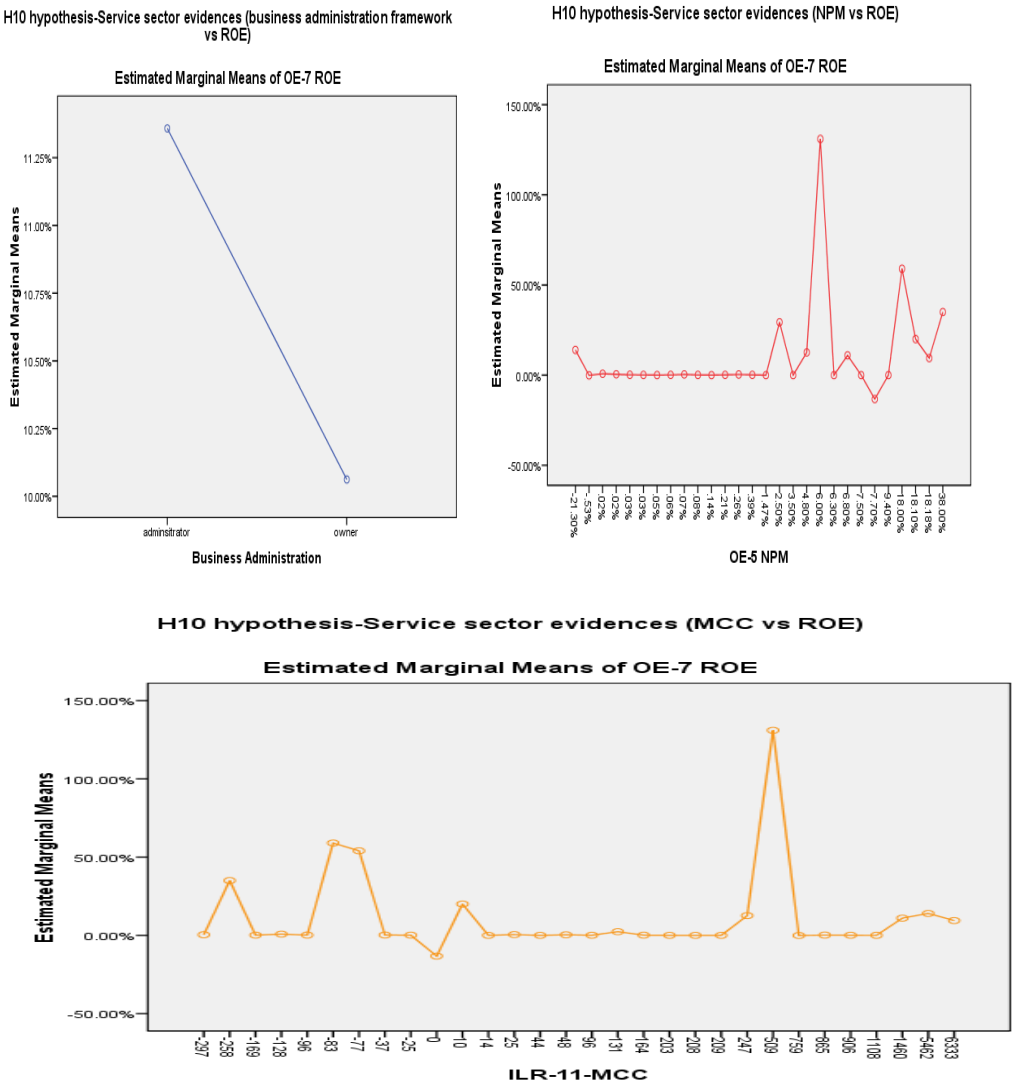


Figure 97. Estimated marginal means of ROE concerning Business administration framework, MCC and NPM impact in service sector
Source: Primary data collection, Author elaboration with SPSS

Referring to the examinations, it can be concluded that H10 hypothesis can be rejected. Even in each sectorial examination Levenes' test argue on potential relationships between ROE and business administration groups. Considering that the major part of results support the evidence that businesses administrated from skilled professionals opt for higher ROEs in comparison with them managed from owners themselves (excluding the production sector results). Then, a consistent relationship between ROE and MCC and NPM is verified in service (20% and

25%), followed from construction (18% and 24%), production (20% and 10%) and ultimately trade sector (5% and 3%).

H11: A radial basis function predicts SMEs risk-adjusted performance regardless sectoral affiliation

The radial basis function implemented in trade sector for the prediction of risk adjusted performance (ROE, ROA, GOM), operated with two hidden layers (see Table 230) which result to be correlated with: LTDER, LT-LEV, LTD, ICR, STD, WC, RATR, MCC, NPM, TAN, BoS, Ownership Gender, Equity Origin, Borrowers Status, Business administration, Administrator Gender, Firm age and STA (Tables 221-223). The first layer has a stronger impact on ROE meanwhile the contrary is evidenced for the second one in correspondence of the rest of dependent variables (as per Table 40 in Appendix C).

Table 222. Network Information/RBF-in trade sector

Input Layer	Factors	1	RA-1 LTDER
		2	RA-5 LT-LEV
		3	LTD
		4	RA-3 ICR
		5	STD
		6	ILR-2 WC
		7	ILR-5 RATR
		8	ILR-11-MCC
		9	OE-5 NPM
		10	OE-8 TAN
		11	BoS
		12	Ownership Gender
		13	Equity Origin
		14	Borrowers' Status

		15	Business administration (No admin/Yes admin)
		16	Administrator Gender
		17	Firm age
	Covariates	1	ILR-6 ACP
		2	ILR-9 PATR
		3	CV
		4	FA
		5	OE-9 ITA
		6	INV
		7	STA
		8	Owners No
			cc
	Number of Units		309
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]

	Activation Function		Softmax
Output Layer	Dependent Variables	1	OE-7 ROE
		2	GA-1 ROA
		3	OE-4 GOM
	Number of Units		3
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Table 223. Model Summary/RBF-in trade sector

Training	Sum of Squares Error		41.734
	Average Overall Relative Error		.927
	Relative Error for Scale Dependents	OE-7 ROE	.971
		GA-1 ROA	.987
		OE-4 GOM	.824
	Bayesian Information Criterion (BIC)		2139.619[a]
	Training Time		00:00:00.131

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 224. Independent variable importance /RBF-in trade sector

	Importance	Normalized Importance
RA-1 LTDER	.024	15.6%

RA-5 LT-LEV	.036	23.6%
LTD	.036	23.6%
RA-3 ICR	.009	6.0%
STD	.009	5.8%
ILR-2 WC	.012	7.8%
ILR-5 RATR	.006	3.9%
ILR-11-MCC	.006	3.9%
OE-5 NPM	.015	9.8%
OE-8 TAN	.009	5.8%
BoS	.009	5.8%
Ownership Gender	.012	7.8%
Equity Origin	.027	17.5%
Borrowers' Status	.027	17.4%
Business administration	.027	17.5%
Administrator Gender	.005	3.6%
Firm age	.018	11.6%
ILR-6 ACP	.102	66.9%
ILR-9 PATR	.128	83.9%
CV	.076	50.1%
FA	.076	50.1%
OE-9 ITA	.054	35.7%
INV	.079	52.1%
STA	.047	31.1%

Owners No	.152	100.0%

Source: Primary data collection, Author elaboration with SPSS

The radial basis function implemented in production sector as per risk adjusted performance prediction (ROE, ROA, GOM), used two hidden layers which result to be correlated with: LTDER, LT-LEV, LTD, ICR, STD, WC, RATR, MCC, NPM, TAN, Firm age, BoS, Ownership Gender, Borrowers' Status, Administrator Gender, Business administration and ACP (Tables 224-226). Here also the first layer has a stronger impact on ROE meanwhile the second one is more correlated to ROA and GOM dependent variables (refer to Table 41/Appendix C).

Table 225. Network Information/RBF-in production sector

Input Layer	Factors	1	RA-1 LTDER
		2	RA-5 LT-LEV
		3	LTD
		4	RA-3 ICR
		5	STD
		6	ILR-2 WC
		7	ILR-5 RATR
		8	ILR-11-MCC
		9	OE-5 NPM
		10	OE-8 TAN
		11	Firm age
		12	BoS
		13	Ownership Gender
		14	Borrowers' Status
		15	Administrator Gender
		16	Business administration

	Covariates	1	ILR-6 ACP
		2	ILR-9 PATR
		3	CV
		4	FA
		5	OE-9 ITA
		6	INV
		7	STA
		8	Owners No
	Number of Units		241
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	OE-7 ROE
		2	GA-1 ROA
		3	OE-4 GOM
	Number of Units		3
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 226. Model Summary/RBF-in production sector

Model Summary

Training	Sum of Squares Error		27.978
	Average Overall Relative Error		.888
	Relative Error for Scale Dependents	OE-7 ROE	.928
		GA-1 ROA	.942
		OE-4 GOM	.795
	Bayesian Information Criterion (BIC)		1503.716[a]
	Training Time		00:00:00.058

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 227. Independent variable importance /RBF-in production sector

	Importance	Normalized Importance
RA-1 LTDER	.008	5.6%
RA-5 LT-LEV	.008	5.6%
LTD	.008	5.6%
RA-3 ICR	.013	8.7%
STD	.014	9.6%
ILR-2 WC	.008	5.6%
ILR-5 RATR	.029	20.2%
ILR-11-MCC	.008	5.6%

OE-5 NPM	.013	9.1%
OE-8 TAN	.008	5.6%
Firm age	.049	33.9%
BoS	.008	5.6%
Ownership Gender	.023	16.1%
Borrowers' Status	.017	12.0%
Administrator Gender	.019	12.9%
Business administration	.020	13.6%
ILR-6 ACP	.049	33.9%
ILR-9 PATR	.145	100.0%
CV	.073	50.2%
FA	.073	50.2%
OE-9 ITA	.140	96.2%
INV	.131	90.4%
STA	.053	36.3%
Owners No	.082	56.4%

Source: Primary data collection, Author elaboration with SPSS

The construction sector radial basis function statistics reveal that with the support of two hidden layers the risk adjusted performance prediction (ROE, ROA and GOM) was correlated with: LTDER, LT-LEV, LTD, ICR, STD, WC, RATR, MCC, NPM, TAN, Firm age, BoS, Equity Origin, Borrowers' Status, Business administration and Owners no (see Tables 227-229). The first layer is negatively correlated with dependent variables under examination while the vice versa occurs with second one (Table 42/Appendix C).

Table 228. Network Information/RBF-in construction sector

Input Layer	Factors	1	RA-1 LTDER
		2	RA-5 TL-LEV
		3	LTD
		4	RA-3 ICR
		5	STD
		6	ILR-2 WC
		7	ILR-5 RATR
		8	ILR-11-MCC
		9	OE-5 NPM
		10	OE-8 TAN
		11	Firmage
		12	BoS
		13	Ownership Gender
		14	Equity Origin
		15	Borrowers' Status
		16	Business administration
	Covariates	1	ILR-6 ACP
		2	ILR-9 PATR
		3	CV
		4	FA
		5	OE-9 ITA
		6	INV
		7	STA
		8	Owners No
	Number of Units		184

	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	OE-7 ROE
		2	GA-1 ROA
		3	OE-4 GOM
	Number of Units		3
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 229. Model Summary/RBF-in construction sector

Model Summary

Training	Sum of Squares Error		21.163
	Average Overall Relative Error		.941
	Relative Error for Scale Dependents	OE-7 ROE	.970
		GA-1 ROA	.912
		OE-4 GOM	.940
	Bayesian Information Criterion (BIC)		1036.455[a]
	Training Time		00:00:00.028

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 230. Independent variable importance /RBF-in construction sector

	Importance	Normalized Importance
RA-1 LTDER	.011	8.6%
RA-5 TL-LEV	.011	8.6%
LTD	.011	8.6%
RA-3 ICR	.019	14.4%
STD	.011	8.6%
ILR-2 WC	.011	8.6%
ILR-5 RATR	.011	8.6%
ILR-11-MCC	.011	8.6%
OE-5 NPM	.012	9.2%
OE-8 TAN	.011	8.6%
Firm age	.017	13.6%
BoS	.011	8.6%
Ownership Gender	.060	46.8%
Equity Origin	.023	18.3%
Borrowers' Status	.018	14.3%
Business administration	.041	32.2%
ILR-6 ACP	.108	84.2%
ILR-9 PATR	.128	100.0%
CV	.111	86.3%
FA	.111	86.4%
OE-9 ITA	.053	41.3%
INV	.068	52.9%
STA	.096	74.7%
Owners No	.034	26.8%

Source: Primary data collection, Author elaboration with SPSS

The prediction of risk adjusted performance in service sector was made possible through the implementation of radial basis function with the support of two

hidden layers correlated with: LTDER, LT-LEV, LTD, ICR, STD, WC, RATR, MCC, NPM, TAN, Firm age, BoS, Equity Origin, Borrowers' Status, Business administration, Administrator Gender, ACP, INV (refer to Tables 230-232). Accordingly the first layer results to be strongly correlated with all risk adjusted performance indicators while the contrary stays for the second one (in Table 43/Appendix C).

Table 231. Network Information/RBF-in service sector

Input Layer	Factors	1	RA-1 LTDER
		2	RA-5 LT-LEV
		3	LTD
		4	RA-3 ICR
		5	STD
		6	ILR-2 WC
		7	ILR-5 RATR
		8	ILR-11-MCC
		9	OE-5 NPM
		10	OE-8 TAN
		11	Firm age

	12	Ownership Gender
	13	Equity Origin
	14	Borrowers' Status
	15	Business administration
	16	Administrator Gender
	17	BoS
Covariates	1	ILR-6 ACP
	2	ILR-9 PATR
	3	CV
	4	FA
	5	OE-9 ITA
	6	INV
	7	STA
	8	Owners No

	Number of Units		248
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		2[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	OE-7 ROE
		2	GA-1 ROA
		3	OE-4 GOM
	Number of Units		3
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPSS

Table 232. Model Summary/RBF-in service sector

Model Summary

Training	Sum of Squares Error		33.693
	Average Overall Relative Error		.977
	Relative Error for Scale Dependents	OE-7 ROE	.953
		GA-1 ROA	.993
		OE-4 GOM	.983
	Bayesian Information Criterion (BIC)		1596.970[a]
	Training Time		00:00:00.070

a. The number of hidden units is determined by the Bayesian Information Criterion: The "best" number of hidden units is the one that yields the smallest BIC in the training data.

Source: Primary data collection, Author elaboration with SPS

Table 233. Independent variable importance /RBF-in service sector

	Importance	Normalized Importance
RA-1 LTDER	.006	4.2%
RA-5 LT-LEV	.006	4.2%
LTD	.006	4.2%
RA-3 ICR	.011	7.2%
STD	.006	4.2%
ILR-2 WC	.006	4.2%
ILR-5 RATR	.006	4.2%
ILR-11-MCC	.006	4.2%
OE-5 NPM	.006	4.2%

OE-8 TAN	.006	4.2%
Firm age	.030	20.3%
Ownership Gender	.052	35.5%
Equity Origin	.031	21.3%
Borrowers' Status	.007	5.0%
Business administration	.023	15.6%
Administrator Gender	.045	30.8%
BoS	.006	4.2%
ILR-6 ACP	.036	25.1%
ILR-9 PATR	.139	95.5%
CV	.125	86.0%
FA	.125	86.0%
OE-9 ITA	.058	39.8%
INV	.046	31.6%
STA	.066	45.2%
Owners No	.146	100.0%

Source: Primary data collection, Author elaboration with SPSS

The radial basis function implemented for the prediction of SMEs risk adjusted performance fits well (referring to BIC, model processing time and statistical significance test) in each sectoral-affiliation, thus, H11 hypothesis can be accepted. Correspondingly, the evidences prove that it operates with two hidden layers which result to be mainly correlated with: LTDER, LT-LEV, LTD, ICR, STD, WC, RATR, MCC, NPM, TAN, Firm age, BS, Borrowers' Status and Business administration. The relationship of layers instead with risk adjusted performance variables examined in trade and production sector complies. While contrary results are achieved in the comparison between construction and service sectors.

8.4. CONCLUSIVE REMARKS

The statistical references of the univariate and multivariate functions implemented in this chapter throw light concerning the following facts:
-Ownerships gender isn't a business performance predictive pattern considering its statistical significance. Nevertheless it can be observed that female ownership gender strictly opts for higher ROE levels, by being further followed from male and mixed-partnership cases. Under a sociological aspect it can be admitted that female gender being more prudent to risk nature becomes more aware of business performance than male gender. And this can be assumed as a signal of business prospective and almost an enhanced performance progress under a dynamic environment may be achieved;
-Equity origin can't influence businesses gross operative margin. But indirectly is noted that national and foreign businesses tend to maintain higher GOM levels. Taking care of sales amounts and cost of goods sold/produced they seem to be eager to grow. And by using the same logic even mixed-equity businesses inherit the awareness culture which acts not only in a market share philosophy but boosts the performance aiming to reach realistic results;
-Business administration framework results to be predictive for ROA only in trade sector. In parallel the statistics show that businesses managed from skilled professionals such as administrators prevail in performance level in comparison with the one managed from business owners themselves. Obviously this gives the idea of business delegation to professionals which in the same time reserve the necessary spaces for the owners to be more aware in high level issues concerning performance such as implementing an accurate permanent control culture;
-Borrowers' status doesn't influence businesses ROE at the determined confidence level. Anyway is every case examined is noted that performing borrowers generate higher ROE than non-performing ones. Also, in practice this affirmation sounds true regarding credit risk management approaches. That's why bankers pay attention to the borrowers' status before funding business needs or even promoting their future projects. Furthermore the latter is a decisive element in SMEs borrowing activity which manages internal needs while anchoring business growth as target;
-Administrators gender can't affect businesses GOM in the given inferential context. From the other side disputed results are achieved while separately examining sectoral affiliations even why male and female administrator genders separately result to be more proactive to businesses GOM management while undertaking risk management decisions in compliance with given circumstances;
-The simultaneous impact of LTDER and borrowers' status on businesses GOM also result to be statistically insignificant. In a separate way, borrowers' status

impact on GOM merely confirmed that it's correlated with businesses performing status presuming that sales growths generate profit which can cover tax and interest expenses and proactively manage risks. Contemporaneously, it can be assumed that LTDER opts for low GOM. And this can be explained from the lack of long-term debt immediate impact on profit especially in construction and production sectors;

-Business administration framework and RATR simultaneous impact on ROE doesn't exist. The additional statistical results bring to the attention disputed elements concerning business administration framework and RATR relation with ROE. As concretely, businesses pertaining to trade and production sectors managed from owners themselves result to be eager to growth by marking an average ROE of 20%. From the other side, seems that business management delegation (construction and service sectors) to skilled professionals generate higher ROEs, by averagely marking 23%. Seen under an operational risk context these results conduct to a value preservation process (exclusively required in trade and production due to market knowledge and public relations strictly related to sales growth) from one side and to a value chain (responsibilities delegation in construction and service projects which may require a multidimensional managerial culture) from the other one;

-Equity origin, firm age and business size don't simultaneously affect businesses ROA. On a deeper statistical context instead reveals that mixed-equity and foreign businesses tend to maintain higher ROA levels. Somehow this leads to the understanding that a/m businesses are clearly focused on profit which may also be used for the acquisition of assets, that in turn produce profits. Supported from business size, ROA tend to be higher in trade sector due to a consistent flexibility. In addition firm age results to be another important element reflecting businesses assets durability and efficiency in producing permanent profits. Rationally these results highlight the importance of these key elements on business performance under a risk management aspect;

-Borrowers' status, firm age and TAN don't have a simultaneous impact on businesses ROA and ROE. Unconditionally the examinations reveal that performing status businesses generate higher ROAs by explaining that the profit generated is spend even in asset development. With special interest to firm age it can be said that grown and start-up businesses generate higher ROA and ROE rates. And regarding TAN relationships with businesses ROA it can be mentioned that trade and construction sectors provide the highest results and quite the same situation persists as per ROE. Consequently in this point, it can be affirmed that accurate approaches in respect of credit risk management from one side as well as growth prospective from the other one provide significant advances in business performance;

-Business administration framework, MCC and NPM multiple impact on businesses ROE is inexistent. However should be admitted again that businesses managed from skilled professionals provide higher ROE levels than the ones managed from owners themselves. Simultaneously it can be said that merely MCC and NPM relationships with ROE are consistent. At a larger prospective this explains the fact that businesses which strategically act under a managerial context influence the MCC and NPM by creating potentialities for the enhancement of risk adjusted performance culture within organizations.

And the radial basis functions implemented for the prediction of SMEs risk-adjusted performance regardless sectoral affiliation fits well by remarking that:
when LTDER ≤110% it's more frequently correlated with the second layer but strongly with the first one, for higher values instead it is equally correlated with both layers and strongly with the first one referring to trade and service sectors statistics. In production sector LTDER ≤110% is more frequently and strongly correlated with the second layer while for higher values than 110% its more frequently correlated with the first layer even the relationship is stronger with the second one. In construction sector instead it's equally related to both layers. While, LT-LEV≤50% is strongly correlated with the first layer but more frequently with the second one and the same is also valid for the rest referring to trade sector data. Production sector statistics comparatively reveal that for LT-LEV≤50% the relationship is more frequent with the first layer but stronger with the second one meanwhile for LT-LEV>50% the relationship is more frequent and stronger with the second one. Construction data from the other hand confirm that the relation power of LT-LEV is the same in both layers but the frequency differs. Concretely, for LT-LEV≤50% the correlation frequency is higher with the first layer and the contrary occurs for LT-LEV >50%. And ultimately the service sector results confirm that LT-LEV≤50% is more frequently correlated to the first layer but the relation is stronger with the second one and for the rest the only existent relation is the one with the first layer.
In addition, trade sector data demonstrate that LTD ≤11.755.000 ALL is strongly correlated with the first layer but more frequently with the second one and the same is valid for LTD>11.755.000 ALL. The contrary instead is evidenced in production sector concerning LTD variable relationship with both layers. In construction sector the relation power with the layers is the same but concerning the first value range the frequency is higher with the first layer and the contrary occurs in the second range values. And service sector results confirm that for LTD≤ 11.755.000 ALL the correlation exists only with the first layer and for the rest the correlation is more frequent with the first layer but stronger with the second one. The ICR ≤0 is more frequently and strongly correlated with the first

layer and for ICR≤216% it results to be strongly correlated with the first layer but more frequently with the second one while for ICR>216% it's again strongly and more frequently correlated with the first layer in trade sector. Its relationship with layers in production sector demonstrates that for values lower then 0, it is correlated only with the first layer as well as for higher values than 216%, for intermediary values instead its correlated to both layers but the relation is stronger with the second one. Referring to construction data for ICR≤0 it can be confirmed that's correlated to both layers but stronger with the second one. For ICR values≤ 216% it's correlated only with the first layer while for higher values only with the second one and quite the same results are obtained for service sector. Furthermore, STD ≤ 25.435.000 ALL in trade sector results more frequently and strongly correlated with the first layer and for higher values even they are more frequently correlated with the second layer the relation is stronger with the first one. Meanwhile the statistics retrieved from production sector evidence the contrary in respect of a/m STD ranges. In construction sector from the other side is noted that STD is correlated with both layers but for STD≤25.435.000 ALL the correlation frequency is higher with the first layer and the vice versa occurs for the rest. In service sector instead is noted that for STD ≤25.435.000 ALL the correlation is stronger and more frequent with the second layer while for the rest the correlation is more frequent with the first layer but stronger with the second one. Trade sector WC ≤ 0 data results more frequently and strongly correlated with the first layer and for higher values than 0 even it is more frequently correlated with the second layer while the relation is stronger with the first one. Meanwhile WC≤0 is correlated to both layers but stronger with the second one and the contrary of trade sector is valid for WC>0 in production sector. In construction sector instead the WC correlation with both layers is equal but for WC≤0 the correlation frequency is higher in the second layer and the contrary is valid for WC>0. And the service sector data confirm that for WC≤0 the correlation exists only with the first layer and for the rest the correlation is more frequent with the first layer but stronger with the second one.

Trade sector data pertaining to RATR ≤ 10,5 (times) results more frequently and strongly correlated with the first layer and for higher values than 10,5 even is more frequently correlated with the second layer the relation is stronger with the first one. The statistics concerning the relation with layers in production sector demonstrate that RATR in general even its more frequently correlated to the first layer the relationship is stronger with the second one and the same is valid also in service sector. While in construction sector RATR is equally correlated to both layers with the same relation power. In trade sector the MCC ≤0 is strongly correlated with the first layer, for the rest instead even it's more frequently correlated with the second layer the relationship is stronger with the first one. In

production and service sector MCC statistics confirm that merely the correlation is more frequent with the first layer but stronger with the second one. And in construction sector from the other side is proved that with same relation power MCC≤0 are more correlated to the first layer and the rest to the second one.
Concerning trade sector NPM≤0 data it can be affirmed that its more frequently and strongly correlated with the first layer and the correlation frequency with the second layer prevails when NPM>0 but its stronger with the first one. For NPM≤0 in production sector is noticed the existence of correlation with both layers even its stronger with the second one, for higher values than 0 instead the correlation is more frequent with the first layer but stronger with second one. In construction sector NPM has the same relation potentiality with both layers only the frequency differs. Precisely for NPM>0 the correlation frequency is higher with the second layer. While service data concerning NPM reveal that even the correlation is more frequent with the first layer it's stronger with the second one. The TAN ≤50% is more frequently correlated with the second layer but strongly with the first one meanwhile TAN>50% is strongly correlated with the first layer in trade sector. In production sector data is confirmed that TAN =0 is more correlated with the first layer and for values higher than zero its correlated only to second layer. Construction sector TAN statistics confirm the same correlation power with layers, but for TAN≤50% the correlation frequency is higher with the first layer while for the rest its higher with the second one. And in service sector is observed that TAN in general is more frequently correlated to the first layer but strongly to the second one.

Trade sector business size data reveal that for values lower and equal to 20 times it's more frequently correlated with the second layer but strongly with the first one, and for the rest it's again correlated only with the first layer. Production sector evidences concerning business size relation with layers instead demonstrates that in general it's more frequently correlated to first layer even its stronger with the second one. And in construction sector the correlation power is the same for both layers while the frequency differs. Thus, for businesses size≤0 the correlation frequency is higher with the first layer and the vice versa occurs for the rest. While in service sector for businesses sizes ≤0 the correlation frequency is higher with the first layer and stronger with the second one, for the rest instead the correlation frequency is higher and stronger only with the second layer.
With special regard to ownership gender in trade and production sectors it can be added that female ownership is strongly correlated with the second layer while for male and mixed-partnership the contrary is valid. Equity origin statistics demonstrate that national businesses are strongly correlated with the second

layer while for foreign and mixed-equity businesses the contrary is valid in trade sector. In construction sector the first are correlated to both layers but stronger to the first one, foreign businesses instead are equally correlated to both layers meanwhile mixed-equity businesses are correlated only to second layer. And in service sector national businesses are correlated to both layers but the correlation is stronger with the first one and the contrary is valid for mixed-equity businesses.

Borrowers' status data from the other hand argue that: non-performing borrowers' status is correlated only to the first layer; while borrowers' performing status is correlated to both layers even the relationship is stronger with the second one in trade sector. Contradictory results are achieved concerning borrowers' status in production sector, being correlated with both layers non-performing status is strongly related with the second one and the vice versa is observed from the performing borrowers' status. Additionally, non-performing borrowers' status in construction and service sectors is correlated to both layers but it's stronger with the first one and the contrary is valid for performing borrowers' status.

Moreover, in cases when business administration is done from skilled professionals (administrators) the correlation is stronger with the second layer and the vice-versa occurs when owners themselves manage the business in trade and construction sectors. The contrary instead in evidenced in production and service sectors.

On behalf of administrators gender worth highlighted that female administration is more correlated to the second layer, while male and mixed-administrations are more correlated to the first layer in trade sector. In production sector, female administration results to be correlated only to the first layer while male administration being correlated to both layers is strongly related to the second one. Service sector statistics confirm that again female administration is correlated only to the first layer and male administration gender is correlated to both layers but the correlation is stronger with the first one.

Under a larger context it was also examined that ACP and PATR are positively correlated to the first layers and negatively to the second one meanwhile the contrary is valid for STA in trade sector. As well as, INV instead in service sector reveals to be positively correlated to the first layer and negatively to the second. While ACP data in production sector confirm that's negatively correlated to the first layer and positively with the second one and the contrary is valid concerning service sector. As per owners number instead in construction sector it was evidenced that it's positively correlated to the first layer and the exact contrary is noted in their relation with second layer.

Whereas firm age results conclude that start-up, growth and maturity businesses are more correlated to the second layer in trade sector. And in production sector start-up businesses are correlated only to the first layer (the vice versa occurs respectively in service sector), growth businesses instead are correlated to both layers but strongly with the first layer meanwhile for maturity businesses the existence of correlation with both layers is consistent even is stronger with the second one, the contrary instead is valid in the service sector. Ultimately, in construction sector start-up businesses are correlated only to the first layer, the grown businesses with both layers but the relation is stronger with the second layer and for maturity ones the relation is stronger with the second layer.

Stating that in trade and production sectors the first layer is strongly correlated with ROE meanwhile the second layer is strongly correlated to ROA and GOM as well as, in construction sector the first layer is negatively correlated with all the a/m variables and the vice versa occurs concerning the second layer and furthermore the contrary is valid for service sector it can be clearly understand, explained and predicted SMEs behavior toward risk-adjusted performance models.

IX. DISCUSSION AND FUTURE PREMISES

9.1 CONCLUSIONS

By closely referring to SMEs risk awareness culture enhancement estimations in an exhausted reality in terms of supportive resources and instruments regardless the sectoral-affiliation (trade/production/construction and service), the study orients into a better exploitation of circumstances through which can be provided the required outcome.

Hence, initially by the implementation of a pattern recognition process there were captured the endo-exogenous factors concerning a sound integrative liquidity management process, as the most fragile and crucial aspect which simultaneously boosts SMEs survival efforts into a future growth prospective through outsourced funding.

Accordingly, the multi-dimensional liquidity management process deployed by various indicators such as: WC, RATR, MCC (pertaining to liquidity area) and NPM (operative-efficiency area) provided as feedback a corrective 'trade-off' package which serves as feature/warning signals necessary to understand and act in an equilibrated manner versus the target through an integrative logic between 'control-areas' and business patterns.

Substantially in this regard there were implemented as predictive features (through 5 non-financial/business patterns and 17 financial indicators): 9 factors (3 pertaining to business patterns and the rest to liquidity, operative-efficiency and risk analysis with respectively 1, 4 and 1 ratios) and 13 covariates (2 business patterns and 11 remaining indicators respectively pertaining to: liquidity (3), operative-efficiency (2), risk (2) and growth analysis (4)).

At 95% confidence level only 14 indicators (6 covariates and the rest of 8 factors) resulted to be statistically significant, they pertain to: liquidity (2), operative-efficiency (5), risk analysis (2), growth analysis area (2) while the 3 remaining ones belong to business patterns in trade, production, construction and service sectors.

Concretely, the empirical research confirmed[33] as predictive factors: PATR and INV (liquidity area/the latter covariate), TATR, GOM, ROE, ITA and NP (operative-efficiency area/the latter covariate), LTDER and ICR (risk analysis area/1 covariate), collateral value and firm age (growth analysis area-covariates), business ownership, equity origin and borrowers' status (business patterns/the latter covariate).

[33] The implemented radial basis functions robustness test considers the average of overall relative errors (which here is above =0.763), training time (above 40 seconds) and to the low Bayesian Information Criterion/BIC referring to 56, 59, 62 and 65 Tables in Chapter VI.

Consequently, is noted a contemporaneous impact of various variables pertaining to different 'control-areas' within liquidity management process indicators. More precisely: TATR, GOM, ROE and NP indicators (pertaining to operative–efficiency area) as well as INV (liquidity area) and CV (growth analysis area) negatively impact MCC and the contrary is evidenced for WC, RATR and NPM.
Obviously the argumentation is closely correlated to the fact that net sales increase and subsequently net profit increase reduces receivables by increasing inventory process getting ready to accelerate the profitability in certain given circumstances even by postponing the payments from one side and using inventory and other collaterals as supplementary instruments to get funds to foster liquidity with the intent to explore as much as possible all the market opportunities.
Albeit from another liquidity management prospect PATR indicator negatively impacts MCC, RATR and NPM while providing WC increase. As an increase in the cost of goods sold, causes delay in payments which decreases MCC and reduces receivables which is further translated into a higher WC in a transactional basis but generally reduces net profit margins.

From an extended operative-efficiency logistic view, instead, it can be added that on a market expansion prospect, ITA positively impacts WC, MCC and RATR and the vice-versa occurs as per NPM, considering that inventory increase has a direct impact on short-term assets as inventory turnover increases and then WC while receivables decrease to finance the inventory process and generate a positive effect on MCC. But as an immediate result the net profit margins decreases.

Advancing into a risk analysis focus, contradictory results are achieved on behalf of long /LTDER and short/ ICR debts indicators concerning liquidity management efficiency. By this way, the first positively impacts WC and MCC and the contrary stays for RATR and NPM. This leads to the understanding that long debts increase liquidity as well as reduce delayed payments by increasing MCC, and contemporary provide to the clients 'loyalty bonus' which also reduces the expectations for quick receivables conversion processes: this in real terms means reduction of net profit margins.

Meanwhile, ICR negatively impacts WC and MCC and the vice-versa is proven for RATR and NPM. From one side, it can be underlined that the increase of interest expenses negatively affects WC and MCC as an immediate consequence of long term debt increase (in the quality of a payable account). From the other

one instead the increase of earnings before of interests impacts net sales which generate profit.

Firm's age is another important element pertaining to growth analysis, which demonstrates a positive relationship with WC, MCC and NPM, by contemporaneously negatively interacting with RATR. In other words, it explains that businesses over the years pursue liberal policies towards receivables collection that increases MCC, even have enough WC as generate profit.
Likewise, business patterns explored produced contradictory results in the case of equity origin and borrowers' status. Correspondingly, national businesses quote for higher WC and MCC levels while mark lower RATR and NPM levels, comparatively the foreign and mixed equity businesses opt for the contrary.

Conversely, non-performing businesses maintain higher MCC and lower receivables which in turns generate lower working capital levels and net profit margins, whereas performing businesses reduce receivables collection period and MCC by increasing WC and net profit margins. Comparatively, business administration context instead evidence to be a feature which positively interacts with all liquidity management indicators examined.

Hereinafter, liquidity management seen in a more concise approach is leveraged and controlled through these 'trade-off' features/warning signals: INV (due to its close relations with PATR, ITA and indirect links with TATR and GOM, ROE), LTDER, ICR and borrowers' status handled under the auspices of business administration framework (grey-colored in Figure 98).

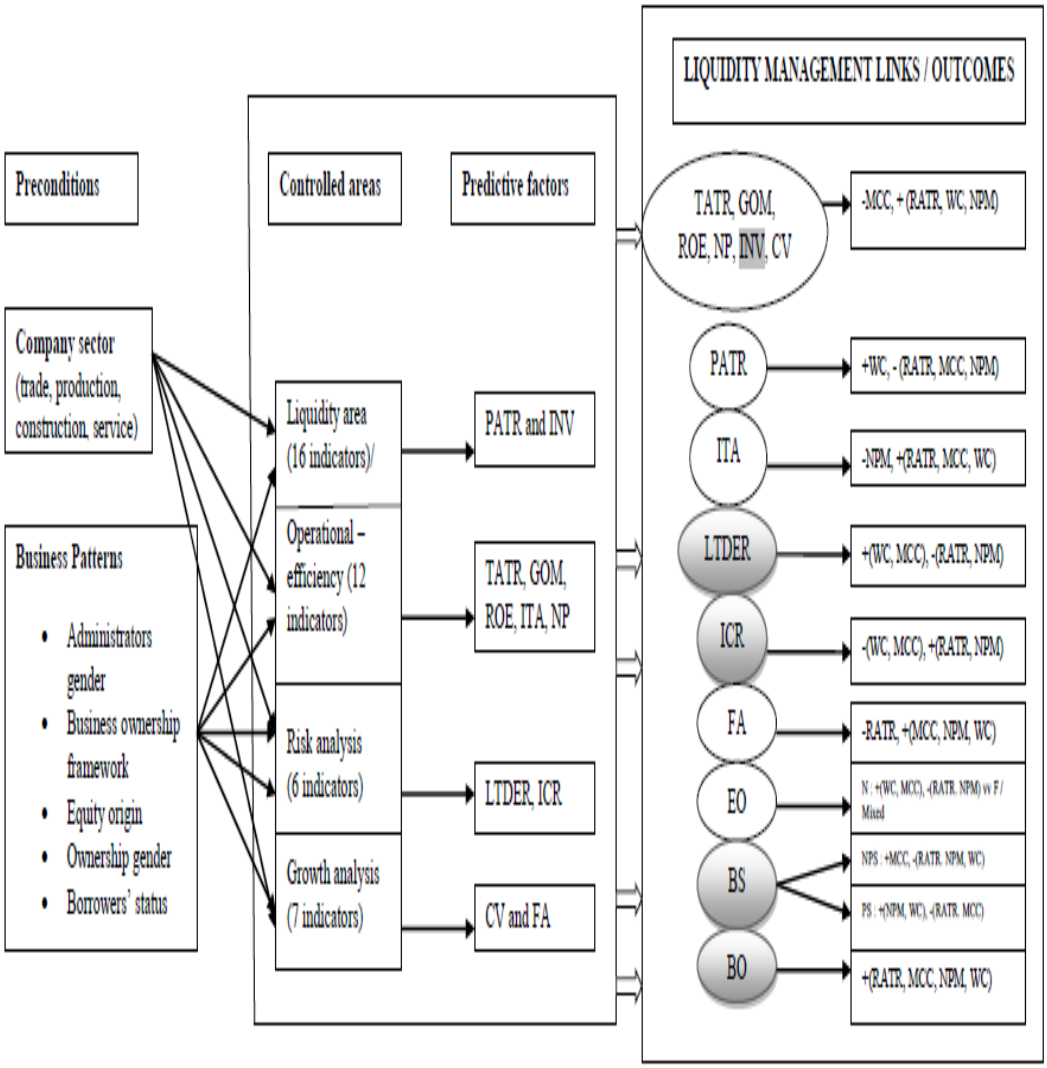


Figure 98. Liquidity management outcomes
Source: Summary results of Radial Basis Functions parameters estimates in sectoral-affiliations (Appendix A/ Tables 9-12)), Author elaboration

Seemingly, emerge the relevance of short and long term indicators effect in investigating liquidity management process by reconfirming outsourced funding instrument as previously mentioned.

Therefore, the indicators concerning leverage reconciliation framework (measured through ICR, STD, LTDER, LT-LEV and LTD) were tested in the second stage of research independently from firm age and business patterns presented, seeking to touch various theoretical assumptions of pertinence (such as: asymmetry issues/pecking order/ contingency-system-stewardship theories) hoping to understand as much as possible from the a/m process dynamicity.

The robustness of radial basis functions[34] deployed over 30 predictive factors from which 12 covariates, generally related to: liquidity (9), operative-efficiency (9), risk analysis (1), growth analysis (6) and business patterns (5) 'control-areas', estimated as statistically significant at 95% confidence level: ACP, PATR, APP, RA (liquidity area), GPM, NPM, ROE, NP, BoS (operative-efficiency area), LEV (risk analysis), ROA, EQ, CV, FA (growth analysis/the latter covariate), borrowers' status and business ownership framework (business patterns/ the latter covariate).
Even in this examined aspect, what draws the attention is the similar effect of various variables pertaining to different 'control-areas' in leverage framework. Thus ACP, APP, RA indicators (pertaining to liquidity area), GPM, NPM, NP (operative-efficiency area), ROA, EQ, CV, FA (growth analysis area) negatively impact ICR, STD and LTDER and the vice versa is evidenced for LT-LEV and LTD.

Comprehensively, receivables and profit derivates accurate management supported from firm age enable the liquidation of interest expenses, short debts expressed in term of rate amounts payments (principals and interests) and the same worth for long-term debts reimbursement. Alternatively this creates opportunities in borrowing long-term debts as per equity investments which replenish the survival of the circuit described above. And obviously these circumstances seem to comply with the ones of pecking order theory, so firms

[34] Related to the average of overall relative errors which is 0.899, training time (in average) 116 seconds and to the low BIC (referring to 129, 132, 135 and 138 Tables in Chapter VII).

explore all the internal opportunities before making leverage of additional/external debts in compliance even with contingency theory context.
Another indicator pertaining to liquidity 'control-area' such as PATR, through the increases of payable accounts opts for higher long-term debts which initially helps in the payment of interest expenses and other operative debts reimbursement by living little space to investments in fixed assets. In this regard, it is demonstrated that special attention should be given to this indicator in order to control and

better exploit leverage opportunities. Because considering the asymmetry issues the financial institutions may be conservative in further financing.
Beyond this, even in an operative-efficiency and risk analysis context the same results are achieved respectively per ROE, TAN and LEV. And the corresponding argumentation is that net profit, fixed assets and total debts boost toward a long-term funding which in turns provide the effect explained before.

Business behavioral patterns such as ownership structure ascertain that females are more aware to long term debts which cause general liabilities by mainly affirming the necessity to operate with short-term debts or long-term debts only for equity purposes. Male ownership prefers the vice-versa while boosting the investment in fixed assets. In a complementary way instead acts mixed ownership structure which uses long-term debts for equity purposes to reduce short-term debts as assets can generate cash-flows to support randomly activities without being indispensable to appeal on pure short and long-term debts. Hereby, the role of leadership is put to the fore by bringing into the attention outlines of the stewardship theory, where the latter projects the strategy and makes support to leverage effect.

National equity businesses opt also for long-term debts used to invest in fixed assets which can also through the generated cash-flow reduce short-term debts and almost pay interest expenses. From the other side, foreign and mixed equity businesses uses long-term debts converted in equity which produce more interest expenses and short-term debts but anyway control the other type of long-term debts (such as them for assets, etc.).
Throughout it can be affirmed that initially SMEs are able to identify which management style (liberal vs conservative) will help to achieve the organization's goals in a particular situation as explained by systems theory and then act accordingly in reference of business contingency theory concepts by also confirming hazard theory attitude.

In this context, non-performing borrowers' status searches long-term debts in order to create more opportunities to explore the market by generating enough profit to pay on-time also the short-term debts and other interest expenses. While performing status is more proactively concentrated in increasing long-term debts convertible in equity aiming to foster business profitability.

Unlike business administration opts for long-term debts implemented in fixed assets investment by pursuing a very traditional strategy. Whereas business size is eager to mainly explore short-term debts for immediate necessities and long-term debts convertible in equity into a subsequent growth prospective on behalf of system theory where business segments may be independent but interrelated and this is valid almost for SMEs that operate as a unit.

Into a deeper examination direction the clue features/warning signals concerning SMEs leverage reconciliation framework in respect of capital structure approaches such as: RA, PATR, ROA, ROE, business ownership framework, and then ownership gender and firm age contemporaneously support the 'trade-off' package toward business growth acceleration process (refer to Figure 99).

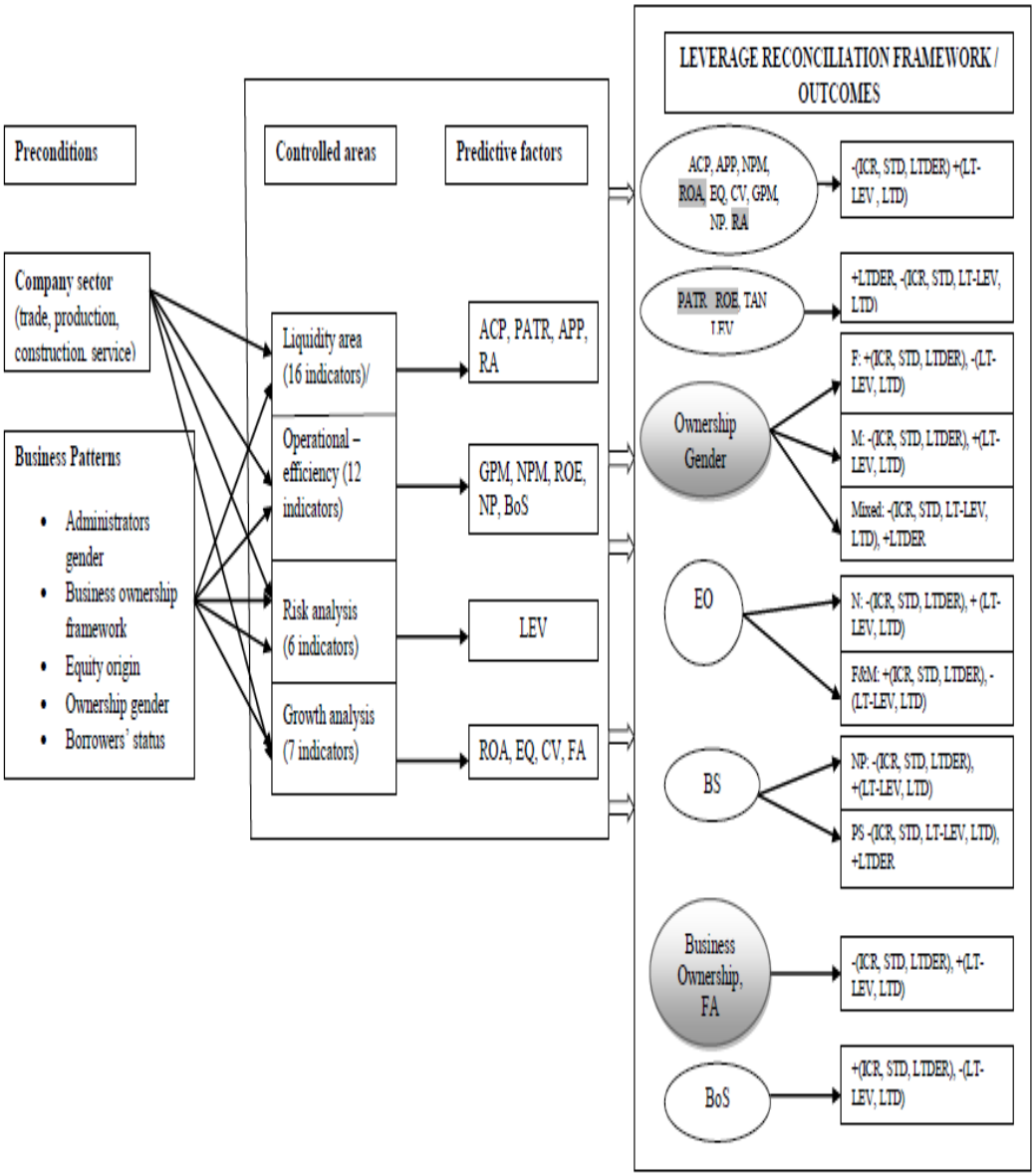


Figure 99. Leverage reconciliation framework outcomes
Source: Summary results of Radial Basis Functions parameters estimates in sectoral-affiliations (Appendix B/ Tables 43-46), Author elaboration

As far as can be understood, the inspection on receivables, payable accounts and profit (even as a derivate process on behalf of liquidity management process identified patterns) has an indispensable role in enhancing business orientation toward growth. And not without purpose, net profit generated from sales and its further conversion in assets and equity constitute the main SMEs pole.

Rationally, in cohesion with liquidity management and corresponding leverage reconciliation outcomes retrieved it was ultimately developed an integrative risk-adjusted performance behavior approach valuable for the achievement of SMEs goals.

The radial basis functions implemented over 25 predictive factors from which 8 covariates pertaining to liquidity (9), operative-efficiency (4), risk analysis (4), growth analysis (3) and business patterns (5) 'control-areas', provides risk-adjusted performance outcomes[35] (measured through ROE, ROA and GOM) by confirming as statistically significant at 95% confidence level: WC, RATR, MCC, STD, ACP, PATR, INV and STA (liquidity area/the last 4 are covariates), NPM, TAN and BoS (operative-efficiency area), ICR, LTDER, LT-LEV, LTD (risk analysis), firm age and owner no (growth analysis /the latter is a covariate), administrators gender, business ownership framework, equity origin, ownership gender and borrowers' status (business patterns).
Moreover, by this way is reconfirmed the supplementary role of additional business financial ratios and patterns in predicting SMEs risk-adjusted performance.

Concretely the results affirm that the increase of inventory (INV) and short term debts (STD) orients working capital (WC) which fosters sales (RATR) that in turns generate profit (NPM) by providing the necessary circumstances to make leverage in long-terms with the intent to increase equity turnover (LTDER) and by this circuit are obtained higher ROE, ROA and GOM.
Simultaneously the reduction of assets and equity proportions used accordingly (which also increases LT-LEV and TAN) positively impacts assets and equity turnover but reduces earnings. Despite this, reveals also true that the continuous increase of long-term debt (which increases interest expenses), money conversion cycle, assets and owners number negatively affects ROE, ROA and GOM. As well as the increase of receivable accounts and then of short-term assets reduces assets profitability what influences earnings and profit (so is negatively impacted ROE and GOM) by increasing assets turnover (ROA).

Additionally, the increase of cost sold, reduces sales but increases net profit as a deductive logic of price increase. Afterwards, this positively impacts ROE and

[35] The robustness check is confirmed as average of overall relative errors: 0.933, training time: 72 seconds and to the low BIC referring to the 222, 225, 228 and 231 Tables in Chapter VIII.

GOM, but the cost increase may affect the payable accounts including here them used for investment in assets which simultaneously reduces assets turnover.

By configuring the above mentioned outcomes into businesses patterns approach, it can be highlighted that the most effective framework results are the one managed from owners themselves as all risk-adjusted measures reveal to be positively influenced. Meanwhile, as statistically depicted, only female administration can provide the same results. And not unintentionally, female gender ownership opts more for higher earnings and net profits, with the aim to be converted in assets from each generated cash-flow, which can be further used even as equity increase concerning the implementation of a proactive–risk taking approach. With regard to the latter, maybe national businesses more related to roots and with a long-term vision adequately perform in term of risk-adjusted performance (positively impact ROE, ROA and GOM), followed from them with mixed-equity (positively impact only ROE and ROA), by reflecting still the political exigencies to open up toward direct foreign investments from one hand and improve other aspects as per national ones. As comparatively foreigners have a dedicated focus on pure profitability by seeking to speculate more than invest in the long-term (they opt only for higher ROE) which is interpreted as a proactive behavior.

Simultaneously, the latter can be confirmed by further considering business age/life spectrum in relation to risk-adjusted performance. It turns out that start-up businesses are eager to access the market and strongly compete by leaving apart immediate risk-adjusted performance results (without considering the amount invested), in their focus is the sale increase (their impact on risk-adjusted performance measures is negative). The grown ones instead result to be focused in a continuous process of equity increase, this one translated also in terms of assets by boosting the net profit (positively affect ROA and GOM) and vice versa (negatively ROE). And when it comes to maturity ones the risk-adjusted performance is carefully preserved (they opt for high ROE, ROA and GOM ratios).

In parallel with a visionary aspect, credit performing status is an additional feature through which businesses access to the necessary credit amount needed to implement their ambitious business plans concerning results achievement as well as the vice versa becomes a barrier for further business expansion considering Albanian market circumstances (see Figure 100).

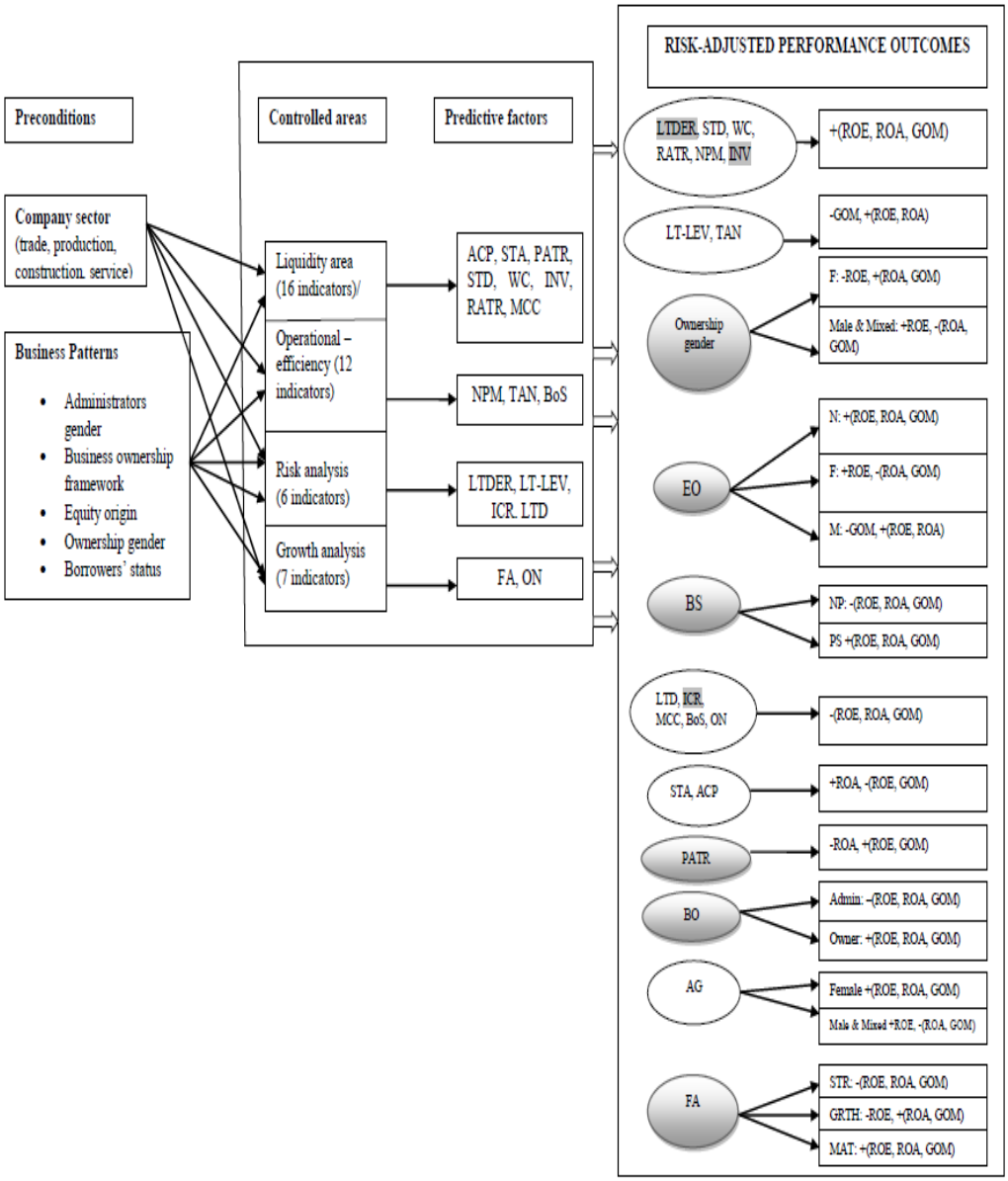


Figure 100. Risk-adjusted performance outcomes
Source: Summary results of Radial Basis Functions parameters estimates in sectoral-affiliations (see Tables 40-43 in Appendix C), Author elaboration

9.2 FINDINGS

In an integrative manner, clearly comes out the role of SMEs clue features /warning signals such as: INV, PATR, LTDER, ICR, business administration framework, ownership gender, borrowers' status, equity origin, firm age/life spectrum; they assure an accurate liquidity management process handled even through a consolidated leverage mechanism and quite rewarded in terms of risk-adjusted performance.

As it can be realized (see Figure 100/ colored in grey), INV, PATR and LTDER positively affect liquidity by providing the same effect on risk-adjusted performance; contemporaneously the increase of ICR negatively affect the latter. Foremost, firms' life spectrum and other organizational patterns behaviors in the quality of business as well as political economies strategic perspective elements (handled through social cohesion and regional development awareness) influence and align their ongoing performance.

Thus, it should be outlined that matured and national businesses (administrated from owners /potentially from female owners with performing borrowers' status) represent the ones mainly oriented versus a sustainable growth by pursuing a proportional risk-adjusted performance model. Especially where the latter is emphasized as a continuous support to creative processes and ideas, while seeking for market opportunities and rationally considering risk-taking capacity expressed in terms of uncertainty absorption, in full compliance with environment effect of business contingency theory and in cohesion with self-adaption on behalf of system theory. Undisputedly, with regard to the latter prevails the leadership role who while projecting the strategy makes support to leverage effect as well as to innovativeness theory.

By this way, the evidence of facts brings to the SMEs attention the relevance of a proactive permanent control culture implementation which, even being less costly (than the internal adaption of a pure risk management sector), is more effective according to their reality (SMEs merely act as unit in compliance with features role according to system theory) and properly this assists in the appropriate designation of intelligence performance philosophy.

9.3 RECOMMENDATIONS

With special regard to SMEs, clue ratios in correspondence of business intelligence models established the ongoing monitoring process initially invites the owners/administrators to control inventories and payable accounts, and then make use of all internal resources before exploring outsourced funding expressed in terms of long-term debts on equity and interest coverage (in correspondence of pecking order as well as asymmetry issues funding costs approaches). Rationally this is valid even for start-up and grown businesses which should replicate as much as possible the strategy of the matured ones in order to achieve short-term goals and then accurately plan long-term ones.

Intuitively on a macro context, the a/m permanent control feedback later on enables even the establishment of dedicated procedures according to business exigencies in support of performance results, meaning the coordination of alternative production/ immediate distribution and potential mixed marketing practices in coherence with market prespective from one side. As well as validates some existing procedures through random key risk indicators elaboration in the areas revealed as less defective from the other one aiming to reduce the unnecessary business costs.

In the same time, permanent control function provides all the necessary information to build risk mitigation instruments toward initiatives that precede important legal and economic amendments aiming a sustainable growth process (such as: eco-friendly programs while promoting business social beliefs, practices and profits that keep in safe people and planet including here also bank practices amendments in terms of specific requirements on behalf of futuristic lending policies).

Undoubtedly, the most significant and dynamic business patterns behaviors can be promoted and further strengthened through apposite economic policies developed while exploiting additional performance sources with main focus employment increase (which further helps even in making these businesses competitive in the European market as well).

9.4. LIMITS

The underlined logic of radial basis function isn't so familiar to SMEs administrator/owners. For this purpose the interpretation of results becomes difficult, beyond the fact that even administrators with basic econometrical skills can be employed to solve the issue (except of the paid consultancy).
Then, particularly referring to radial basis functions results in a convergent way was found that each sectoral–affiliation outcome its usually interpolative and has a well-behaved limit (zero) as functions themselves become increasingly flat (that's why in each case are considered only the predictive factors with strongest correlation in correspondence of hidden layers). But as per our close practical interest this is the most important feature explored which makes it a plausible approach into different sectoral-realities while meaning that under a technical context instead this constitutes a limit which merely depends from input data. And due to the latter, previously the radial basis functions were seen suitable only to corporate businesses.

9.5. OPEN ISSUES

The next research target may be focused on the contemplation of dynamic SME behavioral theories, with special regard to additional intelligence models elaboration dedicated to weaker life-spectrum businesses regardless equity origin: this can simultaneously support even the strategic regional development plan within the country.

The further exploitation of radial basis function aiming the enhancement of SMEs credit worthiness models considering their relevant behavioral patterns accordingly to liquidity and leverage risk management processes (customized to credit-cards, mortgage and other SME lending products) is another aspired goal.

In the same way, radial basis functions can be implemented with the purpose to identify SMEs domain-specific relations needed for internal financial policies establishment as well as for forex-portfolios volatility risk forecasting.
Subsequently, the development and implementation of the a/m proposed approaches by SMEs operating in the country constitutes a step forward not only

in terms of spreading a value culture among a business intelligence prospect but simultaneously enables to them even the necessary defensive mechanisms activation in case of market turbulences.

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XI. ANNEXES

APPENDIX A -Liquidity management approaches estimations

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.206	1	31	.653

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status * GA2OCF

Table 1. Levene's Test of Equality of Errors' Variances (Borrowers' Status and Operative cash flow vs WC) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.245	1	9	.632

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status * GA2OCF

Table 2. Levene's Test of Equality of Error Variances (Borrowers' Status and Operative cash flow vs WC) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
2.286	1	10	.162

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status * GA2OCF

Table 3. Levene's Test of Equality of Error Variances (Borrowers' Status and Operative cash flow vs WC) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.595	1	30	.446

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status * GA2OCF

Table 4. Levene's Test of Equality of Error Variances (Borrowers' Status and Operative cash flow vs WC) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.401	2	30	.673

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender + OE3GPM + Administrators Gender * OE3GPM

Table 5. Levene's Test of Equality of Error Variances (Administrators gender and Gross profit margin vs WC) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.992	1	30	.327

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.992	1	30	.327

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender + OE3GPM + Administrators Gender * OE3GPM

Table 6. Levene's Test of Equality of Error Variances (Administrators gender and Gross profit margin vs WC) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.492	1	31	.488

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender + OE3GPM + Administrators Gender * OE3GPM

Table 7. Levene's Test of Equality of Error Variances (Administrators gender and Gross profit margin vs WC) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.971	1	30	.332

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender + OE3GPM + Administrators Gender * OE3GPM

Table 8. Levene's Test of Equality of Error Variances (Administrators gender and Gross profit margin vs WC) in service sector
Source: Primary data collection, Author elaboration with SPS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
1.669	2	30	.206

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin + ILR10APP + Equity Origin * ILR10APP

Table 9. Levene's Test of Equality of Error Variances (Equity origin and Average payment period vs WC) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Between-Subjects Factors

		Value Label	N
Equity Origin	0	national	31

Table 10. Equality of Error Variances (Equity origin and Average payment period vs WC) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.858	1	13	.371

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin + ILR10APP + Equity Origin * ILR10APP

Table 11. Levene's Test of Equality of Error Variances (Equity origin and Average payment period vs WC) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:ILR-2 WC

F	df1	df2	Sig.
.423	1	30	.521

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin + ILR10APP + Equity Origin * ILR10APP

Table 12. Levene's Test of Equality of Error Variances (Equity origin and Average payment period vs WC) in service sector
Source: Primary data collection, Author elaboration with SPSS

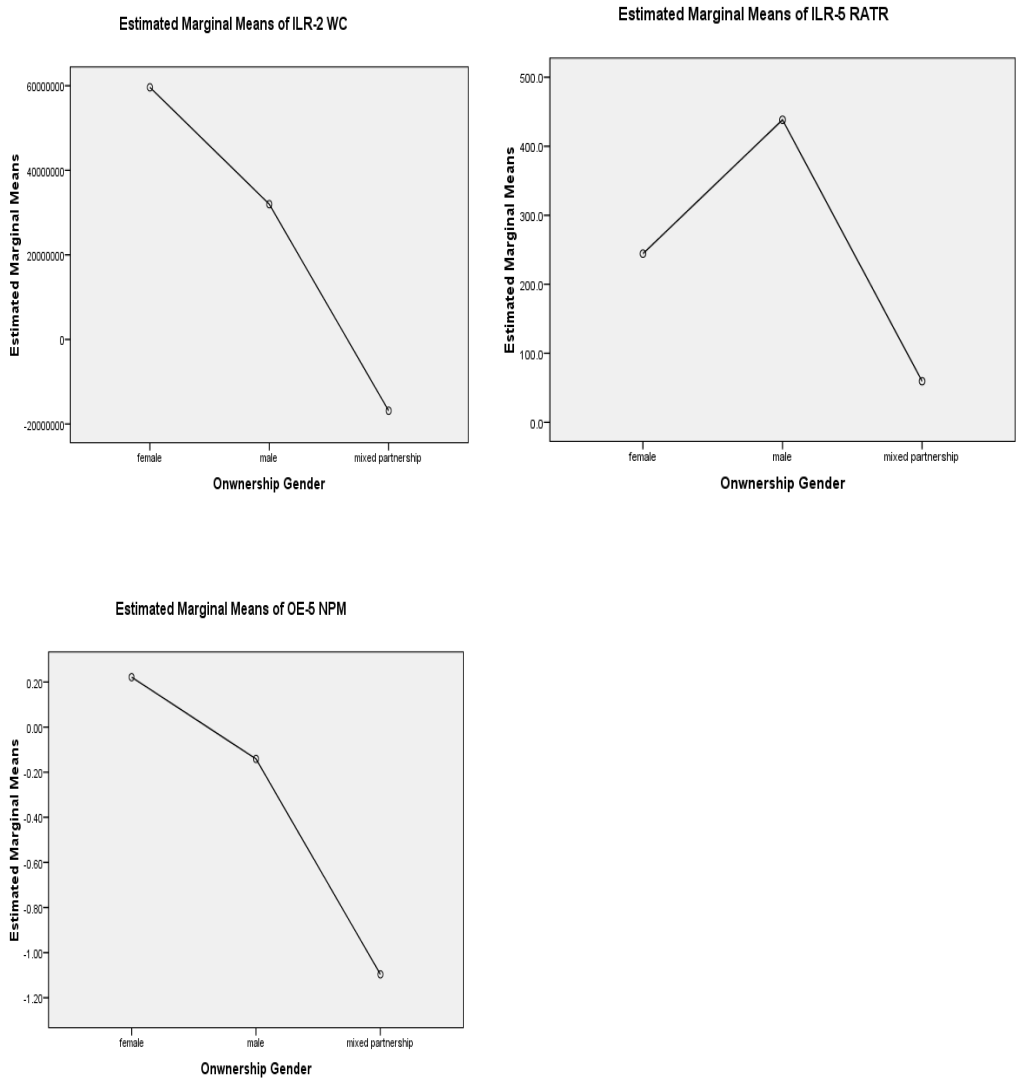

Figure 1. Estimated marginal means of WC, RATR and NPM concerning ownership gender typology in trade sector
Source: Primary data collection, Author elaboration with SPSS

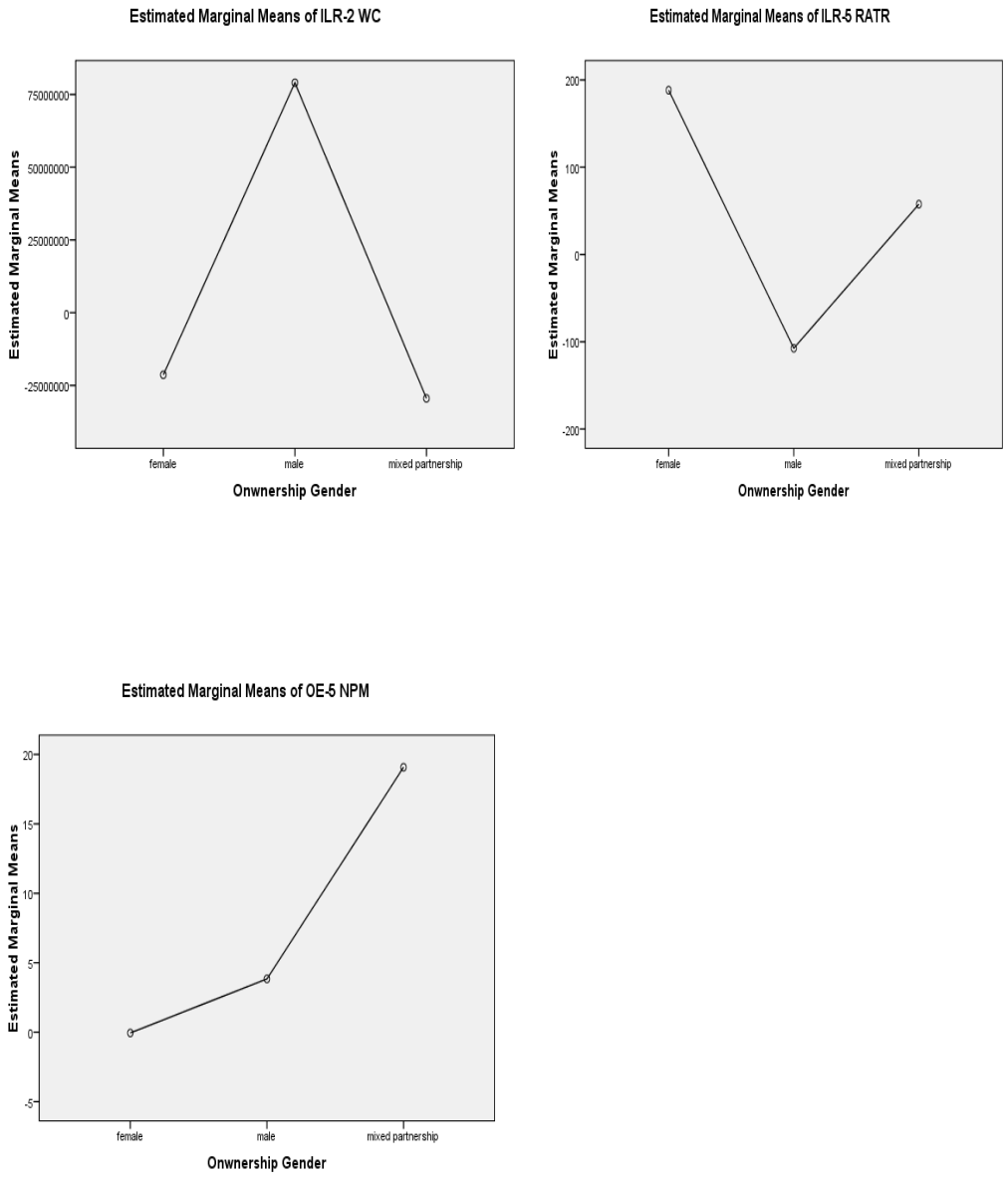

Figure 2. .Estimated marginal means of WC, RATR and NPM concerning ownership gender typology in production sector
Source: Primary data collection, Author elaboration with SPSS

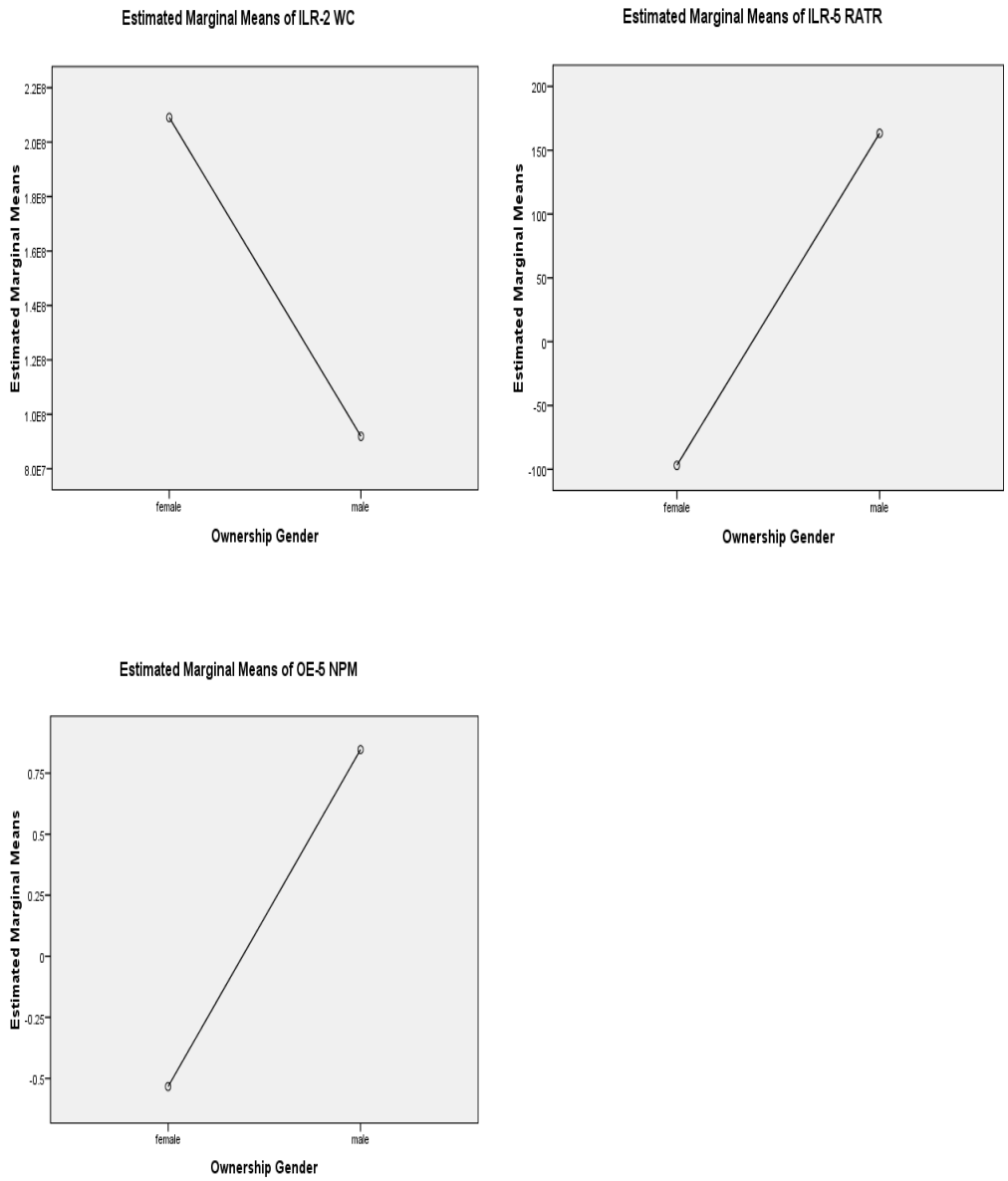

Figure 3. Estimated marginal means of WC, RATR and NPM concerning ownership gender typology in construction sector
Source: Primary data collection, Author elaboration with SPSS

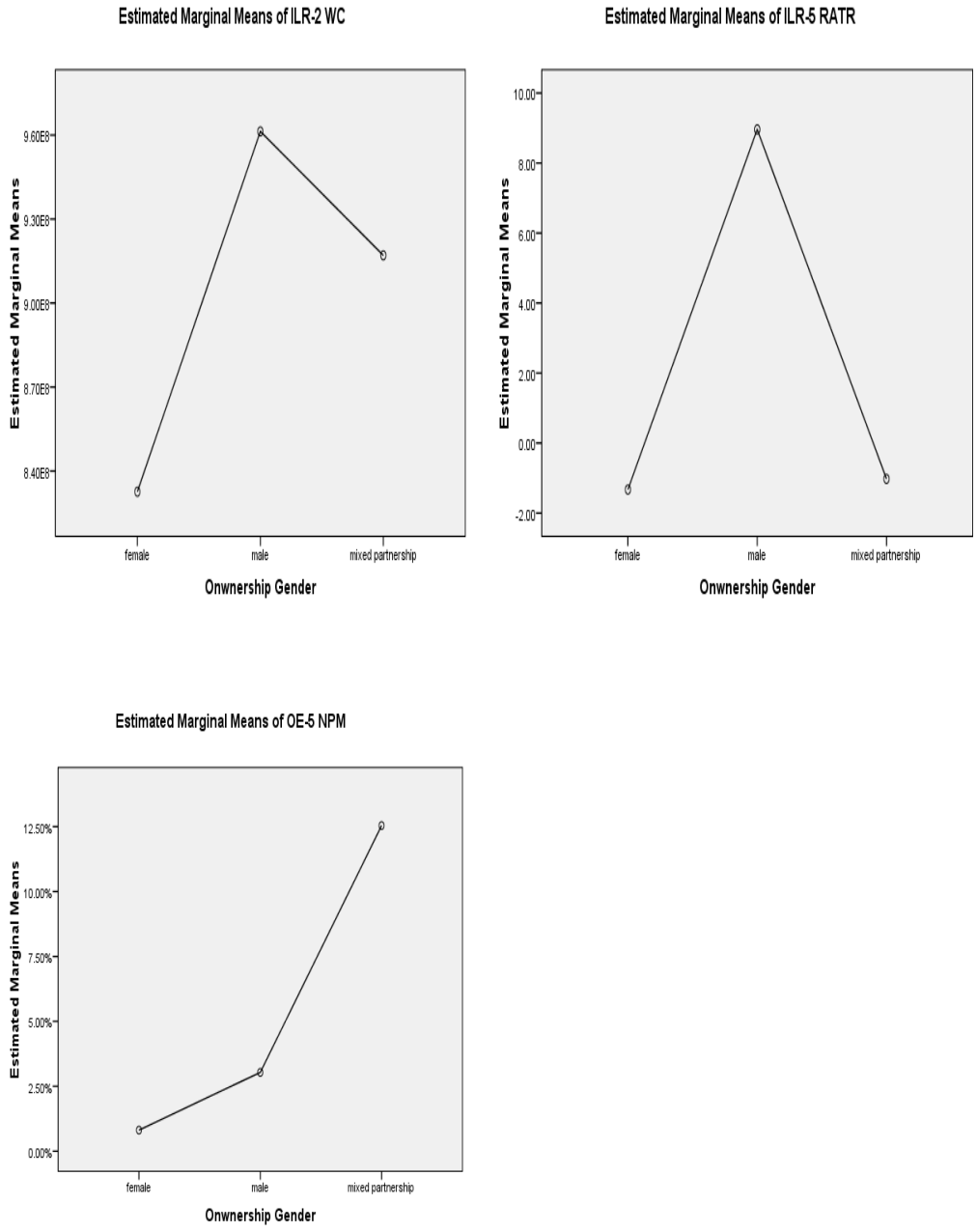

Figure 4. Estimated marginal means of WC, RATR and NPM concerning ownership gender typology in service sector
Source: Primary data collection, Author elaboration with SPS

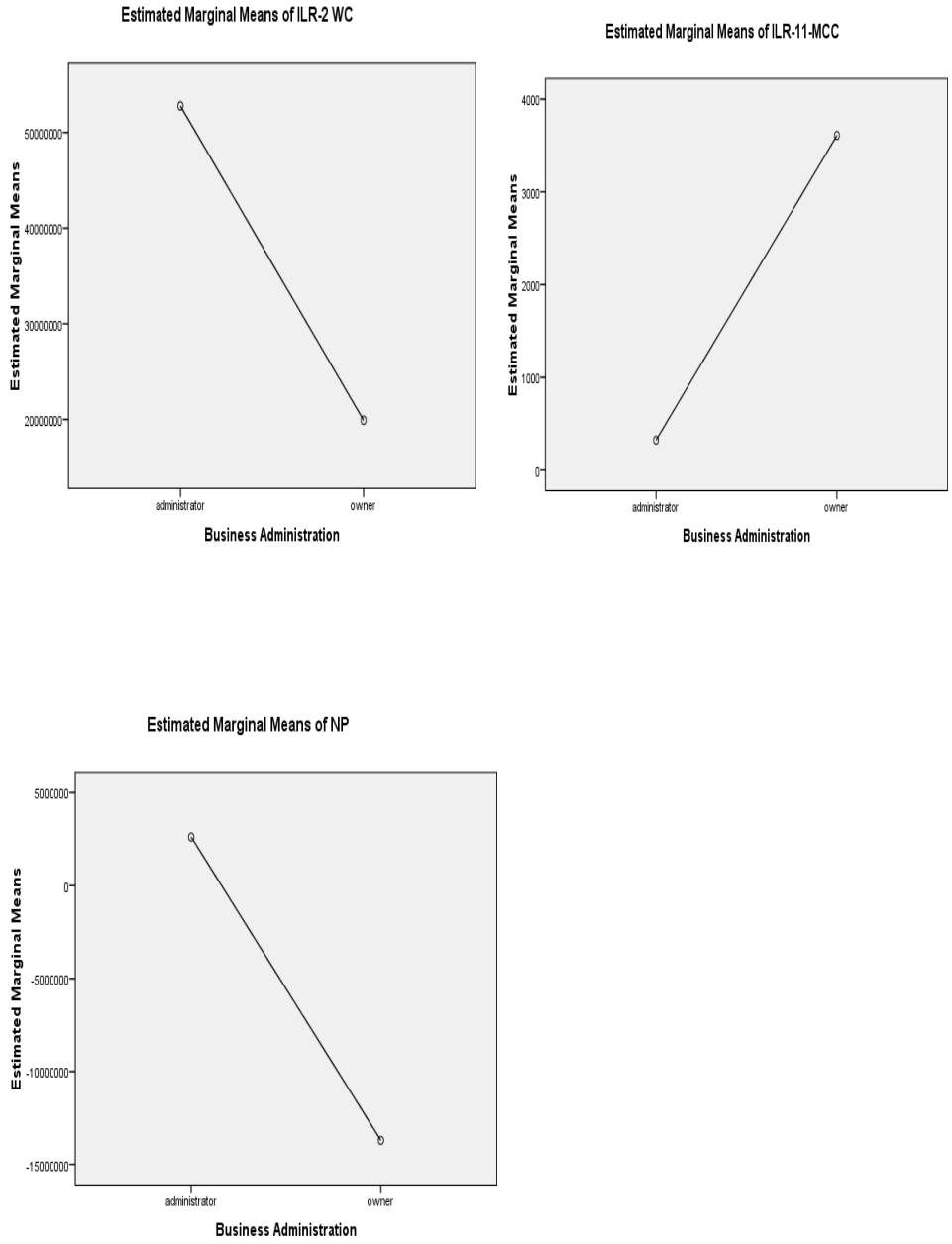

Figure 5. Estimated marginal means of WC, MCC and NP concerning business administration typology in trade sector
Source: Primary data collection, Author elaboration with SPSS

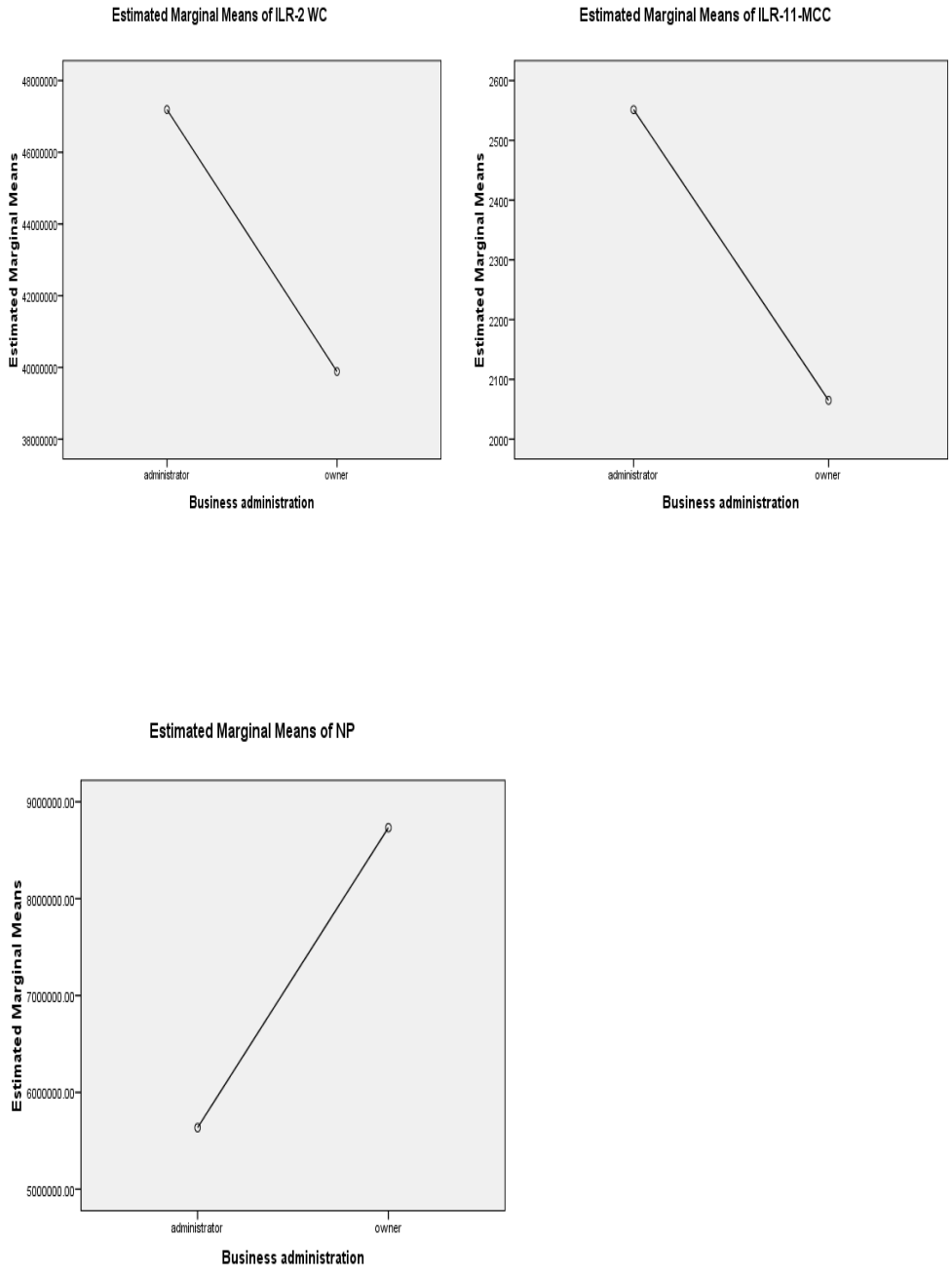

Figure 6. Estimated marginal means of WC, MCC and NP concerning business administration typology in production sector
Source: Primary data collection, Author elaboration with SPSS

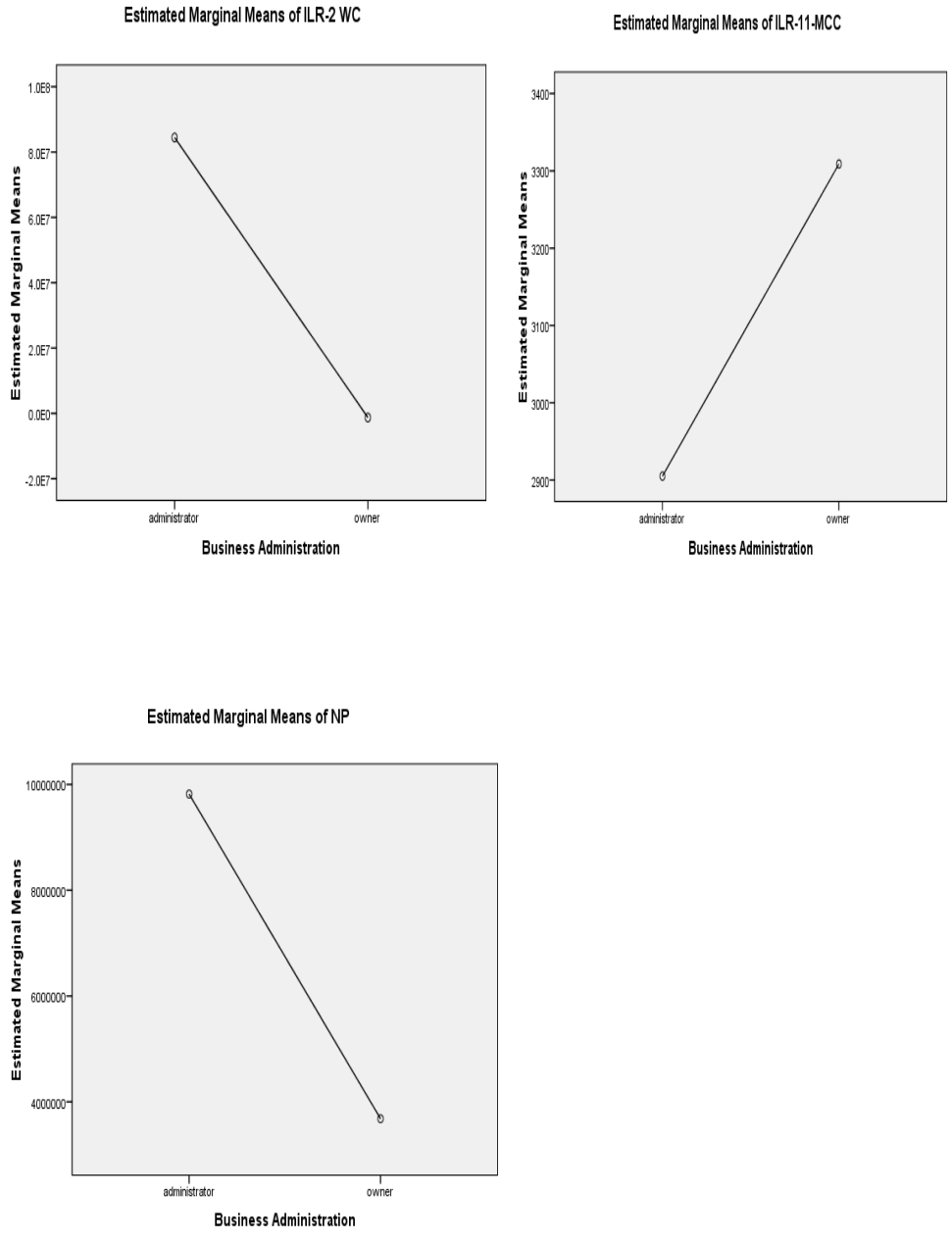

Figure 7. Estimated marginal means of WC, MCC and NP concerning business administration typology in construction sector
Source: Primary data collection, Author elaboration with SPSS

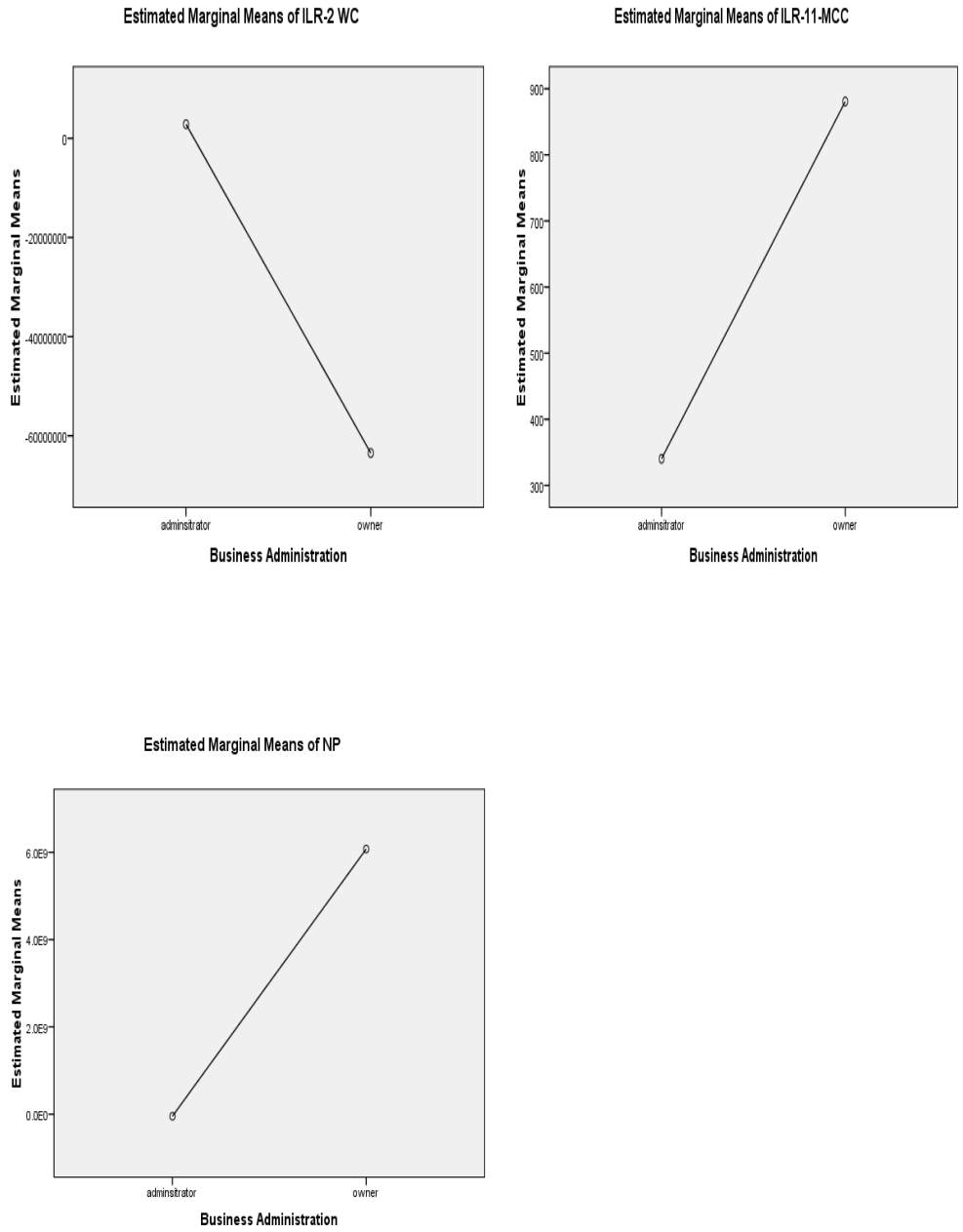

Figure 8. Estimated marginal means of WC, MCC and NP concerning business administration typology in service sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted					
		Hidden Layer[a]		Output Layer			
Predictor		H(1)	H(2)	ILR2WC	ILR5RATR	ILR11MCC	OE5NPM
Input Layer	[OE1TATR=.04]	.067	.000				
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	[OE7ROE=34.50]	.000	.083				
	[OE9ITA=.004067973678]	.067	.000				
	[OE9ITA=.031594305077]	.000	.083				
	[OE9ITA=.033424694122]	.067	.000				
	[OE9ITA=.035062307445]	.067	.000				
	[OE9ITA=.051177184442]	.000	.083				
	[OE9ITA=.054724017512]	.067	.000				
	[OE9ITA=.062273007659]	.067	.000				
	[OE9ITA=.066338498178]	.000	.083				
	[OE9ITA=.100339592031]	.067	.000				
	[OE9ITA=.158078995565]	.067	.000				
	[OE9ITA=.170012356371]	.000	.083				
	[OE9ITA=.175197599433]	.067	.000				
	[OE9ITA=.205752937389]	.067	.000				
	[OE9ITA=.213310083260]	.000	.083				

	[OE9ITA=.215963072004]	.000	.083				
	[OE9ITA=.233936773819]	.000	.083				
	[OE9ITA=.397793613340]	.067	.000				
	[OE9ITA=.462965760738]	.067	.000				
	[OE9ITA=.506394813834]	.000	.083				
	[OE9ITA=.591487646688]	.000	.083				
	[OE9ITA=.630077167792]	.067	.000				
	[OE9ITA=.671168732585]	.000	.083				
	[OE9ITA=.677711425489]	.067	.000				
	[OE9ITA=.697190821117]	.067	.000				
	[OE9ITA=.709648146044]	.067	.000				
	[OE9ITA=.716765183668]	.000	.083				
	[OE9ITA=.907519191570]	.000	.083				
	[RA1LTDER=.0]	.067	.000				
	[RA1LTDER=.1]	.067	.000				
	[RA1LTDER=.3]	.067	.000				
	[RA1LTDER=.4]	.133	.000				

	[RA1LTDER=.5]	.000	.167			
	[RA1LTDER=.6]	.067	.000			
	[RA1LTDER=.7]	.000	.083			
	[RA1LTDER=.8]	.000	.083			
	[RA1LTDER=.9]	.000	.083			
	[RA1LTDER=2.0]	.000	.083			
	[RA1LTDER=2.1]	.000	.083			
	[RA1LTDER=3.5]	.000	.083			
	[RA1LTDER=22.2]	.067	.000			
	[RA1LTDER=47.9]	.000	.083			
	[Administrators Gender=0]	.067	.333			
	[Administrators Gender=1]	.867	.667			
	[Administrators Gender=2]	.067	.000			
	[Equity Origin=0]	.733	1.000			
	[Equity Origin=1]	.133	.000			
	[Equity Origin=2]	.133	.000			
	[Borrowers' Status=0]	.200	.000			
	[Borrowers' Status=1]	.800	1.000			
	RA3ICR	.257	-.321			
	RA5LTLEV	-.383	.478			
	GA1ROA	-.013	.017			
	GA2OCF	.143	-.179			
	Firm Age	-.115	.144			
	INV	-.394	.492			

	STA	-.491	.613				
	STD	-.261	.327				
	CV	.021	-.027				
	NP	-.360	.450				
	BoS	-.533	.666				
	Business administration	-.299	.374				
	Ownerships Gender	.308	-.385				
Hidden Unit Width		1.318	1.455				
Hidden Layer	H(1)			-1.002	.416	-.325	.133
	H(2)			.851	-.353	.276	-.113

a. Displays the center vector for each hidden unit.

Table 9. Parameters estimates/RBF-in trade sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

Predictor		Predicted												
		Hidden Layer[a]									Output Layer			
		H(1)	H(2)	H(3)	H(4)	H(5)	H(6)	H(7)	H(8)	H(9)	ILR2 WC	ILR5 RATR	ILR11 MCC	OE5 NPM
Input Layer	[OE1TATR=0]	.000	.000	.000	.000	.000	.000	.000	.000	1.000				
	[OE1TATR=1]	.000	.000	.000	.000	1.000	.000	.000	.000	.000				
	[ILR9PATR=-1]	.000	.000	.000	1.000	.000	.000	.000	.000	.000				
	[ILR9PATR=0]	.000	1.000	.000	.000	.000	.000	.000	.000	.000				
	[ILR9PATR=3]	1.000	.000	.000	.000	.000	.000	.000	.000	.000				
	[ILR9PATR=4]	.000	.000	.000	.000	1.000	.000	.000	.000	.000				
	[OE4GOM=4]	.000	1.000	1.000	1.000	.000	.000	.000	.000	.000				

[OE4GOM=5]	.000	.000	.000	.000	.000	1.000	.000	.000	.000
[OE4GOM=9]	.000	.000	.000	.000	.000	.000	.000	.000	1.000
[OE4GOM=27]	.000	.000	.000	.000	.000	.000	1.000	.000	.000
[OE4GOM=44]	1.000	.000	.000	.000	.000	.000	.000	.000	.000
[OE4GOM=91]	.000	.000	.000	.000	.000	.000	.000	1.000	.000
[OE7ROE=-.02]	.000	.000	.000	.000	.000	.000	.000	1.000	.000
[OE7ROE=.02]	.000	1.000	.000	.000	.000	.000	.000	.000	.000
[OE7ROE=.08]	.000	.000	.000	.000	1.000	.000	.000	.000	.000
[OE7ROE=.10]	.000	.000	.000	.000	.000	.000	1.000	.000	.000
[OE7ROE=5.00]	.000	.000	1.000	.000	.000	.000	.000	.000	.000
[OE7ROE=10.00]	.000	.000	.000	.000	.000	.000	.000	.000	1.000
[OE7ROE=13.00]	1.000	.000	.000	.000	.000	.000	.000	.000	.000
[OE7ROE=14.00]	.000	.000	.000	.000	.000	1.000	.000	.000	.000
[OE9ITA=.00]	1.000	.000	.000	.000	.000	.000	.000	.000	.000
[OE9ITA=.05]	.000	.000	.000	.000	.000	.000	.000	.000	1.000
[OE9ITA=.07]	.000	.000	.000	.000	.000	.000	1.000	.000	.000
[OE9ITA=.14]	.000	.000	1.000	.000	.000	.000	.000	.000	.000
[OE9ITA=.20]	.000	.000	.000	.000	1.000	.000	.000	.000	.000
[OE9ITA=.21]	.000	.000	.000	.000	.000	1.000	.000	.000	.000
[OE9ITA=.24]	.000	.000	.000	.000	.000	.000	.000	1.000	.000
[OE9ITA=.31]	.000	.000	.000	1.000	.000	.000	.000	.000	.000
[OE9ITA=.42]	.000	1.000	.000	.000	.000	.000	.000	.000	.000
[RA1LTDER=-.39]	.000	.000	.000	.000	.000	.000	1.000	.000	.000

[RA1LTDER=-.22]	.000	.000	.000	.000	.000	.000	.000	1.000	.000
[RA1LTDER=.56]	.000	.000	.000	.000	1.000	.000	.000	.000	.000
[RA1LTDER=.65]	.000	.000	.000	1.000	.000	.000	.000	.000	.000
[RA1LTDER=4.90]	.000	1.000	.000	.000	.000	.000	.000	.000	.000
[RA1LTDER=43.00]	1.000	.000	.000	.000	.000	.000	.000	.000	.000
[RA1LTDER=66.00]	.000	.000	1.000	.000	.000	.000	.000	.000	.000
[RA1LTDER=127.00]	.000	.000	.000	.000	.000	1.000	.000	.000	.000
[RA1LTDER=346.00]	.000	.000	.000	.000	.000	.000	.000	.000	1.000
[Administrators Gender=0]	.000	.000	.000	.000	.000	.000	1.000	.000	1.000
[Administrators Gender=1]	1.000	1.000	1.000	1.000	1.000	1.000	.000	1.000	.000
[Borrowers' Status=0]	.000	.000	.000	.000	.000	.000	1.000	1.000	.000
[Borrowers' Status=1]	1.000	1.000	1.000	1.000	1.000	1.000	.000	.000	1.000
RA3ICR	-.278	-.140	-.219	-.279	2.609	-.278	-.859	-.278	-.278
RA5LTLEV	1.894	1.437	-.281	-.483	-.296	-.558	-.625	-1.117	.030
GA1ROA	2.652	-.294	-.291	-.298	-.289	-.282	-.609	-.297	-.294
GA2OCF	-.473	-.024	-.519	-.580	-.495	2.443	.663	-.496	-.518
Firm Age	1.290	-.029	.762	-.557	-1.349	-1.349	.235	1.290	-.293
INV	-.810	-.390	.147	.674	-.708	2.296	.131	-.546	-.794

	STA	-.942	-.652	.166	1.037	-.848	1.648	1.038	-.608	-.839			
	STD	-.709	-.378	.443	.439	-.710	2.355	-.710	-.096	-.634			
	CV	-.660	-.635	.414	-.410	-.671	1.688	1.617	-.629	-.715			
	NP	-.253	-.364	.093	-.266	-.313	2.601	-.373	-.775	-.348			
	BoS	-1.054	-.461	.816	.575	-.896	1.325	1.263	-.399	-1.169			
	Business administration	1.054	-.843	1.054	-.843	-.843	1.054	-.843	1.054	-.843			
	Ownership Gender	1.421	.142	.142	.142	1.421	-1.137	-1.137	-1.137	.142			
Hidden Unit Width		2.793	2.793	2.793	2.793	2.793	2.793	2.793	2.793	2.793			
Hidden Layer	H(1)										.207	-.314	.190	4.489
	H(2)										-1.162	8.533	-.833	-1.494
	H(3)										-1.938	-1.994	-6.084	.147
	H(4)										4.576	-2.140	-.356	-.725
	H(5)										-.124	-.482	.228	-.733
	H(6)										-2.196	.720	.236	-.062
	H(7)										2.581	-.646	2.555	-.580
	H(8)										-1.869	-1.242	4.585	-1.081
	H(9)										-.113	-2.957	.571	.569

a. Displays the center vector for each hidden unit.

Table 10. Parameters estimates/RBF-in production sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

Predictor		Predicted								
		Hidden Layer[a]					Output Layer			
		H(1)	H(2)	H(3)	H(4)	H(5)	ILR 2WC	ILR5 RATR	ILR11 MCC	OE5 NPM
Input Layer	[OE1TATR=0]	.000	.000	.000	1.000	.000				
	[OE1TATR=1]	.000	.000	.000	.000	1.000				
	[ILR9PATR=0]	1.000	.000	.000	.000	.000				
	[ILR9PATR=2]	.000	.000	.000	1.000	.000				
	[OE4GOM=0]	.000	.000	1.000	.000	.000				
	[OE4GOM=1]	.000	.000	.000	1.000	.000				
	[OE7ROE=0]	.000	.000	1.000	.000	.000				
	[OE9ITA=.01]	.000	1.000	.000	.000	.000				
	[OE9ITA=.19]	.000	.000	.000	1.000	.000				
	[OE9ITA=.23]	.000	.000	.000	.000	1.000				
	[OE9ITA=.27]	1.000	.000	.000	.000	.000				
	[OE9ITA=.70]	.000	.000	1.000	.000	.000				
	[RA1LTDER=.13]	.000	1.000	.000	.000	.000				
	[RA1LTDER=.23]	.000	.000	.000	1.000	.000				
	[RA1LTDER=2.30]	.000	.000	.000	.000	1.000				
	[RA1LTDER=5.71]	.000	.000	1.000	.000	.000				
	[RA1LTDER=6.30]	1.000	.000	.000	.000	.000				
	[Equity Origin=0]	1.000	.000	.000	.000	.000				
	[Equity Origin=1]	.000	1.000	1.000	1.000	.000				
	[Equity Origin=2]	.000	.000	.000	.000	1.000				
	[Borrowers' Status=0]	.000	1.000	.000	.000	.000				

	[Borrowers' Status=1]	1.000	.000	1.000	1.000	1.000				
	RA3ICR	-.450	1.789	-.437	-.451	-.451				
	RA5TLLEV	-.173	-.594	.093	-.963	1.637				
	GA1ROA	-.478	-.520	-.380	1.786	-.408				
	GA2OCF	-.430	1.057	-.102	-1.392	.867				
	Firm Age	-.856	.729	-.380	-.856	1.363				
	INV	.123	-.680	1.694	-.520	-.617				
	STA	.460	-.867	1.482	-.173	-.901				
	STD	-.022	-.814	1.671	-.731	-.104				
	NP	-.039	-1.026	1.567	.176	-.678				
	BoS	.881	-1.394	.968	.118	-.573				
	Business administration	-.447	-.447	1.789	-.447	-.447				
	Ownership Gender	-.730	1.095	1.095	-.730	-.730				
	CV	1.600	-.766	.305	-.804	-.336				
Hidden Unit Width		2.366	2.366	2.366	2.366	2.366				
Hidden Layer	H(1)						-1.026	2.272	-.632	-.344
	H(2)						-.187	-.528	2.075	-1.205
	H(3)						1.328	-.462	-.250	.378
	H(4)						1.149	-.673	-.587	1.842
	H(5)						-1.242	-.634	-.591	-.665

a. Displays the center vector for each hidden unit.

Table 11. Parameters estimates/RBF-in construction sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

Predictor		Predicted					
		Hidden Layer[a]		Output Layer			
		H(1)	H(2)	ILR2WC	ILR5 RATR	ILR11MCC	OE5NPM
Input Layer	[OE1TATR=.02]	.091	.000				
	[OE1TATR=.09]	.000	.083				
	[OE1TATR=.11]	.091	.000				
	[OE1TATR=.13]	.091	.000				
	[OE1TATR=.20]	.000	.083				
	[OE1TATR=.24]	.000	.083				
	[OE1TATR=.26]	.091	.000				
	[OE1TATR=.31]	.000	.083				
	[OE1TATR=.39]	.091	.000				
	[OE1TATR=.47]	.000	.083				
	[OE1TATR=.54]	.091	.000				
	[OE1TATR=.68]	.000	.083				
	[OE1TATR=.71]	.091	.000				
	[OE1TATR=.76]	.000	.083				
	[OE1TATR=.82]	.091	.000				
	[OE1TATR=.87]	.091	.000				
	[OE1TATR=1.01]	.000	.083				
	[OE1TATR=1.27]	.000	.083				
	[OE1TATR=1.40]	.091	.000				
	[OE1TATR=1.62]	.091	.000				
	[OE1TATR=1.63]	.000	.083				
	[OE1TATR=1.72]	.000	.083				

[OE1TATR=3.42]	.000	.083				
[ILR9PATR=-16.80]	.000	.083				
[ILR9PATR=.00]	.000	.083				
[ILR9PATR=.05]	.091	.000				
[ILR9PATR=.13]	.091	.000				
[ILR9PATR=.34]	.000	.083				
[ILR9PATR=.51]	.091	.000				
[ILR9PATR=.59]	.000	.083				
[ILR9PATR=.61]	.091	.000				
[ILR9PATR=.69]	.000	.083				
[ILR9PATR=.75]	.091	.000				
[ILR9PATR=.95]	.000	.083				
[ILR9PATR=1.04]	.091	.000				
[ILR9PATR=1.37]	.000	.083				
[ILR9PATR=1.60]	.091	.000				
[ILR9PATR=1.62]	.091	.000				
[ILR9PATR=2.08]	.091	.000				
[ILR9PATR=4.65]	.000	.083				
[ILR9PATR=4.88]	.000	.083				
[ILR9PATR=5.30]	.000	.083				
[ILR9PATR=5.38]	.091	.000				
[ILR9PATR=29.37]	.000	.083				
[ILR9PATR=45.11]	.091	.000				
[ILR9PATR=1557.00]	.000	.083				
[OE4GOM=-15%]	.000	.083				
[OE4GOM=-1%]	.091	.000				
[OE4GOM=0%]	.000	.083				

[OE4GOM=5%]	.000	.083				
[OE4GOM=18%]	.091	.000				
[OE4GOM=19%]	.000	.083				
[OE4GOM=40%]	.091	.000				
[OE7ROE=-13.28%]	.000	.083				
[OE7ROE=-.10%]	.091	.000				
[OE7ROE=.02%]	.091	.000				
[OE7ROE=.06%]	.000	.167				
[OE7ROE=.12%]	.000	.083				
[OE7ROE=.14%]	.091	.000				
[OE7ROE=.16%]	.182	.000				
[OE7ROE=.20%]	.000	.083				
[OE7ROE=.36%]	.000	.083				
[OE7ROE=.39%]	.000	.083				
[OE7ROE=.48%]	.000	.083				
[OE7ROE=.79%]	.000	.083				
[OE7ROE=4.70%]	.000	.083				
[OE7ROE=9.44%]	.091	.000				
[OE7ROE=11.00%]	.000	.083				
[OE7ROE=12.60%]	.000	.083				
[OE7ROE=20.00%]	.091	.000				
[OE7ROE=35.00%]	.091	.000				
[OE7ROE=59.00%]	.091	.000				
[OE7ROE=131.00%]	.091	.000				
[OE9ITA=.000000000000%]	.182	.250				

	[OE9ITA=.105613149158%]	.091	.000			
	[OE9ITA=.326337850149%]	.091	.000			
	[OE9ITA=.569692513645%]	.091	.000			
	[OE9ITA=1.342010331839%]	.000	.083			
	[OE9ITA=1.384659935241%]	.091	.000			
	[OE9ITA=1.671807908139%]	.091	.000			
	[OE9ITA=3.139259305956%]	.091	.000			
	[OE9ITA=4.285318999059%]	.091	.000			
	[OE9ITA=7.019630180557%]	.000	.083			
	[OE9ITA=8.162539359832%]	.000	.083			
	[OE9ITA=10.328374035806%]	.000	.083			
	[OE9ITA=18.542708690201%]	.000	.083			
	[OE9ITA=23.754488611438%]	.091	.000			
	[OE9ITA=26.110743496900%]	.000	.083			
	[OE9ITA=29.222999882260%]	.000	.083			

[OE9ITA=58.272287150656%]	.000	.083				
[OE9ITA=79.353495906406%]	.000	.083				
[OE9ITA=81.448010944658%]	.091	.000				
[RA1LTDER=0]	.182	.000				
[RA1LTDER=1]	.091	.000				
[RA1LTDER=2]	.000	.083				
[RA1LTDER=6]	.000	.083				
[RA1LTDER=13]	.091	.000				
[Administrator Gender=0]	.273	.167				
[Administrator Gender=1]	.727	.833				
[Equity Origin=0]	.727	1.000				
[Equity Origin=2]	.273	.000				
[Borrowers' Status=0]	.091	.083				
[Borrowers' Status=1]	.909	.917				
RA3ICR	-.021	.019				
RA5LTLEV	-.623	.571				
GA1ROA	.302	-.277				
GA2OCF	.375	-.344				
Firm Age	.222	-.203				
INV	-.421	.386				
STA	-.403	.369				
STD	-.395	.362				
CV	-.263	.241				

	NP	.210	-.193				
	BoS	-.453	.415				
	Business administration	.491	-.450				
	Ownerships Gender	.591	-.542				
Hidden Unit Width		1.124	1.559				
Hidden Layer	H(1)			-.163	-.715	.853	1.447
	H(2)			.045	.199	-.238	-.403

a. Displays the center vector for each hidden unit.

Table 11. Parameters estimates/RBF-in construction sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted					
		Hidden Layer[a]		Output Layer			
Predictor		H(1)	H(2)	ILR2WC	ILR5RATR	ILR11MCC	OE5NPM
Input Layer	[OE1TATR=.02]	.091	.000				
	[OE1TATR=.09]	.000	.083				
	[OE1TATR=.11]	.091	.000				
	[OE1TATR=.13]	.091	.000				
	[OE1TATR=.20]	.000	.083				
	[OE1TATR=.24]	.000	.083				
	[OE1TATR=.26]	.091	.000				
	[OE1TATR=.31]	.000	.083				
	[OE1TATR=.39]	.091	.000				
	[OE1TATR=.47]	.000	.083				

	[OE1TATR=.54]	.091	.000				
	[OE1TATR=.68]	.000	.083				
	[OE1TATR=.71]	.091	.000				
	[OE1TATR=.76]	.000	.083				
	[OE1TATR=.82]	.091	.000				
	[OE1TATR=.87]	.091	.000				
	[OE1TATR=1.01]	.000	.083				
	[OE1TATR=1.27]	.000	.083				
	[OE1TATR=1.40]	.091	.000				
	[OE1TATR=1.62]	.091	.000				
	[OE1TATR=1.63]	.000	.083				
	[OE1TATR=1.72]	.000	.083				
	[OE1TATR=3.42]	.000	.083				
	[ILR9PATR=-16.80]	.000	.083				
	[ILR9PATR=.00]	.000	.083				
	[ILR9PATR=.05]	.091	.000				
	[ILR9PATR=.13]	.091	.000				
	[ILR9PATR=.34]	.000	.083				
	[ILR9PATR=.51]	.091	.000				
	[ILR9PATR=.59]	.000	.083				
	[ILR9PATR=.61]	.091	.000				
	[ILR9PATR=.69]	.000	.083				
	[ILR9PATR=.75]	.091	.000				
	[ILR9PATR=.95]	.000	.083				
	[ILR9PATR=1.04]	.091	.000				
	[ILR9PATR=1.37]	.000	.083				
	[ILR9PATR=1.60]	.091	.000				

	[ILR9PATR=1.62]	.091	.000				
	[ILR9PATR=2.08]	.091	.000				
	[ILR9PATR=4.65]	.000	.083				
	[ILR9PATR=4.88]	.000	.083				
	[ILR9PATR=5.30]	.000	.083				
	[ILR9PATR=5.38]	.091	.000				
	[ILR9PATR=29.37]	.000	.083				
	[ILR9PATR=45.11]	.091	.000				
	[ILR9PATR=1557.00]	.000	.083				
	[OE4GOM=-15%]	.000	.083				
	[OE4GOM=-1%]	.091	.000				
	[OE4GOM=0%]	.000	.083				
	[OE4GOM=5%]	.000	.083				
	[OE4GOM=18%]	.091	.000				
	[OE4GOM=19%]	.000	.083				
	[OE4GOM=40%]	.091	.000				
	[OE7ROE=-13.28%]	.000	.083				
	[OE7ROE=-.10%]	.091	.000				
	[OE7ROE=.02%]	.091	.000				
	[OE7ROE=.06%]	.000	.167				
	[OE7ROE=.12%]	.000	.083				
	[OE7ROE=.14%]	.091	.000				
	[OE7ROE=.16%]	.182	.000				
	[OE7ROE=.20%]	.000	.083				
	[OE7ROE=.36%]	.000	.083				
	[OE7ROE=.39%]	.000	.083				

	[OE7ROE=.48%]	.000	.083				
	[OE7ROE=.79%]	.000	.083				
	[OE7ROE=4.70%]	.000	.083				
	[OE7ROE=9.44%]	.091	.000				
	[OE7ROE=11.00%]	.000	.083				
	[OE7ROE=12.60%]	.000	.083				
	[OE7ROE=20.00%]	.091	.000				
	[OE7ROE=35.00%]	.091	.000				
	[OE7ROE=59.00%]	.091	.000				
	[OE7ROE=131.00%]	.091	.000				
	[OE9ITA=.000000000000%]	.182	.250				
	[OE9ITA=.105613149158%]	.091	.000				
	[OE9ITA=.326337850149%]	.091	.000				
	[OE9ITA=.569692513645%]	.091	.000				
	[OE9ITA=1.342010331839%]	.000	.083				
	[OE9ITA=1.384659935241%]	.091	.000				
	[OE9ITA=1.671807908139%]	.091	.000				
	[OE9ITA=3.139259305956%]	.091	.000				
	[OE9ITA=4.285318999059%]	.091	.000				

	[OE9ITA=7.019630180557%]	.000	.083				
	[OE9ITA=8.162539359832%]	.000	.083				
	[OE9ITA=10.328374035806%]	.000	.083				
	[OE9ITA=18.542708690201%]	.000	.083				
	[OE9ITA=23.754488611438%]	.091	.000				
	[OE9ITA=26.110743496900%]	.000	.083				
	[OE9ITA=29.222999882260%]	.000	.083				
	[OE9ITA=58.272287150656%]	.000	.083				
	[OE9ITA=79.353495906406%]	.000	.083				
	[OE9ITA=81.448010944658%]	.091	.000				
	[RA1LTDER=0]	.182	.000				
	[RA1LTDER=1]	.091	.000				
	[RA1LTDER=2]	.000	.083				
	[RA1LTDER=6]	.000	.083				
	[RA1LTDER=13]	.091	.000				
	[Administrator Gender=0]	.273	.167				
	[Administrator Gender=1]	.727	.833				
	[Equity Origin=0]	.727	1.000				

	[Equity Origin=2]	.273	.000				
	[Borrowers' Status=0]	.091	.083				
	[Borrowers' Status=1]	.909	.917				
	RA3ICR	-.021	.019				
	RA5LTLEV	-.623	.571				
	GA1ROA	.302	-.277				
	GA2OCF	.375	-.344				
	Firm Age	.222	-.203				
	INV	-.421	.386				
	STA	-.403	.369				
	STD	-.395	.362				
	CV	-.263	.241				
	NP	.210	-.193				
	BoS	-.453	.415				
	Business administration	.491	-.450				
	Ownerships Gender	.591	-.542				
Hidden Unit Width		1.124	1.559				
Hidden Layer	H(1)			-.163	-.715	.853	1.447
	H(2)			.045	.199	-.238	-.403

a. Displays the center vector for each hidden unit.

Table 12. Parameters estimates/RBF-in service sector
Source: Primary data collection, Author elaboration with SPSS

APPENDIX B- Leverage structure approaches estimations

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-4 TOTAL LEV

F	df1	df2	Sig.
2.033	1	31	.164

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status

Table 1. Levene's Test of Equality of Errors' Variances (Borrowers' Status vs Total LEV) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-4 Total LEV

F	df1	df2	Sig.
.439	1	31	.513

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status

Table 2. Levene's Test of Equality of Errors' Variances (Borrowers' Status vs Total LEV) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-4 LEV

F	df1	df2	Sig.
11.676	1	31	.002

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status

Table 3. Levene's Test of Equality of Errors' Variances (Borrowers' Status vs Total LEV) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-4 LEV

F	df1	df2	Sig.
192.788	1	30	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status

Table 4. Levene's Test of Equality of Errors' Variances (Borrowers' Status vs Total LEV) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-1 LTDER

F	df1	df2	Sig.
.775	2	30	.470

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin

Table 5. Levene's Test of Equality of Errors' Variances (Equity origin vs LTDER) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-1 LTDER

F	df1	df2	Sig.
.994	2	30	.382

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin

Table 6. Levene's Test of Equality of Errors' Variances (Equity origin vs LTDER) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-4 LEV

F	df1	df2	Sig.
.376	1	30	.544

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + EquityOrigin

Table 7. Levene's Test of Equality of Errors' Variances (Equity origin vs LTDER) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-2 TLR

F	df1	df2	Sig.
.070	1	31	.793

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Business administration

Table 8. Levene's Test of Equality of Errors' Variances (Business administration vs LTR) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-2 TLR

F	df1	df2	Sig.
10.945	1	31	.002

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Business administration

Table 9. Levene's Test of Equality of Errors' Variances (Business administration vs LTR) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-2 TLR

F	df1	df2	Sig.
.003	1	30	.958

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Business administration

Table 10. Levene's Test of Equality of Errors' Variances (Business administration vs LTR) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-2 TLR

F	df1	df2	Sig.
1.587	1	30	.217

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Business administration

Table 11. Levene's Test of Equality of Errors' Variances (Business administration vs LTR) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-8 TAN

F	df1	df2	Sig.
4.438	2	30	.020

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Ownerships Gender

Table 12 . Levene's Test of Equality of Errors' Variances (Ownership gender vs TAN) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-8 TAN

F	df1	df2	Sig.
2.090	2	30	.141

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Ownerships Gender

Table 13. Levene's Test of Equality of Errors' Variances (Ownership gender vs TAN) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-8 TAN

F	df1	df2	Sig.
.201	2	30	.819

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Ownerships Gender

Table 14. Levene's Test of Equality of Errors' Variances (Ownership gender vs TAN) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-8 TAN

F	df1	df2	Sig.
.485	2	29	.621

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Ownerships Gender

Table 15. Levene's Test of Equality of Errors' Variances (Ownership gender vs TAN) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-5 LT-LEV

F	df1	df2	Sig.
2.089	2	30	.142

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender

Table 16. Levene's Test of Equality of Errors' Variances (Administrators gender vs LT-LEV) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-5 LT-LEV

F	df1	df2	Sig.
.339	1	31	.565

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender

Table 17. Levene's Test of Equality of Errors' Variances (Administrators gender vs LT-LEV) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-5 TL-LEV

F	df1	df2	Sig.
1.070	1	31	.309

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender

Table 18. Levene's Test of Equality of Errors' Variances (Administrators gender vs LT-LEV) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:RA-5 LT-LEV

F	df1	df2	Sig.
.886	1	30	.354

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender

Table 19. Levene's Test of Equality of Errors' Variances (Administrators gender vs LT-LEV) in service sector

Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:LTD

F	df1	df2	Sig.
.479	2	30	.624

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin * OE3GPM

Table 20. Levene's Test of Equality of Errors' Variances (Equity origin vs LTD) in trade sector

Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:LTD

F	df1	df2	Sig.
1.522	2	30	.235

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin * OE3GPM

Table 21. Levene's Test of Equality of Errors' Variances (Equity origin vs LTD) in construction sector

Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:LTD

F	df1	df2	Sig.
.911	1	30	.348

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin * OE3GPM

Table 22. Levene's Test of Equality of Errors' Variances (Equity origin vs LTD) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-10 FATA

F	df1	df2	Sig.
2.359	2	30	.112

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrator Gender * Firm Age

Table 23. Levene's Test of Equality of Errors' Variances (Administrators gender vs FATA) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-10 FATA

F	df1	df2	Sig.
1.798	1	31	.190

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrator Gender * Firm Age

Table 24. Levene's Test of Equality of Errors' Variances (Administrators gender vs FATA) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-10 FATA

F	df1	df2	Sig.
2.431	1	31	.129

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrator Gender * Firm Age

Table 25. Levene's Test of Equality of Errors' Variances (Administrators gender vs FATA) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-10 FATA

F	df1	df2	Sig.
2.548	1	30	.121

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrator Gender * Firm Age

Table 26. Levene's Test of Equality of Errors' Variances (Administrators gender vs FATA) in service sector
Source: Primary data collection, Author elaboration with SPSS

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.001	.011[a]	2.000	28.000	.989
	Wilks' Lambda	.999	.011[a]	2.000	28.000	.989
	Hotelling's Trace	.001	.011[a]	2.000	28.000	.989
	Roy's Largest Root	.001	.011[a]	2.000	28.000	.989
Borrowers' Status * BoS	Pillai's Trace	.000	.001[a]	2.000	28.000	.999
	Wilks' Lambda	1.000	.001[a]	2.000	28.000	.999
	Hotelling's Trace	.000	.001[a]	2.000	28.000	.999
	Roy's Largest Root	.000	.001[a]	2.000	28.000	.999
BoS	Pillai's Trace	.000	.001[a]	2.000	28.000	.999
	Wilks' Lambda	1.000	.001[a]	2.000	28.000	.999
	Hotelling's Trace	.000	.001[a]	2.000	28.000	.999
	Roy's Largest Root	.000	.001[a]	2.000	28.000	.999
Borrowers' Status	Pillai's Trace	.001	.015[a]	2.000	28.000	.985

	Wilks' Lambda	.999	.015[a]	2.000	28.000	.985
	Hotelling's Trace	.001	.015[a]	2.000	28.000	.985
	Roy's Largest Root	.001	.015[a]	2.000	28.000	.985

a. Exact statistic

b. Design: Intercept + Borrowers' Status * BoS + BoS + Borrowers' Status

Table 27. Multivariate tests[36] (Borrowers' status and business size vs ICR and TATR) in trade sector

Source: Primary data collection, Author elaboration with SPSS

[36] **Wilks' lamdda** test in discriminate analysis shows how well each level of independent variable contributes to the model. The scale ranges from 0 to 1, where 0 means total discrimination and 1 means no discrimination.

Pillai's trace test is a positive valued statistic ranging from 0 to 1, increasing values means that effects are contributing more to the model. It is the most powerful and robust statistic for general use when assumption of homogeneity of variance-covariance is violated, worthy also in small samples cases.

Hotelling's trace test instead is the sum of the eigenvalues of the test matrix Hotelling's trace is always larger than Pillai's trace, but when the eigenvalues of the test matrix are small, these two statistics will be nearly equal. This indicates that the effect examined probably doesn't contribute much to the model.

In addition **Roy's largest root** is the largest eigenvalue of the test matrix. It is a positive-valued statistic for which increasing values indicate effects that contribute more to the model and is always less than or equal to Hotelling's trace. When these two statistics are equal, the effect is predominantly associated with just one of the dependent variables, there is a strong correlation between the dependent variables, or the effect does not contribute much to the model.

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
RA-3 ICR	2.290	1	31	.140
OE-1 TATR	1.000	1	31	.325

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status * BoS + BoS + Borrowers' Status

Table 28. Levene's Test of Equality of Errors' Variances (Borrowers' status and business size vs ICR and TATR) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.024	.342[a]	2.000	28.000	.713
	Wilks' Lambda	.976	.342[a]	2.000	28.000	.713
	Hotelling's Trace	.024	.342[a]	2.000	28.000	.713
	Roy's Largest Root	.024	.342[a]	2.000	28.000	.713
Borrowers' Status * BoS	Pillai's Trace	.034	.495[a]	2.000	28.000	.615
	Wilks' Lambda	.966	.495[a]	2.000	28.000	.615
	Hotelling's Trace	.035	.495[a]	2.000	28.000	.615
	Roy's Largest Root	.035	.495[a]	2.000	28.000	.615
Borrowers' Status	Pillai's Trace	.032	.456[a]	2.000	28.000	.638
	Wilks' Lambda	.968	.456[a]	2.000	28.000	.638
	Hotelling's Trace	.033	.456[a]	2.000	28.000	.638
	Roy's Largest Root	.033	.456[a]	2.000	28.000	.638
BoS	Pillai's Trace	.017	.243[a]	2.000	28.000	.786
	Wilks' Lambda	.983	.243[a]	2.000	28.000	.786
	Hotelling's Trace	.017	.243[a]	2.000	28.000	.786

	Roy's Largest Root	.017	.243[a]	2.000	28.000	.786

a. Exact statistic

b. Design: Intercept + Borrowers' Status * BoS + Borrowers' Status + BoS

Table 29. Multivariate tests (Borrowers' status and business size vs ICR and TATR) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
RA-3 ICR	.011	1	31	.915
OE-1 TATR	1.685	1	31	.204

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status * BoS + Borrowers' Status + BoS

Table 30. Levene's Test of Equality of Errors' Variances (Borrowers' status and business size vs ICR and TATR) in production sector
Source: Primary data collection, Author elaboration with SPSS

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.032	.456[a]	2.000	28.000	.638
	Wilks' Lambda	.968	.456[a]	2.000	28.000	.638
	Hotelling's Trace	.033	.456[a]	2.000	28.000	.638
	Roy's Largest Root	.033	.456[a]	2.000	28.000	.638
Borrowers' Status * BoS	Pillai's Trace	.041	.595[a]	2.000	28.000	.559
	Wilks' Lambda	.959	.595[a]	2.000	28.000	.559
	Hotelling's Trace	.042	.595[a]	2.000	28.000	.559
	Roy's Largest Root	.042	.595[a]	2.000	28.000	.559
Borrowers' Status	Pillai's Trace	.032	.460[a]	2.000	28.000	.636
	Wilks' Lambda	.968	.460[a]	2.000	28.000	.636
	Hotelling's Trace	.033	.460[a]	2.000	28.000	.636

	Roy's Largest Root	.033	.460[a]	2.000	28.000	.636
BoS	Pillai's Trace	.042	.609[a]	2.000	28.000	.551
	Wilks' Lambda	.958	.609[a]	2.000	28.000	.551
	Hotelling's Trace	.044	.609[a]	2.000	28.000	.551
	Roy's Largest Root	.044	.609[a]	2.000	28.000	.551

a. Exact statistic

b. Design: Intercept + Borrowers' Status * BoS + Borrowers' Status + BoS

Table 31. Multivariate tests (Borrowers' status and business size vs ICR and TATR) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
RA-3 ICR	17.623	1	31	.000
OE-1 TATR	1.642	1	31	.210

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status * BoS + Borrowers' Status + BoS

Table 32. Levene's Test of Equality of Errors' Variances (Borrowers' status and business size vs ICR and TATR) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.062	.891[a]	2.000	27.000	.422
	Wilks' Lambda	.938	.891[a]	2.000	27.000	.422
	Hotelling's Trace	.066	.891[a]	2.000	27.000	.422

	Roy's Largest Root	.066	.891[a]	2.000	27.000	.422
Borrowers' Status * BoS	Pillai's Trace	.069	1.003[a]	2.000	27.000	.380
	Wilks' Lambda	.931	1.003[a]	2.000	27.000	.380
	Hotelling's Trace	.074	1.003[a]	2.000	27.000	.380
	Roy's Largest Root	.074	1.003[a]	2.000	27.000	.380
BoS	Pillai's Trace	.103	1.544[a]	2.000	27.000	.232
	Wilks' Lambda	.897	1.544[a]	2.000	27.000	.232
	Hotelling's Trace	.114	1.544[a]	2.000	27.000	.232
	Roy's Largest Root	.114	1.544[a]	2.000	27.000	.232
Borrowers' Status	Pillai's Trace	.072	1.044[a]	2.000	27.000	.366
	Wilks' Lambda	.928	1.044[a]	2.000	27.000	.366
	Hotelling's Trace	.077	1.044[a]	2.000	27.000	.366
	Roy's Largest Root	.077	1.044[a]	2.000	27.000	.366

a. Exact statistic

b. Design: Intercept + Borrowers' Status * BoS + BoS + Borrowers' Status

Table 33. Multivariate tests (Borrowers' status and business size vs ICR and TATR) in service sector

Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
OE-1 TATR	2.601	1	30	.117
RA-3 ICR	1.362	1	30	.252

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status * BoS + BoS + Borrowers' Status

Table 34. Levene's Test of Equality of Errors' Variances (Borrowers' status and business size vs ICR and TATR) in service sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted			
		Hidden Layer[a]		Output Layer	
Predictor		H(1)	H(2)	RA3ICR	STD
Input Layer	[OE7ROE=-.20]	.059	.000		
	[OE7ROE=-.19]	.059	.000		
	[OE7ROE=.00]	.059	.000		
	[OE7ROE=.01]	.000	.071		
	[OE7ROE=.02]	.000	.071		
	[OE7ROE=.03]	.059	.000		
	[OE7ROE=.06]	.000	.071		
	[OE7ROE=.07]	.059	.000		
	[OE7ROE=.10]	.059	.071		
	[OE7ROE=.13]	.059	.000		
	[OE7ROE=.16]	.000	.071		
	[OE7ROE=.18]	.059	.000		
	[OE7ROE=.26]	.000	.071		
	[OE7ROE=.27]	.059	.000		

	[OE7ROE=.29]	.000	.071		
	[OE7ROE=.37]	.059	.000		
	[OE7ROE=.54]	.059	.000		
	[OE7ROE=.55]	.059	.000		
	[OE7ROE=.90]	.059	.000		
	[OE7ROE=.94]	.000	.071		
	[OE7ROE=1.36]	.000	.071		
	[OE7ROE=2.27]	.059	.000		
	[OE7ROE=12.80]	.059	.000		
	[OE7ROE=34.50]	.059	.000		
	[OE7ROE=1169.16]	.000	.071		
	[GA1ROA=-.16]	.059	.000		
	[GA1ROA=-.15]	.059	.000		
	[GA1ROA=.00]	.000	.071		
	[GA1ROA=.01]	.000	.071		
	[GA1ROA=.02]	.059	.000		
	[GA1ROA=.03]	.059	.000		
	[GA1ROA=.05]	.000	.071		
	[GA1ROA=.06]	.059	.000		
	[GA1ROA=.10]	.059	.000		
	[GA1ROA=.11]	.059	.000		
	[GA1ROA=.12]	.000	.071		
	[GA1ROA=.14]	.059	.000		
	[GA1ROA=.15]	.000	.071		
	[GA1ROA=.17]	.059	.071		
	[GA1ROA=.25]	.059	.000		
	[GA1ROA=.41]	.059	.000		

	[GA1ROA=.47]	.000	.071		
	[Firm Age=4]	.000	.071		
	[Firm Age=13]	.294	.286		
	[Firm Age=14]	.294	.000		
	[Firm Age=15]	.059	.071		
	[Firm Age=16]	.000	.071		
	[Firm Age=17]	.000	.214		
	[Firm Age=19]	.000	.071		
	[Firm Age=20]	.176	.071		
	[Firm Age=21]	.176	.000		
	[Firm Age=22]	.000	.143		
	[CV=0]	.000	.286		
	[CV=46838]	.000	.071		
	[CV=92711]	.059	.000		
	[CV=216842]	.059	.000		
	[CV=605517]	.059	.000		
	[CV=722963]	.059	.000		
	[CV=2261907]	.059	.000		
	[CV=4782338]	.059	.000		
	[CV=5105346]	.059	.000		
	[CV=5687812]	.000	.071		
	[CV=6744167]	.000	.071		
	[CV=6753492]	.000	.071		
	[CV=6770984]	.000	.071		
	[CV=7043938]	.000	.071		
	[CV=7262232]	.000	.071		
	[CV=9241276]	.000	.071		

	[CV=10175907]	.059	.000		
	[CV=13734049]	.059	.000		
	[CV=17227252]	.059	.000		
	[CV=27071778]	.059	.000		
	[CV=42945185]	.059	.000		
	[CV=43606691]	.000	.071		
	[CV=54789832]	.059	.000		
	[CV=59208450]	.059	.000		
	[CV=71537245]	.000	.071		
	[CV=121324500]	.059	.000		
	[CV=247476467]	.118	.000		
	[OE3GPM=-2.5]	.118	.000		
	[OE3GPM=-.4]	.000	.071		
	[OE3GPM=.0]	.000	.071		
	[OE3GPM=.1]	.059	.000		
	[OE3GPM=.2]	.059	.071		
	[OE3GPM=.3]	.000	.071		
	[OE3GPM=.9]	.059	.000		
	[NP=-33221424]	.118	.000		
	[NP=-2827447]	.059	.000		
	[NP=1568]	.000	.071		
	[NP=5774]	.059	.000		
	[NP=7792]	.000	.071		
	[NP=87336]	.000	.071		
	[NP=90194]	.000	.071		
	[NP=100675]	.000	.071		
	[NP=138916]	.059	.000		

	[NP=150740]	.059	.000		
	[NP=203493]	.000	.071		
	[NP=261094]	.000	.071		
	[NP=360687]	.000	.071		
	[NP=431861]	.000	.071		
	[NP=469568]	.000	.071		
	[NP=680071]	.059	.000		
	[NP=1000389]	.000	.071		
	[NP=1082388]	.000	.071		
	[NP=1425367]	.059	.000		
	[NP=1430406]	.000	.071		
	[NP=2070659]	.059	.000		
	[NP=2302155]	.059	.000		
	[NP=2671479]	.059	.000		
	[NP=3319238]	.000	.071		
	[NP=3510380]	.059	.000		
	[NP=4166189]	.059	.000		
	[NP=6325381]	.059	.000		
	[NP=6839527]	.059	.000		
	[NP=18476291]	.059	.000		
	[NP=47459018]	.059	.000		
	[@EQ=-160797]	.059	.000		
	[@EQ=110938]	.000	.071		
	[@EQ=281917]	.059	.000		
	[@EQ=783046]	.000	.071		
	[@EQ=1510106]	.000	.071		
	[@EQ=1522161]	.059	.000		

	[@EQ=1570359]	.000	.071		
	[@EQ=2916965]	.000	.071		
	[@EQ=4210001]	.000	.071		
	[@EQ=4220378]	.000	.071		
	[@EQ=5500242]	.059	.000		
	[@EQ=5510892]	.000	.071		
	[@EQ=5784375]	.000	.071		
	[@EQ=6030400]	.000	.071		
	[@EQ=8477306]	.059	.000		
	[@EQ=9376621]	.059	.000		
	[@EQ=9771901]	.000	.071		
	[@EQ=10081349]	.059	.000		
	[@EQ=11076737]	.000	.071		
	[@EQ=13246851]	.059	.000		
	[@EQ=14155473]	.059	.000		
	[@EQ=15303237]	.000	.071		
	[@EQ=20442138]	.059	.000		
	[@EQ=22613599]	.059	.000		
	[@EQ=22666145]	.000	.071		
	[@EQ=90509604]	.059	.000		
	[@EQ=113356788]	.059	.000		
	[@EQ=122200884]	.059	.000		
	[@EQ=150459018]	.059	.000		
	[@EQ=150848495]	.118	.000		
	[FA=0]	.000	.286		
	[FA=34750]	.000	.071		
	[FA=68784]	.059	.000		

	[FA=160879]	.059	.000		
	[FA=449244]	.059	.000		
	[FA=536379]	.059	.000		
	[FA=1678149]	.059	.000		
	[FA=3548102]	.059	.000		
	[FA=3787748]	.059	.000		
	[FA=4219890]	.000	.071		
	[FA=5003618]	.000	.071		
	[FA=5010537]	.000	.071		
	[FA=5023514]	.000	.071		
	[FA=5226024]	.000	.071		
	[FA=5387980]	.000	.071		
	[FA=6856268]	.000	.071		
	[FA=7549688]	.059	.000		
	[FA=10189537]	.059	.000		
	[FA=12781207]	.059	.000		
	[FA=20085037]	.059	.000		
	[FA=31861802]	.059	.000		
	[FA=32352585]	.000	.071		
	[FA=40649558]	.059	.000		
	[FA=43927810]	.059	.000		
	[FA=53074764]	.000	.071		
	[FA=90012820]	.059	.000		
	[FA=183607225]	.118	.000		
	[RA=0]	.118	.071		
	[RA=3200]	.059	.000		
	[RA=12780]	.000	.071		

	[RA=24840]	.059	.000		
	[RA=47744]	.000	.071		
	[RA=89225]	.000	.071		
	[RA=116700]	.000	.071		
	[RA=147064]	.000	.071		
	[RA=529949]	.000	.071		
	[RA=625045]	.059	.000		
	[RA=652853]	.059	.000		
	[RA=793494]	.059	.000		
	[RA=1186259]	.000	.071		
	[RA=1371031]	.059	.000		
	[RA=1727777]	.059	.000		
	[RA=1831993]	.000	.071		
	[RA=2616078]	.000	.071		
	[RA=3042911]	.000	.071		
	[RA=3293838]	.059	.000		
	[RA=13902129]	.000	.071		
	[RA=14696428]	.059	.000		
	[RA=15496428]	.059	.000		
	[RA=19401114]	.000	.071		
	[RA=46351540]	.059	.000		
	[RA=58457450]	.000	.071		
	[RA=82295898]	.059	.000		
	[RA=187644122]	.059	.000		
	[RA=243179618]	.059	.000		
	[RA=267163795]	.059	.000		
	[Borrowers'Status=0]	.176	.000		

	[Borrowers' Status=1]	.824	1.000		
	[Equity Origin=0]	.765	1.000		
	[Equity Origin=1]	.118	.000		
	[Equity Origin=2]	.118	.000		
	[Business administration=0]	.765	.929		
	[Business administration=1]	.235	.071		
	[ILR9PATR=.00]	.000	.071		
	[ILR9PATR=.17]	.000	.071		
	[ILR9PATR=.19]	.000	.071		
	[ILR9PATR=.28]	.000	.071		
	[ILR9PATR=.35]	.059	.000		
	[ILR9PATR=.43]	.000	.071		
	[ILR9PATR=.61]	.000	.071		
	[ILR9PATR=.64]	.059	.000		
	[ILR9PATR=.77]	.059	.000		
	[ILR9PATR=1.32]	.000	.071		
	[ILR9PATR=2.88]	.059	.000		
	[ILR9PATR=2.97]	.059	.000		
	[ILR9PATR=3.13]	.059	.000		
	[ILR9PATR=3.21]	.000	.071		
	[ILR9PATR=4.23]	.059	.000		
	[ILR9PATR=4.71]	.059	.000		
	[ILR9PATR=5.36]	.000	.071		
	[ILR9PATR=5.77]	.059	.000		
	[ILR9PATR=6.79]	.059	.000		
	[ILR9PATR=7.51]	.000	.071		
	[ILR9PATR=8.19]	.000	.071		

	[ILR9PATR=8.66]	.059	.000		
	[ILR9PATR=9.96]	.059	.000		
	[ILR9PATR=19.07]	.059	.000		
	[ILR9PATR=19.75]	.059	.000		
	[ILR9PATR=21.45]	.059	.000		
	[ILR9PATR=23.38]	.000	.071		
	[ILR9PATR=75.65]	.059	.000		
	[ILR9PATR=145.00]	.059	.000		
	[ILR9PATR=293.40]	.000	.071		
	OE6AT	-.174	.211		
	Onwnership Gender	-.294	.357		
	Administrator Gender	-.292	.355		
	GA2OCF	-.044	.053		
	INV	.186	-.225		
	ILR2WC	.307	-.372		
	ILR4CR	.026	-.032		
	ILR7ITR	-.265	.322		
	BoS	.440	-.534		
Hidden Unit Width		1.423	1.316		
Hidden Layer	H(1)			-.369	.510
	H(2)			.637	-.880

a. Displays the center vector for each hidden unit.

Table 35. Parameters estimates/RBF-in trade sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted			
		Hidden Layer[a]		Output Layer	
Predictor		H(1)	H(2)	RA3ICR	STD
Input Layer	[OE7ROE=-.02]	.000	.250		
	[OE7ROE=.02]	.200	.000		
	[OE7ROE=.08]	.200	.000		
	[OE7ROE=.10]	.200	.000		
	[OE7ROE=5.00]	.000	.250		
	[OE7ROE=10.00]	.200	.000		
	[OE7ROE=13.00]	.000	.250		
	[OE7ROE=14.00]	.200	.000		
	[GA1ROA=-1.02]	.200	.000		
	[GA1ROA=.01]	.000	.250		
	[GA1ROA=.02]	.400	.000		
	[GA1ROA=.03]	.000	.250		
	[GA1ROA=.04]	.200	.000		
	[GA1ROA=.06]	.200	.000		
	[GA1ROA=9.74]	.000	.250		
	[Firm Age=10]	.400	.000		
	[Firm Age=13]	.000	.250		
	[Firm Age=14]	.200	.000		
	[Firm Age=15]	.200	.000		
	[Firm Age=16]	.200	.000		
	[Firm Age=18]	.000	.250		
	[Firm Age=20]	.000	.500		
	[CV=22331444]	.200	.000		

	[CV=47609329]	.200	.000		
	[CV=53903602]	.000	.250		
	[CV=68186302]	.200	.000		
	[CV=71476888]	.000	.250		
	[CV=196543403]	.000	.250		
	[CV=667983284]	.000	.250		
	[CV=1355743780]	.200	.000		
	[CV=1395951970]	.200	.000		
	[OE3GPM=0]	.400	.000		
	[OE3GPM=1]	.200	.000		
	[OE3GPM=2]	.200	.000		
	[OE3GPM=8]	.000	.250		
	[OE3GPM=49]	.000	.250		
	[NP=-11374763.00]	.000	.250		
	[NP=.00]	.200	.000		
	[NP=248331.00]	.200	.000		
	[NP=718988.00]	.200	.000		
	[NP=1699669.00]	.200	.000		
	[NP=3021111.00]	.000	.250		
	[NP=3401796.00]	.000	.250		
	[NP=13185246.00]	.000	.250		
	[NP=84114018.00]	.200	.000		
	[@EQ=-494426337]	.200	.000		
	[@EQ=6914347]	.200	.000		
	[@EQ=15248331]	.200	.000		
	[@EQ=22287802]	.200	.000		
	[@EQ=24857172]	.000	.250		

	[@EQ=152493466]	.000	.250		
	[@EQ=253936015]	.000	.250		
	[@EQ=464959044]	.000	.250		
	[@EQ=586603131]	.200	.000		
	[FA=15103509]	.200	.000		
	[FA=32199795]	.200	.000		
	[FA=36456824]	.000	.250		
	[FA=46116696]	.200	.000		
	[FA=48342230]	.000	.250		
	[FA=132928933]	.000	.250		
	[FA=451779626]	.000	.250		
	[FA=916935248]	.200	.000		
	[FA=944129403]	.200	.000		
	[RA=249474]	.000	.250		
	[RA=5265375]	.200	.000		
	[RA=6092564]	.200	.000		
	[RA=14321710]	.200	.000		
	[RA=26709155]	.000	.250		
	[RA=80367273]	.000	.250		
	[RA=109571129]	.200	.000		
	[RA=163654975]	.000	.250		
	[RA=212654108]	.200	.000		
	[Borrowers' Status=0]	.200	.250		
	[Borrowers' Status=1]	.800	.750		
	[Business administration=0]	.800	.250		
	[Business administration=1]	.200	.750		
	[ILR9PATR=-1]	.000	.250		

	[ILR9PATR=0]	.200	.000		
	[ILR9PATR=3]	.000	.250		
	[ILR9PATR=4]	.200	.000		
	OE6AT	.161	-.201		
	Ownership Gender	-.114	.142		
	Administrator Gender	-.403	.504		
	GA2OCF	.414	-.517		
	INV	.107	-.134		
	ILR2WC	-.077	.096		
	ILR7ITR	.334	-.417		
	ILR4CR	.086	-.108		
	BoS	.012	-.015		
Hidden Unit Width		1.492	1.259		
Hidden Layer	H(1)			.216	-.003
	H(2)			-.482	.006

a. Displays the center vector for each hidden unit.

Table 36. Parameters estimates/RBF-in production sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted			
		Hidden Layer[a]		Output Layer	
Predictor		H(1)	H(2)	RA3ICR	STD
Input Layer	[OE7ROE=0]	.250	.000		
	[GA1ROA=.00]	.000	1.000		
	[GA1ROA=.01]	.250	.000		
	[GA1ROA=.02]	.250	.000		
	[GA1ROA=.33]	.250	.000		
	[Firm Age=5]	.000	.500		

	[Firm Age=6]	.500	.000		
	[Firm Age=9]	.250	.000		
	[Firm Age=16]	.000	.500		
	[Firm Age=20]	.250	.000		
	[CV=1547896]	.000	.500		
	[CV=2149263]	.250	.000		
	[CV=6055068]	.000	.500		
	[CV=49934316]	.250	.000		
	[CV=115287140]	.250	.000		
	[CV=247450065]	.250	.000		
	[OE3GPM=-2]	.000	.500		
	[OE3GPM=0]	.250	.000		
	[OE3GPM=2]	.250	.000		
	[NP=-585957]	.000	.500		
	[NP=0]	.000	.500		
	[NP=1224024]	.250	.000		
	[NP=4553070]	.250	.000		
	[NP=5671411]	.250	.000		
	[NP=12922280]	.250	.000		
	[Equity Origin=0]	.250	.500		
	[Equity Origin=1]	.500	.500		
	[Equity Origin=2]	.250	.000		
	[FA=0]	.000	.500		
	[FA=1582846]	.250	.000		
	[FA=4459316]	.000	.500		
	[FA=36774629]	.250	.000		
	[FA=84904373]	.250	.000		

	[FA=182237088]	.250	.000		
	[RA=0]	.250	.000		
	[RA=5111721]	.000	.500		
	[RA=31353832]	.000	.500		
	[RA=51250009]	.250	.000		
	[RA=90267910]	.250	.000		
	[RA=102201314]	.250	.000		
	[Borrowers' Status=0]	.000	1.000		
	[Borrowers' Status=1]	1.000	.000		
	[@EQ=2530729]	.000	.500		
	[@EQ=20032277]	.000	.500		
	[@EQ=31801382]	.250	.000		
	[@EQ=53454752]	.250	.000		
	[@EQ=66980745]	.250	.000		
	[@EQ=91402631]	.250	.000		
	[Business administration=0]	.750	1.000		
	[Business administration=1]	.250	.000		
	[ILR9PATR=0]	.250	.000		
	[ILR9PATR=1]	.000	.500		
	[ILR9PATR=2]	.250	.000		
	OE6AT	.492	-.985		
	Ownership Gender	-.456	.913		
	GA2OCF	-.420	.840		
	INV	.297	-.594		
	ILR2WC	.101	-.202		
	ILR7ITR	-.413	.826		
	ILR4CR	.178	-.355		

	BoS	.480	-.961		
Hidden Unit Width		1.340	.982		
Hidden Layer	H(1)			.344	.316
	H(2)			-.723	-.663

a. Displays the center vector for each hidden unit.

Table 37. Parameters estimates/RBF-in construction sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted			
		Hidden Layer[a]		Output Layer	
Predictor		H(1)	H(2)	RA3ICR	STD
Input Layer	[OE7ROE=-13.28%]	.062	.000		
	[OE7ROE=-.10%]	.062	.000		
	[OE7ROE=.00%]	.000	.375		
	[OE7ROE=.02%]	.062	.000		
	[OE7ROE=.06%]	.125	.000		
	[OE7ROE=.12%]	.000	.062		
	[OE7ROE=.14%]	.062	.000		
	[OE7ROE=.16%]	.062	.062		
	[OE7ROE=.20%]	.000	.062		
	[OE7ROE=.36%]	.062	.000		
	[OE7ROE=.39%]	.000	.062		
	[OE7ROE=.48%]	.000	.062		
	[OE7ROE=.79%]	.000	.062		
	[OE7ROE=4.70%]	.000	.062		
	[OE7ROE=9.44%]	.062	.000		

	[OE7ROE=9.50%]	.062	.000		
	[OE7ROE=11.00%]	.062	.000		
	[OE7ROE=12.60%]	.062	.000		
	[OE7ROE=14.00%]	.000	.062		
	[OE7ROE=20.00%]	.000	.062		
	[OE7ROE=35.00%]	.062	.000		
	[OE7ROE=54.00%]	.000	.062		
	[OE7ROE=59.00%]	.062	.000		
	[OE7ROE=131.00%]	.062	.000		
	[GA1ROA=-13.28]	.062	.000		
	[GA1ROA=-4.16]	.000	.062		
	[GA1ROA=-.07]	.062	.000		
	[GA1ROA=.00]	.062	.062		
	[GA1ROA=.01]	.000	.062		
	[GA1ROA=.02]	.000	.062		
	[GA1ROA=.03]	.000	.062		
	[GA1ROA=.05]	.062	.000		
	[GA1ROA=.06]	.125	.000		
	[GA1ROA=.07]	.000	.062		
	[GA1ROA=.10]	.062	.000		
	[GA1ROA=.16]	.000	.062		
	[GA1ROA=.17]	.062	.000		
	[GA1ROA=.23]	.062	.000		
	[GA1ROA=.27]	.062	.000		
	[GA1ROA=.28]	.000	.062		
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	OE6AT	-.064	.064		
	Ownership Gender	.248	-.248		
	Administrator Gender	-.315	.315		
	GA2OCF	.178	-.178		
	INV	.172	-.172		
	ILR2WC	.181	-.181		
	ILR7ITR	.081	-.081		
	ILR4CR	.199	-.199		
	BoS	.170	-.170		
Hidden Unit Width		1.620	1.011		

Hidden Layer	H(1)			.197	.176
	H(2)			-2.810	-2.512

a. Displays the center vector for each hidden unit.

Table 38. Parameters estimates/RBF-in service sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted				
		Hidden Layer[a]		Output Layer		
Predictor		H(1)	H(2)	RA5LTLEV	RA1LTDER	LTD
Input Layer	[ILR6ACP=0]	.062	.000			
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	[ILR6ACP=183]	.062	.000			
	[ILR6ACP=579]	.062	.000			
	[ILR6ACP=589]	.000	.067			
	[ILR6ACP=608]	.062	.000			
	[ILR6ACP=687]	.000	.067			
	[ILR6ACP=1043]	.062	.000			
	[ILR6ACP=1258]	.000	.067			
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	[ILR9PATR=.17]	.062	.000			
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	[ILR9PATR=.28]	.000	.067			
	[ILR9PATR=.35]	.000	.067			
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	[ILR9PATR=5.36]	.000	.067			
	[ILR9PATR=5.77]	.062	.000			

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	[ILR9PATR=9.96]	.062	.000			
	[ILR9PATR=19.07]	.062	.000			
	[ILR9PATR=19.75]	.062	.000			
	[ILR9PATR=21.45]	.062	.000			
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	[CV=4782338]	.062	.000			
	[CV=5105346]	.062	.000			
	[CV=5687812]	.000	.067			
	[CV=6744167]	.000	.067			
	[CV=6753492]	.062	.000			
	[CV=6770984]	.062	.000			
	[CV=7043938]	.062	.000			
	[CV=7262232]	.000	.067			
	[CV=9241276]	.062	.000			
	[CV=10175907]	.062	.000			
	[CV=13734049]	.000	.067			
	[CV=17227252]	.000	.067			
	[CV=27071778]	.062	.000			
	[CV=42945185]	.000	.067			
	[CV=43606691]	.000	.067			
	[CV=54789832]	.062	.000			
	[CV=59208450]	.000	.067			
	[CV=71537245]	.062	.000			
	[CV=121324500]	.000	.067			
	[CV=247476467]	.125	.000			

	[RA4TOTALLEV=.00]	.000	.067			
	[RA4TOTALLEV=.01]	.000	.067			
	[RA4TOTALLEV=.06]	.062	.000			
	[RA4TOTALLEV=.08]	.000	.067			
	[RA4TOTALLEV=.15]	.062	.000			
	[RA4TOTALLEV=.29]	.125	.000			
	[RA4TOTALLEV=.30]	.062	.000			
	[RA4TOTALLEV=.40]	.062	.000			
	[RA4TOTALLEV=.41]	.062	.000			
	[RA4TOTALLEV=.48]	.000	.067			
	[RA4TOTALLEV=.51]	.000	.067			
	[RA4TOTALLEV=.55]	.062	.000			
	[RA4TOTALLEV=.59]	.062	.000			
	[RA4TOTALLEV=.62]	.000	.067			
	[RA4TOTALLEV=.64]	.062	.000			
	[RA4TOTALLEV=.65]	.000	.067			
	[RA4TOTALLEV=.67]	.000	.067			
	[RA4TOTALLEV=.70]	.062	.000			
	[RA4TOTALLEV=.73]	.000	.067			
	[RA4TOTALLEV=.76]	.062	.000			
	[RA4TOTALLEV=.80]	.000	.067			
	[RA4TOTALLEV=.81]	.000	.067			
	[RA4TOTALLEV=.82]	.062	.000			
	[RA4TOTALLEV=.92]	.062	.000			
	[RA4TOTALLEV=.93]	.000	.067			
	[RA4TOTALLEV=.95]	.000	.067			
	[RA4TOTALLEV=.96]	.062	.000			

	[RA4TOTALLEV=1.01]	.062	.000			
	[RA4TOTALLEV=1.78]	.000	.067			
	OE10FATA	.413	-.441			
	Administrator Gender	-.195	.208			
	OwnersNo	.153	-.163			
	FirmAge	-.173	.185			
	Business administration	-.264	.282			
	INV	-.014	.015			
	ILR2WC	-.305	.326			
	ILR4CR	.009	-.009			
	OE2FATR	.142	-.151			
	BoS	.000	.001			
Hidden Unit Width		1.485	1.378			
Hidden Layer	H(1)			-.656	-.587	-.859
	H(2)			1.215	1.087	1.592

a. Displays the center vector for each hidden unit.

Table 39. Parameters estimates/RBF-in trade sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted				
		Hidden Layer[a]		Output Layer		
Predictor		H(1)	H(2)	RA5LTLEV	RA1LTDER	LTD
Input Layer	[ILR6ACP=0]	.250	.250			
	[ILR6ACP=6]	.125	.000			
	[ILR6ACP=9]	.000	.062			
	[ILR6ACP=24]	.000	.062			
	[ILR6ACP=27]	.125	.000			

	[ILR6ACP=34]	.000	.062			
	[ILR6ACP=41]	.000	.062			
	[ILR6ACP=46]	.000	.062			
	[ILR6ACP=73]	.125	.000			
	[ILR6ACP=185]	.125	.000			
	[ILR6ACP=301]	.000	.062			
	[ILR6ACP=429]	.000	.062			
	[ILR6ACP=462]	.000	.062			
	[ILR6ACP=474]	.000	.062			
	[ILR6ACP=500]	.000	.062			
	[ILR6ACP=588]	.000	.062			
	[ILR6ACP=701]	.000	.062			
	[ILR6ACP=1940]	.125	.000			
	[ILR6ACP=4563]	.125	.000			
	[ILR9PATR=-91]	.125	.000			
	[ILR9PATR=-1]	.000	.062			
	[ILR9PATR=0]	.000	.062			
	[ILR9PATR=1]	.000	.062			
	[ILR9PATR=3]	.000	.062			
	[ILR9PATR=4]	.000	.062			
	[ILR9PATR=9]	.125	.000			
	[ILR9PATR=12]	.125	.000			
	[ILR9PATR=32]	.000	.062			
	[ILR10APP=-4055]	.125	.000			
	[ILR10APP=-2027]	.125	.000			
	[ILR10APP=-4]	.125	.000			
	[ILR10APP=0]	.250	.500			

	[ILR10APP=12]	.000	.062			
	[ILR10APP=29]	.125	.000			
	[ILR10APP=40]	.125	.000			
	[ILR10APP=102]	.000	.062			
	[ILR10APP=118]	.000	.062			
	[ILR10APP=445]	.000	.062			
	[ILR10APP=716]	.000	.062			
	[ILR10APP=1121]	.000	.062			
	[ILR10APP=2607]	.000	.062			
	[ILR10APP=3650]	.125	.000			
	[ILR10APP=5214]	.000	.062			
	[OE5NPM=-1]	.125	.000			
	[OE5NPM=0]	.000	.125			
	[OE5NPM=1]	.125	.000			
	[OE5NPM=2]	.125	.000			
	[OE5NPM=3]	.000	.062			
	[OE5NPM=5]	.000	.062			
	[OE5NPM=6]	.000	.062			
	[OE5NPM=7]	.000	.062			
	[OE5NPM=9]	.125	.000			
	[OE5NPM=20]	.000	.062			
	[OE5NPM=24]	.000	.062			
	[OE5NPM=26]	.000	.062			
	[OE5NPM=45]	.000	.062			
	[OE5NPM=88]	.125	.000			
	[OE7ROE=-8.00]	.125	.000			
	[OE7ROE=-.02]	.125	.000			

	[OE7ROE=.00]	.000	.125			
	[OE7ROE=.01]	.000	.062			
	[OE7ROE=.02]	.000	.062			
	[OE7ROE=.08]	.000	.062			
	[OE7ROE=.10]	.250	.000			
	[OE7ROE=.60]	.000	.062			
	[OE7ROE=3.27]	.000	.062			
	[OE7ROE=4.00]	.125	.000			
	[OE7ROE=5.00]	.000	.062			
	[OE7ROE=6.90]	.125	.000			
	[OE7ROE=10.00]	.000	.062			
	[OE7ROE=12.00]	.000	.062			
	[OE7ROE=13.00]	.000	.062			
	[OE7ROE=14.00]	.000	.062			
	[OE7ROE=20.70]	.000	.062			
	[OE7ROE=26.00]	.000	.062			
	[OE7ROE=36.00]	.125	.000			
	[OE7ROE=45.00]	.000	.062			
	[OE7ROE=98.00]	.125	.000			
	[GA1ROA=-1.02]	.125	.000			
	[GA1ROA=.00]	.000	.062			
	[GA1ROA=.01]	.125	.000			
	[GA1ROA=.02]	.000	.125			
	[GA1ROA=.03]	.000	.062			
	[GA1ROA=.04]	.000	.062			
	[GA1ROA=.05]	.125	.000			
	[GA1ROA=.06]	.000	.062			

	[GA1ROA=.09]	.125	.062			
	[GA1ROA=.11]	.125	.000			
	[GA1ROA=.12]	.125	.000			
	[GA1ROA=.41]	.000	.062			
	[GA1ROA=9.74]	.000	.062			
	[OE8TAN=0]	.000	.062			
	[OE8TAN=1]	.000	.062			
	[@EQ=-494426337]	.125	.000			
	[@EQ=942022]	.125	.000			
	[@EQ=2958407]	.125	.000			
	[@EQ=3122819]	.000	.062			
	[@EQ=6612214]	.000	.062			
	[@EQ=6914347]	.000	.062			
	[@EQ=10950716]	.125	.000			
	[@EQ=11145475]	.000	.062			
	[@EQ=14877229]	.000	.062			
	[@EQ=15248331]	.000	.062			
	[@EQ=22287802]	.000	.062			
	[@EQ=24857172]	.000	.062			
	[@EQ=28700457]	.000	.062			
	[@EQ=34213705]	.000	.062			
	[@EQ=47381580]	.125	.000			
	[@EQ=109218963]	.125	.000			
	[@EQ=152493466]	.000	.062			
	[@EQ=176236749]	.000	.062			
	[@EQ=253936015]	.000	.062			
	[@EQ=303256053]	.125	.000			

	[@EQ=430325374]	.000	.062			
	[@EQ=464959044]	.125	.000			
	[@EQ=513092556]	.000	.062			
	[@EQ=586603131]	.000	.062			
	[RA4TotalLEV=.00]	.125	.000			
	[RA4TotalLEV=.01]	.125	.000			
	[RA4TotalLEV=.16]	.125	.000			
	[RA4TotalLEV=.22]	.000	.062			
	[RA4TotalLEV=.26]	.000	.062			
	[RA4TotalLEV=.27]	.000	.062			
	[RA4TotalLEV=.46]	.000	.062			
	[RA4TotalLEV=.56]	.000	.062			
	[RA4TotalLEV=.58]	.000	.062			
	[RA4TotalLEV=.65]	.000	.062			
	[RA4TotalLEV=.78]	.000	.062			
	[RA4TotalLEV=.81]	.125	.000			
	[RA4TotalLEV=.86]	.000	.062			
	[RA4TotalLEV=.92]	.000	.062			
	[RA4TotalLEV=.93]	.125	.000			
	[RA4TotalLEV=.98]	.000	.062			
	[RA4TotalLEV=1.02]	.125	.000			
	[RA4TotalLEV=1.36]	.000	.062			
	[RA4TotalLEV=1.39]	.000	.062			
	[RA4TotalLEV=1.44]	.000	.062			
	[RA4TotalLEV=1.47]	.125	.000			
	[RA4TotalLEV=1.60]	.000	.062			
	[RA4TotalLEV=7.54]	.125	.000			

	[BoS=14.91]	.125	.000			
	[BoS=16.82]	.125	.000			
	[BoS=17.24]	.000	.062			
	[BoS=17.42]	.000	.062			
	[BoS=17.56]	.000	.062			
	[BoS=17.66]	.000	.062			
	[BoS=17.69]	.000	.062			
	[BoS=18.31]	.000	.062			
	[BoS=18.33]	.000	.062			
	[BoS=18.41]	.125	.000			
	[BoS=18.95]	.000	.062			
	[BoS=19.03]	.000	.062			
	[BoS=19.08]	.000	.062			
	[BoS=19.24]	.000	.062			
	[BoS=19.88]	.000	.062			
	[BoS=19.89]	.125	.000			
	[BoS=20.02]	.000	.062			
	[BoS=20.24]	.000	.062			
	[BoS=20.28]	.125	.000			
	[BoS=20.34]	.125	.000			
	[BoS=20.64]	.000	.062			
	[BoS=20.92]	.125	.000			
	[BoS=21.01]	.000	.062			
	[BoS=21.17]	.125	.000			
	[Ownership Gender=0]	.750	.375			
	[Ownership Gender=1]	.250	.375			
	[Ownership Gender=2]	.000	.250			

	[Borrowers' Status=0]	.375	.062			
	[Borrowers' Status=1]	.625	.938			
	[CV=281913]	.125	.000			
	[CV=1104276]	.125	.000			
	[CV=2580849]	.125	.000			
	[CV=22331444]	.000	.062			
	[CV=36686817]	.125	.000			
	[CV=39071788]	.000	.062			
	[CV=47609329]	.000	.062			
	[CV=49558052]	.000	.062			
	[CV=53903602]	.000	.062			
	[CV=68186302]	.000	.062			
	[CV=71476888]	.125	.000			
	[CV=80852151]	.000	.062			
	[CV=82696219]	.000	.062			
	[CV=85651025]	.000	.062			
	[CV=114722068]	.125	.000			
	[CV=154789235]	.000	.062			
	[CV=196543403]	.000	.062			
	[CV=262047308]	.000	.062			
	[CV=550015474]	.000	.062			
	[CV=667983284]	.000	.062			
	[CV=1032085243]	.000	.062			
	[CV=1179124377]	.125	.000			
	[CV=1355743780]	.125	.000			
	[CV=1395951970]	.000	.062			
	OE10FATA	-.705	.353			

	Administrator Gender	-.148	.074			
	Owners No	.128	-.064			
	Firm Age	.226	-.113			
	INV	.471	-.236			
	ILR2WC	.333	-.166			
	ILR4CR	.294	-.147			
	OE2FATR	.790	-.395			
	Business administration	-.506	.253			
Hidden Unit Width		1.633	1.282			
Hidden Layer	H(1)			.176	.439	.242
	H(2)			-.481	-1.202	-.662

a. Displays the center vector for each hidden unit.

Table 40. Parameters estimates/RBF-in production sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted				
		Hidden Layer[a]		Output Layer		
Predictor		H(1)	H(2)	RA5TLLEV	RA1LTDER	LTD
Input Layer	[ILR6ACP=0]	.143	.000			
	[ILR6ACP=6]	.143	.000			
	[ILR6ACP=9]	.143	.000			
	[ILR6ACP=87]	.143	.000			
	[ILR6ACP=91]	.143	.000			
	[ILR6ACP=332]	.143	.000			
	[ILR6ACP=406]	.000	.250			
	[ILR6ACP=480]	.143	.000			
	[ILR6ACP=1352]	.000	.250			

	[ILR6ACP=1521]	.000	.250			
	[ILR6ACP=7300]	.000	.250			
	[ILR9PATR=0]	.143	.000			
	[ILR9PATR=1]	.143	.000			
	[ILR9PATR=2]	.143	.000			
	[ILR9PATR=15]	.143	.000			
	[ILR10APP=0]	.571	1.000			
	[ILR10APP=1]	.143	.000			
	[ILR10APP=187]	.143	.000			
	[ILR10APP=890]	.143	.000			
	[OE5NPM=-2]	.000	.250			
	[OE5NPM=0]	.143	.000			
	[OE5NPM=4]	.143	.000			
	[OE5NPM=6]	.143	.000			
	[OE5NPM=7]	.143	.000			
	[OE5NPM=147]	.000	.250			
	[OE7ROE=0]	.000	.250			
	[GA1ROA=.00]	.143	.500			
	[GA1ROA=.01]	.143	.000			
	[GA1ROA=.02]	.143	.000			
	[GA1ROA=.04]	.000	.250			
	[GA1ROA=.05]	.143	.000			
	[GA1ROA=.09]	.143	.000			
	[GA1ROA=.16]	.000	.250			
	[GA1ROA=.33]	.143	.000			
	[OE8TAN=.00]	.143	.000			
	[OE8TAN=.01]	.143	.000			

	[OE8TAN=.03]	.143	.000			
	[OE8TAN=.09]	.143	.000			
	[OE8TAN=.19]	.143	.000			
	[OE8TAN=.46]	.000	.250			
	[OE8TAN=.47]	.143	.000			
	[OE8TAN=.49]	.143	.000			
	[OE8TAN=.78]	.000	.250			
	[OE8TAN=.87]	.000	.250			
	[OE8TAN=.93]	.000	.250			
	[@EQ=83205]	.143	.000			
	[@EQ=2530729]	.143	.000			
	[@EQ=14084812]	.000	.250			
	[@EQ=20032277]	.000	.250			
	[@EQ=32524727]	.143	.000			
	[@EQ=53454752]	.143	.000			
	[@EQ=66980745]	.143	.000			
	[@EQ=69222679]	.000	.250			
	[@EQ=91402631]	.143	.000			
	[@EQ=94595623]	.143	.000			
	[@EQ=113071137]	.000	.250			
	[RA4LEV=.09]	.000	.250			
	[RA4LEV=.19]	.143	.000			
	[RA4LEV=.36]	.000	.250			
	[RA4LEV=.86]	.143	.000			
	[RA4LEV=.88]	.000	.250			
	[RA4LEV=.89]	.000	.250			
	[RA4LEV=.91]	.143	.000			

	[RA4LEV=.95]	.143	.000			
	[RA4LEV=1.05]	.143	.000			
	[RA4LEV=1.39]	.143	.000			
	[RA4LEV=3.50]	.143	.000			
	[BoS=16.09]	.000	.250			
	[BoS=17.42]	.143	.000			
	[BoS=18.41]	.143	.000			
	[BoS=18.46]	.000	.250			
	[BoS=18.54]	.143	.000			
	[BoS=18.74]	.000	.250			
	[BoS=19.78]	.143	.000			
	[BoS=19.92]	.143	.000			
	[BoS=20.16]	.143	.000			
	[BoS=20.69]	.000	.250			
	[BoS=20.93]	.143	.000			
	[Ownership Gender=0]	.571	.000			
	[Ownership Gender=1]	.429	.500			
	[Ownership Gender=2]	.000	.500			
	[Equity Origin=0]	.429	.000			
	[Equity Origin=1]	.571	1.000			
	[Borrowers' Status=0]	.143	.750			
	[Borrowers' Status=1]	.857	.250			
	[CV=1547896]	.143	.000			
	[CV=2149263]	.143	.000			
	[CV=6055068]	.000	.250			
	[CV=11916748]	.143	.000			
	[CV=53316136]	.143	.000			

	[CV=110082297]	.000	.250			
	[CV=115287140]	.143	.000			
	[CV=162982714]	.000	.250			
	[CV=247450065]	.143	.000			
	[CV=378341781]	.143	.000			
	[CV=1218678032]	.000	.250			
	OE10FATA	-.594	1.040			
	Owners No	.241	-.422			
	Firm Age	-.170	.298			
	Business administration	.334	-.584			
	INV	.327	-.572			
	ILR2WC	.114	-.199			
	ILR4CR	-.150	.262			
	OE2FATR	.201	-.352			
Hidden Unit Width		1.460	1.080			
Hidden Layer	H(1)			.215	.278	.348
	H(2)			-.660	-.852	-1.067

a. Displays the center vector for each hidden unit.

Table 41. Parameters estimates/RBF-in construction sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted				
		Hidden Layer[a]		Output Layer		
Predictor		H(1)	H(2)	RA5LTLEV	RA1LTDER	LTD
Input Layer	[ILR6ACP=0]	.062	.125			
	[ILR6ACP=4]	.000	.062			
	[ILR6ACP=11]	.000	.062			

	[ILR6ACP=14]	.000	.062			
	[ILR6ACP=40]	.000	.062			
	[ILR6ACP=73]	.000	.062			
	[ILR6ACP=82]	.062	.000			
	[ILR6ACP=84]	.000	.062			
	[ILR6ACP=89]	.000	.062			
	[ILR6ACP=97]	.062	.062			
	[ILR6ACP=99]	.062	.000			
	[ILR6ACP=101]	.062	.000			
	[ILR6ACP=119]	.000	.062			
	[ILR6ACP=141]	.062	.000			
	[ILR6ACP=156]	.000	.062			
	[ILR6ACP=165]	.062	.000			
	[ILR6ACP=173]	.062	.000			
	[ILR6ACP=174]	.000	.125			
	[ILR6ACP=215]	.062	.000			
	[ILR6ACP=252]	.062	.000			
	[ILR6ACP=283]	.062	.000			
	[ILR6ACP=507]	.062	.000			
	[ILR6ACP=588]	.000	.062			
	[ILR6ACP=760]	.000	.062			
	[ILR6ACP=1074]	.062	.000			
	[ILR6ACP=1352]	.062	.000			
	[ILR6ACP=3544]	.062	.000			
	[ILR6ACP=5984]	.062	.000			
	[ILR9PATR=-16.80]	.000	.062			
	[ILR9PATR=.00]	.000	.062			

	[ILR9PATR=.05]	.062	.000			
	[ILR9PATR=.13]	.062	.000			
	[ILR9PATR=.34]	.000	.062			
	[ILR9PATR=.51]	.062	.000			
	[ILR9PATR=.59]	.062	.000			
	[ILR9PATR=.61]	.062	.000			
	[ILR9PATR=.69]	.000	.062			
	[ILR9PATR=.70]	.062	.000			
	[ILR9PATR=.75]	.062	.000			
	[ILR9PATR=.95]	.000	.062			
	[ILR9PATR=1.04]	.062	.000			
	[ILR9PATR=1.37]	.000	.062			
	[ILR9PATR=1.50]	.000	.062			
	[ILR9PATR=1.60]	.000	.062			
	[ILR9PATR=1.62]	.062	.000			
	[ILR9PATR=1.85]	.062	.000			
	[ILR9PATR=2.08]	.062	.000			
	[ILR9PATR=3.49]	.000	.062			
	[ILR9PATR=4.65]	.000	.062			
	[ILR9PATR=4.88]	.000	.062			
	[ILR9PATR=4.89]	.000	.062			
	[ILR9PATR=5.30]	.062	.000			
	[ILR9PATR=5.38]	.000	.062			
	[ILR9PATR=5.60]	.000	.062			
	[ILR9PATR=6.43]	.000	.062			
	[ILR9PATR=9.24]	.062	.000			
	[ILR9PATR=16.60]	.000	.062			

	[ILR9PATR=29.37]	.062	.000			
	[ILR9PATR=45.11]	.062	.000			
	[ILR9PATR=1557.00]	.062	.000			
	[ILR10APP=-21]	.000	.062			
	[ILR10APP=0]	.062	.000			
	[ILR10APP=8]	.062	.000			
	[ILR10APP=12]	.062	.000			
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	[ILR10APP=1073]	.000	.062			
	[ILR10APP=2807]	.062	.000			
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	[OE5NPM=.08%]	.062	.000			
	[OE5NPM=.14%]	.125	.000			
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	[OE7ROE=.14%]	.062	.000			
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	[GA1ROA=.02]	.000	.062			
	[GA1ROA=.03]	.000	.062			
	[GA1ROA=.05]	.062	.000			
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	[OE8TAN=2.886334172824%]	.000	.062			
	[OE8TAN=4.337575907704%]	.000	.062			
	[OE8TAN=4.433798202034%]	.062	.000			
	[OE8TAN=4.828293032677%]	.062	.000			
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	[OE8TAN=6.774897331444%]	.062	.000			
	[OE8TAN=11.130611520529%]	.000	.062			
	[OE8TAN=12.949628346444%]	.000	.062			
	[OE8TAN=13.196463538274%]	.000	.062			
	[OE8TAN=13.211359289902%]	.062	.000			
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	[OE8TAN=19.325263094536%]	.062	.000			
	[OE8TAN=20.357735682192%]	.062	.000			
	[OE8TAN=23.721154140111%]	.000	.062			

	[OE8TAN=28.120334911978%]	.000	.062			
	[OE8TAN=31.566976235295%]	.062	.000			
	[OE8TAN=37.916397815396%]	.000	.062			
	[OE8TAN=41.045773523644%]	.000	.062			
	[OE8TAN=41.639193568439%]	.062	.000			
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	[OE8TAN=70.067723195345%]	.062	.000			
	[OE8TAN=71.664086489973%]	.062	.000			
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	[OE8TAN=78.603938946806%]	.000	.062			
	[OE8TAN=79.131958946778%]	.000	.062			
	[OE8TAN=93.283578561027%]	.062	.000			
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	[@EQ=2632141]	.000	.062			
	[@EQ=3021682]	.062	.000			
	[@EQ=3305744]	.062	.000			
	[@EQ=3807051]	.000	.062			
	[@EQ=4269752]	.000	.125			
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	[@EQ=7722016]	.000	.062			
	[@EQ=9768261]	.000	.062			
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	[@EQ=126298437]	.000	.062			
	[@EQ=177663527]	.062	.000			
	[@EQ=303025325]	.062	.000			
	[@EQ=340756087]	.062	.000			

	[@EQ=1347810200]	.062	.000			
	[@EQ=40432622000]	.062	.000			
	[RA4LEV=.01]	.062	.000			
	[RA4LEV=.02]	.062	.000			
	[RA4LEV=.06]	.062	.000			
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	[RA4LEV=.15]	.000	.062			
	[RA4LEV=.27]	.000	.062			
	[RA4LEV=.35]	.062	.000			
	[RA4LEV=.36]	.062	.000			
	[RA4LEV=.41]	.000	.062			
	[RA4LEV=.50]	.062	.000			
	[RA4LEV=.51]	.062	.000			
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	[RA4LEV=.72]	.000	.062			
	[RA4LEV=.80]	.000	.062			
	[RA4LEV=.91]	.000	.062			
	[RA4LEV=.92]	.000	.062			
	[RA4LEV=.93]	.062	.000			
	[RA4LEV=.97]	.000	.062			
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	[RA4LEV=1.16]	.000	.062			
	[RA4LEV=2.76]	.000	.062			

	[RA4LEV=30.02]	.062	.000			
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	[BoS=15.58]	.000	.062			
	[BoS=15.71]	.062	.000			
	[BoS=16.02]	.000	.062			
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	[BoS=16.27]	.000	.062			
	[BoS=16.31]	.062	.000			
	[BoS=16.38]	.062	.000			
	[BoS=16.52]	.062	.000			
	[BoS=16.90]	.062	.000			
	[BoS=16.96]	.000	.062			
	[BoS=17.34]	.062	.000			
	[BoS=17.69]	.000	.062			
	[BoS=17.73]	.062	.000			
	[BoS=17.99]	.000	.062			
	[BoS=18.06]	.000	.062			
	[BoS=18.37]	.062	.000			
	[BoS=18.76]	.000	.062			
	[BoS=18.93]	.000	.062			
	[BoS=19.42]	.062	.000			
	[BoS=19.55]	.000	.062			
	[BoS=19.59]	.062	.000			
	[BoS=19.70]	.000	.062			
	[BoS=19.80]	.062	.000			

	[BoS=20.27]	.000	.062			
	[BoS=20.55]	.000	.062			
	[BoS=21.03]	.062	.000			
	[BoS=25.12]	.062	.000			
	[Ownership Gender=0]	.188	.000			
	[Ownership Gender=1]	.500	1.000			
	[Ownership Gender=2]	.312	.000			
	[Equity Origin=0]	.812	1.000			
	[Equity Origin=2]	.188	.000			
	[Borrowers' Status=0]	.188	.000			
	[Borrowers' Status=1]	.812	1.000			
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	[CV=325379.97]	.000	.062			
	[CV=359256.80]	.000	.062			
	[CV=798149.01]	.062	.000			
	[CV=988825.97]	.000	.062			
	[CV=1457896.00]	.062	.000			
	[CV=1851393.01]	.000	.062			
	[CV=2176620.68]	.000	.062			
	[CV=2434446.59]	.062	.000			
	[CV=3093848.72]	.000	.062			
	[CV=3282505.97]	.000	.062			
	[CV=3717009.80]	.062	.000			
	[CV=4998943.14]	.062	.000			
	[CV=9235938.41]	.062	.000			
	[CV=12194738.14]	.062	.000			
	[CV=13897832.76]	.062	.000			

	[CV=14286325.19]	.000	.062			
	[CV=23002335.79]	.000	.062			
	[CV=23232231.64]	.062	.000			
	[CV=44155401.78]	.062	.000			
	[CV=55749065.62]	.000	.062			
	[CV=68934158.57]	.000	.062			
	[CV=75777545.47]	.000	.062			
	[CV=81956750.05]	.062	.000			
	[CV=122297508.08]	.000	.062			
	[CV=126140142.51]	.000	.062			
	[CV=270562916.12]	.062	.000			
	[CV=360750078.23]	.000	.062			
	[CV=443686565.52]	.062	.000			
	[CV=508368774.64]	.000	.062			
	[CV=1409909179.93]	.062	.000			
	[CV=15919312266.00]	.062	.000			
	OE10FATA	.142	-.142			
	Administrator Gender	-.473	.473			
	Business administration	.664	-.664			
	Owners No	.302	-.302			
	Firm Age	-.206	.206			
	INV	.165	-.165			
	ILR2WC	.181	-.181			
	ILR4CR	.225	-.225			
	OE2FATR	-.008	.008			
Hidden Unit Width		1.619	1.146			
Hidden Layer	H(1)			.053	-.028	-.116

H(2)			-.380	.200	.836

a. Displays the center vector for each hidden unit.

Table 42. Parameters estimates/RBF-in service sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted						
		Hidden Layer[a]		Output Layer				
Predictor		H(1)	H(2)	RA3ICR	STD	RA5 LTLEV	RA1 LTDER	LTD
Input Layer	[ILR6ACP=0]	.062	.000					
	[ILR6ACP=1]	.000	.067					
	[ILR6ACP=3]	.062	.000					
	[ILR6ACP=4]	.000	.067					
	[ILR6ACP=5]	.062	.000					
	[ILR6ACP=6]	.062	.000					
	[ILR6ACP=13]	.062	.000					
	[ILR6ACP=16]	.000	.067					
	[ILR6ACP=26]	.062	.000					
	[ILR6ACP=30]	.000	.067					
	[ILR6ACP=34]	.000	.067					
	[ILR6ACP=35]	.062	.000					
	[ILR6ACP=43]	.062	.000					
	[ILR6ACP=46]	.000	.067					
	[ILR6ACP=53]	.062	.000					
	[ILR6ACP=57]	.062	.000					
	[ILR6ACP=77]	.000	.067					
	[ILR6ACP=81]	.062	.000					

[ILR6ACP=133]	.000	.067					
[ILR6ACP=182]	.062	.000					
[ILR6ACP=183]	.062	.000					
[ILR6ACP=579]	.062	.000					
[ILR6ACP=589]	.000	.067					
[ILR6ACP=608]	.062	.000					
[ILR6ACP=687]	.000	.067					
[ILR6ACP=1043]	.000	.067					
[ILR6ACP=1258]	.062	.000					
[ILR10APP=0]	.062	.000					
[ILR10APP=1]	.062	.000					
[ILR10APP=3]	.000	.067					
[ILR10APP=5]	.000	.067					
[ILR10APP=16]	.062	.000					
[ILR10APP=17]	.062	.000					
[ILR10APP=18]	.000	.067					
[ILR10APP=19]	.062	.000					
[ILR10APP=37]	.000	.067					
[ILR10APP=42]	.000	.067					
[ILR10APP=45]	.062	.000					
[ILR10APP=49]	.062	.000					
[ILR10APP=54]	.062	.000					
[ILR10APP=63]	.062	.000					
[ILR10APP=68]	.000	.067					
[ILR10APP=78]	.000	.067					
[ILR10APP=86]	.000	.067					
[ILR10APP=114]	.000	.067					

	[ILR10APP=116]	.062	.000				
	[ILR10APP=123]	.000	.067				
	[ILR10APP=127]	.062	.000				
	[ILR10APP=275]	.000	.067				
	[ILR10APP=472]	.062	.000				
	[ILR10APP=474]	.000	.067				
	[ILR10APP=570]	.062	.000				
	[ILR10APP=598]	.000	.067				
	[ILR10APP=849]	.062	.000				
	[ILR10APP=1043]	.000	.067				
	[ILR10APP=1303]	.062	.000				
	[ILR10APP=1921]	.062	.000				
	[ILR10APP=2147]	.000	.067				
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	[OE5NPM=-.21]	.062	.000				
	[OE5NPM=-.06]	.062	.000				
	[OE5NPM=.00]	.062	.000				
	[OE5NPM=.01]	.000	.067				
	[OE5NPM=.02]	.000	.067				
	[OE5NPM=.03]	.000	.067				
	[OE5NPM=.04]	.062	.000				
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	[OE5NPM=.10]	.000	.067				
	[OE5NPM=.12]	.062	.000				
	[OE5NPM=.23]	.062	.000				
	[OE5NPM=.24]	.000	.067				

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	[GA1ROE=.07]	.000	.067				
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	[GA1ROE=.81]	.000	.067				
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	[GA1ROA=-.15]	.062	.000				
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	[GA1ROA=.01]	.062	.000				

	[GA1ROA=.02]	.062	.000				
	[GA1ROA=.03]	.000	.067				
	[GA1ROA=.05]	.000	.067				
	[GA1ROA=.06]	.000	.067				
	[GA1ROA=.10]	.000	.067				
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	[GA1ROA=.25]	.062	.000				
	[GA1ROA=.41]	.062	.000				
	[GA1ROA=.47]	.000	.067				
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	[OE8TAN=.002878782635]	.062	.000				
	[OE8TAN=.006710047006]	.062	.000				
	[OE8TAN=.021072981648]	.062	.000				
	[OE8TAN=.076994479139]	.000	.067				
	[OE8TAN=.083335715631]	.062	.000				
	[OE8TAN=.087778793229]	.062	.000				

	[OE8TAN=.121975419306]	.000	.067				
	[OE8TAN=.145065897242]	.000	.067				
	[OE8TAN=.170353886490]	.062	.000				
	[OE8TAN=.177335106867]	.000	.067				
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	[OE8TAN=.508668827982]	.000	.067				
	[OE8TAN=.667528088165]	.062	.000				
	[OE8TAN=.714581853071]	.062	.000				

	[OE8TAN=.719468752248]	.062	.000					
	[OE8TAN=.778290538487]	.062	.000					
	[OE8TAN=.847202814370]	.062	.000					
	[OE8TAN=.869289700988]	.125	.000					
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	[BoS=14.26]	.000	.067					
	[BoS=14.32]	.062	.000					
	[BoS=14.89]	.062	.000					
	[BoS=15.58]	.062	.000					
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	[BoS=16.77]	.062	.000					
	[BoS=16.87]	.000	.067					
	[BoS=16.98]	.062	.000					
	[BoS=16.99]	.062	.000					
	[BoS=17.20]	.062	.000					
	[BoS=17.23]	.000	.067					
	[BoS=17.48]	.000	.067					
	[BoS=17.52]	.000	.067					

	[BoS=18.61]	.000	.067				
	[BoS=18.77]	.000	.067				
	[BoS=19.03]	.000	.067				
	[BoS=19.17]	.125	.000				
	[BoS=19.45]	.000	.067				
	[BoS=19.62]	.000	.067				
	[BoS=19.84]	.000	.067				
	[BoS=20.25]	.000	.067				
	[Ownership Gender=0]	.250	.200				
	[Ownership Gender=1]	.625	.733				
	[Ownership Gender=2]	.125	.067				
	[Equity Origin=0]	.750	1.000				
	[Equity Origin=1]	.125	.000				
	[Equity Origin=2]	.125	.000				
	[Borrowers' Status=0]	.188	.000				
	[Borrowers' Status=1]	.812	1.000				
	[CV=0]	.062	.200				
	[CV=46838]	.062	.000				
	[CV=92711]	.062	.000				
	[CV=216842]	.062	.000				
	[CV=605517]	.000	.067				
	[CV=722963]	.062	.000				
	[CV=2261907]	.062	.000				
	[CV=4782338]	.062	.000				
	[CV=5105346]	.000	.067				
	[CV=5687812]	.062	.000				
	[CV=6744167]	.062	.000				

[CV=6753492]	.062	.000					
[CV=6770984]	.062	.000					
[CV=7043938]	.062	.000					
[CV=7262232]	.000	.067					
[CV=9241276]	.062	.000					
[CV=10175907]	.000	.067					
[CV=13734049]	.000	.067					
[CV=17227252]	.000	.067					
[CV=27071778]	.062	.000					
[CV=42945185]	.000	.067					
[CV=43606691]	.000	.067					
[CV=54789832]	.000	.067					
[CV=59208450]	.000	.067					
[CV=71537245]	.000	.067					
[CV=121324500]	.000	.067					
[CV=247476467]	.125	.000					
[OE3GPM=-2.5]	.125	.000					
[OE3GPM=-.4]	.062	.000					
[OE3GPM=.0]	.000	.067					
[OE3GPM=.1]	.000	.067					
[OE3GPM=.2]	.125	.000					
[OE3GPM=.3]	.062	.000					
[OE3GPM=.9]	.000	.067					
[NP=-33221424]	.125	.000					
[NP=-2827447]	.062	.000					
[NP=1568]	.062	.000					
[NP=5774]	.000	.067					

	[NP=7792]	.062	.000				
	[NP=87336]	.000	.067				
	[NP=90194]	.000	.067				
	[NP=100675]	.062	.000				
	[NP=138916]	.000	.067				
	[NP=150740]	.062	.000				
	[NP=203493]	.062	.000				
	[NP=261094]	.000	.067				
	[NP=360687]	.062	.000				
	[NP=431861]	.062	.000				
	[NP=469568]	.000	.067				
	[NP=680071]	.000	.067				
	[NP=1000389]	.062	.000				
	[NP=1082388]	.062	.000				
	[NP=1425367]	.000	.067				
	[NP=1430406]	.000	.067				
	[NP=2070659]	.000	.067				
	[NP=2302155]	.062	.000				
	[NP=2671479]	.062	.000				
	[NP=3319238]	.000	.067				
	[NP=3510380]	.000	.067				
	[NP=4166189]	.062	.000				
	[NP=6325381]	.062	.000				
	[NP=6839527]	.000	.067				
	[NP=18476291]	.000	.067				
	[NP=47459018]	.000	.067				
	[FA=0]	.062	.200				

	[FA=34750]	.062	.000				
	[FA=68784]	.062	.000				
	[FA=160879]	.062	.000				
	[FA=449244]	.000	.067				
	[FA=536379]	.062	.000				
	[FA=1678149]	.062	.000				
	[FA=3548102]	.062	.000				
	[FA=3787748]	.000	.067				
	[FA=4219890]	.062	.000				
	[FA=5003618]	.062	.000				
	[FA=5010537]	.062	.000				
	[FA=5023514]	.062	.000				
	[FA=5226024]	.062	.000				
	[FA=5387980]	.000	.067				
	[FA=6856268]	.062	.000				
	[FA=7549688]	.000	.067				
	[FA=10189537]	.000	.067				
	[FA=12781207]	.000	.067				
	[FA=20085037]	.062	.000				
	[FA=31861802]	.000	.067				
	[FA=32352585]	.000	.067				
	[FA=40649558]	.000	.067				
	[FA=43927810]	.000	.067				
	[FA=53074764]	.000	.067				
	[FA=90012820]	.000	.067				
	[FA=183607225]	.125	.000				
	[RA=0]	.062	.133				

[RA=3200]	.000	.067					
[RA=12780]	.000	.067					
[RA=24840]	.000	.067					
[RA=47744]	.062	.000					
[RA=89225]	.000	.067					
[RA=116700]	.062	.000					
[RA=147064]	.062	.000					
[RA=529949]	.062	.000					
[RA=625045]	.062	.000					
[RA=652853]	.062	.000					
[RA=793494]	.062	.000					
[RA=1186259]	.000	.067					
[RA=1371031]	.062	.000					
[RA=1727777]	.062	.000					
[RA=1831993]	.062	.000					
[RA=2616078]	.062	.000					
[RA=3042911]	.000	.067					
[RA=3293838]	.062	.000					
[RA=13902129]	.000	.067					
[RA=14696428]	.062	.000					
[RA=15496428]	.062	.000					
[RA=19401114]	.062	.000					
[RA=46351540]	.000	.067					
[RA=58457450]	.000	.067					
[RA=82295898]	.000	.067					
[RA=187644122]	.000	.067					
[RA=243179618]	.000	.067					

	[RA=267163795]	.000	.067					
	[ILR9PATR=.00]	.062	.000					
	[ILR9PATR=.17]	.000	.067					
	[ILR9PATR=.19]	.062	.000					
	[ILR9PATR=.28]	.062	.000					
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	[ILR9PATR=.43]	.062	.000					
	[ILR9PATR=.61]	.000	.067					
	[ILR9PATR=.64]	.062	.000					
	[ILR9PATR=.77]	.062	.000					
	[ILR9PATR=1.32]	.000	.067					
	[ILR9PATR=2.88]	.062	.000					
	[ILR9PATR=2.97]	.000	.067					
	[ILR9PATR=3.13]	.062	.000					
	[ILR9PATR=3.21]	.000	.067					
	[ILR9PATR=4.23]	.000	.067					
	[ILR9PATR=4.71]	.000	.067					
	[ILR9PATR=5.36]	.000	.067					
	[ILR9PATR=5.77]	.062	.000					
	[ILR9PATR=6.79]	.062	.000					
	[ILR9PATR=7.51]	.062	.000					
	[ILR9PATR=8.19]	.062	.000					
	[ILR9PATR=8.66]	.000	.067					
	[ILR9PATR=9.96]	.000	.067					
	[ILR9PATR=19.07]	.062	.000					
	[ILR9PATR=19.75]	.000	.067					
	[ILR9PATR=21.45]	.062	.000					

	[ILR9PATR=23.38]	.062	.000					
	[ILR9PATR=75.65]	.000	.067					
	[ILR9PATR=145.00]	.000	.067					
	[ILR9PATR=293.40]	.062	.000					
	OE10FATA	.328	-.350					
	Administrator Gender	-.195	.208					
	Owners No	.177	-.189					
	Firm Age	.095	-.102					
	Business administration	-.097	.104					
	INV	-.401	.427					
	ILR2WC	-.432	.461					
	ILR4CR	.300	-.321					
	OE2FATR	.144	-.154					
	GA2OCF	.128	-.137					
	OE6AT	.175	-.186					
	ILR7ITR	.311	-.331					
Hidden Unit Width		1.655	1.500					
Hidden Layer	H(1)			-.048	-.413	-.909	-.399	-.845
	H(2)			.097	.843	1.857	.816	1.725

a. Displays the center vector for each hidden unit.

Table 43. Parameters estimates/RBF-in trade sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted						
		Hidden Layer[a]		Output Layer				
Predictor		H(1)	H(2)	RA3 ICR	STD	RA5 LTLEV	RA1 LTDER	LTD
Input Layer	[ILR6ACP=0]	.308	.125					
	[ILR6ACP=6]	.077	.000					
	[ILR6ACP=9]	.077	.000					
	[ILR6ACP=24]	.000	.125					
	[ILR6ACP=27]	.077	.000					
	[ILR6ACP=34]	.000	.125					
	[ILR6ACP=46]	.077	.000					
	[ILR6ACP=73]	.077	.000					
	[ILR6ACP=185]	.000	.125					
	[ILR6ACP=301]	.077	.000					
	[ILR6ACP=429]	.077	.000					
	[ILR6ACP=462]	.000	.125					
	[ILR6ACP=500]	.000	.125					
	[ILR6ACP=588]	.000	.125					
	[ILR6ACP=701]	.077	.000					
	[ILR6ACP=1940]	.077	.000					
	[ILR6ACP=4563]	.000	.125					
	[ILR9PATR=-91]	.077	.000					
	[ILR9PATR=-1]	.077	.000					
	[ILR9PATR=0]	.000	.125					
	[ILR9PATR=1]	.077	.000					
	[ILR9PATR=3]	.000	.125					

	[ILR9PATR=4]	.077	.000				
	[ILR9PATR=9]	.077	.000				
	[ILR9PATR=12]	.077	.000				
	[ILR9PATR=32]	.077	.000				
	[ILR10APP=-4055]	.077	.000				
	[ILR10APP=-2027]	.000	.125				
	[ILR10APP=-4]	.077	.000				
	[ILR10APP=0]	.154	.625				
	[ILR10APP=12]	.077	.000				
	[ILR10APP=29]	.077	.000				
	[ILR10APP=40]	.077	.000				
	[ILR10APP=102]	.077	.000				
	[ILR10APP=118]	.000	.125				
	[ILR10APP=445]	.077	.000				
	[ILR10APP=716]	.077	.000				
	[ILR10APP=1121]	.000	.125				
	[ILR10APP=2607]	.077	.000				
	[ILR10APP=3650]	.077	.000				
	[ILR10APP=5214]	.077	.000				
	[OE5NPM=-1]	.077	.000				
	[OE5NPM=0]	.077	.000				
	[OE5NPM=1]	.077	.000				
	[OE5NPM=2]	.077	.000				
	[OE5NPM=3]	.000	.125				
	[OE5NPM=5]	.000	.125				
	[OE5NPM=6]	.077	.000				
	[OE5NPM=7]	.077	.000				

	[OE5NPM=9]	.000	.125					
	[OE5NPM=24]	.077	.000					
	[OE5NPM=26]	.000	.125					
	[OE5NPM=45]	.000	.125					
	[OE5NPM=88]	.077	.000					
	[OE7ROE=-8.00]	.077	.000					
	[OE7ROE=-.02]	.077	.000					
	[OE7ROE=.00]	.000	.250					
	[OE7ROE=.02]	.077	.000					
	[OE7ROE=.08]	.077	.000					
	[OE7ROE=.10]	.000	.250					
	[OE7ROE=.60]	.000	.125					
	[OE7ROE=4.00]	.077	.000					
	[OE7ROE=5.00]	.077	.000					
	[OE7ROE=6.90]	.077	.000					
	[OE7ROE=10.00]	.077	.000					
	[OE7ROE=12.00]	.077	.000					
	[OE7ROE=13.00]	.000	.125					
	[OE7ROE=14.00]	.000	.125					
	[OE7ROE=26.00]	.000	.125					
	[OE7ROE=36.00]	.077	.000					
	[OE7ROE=45.00]	.077	.000					
	[OE7ROE=98.00]	.077	.000					
	[GA1ROA=-1.02]	.000	.125					
	[GA1ROA=.00]	.000	.125					
	[GA1ROA=.01]	.077	.000					
	[GA1ROA=.02]	.154	.000					

	[GA1ROA=.03]	.077	.000				
	[GA1ROA=.04]	.077	.000				
	[GA1ROA=.05]	.077	.000				
	[GA1ROA=.06]	.000	.125				
	[GA1ROA=.09]	.077	.000				
	[GA1ROA=.11]	.000	.125				
	[GA1ROA=.12]	.077	.000				
	[GA1ROA=.41]	.000	.125				
	[GA1ROA=9.74]	.000	.125				
	[OE8TAN=0]	.077	.000				
	[OE8TAN=1]	.000	.125				
	[@EQ=-494426337]	.000	.125				
	[@EQ=942022]	.077	.000				
	[@EQ=2958407]	.077	.000				
	[@EQ=6612214]	.077	.000				
	[@EQ=6914347]	.077	.000				
	[@EQ=10950716]	.000	.125				
	[@EQ=14877229]	.077	.000				
	[@EQ=15248331]	.077	.000				
	[@EQ=22287802]	.077	.000				
	[@EQ=24857172]	.000	.125				
	[@EQ=28700457]	.000	.125				
	[@EQ=47381580]	.077	.000				
	[@EQ=109218963]	.077	.000				
	[@EQ=152493466]	.077	.000				
	[@EQ=176236749]	.000	.125				
	[@EQ=253936015]	.077	.000				

	[@EQ=303256053]	.077	.000					
	[@EQ=430325374]	.000	.125					
	[@EQ=464959044]	.077	.000					
	[@EQ=513092556]	.000	.125					
	[@EQ=586603131]	.000	.125					
	[RA4TotalLEV=.00]	.000	.125					
	[RA4TotalLEV=.01]	.077	.000					
	[RA4TotalLEV=.16]	.000	.125					
	[RA4TotalLEV=.22]	.000	.125					
	[RA4TotalLEV=.26]	.000	.125					
	[RA4TotalLEV=.27]	.077	.000					
	[RA4TotalLEV=.46]	.000	.125					
	[RA4TotalLEV=.56]	.000	.125					
	[RA4TotalLEV=.58]	.077	.000					
	[RA4TotalLEV=.65]	.077	.000					
	[RA4TotalLEV=.78]	.077	.000					
	[RA4TotalLEV=.81]	.077	.000					
	[RA4TotalLEV=.86]	.077	.000					
	[RA4TotalLEV=.92]	.077	.000					
	[RA4TotalLEV=.93]	.077	.000					
	[RA4TotalLEV=.98]	.000	.125					
	[RA4TotalLEV=1.02]	.077	.000					
	[RA4TotalLEV=1.39]	.000	.125					
	[RA4TotalLEV=1.44]	.077	.000					
	[RA4TotalLEV=1.47]	.077	.000					
	[RA4TotalLEV=7.54]	.077	.000					
	[BoS=14.91]	.077	.000					

	[BoS=16.82]	.077	.000				
	[BoS=17.24]	.077	.000				
	[BoS=17.42]	.000	.125				
	[BoS=17.66]	.077	.000				
	[BoS=17.69]	.077	.000				
	[BoS=18.31]	.077	.000				
	[BoS=18.41]	.077	.000				
	[BoS=19.03]	.000	.125				
	[BoS=19.08]	.077	.000				
	[BoS=19.24]	.000	.125				
	[BoS=19.88]	.077	.000				
	[BoS=19.89]	.077	.000				
	[BoS=20.02]	.000	.125				
	[BoS=20.24]	.077	.000				
	[BoS=20.28]	.077	.000				
	[BoS=20.34]	.000	.125				
	[BoS=20.64]	.000	.125				
	[BoS=20.92]	.000	.125				
	[BoS=21.01]	.000	.125				
	[BoS=21.17]	.077	.000				
	[Ownership Gender=0]	.385	.625				
	[Ownership Gender=1]	.538	.125				
	[Ownership Gender=2]	.077	.250				
	[Borrowers' Status=0]	.154	.250				
	[Borrowers' Status=1]	.846	.750				

	[CV=281913]	.077	.000					
	[CV=1104276]	.000	.125					
	[CV=2580849]	.077	.000					
	[CV=22331444]	.077	.000					
	[CV=36686817]	.077	.000					
	[CV=39071788]	.077	.000					
	[CV=47609329]	.077	.000					
	[CV=53903602]	.000	.125					
	[CV=68186302]	.077	.000					
	[CV=71476888]	.077	.000					
	[CV=80852151]	.077	.000					
	[CV=85651025]	.000	.125					
	[CV=114722068]	.077	.000					
	[CV=196543403]	.077	.000					
	[CV=262047308]	.000	.125					
	[CV=550015474]	.000	.125					
	[CV=667983284]	.077	.000					
	[CV=1032085243]	.000	.125					
	[CV=1179124377]	.077	.000					
	[CV=1355743780]	.000	.125					
	[CV=1395951970]	.000	.125					
	[OE3GPM=0]	.000	.125					
	[OE3GPM=1]	.000	.125					
	[OE3GPM=2]	.077	.000					
	[OE3GPM=7]	.077	.000					
	[OE3GPM=8]	.077	.000					
	[OE3GPM=11]	.000	.125					

	[OE3GPM=35]	.077	.000				
	[OE3GPM=49]	.000	.125				
	[NP=-11374763.00]	.077	.000				
	[NP=-83702.00]	.077	.000				
	[NP=.00]	.000	.250				
	[NP=147515.00]	.077	.000				
	[NP=230608.00]	.000	.125				
	[NP=248331.00]	.077	.000				
	[NP=718988.00]	.077	.000				
	[NP=824358.00]	.077	.000				
	[NP=1369745.00]	.000	.125				
	[NP=1699669.00]	.077	.000				
	[NP=3021111.00]	.077	.000				
	[NP=3270613.00]	.000	.125				
	[NP=3401796.00]	.000	.125				
	[NP=6808048.00]	.077	.000				
	[NP=7554275.00]	.000	.125				
	[NP=9424662.00]	.077	.000				
	[NP=13185246.00]	.077	.000				
	[NP=21056053.00]	.077	.000				
	[NP=40099511.00]	.077	.000				
	[NP=84114018.00]	.000	.125				
	[FA=190667]	.077	.000				
	[FA=746859]	.000	.125				
	[FA=1745515]	.077	.000				
	[FA=15103509]	.077	.000				
	[FA=24812532]	.077	.000				

[FA=26425568]	.077	.000					
[FA=32199795]	.077	.000					
[FA=36456824]	.000	.125					
[FA=46116696]	.077	.000					
[FA=48342230]	.077	.000					
[FA=54683037]	.077	.000					
[FA=57928677]	.000	.125					
[FA=77590404]	.077	.000					
[FA=132928933]	.077	.000					
[FA=177231433]	.000	.125					
[FA=371994017]	.000	.125					
[FA=451779626]	.077	.000					
[FA=698034062]	.000	.125					
[FA=797481588]	.077	.000					
[FA=916935248]	.000	.125					
[FA=944129403]	.000	.125					
[RA=-587073812]	.077	.000					
[RA=249474]	.000	.125					
[RA=1204633]	.077	.000					
[RA=1937327]	.077	.000					
[RA=5265375]	.077	.000					
[RA=6092564]	.077	.000					
[RA=12264964]	.000	.125					
[RA=14321710]	.077	.000					
[RA=18403370]	.077	.000					
[RA=26709155]	.077	.000					
[RA=70324564]	.000	.125					

	[RA=80367273]	.077	.000					
	[RA=107668190]	.077	.000					
	[RA=109571129]	.000	.125					
	[RA=118690807]	.000	.125					
	[RA=163654975]	.077	.000					
	[RA=171178531]	.077	.000					
	[RA=183489560]	.000	.125					
	[RA=212654108]	.000	.125					
	[RA=334144473]	.077	.000					
	[RA=682212500]	.000	.125					
	Administrator Gender	.061	-.099					
	Business administration	-.390	.634					
	Owners No	-.074	.121					
	Firm Age	-.165	.267					
	INV	.142	-.230					
	ILR2WC	-.170	.276					
	ILR4CR	.225	-.366					
	OE2FATR	.144	-.234					
	OE6AT	.072	-.117					
	ILR7ITR	.091	-.149					
Hidden Unit Width		1.634	1.465					
Hidden Layer	H(1)			.277	.234	.211	.402	.154
	H(2)			-.743	-.627	-.565	-1.078	-.414

a. Displays the center vector for each hidden unit.

Table 44. Parameters estimates/RBF-in production sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted						
		Hidden Layer[a]		Output Layer				
Predictor		H(1)	H(2)	RA3 ICR	STD	RA5 LTLEV	RA1 LTDER	LTD
Input Layer	[ILR6ACP=0]	.250	.000					
	[ILR6ACP=6]	.250	.000					
	[ILR6ACP=9]	.000	.143					
	[ILR6ACP=87]	.000	.143					
	[ILR6ACP=91]	.000	.143					
	[ILR6ACP=332]	.250	.000					
	[ILR6ACP=406]	.000	.143					
	[ILR6ACP=480]	.250	.000					
	[ILR6ACP=1352]	.000	.143					
	[ILR6ACP=1521]	.000	.143					
	[ILR6ACP=7300]	.000	.143					
	[ILR9PATR=0]	.250	.000					
	[ILR9PATR=1]	.000	.143					
	[ILR9PATR=2]	.250	.000					
	[ILR9PATR=15]	.250	.000					
	[ILR10APP=0]	.250	1.000					
	[ILR10APP=1]	.250	.000					
	[ILR10APP=187]	.250	.000					
	[ILR10APP=890]	.250	.000					
	[OE5NPM=-2]	.000	.143					
	[OE5NPM=0]	.250	.000					
	[OE5NPM=4]	.000	.143					

	[OE5NPM=6]	.250	.000				
	[OE5NPM=7]	.250	.000				
	[OE5NPM=147]	.000	.143				
	[OE7ROE=0]	.000	.143				
	[GA1ROA=.00]	.000	.429				
	[GA1ROA=.01]	.250	.000				
	[GA1ROA=.02]	.000	.143				
	[GA1ROA=.04]	.000	.143				
	[GA1ROA=.05]	.250	.000				
	[GA1ROA=.09]	.000	.143				
	[GA1ROA=.16]	.000	.143				
	[GA1ROA=.33]	.250	.000				
	[OE8TAN=.00]	.000	.143				
	[OE8TAN=.01]	.250	.000				
	[OE8TAN=.03]	.250	.000				
	[OE8TAN=.09]	.000	.143				
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	[OE8TAN=.46]	.000	.143				
	[OE8TAN=.47]	.250	.000				
	[OE8TAN=.49]	.250	.000				
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	[@EQ=83205]	.250	.000				
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	[@EQ=14084812]	.000	.143				
	[@EQ=20032277]	.000	.143				

	[@EQ=32524727]	.000	.143				
	[@EQ=53454752]	.250	.000				
	[@EQ=66980745]	.000	.143				
	[@EQ=69222679]	.000	.143				
	[@EQ=91402631]	.250	.000				
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	[RA4LEV=.19]	.250	.000				
	[RA4LEV=.36]	.000	.143				
	[RA4LEV=.86]	.250	.000				
	[RA4LEV=.88]	.000	.143				
	[RA4LEV=.89]	.000	.143				
	[RA4LEV=.91]	.250	.000				
	[RA4LEV=.95]	.000	.143				
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	[RA4LEV=1.39]	.000	.143				
	[RA4LEV=3.50]	.000	.143				
	[BoS=16.09]	.000	.143				
	[BoS=17.42]	.000	.143				
	[BoS=18.41]	.000	.143				
	[BoS=18.46]	.000	.143				
	[BoS=18.54]	.250	.000				
	[BoS=18.74]	.000	.143				
	[BoS=19.78]	.250	.000				
	[BoS=19.92]	.000	.143				
	[BoS=20.16]	.250	.000				

	[BoS=20.69]	.000	.143				
	[BoS=20.93]	.250	.000				
	[Ownership Gender=0]	1.000	.000				
	[Ownership Gender=1]	.000	.714				
	[Ownership Gender=2]	.000	.286				
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	[Borrowers' Status=0]	.000	.571				
	[Borrowers' Status=1]	1.000	.429				
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	[CV=2149263]	.250	.000				
	[CV=6055068]	.000	.143				
	[CV=11916748]	.000	.143				
	[CV=53316136]	.250	.000				
	[CV=110082297]	.000	.143				
	[CV=115287140]	.000	.143				
	[CV=162982714]	.000	.143				
	[CV=247450065]	.250	.000				
	[CV=378341781]	.250	.000				
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	[OE3GPM=0]	.250	.000				
	[OE3GPM=1]	.000	.286				
	[OE3GPM=2]	.000	.143				
	[OE3GPM=8]	.250	.000				

	[OE3GPM=11]	.250	.000					
	[OE3GPM=100]	.000	.143					
	[NP=-5417828]	.000	.143					
	[NP=-585957]	.000	.143					
	[NP=0]	.000	.286					
	[NP=3599347]	.000	.143					
	[NP=3814808]	.000	.143					
	[NP=4553070]	.250	.000					
	[NP=5671411]	.250	.000					
	[NP=8220938]	.250	.000					
	[NP=10237565]	.250	.000					
	[NP=12922280]	.000	.143					
	[FA=0]	.000	.143					
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	[FA=4459316]	.000	.143					
	[FA=8776209]	.000	.143					
	[FA=39265204]	.250	.000					
	[FA=81071214]	.000	.143					
	[FA=84904373]	.000	.143					
	[FA=120030258]	.000	.143					
	[FA=182237088]	.250	.000					
	[FA=278633608]	.250	.000					
	[FA=897507688]	.000	.143					
	[RA=5111721]	.000	.143					
	[RA=17155608]	.000	.143					
	[RA=23155785]	.000	.143					
	[RA=30848198]	.000	.143					

	[RA=31353832]	.000	.143					
	[RA=51250009]	.000	.143					
	[RA=88807085]	.000	.143					
	[RA=90267910]	.250	.000					
	[RA=102201314]	.250	.000					
	[RA=124515285]	.250	.000					
	[RA=1112524165]	.250	.000					
	OE10FATA	-.402	.230					
	Business administration	-.049	.028					
	Owners No	.738	-.422					
	Firm Age	-.004	.002					
	INV	.263	-.150					
	ILR2WC	-.084	.048					
	ILR4CR	-.271	.155					
	OE2FATR	.587	-.335					
	OE6AT	.528	-.302					
	ILR7ITR	-.266	.152					
Hidden Unit Width		1.661	1.464					
Hidden Layer	H(1)			.232	.740	-.350	.491	.500
	H(2)			-.227	-.723	.343	-.480	-.489

a. Displays the center vector for each hidden unit.

Table 45. Parameters estimates/RBF-in construction sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

Predictor		Predicted						
		Hidden Layer[a]		Output Layer				
		H(1)	H(2)	RA5 LTLEV	RA1 LTDER	LTD	RA3 ICR	STD
Input Layer	[ILR6ACP=0]	.059	.133					
	[ILR6ACP=4]	.059	.000					
	[ILR6ACP=11]	.000	.067					
	[ILR6ACP=14]	.000	.067					
	[ILR6ACP=40]	.000	.067					
	[ILR6ACP=73]	.059	.000					
	[ILR6ACP=82]	.059	.000					
	[ILR6ACP=84]	.059	.000					
	[ILR6ACP=89]	.000	.067					
	[ILR6ACP=97]	.059	.067					
	[ILR6ACP=99]	.059	.000					
	[ILR6ACP=101]	.000	.067					
	[ILR6ACP=119]	.000	.067					
	[ILR6ACP=141]	.059	.000					
	[ILR6ACP=156]	.059	.000					
	[ILR6ACP=165]	.059	.000					
	[ILR6ACP=173]	.000	.067					
	[ILR6ACP=174]	.000	.133					
	[ILR6ACP=215]	.059	.000					
	[ILR6ACP=252]	.059	.000					
	[ILR6ACP=283]	.000	.067					
	[ILR6ACP=507]	.059	.000					
	[ILR6ACP=588]	.000	.067					
	[ILR6ACP=760]	.000	.067					
	[ILR6ACP=1074]	.059	.000					
	[ILR6ACP=1352]	.059	.000					

	[ILR6ACP=3544]	.059	.000				
	[ILR6ACP=5984]	.059	.000				
	[ILR9PATR=-16.80]	.059	.000				
	[ILR9PATR=.00]	.000	.067				
	[ILR9PATR=.05]	.059	.000				
	[ILR9PATR=.13]	.059	.000				
	[ILR9PATR=.34]	.000	.067				
	[ILR9PATR=.51]	.059	.000				
	[ILR9PATR=.59]	.000	.067				
	[ILR9PATR=.61]	.059	.000				
	[ILR9PATR=.69]	.000	.067				
	[ILR9PATR=.70]	.059	.000				
	[ILR9PATR=.75]	.059	.000				
	[ILR9PATR=.95]	.059	.000				
	[ILR9PATR=1.04]	.059	.000				
	[ILR9PATR=1.37]	.000	.067				
	[ILR9PATR=1.50]	.000	.067				
	[ILR9PATR=1.60]	.000	.067				
	[ILR9PATR=1.62]	.059	.000				
	[ILR9PATR=1.85]	.000	.067				
	[ILR9PATR=2.08]	.000	.067				
	[ILR9PATR=3.49]	.000	.067				
	[ILR9PATR=4.65]	.059	.000				
	[ILR9PATR=4.88]	.000	.067				
	[ILR9PATR=4.89]	.000	.067				
	[ILR9PATR=5.30]	.059	.000				
	[ILR9PATR=5.38]	.059	.000				
	[ILR9PATR=5.60]	.000	.067				
	[ILR9PATR=6.43]	.000	.067				
	[ILR9PATR=9.24]	.059	.000				
	[ILR9PATR=16.60]	.000	.067				
	[ILR9PATR=29.37]	.059	.000				

	[ILR9PATR=45.11]	.059	.000					
	[ILR9PATR=1557.00]	.059	.000					
	[ILR10APP=-21]	.059	.000					
	[ILR10APP=0]	.059	.000					
	[ILR10APP=8]	.059	.000					
	[ILR10APP=12]	.059	.000					
	[ILR10APP=22]	.000	.067					
	[ILR10APP=40]	.059	.000					
	[ILR10APP=57]	.000	.067					
	[ILR10APP=65]	.000	.067					
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	[ILR10APP=78]	.059	.000					
	[ILR10APP=105]	.000	.067					
	[ILR10APP=175]	.000	.067					
	[ILR10APP=197]	.000	.067					
	[ILR10APP=225]	.059	.000					
	[ILR10APP=228]	.000	.067					
	[ILR10APP=243]	.000	.067					
	[ILR10APP=266]	.000	.067					
	[ILR10APP=351]	.059	.000					
	[ILR10APP=384]	.059	.000					
	[ILR10APP=487]	.059	.000					
	[ILR10APP=521]	.059	.000					
	[ILR10APP=529]	.000	.067					
	[ILR10APP=598]	.059	.000					
	[ILR10APP=619]	.000	.067					
	[ILR10APP=716]	.059	.000					
	[ILR10APP=1073]	.000	.067					
	[ILR10APP=2807]	.059	.000					

	[ILR10APP=7300]	.059	.000					
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	[OE5NPM=-.53%]	.059	.000					
	[OE5NPM=.02%]	.059	.000					
	[OE5NPM=.03%]	.000	.067					
	[OE5NPM=.05%]	.059	.000					
	[OE5NPM=.06%]	.000	.067					
	[OE5NPM=.07%]	.000	.067					
	[OE5NPM=.08%]	.059	.000					
	[OE5NPM=.14%]	.059	.067					
	[OE5NPM=.21%]	.059	.000					
	[OE5NPM=.26%]	.059	.000					
	[OE5NPM=.39%]	.059	.000					
	[OE5NPM=1.47%]	.059	.000					
	[OE5NPM=2.50%]	.000	.133					
	[OE5NPM=3.50%]	.000	.067					
	[OE5NPM=4.80%]	.059	.000					
	[OE5NPM=6.00%]	.000	.067					
	[OE5NPM=6.30%]	.000	.067					
	[OE5NPM=6.80%]	.000	.067					
	[OE5NPM=6.90%]	.000	.067					
	[OE5NPM=7.50%]	.000	.133					
	[OE5NPM=7.70%]	.059	.000					
	[OE5NPM=9.40%]	.000	.067					
	[OE5NPM=18.00%]	.059	.000					
	[OE5NPM=18.10%]	.059	.000					
	[OE5NPM=18.18%]	.059	.000					
	[OE5NPM=38.00%]	.059	.000					
	[OE7ROE=-13.28%]	.059	.000					
	[OE7ROE=-.10%]	.059	.000					
	[OE7ROE=.00%]	.059	.333					
	[OE7ROE=.02%]	.059	.000					

	[OE7ROE=.06%]	.059	.067					
	[OE7ROE=.12%]	.000	.067					
	[OE7ROE=.14%]	.000	.067					
	[OE7ROE=.16%]	.118	.000					
	[OE7ROE=.20%]	.000	.067					
	[OE7ROE=.36%]	.059	.000					
	[OE7ROE=.39%]	.000	.067					
	[OE7ROE=.48%]	.059	.000					
	[OE7ROE=.79%]	.059	.000					
	[OE7ROE=4.70%]	.000	.067					
	[OE7ROE=9.44%]	.059	.000					
	[OE7ROE=9.50%]	.000	.067					
	[OE7ROE=11.00%]	.000	.067					
	[OE7ROE=12.60%]	.059	.000					
	[OE7ROE=14.00%]	.059	.000					
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	[OE7ROE=59.00%]	.059	.000					
	[OE7ROE=131.00%]	.000	.067					
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	[GA1ROA=-4.16]	.059	.000					
	[GA1ROA=-.07]	.059	.000					
	[GA1ROA=.00]	.118	.000					
	[GA1ROA=.01]	.059	.000					
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	[GA1ROA=.03]	.000	.067					
	[GA1ROA=.05]	.000	.067					
	[GA1ROA=.06]	.059	.067					
	[GA1ROA=.07]	.000	.067					
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	[GA1ROA=.23]	.059	.000					
	[GA1ROA=.27]	.059	.000					
	[GA1ROA=.28]	.000	.067					
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	[OE8TAN=31.566976235295%]	.000	.067					
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	[@EQ=100115135]	.000	.067					
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	[@EQ=126298437]	.059	.000					
	[@EQ=177663527]	.059	.000					

	[@EQ=303025325]	.059	.000					
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	[@EQ=1347810200]	.059	.000					
	[@EQ=40432622000]	.000	.067					
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	[RA4LEV=.92]	.000	.067					
	[RA4LEV=.93]	.059	.000					
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	[BoS=17.34]	.059	.000					
	[BoS=17.69]	.000	.067					
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	[BoS=17.99]	.059	.000					
	[BoS=18.06]	.000	.067					
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	[BoS=18.76]	.000	.067					
	[BoS=18.93]	.000	.067					
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	[BoS=19.55]	.000	.067					
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	[BoS=25.12]	.000	.067					
	[Ownership Gender=0]	.176	.000					
	[Ownership	.529	1.000					

	Gender=1]							
	[Ownership Gender=2]	.294	.000					
	[Equity Origin=0]	.824	1.000					
	[Equity Origin=2]	.176	.000					
	[Borrowers' Status=0]	.176	.000					
	[Borrowers' Status=1]	.824	1.000					
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	[CV=359256.80]	.000	.067					
	[CV=798149.01]	.000	.067					
	[CV=988825.97]	.059	.000					
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	[CV=1851393.01]	.000	.067					
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	[CV=3282505.97]	.000	.067					
	[CV=3717009.80]	.059	.000					
	[CV=4998943.14]	.059	.000					
	[CV=9235938.41]	.059	.000					
	[CV=12194738.14]	.059	.000					
	[CV=13897832.76]	.059	.000					
	[CV=14286325.19]	.059	.000					
	[CV=23002335.79]	.000	.067					
	[CV=23232231.64]	.059	.000					
	[CV=44155401.78]	.000	.067					
	[CV=55749065.62]	.000	.067					
	[CV=68934158.57]	.000	.067					
	[CV=75777545.47]	.000	.067					
	[CV=81956750.05]	.059	.000					

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	Administrator Gender	-.417	.473					
	Business administration	.211	-.239					
	Owners No	.222	-.251					
	Firm Age	-.228	.258					
	INV	-.180	.203					
	ILR2WC	-.174	.197					
	ILR4CR	.217	-.246					
	OE2FATR	.056	-.064					
	GA2OCF	-.178	.202					
	OE6AT	-.037	.042					
	ILR7ITR	.243	-.275					
Hidden Unit Width		1.673	1.529					
Hidden Layer	H(1)			.016	.031	-.151	.283	.050
	H(2)			-.032	-.061	.296	-.553	-.098

a. Displays the center vector for each hidden unit.

Table 46. Parameters estimates/RBF-in service sector
Source: Primary data collection, Author elaboration with SPSS

APPENDIX C- Risk –Adjusted approaches estimations

Levene's Test of Equality of Error Variance[a]

Dependent Variable:GA1-ROE

F	df1	df2	Sig.
.778	2	30	.469

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Ownerships Gender

Table 1. Levene's Test of Equality of Errors' Variances (Ownerships gender vs ROE) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
2.236	2	30	.124

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Ownerships Gender

Table 2. Levene's Test of Equality of Errors' Variances (Ownerships gender vs ROE) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.521	2	28	.600

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Ownerships Gender

Table 3. Levene's Test of Equality of Errors' Variances (Ownerships gender vs ROE) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variancesa

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.888	2	29	.422

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Ownerships Gender

Table 4. Levene's Test of Equality of Errors' Variances (Ownerships gender vs ROE) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
28.398	2	30	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin

Table 5. Levene's Test of Equality of Errors' Variances (Equity origin vs GOM) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
2.336	2	30	.114

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin

Table 6. Levene's Test of Equality of Errors' Variances (Equity origin vs GOM) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
12.292	1	23	.002

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin

Table 7. Levene's Test of Equality of Errors' Variances (Equity origin vs GOM) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:GA-1 ROA

F	df1	df2	Sig.
4.249	1	31	.048

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Business administration

Table 8. Levene's Test of Equality of Errors' Variances (Business administration vs ROA) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:GA-1 ROA

F	df1	df2	Sig.
13.114	1	31	.001

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Business administration

Table 9. Levene's Test of Equality of Errors' Variances (Business administration vs ROA) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:GA-1 ROA

F	df1	df2	Sig.
2.504	1	30	.124

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Business administration

Table 10. Levene's Test of Equality of Errors' Variances (Business administration vs ROA) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:GA-1 ROA

F	df1	df2	Sig.
4.930	1	30	.034

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Business administration

Table 11. Levene's Test of Equality of Errors' Variances (Business administration vs ROA) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.677	1	31	.417

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status

Table 12. Levene's Test of Equality of Errors' Variances (Borrowers' status vs ROE) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
3.488	1	31	.071

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status

Table 13. Levene's Test of Equality of Errors' Variances (Borrowers' status vs ROE) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
1.032	1	29	.318

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status

Table 14. Levene's Test of Equality of Errors' Variances (Borrowers' status vs ROE) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.319	1	30	.577

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Borrowers' Status

Table 15. Levene's Test of Equality of Errors' Variances (Borrowers' status vs ROE) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
1.840	2	30	.176

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender

Table 16. Levene's Test of Equality of Errors' Variances (Administrators gender vs GOM) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
.402	1	31	.531

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender

Table 17. Levene's Test of Equality of Errors' Variances (Administrators gender vs GOM) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
.171	1	31	.682

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender

Table 18. Levene's Test of Equality of Errors' Variances (Administrators gender vs GOM) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
4.433	1	23	.046

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Administrators Gender

Table 19. Levene's Test of Equality of Errors' Variances (Administrators gender vs GOM) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
.262	26	6	.993

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + RA1LTDER * Borrowers' Status + RA1LTDER + Borrowers' Status

Table 20. Levene's Test of Equality of Errors' Variances (Borrowers' status and LTDER vs GOM) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
.	32	0	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a.Design: Intercept + RA1LTDER + Borrowers' Status + RA1LTDER * Borrowers' Status

Table 21. Levene's Test of Equality of Errors' Variances (Borrowers' status and LTDER vs GOM) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
.	32	0	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + RA1LTDER + Borrowers' Status + RA1LTDER * Borrowers' Status

Table 22. Levene's Test of Equality of Errors' Variances (Borrowers' status and LTDER vs GOM) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-4 GOM

F	df1	df2	Sig.
1.027	16	8	.511

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a.Design: Intercept + Borrowers' Status + RA1LTDER + Borrowers' Status * RA1LTDER

Table 23. Levene's Test of Equality of Errors' Variances (Borrowers' status and LTDER vs GOM) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:GA1-ROE

F	df1	df2	Sig.
.	31	1	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a.Design: Intercept + ILR5RATR + Business administration + ILR5RATR * Business administration

Table 24. Levene's Test of Equality of Errors' Variances (Business administration framework and RATR vs ROE) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.474	23	9	.928

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + ILR5RATR + Business administration + ILR5RATR * Business administration

Table 25. Levene's Test of Equality of Errors' Variances (Business administration framework and RATR vs ROE) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.573	19	11	.862

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + ILR5RATR + Business administration + ILR5RATR * Business administration

Table 26. Levene's Test of Equality of Errors' Variances (Business administration framework and RATR vs ROE) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.	30	1	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + ILR5RATR + Business administration + ILR5RATR * Business administration

Table 27. Levene's Test of Equality of Errors' Variances (Business administration framework and RATR vs ROE) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:GA-1 ROA

F	df1	df2	Sig.
.	32	0	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin + BoS + Firm Age + Equity Origin * BoS * Firm Age

Table 28. Levene's Test of Equality of Errors' Variances (Equity origin, business size and firm age vs ROA) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:GA-1 ROA

F	df1	df2	Sig.
.	32	0	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Equity Origin + Firm Age + BoS + Equity Origin * Firm Age * BoS

Table 29. Levene's Test of Equality of Errors' Variances (Equity origin, business size and firm age vs ROA) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:GA-1 ROA

F	df1	df2	Sig.
.	31	0	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Firm Age + Equity Origin + BoS + Firm Age * Equity Origin * BoS

Table 30. Levene's Test of Equality of Errors' Variances (Equity origin, business size and firm age vs ROA) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:GA-1 ROA

F	df1	df2	Sig.
.	31	0	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Firm Age + Equity Origin + BoS + Firm Age * Equity Origin * BoS

Table 31. Levene's Test of Equality of Errors' Variances (Equity origin, business size and firm age vs ROA) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
GA-1 ROA	.468	29	3	.883
GA1-ROE	.563	29	3	.826

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + OE8TAN + Firm age_A + Borrowers' Status + OE8TAN * Firm age_A * Borrowers' Status

Table 32. Levene's Test of Equality of Errors' Variances (Borrowers' status, assets tangibility and firm age vs ROA and ROE) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
OE-7 ROE	.	31	1	.
GA-1 ROA	.	31	1	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + OE8TAN + Firm age_A + Borrowers' Status + OE8TAN * Firm age_A * Borrowers' Status

Table 33. Levene's Test of Equality of Errors' Variances (Borrowers' status, assets tangibility and firm age vs ROA and ROE) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
OE-7 ROE	.	29	1	.
GA-1 ROA	.	29	1	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + OE8TAN + Firm age_A + Borrowers' Status + OE8TAN * Firm age_A * Borrowers' Status

Table 34. Levene's Test of Equality of Errors' Variances (Borrowers' status, assets tangibility and firm age vs ROA and ROE) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
OE-7 ROE	.	31	0	.
GA-1 ROA	.	31	0	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + OE8TAN + Firm age_A + Borrowers' Status + OE8TAN * Firm age_A * Borrowers' Status

Table 35. Levene's Test of Equality of Errors' Variances (Borrowers' status, assets tangibility and firm age vs ROA and ROE) in service sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.	32	0	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Business administration + ILR11MCC + OE5NPM + Business administration * ILR11MCC * OE5NPM

Table 36. Levene's Test of Equality of Errors' Variances (Business administration framework, MCC and NPM vs ROE) in trade sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.186	29	2	.990

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + ILR11MCC + OE5NPM + Business administration + ILR11MCC * OE5NPM * Business administration

Table 37. Levene's Test of Equality of Errors' Variances (Business administration framework, MCC and NPM vs ROE) in production sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.352	24	6	.969

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + OE5NPM + ILR11MCC + Business administration + OE5NPM * ILR11MCC * Business administration

Table 38. Levene's Test of Equality of Errors' Variances (Business administration framework, MCC and NPM vs ROE) in construction sector
Source: Primary data collection, Author elaboration with SPSS

Levene's Test of Equality of Error Variances[a]

Dependent Variable:OE-7 ROE

F	df1	df2	Sig.
.	30	0	

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + ILR11MCC + OE5NPM + Business administration + ILR11MCC * OE5NPM * Business administration

Table 39. Levene's Test of Equality of Errors' Variances (Business administration framework, MCC and NPM vs ROE) in service sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted				
		Hidden Layer[a]		Output Layer		
Predictor		H(1)	H(2)	OE7ROE	GA1ROA	OE4GOM
Input Layer	[RA1LTDER=.0]	.071	.000			
	[RA1LTDER=.1]	.071	.000			
	[RA1LTDER=.3]	.000	.059			
	[RA1LTDER=.4]	.143	.000			
	[RA1LTDER=.5]	.000	.118			

	[RA1LTDER=.6]	.000	.059			
	[RA1LTDER=.7]	.000	.059			
	[RA1LTDER=.8]	.000	.059			
	[RA1LTDER=.9]	.000	.059			
	[RA1LTDER=1.1]	.000	.059			
	[RA1LTDER=2.0]	.071	.000			
	[RA1LTDER=2.1]	.000	.059			
	[RA1LTDER=3.5]	.000	.059			
	[RA1LTDER=22.1]	.071	.000			
	[RA1LTDER=22.2]	.000	.059			
	[RA1LTDER=47.9]	.071	.000			
	[RA5LTLEV=.00]	.857	.059			
	[RA5LTLEV=.09]	.000	.059			
	[RA5LTLEV=.16]	.000	.059			
	[RA5LTLEV=.18]	.000	.059			
	[RA5LTLEV=.19]	.000	.059			
	[RA5LTLEV=.23]	.000	.059			
	[RA5LTLEV=.26]	.000	.059			
	[RA5LTLEV=.27]	.000	.059			
	[RA5LTLEV=.34]	.000	.059			
	[RA5LTLEV=.42]	.000	.059			
	[RA5LTLEV=.44]	.000	.059			
	[RA5LTLEV=.46]	.000	.059			
	[RA5LTLEV=.50]	.000	.059			
	[RA5LTLEV=.53]	.071	.000			
	[RA5LTLEV=.58]	.000	.059			
	[RA5LTLEV=.66]	.000	.059			

	[RA5LTLEV=.68]	.000	.059			
	[RA5LTLEV=.84]	.000	.059			
	[RA5LTLEV=.94]	.071	.000			
	[LTD=0]	.857	.059			
	[LTD=700000]	.000	.059			
	[LTD=1100000]	.000	.059			
	[LTD=2200594]	.000	.059			
	[LTD=4470343]	.000	.059			
	[LTD=5601160]	.000	.059			
	[LTD=6263723]	.000	.059			
	[LTD=7861872]	.000	.059			
	[LTD=11194329]	.071	.000			
	[LTD=11755000]	.000	.059			
	[LTD=17051317]	.000	.059			
	[LTD=17883211]	.000	.059			
	[LTD=25590845]	.000	.059			
	[LTD=48951962]	.000	.059			
	[LTD=70807301]	.000	.059			
	[LTD=145700000]	.000	.059			
	[LTD=263458441]	.071	.000			
	[LTD=273113251]	.000	.059			
	[LTD=424526088]	.000	.059			
	[RA3ICR=-59.5]	.071	.000			
	[RA3ICR=-59.4]	.071	.000			
	[RA3ICR=-16.7]	.071	.000			
	[RA3ICR=.0]	.357	.412			
	[RA3ICR=.5]	.000	.059			

	[RA3ICR=1.2]	.000	.059			
	[RA3ICR=2.6]	.071	.000			
	[RA3ICR=4.2]	.071	.000			
	[RA3ICR=5.0]	.071	.000			
	[RA3ICR=5.7]	.000	.059			
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	[RA3ICR=137.6]	.000	.059			
	[RA3ICR=157.9]	.071	.000			
	[RA3ICR=16384.6]	.071	.000			
	[RA3ICR=16546.5]	.071	.000			
	[RA3ICR=34696.0]	.000	.059			
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	[STD=138925]	.071	.000			
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	[STD=900753]	.000	.059			
	[STD=1362239]	.000	.059			
	[STD=1428617]	.071	.000			
	[STD=1453516]	.071	.000			
	[STD=1618028]	.000	.059			
	[STD=1709627]	.000	.059			
	[STD=1787664]	.071	.000			
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	[STD=2347975]	.000	.059			

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	[STD=2713608]	.000	.059			
	[STD=5259617]	.000	.059			
	[STD=7239035]	.071	.000			
	[STD=8107647]	.000	.059			
	[STD=9800973]	.000	.059			
	[STD=9915723]	.071	.000			
	[STD=16490770]	.000	.059			
	[STD=19278729]	.071	.000			
	[STD=19600003]	.071	.000			
	[STD=27349268]	.000	.059			
	[STD=27642086]	.000	.059			
	[STD=37101226]	.000	.059			
	[STD=45105047]	.000	.059			
	[STD=60366736]	.143	.000			
	[STD=74126174]	.000	.059			
	[STD=105698336]	.000	.059			
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	[ILR2WC=-16407182]	.000	.059			
	[ILR2WC=-5285909]	.071	.000			
	[ILR2WC=-1838946]	.071	.000			
	[ILR2WC=-800537]	.071	.000			
	[ILR2WC=-783046]	.071	.000			
	[ILR2WC=110938]	.071	.000			
	[ILR2WC=296864]	.000	.118			
	[ILR2WC=622925]	.071	.000			
	[ILR2WC=1046584]	.000	.059			

	[ILR2WC=1475356]	.071	.000			
	[ILR2WC=2757892]	.000	.059			
	[ILR2WC=2916965]	.071	.000			
	[ILR2WC=3186377]	.000	.059			
	[ILR2WC=4768283]	.071	.000			
	[ILR2WC=6382397]	.000	.059			
	[ILR2WC=7336127]	.071	.000			
	[ILR2WC=8504292]	.000	.059			
	[ILR2WC=8542685]	.071	.000			
	[ILR2WC=18565032]	.000	.059			
	[ILR2WC=22452720]	.000	.059			
	[ILR2WC=25445826]	.000	.059			
	[ILR2WC=32354554]	.000	.059			
	[ILR2WC=61120861]	.000	.059			
	[ILR2WC=95533756]	.000	.059			
	[ILR2WC=255509460]	.000	.059			
	[ILR2WC=277822578]	.071	.000			
	[ILR2WC=354608237]	.000	.059			
	[ILR2WC=456357082]	.000	.059			
	[ILR5RATR=.0]	.071	.059			
	[ILR5RATR=.3]	.071	.000			
	[ILR5RATR=.4]	.000	.059			
	[ILR5RATR=.5]	.071	.000			
	[ILR5RATR=.6]	.071	.000			
	[ILR5RATR=1.9]	.000	.059			
	[ILR5RATR=2.0]	.071	.000			
	[ILR5RATR=2.7]	.000	.059			

	[ILR5RATR=4.5]	.071	.000			
	[ILR5RATR=4.8]	.000	.059			
	[ILR5RATR=6.4]	.071	.000			
	[ILR5RATR=6.9]	.071	.000			
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	[ILR5RATR=12.3]	.000	.059			
	[ILR5RATR=13.9]	.071	.000			
	[ILR5RATR=23.3]	.071	.000			
	[ILR5RATR=27.8]	.000	.059			
	[ILR5RATR=63.6]	.071	.000			
	[ILR5RATR=66.5]	.071	.000			
	[ILR5RATR=89.0]	.000	.059			
	[ILR5RATR=128.0]	.000	.059			
	[ILR5RATR=526.9]	.071	.000			
	[ILR5RATR=593.4]	.000	.059			
	[ILR5RATR=3266.4]	.000	.059			
	[ILR5RATR=3974.0]	.000	.059			
	[ILR11MCC=-475]	.000	.059			
	[ILR11MCC=-116]	.071	.000			
	[ILR11MCC=-42]	.071	.000			
	[ILR11MCC=-27]	.000	.059			
	[ILR11MCC=-14]	.000	.059			
	[ILR11MCC=-7]	.071	.000			
	[ILR11MCC=8]	.071	.000			

	[ILR11MCC=11]	.071	.000			
	[ILR11MCC=12]	.000	.059			
	[ILR11MCC=32]	.000	.059			
	[ILR11MCC=35]	.000	.059			
	[ILR11MCC=43]	.000	.059			
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	[ILR11MCC=98]	.000	.059			
	[ILR11MCC=113]	.071	.000			
	[ILR11MCC=119]	.000	.059			
	[ILR11MCC=128]	.000	.059			
	[ILR11MCC=141]	.071	.000			
	[ILR11MCC=142]	.071	.000			
	[ILR11MCC=168]	.000	.059			
	[ILR11MCC=209]	.000	.059			
	[ILR11MCC=564]	.000	.059			
	[ILR11MCC=613]	.071	.000			
	[ILR11MCC=640]	.071	.000			
	[ILR11MCC=819]	.071	.000			
	[ILR11MCC=1392]	.071	.000			
	[ILR11MCC=2255]	.000	.059			
	[ILR11MCC=21770]	.000	.059			
	[OE5NPM=-3.54]	.143	.000			
	[OE5NPM=-.21]	.071	.000			
	[OE5NPM=-.06]	.071	.000			
	[OE5NPM=.00]	.071	.000			

[OE5NPM=.01]	.000	.059			
[OE5NPM=.02]	.000	.059			
[OE5NPM=.03]	.000	.059			
[OE5NPM=.04]	.000	.059			
[OE5NPM=.05]	.071	.000			
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[OE5NPM=.10]	.000	.059			
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[OE5NPM=.23]	.000	.059			
[OE5NPM=.24]	.071	.000			
[OE5NPM=.51]	.071	.000			
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[OE8TAN=.001606161226]	.071	.000			
[OE8TAN=.002878782635]	.000	.059			
[OE8TAN=.006710047006]	.000	.059			
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[OE8TAN=.083335715631]	.000	.059			
[OE8TAN=.087778793229]	.071	.000			
[OE8TAN=.121975419306]	.000	.059			
[OE8TAN=.145065897242]	.000	.059			
[OE8TAN=.170353886490]	.071	.000			
[OE8TAN=.177335106867]	.000	.059			
[OE8TAN=.238005180276]	.000	.059			
[OE8TAN=.267121685103]	.000	.059			
[OE8TAN=.278355318823]	.071	.000			
[OE8TAN=.316158489640]	.000	.059			

	[OE8TAN=.326321129820]	.000	.059			
	[OE8TAN=.354710127050]	.071	.000			
	[OE8TAN=.372805266496]	.000	.059			
	[OE8TAN=.478928897119]	.071	.000			
	[OE8TAN=.508668827982]	.000	.059			
	[OE8TAN=.667528088165]	.000	.059			
	[OE8TAN=.714581853071]	.000	.059			
	[OE8TAN=.719468752248]	.071	.000			
	[OE8TAN=.778290538487]	.071	.000			
	[OE8TAN=.847202814370]	.000	.059			
	[OE8TAN=.869289700988]	.143	.000			
	[BS=13.82]	.071	.000			
	[BS=14.26]	.071	.000			
	[BS=14.32]	.071	.000			
	[BS=14.89]	.071	.000			
	[BS=15.58]	.071	.000			
	[BS=15.68]	.000	.059			
	[BS=15.77]	.000	.059			
	[BS=15.82]	.000	.059			
	[BS=15.87]	.000	.059			
	[BS=15.99]	.071	.000			
	[BS=16.36]	.071	.000			
	[BS=16.46]	.071	.000			
	[BS=16.77]	.071	.000			
	[BS=16.87]	.071	.000			
	[BS=16.98]	.000	.059			
	[BS=16.99]	.000	.059			

	[BS=17.20]	.071	.000			
	[BS=17.23]	.000	.059			
	[BS=17.48]	.000	.059			
	[BS=17.52]	.000	.059			
	[BS=18.61]	.000	.059			
	[BS=18.77]	.000	.059			
	[BS=19.03]	.000	.059			
	[BS=19.17]	.143	.000			
	[BS=19.45]	.071	.000			
	[BS=19.62]	.000	.059			
	[BS=19.84]	.000	.059			
	[BS=20.25]	.000	.059			
	[Ownership Gender=0]	.143	.294			
	[Ownership Gender=1]	.714	.647			
	[Ownership Gender=2]	.143	.059			
	[Equity Origin=0]	.714	1.000			
	[Equity Origin=1]	.143	.000			
	[Equity Origin=2]	.143	.000			
	[Borrowers' Status=0]	.214	.000			
	[Borrowers' Status=1]	.786	1.000			
	[Business administration=0]	.714	.941			
	[Business administration=1]	.286	.059			
	[Administrator Gender=0]	.143	.235			
	[Administrator Gender=1]	.857	.706			
	[Administrator Gender=2]	.000	.059			
	[Firm age_A=0]	.000	.059			
	[Firm age_A=1]	.429	.588			

	[Firm age_A=2]	.571	.353			
	ILR6ACP	.205	-.169			
	ILR9PATR	.132	-.109			
	CV	.095	-.078			
	FA	.095	-.078			
	OE9ITA	-.256	.211			
	INV	-.405	.333			
	STA	-.301	.248			
	Owners No	.213	-.175			
Hidden Unit Width		1.490	1.341			
Hidden Layer	H(1)			.267	-.182	-.664
	H(2)			-.478	.325	1.187

a. Displays the center vector for each hidden unit.

Table 40. Parameters estimates/RBF-in trade sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted				
		Hidden Layer[a]		Output Layer		
Predictor		H(1)	H(2)	OE7ROE	GA1ROA	OE4GOM
Input Layer	[RA1LTDER=-.39]	.077	.000			
	[RA1LTDER=-.22]	.000	.111			
	[RA1LTDER=.02]	.000	.111			
	[RA1LTDER=.14]	.000	.111			
	[RA1LTDER=.56]	.077	.000			
	[RA1LTDER=.65]	.077	.000			
	[RA1LTDER=.70]	.077	.000			
	[RA1LTDER=4.90]	.077	.000			

	[RA1LTDER=6.28]	.000	.111			
	[RA1LTDER=20.00]	.000	.111			
	[RA1LTDER=43.00]	.000	.111			
	[RA1LTDER=66.00]	.000	.111			
	[RA1LTDER=81.00]	.077	.000			
	[RA1LTDER=127.00]	.077	.000			
	[RA1LTDER=302.00]	.000	.111			
	[RA1LTDER=346.00]	.077	.000			
	[RA1LTDER=414.00]	.077	.000			
	[RA1LTDER=890.00]	.077	.000			
	[RA1LTDER=1090.00]	.077	.000			
	[RA1LTDER=1200.00]	.000	.111			
	[RA1LTDER=1203.00]	.077	.000			
	[RA1LTDER=1255.00]	.077	.000			
	[RA5LTLEV=.00]	.000	.111			
	[RA5LTLEV=.01]	.077	.000			
	[RA5LTLEV=.02]	.000	.111			
	[RA5LTLEV=.13]	.000	.111			
	[RA5LTLEV=.16]	.077	.000			
	[RA5LTLEV=.18]	.077	.000			
	[RA5LTLEV=.21]	.077	.000			
	[RA5LTLEV=.27]	.000	.111			
	[RA5LTLEV=.37]	.077	.000			
	[RA5LTLEV=.42]	.077	.000			
	[RA5LTLEV=.56]	.000	.111			
	[RA5LTLEV=.66]	.077	.000			
	[RA5LTLEV=.83]	.077	.000			

	[RA5LTLEV=.85]	.000	.111			
	[RA5LTLEV=.92]	.077	.000			
	[RA5LTLEV=.98]	.000	.111			
	[RA5LTLEV=7.53]	.000	.111			
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	[LTD=21450]	.077	.000			
	[LTD=1096248]	.000	.111			
	[LTD=4389163]	.077	.000			
	[LTD=4907268]	.000	.111			
	[LTD=11315916]	.000	.111			
	[LTD=11501441]	.077	.000			
	[LTD=12452824]	.077	.000			
	[LTD=35929596]	.000	.111			
	[LTD=41000000]	.000	.111			
	[LTD=63036495]	.000	.111			
	[LTD=74620013]	.077	.000			
	[LTD=88643359]	.077	.000			
	[LTD=120980364]	.077	.000			
	[LTD=167997536]	.000	.111			
	[LTD=177742864]	.077	.000			
	[LTD=194419337]	.077	.000			
	[LTD=242287673]	.077	.000			
	[LTD=283190496]	.077	.000			
	[LTD=381884815]	.077	.000			
	[LTD=3260503300]	.000	.111			
	[RA3ICR=-67]	.077	.000			
	[RA3ICR=-10]	.077	.000			

	[RA3ICR=0]	.538	.667			
	[RA3ICR=1]	.000	.111			
	[RA3ICR=2]	.077	.000			
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	[RA3ICR=171]	.000	.111			
	[RA3ICR=629]	.077	.000			
	[STD=0]	.231	.000			
	[STD=21450]	.077	.000			
	[STD=142747]	.000	.111			
	[STD=557978]	.000	.111			
	[STD=1085448]	.000	.111			
	[STD=1244114]	.077	.000			
	[STD=4062057]	.000	.111			
	[STD=12431236]	.077	.000			
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	[STD=35790671]	.077	.000			
	[STD=44650049]	.000	.111			
	[STD=54628670]	.077	.000			
	[STD=63036495]	.000	.111			
	[STD=100908252]	.000	.111			
	[STD=134633845]	.077	.000			
	[STD=188841328]	.077	.000			
	[STD=189548721]	.000	.111			
	[STD=503856392]	.077	.000			
	[STD=594464132]	.077	.000			
	[STD=974362860]	.077	.000			

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	[ILR2WC=-115239196]	.077	.000			
	[ILR2WC=-50516408]	.000	.111			
	[ILR2WC=-23201732]	.000	.111			
	[ILR2WC=-10877023]	.077	.000			
	[ILR2WC=-8947856]	.077	.000			
	[ILR2WC=-88244]	.000	.111			
	[ILR2WC=-31181]	.000	.111			
	[ILR2WC=2540627]	.077	.000			
	[ILR2WC=2763462]	.077	.000			
	[ILR2WC=2767740]	.077	.000			
	[ILR2WC=3312280]	.077	.000			
	[ILR2WC=3912584]	.000	.111			
	[ILR2WC=21186646]	.000	.111			
	[ILR2WC=22569048]	.077	.000			
	[ILR2WC=58627219]	.000	.111			
	[ILR2WC=102755122]	.077	.000			
	[ILR2WC=108095892]	.077	.000			
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	[ILR5RATR=0]	.000	.111			
	[ILR5RATR=1]	.077	.000			
	[ILR5RATR=2]	.077	.000			
	[ILR5RATR=5]	.077	.000			
	[ILR5RATR=8]	.077	.000			

	[ILR5RATR=11]	.000	.111			
	[ILR5RATR=14]	.077	.000			
	[ILR5RATR=15]	.077	.000			
	[ILR5RATR=31]	.077	.000			
	[ILR5RATR=41]	.077	.000			
	[ILR5RATR=66]	.077	.000			
	[ILR11MCC=-3627]	.000	.111			
	[ILR11MCC=-3389]	.000	.111			
	[ILR11MCC=-895]	.077	.000			
	[ILR11MCC=-773]	.077	.000			
	[ILR11MCC=-670]	.077	.000			
	[ILR11MCC=-167]	.077	.000			
	[ILR11MCC=-108]	.077	.000			
	[ILR11MCC=-84]	.000	.111			
	[ILR11MCC=0]	.000	.111			
	[ILR11MCC=25]	.077	.000			
	[ILR11MCC=97]	.077	.000			
	[ILR11MCC=301]	.077	.000			
	[ILR11MCC=462]	.077	.000			
	[ILR11MCC=500]	.000	.111			
	[ILR11MCC=576]	.000	.111			
	[ILR11MCC=842]	.077	.000			
	[ILR11MCC=1344]	.000	.111			
	[ILR11MCC=1657]	.077	.000			
	[ILR11MCC=2013]	.077	.000			
	[ILR11MCC=2878]	.000	.111			
	[ILR11MCC=4563]	.000	.111			

	[ILR11MCC=18506]	.077	.000			
	[OE5NPM=-1]	.000	.111			
	[OE5NPM=0]	.077	.000			
	[OE5NPM=1]	.077	.000			
	[OE5NPM=2]	.077	.000			
	[OE5NPM=3]	.077	.000			
	[OE5NPM=5]	.077	.000			
	[OE5NPM=6]	.000	.111			
	[OE5NPM=7]	.077	.000			
	[OE5NPM=9]	.000	.111			
	[OE5NPM=24]	.077	.000			
	[OE5NPM=26]	.077	.000			
	[OE5NPM=45]	.000	.111			
	[OE5NPM=88]	.000	.111			
	[OE8TAN=0]	.077	.000			
	[OE8TAN=1]	.000	.111			
	[Firmage_A=0]	.077	.000			
	[Firmage_A=1]	.615	.111			
	[Firmage_A=2]	.308	.889			
	[BS=14.91]	.077	.000			
	[BS=15.38]	.077	.000			
	[BS=16.82]	.000	.111			
	[BS=17.24]	.077	.000			
	[BS=17.42]	.000	.111			
	[BS=17.66]	.077	.000			
	[BS=17.69]	.000	.111			
	[BS=18.31]	.077	.000			

	[BS=18.41]	.000	.111			
	[BS=19.03]	.077	.000			
	[BS=19.08]	.077	.000			
	[BS=19.24]	.000	.111			
	[BS=19.88]	.077	.000			
	[BS=19.89]	.000	.111			
	[BS=20.02]	.000	.111			
	[BS=20.24]	.000	.111			
	[BS=20.28]	.077	.000			
	[BS=20.34]	.000	.111			
	[BS=20.64]	.077	.000			
	[BS=20.92]	.077	.000			
	[BS=21.01]	.077	.000			
	[BS=21.17]	.077	.000			
	[Ownership Gender=0]	.385	.667			
	[Ownership Gender=1]	.462	.222			
	[Ownership Gender=2]	.154	.111			
	[Borrowers' Status=0]	.077	.333			
	[Borrowers' Status=1]	.923	.667			
	[Administrator Gender=0]	.154	.000			
	[Administrator Gender=1]	.846	1.000			
	[Business administration=0]	.692	.444			
	[Business administration=1]	.308	.556			
	ILR6ACP	-.226	.326			
	ILR9PATR	-.206	.297			
	CV	.196	-.283			
	FA	.196	-.283			

	OE9ITA	.235	-.339			
	INV	.250	-.360			
	STA	.109	-.158			
	Owners No	-.310	.448			
Hidden Unit Width		1.461	1.339			
Hidden Layer	H(1)			.338	-.303	-.570
	H(2)			-.655	.587	1.104

a. Displays the center vector for each hidden unit.

Table 41. Parameters estimates/RBF-in production sector
Source: Primary data collection, Author elaboration with SPSS

		Predicted				
		Hidden Layer[a]		Output Layer		
Predictor		H(1)	H(2)	OE7ROE	GA1ROA	OE4GOM
Input Layer	[RA1LTDER=.01]	.125	.000			
	[RA1LTDER=.13]	.125	.000			
	[RA1LTDER=.17]	.000	.125			
	[RA1LTDER=.22]	.125	.000			
	[RA1LTDER=.23]	.000	.125			
	[RA1LTDER=.64]	.000	.125			
	[RA1LTDER=.84]	.125	.000			
	[RA1LTDER=.96]	.000	.125			
	[RA1LTDER=2.04]	.125	.000			
	[RA1LTDER=2.30]	.000	.125			
	[RA1LTDER=4.97]	.000	.125			

	[RA1LTDER=5.71]	.125	.000			
	[RA1LTDER=6.30]	.000	.125			
	[RA1LTDER=6.78]	.125	.000			
	[RA1LTDER=13.62]	.125	.000			
	[RA1LTDER=38.80]	.000	.125			
	[RA5TLLEV=.01]	.125	.000			
	[RA5TLLEV=.07]	.000	.125			
	[RA5TLLEV=.08]	.000	.125			
	[RA5TLLEV=.17]	.125	.000			
	[RA5TLLEV=.18]	.125	.000			
	[RA5TLLEV=.22]	.000	.125			
	[RA5TLLEV=.35]	.125	.000			
	[RA5TLLEV=.66]	.000	.125			
	[RA5TLLEV=.67]	.125	.000			
	[RA5TLLEV=.85]	.125	.000			
	[RA5TLLEV=.87]	.000	.125			
	[RA5TLLEV=1.70]	.125	.000			
	[RA5TLLEV=1.99]	.000	.125			
	[RA5TLLEV=2.41]	.000	.125			
	[RA5TLLEV=2.57]	.125	.000			
	[RA5TLLEV=4.41]	.000	.125			
	[LTD=18424]	.125	.000			
	[LTD=3357696]	.125	.000			
	[LTD=8526248]	.000	.125			
	[LTD=24578180]	.125	.000			
	[LTD=66297833]	.125	.000			
	[LTD=66720000]	.000	.125			

	[LTD=73034789]	.000	.125			
	[LTD=90693393]	.000	.125			
	[LTD=94464745]	.125	.000			
	[LTD=94595623]	.125	.000			
	[LTD=140169269]	.000	.125			
	[LTD=256133343]	.000	.125			
	[LTD=272360080]	.000	.125			
	[LTD=287341450]	.125	.000			
	[LTD=382558705]	.125	.000			
	[LTD=445542774]	.000	.125			
	[RA3ICR=-59241.87]	.125	.000			
	[RA3ICR=.00]	.375	.750			
	[RA3ICR=1.18]	.000	.125			
	[RA3ICR=9.79]	.000	.125			
	[RA3ICR=25.19]	.125	.000			
	[RA3ICR=32.59]	.125	.000			
	[RA3ICR=58.97]	.125	.000			
	[RA3ICR=5425.60]	.125	.000			
	[STD=18424]	.125	.000			
	[STD=682094]	.000	.125			
	[STD=1133616]	.000	.125			
	[STD=3359329]	.125	.000			
	[STD=5224221]	.125	.000			
	[STD=13129374]	.000	.125			
	[STD=24578180]	.125	.000			
	[STD=24608313]	.000	.125			
	[STD=27122395]	.125	.000			

	[STD=34464745]	.125	.000			
	[STD=42056236]	.000	.125			
	[STD=73034789]	.000	.125			
	[STD=80888983]	.000	.125			
	[STD=242558707]	.125	.000			
	[STD=424861575]	.125	.000			
	[STD=1010844282]	.000	.125			
	[ILR2WC=-235999204]	.000	.125			
	[ILR2WC=-134940539]	.125	.000			
	[ILR2WC=-73034789]	.000	.125			
	[ILR2WC=-47893353]	.000	.125			
	[ILR2WC=-6959121]	.125	.000			
	[ILR2WC=-515264]	.000	.125			
	[ILR2WC=0]	.125	.000			
	[ILR2WC=571796]	.125	.000			
	[ILR2WC=2334306]	.125	.000			
	[ILR2WC=22082991]	.000	.125			
	[ILR2WC=38484991]	.000	.125			
	[ILR2WC=62891235]	.125	.000			
	[ILR2WC=98346033]	.000	.125			
	[ILR2WC=122076369]	.125	.000			
	[ILR2WC=165208048]	.125	.000			
	[ILR2WC=177241360]	.000	.125			
	[ILR5RATR=0]	.125	.000			
	[ILR5RATR=1]	.000	.125			
	[ILR5RATR=2]	.000	.125			
	[ILR5RATR=4]	.125	.000			

	[ILR5RATR=31]	.125	.000			
	[ILR5RATR=42]	.125	.000			
	[ILR5RATR=63]	.000	.125			
	[ILR11MCC=-556]	.125	.000			
	[ILR11MCC=0]	.125	.125			
	[ILR11MCC=12]	.125	.000			
	[ILR11MCC=35]	.125	.000			
	[ILR11MCC=234]	.000	.125			
	[ILR11MCC=341]	.000	.125			
	[ILR11MCC=406]	.000	.125			
	[ILR11MCC=471]	.000	.125			
	[ILR11MCC=777]	.000	.125			
	[ILR11MCC=1259]	.125	.000			
	[ILR11MCC=1521]	.000	.125			
	[ILR11MCC=5223]	.125	.000			
	[ILR11MCC=7416]	.125	.000			
	[ILR11MCC=9125]	.125	.000			
	[ILR11MCC=45625]	.000	.125			
	[OE5NPM=-2]	.125	.000			
	[OE5NPM=0]	.000	.125			
	[OE5NPM=4]	.125	.000			
	[OE5NPM=6]	.125	.000			
	[OE5NPM=7]	.000	.125			
	[OE5NPM=24]	.000	.125			
	[OE5NPM=147]	.000	.125			
	[OE8TAN=.00]	.125	.000			
	[OE8TAN=.01]	.000	.125			

	[OE8TAN=.03]	.000	.125			
	[OE8TAN=.09]	.125	.000			
	[OE8TAN=.19]	.125	.000			
	[OE8TAN=.46]	.125	.000			
	[OE8TAN=.47]	.000	.125			
	[OE8TAN=.49]	.125	.000			
	[OE8TAN=.61]	.125	.000			
	[OE8TAN=.78]	.000	.125			
	[OE8TAN=.87]	.125	.000			
	[OE8TAN=.93]	.000	.125			
	[OE8TAN=.99]	.000	.125			
	[OE8TAN=1.00]	.000	.125			
	[Firmage_A=0]	.125	.000			
	[Firmage_A=1]	.250	.500			
	[Firmage_A=2]	.625	.500			
	[BS=14.24]	.125	.000			
	[BS=16.09]	.125	.000			
	[BS=17.27]	.000	.125			
	[BS=17.42]	.125	.000			
	[BS=18.41]	.125	.000			
	[BS=18.46]	.000	.125			
	[BS=18.54]	.000	.125			
	[BS=18.74]	.125	.000			
	[BS=18.95]	.125	.000			
	[BS=19.04]	.000	.125			
	[BS=19.78]	.000	.125			
	[BS=19.92]	.125	.000			

	[BS=20.16]	.125	.000			
	[BS=20.69]	.000	.125			
	[BS=20.93]	.000	.125			
	[Ownership Gender=0]	.125	.625			
	[Ownership Gender=1]	.875	.125			
	[Ownership Gender=2]	.000	.250			
	[Equity Origin=0]	.500	.250			
	[Equity Origin=1]	.500	.500			
	[Equity Origin=2]	.000	.250			
	[Borrowers' Status=0]	.375	.125			
	[Borrowers' Status=1]	.625	.875			
	[Business administration=0]	.500	1.000			
	[Business administration=1]	.500	.000			
	ILR6ACP	-.191	.191			
	ILR9PATR	-.267	.267			
	CV	-.215	.215			
	FA	-.215	.215			
	OE9ITA	.278	-.278			
	INV	.312	-.312			
	STA	-.174	.174			
	OwnersNo	.217	-.217			
Hidden Unit Width		1.374	1.485			
Hidden Layer	H(1)			-.351	-.596	-.494
	H(2)			.226	.383	.317

a. Displays the center vector for each hidden unit.

Table 42. Parameters estimates/RBF-in construction sector
Source: Primary data collection, Author elaboration with SPSS

Parameter Estimates

		Predicted				
		Hidden Layer[a]		Output Layer		
Predictor		H(1)	H(2)	OE7ROE	GA1ROA	OE4GOM
Input Layer	[RA1LTDER=0]	.067	.111			
	[RA1LTDER=1]	.067	.000			
	[RA1LTDER=2]	.067	.000			
	[RA1LTDER=6]	.067	.000			
	[RA1LTDER=13]	.067	.000			
	[RA5LTLEV=.00]	.400	.667			
	[RA5LTLEV=.04]	.067	.000			
	[RA5LTLEV=.06]	.000	.111			
	[RA5LTLEV=.10]	.067	.000			
	[RA5LTLEV=.24]	.000	.111			
	[RA5LTLEV=.28]	.067	.000			
	[RA5LTLEV=.36]	.067	.000			
	[RA5LTLEV=.39]	.000	.111			
	[RA5LTLEV=.40]	.067	.000			
	[RA5LTLEV=.61]	.067	.000			
	[RA5LTLEV=.62]	.067	.000			
	[RA5LTLEV=29.97]	.067	.000			
	[LTD=0]	.400	.667			
	[LTD=5107053]	.067	.000			
	[LTD=8446273]	.000	.111			
	[LTD=15534103]	.067	.000			
	[LTD=18465736]	.000	.111			
	[LTD=38058820]	.067	.000			

	[LTD=39684228]	.067	.000			
	[LTD=43350000]	.067	.000			
	[LTD=46622402]	.067	.000			
	[LTD=87833532]	.067	.000			
	[LTD=110268475]	.067	.000			
	[LTD=156287921]	.000	.111			
	[LTD=319995083]	.067	.000			
	[RA3ICR=.0]	.067	.000			
	[RA3ICR=.3]	.067	.000			
	[RA3ICR=1.7]	.067	.000			
	[RA3ICR=2.1]	.067	.000			
	[RA3ICR=2.5]	.067	.000			
	[RA3ICR=3.8]	.000	.111			
	[RA3ICR=3.9]	.067	.000			
	[RA3ICR=4.3]	.067	.000			
	[RA3ICR=5.2]	.000	.111			
	[RA3ICR=12.8]	.067	.000			
	[RA3ICR=13.3]	.067	.000			
	[RA3ICR=18.8]	.067	.000			
	[RA3ICR=23.0]	.067	.000			
	[RA3ICR=34.7]	.000	.111			
	[RA3ICR=47.4]	.000	.111			
	[RA3ICR=93.3]	.000	.111			
	[RA3ICR=177.4]	.067	.000			
	[STD=194262]	.000	.111			
	[STD=299869]	.000	.111			
	[STD=517250]	.067	.000			

	[STD=2814970]	.000	.111			
	[STD=3359128]	.000	.111			
	[STD=3564039]	.067	.000			
	[STD=5685564]	.067	.000			
	[STD=7096550]	.067	.000			
	[STD=10415000]	.000	.111			
	[STD=11239713]	.067	.000			
	[STD=12120812]	.067	.000			
	[STD=13112000]	.000	.111			
	[STD=19078269]	.067	.000			
	[STD=25390848]	.067	.000			
	[STD=31306607]	.067	.000			
	[STD=33552458]	.000	.111			
	[STD=40903110]	.067	.000			
	[STD=94616273]	.000	.111			
	[STD=97683292]	.067	.000			
	[STD=130855611]	.067	.000			
	[STD=145408386]	.067	.000			
	[STD=259532880]	.067	.000			
	[STD=356148282]	.000	.111			
	[STD=735234994]	.067	.000			
	[ILR2WC=-241395824]	.067	.000			
	[ILR2WC=-33341024]	.067	.000			
	[ILR2WC=-26234747]	.067	.000			
	[ILR2WC=-6643120]	.067	.000			
	[ILR2WC=79603]	.000	.111			
	[ILR2WC=1160023]	.067	.000			

	[ILR2WC=3113744]	.000	.111			
	[ILR2WC=3397821]	.000	.111			
	[ILR2WC=8455212]	.000	.111			
	[ILR2WC=8562726]	.067	.000			
	[ILR2WC=10159320]	.067	.000			
	[ILR2WC=12763813]	.067	.000			
	[ILR2WC=12970628]	.000	.111			
	[ILR2WC=14802475]	.067	.000			
	[ILR2WC=18937580]	.067	.000			
	[ILR2WC=20333668]	.067	.000			
	[ILR2WC=21411480]	.067	.111			
	[ILR2WC=36132860]	.067	.000			
	[ILR2WC=39349757]	.067	.000			
	[ILR2WC=45386151]	.067	.000			
	[ILR2WC=122233525]	.000	.111			
	[ILR2WC=199872596]	.000	.111			
	[ILR2WC=394244000]	.000	.111			
	[ILR5RATR=.00]	.067	.111			
	[ILR5RATR=.06]	.067	.000			
	[ILR5RATR=.27]	.067	.000			
	[ILR5RATR=.34]	.000	.111			
	[ILR5RATR=.48]	.067	.000			
	[ILR5RATR=.62]	.067	.000			
	[ILR5RATR=.72]	.000	.111			
	[ILR5RATR=1.03]	.067	.000			
	[ILR5RATR=1.29]	.067	.000			
	[ILR5RATR=1.45]	.000	.111			

	[ILR5RATR=1.70]	.067	.000			
	[ILR5RATR=2.11]	.067	.000			
	[ILR5RATR=2.34]	.067	.000			
	[ILR5RATR=2.59]	.000	.111			
	[ILR5RATR=3.08]	.067	.000			
	[ILR5RATR=3.67]	.000	.111			
	[ILR5RATR=3.75]	.067	.000			
	[ILR5RATR=3.78]	.000	.111			
	[ILR5RATR=4.37]	.067	.000			
	[ILR5RATR=4.46]	.000	.111			
	[ILR5RATR=5.03]	.067	.000			
	[ILR5RATR=26.80]	.067	.000			
	[ILR5RATR=88.00]	.000	.111			
	[ILR11MCC=-297]	.067	.000			
	[ILR11MCC=-258]	.000	.111			
	[ILR11MCC=-169]	.000	.111			
	[ILR11MCC=-128]	.067	.000			
	[ILR11MCC=-96]	.067	.000			
	[ILR11MCC=-83]	.000	.111			
	[ILR11MCC=-37]	.067	.000			
	[ILR11MCC=-25]	.067	.000			
	[ILR11MCC=0]	.000	.111			
	[ILR11MCC=10]	.067	.000			
	[ILR11MCC=25]	.000	.111			
	[ILR11MCC=48]	.000	.111			
	[ILR11MCC=96]	.000	.111			
	[ILR11MCC=131]	.067	.000			

	[ILR11MCC=164]	.067	.000			
	[ILR11MCC=247]	.067	.000			
	[ILR11MCC=509]	.067	.000			
	[ILR11MCC=759]	.067	.000			
	[ILR11MCC=865]	.067	.000			
	[ILR11MCC=906]	.067	.000			
	[ILR11MCC=1108]	.000	.111			
	[ILR11MCC=1460]	.067	.000			
	[ILR11MCC=5462]	.067	.000			
	[ILR11MCC=6333]	.000	.111			
	[OE5NPM=-21.30%]	.067	.000			
	[OE5NPM=-.53%]	.067	.000			
	[OE5NPM=.02%]	.000	.111			
	[OE5NPM=.03%]	.067	.000			
	[OE5NPM=.05%]	.000	.111			
	[OE5NPM=.06%]	.067	.000			
	[OE5NPM=.07%]	.067	.000			
	[OE5NPM=.08%]	.000	.111			
	[OE5NPM=.14%]	.067	.111			
	[OE5NPM=.21%]	.067	.000			
	[OE5NPM=.26%]	.000	.111			
	[OE5NPM=.39%]	.067	.000			
	[OE5NPM=2.50%]	.067	.000			
	[OE5NPM=4.80%]	.067	.000			
	[OE5NPM=6.00%]	.067	.000			
	[OE5NPM=6.80%]	.067	.000			
	[OE5NPM=7.70%]	.000	.111			

	[OE5NPM=18.00%]	.000	.111			
	[OE5NPM=18.10%]	.067	.000			
	[OE5NPM=18.18%]	.000	.111			
	[OE5NPM=38.00%]	.000	.111			
	[OE8TAN=.000000000000%]	.067	.000			
	[OE8TAN=2.880775504766%]	.000	.111			
	[OE8TAN=2.886334172824%]	.067	.000			
	[OE8TAN=4.337575907704%]	.067	.000			
	[OE8TAN=4.433798202034%]	.067	.000			
	[OE8TAN=4.828293032677%]	.067	.000			
	[OE8TAN=6.774897331444%]	.000	.111			
	[OE8TAN=11.130611520529%]	.067	.000			
	[OE8TAN=12.949628346444%]	.000	.111			
	[OE8TAN=14.894084609335%]	.067	.000			
	[OE8TAN=19.325263094536%]	.000	.111			
	[OE8TAN=20.357735682192%]	.000	.111			
	[OE8TAN=23.721154140111%]	.067	.000			

	[OE8TAN=28.120334911978%]	.067	.000			
	[OE8TAN=31.566976235295%]	.067	.000			
	[OE8TAN=41.045773523644%]	.067	.000			
	[OE8TAN=41.639193568439%]	.000	.111			
	[OE8TAN=46.070881608527%]	.067	.000			
	[OE8TAN=70.067723195345%]	.000	.111			
	[OE8TAN=71.664086489973%]	.000	.111			
	[OE8TAN=73.530375092415%]	.067	.000			
	[OE8TAN=77.833164314186%]	.067	.000			
	[OE8TAN=79.131958946778%]	.067	.000			
	[OE8TAN=93.283578561027%]	.000	.111			
	[Firm age_A=1]	.267	.667			
	[Firm age_A=2]	.733	.333			
	[Ownership Gender=0]	.000	.222			
	[Ownership Gender=1]	1.000	.222			
	[Ownership Gender=2]	.000	.556			
	[Equity Origin=0]	1.000	.667			
	[Equity Origin=2]	.000	.333			

	[Borrowers' Status=0]	.133	.111			
	[Borrowers' Status=1]	.867	.889			
	[Business administration=0]	.733	.444			
	[Business administration=1]	.267	.556			
	[Administrator Gender=0]	.000	.556			
	[Administrator Gender=1]	1.000	.444			
	[BS=15.71]	.000	.111			
	[BS=16.18]	.067	.000			
	[BS=16.31]	.067	.000			
	[BS=16.38]	.000	.111			
	[BS=16.52]	.000	.111			
	[BS=16.90]	.000	.111			
	[BS=16.96]	.067	.000			
	[BS=17.34]	.067	.000			
	[BS=17.73]	.000	.111			
	[BS=17.99]	.067	.000			
	[BS=18.06]	.067	.000			
	[BS=18.37]	.067	.000			
	[BS=18.76]	.067	.000			
	[BS=18.93]	.067	.000			
	[BS=19.42]	.000	.111			
	[BS=19.55]	.067	.000			
	[BS=19.59]	.000	.111			
	[BS=19.70]	.067	.000			
	[BS=19.80]	.067	.000			
	[BS=20.27]	.000	.111			

	[BS=20.55]	.067	.000			
	[BS=21.03]	.000	.111			
	ILR6ACP	.178	-.296			
	ILR9PATR	-.211	.352			
	CV	-.162	.270			
	FA	-.162	.270			
	OE9ITA	.318	-.531			
	INV	.290	-.483			
	STA	-.092	.153			
	Owners No	-.283	.472			
Hidden Unit Width		1.307	1.543			
Hidden Layer	H(1)			.534	.199	.318
	H(2)			-.291	-.108	-.173

a. Displays the center vector for each hidden unit.

Table 43. Parameters estimates/RBF-in service sector
Source: Primary data collection, Author elaboration with SPSS