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"NEW CHALLENGES IN BUSINESS RESEARCH"

Conference Proceedings

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General Chairs

Mª Consuelo Calafat Marzal

Mª Luisa Martí Selva

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Conference Proceeding

APPLIED ECONOMICS

An AHP framework for property valuation to identify the ideal portfolio mix. Autores: R. Cervelló, F. Guijarro, T. Pfahler and M. Preuss.

Pattern recognition applied to chart analysis. Evidence from intraday international stock markets. Autores: R. Cervelló, F. Guijarro and K. Michniuk

Financial stability and sectoral debts: overview of research problems. Autores: E. Freitakas and T. Mendelsonas

Application of the theory of Markowitz for structure portfolio investment in the Colombian stock market. Autores: F. Garcia, J. A. González and J. Oliver

Factors determining the trade costs of major european exporters. Autores: R. Puertas and M.L. Marti.

The model of intellectual capital evaluation in publicly listed companies. Autores: R. Tamošiuniene and S. Survilaite

Determinants of Non-Tariff Measures in Agricultural Trade. Autores: L. Tudela, J.M. García-Álvarez-Coque and M.L. Martí

Analysis of Efficiency of Pig Farms in the Valencian Community. Autores: C.Calafat, M.L. Martí and R. Puertas

The impact of a country environmental performance on its country risk. Autores: R. Cervelló, A. Peiró and M.V Segarra .

Trade relationship analysis among EU members by means of cluster analysis. Autores: F. García, I. Grigonyte and J. Oliver

The Convenience of Applying Multilevel Modeling on Real Estate Valuation. Autores: I. Arribasa, F. Garcia[a], F. Guijarro, and J. Oliver

Interactions between the shadow economy and the social security system. Autores: T. Gankova – Ivanova

Current research approaches to economic security. Autores: R. Tamošiuniene and and C. Munteanu

Management of Household Expenditure by Using Value Decomposition Technique. Autores: K. Taujanskaitė and E. Milcius

Factors determining the trade costs of major european exporters. Autores: R. Puertas and M. L. Marti

OPEN INNOVATION AND BUSINESS ECOSYSTEMS

Innovation behavior and the use of research and extension services in small-scaled agricultural holdings. Autores: R. Ramos, J.M. García-Alvarez-Coque and F. Mas

A case study of the role of innovation process determinants on innovative product development. Autores: F. Saffari

What do we know about Marketing Innovation and its Relation- ship with Technological and Management Innovations? Empirical Evidence for France and Spain. Autores: F. Galia, JL Hervas and F. Sempere

Management, Technological Innovation and Environmental Benefits in French Manufacturing Firms. Autores: F. Galia, M. Ingham and S. Pekovic

Obstacles to innovation and firms innovation profiles: are challenges different for policy makers?. Autores: F. Galia, S. Mancini and V. Morandi

Is the co-creation a good practice for the University? A review of the literature. Autores: G. Ribes and O. Pantoja

How undertake a literature review through bibliometrics. An example with review about "user innovation. Autores: B. de-Miguel, M. de-Miguel and J. Albors

The complex role of cluster agents in the development of automotive industry in Spain. Autores: J. Albors, J.F. Dols and A. Collado

Corporate Social Responsability as a tool for Social Innovation. Autores: R. Perello, E. Suarez and L. Susaeta

Greenbranding practices for a company of phytosanitary ecological products. Autores: G. Ribes, R. Perello and B. Ribes

Living Labs as a potential private entrepreneurial innovation leverage on consumers. Autores: J. Albors, MV. Segarra, B. de Miguel, and M. de Miguel

The Double Value of International Internships. Autores: I.Moya, G.Ribes, and G.Sanahuja

The importance of technology transfer: a bibliometric literature review. Autores: E. Seguí, F. Sarrio, and J. Caballero

Teaching Open Innovation based on LSP: a practical experience. Autores: M. De-Miguel, B. De-Miguel, J. Albors, and M.V Segarra.

Towards the implementation of the social innovation in an international cooperation program: the case of the ecotourism development using Living-labs. Autores: M.V Segarra, A. Peiró, J. Albors, C. Carrascosa

Open Innovation in Spanish Education: the cMOOC case. Autores: R. Navarro, E. Estellés and F. González

FINANCE AND ACCOUNTING

The microcredit in the hotel sector in Bucaramanga . Autores: J.A. González and G.E. Rueda

Supply Chain and Risk Management: An empirical approach in food chain businesses. Autores: J.M. Ramon, R. Flórez and L. Jack

Patterns in the philanthropic behaviour of spanish listed companies. Autores: B. García, B. de-Miguel and V. Chirivella

A critical perspective on governmental accounting regulation in Spain. Autores: F. Polo, E. Seguí and J.M. Vela

Equity financing in cooperatives. Three case studies in dairy sector. Autores: F. Polo, J.M. Vela and E. Seguí

Causes Of Tax Evasion Of The Traders In The Informal Market Calculation Of The Amount Of Tax Evasion By Means Of The Methodology Of Real Options. Autores: P. Morales, A.M. Bernardette and L. Huerta

The impact of the economic crisis on the cost of capital. Evidences from Spain. Autores: A. Blasco, D. Postiguillo and J. Ribal

Bootstraping accounting variables to obtain the fair value of a brand. Autores: J. Ribal, A. Blasco and M. Agulló

CSR assurance in sensitive sectors - a worldwide analysis of financial services industry. Autores: E. Seguí, F. Polo, H.M. Bollas and J.M. Vela

Sustainability assurance in Spanish non-listed companies. Autores: E. Seguí and H.M. Bollas

Premium Risk in Agro-food Sector. Autores: I. Guaita, I. Marqués and J.L. Pérez-Salas

Tax Credit In European Cooperatives. A Second Opportunity?. Autores: M.M Marín

Why are investors loss averters during bull markets and gain seekers during bear markets?. Autores: R. Bordley and L. Tibiletti

Reporting in Agriculture, Forestry, and Fishery. The Case of Romania. Autores: M. Mocanu

The quality of independent auditor's report – does the size matter? The Romanian case. Autores: M. Paunescu

QUANTITATIVE METHODS IN BUSINESS

Impact of After-Sales Performances of German Automobile Manufacturers in China in Service Satisfaction and Loyalty: With a Particular Focus on the Influences of Cultural Determinants. Autores: A. Fraß, J. Albors and K.P. Schoeneberg

Determining underlying key factors to eco-innovation at the telecom industry: an approach to the service economy. Autores: C. Roda, MV Segarra and A. Peiró.

Analyzing premium risk behavior of European retail distribution companies in the period 2010-2015. Autores: I. Barrachina and E. De la Poza

LEGAL AND POLITICAL FRAMEWORK ON BUSINESS MANAGEMENT

Definition of Job Competency Profiles and Performance indicators for Human Resources Management of a Public organization. Autores: E. Babiloni, E. Guijarro and G.D.Benito

Legal objectives and measures to improve the functioning of the food chain in European Union and in Spain. Autores: P. Amat

Applied Economics

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An AHP framework for property valuation to identify the ideal portfolio mix

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Abstract

This paper presents a new methodology based on the Analytic Hierarchy Process (AHP) of Saaty to evaluate the development trends of the residential trade and industry up until 2050. The purpose is an universal macroeconomic model that involves fundamental variables such as build quality and environmental social features, but also comprises the key component of demographic development, which will have strong future implications for portfolio management in the countries of the European Union 27, especially those with shrinking populations.

Keywords**:** *AHP; EU-27; 2050 real estate portfolio mix.*

Introduction

Europe is seen as the oldest continent in terms of population age. Consequently economists, demographers, historians as well as sociologists predict that demographics and ageing will represent one of the greatest economic challenges of this century (Boulmier, 2012). Major demographic developments in recent decades have already caused economies to fluctuate, affecting supply and demand in the residential trade and industry. The industry has had to react in order to stabilise, expand and avert shrinkage of its assets. Furthermore, as living is a basic need for individuals, prevention is needed to safeguard occupants' requirements (Boulmier, 2012).

This study puts forward a macroeconomic AHP model for the residential trade and industry in order to realise an asset portfolio for countries with mainly shrinking populations in the future. Therefore, Bulgaria, Estonia, Germany, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia are analysed. Although Spain has a growing population, it is also the object of investigation since it is the native country of the Universitat Politècnica de València.

AHP methodology

The Analytic Hierarchy Process was created by Thomas L. Saaty in 1980 and is a technique for analysing and realising decision-making used across wide-ranging fields within the business sector (Aznar et al., 2010; Aznar et al., 2011). For Saaty and Vargas this technique is a universal theory of measurement. It is a theory that treats individuals independently from their basic circumstances (Saaty, 2005; Saaty, Vargas, 2001). The foundation of Saaty's mathematical statistical method is the creation of the AHP hierarchy with the objective in the highest level, followed by the criteria as well as sub-criteria in the next levels and finally the alternatives in the last level. In the next stages the assessment of the variables by realising pairwise comparisons and the calculations of the weights in every level is substantial, followed by the calculations of the weights of the entire AHP hierarchy. If the evaluation of the consistency ratio is plausible, the examination of the outcomes as well as the decision-making process completes the approach (Saaty, 1990).

Case study: Properties in the EU-27 in the future year 2050:

Statistical tendencies of properties in EU-27 countries

The current demographic developments in the European Union 27 have been evident ever since they began a few decades ago. The demographic changes validate key ensuing tendencies: As a result of low fertility ratios, the younger generations will decrease. In contrast, older generations will develop as the living conditions improve in societies. Consequently, age structures will shift with the impact of shrinking populations, if migration rates are not high enough to balance the populations structures.

A crucial aspect in all of these countries is that the median age has been changing and will do so in the future. While the range today lies between 38.2 in Slovakia and 45.5 in Germany, the age level for 2050 will be between 42.7 in Latvia and 51.5 in Germany (United Nations, 2013). Hence, there will be movements in the median ages with a maximum of around plus 10 years in the next 35 years. These tendencies will change the demands of inhabitants in reference to habitations, which will have to be constructed in a more senior-compatible manner in the future.

Nevertheless, the trends in the residential trade and industry will shift mainly in the reverse direction until 2030 with the effect of a growing development of households in most countries. Thus, there is an increasing tendency towards higher real estate demands (Cecodhas, 2012; United Nations, 2001). As a result of the strong demographic movements, household sizes as well as the average number of persons per household is also changing. While in the past decades there was a predominant share of 3-and-more-person households, today there is a trend towards smaller 1- and 2-person households ranging from 45% in Romania to 73% in Germany, which represents an increased demand for such habitations in the future (Cecodhas, 2012; Ministry of the Interior and Kingdom Relations, 2010; United Nations, 1974). Real estate prices have increased over the last few decades. The total housing costs in the Purchasing Power Standard ranged from a relatively low level of 138.4 in Romania to a high level in Germany at 771.5 (Cecodhas, 2012). Furthermore, also the construction cost index increased from 2005 to 2010, especially with high movements in Bulgaria, Latvia, Romania and Spain (Cecodhas, 2012). These dimensions could inhibit the realisation of custom-made housing, if these trends also develop in future.

The economic conditions differ between the researched countries, although they all include a growing tendency of per-capita income (HSBC, 2012). The GDP per capita develops in two different ways: In Estonia, Germany, Hungary, Latvia, Lithuania and Spain the movement will be positive until 2050; the states Bulgaria, Poland, Romania and Slovakia will realise a negative economic shift (European Commission, 2012). If this develops over the coming decades, it could also be a disadvantage for the fulfillment of custom-fit real estate assets.

Decision-making of real estate experts by using the transformed AHP model

As analysed earlier, it is of vital importance to successfully manage the future development of demographics, space as well as environmental social issues to realise the overall target of an ideal real estate portfolio for the year 2050. In the transformed macroeconomic AHP model, the demographic criterion reflects the development of the individuals, demographic alterations of populations as well as changes in the real estate stocks. This criterion embraces sub-criteria such as clusters of generations and housing stock characteristics. The space criterion focuses on building equipment and the building lifecycles with sub-criteria, e.g., build quality and average number of rooms per dwelling. The third criterion of environmental social features covers real estate environments, price conditions and economic situations of individuals and states with sub-criteria such as income level and supply/ demand. The alternatives to reach the overall target are the extrapolated version that includes the current portfolio of each country and the forecast for future years, in which just the planned routine repairs and maintenance will be realised in order to achieve the lifecycle of the assets. A significant strength are no additional

homemade leverages and stable level of rents. A weakness is the absence of customised dwellings. The modernised version also refers to the current dwelling stock with an extrapolation of the age distributions to future years, but also include a strong focus on restructuring and modernisation of dwellings and home components where customised residences are necessary, such as the need for senior-compatible living conditions. An advantage is the realisation of custom-fit components; nevertheless, this option entails additional modernisation fees to finance the rebuilding and modernisations. New-construction real estate portfolios are newly constructed housing stocks where there is a demand for customised dwellings. An opportunity could be the advancement of real estate assets with the risk of an unpayability of residences because of high investments and level of rents.

13 experts were chosen to realise the pairwise comparisons of the levels of the created AHP hierarchy. These experts were clustered into the following groups: Academics with a special knowledge of international economics and business, practical professionals in the residential trade and industry, researchers and consultants of residential trade and industry branch alliances, and representatives and researchers for a particular real estate country market. The consistency ratio of the pairwise comparisons of the experts lies between 0.0% and < 5.0% for the matrices with a rank of 3 variables, and between 0.0% and < 10.0% for the matrices with 5 and 7 variables; therefore, the consistency is satisfactory according to Saaty (1990). The interview results validate the trends and future prognoses of the statistics mentioned before. The outcomes prove that there is a strong requirement to shift to additional custom-fit residences by 2050. Regarding the interviewees the habitations at present do not correspond to the future transformations of demographics, space and environmental social features. Comparable the statistics also the experts forecast vital variations that cause developments such as modernisations and new constructions. Therefore, the share of extrapolated real estates in 2050 is at a low level. The modernised version as well as the new construction option of the 2050 portfolio mix demonstrate much higher shares in the analysed countries. In total the ratios of modernised and new construction versions comprise between a minimum quotation of 74.2% in Spain as well as a maximum percentage of 82.3% in Bulgaria, which demonstrates a central necessity of advancement of the actual real estate assets to stabilise and develop these properties also in future years and to meet the demands of the changing populations.

Conclusions

There are different analyses in this case study. The first secondary analyses are based on statistical databases from various studies and evaluate in detail past and future economic trends from around 1970 to 2050 that are significant for the development of the residential trade and industry. The main aspects such as transformations of population structures and increase of smaller households demonstrate a high necessity to safeguard assets in future to correspond to the requirements of occupants, which are also high on the agenda of political and branch alliance federations. With Saaty's AHP methodology an innovative model to forecast future portfolios is generated to respond to the complex needs of the international real estate economy. The carried-out branch specialist interviews results reflect in accordance to the statistical databases the need of development until 2050 with the outcome of essential shifts and high shares of modernised and newly constructed real estate assets in 2050 in all analysed 10 countries.

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Pattern recognition applied to chart analysis. Evidence from intraday international stock markets

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Abstract

Technical analysis as sophisticated form of forecasting technique joins different popularity in the academic and business world. In the past technical trading rules and their performance were seen skeptical. This is substantiated by the acceptance of the efficient market hypothesis and mixed empirical findings about technical analysis in widely cited studies.

The flag pattern is seen as one of the most significant spread chart patterns among the stock market charting analysts. The present research validates a trading rule based on the further development of flag pattern recognition. The research question concentrates on whether technical analysis applying the flag pattern can outperform an index focusing international stock markets. The markets observed are represented by the corresponding indices DAX (Germany), S&P and DJIA (United States) and IBEX (Spain).

The design of the trading rule presents several changes with respect to previous academic works: The wide sample used when considering intra-day data together with the configuration of some of the variables and the consideration of risk allows concluding that the trading rule provides greater positive risk-adjusted returns than the buy and holding strategy which is used as benchmark. The reported positive results strengthen the robustness of the conclusions reached by other researchers.

Keywords: *trading rule, pattern recognition, technical analysis, bull flag.*

Introduction

Chart pattern studies examine the forecasting probability of visual chart patterns commonly used by technical analysis. In the academic literature different markets are analyzed with pattern recognition, e.g. stock markets and foreign exchange markets. Besides varying markets to be analyzed, pattern recognition and the profitability of pattern recognition differ depending on the methodology applied.

An example of a rigorous study of chart pattern is Chang and Osler's (1999). Chang and Osler analyzed six foreign exchange markets using daily spot rates evaluating the perfor- mance of head-and-shoulders patterns from 1973-1994. They program an algorithm for head-and-shoulders identification and implement a buy-and-hold strategy. The study shows in case of all six foreign exchange rates that simple technical trading rules generate substan- tially higher returns than the head-and-shoulders rules.

Lo et al. (2000) test the usefulness of 10 chart patterns on a large number of NYSE/AMEX and NASDAQ (Nasdaq Composite Index) stocks from 1962-1996. Applying smoothing techniques such as nonparametric kernel regression, their methods suggest that technical analysis can be improved by using automated algorithms. Further they detected that tradi- tional patterns such as head-and-shoulders and rectangles do not have to be optimal. Lo et al. obtain positive results and conclude that technical analysis can add value to the invest- ment process.

Caginalp and Laurent (1998) provide a study about S&P 500 stocks over 1992-1996. The found out that candlestick reversal patterns generate substantial profits in stock markets compared to a buy-and-hold strategy.

Leigh, Modani et al. (2002) and Leigh, Paz et al. (2002) illustrate that bull flag patterns generate positive excess returns (before transaction costs) for the NYSE Composite Index over a buy-and-hold strategy while. Leigh, Modani et al. (2002), Leigh, Paz et al. (2002) Leigh, Purvis et al. (2002) and Wang and Chan (2007) all implement a variation of the bull flag stock chart using a template matching technique based on pattern recognition.

Leigh, Paz et al. (2002) test the bull flag charting heuristic for trading the NYSE Composite Index for 4,817 trading days in a test period from 1980-1999 applying various time hori- zons. Statistical results fail to confirm the null hypothesis that the markets are efficient respectively to the weak form of the efficient markets hypothesis. The results are supplied for a long time period. Thus, parameter optimization and out-of-sample tests are conducted and data snooping problems addressed.

Leigh, Purvis et al. (2002) conduct four experiments combining pattern recognition, neural network, and genetic algorithm techniques to forecast price changes for the NYSE Compo- site Index. The first experiment focuses on recognizing the bull flag with pattern recognition and underlies the same methodology as in Leigh, Paz et al. (2002). Within their exper- iments Leigh, Purvis et al. detect the decision support potential of the new soft computing tools respectively the application of multiple tools and the power in multiple classifier sys- tems. The results of their work support the effectiveness of the technical analysis approach through use of the bull flag price and volume pattern heuristic.

Wang and Chan (2007) analyze the potential profit of bull flag technical trading rules for the NASDAQ and the TWI (Taiwan Weighted Index). They use a template matching tech- nique based on pattern recognition and obtain positive results: All technical trading rules correctly predict the direction of changes in the NASDAQ and TWI. These studies show that charting patterns can predict stock prices.

There are also studies which obtain negative results with regard to the profitability of pat- tern recognition as Curcio et al. (1997), Guillaume (2000) and Lucke (2003) which focus on foreign exchange markets.

To summarize, the success of pattern recognition techniques is strongly dependent on mar- kets observed, sample periods tested and patterns applied. Previous studies have shown that the forecasting probability of technical analysis can be improved by conducting parameter optimization, out-of-sample-testing and addressing of data snooping problems.

Hypothesis and goals

The present research builds on empirical findings of previous research following the objective to prove that flag pattern recognition is a profitable forecasting method for different international stock markets. This objective will be achieved mainly by quantitative research, supplemented by a qualitative literature review.

In the course of qualitative investigations, previous technical analysis studies will be examined. This theory-driven part should serve as overview of today's reputation of technical trading strategies pointing out whether technical trading rules are able to outperform a chosen benchmark. In this sense, a research gap will be identified which is to be closed within the practical part of the research.

The practical part will be implemented by quantitative research. In the foreground is the further development and optimization of existing pattern recognition methods with regard to the flag pattern. Thus, returns provided by trading rules based on pattern recognition will be analyzed in depth. Some

relevant changes will be realized in a way that the results, analyzed as a whole, allow to validate the flag pattern in a more consistent and robust way.

Methodology

The introductory part of the present research project is descriptive since an analysis of previous research will be done to get an overview about studies done so far in this area. The focus will be set on the profitability of pattern recognition on stock markets. The general idea is to find out in which direction the trend goes. A systematic literature review of analyzed studies will be created and relevant criteria implemented.

The practical part of the work is quantitative. It concentrates on pattern recognition applying the bull flag template for figuring out buy and sell signals. Inspired by previous publications of Leigh, Modani et al. (2002), Leigh, Paz et al. (2002), Leigh, Purvis et al. (2002) and Wang and Chan (2007) a 10x10 grid matrix with weights ranging from -5 to 0 will be implement. Since the selection of weights within this matrix is essential, an alternative definition of weights and an alternative grid matrix are proposed. Further the matrix contains an IF-THEN rule what differs from academic research in this area done before.

In a next step the trading rule specification is implemented. Based on daily and intraday returns for the DAX, S&P, DJIA and IBEX statistical analysis will be performed and algorithms programmed to forecast future markets prices on these stock markets. The focus will be on the bullish and the bearish flag likewise taking into consideration an important modification of the bullish flag. Further, not only daily returns, but also HFT will be considered and not only closing prices, but also the body of each candlestick will be taken into ac- count. Finally, more than 120,000 candlesticks will be included for each index.

Conclusions

All previous chart pattern studies analyzed so far have in common that daily returns are used by the researches. In this context the question arises which return to chose (opening, closing, highest, lowest). Some studies work with candlesticks to include the development of prices within a trading day (e.g. Marshall, Young and Rose (2006), Horton (2009)). The present research goes one step further and analyses intra-day data applying candlesticks. This ensures that a trading day is displayed in a high degree of detail.

When implementing the flag pattern approach, researchers build a 10x10 grid matrix allocating weights into the cells. So far, the idea of the weight allocation is to construct a consolidation phase which is followed by a break out. Following the definition of Downes and Goodman (1998) a more accurate reflection would be achieved by assuming the break out first and the consolidation afterwards. In the present research, this is put into practice by allocating the weights in a different way than done in previous research.

Further, in previous research a lack of dynamic approach can be observed. Therefore the idea is to implement stop loss and take profit thresholds. In this way, the whole approach is IF-THEN rule related which is closer to investor’s behaviour.

The last aspect which is subject to further development is the consideration of risk. In the past the approach was often not risk-adjusted. Mostly it was reasoned in using a broad based market average which made the adjustment for risk of individual securities unnecessary (as Leigh, Modani and

Hightowera (2004)). Some authors conducted out-of-sample- tests (as Charlebois and Sapp (2007)). The present research intends considering the risk component by using the maximum drawdown.

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Financial stability and sectoral debts: overview of research problems

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Abstract

The aim of this paper is to review current research problems in analysis of relationship between financial stability and aggregated debts and define research problems which are not well explored and can inspire further researches. First, concept of financial stability was briefly reviewed and macro prudential approach explained, as the further analysis is based on this approach. Further it was reviewed what questions are raised while analyzing each aggregated debt's impact and overall influence of all debts on financial stability. Aggregated debts are the debts of institutional sectors which are households, enterprises and government. It was noticed that most research problems concentrate on analysis of how either household debt or public debt impacts financial stability. The influence of enterprise debt is much less researched. In particular how non-financial business sector's debt is related with financial stability of the country. And finally, the overall impacts of all aggregated debts is the least researched, therefore there is obvious need for further research problems in this area.

Keywords: Financial *stability*, household debt, enterprise debt, public debt.

Introduction

Financial stability is a rather new academic topic in economics. Its importance significantly increased during global economic crises which began in 2008. Events of financial instability has huge negative impact on economy and social welfare. Therefore it is very important to analyze the ways how to safeguard financial stability. Historically microeconomic point of view dominated while researching financial stability, but recently scientist agree that macroeconomic approach is required. Financial system has to be analyzed as a whole, systemic risk factors has to be identified. One of the most important source of risk for financial system is debt.

Financial stability and aggregated debts

Financial stability can be approached from two perspectives which are microeconomic and macroeconomic. Research of financial stability began from microeconomic perspective. But during last decade macroeconomic approach emerged. This approach is much less researched therefore provides more research problems which can be further analyzed.

During last two decades debts increased substantially in OECD countries (Sutherland et al., 2012). Which is a warning signal as indebtedness level is a very important variable influencing financial stability. High indebtedness level increases the sensibility of financial system to economic fluctuations. While analyzing debt dynamics and its influence to economy and financial stability debt is usually defined as three separate variables: government debt, enterprise debt and household debt. Consequently researchers raise different research problems while analyzing relationship between financial stability and each mentioned debts.

Household debt was increasing rapidly before the rise of year 2008 global crisis. Liberalization of financial markets and financial innovations stimulated investments. Credits became available for individuals with low income and it became easier to borrow for the first home (Girouard et al., 2006). Number of authors raised questions on how increased indebtedness of individuals influence financial stability (Kask, 2003; Beer and Scurz, 2007; Debelle, 2004; Davies, 2009; Santoso and Sukada, 2009; Endut and Hua, 2009).

Relationship between financial stability and enterprise debt is substantially less researched topic comparing to household case described before. Therefore it was noticed that research problems which inspire analysis of enterprise debt influence on financial stability are not well researched and need further consideration.

The relationship between financial stability and government debt is researched in the similar level as in household debt case mentioned above and much more compared to enterprise debt case. A few authors concentrate on public debt management (IMF and the World Bank, 2003; Hoogduin et al, 2010). It is also analyzed how public debt management, fiscal policy and monetary policy are related while pursuing financial stability (Togo, 2007; Dodge, 2010). Research problems concerning spill-overs between different policies are raised. Number of authors analyze last European sovereign debt crisis (Lane, 2012; Ardagna and Caselli, 2012). Different research problems are raised aiming to understand reason of European sovereign debt crisis, its progress and prevention.

The least number of research problems are analyzed while considering overall impact of all aggregated debts (household, enterprise and public debts) to financial stability. Some authors argue that it is more important to concentrate on private debt (households and enterprises) comparing to public debt while searching for policies towards financial stability (Schularick and Taylor, 2012). In the beginning of the last global financial crisis some authors analyzed relationship between increase of private borrowing and banking crisis (Schularick and Taylor, 2012), others research relationship between fiscal policy and financial crisis (Almunia et al. 2010). But there were little attention towards analysis of joint public and private debt impact on financial stability (Jorda` et al. 2013; Schularik, 2014). This finding shows the need for research problems in that area, where complex approach is employed.

Conclusions

Most research problems are raised while analyzing how financial stability is influenced by household debt or public debt. Much less researched is the impact of enterprise debt of financial stability. In particular how non-financial business sector's debt is related with financial stability of the country. Authors concentrate more on debt of financial institutions as they are part of financial system, but problems in non-financial enterprises may also create systemic risks to financial stability.

Finally, the least researched topic is the relationship between financial stability and all aggregated debts together. There is lack of composite approach towards aggregated debts and further research problems should be considered in this area.

As it was noticed there is not enough to concentrate on one aggregate debt, as problems on other sectors may be overlooked. Also there may occur a complex effect of all aggregated debts on financial stability. As all institutional sectors are closely interconnected and debt problems in one sector may weaken another sector's financial situation. Therefore it is important to further consider research problems concerning overall effect of aggregated debts on financial stability.

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Application of the theory of Markowitz for structure portfolio investment in the Colombian stock market

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Abstract
Since its appearance in 1952, Harry Markowitz model has been a major theoretical reference in structuring investment portfolios, leading to multiple developments and referrals. The present work is aimed to apply the model of Markowitz in the Colombian stock market and through an empirical study will verify whether the model is able to provide investment portfolios to meet the risk and return preferences for a Colombian investor. To do the daily closing prices for the period January 2005 to December 2014 from a sample of 12 shares of Colombian stock exchange will be used.

Keywords: *diversification, efficient frontier, profitability and risk.*

Introduction

To venture into the field of finance, investment decision becomes a challenge for those who are willing to take advantage of the great opportunities and alternatives offered by the stock market. The decision to invest in a market like Colombia is subject to uncertainty, which leads to consider important variables from the economic, political and social environment that affect the expected cash flows and change the course of the results, which defines the presence of risk in investments.

Modern Portfolio Theory is composed of the Theory of Portfolio Selection of Harry Markowitz (1952) and William Sharpe contributions to the theory of price formation in financial assets (1964) known as the Capital Asset Pricing Model (CAPM). Basically, the Modern Portfolio Theory is an investment framework for the selection and construction of investment portfolios based on maximizing the expected return of the portfolio and the simultaneous minimization of investment risk.

Since its emergence, the theory of Markowitz Portfolio Selection has been a fundamental theoretical reference in selecting portfolios, leading to multiple developments and referrals.

The remainder of the paper is structured as follows. First, we will present the methodology and the database. Then the main results of the application will be described. Finally, the last section will conclude.

Methodology

The aim of this research is to apply the model of Harry Markowitz in the Colombian stock market, to find the solution to the problem faced by an investor to create an investment portfolio with an optimum composition of shares that confer the lowest risk for a maximum return.

The model of Markowitz is applied using daily closing prices for the period January 2005 to December 2014 of the following 12 companies: Banco de Bogota SA (Bogota), Bancolombia SA (BCOLOMBIA, PFBCOLOM), Celsia SA E.S.P. (Celsia), Cementos Argos SA (Cemargos), Corporación Financiera Colombiana SA (Corficolcf), ETB SA (ETB), Argos Group (Grupoargos), Grupo Aval SA (Grupoaval), Sura Group Inc. (Gruposura) Interconexión eléctrica SA (ISA) and Nutresa Group (Nutresa). Most of the

selected companies belong to the financial sector (Bogotá, Bclombia, PFBCOLOM, Corficolf, Grupoaval and Gruposura), two belong to the energy sector (Celcia, ISA), the remaining four are Cemargos, within the cement industry; ETB, in the telecommunications sector; the food sector is represented by Nutresa, and Grupoargos is a holding company with investments in cement, energy, urban and real estate development and ports. These 12 companies are the only ones for which enough information is available for the requested period.

Historical information from January 2005 to December 2014, daily prices of the 12 actions mentioned above were used.

Results

Applying the model of Markowitz, the minimum variance portfolio at a desired level of profitability is calculated (Table 1).

Table 1. Minimum Variance Portfolio

Portafolio	Pesos								σp	E [Rp]
	Bogotá	Pfbcolom	Corficolcf	ETB	Grupoaval	ISA	Nutresa	Total		
1	32.07%	10.84%	7.10%	8.55%	7.69%	7.74%	26.00%	100.00%	1.204%	0.086%

Source: The authors

In the minimum variance portfolio, Bogotá has the highest weight (32.07%), as it is less risky share among the 12 stocks selected. Regarding the portfolio of maximum profitability, only Corficolf is included, because it is share with the highest expected return between 12 stocks selected (Table 2).

Table 2 shows the construction of the Efficient Frontier line, that is, of the combinations of the stocks that offer the highest return for a given level of risk. Then suitable combinations (wi) of the shares in the different portfolios according to the desired risk and subject to the restrictions previously indicated are calculated.

Table 2 shows that from the portfolio 11 only three companies are used to obtain the efficient frontier: Bogotá, Corficolf and Grupo Aval. This is one of the criticisms stated by Michaud (1989), who suggests to limit the weight of each companie in the portfolio.

Table 2. Efficient Portfolio Composition

Portafolio	Pesos													σp	E [Rp]
	Bogotá	Bcolombia	Pfbcolom	Celsia	Cemargos	Corficolcf	ETB	Grupoargos	Grupoaval	Gruposura	ISA	Nutresa	Total		
1	32.05%	0.00%	10.81%	0.00%	0.00%	7.13%	8.58%	0.00%	7.66%	0.00%	7.81%	25.96%	100.00%	1.204%	0.086%
2	30.29%	0.00%	10.20%	0.00%	0.00%	26.42%	3.88%	0.00%	9.20%	0.00%	4.15%	15.86%	100.00%	1.246%	0.108%
3	29.47%	0.00%	9.84%	0.14%	0.00%	34.59%	1.69%	0.00%	9.78%	0.00%	2.92%	11.56%	100.00%	1.289%	0.117%
4	28.79%	0.00%	9.30%	1.47%	0.00%	40.81%	0.62%	0.00%	10.22%	0.00%	2.19%	6.60%	100.00%	1.331%	0.124%
5	28.05%	0.00%	9.24%	0.66%	0.00%	46.96%	0.00%	0.00%	10.74%	0.00%	0.00%	4.35%	100.00%	1.374%	0.131%
6	26.59%	0.00%	8.42%	0.58%	0.00%	52.51%	0.00%	0.00%	10.79%	0.00%	0.00%	1.10%	100.00%	1.417%	0.136%
7	24.65%	0.00%	6.64%	0.00%	0.00%	58.14%	0.00%	0.00%	10.57%	0.00%	0.00%	0.00%	100.00%	1.459%	0.141%
8	21.82%	0.00%	4.92%	0.00%	0.00%	63.45%	0.00%	0.00%	9.81%	0.00%	0.00%	0.00%	100.00%	1.502%	0.146%
9	19.30%	0.00%	3.12%	0.00%	0.00%	68.32%	0.00%	0.00%	9.26%	0.00%	0.00%	0.00%	100.00%	1.544%	0.150%
10	16.90%	0.00%	1.52%	0.00%	0.00%	72.88%	0.00%	0.00%	8.71%	0.00%	0.00%	0.00%	100.00%	1.587%	0.154%
11	14.68%	0.00%	0.00%	0.00%	0.00%	77.20%	0.00%	0.00%	8.11%	0.00%	0.00%	0.00%	100.00%	1.629%	0.157%
12	11.50%	0.00%	0.00%	0.00%	0.00%	81.30%	0.00%	0.00%	7.20%	0.00%	0.00%	0.00%	100.00%	1.672%	0.161%
13	8.50%	0.00%	0.00%	0.00%	0.00%	85.21%	0.00%	0.00%	6.28%	0.00%	0.00%	0.00%	100.00%	1.715%	0.164%
14	5.59%	0.00%	0.00%	0.00%	0.00%	88.96%	0.00%	0.00%	5.45%	0.00%	0.00%	0.00%	100.00%	1.757%	0.167%
15	2.75%	0.00%	0.00%	0.00%	0.00%	92.58%	0.00%	0.00%	4.66%	0.00%	0.00%	0.00%	100.00%	1.800%	0.170%
16	0.12%	0.00%	0.00%	0.00%	0.00%	96.12%	0.00%	0.00%	3.77%	0.00%	0.00%	0.00%	100.00%	1.842%	0.173%
17	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	1.885%	0.176%

Portafolios Eficientes = 17

Amplitud Desviación Estandar = 0.043%

Source: own data

For a conservative investor, the minimum variance portfolio is a good choice. However, according to Markowitz, rational selection of the investor and risk aversion lead him to seek different possibilities of portfolio geared for generating good returns at a given level of risk, and create the so-called indifference curves on the efficient frontier line.

It is worth highlighting that an investor who wants to invest in shares comprising the Colombian stock market can maximize profitability by investing in any of the portfolios located on the efficient frontier line, depending on the level of risk he/she wants to assume.

Conclusions

In this paper the application of the Markowitz model in the Colombian stock market in the period January 2005 to December 2014.

The main conclusion to be drawn form this research is the difficulty faced by Colombian investors in order to implement the model of Markowitz. In fact, only 12 companies present complete information regarding share prices for a time period which is not very long. This lack on information and on companies available to build the portfolio has a very important impact on the portfolios that can be created by the model. Many of the efficient portfolios are composed just by two companies. For this reason, invertors seeking a higher and more reasonable degree of diversification cannot construct their portfolios only using Colombian shares. Therefore future research should be directed to find other investment alternatives, for example, investing in other stock markets in the region and creating a pan-american portfolio applying the model of Markowitz.

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Factors determining the trade costs of major european exporters

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Abstract
The aim of this paper is to analyse the factors determining trade costs in the top European exporting nations. We have estimated an explanatory equation for trade costs to determine the importance of logistical performance and other variables that may be key to determining the cost of trade. The results reveal the substantial importance of logistics in determining trade costs, which exceeds that of distance. The results also indicate that logistics are more relevant in those countries where costs are lower. This analysis allows establishing conclusions about what type of improvements will lead to cost reductions and, therefore, to greater international competitiveness. It has been conducted for two years, also facilitating the detection of possible changes that can in turn reveal the existence of a behaviour pattern in these countries.

Keywords: *Trade Costs, Logistic Performance, European Union, International Trade*

Introduction

The substantial growth in international trade in recent years has not been free of obstacles. On the one hand, tariff and non-tariff barriers exist, which vary according to the sectors affected, and on the other, trade costs act as an impediment to trade and have been gaining in importance and exerting a significant influence on trade patterns. Within this context, logistics plays a fundamental role. Inefficient logistics clearly result in higher logistics cost, which limits global integration and deepens differentiation among nations.

The analysis has been conducted for 2005 and 2008. Considering these two years facilitates the detection of possible changes that can in turn reveal the existence of a pattern of behaviour in the countries considered. Limited data availability for certain variables made it impossible to study subsequent years. However, the results may serve as a guide for these countries to verify whether efforts intended to improve logistics have been fruitful or, conversely, whether there are certain areas of vital importance requiring further effort.

Methodology: cost model and sample

In line with Chen and Novy (2013) and Arvis et al. (2013), we defined an equation that allows us to explain the determinants of costs. Specifically, the expression is as follows:

$$\text{Log}(\tau_{ij}) = \beta 0 + \beta 1 \text{ Log}(Di) + \beta 2 \text{ Log}(1+Tij) + \beta 3 \text{ Log}(ERij) + \beta 4 \text{ Log}(ACIij) + \beta 5 \text{ Log}(ECij) + \beta 6 \text{ LPIij} + \beta AW + uij \quad (1)$$

where,

τ_{ij}ij: Trade Cost between country i and country j.

Dij: Distance between country i and country j,

Tij: Geometric average of unity plus the trade-weighted average effectively applied tariff applied by i to j's exports and by j to i's exports

ERij: Geometric average of the average official USD exchange rate of country i and j

ACIij: Geometric average of country i's and j's score on the Air Connectivity Index,

ECij: Geometric average of the cost of starting a business in country i and country j,

LPIij: Geometric average of country i's and country j's score on the Logistics Performance Index.

W: Dummy variables: common border (conting), has ever been a colony (colony), and same RTA.

The sample is composed of the 8 largest EU exporters in terms of volume, which represent a significant share of overall European trade (80.1% of total EU exports in 2005 and 75.1% in 2008). Germany's dominant role in EU trade is clear (more than 30% of the total exports for the 8 countries in both years). France occupies the second position (13.6 and 13% in 2005 and 2008, respectively), while the Netherlands increased from fifth place in 2005 to third place in 2008. With regard to importing countries, the study considered approximately 126-127 of the 150 countries for which the World Bank publishes LPI, omitting those lacking an index value for the two years analysed.

Results

First, in line with prior research (Arvis et al. 2013), distance and LPI, as determinants of trade costs in the years analysed, are clearly important determinants of trade costs. The importance of trade facilitators in national development is reinforced; this, in turn, reinforces the fact that improved logistics significantly reduce trade costs. Furthermore, this result confirms that treating distance as a proxy for costs is an effective approach.

Table 1. Determinants of trade costs

	Germany		United Kingdom		Italy		Netherland		Belgium	
	2005	**2008**	**2005**	**2008**	**2005**	**2008**	**2005**	**2008**	**2005**	**2008**
Entry Costs	0,0056	-0,0001	0,0029	0,0099	0,0094	0,0036	0,0130	0,0180	-0,0026	0,0017
ACI	-0,0203*	-0.0318**	-0,0021	-0,0052	0,0088	-0,0127	-0,0003	0,0120	0,0056	0,0037
Exch. Rate	-0,0057	-0,0045	-0,0064	-0,0082	0,0141	0,0064	-0,0072	-0,0188	0,0107	-0,0133
LPI	-0,125***	-0.110***	-0,133***	-0.124***	-0,109***	-0.085***	-0,135***	-0.117***	-0,124***	-0.092***
Distance	0,0733***	0.0600***	0,0562***	0.0424**	0,0864***	0.0687***	0,0667***	0.0643***	0,0660***	0.0397**
Tariff	0,0077	0.0331*	-0,0036	0,0036	-0,0204	0,0089	-0,0192	0,0119	-0,0162	0,0072
RTA	-0,0398**	-0.057***	-0,0235	-0.0471**	-0,0257	-0.0488**	-0,0341	-0,0313	-0,0314**	-0.053***
Contig	-0,0275*	-0.0284*	-0,0167	-0,0116	-0,0112	-0,0136	-0,045***	-0.074***	-0,047***	-0.070***
Colony	-0,0075	-0,0151	-0,040***	-0.048***	-	-	0,0036	0,0007	-0,0123	-0,0016
R2	0,767	0,748	0,694	0,656	0,688	0,654	0,657	0,6861	0,748	0,712
Nº obs	127	124	127	125	127	123	127	120	126	122

	Sweden		France		Spain		All countries	
	2005	**2008**	**2005**	**2008**	**2005**	**2008**	**2005**	**2008**
Entry Costs	0,0256	0.0441***	0,0050	0,0032	0,0008	-0,0014	-0.0108**	-0.0117**
ACI	-0,0131	-0,0194	0,0021	-0,0056	0,0230	0,0172	-0.017***	-0.022***
Exch. Rate	-0,0080	-0,0056	-0,0066	-0,0064	0,0089	0,0066	0.0127***	0,0088
LPI	-0,133***	-0.097***	-0,104***	-0.087***	-0,128***	-0.102***	-0.125***	-0.109***
Distance	0,0667***	0.0457**	0,0108	0,0016	0,0654***	0.0552***	0.0587***	0.0504***
Tariff	-0,0079	0,0158	-0,0098	0,0275	-0,0276*	-0,0057	-0.016***	0,009
RTA	-0,046***	-0.060***	-0,075***	-0.072***	-0,043***	-0.058***	-0.045***	-0.055***
Contig	-0,0096	-0,0112	-0,047***	-0,039***	-0,027***	-0.0301**	-0.030***	-0.033***
Colony	-0,0190	-0.0313**	-0,041***	-0.045***	-0,035***	-0.041***	-0.024***	-0.023***
R2	0,735	0,705	0,650	0,63	0,719	0,651	0,676	0,626
Nº obs	126	121	126	124	126	123	1012	982

Note: *,** and *** denote test statistical significance at the 10% 5% and 1% levels, respectively.

Moreover, in the results, the particular case of France is notable. Here, distance loses significance in countries that participate a shared RTA, have a common border and have ever been a French colony. Most French products are destined for neighbouring countries in the EU (Germany, Italy, the United Kingdom, Belgium, Spain and the Netherlands). The results indicate that the costs are reduced to the extent that France has trade agreements with importing countries. Comparing the results obtained in 2005 and 2008 reveals that, in 2008, in aggregate for all of the countries studied, and in each of them, logistics and distance decline in importance as determinants of trade costs in favour of the RTA variable. This highlights the need for countries to continue to adopt policies intended to further facilitate not only trade but also trade agreements.

Conclusions

Exporting is directly conditioned by the cost paid, which is in turn conditioned by a country's level of logistics. Focusing on this premise, in the paper, we analysed the importance of specific explanatory variables in determining trade costs. This analysis was performed to provide empirical evidence concerning which logistical dimensions should be prioritised. The results reveal that the analysed countries should continue to rely on improving their logistics, not only to improve their trade but also to improve their competitiveness. Similarly, distance remains a key determinant of trade costs, albeit one that is consistently less important than logistics. However, our empirical evidence demonstrates that countries should emphasise enhancing trade agreements because in a period of only three years, this variable gained relevance over distance.

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The model of intellectual capital evaluation in publicly listed companies

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Abstract
The majority of publicly listed companies are trying to adapt to investors requirements and to provide as much information about company as possible. Company's potential of generating value added and ability to increase potential percentage of dividends attracts investors. Nevertheless, it appears that financial reports of publicly listed companies do not reflect all information, which is disposed by a respective company. Intellectual capital, being the most important factor of value added creation, is not being reflected in the financial reports and not even being managed by directors or managers. This paper provides the model of intellectual capital evaluation in publicly listed companies, which could potentially be a tool for evaluation, control and management.

Keywords: *intellectual capital, publicly listed companies, value added.*

Introduction

The importance of intellectual capital in publicly listed companies is being observed and accentuated by many scientists and economists (Berg, 2006; Bontis, Richards, and Serenko, 2011; Bourdieu, 2005; Codinhoto et al., 2009; Galindo and Mendez-Picazo, 2013; Grimaldi, Cricelli, and Rogo, 2013; Heskett et al., 1994; Jensen et al., 2012; Kaplan and Norton, 2000; Kotler, 2000; Kumar and Grisaffe, 2004; Luthans et al., 2004; Mačerinskienė and Survilaitė, 2011, 2012; Malmelin, 2007; McGrath, 2007; Menon et al., 2005; Møllebjerg, 2009; Proctor, 2013; Pulic, 2000; Ulaga and Eggert, 2005; Zeithaml, 1988). Although it is agreed that intellectual capital increases value added of a respective publicly listed company, there is no accepted and widely used tool created and implemented. This paper suggests the model of intellectual capital evaluation in publicly listed companies, which could help to evaluate, measure, control and manage intellectual capital with value added generation purpose.

The creation and aspects of the model of intellectual capital evaluation in publicly listed companies

Intellectual capital is the factor of value added creation, fostering and generation in publicly listed companies. The basic issue with intellectual capital theory is description, structure and evaluation methods. Many authors indicate different, although similar, intellectual capital features. In order to investigate intellectual capital further, structural parts must be indicated and described. Nevertheless, the variety of different interpretations leads to mismatches in intellectual capital theory.

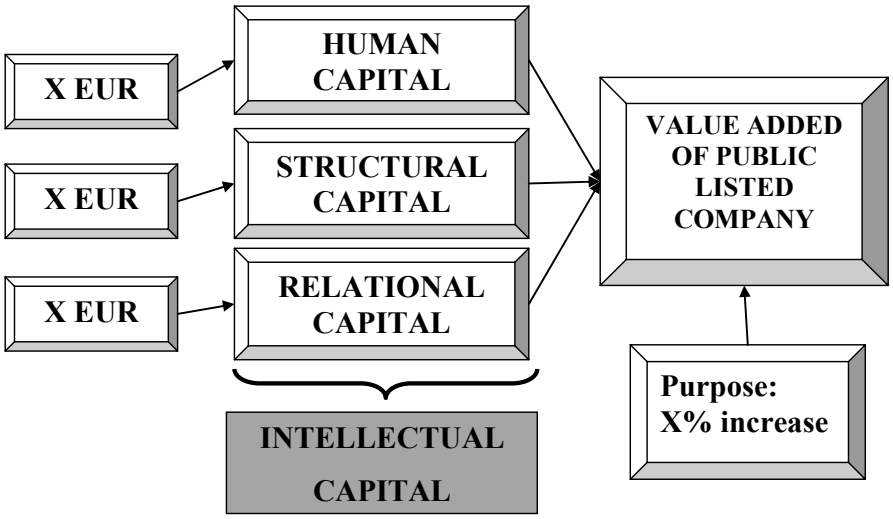
Investigation of intellectual capital theory provides different structural part approaches. The majority of authors (Bourdieu, 1986; Putnam, 1993; Saint – Onge, 1996; Sveiby, 1996; Stewart, 1997; Edvinsson and Malone, 1997; Draper, 1997; Bontis, 1998; Van Buren, 1999; O'Donnell and O'Regan, 2000; Bounfour, 2003; Swart, 2006; Ramirez, Lorduy, and Rojas, 2007; Malmelin, 2007; Namvar et al., 2009) indicate that human capital is the main intellectual capital part. Nevertheless, according to scientific literature, multiple intellectual capital structural parts are distinguished as well:

- Structural capital (Bourdieu, 1986; Edvinsson and Malone, 1997; Putnam, 1993; Saint – Onge, 1996; Stewart, 1997; Draper, 1997; Bontis, 1998; Roos et al., 1998; Bounfour, 2003; Swart, 2006; Ramirez, Lorduy, and Rojas, 2007; Namvar et al., 2009)
- Customer capital (Saint – Onge, 1996; Stewart, 1997; Draper, 1997; Roos et al., 1998; Bontis, 1998; Van Buren, 1999)
- Relational capital (Ramirez, Lorduy, and Rojas, 2007; Malmelin, 2007; Namvar et al., 2009)
- Social capital (Bourdieu, 1986; Coleman, 1988; Putnam, 1993; Grootaert, 1997; Rose, 2000; Uzzi and Gillespie, 2002; Parts, 2003; Mačerinskienė and Vasiliauskaitė, 2004; Swart, 2006; Danchev, 2006)
- Innovational capital (Draper, 1997; Van Buren, 1999; Bounfour, 2003; Namvar et al., 2009)
- Organizational capital (Draper, 1997; Malmelin, 2007; Namvar et al., 2009)
- Process capital (Draper, 1997; Van Buren, 1999; Namvar et al., 2009)
- Communicational capital (Hartman and Lenk, 2001; Hartman and Wang, 2004; Malmelin, 2007)
- Reputation capital (Fombrun and Rindova, 1996; Fombrun and van Riel, 2004)
- Juridical capital (Malmelin, 2007)
- Psychological capital (Bandura, 1997; Masten and Reed, 2002; Snyder et al., 2002; Luthans and Avolio, 2004; Carver et al., 2010)
- Market assets (Brooking, 1996; Bounfour, 2003)
- Human centered assets (Brooking, 1996)
- Intellectual property assets (Brooking, 1996)
- Infrastructure assets (Brooking, 1996)
- External structure (Sveiby, 1996, 1997; Petrash, 1997; O'Donnell and O'Regan, 2000)
- Internal structure (Sveiby, 1996, 1997; Petrash, 1997; O'Donnell and O'Regan, 2000)
- Employee competence (Sveiby, 1997)
- Brand equity (Kapferer, 1997; Keller, 1998)

The intellectual capital structural parts were classified according to similarities and common features accordingly: intellectual capital is the sum of human capital, structural capital (also known as an internal structure) and relational capital (also known as an external structure). Human capital structural parts are considered psychological capital, human centered assets and employee competence. Structural capital (also known as an internal structure) structural parts are as follows: innovational capital, organizational capital, process capital, reputation capital, juridical capital, market assets, intellectual property assets, infrastructure assets. In addition to this, relational capital (also known as an external structure) is comprised of social capital, communicational capital and brand equity. The proposal of such intellectual capital classification came from willingness to collect all possible structural parts, to compare them and to find any of similarities.

According to scientific literature review, the model of intellectual capital evaluation in publicly listed companies was proposed (Picture 1.1.).

Picture 1.1. The model of intelectual capital evaluation in publicly listed companies



This model aims to determine how much a respective director or manager needs to invest in intellectual capital in order to increase publicly listed company's value added with a certain amount. It is supposed that management decides to invest X amount into a human capital, X amount into a structural capital, and X amount into a communicational capital, and how this will affect value added. In addition to this, manager can also set the goal, for instance: publicly listed company's management wants to increase the value added by 5%. The model would show, how much it is needed to invest into a specific intellectual capital part. What is more, this model also aims to determine, which intellectual capital components have the greatest impact on the value added of publicly listed company.

Also an extended model is being created for the clarification purposes. In the extended model smaller elements of intellectual capital structural parts are being listed. Nevertheless, such model is just a proposal and was not tested empirically. Expert evaluation could potentially evaluate the weight of factors in order to combine a formula, which would calculate main variables.

Conclusions

The model of intellectual capital evaluation in publicly listed companies was created and proposed using scientific literature review in order to fulfil two basic needs: how to describe intellectual capital and its main structural parts; how to adapt to investor's needs and manage intellectual capital in order to increase value added of the respective company. The significant issue appeared during the investigation of intellectual capital theory: discrepancies and mismatches of understanding intellectual capital structural parts. In this paper an updated intellectual capital structure was proposed with the intention to facilitate and make clear picture of the intellectual capital consistency. As a result of an updated intellectual capital structure, the model of intellectual capital evaluation in publicly listed companies was created and proposed. Although such model could be helpful for management, it still needs to be empirically tested, thus requiring more research on this subject.

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Determinants of Non-Tariff Measures in Agricultural Trade

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Abstract
Over the past few decades a great deal of effort has been made to facilitate the markets access. This effort has attempted to reduce tariff in particular. Resulting from the reduction in tariffs, the significance of an interest in Non-Tariff Measures (NTMs) has increased. In this paper we address certain hypotheses on the factors that contribute to explain the extent of the use of NTMs and their numberrelated to Sanitary and Phytosanitary Regulation. One hypothesis we want to test relates to the existence of "policy substitution" between tariffs and NTMs. The second is the hypothesis that "path dependence" can affect the number of food alert notifications at the borders.

Keywords: *policy substitution, path dependence, agrifood trade, alert notification,RASFF*

Introduction

It is generally understood NTMs can be understood as effective tools to address economic and social inequalities and to achieve optimal public policy objectives, not likely to be achieved by the free play of market forces (Bagwell and Staiger, 2001; Staiger and Sykes, 2011). Other studies have concluded that NTMs have the potential to correct market asymmetries and favor trade (Disdier et al., 2014). This perspective differs from Von Lampe and Jeong (2013) who test the hypothesis that these regulations potentially hinder trade. Recent literature, less opti-minst, clearly illustrated the trade restrictiveness effect of NTMs (Hoekman and Nicita, 2008; Lloyd et al., 2009; Manole and Spatareanu, 2010). Regarding the interests on the pursue or the impacts generated using the NTMs in sensitive areas such as sanitary and phytosanitary measures it is no surprising that some questions arise.

In this paper we address certain hypotheses on the factors that contribute to explain the extent of the use of NTMs and their number. One hypothesis we want to test relates to the existence of "policy substitution" between tariffs and NTMs. The second is the hypothesis that "path dependence" can affect the number of food alert notifications at the borders. These hypotheses will be tested separately.

Methods and data

Relations between NTMs and tariffs have been subject to controversy. Kee et al. (2009) suggested a possible trade-off between tariff and non-tariff barriers. Going deeper into the subject, results by Gourdon, J., et al (2012) suggest the presence of correlation between the use of NTMs and traditional forms of trade protection policies.

The existence of policy substitution is examined considering Egypt, Jordan, Morocco and Tunisia, which have undertaken various degrees of trade liberalization. The products include the whole range of agri-food products at the 6-digit level of the Harmonized System (HS chapters 01 to 22).The Ad Valorem Equivalents (AVE) protection provided by the NTMs is from Kee et al., (2009). Most Favoured Nation (MFN) applied tariffs at the HS 6-digit level were collected from the World Integrated Trade Solution (WITS) database, corresponding to the same periods for which the AVE were available.

First we identified as AVE and tariff 'peaks' those greater than 75%. According the combination of high tariffs and AVE peaks, products can be clasified into four categories: high protection (high proportion of

AVE and tariff peaks), disguised protection(low proportion of tariff peaks, high proportion of AVE peaks), low protection(low proportion of AVE and tariff peaks) and transparent protection (high proportion of tariff peaks, low proportion of AVE peaks). Multiple regression between and tariffs and tariffs change as a explanatory variables and AVE as a dependent variable helps to test the hypothesis of policy sustitution in the selected South and East Mediterranean Countries (SEMCs).

The second issue addressed in the paper is path dependence: does "reputation" affect the number of alert notifications at the border? We evaluated whether food product alert notifications in the previous year affect the number of notifications in the current one, and whether such path dependence, if it exists, depend on the product, sector, and countries of origin and destination. Firstly, a great deal of work was allocated to the design and building of a database that transforms Rapid Alert System for Food and Feed (RASFF) data into notifications classified by HS code. An Excel lexicographic tool was defined to facilitate the conversion of 74,589 observations related to alerts which occurred between 2000-13.Secondly, a model was specified to explain product-country-year notifications as a function previous product notifications, sector notifications, country notifications, import volume, import change and per capita GDP, the three last presented in log terms. Thirdly, a Negative Binomial (NB) and a Zero-Inflated Negative Binomial (ZINB) in R-language was applied. Finally, the analysis was also conducted subdividing observations into two sub-periods (2001-07 and 2008-13), in order to explore the evolution, if any, of path dependence effects overt

Spain, Italy, Germany, France, Netherlands and United Kingdom were selected as the importing countries.Products include the whole range of agri-food products at the 4-digit level of the HS, for chapters 07, 08 and 20 (fresh fruits, fresh vegetables and processed fruits and vegetables).We considered notifications on exports originated in the top 23 world exporters of fruit and vegetables , representing 90% of world exports of the sectors studied.

Results

Summarizing the main results, the first element to point out for the analysis of the ‘policy substitution’ effect in SEMCs is that in the preliminary descriptive analysis performed most products lie on the category of low level of both tariff and non-tariff protection. However, we also identified a disguised protection group (this means: high AVE of the NTMs and low tariffs). This can be explained by the fact that 47.8 % of products studied present AVE peaks (a value greater than 75%). These AVE peaks take place mostly in products in chapters 02 (meat), 08 (fresh fruits) and 20 (processed fruit and vegetables). This indicates that, in the presence of a reduction of the frequency of tariff peaks, NTMs keep a significant role in restricting market access in a number of cases.

The second step in this analysis was based on a cross-section analysis of AVEs of NTMs as a function of a set of variables, including tariffs and tariff changes. Our findings indicate that for some products in Egypt, Tunisia, Algeria and Morocco there is “policy substitution” between NTMs and tariffs. The policy substitution is "dynamic", in the sense that higher AVEs of NTMs are determined by reductions in the tariffs, rather than by their current levels.

The second analysis addressed the path dependenc by exploring the implementation of SPS regulations through alert notifications on fruit and vegetables imports registered by the RASFF at the border of the six selected EU countries on their imports from the top 23 supplying countries.

Our findings suggest that, first, the EU cannot be considered as a single unit when the implementation of non-tariff measures at the border are considered, although there are signs that country behaviors are becoming more uniform in more recent years; and, second, the number of alert notifications in previous years have a greater influence over the product dependene than over sector and country dependence.On the contrary, little correlation emerges between food alert notifications and import volumes.

Conclusions

For SEMCs a taxonomy the dominant category observed is low protection. However, a relatively high level disguised protection is also present. NTMs seem to affect particularly imports of products such as fresh fruits, meat, and processed fruits and vegetables. Our findings indicate also that in Egypt, Tunisia, Algeria and Morocco for some of the products considered there is dynamic policy substitution between NTMs and tariffs. Nevertheless significant country differences exist. SEMCs are in a different stage with respect to the harmonization of their standards, probably as a result of their different stages in the process of accession to WTO. Further research is needed in this field to complete our understanding of the relations between NTMs and tariffs.

Regarding the analysis of the factors influencing the implementation of SPS measures for fruit and vegetables at the border of six EU MS, our results show that there is no clear common behaviour on their part. Control measures are implemented by national authorities, with differing interpretations and, possibly, efforts, so that the harmonization process remains imperfect.

Our findings uphold the idea that at the EU border product path dependence matters, supporting the evidence found by Jouanjeanet al.(2012) with reference to US SPS border controls, although in our study country and sector path dependence effects were found to be of lower intensity. It seems that in the EU case the notion of collective path dependece must be qualified by the ability of a sector, or an exporter, to react to notifications and be able to reduce the probability of them occurring again the following year.

Finally, the low statistical significance of the estimated parameters related to the volume imported and its change overtime would suggest that food alert notifications may be influenced by path dependence but do not result from a substituting behavior between tariffs and NTMs, so a protectionist approach does not seem to motivate the outcomes of safety controls in the studied EU MS.

We acknowledge the exploratory character of the research performed so far and presented in the paper. Nevertheless, we believe it may provide useful information that helps understand some of the economic factors which explain the use and implementation of NTMs related to SPS regulations.

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Analysis of Efficiency of Pig Farms in the Valencian Community

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Abstract
The aim of this study is to analyse the efficiency of livestock operations in the Valencian Community, particularly for pig, which currently provides the greatest economic weight to the agricultural GDP of the community. By creating a production function representative of the existing allocations on farms, the farms that reach an optimal level of production in the absence of inefficiencies will be determined. The results will help determine standards that facilitate error correction to improve the competitiveness of the sector.

Keywords: *Efficiency, Pig Farms, DEA.*

Introduction

The evolution of the Spanish economy has determined the development of pig production. The country has been able to quickly adapt to changes and new demands required by the sector, ultimately transforming it into the leading livestock sector. Specifically, during 2013, the number of pigs was 25,494,715, representing 51.07% of all livestock. Spain is a country with high pig farming production, although with serious limitations due to the market situation and environmental requirements (Lainez, et al. 2002). In the European Union (EU), Spain is the second largest producer of pigs, followed by Germany (Eurostat, 2011).

The aim of this study was to analyse the efficiency of livestock operations in the Valencian Community (VC), particularly for pig, which currently provides the greatest economic weight to the agricultural GDP of the community. By creating a production function representative of the existing allocations on farms, the farms that reach an optimal level of production in the absence of inefficiencies will be determined. In order to do so, Data Envelopment Analysis (DEA) is used, as this method is backed by a great deal of literature on similar issues (Arzubi et al, 2009; Chirinos and Urdaneta, 2007, among others). The results will help determine standards that facilitate error correction to improve the competitiveness of the sector. The novel contribution of this article is the economic approach to studying pig livestock in the VC by creating variables that are not directly identified by the Agricultural Census. The results obtained will allow identify patterns of behaviour for increasing competitiveness and resource savings.

Methodology and sample description

The Data Envelopment Analysis (DEA) is a nonparametric technique to measure the relative efficiency of homogenous units. This method is used most often in the presence of multiple inputs and outputs to determine which observations are best by comparing each with all possible linear combinations of the variables of the rest of the sample. It is then possible to use these variables to define an empirical production frontier. Thus, the efficiency of each unit analysed is measured as the distance to the frontier (Charnes, Cooper and Rhodes, 1978).

The application of the DEA methodology requires the definition of inputs and outputs that are going to constitute the model. Furthermore, it was necessary to treat the farming operations as an "industry" capable of transforming resources into a final product (outputs).

The database was constructed from microdata provided by the Agricultural Census and the Farm Accountancy Data Network (FADN). The Census is regularly conducted by the National Statistics Institute (NSI) through a process of surveys on production methods in farming operations. Given the complexity of the census, it is always published with a certain lag. Thus, the latest information available is from 2009.

The opacity of the value of some variables considered in this study required making direct inquiries to obtain them. Specifically, information on pig fattening operations in the VC was requested after verifying that the number of operations in the survey sample was representative of the entire community.

Thus, it was possible to construct a sample of 516 pig fattening farms, all registered in the Agricultural Census of the VC. TSO was taken as the only output and was identified as the gross monetary value (euros) of pig at the operation exit price. The variables that define the inputs covered the aspects inherent to pig production as follows:

- Utilised Agricultural Area (UAA): Area in hectares of land for permanent pasture and arable land.
- Total Labor Input (TLIs): Total labor input of holding expressed in annual work unit (full-time person equivent).
- Livestock Unit (LU): LU is equivalent to one head of cattle and is calculated by multiplying the number of cattle by a weighting factor depending on the species and type of animal.
- Specific costs of pig operations:
  - Feed Cost for Grazing Livestock (FC): Value in euros spent on concentrate and coarse fodder.
  - Cost of Animal Feed (CAF): Value in euros spent on feed for pigs.
  - Other Livestock Specific Costs (OCs): Value in euros of veterinary fees and reproduction costs.
- General operating costs (GOC): Costs in euros linked to productive activity.
- Machinery and Buildings Current Cost. (CC): Costs of current upkeep of equipment and purchase of minor equipment.
- Energy Cost (EC): Value in euros of consumption of fuels and lubricants for engines as well as electricity and fuel for heating.
- Contract Work (W): Costs linked to work carried out by contractors and to the hire of machinery.
- Other Direct Costs (DCs): Costs in euros of water consumption, insurance and other farming overheads.
- Depreciation (D): Depreciation of capital assets estimated at replacement value over the accounting year.

Efficiency results

The efficiency results of each pig farm represented an indicator of good/bad management performed at a particular time. However, the level of efficiency obtained for each farm was relative, as it was conditioned by the other units in the sample that it was compared with. This study measured the efficiency of pig farms in the VC using a sample of 516 observations, which were all within their respective category, representing a homogeneous group in terms of their production process.

Table 1. Efficiency results of farms of Valencia

	No. Efficient Farms	No. Inefficient Farms	Mean Efficiency	Minimun Efficiency
Alicante	2 (25%)	6	0.493	0.102
Castellón	10 (3.2%)	296	0.289	0.092
Valencia	17 (8.4%)	185	0.365	0.092
Total	29 (5.6%)	487	0.329	0.092

Source: Own elaboration

As shown in Table 1, the proportion of efficient farms within the VC was low (6%), thus suggesting that efforts should be made in management to improve their performance, especially in the province of Castellón, where less than 3% of the farms were efficient. According to the initial approach of the study, this result implied that the resources selected were not being used appropriately. The mean efficiency value reached 0.32, thus indicating that these operations could increase their output by 68% without affecting their inputs.

Overall, 29 farms were found to be efficient. To identify a behaviour profile of these farms, it is necessary to know which characteristics they have regarding their legal status and training of staff (Table 2).

Table 2. Qualitative characteristics of efficient pig farms

Legal Status	%
Individual Person	73.60
Corporation	15.78
Cooperative Society	2.60
Other legal condition1	7.89
Agricultural training	%
Agricultural experience	81.57
Agricultural courses	15.78
Agricultural professional studies	2.63
Agricultural university studies	0

Source: Own elaboration

Overall, the most efficient farms were established by unskilled individuals (Table 2). The heads of the operation used their own experience to set up the business, thereby achieving efficiency in production.

Conclusions

Livestock in the VC has been transformed in recent decades due to changes generated by regional and agricultural policies at the European, national or regional levels. Currently, the livestock sector is a key

[1] Included in this section any other legal entity not classified in the previous sections: Community Property, Civil Society, etc.

element for sustaining the population in the Valencian countryside due to the qualitative and quantitative significance it holds in overall economic activity.

The study of efficiency of pig fattening farms, which is the primary livestock species of the VC, revealed that none of the provinces in the community reached the desired levels of efficiency. Only 25% of Alicante farms were completely efficient. This low productivity was more acute in the most vulnerable areas, such as the interior of Castellón and Valencia, where this activity is so important that it constitutes the primary support mechanism for the rural population.

A thorough restructuring of the farms is required through better utilisation of its productive factors. The legal-administrative profile of efficient farms is fragile. The individuals with experience but without academic training in the sector are unable to transfer the advantages offered by the farmer group synergies that are characteristic of cooperative societies to production. Furthermore, it is increasingly necessary to train a workforce that leads to the use of more advanced processes that meet the needs of higher productivity, thereby improving the suitability of the sector. It is necessary for workers to be motivated with sufficient technical knowledge to perform tasks belonging to pig operations.

In quantitative terms, this study revealed that it is necessary to reduce the running costs of farming operations. The smallholder farms characteristic of the VC support a significant amount of costs that would be difficult to transfer to the selling price of its product without losing competitiveness. Agricultural policies aimed at this sector should promote the efficient use of available resources, which in some cases could happen by grouping pig farms into cooperatives or by increasing the size of farms.

Therefore, it could be argued that a personnel policy regarding the organisation of work leads to greater staff involvement in the production and economic performance of farming operations.

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The impact of a country environmental performance on its country risk

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Abstract
The purpose of this paper is to analyze the existing relation between the environmental proactiveness of countries and the Country Risk associated to them. With this in mind, two main indicators were considered: a) the Environmental Performance Index (EPI), as a measure of the environmental proactiveness of the countries and b) the Country Risk Score (CRS), as a measure of the risk of investing in a country.

Keywords: *Environmental Performance Index (EPI),Country Risk Score (CRS),*

Introduction

A country environmental policy can also exert a strong influence on external stakeholders, like international investors, in the sense that, from a country approach, an environmental proactive attitude would provide a safer image and, therefore, imply less uncertainty associated to political risk, economic performance, structural assesments, etc. There is abundant literature on environmental performance Indicators, more precisely on the measurement of environmental performance of firms and industries (e.g. González-Benito and González-Benito, 2008; Peiró-Signes et al. 2014; Segarra-Oña et al. 2012, 2014). Thus, it seems like it falls to the private sector to look ahead and to make plans in order to protect the environment at its own self-interest (Boiral, 2006), although from a country approach, governments are still essential to regulate and encourage the development of appropriate policy frameworks.

Therefore, while many empirical studies have investigated the relationship between stakeholder pressures and environmental management for the case of firms (e.g. Delmas, 2001; Henriques and Sadorsky, 1996, 1999; Sharma and Henriques, 2005); to our knowledge, not too much scholarship have investigated the relationship between the environmental management of countries and those stakeholder pressures.

For example, according to Rodinelli and Berry (2000) many multinational enterprises based in the United States and Europe have engaged in corporate citizenship programs to promote sustainable development. However, corporate citizenship programs are often defined narrowly, as philanthropy or external relationships with stakeholders to address social problems. Khanna (2001) examines the existing evidence on the extent to which information disclosure is effective in generating pressures from investors and communities to improve environmental performance.

In this vein and as reverse effect, it can be also stated that a country environmental policy, can also exert a strong influence on external stakeholders, like international investors, in the sense that, from a country approach, an environmental proactive attitude would provide a safer image and, therefore, imply less uncertainty associated to political risk, economic performance, structural assesments, etc.

In North America, Western Europe and many of the most prosperous countries in Asia and Latin America, the public demand for environmental protection has increased. The purpose of this paper is to analyze the existing relation between the environmental proactiveness of the countries and the risk of investing in them. For this purpose, two main indicators were considered: a) the Environmental Performance Index (EPI), as a measure of the environmental proactiveness of the countries and b) the Country Risk Score (CRS), as a measure of the risk of investing in a country.

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Environmental Performance Index and Country Risk Score

The EPI ranks how well countries perform on high-priority environmental issues in two broad policy areas: protection of human health from environmental harm (Environmental Health) and protection of ecosystems (Ecosystem Vitality). The EPI scores country performance in nine issue areas within these two main policy objectives (see Table 1)

Table 1. EPI components

Environment Health	Ecosystem Vitality
Health Impacts	Water Resources
Air Quality	Agriculture
Water and Sanitation	Forests
	Fisheries
	Biodiversity and Habitat
	Climate and Energy

Source: EPI data

According to Hsu et al., 2014, the EPI gives access to important environmental data organized in a way that is useful to policymakers and drives productive competition. The EPI allows countries to compare their performance to other countries. With the inclusion of time series data, countries can also see how their own performance has changed over time.

On the other hand and from an international investor point of view, country risk ratings are good indicators to measure the current situation of a country regarding measures of economic, political and financial Risk. In this study, we use the CRS underscored by the Euromoney Agency which combines the following categories: political risk, economic performance, debt indicators, structural assessments, access to bank finance/capital markets and credit ratings (Table 2).

Table 2. CRS categories

Categories	Indicators
Political Risk	Corruption, government stability,etc.
Economic Performance	Bank stability, risk, etc.
Debt Indicators	Total debt stocks to GNP, etc.
Structural Assesment	Demographics, Hard Infrastructure, etc.
Access to bank finance	Country's accessibility to int. markets, etc.
Credit ratings	Nominal values assigned to ratings,etc.

Source: Euromoney Agency

Results

The regression models for country risk were built considering country risk index as dependent on the environmental indicators. Regression coefficients, help us to determine how much Country Risk increases or decreases when Environmental Health and Ecosystem Vitality of the country changes. Moreover, we can evaluate if Environmental Health and Environmental Vitality have a significant impact on Country Risk.

Results indicate that Environmental Health and Ecosystem Vitality taken in isolation have both a significant impact in determining the Country Risk.

As we have previously commented, we think that country risk is affected by the area on which countries are located. Euro crisis, has demonstrated that because of the heavy interrelation between eurozone economies, country risk in one European country can affect other countries in the area (Cervelló-Royo et al. 2014). Moreover, the political stability in the area can affect country risk. Therefore, we decided to control for country location in a geopolitical area. We created dummy variables to analyze the effects of the area on the economic Country Risk Index and we run a multivariate qualitative analysis including the area dummies and different regression to confirm the second hypothesis.

Conclusions

Results obtained from the analysis confirmed that components of Environmental health and Ecosystem Vitality are good predictors for the Country Risk Index. In addition, controlling for the geopolitical location of the country, Environmental indicators are even better predictors. Those results should encourage governments, analysts, rating agencies and users to go beyond traditional country risk analysis (political risk, economic performance, debt indicators, etc.) and incorporate measures of environmental performance when assessing the risk of investing in a country and/or geographical area. We created dummy variables to analyze the effects of the area on the economic Country Risk Index and we run a multivariate qualitative analysis including the area dummies and different regression to confirm the second hypothesis. From this analysis we can state that Environmental health and Ecosystem Vitality are good predictors for the Country Risk Index. In addition, controlling for the geopolitical location of the country, Environmental indicators are still good predictors

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Trade relationship analysis among EU members by means of cluster analysis

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Abstract
In order to maintain sustainability of economies it is crucial to understand international trade relationships among different countries as well as economic integration. In this article trade relationships among European Union countries are analysed using method of cluster analysis. The research reveals that there are mainly two kinds of trade relationships among EU countries. A hypothesis to explain trade relationships is proposed.

Keywords: *international trade, cluster analysis, economic integration.*

Introduction

The transition economies of Central and Eastern Europe have experienced, since the early 1990s, a very quick trade integration into world markets, particularly with the more mature economies of Western Europe [Bussiere et al, 2005]. During the second half of the 20th century and the first decade of the 21st the world economy has been immersed in an accelerated process of internationalization and globalization. The increasing competition and rivalry in markets have changed the pattern of production and distribution of goods, intensifying international linkages and deepening economic inter-dependence among various areas [Martinez et al, 2012]. International trade and investment flows have experienced a remarkable expansion over the first decade of the twenty-first century, due to factors including a favourable economic climate during the first part of the decade alongside a widespread trend among firms towards geographical reorganization of production [Martínez-San Román, et al, 2015]. It is a common perception that the world has become smaller.. According to the World Bank's 1995 World Development Report, ''Markets have become steadily more integrated. This globalizing trend has been driven by breakthroughs in transportation, communications, and industrial technology, and above all by the opening of national markets to international trade'' [Yoto, 2012]. Therefore, the importance of regional economic integration is self-evident. [Baldwin, Venable 1995] Indeed, adopting business arrangements and economic-regional integration can be one of necessary actions in globalization and can protect the economies of most developing countries against global competition [Naveh et al, 2012]. Cross-border links evolve over time and, in that evolution, a country's role in its cluster(s) can be unique or similar to others, with different implications [International Monetary Fund 2012]. The aim of this research is to describe the commercial relationships between countries of the European Union applying cluster analysis in order to identify different trade relationship types. The remainder of the paper is structured as follows. Section 2 will present the database. Section 3 applies cluster analyses to describe the trading relationship between the EU countries. Finally, Section 4 concludes.

Database

The database used in the research regarding international trade was extracted from the database of World Bank. The GDP data was taken from the Eurostat database. The countries were arranged into pairs. In order to eliminate the country size effect, the trade of every country pair was divided by the GDP at market prices of that country pair. The countries which were included in the analysis are listed in table 1.

The data used in cluster analysis was for year 2012. This year is the most recent for which all the data is available.

Table 1. Countries which had their data analysed in the research.

Name of the country	Abbreviation	Name of the country	Abbreviation
Austria	AU	Latvia	LV
Belgium	BE	Lithuania	LT
Bulgaria	BG	Luxembourg	LU
Cyprus	CY	Malta	MT
Czech Republic	CZ	Netherlands	NL
Denmark	DK	Poland	PL
Estonia	EE	Portugal	PT
Finland	FI	Slovakia	SK
France	FR	Slovenia	SL
Germany	DE	Spain	ES
Greece	GR	Sweden	SE
Hungary	HU	United Kingdom	UK
Ireland	IE	Romania	RO
Italy	IT		

Cluster analysis of International trade in EU countries

Cluster analyses was used in order to analyse whether the countries can be grouped in relation to their trade relationship. That is, cluster analyses can make country-pairs groups which can be useful to identify the relationship between and among countries.

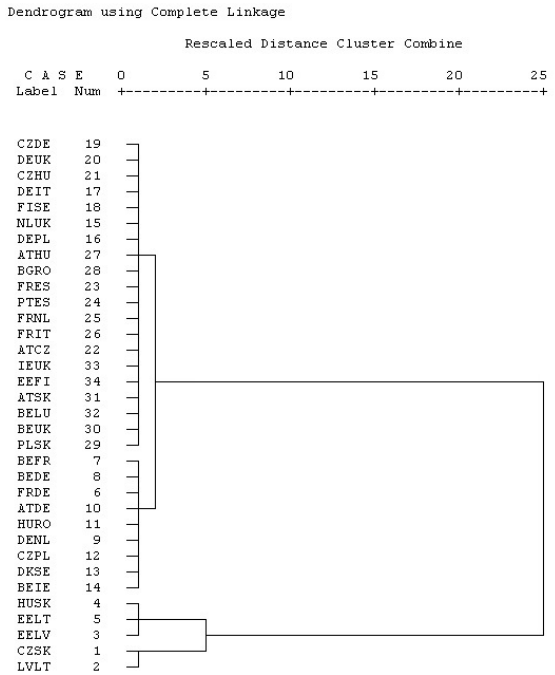
The number of clusters was not determined previously.

Five groups appear after the cluster analysis (see figure 1). The first group covers the majority of the country pairs (316 country-pairs out of 350). This groups does not appear in figure 1 because of space reasons, as it is too big.

The other four groups together only include 34 country pairs. In these four groups, trade relationship seems to be more intense than in first country-pairs group; this is why we can assume that there are essentially two general groups.

The first group (316 country pairs) has ordinary trade relationships and the other 34 country-pairs have intense trade relationships.

Figure 1. Cluster analysis of trade relationship among EU countries.



To explain why trade relationships in the second group of countries are more intense we propose a hypothesis: the relationship of trade is more intense between countries that have a long-lasting relationship and belonged to the same country or union in the recent past years.

So, for example, the country-pairs of the founding nations of the EU, which are, moreover, geographically located in the middle of Europe, belong to this second group. Country-pairs of States that have a long-lasting cultural relationship, like the Baltic countries, or that belonged to the communist economic block are sorted into this group, as well.

In order to contrast this hypothesis, other analysis are required, like, e.g., a gravitational model, where several independent variables are introduced in the model, like distance, language, cultural relationship etc.

Conclusions

Economic integration plays a crucial part in the development of the European Union economy. In order to evaluate economic integration of EU countries it is necessary to analyse and understand trade relationships among these countries.

Cluster analysis revealed that in 2012 there were two main groups of trade relationships among European Union countries. Our hypothesis suggests that most intense trade relationships exist between countries that were members of the same union before joining the EU, or even existed as one country. Intense trade relationships also exist between founding countries of EU, which are located close to one another geographically.

Further research is needed to confirm the hypothesis and to determine which variables describe which country pairs.

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The Convenience of Applying Multilevel Modeling on Real Estate Valuation

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Abstract
There are many economic agents interested in valuing big amounts of real estate assets. One of these agents are the financial institutions, which must value their vast mortgage portfolios periodically. In this paper we analyze the use of the Hierarchical Linear Model to value real estate portfolios. This model gives valuable information compared with the traditional OLS models and is more accurate, as it takes into account the hierarchical structure of the data.

Keywords: *hierarchical linear model, real estate valuation.*

Introduction

Accurate accounting information is necessary for investors, regulators, governments etc. This is specially truth in the case of banking institutions, as the present financial crisis has proved. Investors and regulators must have access to information regarding the valuation of the assets included in the balance of the banks. One of the most important assets regarding the volume and the demanded risk management are those related with mortgages and those real estate assets that serve as collateral in the event of default. Therefore, banks should update the value of this real estate portfolio periodically applying a statistically sound method which is easy, automated and inexpensive to implement and public these values in their accounting reports. Using a rapid, accurate and inexpensive methodology is of great importance to achieve these goals.

The remainder of the paper is structured as follows. Section 2 presents a brief literature review regarding the different methodologies usually applied to mass valuation. Section 3 introduces the proposed methodology, i.e., the hierarchical linear model and the database employed. Finally, Section 4 concludes.

Literature Review

There are different methodologies that can be applied to value big amounts of real estate assets, such as decision trees (Fan, Ong & Koh, 2006), rough set theory (d'Amato, 2007), artificial neural networks (Selim, 2009), support vector machines (Kontrimas & Verikas, 2011) or ramdom forest (Antipov & Pokryshevskaya, 2012), among others.

Furthermore, econometric models, more specifically, hedonic regression models, have been extensively applied in the literature and its use is widely spread among both academics and practitioners in residential real estate mass appraisal. These studies apply different econometric models with different complexity levels, like the traditional hedonic regression models (Downes & Zabel, 2002), ridge regression (Ferreira & Sirmans, 1988) or quantile regression (Farmer & Lipscomb, 2010), just to mention some examples.

Proposed Methodology: The Hierarchical Linear Model

In addition to the already employed methodologies cited in the previous section, we propose the application on mass appraisal of the Hierarchical Linear Model. This methodology has already been used

in other fields like education (Singh, 2014), public policy (Tso & Guan, 2014), politics (Wang, Rothschild, Goel & Gelman, 2014) or criminology (Fagan, Wright & Pinchevsky, 2015).

Although the application of the Hierarchical Lineal Model is very promising, its use in real estate valuation has been very limited. To our best knowledge, this model has not been employed yet on mass appraisal.

The general model to be estimated is:

$$Y_{ij} = \beta_0 + \sum_k \beta_k x_{ijk} + \sum_j \beta_j G_j + \varepsilon_{ij}, \qquad i = 1, \dots, I_j; j = 1, \dots, J \qquad [1]$$

where Y_{ij} represents the price for apartment i in postal code j, x_{ijk}represents the k explanatory variable, and G is the vector of geographical fixed effects. The parameters to be estimated areβ_k and β_j, and ε_{ij} is the error term.

In the simplest formulation of the Hierarchical Linear Model we consider the one-level random-intercept model [2],

$$Y_{ij} = \beta_0 + \sum_k \beta_k x_{ijk} + \sum_k \beta_k G_{jk} + u_j + \epsilon_{ij} \qquad [2]$$

where u_j is the group random effect (group-level residual) for group j. Thus, the overall conditioned mean is $\beta_0 + \sum_k \beta_k x_{ijk}$, but the conditioned mean for the group j is $\beta_0 + \sum_k \beta_k x_{ijk} + u_j$, so that u_j can be understood as the difference of group j's mean and the overall mean.

The basic assumptions on the group-level residuals are that they are independent normally distributed with zero mean, $u \sim N(0, \sigma_u^2 I)$; the individual-level residuals verify the same assumptions $\epsilon \sim N(0, \sigma_\epsilon^2 I)$; and group-level residuals are uncorrelated with individual-level residuals, thus total variance for individual ij is $\sigma_u^2 + \sigma_\epsilon^2$.

In the traditional econometric models, the influence of housing characteristics on the price is considered to be constant, regardless the location of the house. This assumption cannot correctly reflect the reality, as the characteristics of a neighborhood are not independent from the house characteristics and may interfere with each other. Following Basu and Thibodeau (1998), when spatial autocorrelation exists in the error term in a hedonic price equation, the assessment results of the parameters may be subject to error. Furthermore, incorrect coefficients may be caused in the explanatory variables in the model, which leads to wrong conclusions.

As stated by Brown and Uyar (2004), the Hierarchical Linear Model can be applied to overcome these problems and correctly assess the implicit price of a house with non-constant variance and spatial heterogeneity. That is, the Hierarchical Linear Model can be used to separate the variation in housing prices into that portion that depends on house-specific characteristics and that portion that depends on neighborhood-specific characteristics.

Conclusions

In this paper we propose the application of the Hierarchical Linear Model to residential real estate mass appraisal. Mass appraisal, the automated valuation of a big number of real estate assets, is of great importance for many economic agents, like financial institutions. While multilevel models have been already used in many fields like education, sociology or politics, to the best knowledge of the authors, this is the first time that this methodology is applied on mass appraisal.

Compared to the traditional hedonic regression models, the Hierarchical Linear Model explicitly considers that the price of the apartments located in the same neighborhood is not independent, as the

price will be influenced by characteristics of the neighborhood. In a real estate appraisal context Ordinary Least Squares will yield biased and inefficient results, as it cannot take into account within-group correlations or interactions between residence and neighborhood attributes.

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Interactions between the shadow economy and the social security system

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Abstract

The present paper analyses the interaction between the shadow economy and the social security system. It does not go into detail in the discussion about the nature, scope and manifestations of the shadow sector. The study is focused on the mutual influence of the shadow economy and various areas of the social security system – unemployment insurance, health insurance, pension insurance and social assistance. The aim is to show that the development of specific strategies of control and sanctions against the expansion of the shadow economy and measures for combating it must be directed to its causes.

Keywords: *shadow economy, social security system*

Introduction

Over the last decade, the phenomenon of shadow economy has attracted a growing interest in economic science and practical economic policy. According to estimates of experts from the Bulgarian Academy of Sciences, the size of this sector gravitates to about 40% of GDP. Undisputed is the fact that the shadow economy is harmful for the country as it is associated with evasion of tax and social security contributions. Its most adverse effect is the distortion of the market environment, as well as the deformation of competition and market mechanisms.

The reasons for the growth of the shadow sector indicated in specialized literature are the great tax burden and the heavy social security contributions. Deregulation, lowering taxes and the social security reform are seen as measures to combat the causes of the shadow economy. [1], [2], [3], [4], [9]. The economic literature lacks an unambiguous definition of the phenomenon of shadow economy. [9] This paper does not go into detail in the discussion about the nature, scope and manifestations of the shadow sector. The study is focused on the mutual influence of the shadow economy and various areas of the social security system – unemployment insurance, health insurance, pension insurance and social assistance. The aim is to show that the development of specific strategies of control and sanctions against the expansion of the shadow economy and measures for combating it must be directed to its causes.

Macroeconomic effects of the shadow economy

From a macroeconomic point of view, the existence of the shadow sector has both negative and positive effects. The negative are as follows: First: Distortion of the statistic data due to their incomplete and imperfect coverage, as well as their conversion into an unreliable basis for reforming economic policy; Second: Evasion of taxes and compulsory social security contributions by both the very worker “under the table” and his employer; Third: Circumvention of labour and social security legislation by companies who hire and employ workers “under the table”; Fourth: Emergence of social costs as a result of the distortion of competition through the provision of services in the shadow sector; Fifth: Circumvention of the regulations for consumer protection through services and activities in the black market (reduced market transparency, elimination of requirements for warranty and service).

The shadow economy also has positive aspects, which show that fighting it at all costs is undesirable: First: A greater flexibility due to avoiding some limitations of the labour legislation; Second: The effect

of automatic stabilization as a result of the expansion of supply through the black market in an unfavourable conjuncture when unemployment, the lack of possibility for working overtime and the early retirement force those who are affected to turn to the shadow sector. The incomes from the black market have a multiplication effect when spending them in the official market; Third: Performance of activities aimed at satisfying certain needs that the market is still or no longer able to offer (cleaning of houses, work in family farms, babysitting, private tutoring for students, etc.)

The listed positive and negative effects do not claim to be exhaustive, but they show the relationship between the shadow economy and the social security system. On the one hand, the traditional line of argumentation focuses on the evasion of compulsory social security contributions and the abuse when applying for social assistance. From the point of view of the social security system, this negative correlation between the shadow economy and the social security justifies the need for suppression of the shadow sector. It is necessary, however, to analyze to what extent it is responsible for these financial problems and to determine whether it can unload the social security system. [7] On the other hand, some authors express the opinion that the structure of the social security system influences the occurrence and the further existence of the shadow economy [5], [6], [10]. This opposite direction of the influence is essential since any attempt to expel the shadow sector would be futile in economic terms until there exist the rooted in the social system reasons for turning to it.

Effects of the shadow economy on the social security system

A central theme of criticism in the scientific discussion is the evasion of social security contributions. Other conditions being equal, this argumentation, which is limited to the requirement to reduce the shadow economy, should be accepted. However, given the interaction and the links between the shadow economy and the official economy, this simplistic approach is not economically valid. On the one hand, it has not been established with certainty whether the same activities will remain in the official sector if a ban on the shadow economy is enforced. On the other hand, the suppression of the shadow sector may limit some interrelated activities in the official sector, so that the social security contributions as a whole might even fall.

Unemployment insurance

If the shadow economy restricts the employment in the official economy, then the contributions for unemployment benefits will also fall. This reducing incomes effect is opposed to a relief on the expenditure side when the unemployment benefits are lower because the income base is lower due to the existence of parallel activities conducted in the shadow economy. Some people, who permanently cannot find employment in the official sector, are constant recipients of benefits. In the long run, the simultaneous receiving of these payments and working “under the table” during unemployment does not necessarily burden the financial system of the unemployment insurance if the associated with the work “under the table” willingness to work, respectively willingness for qualification improvement, increases in the long run the chances of finding a permanent job in the official economy.

Health insurance

In terms of the health insurance system, the activities within the shadow economy also entail a reduction of the social security contributions since the workers “under the table” get an income that is not reported. The health insurance payments, however, in their most part do not depend on the size of the individual

contributions. The financial condition of the health insurance may be exacerbated as far as the activities in the shadow economy increase the risk of diseases and lead to additional insurance payments.

Pension insurance

The activities in the shadow economy reduce the basis for calculating pension contributions and lead to their decline. As a result of the unreported employment the lower bases for calculating the pension contributions during the labour activity lead to a lower initial size of the pension. If the increased activities in the black market cause a lower demand for workforce in the official economy and as a result a less pay rise and a higher unemployment rate, then the rate of pension increase for all pensioners will be lower and the dynamics of expenditure will be relaxed.

Social assistance

In the field of social assistance, the evaded incomes from the shadow economy with the missing regular income can justify claims for receiving social assistance. Such an abuse is a result of a falsely reported need, which burdens primarily the municipal budgets.

Impact of the social security system on the shadow economy

The autonomy of the economic actors when making decisions in market environment includes the possibility for them to perform part of their activities not in the official market, but to transfer them to the shadow sector. Rational decisions will lead to activities in the shadow economy when for instance the commitment of an illegal black market observing the likelihood of detection and subsequent sanctions generate a net benefit. From the point of view of the present subject of research, it is interesting whether and to what extent the introduction or modification of legal provisions in the field of social security influences the individual decisions for increasing the activities in the shadow economy. The explanatory content of such a rational statement must, of course, be approbated through empirical research.

Social security contributions

The contributions for pension and health insurance and the unemployment benefits are generally tied to the gross income of the insured person and increase proportionally with the income. From the perspective of an employee, the social security contributions to be paid lead to a decline in the net income and thus to a decline in purchasing power along with the decline caused by the income tax. Under equal other conditions, the changes in the social security contributions will have the same effect as the changes in the rates of the income tax.

The cumulative total burden of the compulsory public debts means on the one hand a higher average tax burden to the net tax burden of the income tax. Since, in terms of the income tax scale, the social security contributions are deducted from a relatively low level in relation to the tax burden of the income tax, the burden of the social security contributions is relatively high at the lowest incomes. As a result of the possibility for deduction of social security contributions from the tax base of the income tax, the pressure of the social security contributions' burden decreases with the income increase. After reaching the limit of the contribution the relative weight decreases as the social security contributions remain constant. Hence the aggregate weight of the deductions in respect of the income tax burden increases absolutely, but the

difference between the lowly and highly burdened recipients of income is significantly reduced. Therefore, the progressive impact of the income tax is reduced by the social security contributions.

This limitation of the social security contributions' impact becomes clearer when analyzing the marginal tax burden for recipients of different incomes. If the possibility for deducing social security contributions is initially excluded, then the proportional structure of the contributions will increase the marginal weight of the contributions of all payers with the same absolute rate, but in any case only to the maximum basis of the contributions. Then the marginal burden of the social security contributions jumps to zero and the cumulative burden of deductions coincides with the marginal tax rate of the income tax. This progression limiting effect is further reinforced by the possibility to deduct social security contributions from the tax base. The progression limiting impact of the social security contributions is essential to the mutual influences between the shadow economy and the social system as far as the aggregate tax burden from compulsory taxes and contributions even for very low income causes a net loss of purchasing power by 30 – 40% and thus influences the economic decision of the taxpayers.

It is known from the economic theory of the endogenous solutions "working time-leisure time" that the effect of the marginal tax rate change on the labour supply is a priory indefinite as the discouraging substitution effect can be weakened by a stimulating effect of the income or even can be compensated by it (inverse reaction of labour supply). This „catch of the tax" is characteristic primarily for low-income receivers and is a consequence of the low utility of the leisure time as compared to consumption. Exactly in this segment of employment it could be achieved by simultaneous employment in the shadow sector. The economic incentive for shifting to the shadow economy is as stronger as to a greater extent with the deletion of the deductions related to the gross salary, in the black market, a structure arises, in which workers, company and/or user can share the illegally concealed or legally avoided amount of social security contributions.

Unemployment benefits

In accordance with the equivalent principle, the unemployment benefits are tied to the amount of the salary before the onset of unemployment, so that the commitment in the shadow sector will become economically attractive when the risk of job loss is very small or when the salary is so high that the maximum payment as compensation in case of job loss has been already reached.

If the unemployment is a fact, then the utility of the leisure time falls so heavily that even the very low-paid employment becomes attractive since it does not entail suspension of unemployment benefits. As in this case the possibility for formal employment is eliminated, the only remaining is the work "under the table", the unpaid mutual aid between neighbours, friends and relatives, as well as the activities in the family farm or household. The transition to the shadow economy in case of unemployment will increase its duration as the return to the official labour market is rational from the economic point of view only when the net salary is higher than the sum of the unemployment benefit and the incomes from the shadow economy (taking into account the risk of detection and respectively sanctions).

Health insurance

Payments from health insurance are largely independent from the amount of the contribution. A special element of health insurance is the insurance protection for unemployed members of the family. Unlike the working family members, who can only count on health protection while maintaining the formal terms of employment, in the cases when insuring officially unemployed family members, an incentive arises to work in the shadow economy without paying social security contributions and to take advantage of the

full package of health insurance. Hence, the insured family members – mainly women – are ready to take formal terms of employment only at very high gross salaries, and this leads to an expansion of the shadow sector.

Pension insurance

Unlike the health insurance and the unemployment benefits, the pension payments are more tied to the contributions paid and thus they reduce the incentive for evasion of social security contributions. The implications for the shadow sector arising from the expenditure side of the pension system lie primarily in lowering the retirement age as a result of the early retirement due to the large number of insurance years and as a result of the special social programs for unloading the labour market. The induced by these legal provisions increase of leisure time of the affected fully employable pensioners increases the potential for activities in the shadow economy.

An incentive exists for the retirees to turn to the shadow economy in case of opportunity for receiving both a pension and an income from work. In any case, it is doubtful whether an additional activity in the shadow economy will be rejected, if the income from work increases, all the more that the incentive for evasion of social security contributions and taxes is available. By working in the shadow economy the receivers of social assistance can also try to improve their own well-being without giving up the social assistance benefits.

Conclusions

The present analysis does not offer a secure economic justification of the specific interactions between the social security system and the shadow economy. However, it shows that, if the purpose of the economic policy is to suppress, to limit the shadow economy mainly through increased control, it is more likely not to take into account either the multiple layers of the phenomenon of shadow economy, or the economic models of influence arising from the tax and social-legal regulations to achieve success.

Except for that, a strategy of social policy aimed at solving the financial problems of the social security system by combating the shadow economy has little prospect for success until more attention is paid to the economic models of influence of the legal provisions in the field of social policy and the impact of the marginal tax rates on the social security contributions. The economically sound estimation of the interrelations and influences, of the interaction between the shadow economy and the social security system needs an empirically justified verification. It would be useful to make a quantitative analysis of the elasticity of decisions “working time – leisure time” in terms of salaries and the elasticity of the decisions for saving in terms of interest for the different types of households. Based on this, empirical testing should be done for those social groups, who would be most prone to work in the shadow economy. Without an adequate empirical economic justification, a danger dictated by the budgetary requirements exists that the fight with the shadow economy through control and reduction of social security payments will become a Pyrrhic victory which compensates the suppression of the shadow economy with high social costs, but this does not lead to the recovery of the social security system in the long run.

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Current research approaches to economic security

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Abstract
Economic security has been and will be a key concept in international economic relations. Nowadays the analysis of this concept became as urgent as it has never been earlier. This paper examines four approaches covering the evolution of the concept „economic security" during history. The process of economic security maintenance is carried out differently in each period of the history. This difference is determined mainly by the evolution of threats. It is proved that threats are modified in the conditions of globalization, so that nowadays it appears another variable in this equation: national vulnerability and economic resilience. That is why; economists have been keeping an eye on what does it mean and who is the object of economic security.

Keywords: *economic security, macroeconomic security, microeconomic security, individual security, critical thresholds, economic vulnerability*

Introduction

An analysis of economic security is justified by the need for coherent measure events that the society is passing; evaluate the evident changes in the threats to economic security and, not the last, to be able to decipher a coherent vision for the future.

During the 20th century and early 21st century there were formed a series of definitions for economic security that used to define the synergic approach that embodies itself in terms of the interests of the state, threatens stability, having the possibility of self-development, etc. Thus, security involves the protection of basic necessities, physiological, socio-economic, spiritual and situational resources, technologies, information and moral ideals, required for vital activity and prosperity of society.

The economic element of national security is a priority reference range of modern security approaches. They can head towards other areas of modern society, but are undeniably economic, due to the fact that the energy, transport, communications, military cannot exist outside of economy. The American economist, politician and historian, Richard Rosecrance mentioned a truth with profound implications: "in the past it was cheaper to conquer the territory of a state by force than to develop a sophisticated economic and commercial model, it is necessary to obtain the benefits from trade with it." Developing this idea, today it is cheaper as a state to exercise economic power than military force. (Rosecrance, 1986)

Approaches in economic security analysis

Asiatic approach (macroeconomic). The complexity of the concept of security makes the different dimensions of it to be often treated separately. In the broad sense the concept of "security" includes military security, economic security, energy security, environmental security, etc that possess the levers for tackling specific risks to each. Thus, there is a shift from threats to vulnerabilities and risks.

Economic security is often defined in general terms as "economic security of one or another system is meant the sub-system status which provides the ability to achieve the purpose of the whole system."

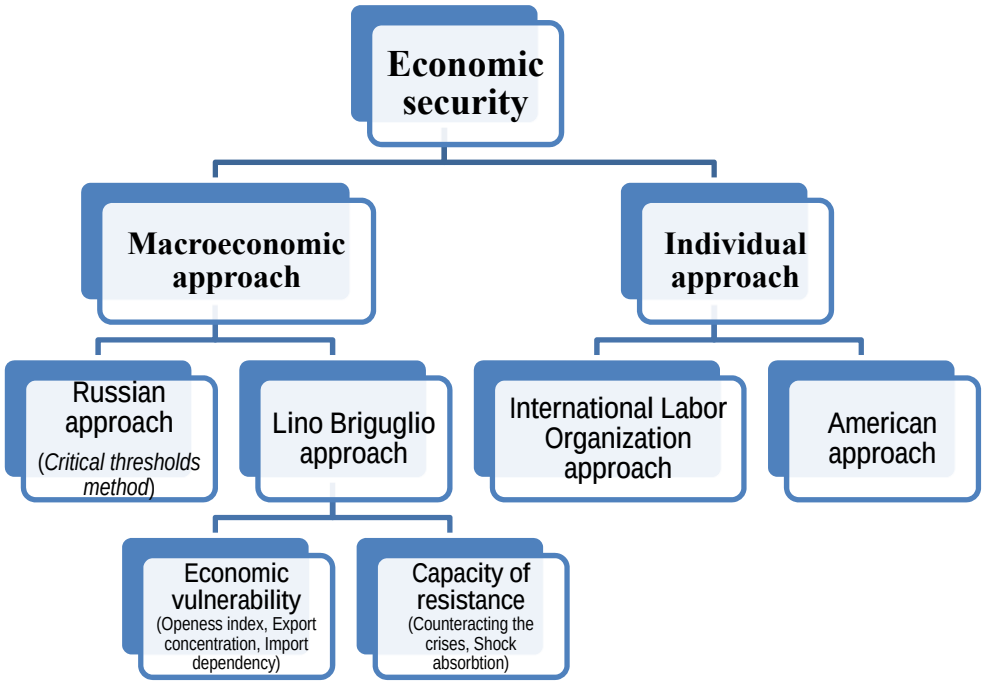
(Tambovtev, 1995) However, this definition is a general one which underlines that economic security is seen from the perspective of production potential being the result of economic policies promoted effectively. This lowers the state's exposure to threats, through the accumulation of vulnerabilities that may become a risk. In this context, for example the soviet economist, PhD in economic sciences, professor V. Senceagov said: "the essence of economic security can be defined as a situation when state institutions ensure the safeguarding of national interests protection, development of social-oriented state and sufficient military potential". (Senceagov, 2002; Terehov 2008; Savin 1995; Abalkin 1994; Atamanov, Rogaciov, 2009)

The macro-economic approach had a complex geometry, especially since this period coincides with the time of the two world wars. In particular, we note that it includes Russian school that tried to quantify economic security using critical values; and the approach developed by professor Lino Briguglio. His model represents economic security from the perspective of national economic vulnerability and capacity for resistance (counteracting the crises and shock absorption).

Individual approach (Anglo-Saxon). Having the changes on international market and the transformations that have occurred domestically, economic security tends toward the accumulation of new, important issues for the very existence of mankind. Thus, Mark Rupert, in his "International Relations Theory" defines the economic security of the individual as "stable incomes and other sources in order to maintain a standard of living in the present and in the foreseeable future which means: continuous solvency, predictable cash-flow, efficient use of human capital." (Rupert, 2007; Montbrial, 2012)

International Labor Organization (ILO) developed an approach of individual economic security. In the report, "Economic Security for a Better World", ILO researchers have divided the 90 countries subjected to analysis, representing 85% of the world's population, into four categories, (pacesetters, pragmatists, conventional, much-to-be-done). Also the individual approach is used by the American school that is calculating the Economic Security Index (ESI) for US. The ESI shows that economic insecurity disproportionately affects the less advantaged, but have risen substantially for all Americans. (Hacker, 2013)

Fig. 1 System of economic security approaches



Source: Elaborated by the authors

Conclusions

No state possesses 100% of its necessary resources (raw materials, scientific and technological potential, infrastructure, etc.), so every country is forced to participate in international trade to obtain essential materials for its national development. Small states have always been forced to participate in trade relations, allowing foreigners to play important role for their survival and, at the same time, being vulnerable, because they are weaker economically and have smaller domestic markets, they have no control over the larger powers, but without opening their economies these states have no possibility to become competitive.

Globalization opens up new possibilities for economies that are adapted, flexible and well anchored in core networks, but penalizes rigorously on those that are stiff. All States, including the smaller ones must prepare themselves to face these challenges, and this cannot be done only by a remarkable economic capacity, able to create conditions for economic security, social, informational, military, etc. of each country individually.

These new dimensions of reality turn of the century and millennium requires reconfiguration of the philosophy and face significant actors in international economic relations.

There is a strong need for analyzing the concept of economic security broadly taking into consideration both micro- and macroeconomic approach. Thus system of indicators described by L. Briguglio - national economic security are suitable for analysis, as described in details the socio-economic aspect (individual and macroeconomic aspect), which does not allow us to conclude a general economic security image.

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Management of Household Expenditure by Using Value Decomposition Technique

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Abstract
The aim of the paper is to provide the financial decision making mechanisms used by households for management their expenditure with the mathematical proof enabling quantitative evaluation of purchase alternatives through vector decomposition of the aggregate value of goods and/or services. The match between the properties of goods purchased and the specific consumers' needs represented by the vector of his preferences is expressed by comparing spatial orientation of the two vectors in "n" dimensional space, where "n" is a number of non-substitute value components important for the consumer. A method for calculation of spatial angle between the vectors is presented for the 3-dimentional space.

Keywords: *household expenditure management, household economics, aggregate value, vector decomposition.*

Introduction

Expenditure planning and management is one of key elements in household economics (Medova et. al. 2008). By efficiently planning and managing its expenditure a household can achieve maximum utility and successfully implement life-long wealth building plans and vice-versa. The flow of household-related expenditure in Lithuania makes approximately 2/3 of country's GDP (Ministry of Finance of the Republic of Lithuania, 2014), therefore its influence on economics is huge on both micro and macro levels.

Currently any good or service purchased by the household is usually estimated based on its aggregate value. A deeper look at the aggregate value shows that it is usually composed of a bunch of virtual components, each capable of satisfying different consumers' needs, e.g. in accordance with the levels present in Maslow's pyramid of needs: physiological (basic), safety, belonging, esteem and self-actualization. The more needs a good or service addresses, the higher its aggregate value and so is the price. For example, nutrition provides a human being with the calories, needed to compensate the burnt ones as well as with microelements and vitamins needed for the body. Many alternatives exist for satisfying nutrition needs- from purchasing basic products on the market till having meals in an expensive restaurant. The price for the same amount of calories produced by same basic food products in both cases may differ dramatically only meaning that restaurant would provide additional value components and charge with extra price accordingly. Additional value and its price in some cases can be dozens and even hundreds of times higher than its basic value and the price. That's why it is important for a rational consumer to analyze the value components of goods/services in order to realize if he will get the right product and pay for it the right price.

The aim of this paper is to provide the financial decision making mechanisms applied by households when satisfying their needs with the mathematical proof enabling quantitative evaluation of alternatives through decomposition of aggregate value of the good and/or service purchased.

Expenditure management is closely related to other processes within household economics. Numerous economic theories have been developed to handle various issues within consumers' behavior and are relevant to the expenditure management too.

Overiew of Related Theories

Households are important integral part of economic system of every country, therefore the processes related to households' finances are permanently in focus of numerous scientists (Campbell, 2006; Altfest, 2009; Vahidov and He, 2009; Abreu and Mendes, 2010; Hite et. al., 2011; Finke and Smith, 2012; Almenberg and Gerdes, 2012; Carlin and Robinson, 2012; Bosshardt and Walstad, 2014) and institutions, such as: Consumer Federation of America (2012), Certified Financial Planner Board of Standards (2012), Members Equity Bank (2013), International Monetary Fund (2013), Wealth Management Institute (2015), Princeton Survey Research Associates International (2015).

There are many theories that analyse the processes relatated to consumption and household economics: 1) Ernst Engel (1897) - an investigation about the reliance on income level and expenditure composition in households (Chai and Moneta, 2008) 2) Hazel Kyrk (1920) - incorporating the insights of economics into the field of home economics (Beller and Kiss, 1999). 3) Frank P. Ramsey (1928) - one of the pioneers in formation of consumer theories (Duarte, P. G.). 4) Margaret Reid (1934) - one of the pioneers in investigating household behavior related to consumption decisions (Hira, 2009). 5) John M. Keynes (1936) - absolute income hypothesis. Consumption depends only on current income level (Baranzini, 2005). 6) Paul Samuelson (1938) - Revealed preference approach, a method by which one can discern a consumer's utility function, by observing their behavior. 7) Abraham Maslow (1943) - Maslow's Hierarchy of Needs. People are motivated to achieve certain needs. When one need is fulfilled a person seeks to fullfil the next one, and so on. It includes five motivational levels of needs, often depicted as hierarchical levels within a pyramid. 8) Herbert Simon (1947) - investigation on how inidividuals make financial decisions. Suggested that the decision maker possessed limited knowledge and did not always seek the best potential choice because of limited resources and personal inclinations. 9) Franco Modigliani, Richard Brumberg, Albert Ando (1950) - the life-cycle theory of consumption and savings. Consumption depends not only on current income level, but also on future changes. Consumption must be balanced and equal throughout the all life-long period of time. 10) Milton Friedman (1957) - permanent income hypothesis. Consumption depends on permanent income. 11) Garry Becker (1960) - he put the family on the economics profession's research agenda. Best known for modeling household's decisions and resource allocation, while considering the household both a producing and consuming unit. 12) R. E. Hall (1978) - rational expectations permanent income hypothesis, where consumption is described as random wandering (Runkle, 1991). 13) Consumer theory – it is concerned with how a rational consumer makes consumption decisions. It's a study on how people decide what to spend their money for on given their preferences and budget constraints. The idea is that the consumer chooses a vector of goods x = (x1, ..., xn) to maximize his utility subject to a budget constraint that says he cannot spend more than his total wealth (Levin and Milgrom, 2004). 14) Rational Choice Theory - People make consumption choices so as to maximize their happiness, or utility. It mandates just a consistent ranking of the alternatives (Blume and Easley, 2008). Individuals choose the best action according to their personal preferences and the constraints facing them. Rational choice theorists do not claim that the theory describes the choice process, but rather that it predicts the outcome and pattern of choices (Levin and Milgrom, 2004). 15) Behavioral Finance Theory - is the study of the influence of psychology on the behaviour of financial practitioners and the subsequent effect on markets (Investopedia). 16) Utilitarianism - the greatest good could be achieved by bringing the most happiness to the largest number. The theory is very similar to Rational Choice Theory, in fact both describe happiness as measurable in units - called Utils. (Rosen, 2003). 17) Value Theory - Studies the structure of financial decisions, analyzes the influence of prices, and examines the efficiency of the resulting allocation of resources (Baumol, 2015).

Performed analysis shows that despite of huge efforts put into research of financial decision making processes in households and numerous theories developed, the decisions made by households in real life almost totally depend on human psychology and the personalized, mood-based instantaneous motives. The lack of objective quantitative criteria while making financial decisions, first of all those related to everyday spending, often leads to unbalanced allocation of resources and results in either excessive spending or irrational restriction of consumption, or the mixture of both. Neither is desirable, therefore any possibility to make the household‘s expenditure management process more transparent and efficient would benefit to improvement of the household’s wealth with no need for increased resources.

Value decomposition.

Suppose that an aggregate value vector V of the good or service is composed of virtual value vectors Vn:

$$\bar{V} = \sum_{n=0}^{\infty} \bar{V}_n \qquad (1)$$

where “n” is a number of preference axis, representing the components of consumers’ needs.

The market price of good/service Pm is directly related to its aggregate value V, i.e.

$$P_m \equiv V \qquad (2)$$

It has been proved in [15th International Conference „Perspectives of Business and Entrepreneurship Development“] that the aggregate value of goods and services V is always higher than the utility U brought by them to the consumer unless vectors V and U are collinear. The latter case means equality between vectors V and U and maximum available utility U from the aggregate value V as only in this case the value vector V contains components, which exactly match the consumers’ needs in terms of both the content and the required proportions between them in reference to the axis representing the consumers’ preferences. The worst case is when angle between the two vectors is becoming close to 90º, meaning that consumers’ utility from the purchase makes only a tiny fraction from the aggregate value and turns 0, when angle is equal to 90º. Therefore, it is important for the rational consumer to always know about how the vectors V and consumers’ preference vector Up are mutually oriented in the “n” dimensional space of preferences. An angle φ between the two vectors in the case of n=3, can be calculated in the following way.

Let’s say the consumers’ preference vector $\overline{U_p} = \lambda * \bar{b} + \mu * \bar{c} + \upsilon * \bar{p}$ (3)

Note. Utility vector U is a projection of vector V on the vector of preferences Up.

Value vector $\bar{V}$ and utility preference vector $\overline{U_p}$ make an angle φ. If φ is 0o, than vectors $\bar{V}$ and $\overline{U_p}$ are collinear, which means aggregate value of the good or service is composed exactly in a way customer prefers.

Calculating φ:

$$\overline{U_p} * \bar{V} = |\overline{U_p}| * |\bar{V}| * \cos\varphi \qquad (4)$$

If $|\bar{b}| = |\bar{c}| = |\bar{p}| = 1$, we get:

$$\overline{U_p} * \overline{V} = U_{px} * V_x + U_{py} * V_y + U_{pz} * V_z = \lambda * b * V_x + \mu * c * V_y + \upsilon * p * V_z = \lambda * V_x + \mu * V_y + \nu * V_z \qquad (5)$$

According to (4): $|\overline{U_p}| = \sqrt{(\lambda * b)^2 + (\mu * c)^2 + (\nu * p)^2}$ (6)

$$\cos\varphi = \frac{\lambda * V_x + \mu * V_y + \nu * V_z}{|\overline{U_p}| * |\overline{P}|} \quad (7)$$

$$\varphi = arc\cos\frac{x * V_x + \mu * V_y + \nu * V_z}{|\overline{U_p}| * |\overline{P}|} \quad (8)$$

Conclusions

1. The theories and methods currently used for management of household expenditure are using aggregate value and the corresponding price of goods and services as a base for making financial decisions related to satisfying the households needs.

2. The offered vectoral decomposition of the aggregate value of goods/services and the consumers' preferences enables establishing of relationship between the selected good/service and the specific consumers' needs as well as the estimation of their match by calculating a spatial angle between the two vectors.

3. A method for calculation of spatial angle between the vectors of aggregate value and the consumer preferences has been presented.

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Factors determining the trade costs of major european exporters

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Abstract
The aim of this paper is to analyse the factors determining trade costs in the top European exporting nations. We have estimated an explanatory equation for trade costs to determine the importance of logistical performance and other variables that may be key to determining the cost of trade. The results reveal the substantial importance of logistics in determining trade costs, which exceeds that of distance. The results also indicate that logistics are more relevant in those countries where costs are lower. This analysis allows establishing conclusions about what type of improvements will lead to cost reductions and, therefore, to greater international competitiveness. It has been conducted for two years, also facilitating the detection of possible changes that can in turn reveal the existence of a behaviour pattern in these countries.

Keywords: *Trade Costs, Logistic Performance, European Union, International Trade*

Introduction

The substantial growth in international trade in recent years has not been free of obstacles. On the one hand, tariff and non-tariff barriers exist, which vary according to the sectors affected, and on the other, trade costs act as an impediment to trade and have been gaining in importance and exerting a significant influence on trade patterns. Within this context, logistics plays a fundamental role. Inefficient logistics clearly result in higher logistics cost, which limits global integration and deepens differentiation among nations.

The analysis has been conducted for 2005 and 2008. Considering these two years facilitates the detection of possible changes that can in turn reveal the existence of a pattern of behaviour in the countries considered. Limited data availability for certain variables made it impossible to study subsequent years. However, the results may serve as a guide for these countries to verify whether efforts intended to improve logistics have been fruitful or, conversely, whether there are certain areas of vital importance requiring further effort.

Methodology: cost model and sample

In line with Chen and Novy (2013) and Arvis et al. (2013), we defined an equation that allows us to explain the determinants of costs. Specifically, the expression is as follows:

$$\text{Log}(\tau_{ij}) = \beta 0 + \beta 1 \text{ Log}(Di) + \beta 2 \text{ Log}(1+Tij) + \beta 3 \text{ Log}(ERij) + \beta 4 \text{ Log}(ACIij) + \beta 5 \text{ Log}(ECij) + \beta 6 \text{ LPIij} + \beta AW + uij \quad (1)$$

where,

τ_{ij}ij: Trade Cost between country i and country j.

Dij: Distance between country i and country j,

Tij: Geometric average of unity plus the trade-weighted average effectively applied tariff applied by i to j's exports and by j to i's exports

ERij: Geometric average of the average official USD exchange rate of country i and j

ACIij: Geometric average of country i's and j's score on the Air Connectivity Index,

ECij: Geometric average of the cost of starting a business in country i and country j,

LPIij: Geometric average of country i's and country j's score on the Logistics Performance Index.

W: Dummy variables: common border (conting), has ever been a colony (colony), and same RTA.

The sample is composed of the 8 largest EU exporters in terms of volume, which represent a significant share of overall European trade (80.1% of total EU exports in 2005 and 75.1% in 2008). Germany's dominant role in EU trade is clear (more than 30% of the total exports for the 8 countries in both years). France occupies the second position (13.6 and 13% in 2005 and 2008, respectively), while the Netherlands increased from fifth place in 2005 to third place in 2008. With regard to importing countries, the study considered approximately 126-127 of the 150 countries for which the World Bank publishes LPI, omitting those lacking an index value for the two years analysed.

Results

First, in line with prior research (Arvis et al. 2013), distance and LPI, as determinants of trade costs in the years analysed, are clearly important determinants of trade costs. The importance of trade facilitators in national development is reinforced; this, in turn, reinforces the fact that improved logistics significantly reduce trade costs. Furthermore, this result confirms that treating distance as a proxy for costs is an effective approach.

Table 1. Determinants of trade costs

	Germany		United Kingdom		Italy		Netherland		Belgium	
	2005	**2008**	**2005**	**2008**	**2005**	**2008**	**2005**	**2008**	**2005**	**2008**
Entry Costs	0,0056	-0,0001	0,0029	0,0099	0,0094	0,0036	0,0130	0,0180	-0,0026	0,0017
ACI	-0,0203*	-0.0318**	-0,0021	-0,0052	0,0088	-0,0127	-0,0003	0,0120	0,0056	0,0037
Exch. Rate	-0,0057	-0,0045	-0,0064	-0,0082	0,0141	0,0064	-0,0072	-0,0188	0,0107	-0,0133
LPI	-0,125***	-0.110***	-0,133***	-0.124***	-0,109***	-0.085***	-0,135***	-0.117***	-0,124***	-0.092***
Distance	0,0733***	0.0600***	0,0562***	0.0424**	0,0864***	0.0687***	0,0667***	0.0643***	0,0660***	0.0397**
Tariff	0,0077	0.0331*	-0,0036	0,0036	-0,0204	0,0089	-0,0192	0,0119	-0,0162	0,0072
RTA	-0,0398**	-0.057***	-0,0235	-0.0471**	-0,0257	-0.0488**	-0,0341	-0,0313	-0,0314**	-0.053***
Contig	-0,0275*	-0.0284*	-0,0167	-0,0116	-0,0112	-0,0136	-0,045***	-0.074***	-0,047***	-0.070***
Colony	-0,0075	-0,0151	-0,040***	-0.048***	-	-	0,0036	0,0007	-0,0123	-0,0016
R2	0,767	0,748	0,694	0,656	0,688	0,654	0,657	0,6861	0,748	0,712
Nº obs	127	124	127	125	127	123	127	120	126	122

	Sweden		France		Spain		All countries	
	2005	**2008**	**2005**	**2008**	**2005**	**2008**	**2005**	**2008**
Entry Costs	0,0256	0.0441***	0,0050	0,0032	0,0008	-0,0014	-0.0108**	-0.0117**
ACI	-0,0131	-0,0194	0,0021	-0,0056	0,0230	0,0172	-0.017***	-0.022***
Exch. Rate	-0,0080	-0,0056	-0,0066	-0,0064	0,0089	0,0066	0.0127***	0,0088
LPI	-0,133***	-0.097***	-0,104***	-0.087***	-0,128***	-0.102***	-0.125***	-0.109***
Distance	0,0667***	0.0457**	0,0108	0,0016	0,0654***	0.0552***	0.0587***	0.0504***
Tariff	-0,0079	0,0158	-0,0098	0,0275	-0,0276*	-0,0057	-0.016***	0,009
RTA	-0,046***	-0.060***	-0,075***	-0.072***	-0,043***	-0.058***	-0.045***	-0.055***
Contig	-0,0096	-0,0112	-0,047***	-0.039***	-0,027***	-0.0301**	-0.030***	-0.033***
Colony	-0,0190	-0.0313**	-0,041***	-0.045***	-0,035***	-0.041***	-0.024***	-0.023***
R^2	0,735	0,705	0,650	0,63	0,719	0,651	0,676	0,626
Nº obs	126	121	126	124	126	123	1012	982

Note: *,** and *** denote test statistical significance at the 10% 5% and 1% levels, respectively.

Moreover, in the results, the particular case of France is notable. Here, distance loses significance in countries that participate a shared RTA, have a common border and have ever been a French colony. Most French products are destined for neighbouring countries in the EU (Germany, Italy, the United Kingdom, Belgium, Spain and the Netherlands). The results indicate that the costs are reduced to the extent that France has trade agreements with importing countries. Comparing the results obtained in 2005 and 2008 reveals that, in 2008, in aggregate for all of the countries studied, and in each of them, logistics and distance decline in importance as determinants of trade costs in favour of the RTA variable. This highlights the need for countries to continue to adopt policies intended to further facilitate not only trade but also trade agreements.

Conclusions

Exporting is directly conditioned by the cost paid, which is in turn conditioned by a country's level of logistics. Focusing on this premise, in the paper, we analysed the importance of specific explanatory variables in determining trade costs. This analysis was performed to provide empirical evidence concerning which logistical dimensions should be prioritised. The results reveal that the analysed countries should continue to rely on improving their logistics, not only to improve their trade but also to improve their competitiveness. Similarly, distance remains a key determinant of trade costs, albeit one that is consistently less important than logistics. However, our empirical evidence demonstrates that countries should emphasise enhancing trade agreements because in a period of only three years, this variable gained relevance over distance.

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Open Innovation and Business Ecosystems

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Innovation behavior and the use of research and extension services in small-scaled agricultural holdings

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Abstract
The aim of this research is to analyze the influence of farmers' innovation behavior on the use of research and extension services. Formulating a structural equation model, the authors examined the relationship between key factors of innovation behavior (market orientation, learning orientation, innovation attitude) and the use of research and extension services.

Keywords: *Market orientation, learning orientation, innovation attitude, extension services, structural equation model, agricultural innovation.*

Introduction

In the context of the EU strategy for this decade, innovation needs to be introduced in a smarter, sustainable and inclusive economy, in order to face a situation of 'innovation emergency' (European Commission, 2014). In accordance with the challenges that the agricultural sector face nowadays, farmers need timely access to knowledge and information, and to training and education. This has to be facilitated by agricultural knowledge and innovation services, which are currently promoted by the European Commission, within Horizon H2020 and the new rural development plans (RDP). The present contribution explores the ability of small-scaled agricultural holdings to adopt the instruments of knowledge transfer supplied by available research and extension services (RES). Are innovative farmers more prone to use such services? This research will allow to performing an evaluation of the effectiveness of the existing RES to meet farmers' needs. This may be the case of the region of Spain (Valencia), where we evaluate this topic by investigating a sample of farmers (253), with strong presence of small and medium sized farms. A survey was carried out to explore the relevance of farmers' strategic and cultural variables such as market orientation and learning orientation and their link with their innovation attitude, and if such factors affect the farmers' decision of using RES. Previous literature has described the agriculture sector in Spain as a low R&D intensive sector (Garcia Martinez & Briz, 2000) (Alba et al., 2012). Agriculture innovation is relevant for the successful development of sustainable food production1. EU agricultural policies tend to positively assess measures that enhance market orientation and innovation of agricultural holdings2. Understanding the innovation behavior of agricultural holdings is a crucial step to design rural development strategies (Läpple et al., 2014). This contribution follows a Structural Equation Modelling (SEM) methodology based on a theoretical framework that we define in the next section.

Theoretical Framework

There are several behavioral and cultural factors that affect farmers' use of RES. In the present contribution we explore Market Orientation (MO), Learning Orientation (LO) and Innovation attitude

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(IAT), and we establish some hypothesis about their interdependences and their possible link with the use of RES.

MO has been extensively studied since the 90s. Narver and Slater (1990) observed MO as an organizational culture. In contrast Kohli and Jaworski (1990) consider market orientation as a behavioral process. Recent works indicate that MO can be significantly boosted by the business ecosystem and national contexts (Hamed et al., 2012). In this paper we consider market orientation as a possible antecedent of the innovation behavior (Mavondo et al., 2005) leading to our first hypothesis (H1) that MO has a positive impact on IAT.

LO refers as an organizational wide activity that uses knowledge to enhance competitive advantages (Calantone et al., 2002) LO has an impact on the firm's organization using information and active learning (Farrell, 1999). A considerable deal of research has suggested a relationship between LO and MO3. Cohen and Levinthal (1990), proposed that LO is significantly associated with innovative thoughts in firms, and Trice and Beyer (1991) asserted that MO and LO are very closely associated in the innovation process. Therefore we propose the hypothesis that LO has a positive impact on IAT (H2) and that LO positively correlates with MO (H3). Innovation processes are characterized by the involvement of many actors with multiplicity of interactions from which potential barriers may appear (Hadjimanolis, 2003). In our research, RES are thought to improve technological, economical and institutional changes in agriculture (Hall et al., 2003) (Klerkx et al, 2010). Labarthe et al. (2013) represent the research and extension services "as the entire set of organizations that will enable the farmers to co-produce farm-level solutions by establishing services relationships with advisers so as to produce knowledge and enhance skills". Previous research has demonstrated that RES hide a huge diversity of conceptions and methods, including the importance of social interaction as well as the role of the external advisors. In the EU context the policies for RES has been revitalized during the last RDP, to empower human capital in agriculture (De Rosa et al, 2013). Pascucci and Magistris (2012), explored the extent to which farms react to this supporting services and also point towards the implicit effect of the IAT, which we hypothesized to have a positive impact on the demand for RES (H4). What needs to be clarify is if IAT mediates the positive influence between MO and RES (H5a) or LO and RES (H5b), so understanding the true motivations for farmers to use RES becomes crucial. In order to test such hypotheses, a SEM is built to examine and to measure the interaction between MO, LO, IAT and RES.

Data and preliminary analysis

A farmers' survey was designed for the Agrinnova Project4. The questionnaire contained a measuring scale from previous studies to relate factors to be measured through a series of variables or constructs. The data set was collected from May to December of 2012, with 253 respondents returning usable surveys. Respondents provided answers using a seven-point Likert scale (1=strongly disagree, 7=strongly agree). The set of items from the questionnaire related to measures of MO, LO, IAT and use of RES those were adapted from previous research and well-accepted scales. The farm holder profile of the final sample was, on average, 48 years old, 49% of respondents with no studies or only basic education, and 66% of holdings with an average gross margin of less than 20,000 euros which represents the dominance of small holdings in the Valencia region.

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As a result of the confirmatory factor analysis (CFA) and removal of few items without significant impact on the factors reliability, internal consistency was examined through Cronbach's alpha for each factor, with values of 0.61 for RES (3 items), 0.89 for IAT (6 items), 0.77 for MO (3 items) and 0.7 for LO (3 items).

Structural equation modeling

We examined the research model represented in the path diagram by Maximum Likelihood (Figure 1). The result of the CFA indicated a correlation among MO, LO, IAT and, RES, all variables showing significant relationships. Also all individual items showed acceptable factor loadings (>0.50) and significant p-values (*** p <0.01). The measurement of the CFA model had a Chi-square ($x^2 = 125.967$), df =81, and p = 0.001; and the CFA model fit indices: x^2/df = 1.555, CFI = 0.929, GFI = 0.938, RMSEA = 0.47 indicate that the data fit the model in a satisfactory way.

Figure 1. Path Diagram and hypothesized relationships

The correlation measured gives a $coefficient = 0.756; (p = ***)$ for the relationship between MO and LO, thus confirming H3. With a Chi-Square ($x^2 = 159.137$), df = 121, and the p = 0.011 the structural model fit indices: x^2/df = 1.315, CFI = 0.977, GFI = 0.936, RMSEA = 0.35 are considered adequate to estimate the model. The results of the path analysis were decomposed into direct, indirect and total effects, in order to examine the all the others hypotheses. The result of the direct effects indicates a significant and positive relationship between MO and IAT, and between LO and IAT. However, the direct relationships are not significant between IAT and RES. Thus H1 and H2 are supported, but H3 was rejected. As for control variables, only education showed a significant and positive effect, and farm holder's age and gross margin were not significant.

In order to test the mediation role played by IAT between entrepreneurial factors (MO-LO) and RES use, we evaluated the results for the direct effect with and without mediator, and the resulting indirect effects. For MO, direct effects with mediator and without a mediator were not significant. For LO, the result was significant only without the mediator $Coefficient = 0.501;\ p = 0.011$). The result of the indirect effects were not significant in both cases, questioning the role of IAT in the use of RES.

Discussion and conclusions

Even in context of agricultural systems dominated by small-scaled farming, MO and LO appear to be positively related, which confirms that synergies between both factors to provide a background for innovativeness (Lin et al, 2008); MO and LO also show positive and significant effects on IAT, indicating

that SMEs are likely to adopt innovations in contexts were resilience is enhanced by MO and LO as cultural values. By contrast, IAT does not appear to be a mediator in any of the relationship tested between MO, LO on the one hand, and RES, on the other. LO, keeps a significant direct effect on RES, suggesting that education and learning cultural values remain the key factor for small-scaled holding to use RES in the studied region. This is confirmed by the significance of the education level as a control variable, which appear to be more relevant than holder's age and holding size. Previous research suggest that young farmers and large holdings are more inclined to innovation activities which points to the need for further research in other regions where there is a wider range of ages and farm sizes than in Valencia where small farmers are dominant. The role of RES is enhanced by LO, but innovative firms do not attach high values to RES. This result would invite to reflect about the way RES are functioning as a knowledge providers rather than entrepreneurship accelerators. RES need to be adapted to a dynamic ecosystem where RES supply innovation support services (Klerkx & Leeuwis, 2008). Our study seems to indicate a possible gap between RES users and providers of public services. Ongoing work within the present programing period for RDP should focus on bridging such gap by promoting operational groups, networking and a reflecting on the future role of regional technological centers.

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A case study of the role of innovation process determinants on innovative product development

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Abstract
Over the past decades the inexorable march towards innovation among business society has placed, which requires a competent system that improves creativity, competency, and flexibility among managers and employees. In order to gain a deeper understanding of the role of innovation process on innovative product development, the present research developed a model by integrating previous researches' results on the following determinants: organization climate, innovation shared vision, leadership style, absorptive capacity (the ability to identify, assimilate, and exploit knowledge from the environment), and inter-firm cooperation & collaboration. A qualitative research conducted to find how and why innovation process determinants influence innovative product development over time. Findings support the existence of cyclic interactions and mutual impacts among the determinants.The observed outcomes are also in line with previous studies and in this research further insight is provided to facilitate innovation process path to accomplish innovative products.

Keywords: *Innovation; cyclic path; organization; individual; time*

Introduction

The present article is inspired by numerous theoretical and empirical researches' findings along with history of innovative product development of the case study1 of this research. In most of the cases reported in the literature, the existence of discord and misalignment among organization individuals in developing innovative product is recognized. Across various innovation studies done by social scientists and practitioners, there remains a general consensus that innovation is a primary source of growth, change and competitive advantage (Damanpour, Walker, & Avellaneda, 2009). Therefore, Innovation's central role is to support long-term survival of an organization (Scott & Bruce, 1994). According to (Van de Ven, 1986; Van de Ven, 1999) innovation process consists of certain factors including people (individuals), ideas, transaction and context. "Innovation process creates and constrained by multiple enacted environments" (Van de Ven, 1999), and the development stages over time (Van de Ven, 1999). The most commonly accepted view of an innovation process is that

1 German International Enginerring Company

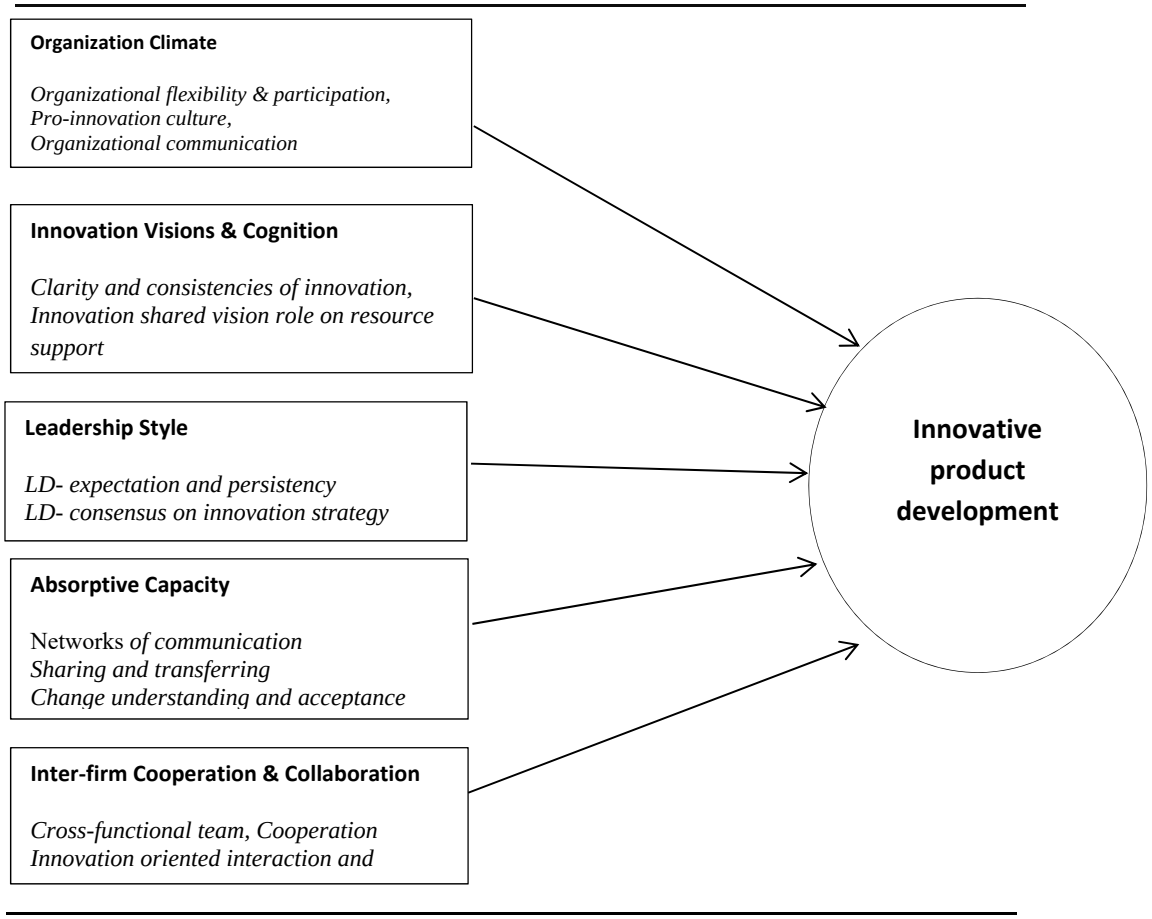
multiple functions, resources, and disciplines must collaborate in harmony in order to transform an innovative idea into a concrete attainable reality (Daft, 1978; Scott & Bruce, 1994; Van de Ven, 1986). The Minnesota Innovation Research Program (MIRP) studies show that the innovation process cannot be reduced to a linear model of stages and phases; rather it is best characterized as a nonlinear dynamic system (Van de Ven, 1999). This study is focused on advancing understanding of the innovation process and exploring its underpinning associated determinants by integrating organization climate, vision, leadership style, absorptive capacity, inter-firm collaboration and cooperation's factors. Therefore a framework is elaborated that is shown in figure one and intended to investigate the answers of following research questions:

Why do interactions among innovation process elements influence innovative product development?

How the defined innovation process determinants of this study impact innovative product development?

Theoretical Foundation

Figure one- Research framework



Own development based on literature view

Conclusions

Results from twelve semi-structured interviews with various functional departments from different countries showed, at first and foremost, innovation shared vision drastically impacts innovation process and innovative product development, while the necessity of stabilizing inter-firm cooperation and collaboration has been observed and proved in order to accelerate and improve innovation processes. The current research also observes that leadership should establish a clear and accurate vision regarding innovative product development through a dominant approach, which is supported by organization's members and policies, and that vision should be practicing over time. Consequently, employees cognition will become aligned toward organization vision. Therefore, the paradoxes and competition among employees may decrease through the time and members will likely learn how to share their experiences

and collaborate with each other to reach the organization's vision. Also during this process of sharing experiences and transfering knowledge the level of realized absorptive capacity will be improved.

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What do we know about Marketing Innovation and its Relation- ship with Technological and Management Innovations? Empirical Evidence for France and Spain

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Abstract
In this paper the specific impacts that technological product and process innovations and also management innovations have on marketing innovation performance are disentangled. Using CIS data for capturing non-technological innovation is recommended in the literature (e.g. Damanpour, 2014). Analysis of CIS data for 1,275 French and 3,028 Spanish firms under- taking marketing innovation in manufacturing industries unveils novel insights about drivers and innovation patterns from marketing innovators, their inducements and innovative perfor- mance effects

Keywords: *Marketing Innovation, Product Innovation, Process Innovation, Management In- novation, Organizational Innovation, Drivers, Relationship, CIS, France, Spain*

Extended Abstract

Innovation has been primarily conceptualized as a technology-based phenomenon. However, despite the persistent interest in the well-studied topic of technological innovation, scholars are in recent times shifting focus and paying more attention to innovation as a phenomenon that is not entirely based on technology but also on the introduction of new management practices (e.g. Damanpour, 2014; Hervás-Oliver & Peris-Ortiz, 2014; Foss, Pedersen, Pyndt & Schultz, 2012; Volberda, Van Den Bosch, Frans AJ, & Heij, 2013). This refocusing in fact resumes an interest of the past (e.g. Damanpour & Evan, 1984; Evan, 1966).

The new conversation is currently conceptualized as management innovation (Birkinshaw, Hamel, & Mol, 2008), albeit it was named organizational or administrative innovation in the earlier foundational works (e.g. Evan, 1966). Although the literature has established that management innovation is indeed important for developing competitive advantage and im- proving performance, relatively little attention has been paid to the understanding of the an- tecedents of its adoption and its relationship with technological innovation (e.g. Ballot et al. 2015; Damanpour, 2014).

In this chain of thought, despite the efforts to categorize and quantify non-technological in- novations, versus the well-researched technological (product and process) ones, literature is mainly focused just on understanding organizational innovation almost neglecting the uderstanding of marketing innovations. As long as marketing innovation is an individual innovation mode explicitly recognized in the Oslo Manual, relatively little attention has been to the understanding of marketing innovations, marketing innovators and their relationship with the rest of non-technological and technological innovations. Marketing innovation and its innovative performance effects, together with the influence on them of technological in- novations, have been under-researched. In this paper the specific impacts that technological product and process innovations and also management innovations have on marketing innovation performance are disentangled. Using CIS data for capturing non-technological innovation is recommended in the literature (e.g. Damanpour, 2014). Analysis of CIS data for 1,275 French and 3,028 Spanish firms under- taking

marketing innovation in manufacturing industries unveils novel insights about drivers and innovation patterns from marketing innovators, their inducements and innovative perfor- mance effects.

After conducting a fine-grained analysis on the relationship between technological, management and marketing innovations, our empirical evidence shows how technological and man agement innovation influences the introduction of marketing innovation. Technological and management innovations, however, does not exert a one-size-fits-all effect on marketing innovation.

Regarding innovative performance effects from the introduction of marketing innovation, results show how technological product innovations and management innovations strengthen the importance of the marketing innovation effects, whereas the introduction of technological process innovations does not impact them. Investment in marketing efforts also reinforces the importance of the marketing innovation effects. Further differences are also identified in the country comparison.

This article´s results complement extant literature on marketing innovation (Lhuillery, 2014). Specifically, and to the best of our knowledge, our work is the first article using not only marketing innovation and innovators but the importance of the marketing innovation effects, a key performance variable well under-researched. Our article contributes to the ongoing debate on non-technological innovation (e.g. Damanpour, 2014) and advances knowledge on the topic by providing empirical evidence upon two European countries. Besides, our article also contributes with relevant insights on the interplay between technological and non-tech nological innovation.

Keywords: Marketing Innovation, Product Innovation, Process Innovation, Management In- novation, Organizational Innovation, Drivers, Relationship, CIS, France, Spain

JEL codes: C12, D24, L25, O31

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Management, Technological Innovation and Environmental Benefits in French Manufacturing Firms

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Abstract

This paper aims at studying the benefits of forms of innovations on the environment. Using two waves of Community Innovation Survey - CIS datasets, we are able to investigate the impact of four forms of innovations (Product, Process, Organizational and Marketing) during the 2004-2006 period on two types of environmental benefits (for the firm and for the end user) during the period 2006-2008. Our findings indicate that product innovation as no significant impact on environmental footprint whereas three other forms: process, organizational and marketing innovations have a positive and significant impact. Companies that implement specific procedures dedicated to measure and control their environmental impact are more prone to reduce their negative outcomes on the environment.

Keywords: *Environmental Innovation; Forms of Innovation; Determinants; Empirical analysis; France.*

JEL codes: *Q55; D22; C10.*

Introduction

Firms have received a lot of pressure from different market actors (e.g. customers, stockholders, governments, etc.) to improve their impact on the environment. One of the major components by which firms could act in harmony with the environment is through investment to different kinds of environmental innovations. Currently, environmental innovations seem to have increased in quantity and quality. Many (overlapping) reasons could explain these phenomena such as - increasing consciousness regarding the impact of economic activities on the "ecological" environment, - regulations such as constraints and/or incentives to develop greener innovations, - internal incentives and strategies like cost reductions and/or market opportunities enabling to develop new eco- friendly products and increase sales and revenues. Moreover, investment in environmental innovation is often seen as the fastest and most cost-effective way to achieve competitive advantage on the market (e.g. Porter and van der Linde, 1995). Not surprisingly, environmental innovation and its policy implications has become a rich field of investigation. This previously mentioned literature underlines the importance of environmental innovation investment. However, there are relatively few studies that capture empirically the features that increase a firm's probability to invest in environmental innovation. Our research aims to answer the following questions: Which forms of innovations lead to which kind of environmental benefits? Is there a time lag between forms of innovations and environmental benefits? It is important to investigate the policies that encourage investment in environmental innovation in order to reduce the impact on the environment since these policies may differ from "traditional" innovations (Horbach, 2008). To answer empirically these questions we include in our analysis those factors that have been recorded in the relevant literature as

possible incentives of environmental innovation investment. Then we turned to the literature on forms of innovations (product, process, organizational, marketing) and their associated environmental benefits for the firm and for the end-users.

This paper contributes to the existing literature in several ways. The limited empirical evidence related to the environmental innovation determinants led us to further investigate their nature and their intensity. What is more, we follow previous theoretical literature to explicitly categorize the factors that contribute to environmental innovation. Finally, we investigate the impact of the four different forms of innovation in period (t) on the introduction of innovation with environmental benefits in period (t+1). This time effect will then permit to study the strategies that aimed to reinforce the environmental outcomes of the firms. To our knowledge, this is also the first paper that examines this topic using a two-period sample of French manufacturing firms.

Literature Review

Environmental innovation could be defined as "the introduction of a new or significantly improved product (good or service), process, method of organization or marketing, that generate an environmental benefit, compared to existing solutions" (OECD, Oslo manual, 2005). Environmental benefits can be the principal objective of the innovation or the outcome of an innovation aiming at achieving other objectives. Rennings (2000, p. 322) defined environmental innovation as "… measures of relevant actors (firms, …, private households), which: (i) develop new ideas, behaviour, products and processes, apply or introduce them, and (ii) contribute to a reduction of environmental burdens or to ecologically specified sustainability targets". This kind of innovation is usually characterized as a process encompassing three major stages: invention, innovation and diffusion (Jaffe et al., 2002; del Río, 2009) and different actors, including users, manufacturers, suppliers and policymakers (del Río, 2009).

In order to examine which factors may influence on a firm's decision to invest in environmental innovation, we first review the literature concerning environmental innovation which will help us to theoretically identify four main factors that are associated to environmental innovation investment. (cf. del Rio, 2009 for a literature review). Benefits and costs of environmental innovation: Environmental innovation would simultaneously be beneficial for the environment and for the firms, as it has been suggested by Porter and van der Linde (1995). However, empirical research shows contrasting conclusion indicating that environmental innovation is too costly which will influence negatively a firm's business performance (Walley and Whitehead 1994; Konar and Cohen, 2001). Environmental public policies (Incentives/Regulations) factors: The studies concerning the impact of public policies on environmental innovation are not conclusive. For instance, the results of Hemmelskamp (1999) suggest a negative influence of public policies on environmental innovation while Cleff and Rennings (1999) and Rehfeld et al. (2007) find a positive effect. This could be due to (i) differences in the variables and indicators used to measure regulations (pressures/ incentives) and their impact (strength/(perceived) stringency), (ii) differences in industries and countries' characteristics and (iii) differences in the type of environmental issues addressed and benefits associated to these innovations. It can also be argued that companies might postpone the decision to develop environmental innovation because they anticipate new regulations. Market driven factors: Another set of drivers that would motivate environmental innovation relates to the demand. Firms might develop green innovation that provides environmental benefits for their customers (Wagner, 2007; Praest-Knudsen et al., 2011). As indicated by Reinhardt (1998), firms may invest in environmental innovation to differentiate their products from others and thus gain a competitive advantage. What is more, consumers are ready to pay additional prices for green products. Internal strategies / environmental management systems (EMS) / capabilities factors: Here we include firm's internal strategies associated with green innovation investment. This covers several dimensions: (i) the

willingness to reduce (internal) costs (ex: energy consumption, packaging, waste, etc.) (e.g. Frondel et al.., 2005), (ii) the adoption / implementation of environmental (quality) management systems, (e.g. EMAS, ISO 14000) (e.g. Rennings et al., 2006; Wagner, 2009; Ziegler and Nogadera, 2009), which have been viewed as a facilitator and seem to have a positive impact on environmental process innovations. However, the causality between these systems and technological environmental innovations is not clear (Ziegler, 2009).

Literature relating environmental innovation' forms (product, process, organizational, marketing) and their benefits is flourishing (Galia et al., 2015). For example Horbach (2008) states e.g. that improvements of technological capabilities (Knowledge Capital) by R&D triggers innovations (R&D) and that The introduction of new or relevant changes of organizational structures (organization) is especially important for environmental innovations. Kammerer (2009) argues that green products, besides their public benefits have private benefits for the customers. Praest Knudsen, Gertsberger, Stampe (2011) show that while market attention is important for new product development, green aspects of innovation and efficiency considerations for innovation are important for the energy efficiency of the production companies. They argue that product innovation and energy efficiency is a balancing act and that focusing on one will have detrimental effects on the other.

Empirical Analysis

In order to investigate environmental innovations and related forms of innovation (Product, Process, Organization and Marketing), we use information from two waves, CIS 2008 and CIS 2006, of the Community Innovation Survey (CIS) – "Enquête Communautaire sur l'Innovation" for France carried out by INSEE (National Institute for Statistics and Economic Studies). CIS data are based on firm-level surveys that ask organizations to provide on their level and form of innovative efforts. These surveys are based on the Oslo Manual drawn up by the OECD, and revised in 1996. Although definitions of innovation and examples are provided to respondents, all the information relies on self-reported information by managers within these organizations (OECD, 2005). Overtime, CIS has become a central tool for researchers working on understanding the innovation process (see Smith, 2005 and Mairesse and Mohnen, 2002).

CIS 2008 covers the 2006-2008 period and include for the first time specific information on environmental benefits for the firms1. The survey population included 25,000 firms, drawn manufacturing, services and construction sectors. It was a mandatory survey and it received a response rate of 86 percent, including 7,389 firms from manufacturing sector. The last part of the CIS 2008 dedicated to environmental innovations concerned 4,412 innovative firms. Innovative firms are defined as firms that introduced at least one innovation among the four forms of innovation: Product, Process, Organization and Marketing2.

CIS 2006 covers the 2004-2006 period for 4,821 manufacturing firms. CIS 2006 is used to define all independent and controls variables in 2004 in order to avoid reverse causality with dependent variables. The originality of the paper is that using both waves of CIS we are able to investigate the impact of the four different forms of innovation in period

(t) on the introduction of innovation with environmental benefits in period (t+1). This time effect will then permit to study the strategies that aimed to reinforce the environmental outcomes of the firms. Merging CIS 2008 and CIS 2006, 1,361 innovative firms are used to analyze the characteristics of firms introducing environmental innovations related to the different forms of innovation (Product, Process, Organization and Marketing).

Innovation performance is investigated by four main types: product innovation, process innovation, organizational innovation and marketing innovation. The most introduced innovation is organizational

innovation (70%). Product innovation and Process innovation are introduced by six out of ten firms (respectively 67% and 61%). Marketing innovations concerns four firms out of ten (44%). A third of firms (33%) implement procedures that aimed at measuring and reducing their environmental impact. 86% of firms are operating in international markets and 81% of firms belong to a group. For 79.1% of innovative manufacturing firms, innovation has impact(s) on the environment (for the firm and/or for the end-users). This suggests that environmental issues and concerns are central for the majority of innovative firms. Environmental benefits can be produced in the production process (for 65.2% of innovative firms having developed an innovation with environmental benefit(s) for the firm) as well as during their use by end-users - consumers (42.5% of innovative firms having developed an innovation with environmental benefit(s) for end-users). This shows that environmental innovations led by French manufacturing firms are much more oriented towards process; they are internally oriented.

Environmental benefits for the firms: Looking in more details at innovations with environmental benefits for the firms, the intensity is in average 2.8 out of 6 environmental benefits. We find that more than half of innovative manufacturing firms introduced innovations dedicated to recycled waste, water or materials (58.6%) and that replacing materials with less polluting or hazardous substitutes concerns 50.3% of innovative firms. Reducing materials use per unit of output is introduced by 48.6% of innovative firms. Reducing energy use per unit of output and reducing soil, water, noise or air pollution concerns respectively 48.2% and 47.3% of innovative firms. The last environmental benefit for firms is the reduced CO2 footprint by 35.2% of innovative firms. Environmental benefits for the firms indicate that recycling comes first and is followed by benefits that are directly associated to cost reductions (energy, packaging/unit). This is in line with the motivations/reasons presented below. Benefits relating to the reduction of gas emissions and pollution - air, water, soils or noise - are less frequently cited. It may be argued that this might be associated to the adoption of codes of good practices and existing environmental regulations and taxations. Finally, the "frequency" of types of benefits is similar (except for recycling, the most frequently mentioned by respondents, and gas emission CO2, the less frequently mentioned).

Environmental benefits for end-users: The intensity of environmental benefits for the end-user is in average 0.9 out of 3. 36.1% of innovative firms introduced innovations for end-users dedicated to reduce energy use. Improving recycling of product after use is introduced by 29.9% of innovative firms. Reducing air, water, soil or noise pollution concerns 29.1% of innovative firms. These three benefits are relatively low (29% to 36% of firms) compared to the benefits for the firms (35% to 58% of firms). The main environmental benefit for end-users/customers is the reduction of energy use. This result is surprising, because benefits produced during the use of the innovation by customers are present for 61 % of innovative firms having developed an innovation with environmental benefit(s). This could be due to the limited number of items presented in the questionnaire (3 items). Another explanation is that green innovations in French firms would be primarily oriented towards the internal benefits discussed above, and process innovations and/or that their environmental innovations to the benefit of their customers would be limited. To conclude this section, descriptive statistics indicate that environmental innovations by French innovative manufacturing firms are mainly internally oriented (process innovations) and primarily aim at reducing costs. Firms' behaviors regarding environmental innovations seem to be reactive (external pressures/drivers like existing regulations) rather than proactive.

We explain the six environmental benefits for innovative firms and the three environmental benefits for end-users using probit models. These nine models include the four innovation types Product innovation, Process innovation, Organizational innovation and Marketing innovation as independent variables and the following control variables: Firm performance, Size, R&D, Environmental procedures, International market, Group membership and Sectors.

Product innovation in 2004-2006 has no impact on the environmental benefits for the firms in 2006-2008 period. We find that firms that introduced Process innovation are more likely to introduce all the 6 types

of innovation with environmental benefits in the 2006-2008 period except replaced materials with less polluting or hazardous substitutes. In other words, firms with new product(s) have no benefits for the environment, whereas firms that changed their way to produce reduce significantly their impact on the environment. Firms that introduced Organizational innovation within 2004 and 2006 impact positively and significantly the benefit associated to the reduced energy use per unit of output in the future period 2006-2008. Marketing innovation has a positive and significant influence on the three environmental benefits associated to the reduced CO2 footprint, replaced materials and recycled waste, water and materials. This imply that implementing new ways to organize the work within the firm and implementing new ways to design, package and distribute the products will permit to the firm to reduce significantly their impact on the environment in the future. Furthermore, firms implementing Environmental procedures in the 2004-2006 period are more likely to introduce all the 6 types of innovation with environmental benefits in the 2006-2008 period. This confirms previous studies investigating exploring environmental innovations.

The two types of technological innovation, Product innovation and Process innovation, in 2004-2006 have no impact on the environmental benefits for the end-users in 2006-2008 period. In that case, firms with new product(s) and/or new way(s) to produce have no environmental benefits for the customer. Technological innovations will not permit to the firm to reduce its environmental footprint in the future. Firms that introduced Organizational innovation within 2004 and 2006 impact positively and significantly the benefit associated to the reduced air, water, soil or noise pollution and the one associated to the recycling of product after use. Marketing innovation has a positive and significant influence on the two benefits for the customer associated to the reduced energy use and the one associated to the recycling of product after use. New organizations within the firm and new ways to design, package and distribute the products will permit for the customer in the future to reduce significantly the product's energy used, the product's pollution and will increase the recycling of the products. Looking to the control variables, we observe that Size have a positive and significant impact on environmental benefits for the customer. Furthermore, firms implementing Environmental procedures in the 2004-2006 period are more likely to introduce all the 3 types of innovation with environmental benefits in the 2006-2008 period. These results indicate that larger firms and that are undertaking environmental strategies are also more likely to impact positively the environment. The amount of R&D reduces the energy use and improves the recycling of the products. Group membership has no impact on environmental benefits.

Conclusion

This paper has permitted to identify the firm's characteristics that influence the environmental benefits of innovations. Process, organization and/or marketing innovation have a significant and positive impact on the environmental benefits for the firms. Only organizational and marketing innovations have a positive and significant impact on environmental benefits for end-users. We can conclude that innovation strategies can lead to environmental benefits in the sense that the company should not only focus on environmental policies but also on innovation policies. Companies can reduce their environmental footprint by introducing new ways to produce, new ways to organize and/or new ways to market their products. Furthermore, we found that companies that are proactive in using specific environmental procedures are more prone to master their environmental impact. These results and main implications open research avenues to further investigate the links between environmental and innovation policies. The objectives of these policies would be to inform and support firms in their effort to reduce their environmental footprint and, at the same time, support innovation in a competitive context. Innovation is an opportunity for firms to be aware of their environmental footprint and to change their behavior in order to reduce their negative impact on the environment.

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Obstacles to innovation and firms innovation profiles: are challenges different for policy makers?

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Abstract

Technological innovation can be hampered or slowed down by several factors related to its challenging nature in terms of costs and risks. Using French and Italian Community Innovation Survey (CIS 4), this paper contributes to the understanding of the determinants of these obstacles in order to suggest how the development of innovation could be stimulated or facilitated. By grouping firms according to their attitude towards innovation

Innovators, Innovative active and Non-innovative active - and comparing their perception of obstacles to innovation, the analysis highlights that the nature of the most perceived hurdles is similar across innovation profiles. However, the characteristics of the firms determining the perception of obstacles vary across innovation profiles. Thus, public policies aimed at supporting innovation development should differ from the ones targeted to encourage innovation activities.

Keywords: *Obstacles to technological innovation, Innovation profiles, Innovators, Innovative active, Non- innovative active, Innovation policies*

Introduction

Technological innovation is widely recognized as a key competitive advantage for manufacturing and service firms, and consequently is an important driver of their economic performance. Nevertheless, several firms do not engage in innovation activities. This attitude depends on the uncertain, challenging and expensive nature of the innovation development process that makes firms consider themselves unable to engage innovative activities. Currently, the development of technological innovation requires qualified personnel and considerable resources beyond the abilities to face the several difficulties and unexpected events that usually characterize it.

The low rate of technological innovation draws the attention of scholars towards outlining obstacles to innovation and understanding their consequences. Literature aims at helping the development of effective public subsidies for innovation or at helping managers in designing corporate strategies oriented to overcome the obstacles to innovation (Asso and Vito, 2010; Blanchard et al., 2011; Borrás, 2004; Galia and Legros, 2004; Hyytinen and Toivanen, 2005; Mohnen and Röller, 2001; Mohnen et al., 2008; Savignac, 2008; Segarra-Blasco et al., 2007; Wziatek-Kubiak and Peczkowski, 2011).

This paper tries to address the lack of literature on obstacles to innovation that has attracted scant attention towards the heterogeneous nature of innovative and non-innovative firms. Apart from very few contributions (D'Este et al., 2008, 2011; Hölzl and Janger, 2011), previous studies mainly focused on firms engaged in innovative activities without differentiating them according to the performance of their innovative efforts. This paper investigates the perception of obstacles across three different innovation

profiles: Innovator, the firms that have introduced product or process innovation; Innovative active, the firms engaged in failed or postponed innovative projects; Non Innovative active, the firms indifferent to innovative activities altogether.

Literature review

Thanks to the particular attention of scholars towards the factors that could lower firms' innovative efforts or could hamper the introduction of technological innovation we have an extensive list of barriers to innovation. As suggested by Patier (1984), impediments to innovation could be both internal and external to the firm (e.g. resource and environment related). Most of them are due to the uncertainty that affects the development of technological innovation that usually involves the unpredictability over which creation path has to be followed in order to reach promising and marketable discovery and application (Castellacci et al., 2005). The overcome of such obstacles asks for a wide collection of information about technology and market that, being not easy to carry out, can discourage firms or can make the project fail. Moreover, hampering factors are related to the large amount of financial and qualified human resources required by R&D projects (Baldwin and Lin, 2002; Frenkel, 2003; Hadjimanolis, 1999). The lack of internal resources and the difficulty to integrate them with external ones, because of difficult access to them or the difficulty in the management of the integration process, make the development of innovation more difficult. Other impediments are based on organizational rigidity caused by excessive bureaucracy, the inability to unlearn and the break through the barriers of conventional thinking or simply resistance to change by employee (Assink, 2006; Zwick, 2002). Others are linked to the lack of infrastructure or government supports (Hadjimanolis, 1999; Rush and Bessant, 1992). Previous studies remark that these obstacles could be interrelated that is to say that they could reinforce each other's (Galia and Legros, 2004; Mohnen and Rosa, 2002; Shiang and Nagaraj, 2011; Wziatek-Kubiak and Peczkowski, 2011). Yet, complementarities among obstacles differ according to the attitude of firms towards innovation and their innovative performance. In particular, obstacles show a higher propensity to be combined with others as regards firms not engaged in any innovation activities (Shiang and Nagaraj, 2011).

According to previous studies on the determinants of obstacles to innovation, apart from the belonging to group that lower all kinds of obstacles, impediments are determined by different factors. The identification of financial constraints as obstacles to innovation is higher in high-tech manufacturing industries and increases if innovation activities involve R&D activities, in particular basic research, and when firms are confronted to new competitors entering the market. On the contrary, the cumulativeness of knowledge involved in innovation activities lower the perception of lack of financial resources (Canepa and Stoneman, 2008; Hölzl and Janger, 2011; Iammarino et al., 2007; Rahmouni, 2011; Tourigny and Le, 2004). The high costs related to the development of technological innovation are usually more perceived as obstacles by firms engaged in internal R&D activities aimed at radical innovation and when firms have to face competition of new products introduced by competitors. On the contrary, costs are not hampering factors the more the firm is engaged in export activities and if it is foreign- owned (Galia and Legros, 2004; Hölzl and Janger, 2011; Iammarino et al., 2007; Mohnen and Rosa, 2002; Rahmouni, 2011; Tourigny and Le, 2004). Skill shortage is perceived more by innovative high growth rate firms facing high competition and engaged in external R&D whilst is not a barrier for firms engaged in basic R&D activities based on cumulative know-how (Baldwin and Lin, 2002; Bascavusoglu-Moreau and Simonetti, 2011; Galia and Legros, 2004; Hölzl and Janger, 2011; Iammarino et al., 2007; Rahmouni, 2011; Tourigny and Le, 2004). The lack of information on technology is more likely to be a hindering factor the more the firm experiences high growth rate and is engaged in external R&D and export activities. The cumulativeness of knowledge exploited in innovation activities and the status of "start-up" lower the perception of this barrier (Bascavusoglu-Moreau and Simonetti, 2011; Galia and Legros, 2004; Hölzl and Janger, 2011; Iammarino et al., 2007; Rahmouni, 2011). The lack of market information is an obstacle

when firms are engaged in the introduction of technological innovation to the market or is experiencing organizational changes (Bascavusoglu-Moreau and Simonetti, 2011; Galia and Legros, 2004; Hölzl and Janger, 2011; Iammarino et al., 2007; Rahmouni, 2011). Uncertainty about market reaction to new products is a deterrent for large firms that are also involved in managerial and organization transformation whilst it is not a real barrier for start-up firms and companies with high export rate (Bascavusoglu-Moreau and Simonetti, 2011; Galia and Legros, 2004; Hölzl and Janger, 2011; Iammarino et al., 2007; Rahmouni, 2011).

To underline divergences in the determinants of barriers across firms with different attitude towards innovation and different innovation performance, more recent studies include in the analysis the innovation profile as a potential determinant of the perception of barriers (Bascavusoglu-Moreau and Simonetti, 2011; D'Este et al., 2008, 2011; Hölzl and Janger, 2011). This highlights that the level of engagement in innovation activities affects the perception of obstacles to innovation. The share of innovators, enterprises that introduced technological innovation, who experience barriers to innovation is higher than the share of no-innovators, regardless of the type of barrier considered (D'Este et al., 2008). Moreover, the consequences of different types of impediments diverge (D'Este et al., 2011).

Data and constructs

This paper exploits data collected by the French and Italian Community Innovation Survey 2002-2004 (CIS 4) that provide us information about firm's structural characteristics and firm's innovation activities and performance for 20,747 French and Italian firms.

CIS is a valid data source for the analysis of barriers to innovation since it collects a widespread set of data about hampering factors of technological innovation's development by asking for the perception of cost- related obstacles (lack of internal financial resources, lack of external financial resource, costs too high), knowledge-related obstacles (lack of qualified personnel, lack of information about technology, lack of information about market, lack of partners) and market-related obstacles (market dominated by established firms, demand uncertainty).Yet, the formulation of the CIS questions on obstacles generally leads firms to evaluate the problems they have faced in carrying out innovation activities (Baldwin and Lin, 2002; Galia and Legros, 2004). Thus, in line with D'Este et al. (2008), Mohnen and Rosa (2002) and Lim and Shyamala (2007).

CIS database allows to identify three different innovation profiles: Innovator, Innovative active and Non-Innovative active. A firm is defined as an Innovator if, during the period 2002-2004, it introduced at least a new or significantly improved product or a new or significantly improved process. A firm is defined as Innovative active if, during the period 2002-2004, it did not introduce a new or significantly improved product nor any new or significantly improved process, but it was engaged in innovative activities that it abandoned or were still on- going at the end of 2004. Non-Innovative active firms are defined as enterprises simply indifferent to innovative activities altogether. Our sample consists of 31% of Innovators; 5% of Innovative active firms and 64% of Non- Innovative active firms.

Methodology

The study consists in three distinct analyses on each innovation profile. In each analysis the determinants of the nine obstacles to innovation are investigated by using multivariate probit models[1] that allow to take

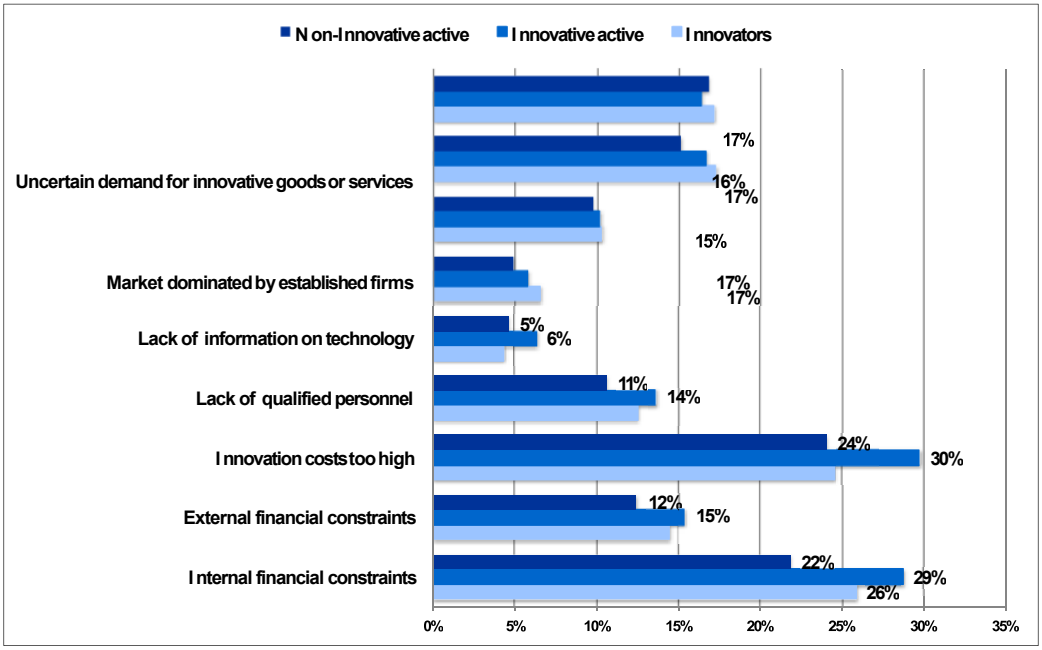
[1] The results were obtained with a Stata routine as specified by Cappellari and Jenkins (2003) based on the "GHK" simulator. Further information about the "GHK" simulator is available in Greene (2003).

into account the possible interdependence between the perception of different types of obstacles[2]. Considering previous empirical studies on the relationship between the perception of obstacles to innovation and firm's characteristics, the analysis checks for the impact of firm's structural characteristics (e.g. size and belonging to a group), industry sectors, types of innovation activities in which the firm is involved (e.g. internal R&D, external R&D, acquisition of equipment, acquisition of knowledge and training for innovation) and public subsidies at the national and European level[3]. Moreover, the model looks at the role played by sources of information exploited during the innovation development. Finally, the estimation controls for country specific effect in order to take into account the impact of national innovation system.

Results

Innovation profiles do not widely differ in the perception of the nine obstacles. In particular, the types of obstacles most perceived by firms are quite smiliar across innovation profiles (Figure 1).

Figure 1. Innovation profiles and perception of barriers



Sources: CIS 4 (France and Italy), 20,747 firms.

Note: Statistical tests highlight a significant difference across profiles only for "innovation costs too high".

For each innovative profile the predominant impediments are internal financial constraints, innovation costs that are too high, market dominated by established firms and uncertain demand for innovative goods or services. The only evident difference among innovation profiles is the entity of economic barriers perceived by Innovative-active firms that suggests that the high costs involved in innovation projects and the lack of internal financial resources have a strong probability to delay or abandon the innovation development.

2 Perception of obstacles may depend on which innovation activities the firm is engaged in or on the information sources the firm is expliting. This would require correcting for the presence of potential endogeneity bias in the estimation. However, due to the lack of appropriate instruments (Mohnen and Roller, 2001; D'Este et al., 2011), we do not try to correct for endogeneity. In our view, the presence of endogeneity is not likely to affect the nature of our findings.

[3] Explanatory variables have been selected in accordance with previous literature on determinants of obstacles to innovation.

Findings of the multivariate probit estimations investigate in detail the determinants of obstacles to innovation for Innovators, Innovative active firms and Non-Innovative active firms. In the following sections comments on results are re-arranged in order to identify similarities and divergences of the determinants of obstacles (costs, knowledge and market related obstacles) across innovation profiles.

As regards costs barriers, the multivariate probit estimation highlights few common determinants across innovation profiles. The only one factor that reduces the perception of all different economic obstacles is the size. The higher the firm's turnover the lower the likelihood that the firm lacks internal and external financial resources and is hampered by high project costs. Moreover, for all the innovation profiles, the perception of high costs of innovation is lowered also by belonging to a group. The further similarities between Innovators and Innovative active firms consist in national variations, in the role of intra-mural R&D activities and the exploitation of conferences as information source. Italian firms engaged in innovation activities, independently from their innovation performance, perceive less than French ones the lack of internal financial resources and barriers due to innovation costs too high but are more hampered by the lack of external financial resources.

Differences of determinants across innovation profiles emerge also in knowledge barriers. Currently, very few factors have the same impact on the perception of these obstacles across profiles. Turnover is a reducing factor with the only exception for the perception of lack of information on technology by Innovative active firms. Also firm's localization matters in the same way across innovative profiles. In particular, Italian firms are less affected by the lack of qualified personnel independently from their innovation profiles. Since French indicators on graduates in science and engineering disciplines and population with tertiary education are higher than Italian ones, this result suggests that in France the lack of qualified personnel is more due to the misalignment of human resources' specialization with industry needs than a question of how many.

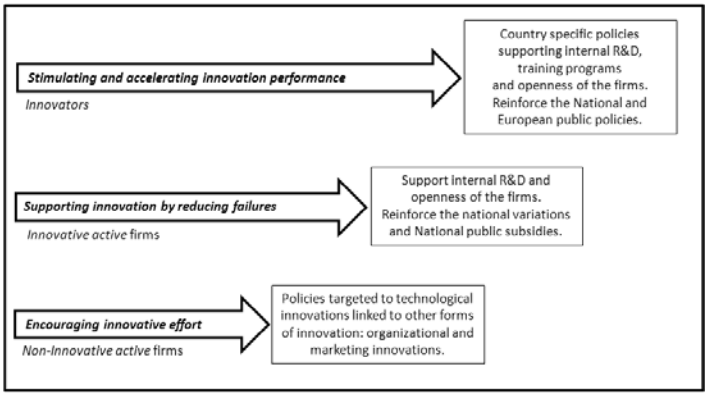
As regards market-related factors that could deter innovative efforts or hamper the development of innovation, we don't find common determinants in all three profiles but commonalities between Innovators and Innovative active, between Innovators and Non-innovative active and between Innovative and Non-innovative active. Both Innovators and Innovative active firms who exploit competitors as a source of information are more hampered by market factors whereas large-sized Innovators and Non-innovative active firms are less affected by market-related obstacles. Belonging to a group leads both Innovative and Non-innovative active firms not to perceive the uncertain demand for innovative goods and services as an obstacle. Non-innovative active firms belonging to a group are not deterred also by a dominated market. The growth rate matters only for Innovators. In particular, high growth firms are less affected by market-related factors. Moreover, Italian Innovators are less constrained than French ones. The nature of innovation activities affects the perception of obstacles mainly in Innovative active firms.

Policy implications

Empirical analyses carried out on the perception of obstacles and their determinants provide useful implications for innovation policies i.e. public supports that aim at stimulating innovation performance and at encouraging innovative efforts. On one side, descriptive statistics highlight that the extent of the perception of obstacles to innovation is similar across innovation profiles, apart from the hampering effect of innovation costs that is more evident for Innovative active firms. On the other side, results of the multivariate probit estimation outline that the drivers of the perception of hampering factors to innovation vary across different types of obstacles and, at the same time, across innovation profiles. For Innovators, being a large firm, its location and its industrial specialization matter as a determinant of all obstacles to innovation. Engagement in internal R&D and the exploitation of national and European subsidies increase the perception of costs and knowledge related obstacles. Openness of the firm increases the perception of

knowledge and market obstacles. Innovative active firms engaged in internal R&D and using diverse sources of information increase only the perception of costs related obstacles. Being a large firm reduces this perception of cost obstacles. National subsidies reduce the obstacle to knowledge. For Non-innovative active firms, being a large firm reduces the perception of all types of obstacles. Firms active in geographically diversified markets are more prone to face cost related obstacles. Involvement in other forms of innovation - organization and marketing innovations - play an important role as determinants of obstacles to technological innovation. Commitment in organizational and marketing innovation increases the perception of knowledge and market obstacles whereas organizational innovation efforts reduce the cost related obstacles.

Figure 2. Main policy implications across innovation profiles



Conclusion

This paper contributes to a better understanding of obstacles to innovation and their determinants in order to suggest how innovation could be stimulated and facilitated. In contrast to previous research, this paper presents separate analyses on three different innovation profiles: Innovators, Innovative active and Non-innovative active. Main results tend to show that the nature of the most perceived obstacles is similar across the three innovation profiles except for obstacles linked to innovation costs. For all firms, the predominant impediments are internal financial constraints, innovation costs too high, market dominated by established firms and uncertain demand for innovative goods or services. However, the hampering effect of innovation costs is more evident for Innovative active firms. The comparison of determinants of obstacles to innovation across innovation profiles highlights several differences. This suggests that government policies should be specific according to the innovation profiles beyond the obstacles targeted. Policies aimed at stimulating and accelerating innovation performance may differ from the ones aimed at encouraging innovation activities.

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Is the co-creation a good practice for the University? A review of the literature

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Abstract
This paper discuss the co-creation environment applied at the university world. The principal co-creation variables are detected through the compilation and analysis of several papers. These variables are involved in the process where the higher education institution create value with the student as the principal actors. At present, there are a lack of information of this trend in the educational sector, and the purpose of the research is to collect and analyze the studies developed in recent years in order to propose a framework on this topic.

Keywords: *Co-creation, Communicative Participation, Satisfaction, Loyalty, Higher Education, Marketing, Collaboration, Structural Equation Models.*

Introduction

The last marketing trends focus in services co-creation with the active collaboration of the target clients. Here the customer is involved in a rich communications channel (Muñiz and Schau, 2011; Bolton and Saxena-Iyer, 2009). This initiative constitute an innovative approach which allows the firm to know what the customer consider valuable (Bettencourt et al., 2013), and despite being difficult to develop, it permits the institution to make a difference in the market. Berthon et al.(2009) comment about how branding co-creation facilitates understanding the criteria and necessity of all the stakeholders involved. The co-creation promotes a strong communication between the involved parts and increase the productivity (Rexfelt et al., 2011). Prahalad and Ramaswamy (2004) propose a framework which includes dialog, access, risk and transparency as the main important element in the co-creation process.

As Witell et al.(2011) discuss, the traditional method only involves the customer in the last phase of prototype testing, nevertheless the co-creation transforms a client in an active agent with a role since the initial phases of ideation. Vargo and Lusch (2004) refer about the service-centered dominant logic, where the co-creation is the cornerstone of value defined and created by the clients.

Berthon et al.(2009) comment the importance to manage the stakeholders communications and mutual knowledge, where essential understanding of the user is a necessity. Bolton and Saxena-Iyer (2009) in their research dig about clients participation in the interactive services, characterizing two measurement: "the extent to which the customer participates" and "the extent to which technology is utilized in the creation and delivery of the service". Also, they reflect the customer interaction with the firm's technology and the positive impact in service quality.

Witell et al.(2011) study the effect of the proactive and reactive market research techniques, obtaining different results, proving that the first method brings to the companies more possibilities of "offerings with greater customer value". The co-creation challenges, according Rexfelt et al.(2011) are necessary to change the roles of the involved actors because of the urgency of new types of design environments. In their investigation, they focus in the application of new methods at early stages of services development.

Methodology

The literature research was conducted with the review and critical analysis of several papers in the field. The literature review offers to the academic world an enrichment experience (Hart, 1998; Webster and Watson, 2002) and the researchers can access valuable intellectual resources with the objective of "developing a knowledge base" (Tranfield et al., 2003). Keele (2007) comments that literature reviews allow to summarize the existing evidence about a topic and identify the existing gaps which permit future investigations to grow, and delimit the research problem (Randolph, 2009).

The literature review dates from 2004 to present, and the databases utilized are listed as follows: The Web of Knowledge, ABI/INFORM, Emerald, ERIC and INGESTA. The principal journals consulted were: Business Horizons, Strategy & Leadership, Journal of the Academy of Marketing Science, International Journal of Management Reviews, Journal of Retailing, European Management Journal, Computers and Education, Advances in Consumer Research, Journal of Interactive Marketing, Research in Engineering Design, Journal of Service Management, Managing Service Quality, Journal of Business Research, International Journal of Service Industry Management, Management Decision, Managing Service Quality: An International Journal, Production and Operations Management, Journal of the Academy of Marketing Science, R&D Management, The Journal of Marketing, Journal of Retailing, Journal of Services Marketing, European Journal of Marketing, International Journal of Educational Management, Research Technology Management, Harvard business review, Dirección y Organización, Innovation and Teaching Technologies, Research& Evaluation, Strategy and Business.

Research question

This study explores and analyzes the relation existing between different factors that interact in the co-creation process at the higher education sector. The principal variables are: communicative participation, trust, satisfaction and loyalty, and all of them turn around co-creation as the center of all the events. There is a proposed model, which includes different hypothesis established between the aforementioned variables. A deeper literature review guarantees the sustainability and solidity of the links suggested by the authors. The proposed model will be validated in future works through the structural equation modeling (SEM), a technique that allows to confirm the proposed framework (Hox and Bechger, 1998; Schumacker and Lomax, 2004; Byrne, 2013).

Few studies refer to the co-creation in the undergraduate programmes. Ribes Giner et al. (2014) developed and validated a model for post-graduate programmes, and Peralt Rillo and Ribes Giner (2013) described the principal tools that could be applied at this level with an active participation of the stakeholders involved at co-creation.

Conclusions

The university constitute an educational market, where the product offer to the society is considered as a service, being the students the principal users (Díaz-Méndez and Gummesson, 2012; Ena, 2011). In the co-creation world at higher education, there are present several stakeholders, which constitute a complex network (Díaz-Méndez and Gummesson, 2012). It is important for institutions to generate strategic actions in order to increase the visibility and gather competitive advantage, identifying what the students really want (Maringe, 2006). The present research, constitutes a solid alternative in order to establish marketing methods to improve the quality and gather more fidelity in the educational universe.

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How undertake a literature review through bibliometrics. An example with review about "user innovation

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Abstract
In this paper we explain how to carry out a literature review using Bibliometrics. We use as example the literature review about user innovation, and we explain every step followed, from the query in Web of Science database, until the visualisation of networks, and the use of Social Network Analysis to determine citations and keywords more important in the literature of this field. We include information about the different software and tools used in the paper for cleaning data, visualise them and analyse. We explain the importance in the queries and how to improve them to better incorporate all the literature in a field.

Keywords: *user, innovation, Bibliometrics.*

Introduction

Bibiometrics is a method broadly used to draw the big picture (Porter et al. 2002) in a literature review. It start with the definition of questions to be answered, which include some question like Who, What, Where, When, With Whom (Börner and Polley, 2014). Who refers to authors, What to keywords, Where to countries or other geographical locations, When to years or periods defined, and With Whom to the cooperation in research, which can indicate authors or affiliations.

Social Network Analysis (SNA) is a methodology very used in Bibliometrics to determine the importance of keywords, authors and citations in networks formed by these types of nodes. Among the measures form SNA utilised for determining the most important nodes are eigenvector centrality and betweenness. Eigenvector centrality denotes important nodes connected with other nodes that are also important (Newman 2010), while betweenness indicates that if one node were not there, literature on that path would not have been developed.

Concerning the field we have selected to applied the literature review, Von Hippel et al. (1999) pounted out that many comercial products were initially thought or prototyped by users rather than manufacturers, and that such products tended to be developed by "lead users", which defined as "companies, organisations, or individuals that are well ahead of marked trends and have needs that go far beyond those of the average user". From this perspective, examples about involvement of users on innovation has been explained for cases like medicine (von Hippel et al. 1999) or computer chip industry (Thomke and von Hippel 2002).

Literature review

The first step in the literature review consist on making some queries in databases of scientific literature. This first step needs to be repeated some times until we obtain the query which would include all the papers (or patents) in a field. We will show how to improve queries. In our example, we have repeated the query one time, basing the second query in a figure like Figure 2, in which we can find all the keywords that refer to concepts in the field we review.

To analyse literature related to users in innovation, we made the following first queries in the Web of Science database on April 2015:

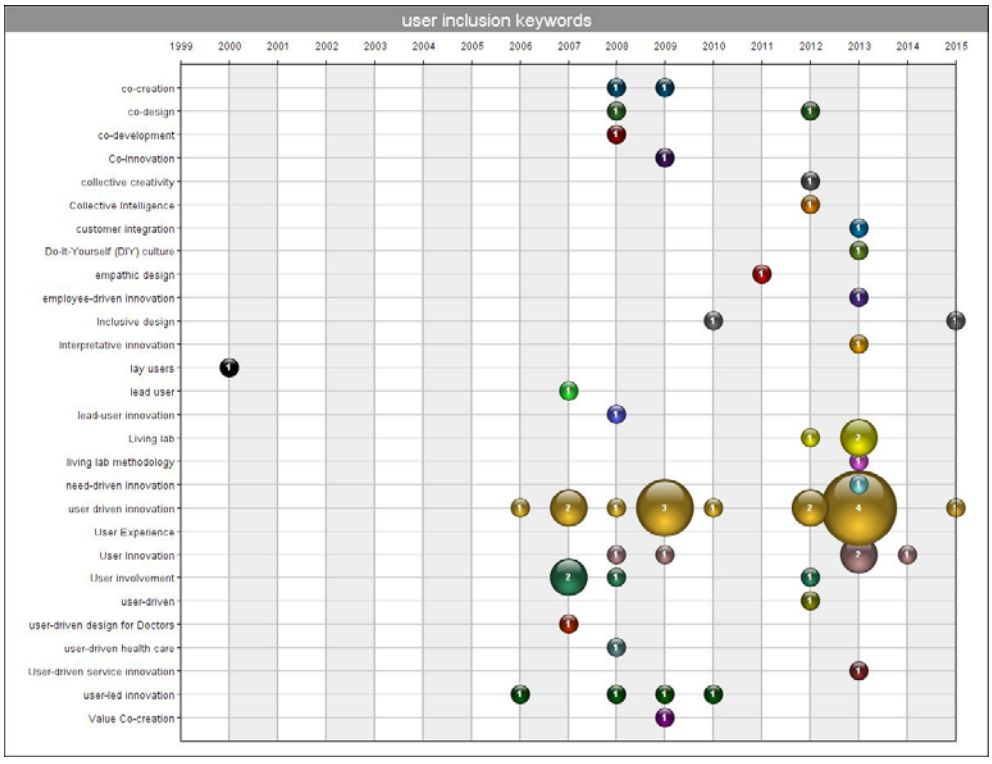
a) "user led innovation" OR
b) "end user innovation" OR
c) "user driven innovation"

These queries were undertaken in topic, that is, title, abstract and keywords. Results were 64, which included articles and proceedings. In this step, because we usually work with much more data, we select only papers.

Once we have the results in Web of Science, we download them in text file to be imported in other software. For cleaning the data we use the software for tech-mining VantagePoint (the Search Technology, Inc. USA). It is a commercial software which allows us to work with thousand of data. There exist free software, but we use them for visualisation and some Social Network Analysis, and some results can be obtained from the Web of Science query directly. However, our experience is that cleaning the data with VantagePoint is more secure.

In order to detect if the queries we made were correct, we cleaned de keywords and we elaborated Figure 2, which represents the keywords which have been used by authors, when they appear first, and which are more important. We can observe in the fifure the keywords that authors have used to express users participation on innovation. We compare the keywords with our first queries, in which we took into account the terms "user led innovation", "end user innovation" and "user driven innovation". However, in Figure 2 we observe other terms like "lay users", "user involvement", "lead-user innovation", "co-creation", "co-design", "co-development", "co-innovation", "collective creativity", "inclusive design", and "living lab". Therefore, the next step would be to repeat the queries including more terms.

Figure 2. First queries. Evolution in the keywords used by authors in relation to participation of customers on innovation. Cleaning and visualization with software VantagePoint



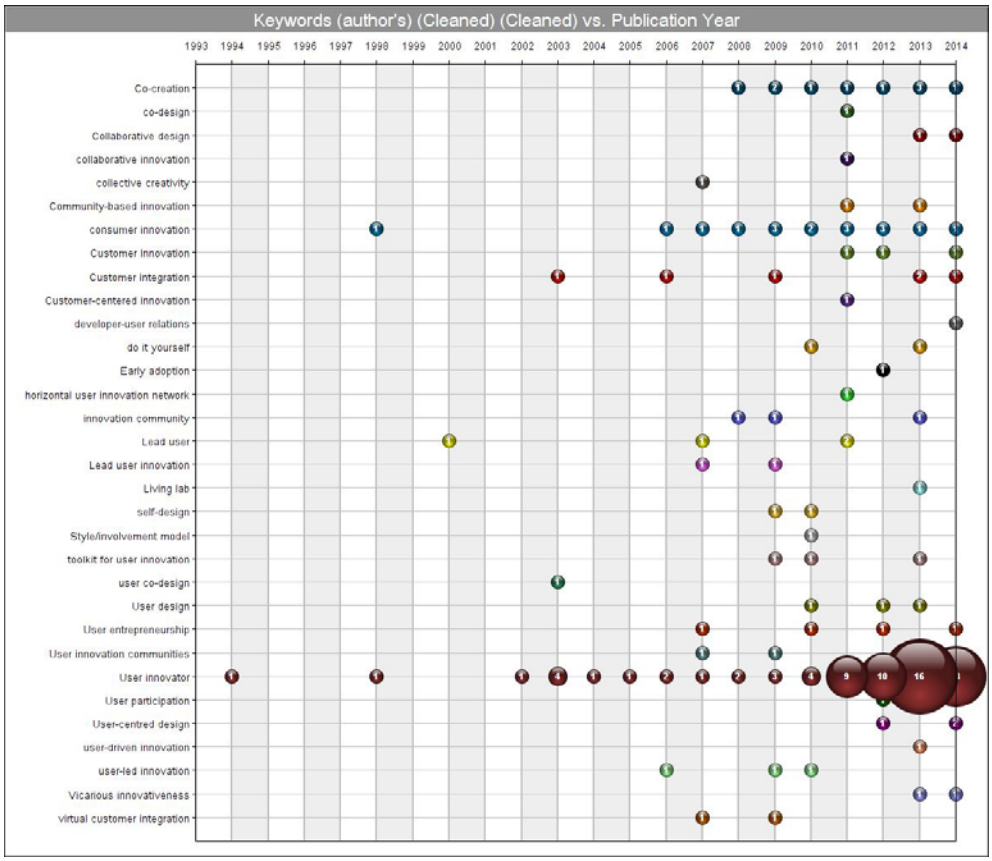
In the second queries we undertook, we tried to include more terms, but we wanted they referred to innovation in all the cases. The queries were:

a) "user innovat*" OR
b) "customer innovat*" OR
c) "consumer innovat*" OR
d) "lay user innovat*" OR
e) "user-led innovat*" OR
f) "lead-user innovate*"

In this case, in which we have made some changes in the queries, results obtained are 371 articles. We clean keywords and we obtain Figure 3, which gives us more information about the terms that literature has used to refer to users innovation. With the two queries we would elaborate the final query, which would be:

a) "end user innovation" OR
b) "user driven innovat*" OR
c) "user innovat*" OR
d) "customer innovat*" OR
e) "consumer innovat*" OR
f) "lay user innovat*" OR
g) "user led innovat*" OR
h) "lead user innovat*" OR
i) "user entrepreneurship" OR
j) "community based innovation" OR
k) "collaborative innovation" OR
l) "living lab" OR
m) "user co-creation" OR
n) "user co-design" OR
o) "user co-innovation" OR

Figure 3. Second queries. Evolution in the keywords used by authors in relation to participation of customers on innovation. Cleaning and visualization with software VantagePoint



Once we obtain the results on the third query, we will follow the next steps:

1. Elaborating a figure which presents the evolution in the number of works published. This step is usefull for dividing in periods the results and elaborate all the analysis based in different periods.
2. We obtain the countries involved in the development of the field.
3. We obtain the keywords used by authors in their works.
4. We analyse the keywords with Social Networks Analysis, which gives us how important is every keyword in relation to others. This analysis can be made through the use of software like UCINET6 (Borgatti et al. 2002) or Gephi (Bastian et al. 2009). We usually use UCINET6 to transform matrixes in excel format to networks in net format.
5. We identify the literature framework, that is, the references more cited by authors in the field.
6. We use SNA to identify the central references.
7. We analyse the institutions involved in the increase of papers in the field.

Conclusions

In this paper we have carried out a literature review through the use of Bibliometric methodology to explain the different steps authors follow in undertaking reviews with this methology. To explain it, we have used an example with a query based on users and innovation.

Explanation have started with the queries in the Web of Science database, to continue to cleaning of data, visualisation and analysis.

Variables included in the example were countries, keywords, citations and author's affiliations. All data were cleaned through the software VantagePoint (The Search Technology, Inc.), while visualisations by years were made through this software and VOSviewer was used for networks.

Analysis of data, especially analysis of networks was made using Social Networks Analysis (SNA), through the software UCINET6 and Gephi. This analysis allowed us to indicate the keywords and references more important.

To obtain a precise literature review is necessary to repeat some of the steps explained in this paper. In our opinion, the best way consist on taking the picture of keywords, observe which keywords were forgotten in the queries, and repeat the query adding these keywords.

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The complex role of cluster agents in the development of automotive industry in Spain

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Abstract
The development and recuperation of automotive industry in Spain has not been properly analysed. Without national OEMs and a very low internal demand the sector has shown strong symptoms of sustainability and growth. The sector is creating permanent and vauable jobs and seems to be an exception to the Spanish industrial decline. The Spanish automotive industry is agglomerated around seven clusters in the North, east and center of Spain. This aticle will try to aalñyse those factors that could explain the sector´s strenght from the pont of view of clusters. We hypothesize that a combination of cluster agents role and its capabilities contribute to the survival and competitiveness of the industry and overcome its weaknesses.

Keywords: *Automotive industry, agglomerations, clusters, inniovation.*

Introduction

Spain automotive industry represents an exception to the industrial decline that has suffered the secondary sector during the last five years. According to ANFACC, the vehicle manufacturer industry employment is recovering significantly with a relevant growth closer to 2008 levels. Its positive evolution stands out over the rest of industry , especially to manufacturing which present much more modest results. In terms of the quality of employment, the automobile industry incorporates stable employment to a greater extent than the whole of the Spanish economy and maintains, in addition, a higher level of fix contracts to the manufacturing industry as a whole.

It is interesting to note that Spain has become the largest producer of commercial vehicles and the second manufacturer of cars in the European Union as well as the 12th worldwide. Automobile and components sector have also a commercial export coverage of 150%.

How can this situation be explained when there are no any Spanish OEMs manufacturers? The first reason is that the set of players in this sector act jointly and have a consensus that has allowed them to develop common strategies and policies and have been able to sell them to the public administrations forcing them to implement very active industrial policies unlike other similar sectors. This has been a powerful magnet for attracting the attention of foreign multinational firms that have found Spain an interesting location to outsorce their production.

Among these factors the role of clusters and agglomerations has been critical in this industry. Two seminal publications (Sturgeon and Lester, 2004; Sturgeon et al, 2009) proposed that automotive industry is following a series of guidelines within which have been instrumental in a wave of "offshore" investments, mergers, alliances and acquisitions, especially in the early 1990s. Thus value chains are set composed of interrelated global corporations where relocation has played a fundamental role. The large OEM leading companies have exerted a strong governance in their global value chains in this offshoring tendency. In the analysis of the latter, regional and national structures have a key role supporting the industry coherence. This is why economic geography plays a different role according to segments of the value chain: design, manufacturing of components, assembly, etc. In this context, micro-level regional

clusters are essential and, in Spain, have been developed providing significant competitive advantages that have favored the development of the industry at national level.

Objectives

This paper will analyze the roles that cluster agents: OEM manufacturers, components suppliers, institutions, associations, University and public research orgqanizations, etc. have played in the cluster configuration.

The paper will anslse seven clsters: Vigo, led by PSA Citroen, Valencia led by Ford, castilla Leon led by reanault, Baq Country led by VW and Mercedes, Aragon led by GM, and Barcelona led by Audi-VW, Nissan and Seat. The relationships between stakeholders in the value chain, their interaction and quality are relavent in the cluster environment leading to the paradigm of the responsive value chain (Gunasekarana 2008) that helps to explain the advantages of cooperation between actors in the chain, the cluster and industrial leaders. The quality of the relationships between the various actors in the cluster configures its development and orientation according to our field study.

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Corporate Social Responsability as a tool for Social Innovation

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Abstract
This paper aims to analyze the social dimension of corporate social respon- sibility (CSR) as a tool of social innovation through an empirical study focus- ing on the Ibero-American hospitality industry. We conducted 54 interviews involving 37 hotel chains. Our study revealed that a significant number of the actions carried out within the framework of the social dimension of CSR are in response to the concerns of certain people (human resources personnel or managers) rather than a perfectly shaped policy on the actions to be under- taken. Therefore, different actions have been undertaken in hotels that belong to the same chain, depending on the geographical area in which the hotels are operated. After having analyzed the actions undertaken by the hotels, we concluded that CSR actions are still in their early stages

Keywords: *Hospitality industry; Ibero-American; CSR; Social responsibility*

Introduction

Corporate Social Respopnsibility (CSR) is a term broadly employed by scholars and pract i- tioners. Since the late 20th century, by introducing the term Triple Bottom Line (TBL), companies start analyzing not only the economic dimension, but also the social and envi- ronmental ones (Elkington, 1998).

Within this paper, we specifically look for social innovation through CSR practices imple- mented in hospitality industry in Ibero-american countries. It is noteworthy that, while studies have been recently carried out in this sector related to environmental dimension of CSR (Flamer, 2013, financial performance (Kang et Al, 2010), or capital market (Becchetti et Al, 2012), there are fewer studies focusing on the social dimension (De Grosbois, 2012). The scarcity of Works regarding the social component in this particu- lar sector is further reinforced by the results of our fieldwork which revealed a lack of bal- anced outcomes in the TBL –social, economic, and environmental- of CSR.

In this context, this work pursues a twofold objective; on the one hand, to identify leading social practices that are being carried out along hospitality sector in the context of CSR; and on the other hand, to analyze to what extent there is social innovation in this industry through CSR. This study also aims to provide a cross -cultural perspective given that we conducted our fieldwork in four different Ibero-American countries: Argentina, Colombia, Mexico and Spain. It should be noted that, although tourism and hospitality industry plays an important role in the generation of employment and economic development in these four countries, the number of empiricalstudies in this geographical area is very limited.

Social Dimensions of CSR and Social Innovation

The concept of CSR in the hospitality industry has attracted increasingly more attention in the past decade (Jones et Al, 2014). Although defined in different ways (Campbell, 2007), the concept of CSR involves the adop- tion of good and transparent business practices, while also taking into account environmen- tal and social outcomes.

The literature offers several interpretations of CSR and includes different dimensions for the analysis of this concept. A good attempt at such analysis is made in a paper published by the European Commission, which distinguishes between the internal dimension and the external dimension of CSR (EC, 2001). The internal dimension comprises socially responsible practices affecting investments in human capital, health and safety, and manag- ing change. Additionally, it includes environmentally responsible practices relating to the management of natural resources used in production. The external dimension comprises relations with the local community, business partners and suppliers, customers, public au- thorities and NGOs representing local communities, as well as the environment (EC, 2001).

According to Haugh and Talwar (2010), the social dimension of the sustainability of CSR includes the humanitarian context of business and relates to issues of poverty and income inequality, disease, access to health care, clean water and sanitation as well as inclusion through education, especially for females and people who have had no opportunities to study. This dimension also includes the broader problems associated with the impact of globalization on economic development.

When analyzing the concept of Social Innovation compared to the social dimension of CSR explained above, it can be said that both concepts share many aspects. Social innovation is commonly defined as new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations. These innovations are considered both good for society and capable of enacting greater societal involvement in the provision of social services (Murray et Al, 2010). Therefore, when we argue that CSR initiatives enable businesses to maximize positive effects on the poor and minimize negative economic externalities, we are referring to initiatives that are also social innovations.

Consequently, it can be stated that social innovation through Effective CSR activities in Latin America are of even greater significance since companies are the drivers of the social, economic and political change required by these countries. In this regard, the hospitality industry has a great deal to contribute since its performance is key to development, prosperity and well-being.

Research Design, Method and Data

The CSR programs carried out by large hotel groups have a substantial impact on surround- ing communities worldwide. For this reason, 70% of the hotels chosen are part of large hotel chains. The remaining 30% of the hotels whose managers were interviewed are small- er in scale, enabling us to analyze social initiatives implemented in local hotels. We carried out our fieldwork in hotel chains in Ibero-America (Argentina, Colombia, Mexico and Spain). We chose these areas for the following reasons: firstly, the growth of the hotel in- dustry in these countries acquired an enormous dimension; secondly, we included Spain along with the other countries due to the traditionally significant investment made by Span- ish multinationals in this geographical area; thirdly, many of the areas in which hotels are prominent promote social initiatives.

We interviewed mainly HR and CSR managers from recognized “champions” and leading companies with one or more of the following characteristics: companies certified by organ- izations such as 1) GRI, the institution that created the first worldwide standard of indica- tors for the drafting of sustainability or CSR reports taking into account economic, social and environmental performance, 2) EarthCheck, a certifying agent in the sustainability field, or 3) FTSE4Good, an indicator recognized worldwide by investors who seek to iden- tify companies with responsible business practices; companies identified as “active” in the United Nations Global Compact directory; and recipients of national or international awards recognizing their social and environmental commitment. Additionally, we focused on hotels belonging to hotel groups that are members of the International Tourism Partne r- ship, an organization

meant to bring "together the world's leading international hotel co m- panies to provide a voice for environmental and social responsibility in the industry."

The research team that carried out this project is made up of four scholars from the four Ibero-American countries mentioned above. Over a one-year period (from January 2012 to January 2013), the team conducted 54 interviews. From February 2013 to February 2014, we supplemented certain data from the interviews and reviewed reports on corporate re- sponsibility or sustainability drafted by the large hotel chains that took part in the study. The interviews took between 90 and 120 minutes and involved 37 hotel channels. More specifically, 11 interviews were conducted in Argentina, 10 in Colombia, 16 in Spain and 17 in Mexico. We followed a semi-structured interview protocol that began with general questions about how the concept of CSR is understood and about the trends in the hospitali- ty industry. We also asked questions concerning the interviewee's beliefs about the im- portance of CSR in the company's strategy. Lastly, we asked different questions about the main initiatives relating to inclusion, diversity, social responsibility and corporate volun- teering. We asked about the objectives of, motives for and outcomes of these initiatives. The researchers analyzed the data using inductive content analysis with an emphasis on the content of the discuss ion. As a unit of analysis, the research team chose some words or sentences related to the study topic. We created a single file containing the 54 interviews conducted in all four countries. We recorded, transcribed and analyzed the interviews in Atlas.Ti 6.0, a computer program used for qualitative analysis. In order to have additional data, we also analyzed the CSR reports drafted by the hotels whose managers were inte r- viewed using Atlas.Ti.

Conclusions

The hotel chains in the countries surveyed are aware of their social role in the development of the communities in which they operate. They also recognize that there is a need to strengthen efforts to include the disadvantaged such as low-income individuals, physically challenged individuals, young people with no training, battered women or women with few job possibilities, etc., especially in the countries studied in Latin America due to the social inequalities that exist and in Spain due to the high unemployment caused by the economic crisis prevailing since 2008. However, although progress has been made in the areas of diversity and inclusion, many of the hotels whose managers were interviewed recognize that more and improved actions could be taken through structured plans with objectives aimed in a specific direction. In fact, we found that several hotels comply only with the minimum CSR threshold, that is, compliance with labor laws and accordingly it can be concluded that they exhibit socially irresponsible behaviors (Campbell, 2007).

Our study revealed that a significant part of the actions carried out in relation to the social dimension of CSR is in response to the concerns of certain people (human resources pe r- sonnel or managers) rather than a perfectly shaped policy on the actions to be undertaken. Consequently, we found that different actions had been undertaken in hotels in the same chain, depending on the geographical area in which the hotels were operated.

Although there are exceptions, social actions carried out are generally more reactive (some- times arising due to legal or business needs) than proactive, that is, responsible practices adopted voluntarily (Torugsa et Al, 2013). The proactive-reactive aspect was found to de- pend on local economic development and, in places with a high degree of social inequality, reactivity was found to be more prevalent than proactivity.Most relevant social initiatives were implemented in large hotel chains and therefore we can conclude that belonging to a large hotel chain was of greater importance than the country in which the interviews were conducted. Few hotel chains explained the goals of social management and the achieve- ments made in this area.

Although a focus on community development is considered to be of great importance in the emerging economies of the Latin American countries researched, the social dimension of CSR is still in the early stages in the Ibero-American hospitality industry and cannot be considered to be a tool of social inclusion, although some initiatives undertaken encourage such inclusion.

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Greenbranding practices for a company of phytosanitary ecological products

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Abstract
The aim of this work is to examine the practices of greenbranding for a Phytosanitary Company today. For it we have used the methodology of benchmarking, comparing the company with his competitors in the sector. Across Green Branding's integral program the brand won in solidity and coherence helping to differ from the rest, strengthening furthermore his green brand image.

Keywords: *Greenbranding, phytosanitary, benchmarkin, ecological.*

Introduction

Although several investigations cataloged organic farming as a marginal market, however, has great potential, and organic products are taking longer linear in every supermarket.

That is whymore and morethere is an increaseon thedemand forcertifyingan ecologicalorzero wastetraceability.

Greenmarketingis known as acomprehensive management processresponsible foridentifying,anticipating andsatisfyingcustomer demandsand society, in a cost effectiveand sustainable manner.

Positioning strategies'Green' basedon functionalattributes of the brandseeking to buildbrand associationstransmittingenvironmentaland ecologicalproduct information.Thispositioning strategyshould be based onenvironmentally relevantproduct advantagescomparedwith the competitionfrom conventional products, and may refer toproduction processes, product useand / or disposal of products.

Aaker and Joachimsthaler (2000) define brand positioning as part of the brand identity andpositioning valuehas to beactivelycommunicated to thetarget audience.Consequently, brand positioningis based onthe interaction of allthe marketing tools, with an accentuated roletomarketing communicationsfor its relevancein theprocessto classifythe different perceptionsof consumers.

Consequently, the brand positioning is based on the interaction of all the marketing tools, with an accentuated role in marketing communications, due to its relevance in the process of shaping perceptions of different consumers.

Therefore, position a brand as 'Green Brand' implies active communication and brand differentiation with its competitors through their environmental attributes.

The environmentally sustainable products will not be successfully marketed if the attributes of 'Green Brand' are not properly communicated (Pickett et al., 1997). Coddington (1993) and Meffert and Kirchgeorg (1993) suggest positioning 'Green' as an essential factor in the success of the strategies of 'green branding'. Following the classification schemes generic positioning strategies (Aaker, 1996), a brand can be positioned by functional attributes and / or emotional benefits. Positioning strategies of 'green branding' are classified as functional and emotional.

Itis meant by 'Green Brand' or trademark as a specific set of brand attributes and benefits associated with reducing environmental impact and perception of being respectful of the environment. A well-implemented brand identity'Green' shouldprovide benefits to consumers aware of the environment.

While there are some studies on the perceived value of environmentally sound product attributes (Roozen and De Pelsmacker, 1998), the role of the emotional benefits in the case of trade marks'Green' is still largely unevaluated.

The purpose of this paper is here for to examine and assess the graphics and image communication has the company of organic plant protection. Analyzing and comparing with current, economic competitors and graphically, studying the branding of these and he company, the primary objective being to justify the company incorporating a brand strategy to achieve proper positioning in the market.

In turn,the branding under the branch known as 'Green Branding' is evaluated, since due to the values of the company,dedicated to environmental and sustainable industry, developing brand strategy must be clearly under these premises, which also trends in Green Marketing' and 'green habits' to a correct understanding will be studied.

One of the first definitions of Benchmarking is attributed to the Xerox case in which Benchmarking is defined as the search for best practices that lead to better business results, (Camp, 1989), which in turn comes from Japanese philosophy of the end of World War II, in which dantotsu defined, which means striving to be the best of the best.

The word Benchmark actually refers to a mark that was made in the analysis of computer data to check which were more suitable as input data and compare them However Xerox first used that word to the early eighties, when the company wanted to refer to the comparison of a company with its direct competitors, or the recognized leaders in their industry.

In his beginning, the idea behind the benchmarking was to accept the fact that another company or organization anywhere in the world has developed an item will equal or similar process that is more effective and superior to any other. (Scott, B.R., 1989).

It is said that the one that says that the essence of benchmarking is to learn how to improve the activities, processes and procedures, (Rafiq and Ahmed, 1998)

You can find many definitions of Benchmarking, and over time have been refined as follows in which it is said thatBenchmarking is a systematic and continuous to evaluate products, services and work processes of organizations that are recognized as representatives of best practices, in order to make organizational improvements.(Spendolini, 1992).

Moreover, there is another definition which defines benchmarking as a tool for improvement ,achieved through comparison with other reputable companies as the best in their area, (Bhutta et al, 1999).

Conclusion

Through benchmarking, and precisely because of its comparative nature can extract data and conclusions that could not be accessed as easily by implemented analysis of internal processes and business results.

The application bench marks based analysis is a process that must be implemented by organizations in a sustained and long-term way to ensure there by objectively verifiable results.

Across Green Branding's integral program the brand won in solidity and coherence helping to differ from the rest, strengthening furthermore his green brand image.

Precisely in some aspects analyzed as measuring criteria branding, it could be considered that there is still a lack of unified regarding sources of verification criteria.

In conclusion, this work wants to demonstrate the importance of branding, not only seen from a viewpoint of business strategy, but it really is, strategy, brand design and business branding, consistency they should have to create a core business differentiator and consistent. If the whole development of brand has the same conductive thread, the aptitude to convince the client evidently will be major, since the brands also generate confidence, and as everything, first that has to have confidence in his brand is the own company.

That is why, so you should include the branding in the curricula related to business and business creation, because in the end, design, proportions and empty spaces are important and is an important factor makes you decide for a product and not the other.

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Living Labs as a potential private entrepreneurial innovation leverage on consumers

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Abstract

Until know academic literature has not paid sufficient attention to user led innovation in the consumer sector. Few publications have dealt with the subject covering mainly sport goods. On the other hand, Living labs have been understood as publicly or privately led initiatives to bring science and technology closer to the public. Nevertheless, consumers are a power for innovation leverage in the consumer sector which has not been sufficiently explored. New concepts such as that of Creative Consumers have examined this aspect.

This case study will analyze a sort of heterodox living lab that has been started with success by a Spanish firm, Mercadona, a leading merchandise retailer in Spain.

The system, which has been dubbed "Apron strategy" consists in bringing lead consumers to living labs set up by the firm and analyze, in a house environment set, how they use their products and which suggestions they have for alternative uses or improvements.

Keywords: *Living lab, Co Innovation, consumers led innovation.*

Introduction

This article aims at discussing a unique experiment set up by a large merchandiser firm in Spain. As it will be discussed the approach of the firm to their Co innovation program with their consumers (customers) is a blend of ethnography and crowd sourcing and the program setting could be classified as a heterodox living lab. This article will analyze the consumer's motivation, their profile and selection process as well as the way the firm has linked the program with their innovation value chain by conveying the results of this bottom innovation approach to their suppliers who develop and carry out the product modifications and proposals to be launched by the supermarket retailer. The main contribution is the application of Living Lab concept to mass customization in a new consumer milieu.

Theory

Users and Open Innovation

Von Hippel was the first author who outlined the importance of users as a source of innovation. He (2011) identified users as main innovation promoters in industry. Later he has emphasized a paradigm change towards user centered innovation systems. According to it users find profitable to innovate contributing to the development of new products and services for themselves and, in many instances, reveal their innovations freely for the use of others. He claims a trend towards a democratized innovation which can be observed in certain sectors such as software and information technologies (free and opensource software) and also in physical products (Von Hippel 2005).

An application: Living labs

Living labs appear as a consequence or a natural evolution of the concepts discussed in the previous paragraphs. Additionally, this paradigm aims at responding at the need of industries with a tendency to serve standardised products or needing to detect unstructured emerging needs of tacit nature from consumers. These emergent segments have remained unobserved responding to the so called the tyranny of the served market pointed out by certain authors (Hamel and Prahalad, 1994). Some characteristics of this user centric innovation approach facilitate this observation. First, living labs allow a multiple knowledge context focus closer to reality while traditional marketing research is limited to a simple and single context. Second, there is a high degree of participation by the user where they are included in the process of value creation (Eriksson et al 2005). Living labs facilitate an innovation area where users will co create (co innovate) with developers and researchers and interact among them.

The Creative Consumer Milieu

According to Von Hippel (2011) we live the age of the consumer innovator. Consumers play a central and active role in the innovation systems1.

Berthon et al (2007) have approached the subject of consumers innovation by defining an alternative concept. creative consumers. They define creative consumers as "those customers who adapt, modify or transform a proprietary offering". Creative consumers are different from lead users since they will innovate with all types of products or services, not just with novel products, they are motivated by personal needs and do not necessary anticipate future demands and their benefit on innovation is of personal nature or prestige (Kleemann and Voss, 2008)2. Creative consumers are independent from the organization but nevertheless represent a relevant group since they are a rich source of innovation although may

Research Design

In our case we started by visiting more than twenty supermarket units and observed the context, how customer interacted in the context and how employees dealt with customers. Later we have analyzed numerous national and international journal and news clips as well as various business school case studies (HBR, Insead, IESE) and the firm annual reports from 2010 until 2013.

Through the external relations department we have interviewed the managers and some monitors involved in the Co Innovation program and we were invited to one session of one of their living labs where we could talk with some participants. The program managers provided as well ample data on the program and the outcome.

Case study

The firm. Context and corporate culture

Mercadona is a family owned firm. The actual holder of the majority equity, Juan Roig, bought it from his parents in 1981, at that time it had had eight stores with some 300 m2 of retail space each. Since 1991 when he stared to run the company the corporation has experienced an enormous growth and transformation. At the end of 2013 they have 1,467 stores all around Spain with a turnover of 19.812 mill euros and 74,000 employees and have a market penetration of 14,1 % in the Spanish food consumer market.

[1] The Economist, The rise of creative consumer, Mar, 10th. 2005
[2] The Economist, 2005, *ibid*.

The success of the firm seems to be due to a peculiar culture and the development of flexible strategies along the firm life. The firm culture could be defined by some of the sentences of Juan Roig: "An office is a wrong place from which to view reality. If the customer and the employee are at the grocery store, if you want to learn, innovate and stay ahead of their needs, you need to be near him, listen and watch him". There are a number of milestones that define the development of Mercadona culture.

In 1993, Mercadona adopted total quality management (TQM) as a basis of their processes. This approach addressed five critical elements of their business. In first place it considered the customer as “The Boss” in top of their organigram. To service the Boss the price was a key service paid and, consequently, prices should be kept as low as possible but also as stable in time as possible, “prices always low “ became a company motto. Innovation was a value added paid to the boss including all aspects of the value chain. the company maintained a toll free customer service which was able to handle an enormous number of suggestions and complaints from customers (Blanco and Gutiérrez, 2008; Ton and Harrow, 2010).

The suppliers were considered as well a critical element. Mercadona has 2000 suppliers approximately of which 110 are integrated suppliers that have special agreements with the company such as long term agreements and cooperation in innovation, cost control support, procurement services, logistics, etc. These integrated suppliers are a critical element in the innovation process as we will discuss below.

Being a family owned firm, Mercadona shows culture traits which are characterized by involvement, team orientation, employee development, consistency, customer focus, core values, adaptability and flexibility which outline a performance-enhancing culture. This follows the propositions of some seminal authors (i.e., Denison et al, 2004). The founder, Juan Roig, has had a critical role in setting and maintaining the leading values of the firm. On the other, hand the strong internal promotion guidelines of the company and its level of autocracy have been relevant in the setting and maintenance of the innovation systems of Mercadona.

Mercadona traditional Innovation approach.

Juan Roig defines the mission of the firm as "Prescribing the necessary solutions so the boss can make his total shopping". Mercadona has been a leading food retailer in innovation. It was the first in Spain to incorporate the use of bar-code scanners in 1981 founding the association AECOC to promote its implementation. Between 2005 and 2008, it invested €600 million, of the approximately €1,8 billion invested over that period, to equip its stores and logistics chain with the latest technology. It was also the first to incorporate the concept of ambiance store sections (i.e., butcher, fish, bakery, fruit and vegetables, cosmetics, deli and cleaning).

Mercadona also initiated also in 2013 six “laboratories”. Located in the retail shops they are test benches where new initiatives are tried supported by the experience of customers and employees. The results obtained are evaluated and analyzed, both successes and failures, to make the decision of implementing them in the rest of the retail stores chain. For example, butcher and deli sale booths where meat and deli are served at customers demand instead of in fix packages as it has been done traditionally.

A new experience. Co innovation with customers.

In June 2011 Mercadona launched a new program "Apron Strategy" from their Prescription department in charge of the before mentioned Monitors. According to the company "Mercadona has put on an apron for cooking, cleaning, washing and caring for their pets with its customers". Through this strategy, the company intended to learn about the specific use made by their customers of their products. This allowed the company to innovate, improve and launch new products. For this purpose new facilities were designed within some of its stores dedicated exclusively for this purpose.

The figure 1 below resumes how the new system operates.

The new innovation program relies basically on the 184 Monitors working in the prescription department. Of those, there are 80 working in dry products and the rest in fresh products (meat, deli, fish and vegetables). Its functions are to capture, define and communicate users needs. They are experts in the products they are managing. Their job includes carrying out surveys and interviews to quantify "bosses" habits. Sometimes also visit the home of the "bosses" to get first hand information about their habits and routines in relation to the products in questions.

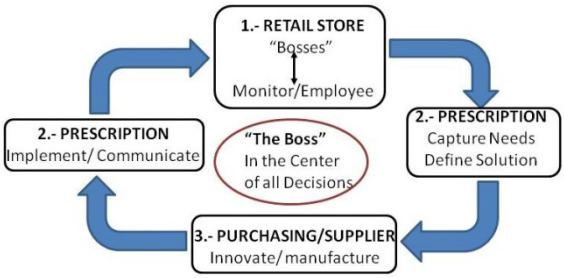
The process begins at the retail store. "First we have to differentiate between buyers and consumers. It is locate to buy products to consume themselves, not others", explained two monitors. Later a conversation is established with the consumer to find out if he is a "consumer in love" with the product in question and who is willing to "seek the product wherever it is", if he doesn´t find it instead of changing products, explained the monitors. "They are the most knowledgeable on each product and when you talk with them you get a huge amount of information".

It must be outlined that consumers in love when identified by the shop monitors may be invited to co innovation centers located far away or even in another town. in that case their travelling and accommodation expenses are taken care of. These are not paid and don´t receive any compensation.

From that point, "the boss" is invited into the center of co-innovation. The products are placed as they are in the linear shelves. It must be analyzed in detail how he buys and how he consumes to provide him the best products, all what he really needs. Everything is tested: new recipes, new packaging designs, format variations, and so on. After testing the product, the customer transmits his impressions to the monitors. Subsequently, the information captured is analyzed and organized and the need transmitted by the customer it is conveyed to the supplier in question. In general two monitor participate in the process: one helps the customer while the other observes and takes notes.

It must be emphasized that these Co innovation meetings generate a large amount of sticky and tacit information. As one participant related "..they asked me to use the product as if I was at home and observed how I did it taking note of all my movements including how I opened the dye capsules and asked ways of improve and changet their design.."

Figure 1. Co Innovation Model Mercadona, 2011.



Before finally moving on to the manufacturing phase, the supplier develops a product prototype that is tested again in the Co Innovation center by the customers who inspired it. If they validate it, the product will be "dressed" for being testing in the retail store. This will be the last phase to test whether the new product has option to consolidate before starting .

Findings. Results of the Experience until now.

Since the experience was launched in June 2011 the results achieved are shown in table 1.

Table 1. Results of Mercadona co innovation experience.

Year	2011	2012	2013	Total
Consumers Participation	1.200	7.000	9.000	17,200
Innovations developed	150	400	700	1,250

After analyzing a sample of innovation lists it could be estimated that 2 % of them could be classified as new to market, an additional 4% new to the firm. The rest could be brand extensions, improved products, package redesigns, etc.

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The Double Value of International Internships

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Abstract
Literature on business internships identifies beneficial effects on its main three stakeholders: students, employers, and higher education institutions. Furthermore, some authors have identified additional effects when studying international internships, specially referred to improved intercultural skills and learning outcomes. Increment of international internships is a trend in most European universities. The Universitat Politècnica de València has had a noteworthy increase of international internships is the last years, especially through the European founded former programme Leonardo da Vinci and Erasmus Placement. As intercultural skills are being more demanded by employers in a globalized world, it is expected that this increase in the internships abroad will have a positive effect on the employability of the graduates of the Universitat Politècnica de València

Keywords: *Internships, Exchange Programs, Intercultural Competences, Employability.*

Introduction

Scientific literature on business internships have identified beneficial effects on it main three stakeholders: students, employers, and higher education institutions (Thiel & Hartley, 1997; Coco, 2000; Gault, Redington & Schlager, 2000; Divine et al., 2007).

The evidence supports the efficacy of internships done by university students in enhanced employability (Taylor, 1988; Knouse, Tanner & Harris, 1999; Gault, Redington, & Schlager, 2000; Callanan & Benzing, 2004; Cook, Parker, & Pettijohn, 2004; Mihail, 2006; Divine et al., 2007; Knouse & Fontenot, 2008; Gault, Leach, & Duey, 2010; Weible & McClure, 2011). Also, improved competences is highlighted as another main favorable effect on students (Beard & Morton, 1999; Chen et al., 2011; Cook, Parker, & Pettijohn, 2004; Divine et al., 2007; Gault, Redington, & Schlager, 2000; Green, Graybeal, & Madison, 2011; Gryski, Johnson & O'Toole, 1987; Knouse & Fontenot, 2008; Knouse, Tanner & Harris, 1999; Mihail, 2006; Taylor, 1988; Scholz, 2003; Scholz, 2003; Theil & Hartley, 1997).

The internationalization trend has converted this into an interdependent and interconnected world, in which real or virtual relations are the everyday norm for people from diverse cultural backgrounds (Chen, 2010). Intercultural communication competence, or the capability to cooperate properly and effectively with people of different cultural backgrounds, is consequently a requirement at present times (Zhang, 2012) and will be progressively more demanded by employers and needed by individual citizens, as globalization expands. Intercultural competence is the group of knowledge and skills that enables to successfully interact and work with people from other ethnic, religious, cultural, national, and geographic groups. It is the essential acceptance of people who are different to oneself outside one's own culture, the capacity to cooperate with them in a truly constructive way which is free of negative attitude (Schmid, 2009).

Effects on students of International Internships

In addition to the beneficial effects which have been identified in the case of national internships, international internships have an additional effect which is improving intercultural competences of its participants as some authors have highlighted in their researches (van't Klooster et al., 2008; Zhang, 2012; Zopiatis, 2007).

Intercultural competence, according to Zhang, 2012, includes three basic aspects: intercultural communicative skills, intercultural working experience, intercultural understanding; the three of them appear to be improved through the experience of an overseas internship.

A recent study concluded that international internships produce superior learning outcomes than study exchanges and national internships in terms of foreign language skills, self-efficacy and intercultural competencies (Stronkhorst, 2005).

International Internships at the Universitat Politècnica de València

In the last years a number of international internship programs have been launched and consolidated, and there has been a considerable increase in the number of participating students, employers, and universities. The most popular included the European Union founded Erasmus-Placement (currently within Erasmus+), the former program Leonardo da Vinci for recent graduates, and IASTE and AIESEC which are organized by student associations.

On the one hand, the Universitat Politècnica de València has been actively participating into these programs and an increasing number of students has been able to travel abroad to do an internship. On the other hand, there is also a "free mover" program which enables international internships which were not covered by the existing programs.

Moreover, the law which regulates the business internships in Spain nowadays allows the internship to take place in a foreign country. Despite the initial difficulties of implementing these types of programs abroad, the Universitat Politècnica de València is currently studying and adapting its internal procedures in order to offer the possibility in the near future to undertake a business internship aboard.

Table 1. Number of Erasmus-Placement Internships at the Universitat Politècnica de València (2007-2013)

Year	Erasmus-Placement
2007	13
2008	70
2009	118
2010	149
2011	207
2012	218
2013	235

Source: own elaboration

Conclusions

Higher education institutions and governments would be wise to promote international internship programs as a way of multiplying the beneficial effects internships have on students in various spheres, especially on employability, through the intercultural competences that can be acquired, including the improvement of foreign languages skills.

If higher education institutions are committed to employability of its university graduates, they should make international business internships available to the maximum possible number of students and manage effective and satisfactory internship programs.

Efforts should be made in publicizing among its community the recognized benefits of international business internships to the three parties involved in order to increase student participation, and the necessary resources to implement and manage successful international internship programs should be provided.

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The importance of technology transfer: a bibliometric literature review

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Abstract

The technology transfer has promoted a new paradigm for the university. The University's third mission has supposed a new form of development for the university's region transferring the research knowledge from university to business and generating of this form the necessary capabilities for grow and compete in the technological environment. For this reason, the policy makers are promoting polities for foment the technology transfer activities, with the objective of foment the relations between the university and the company sector.

In the last years, many academic researchers had investigated the different factors, process, and regional impact of the technology transfer activities, generating a complex and sophisticated analytical frameworks and empirical studies. In this study we realised a bibliometric analysis of research articles about academic technology transfer published in Web of Science journals over the 2000-2014 period, in order to have global vision. The bibliometric analyse permit us to identify the most important authors and journals that contribute to the creation of academic technology transfer literature. The conclusion reaffirms the importance of literature of the academic technology transfer in the new paradigm entrepreneurship and development in the university and development of their environment

Keywords: *Academic technology transfer, Literature review, Bibliometric analysis, Co-occurrence analysis, Geolocation.*

Introduction

The technology transfer produced from the public research institutions (PRIs) such as publicly funded universities, laboratories and research centres have become an key factor for developing and sustaining regional and national economic growth.

This article analyses the Academic technology transfer (ATT) process research published in a wide range of journals over a 25-year period (1990-2014) and it attempts to use cited references to identify/provide:

1. The leading authors and journals that directly (by publication) and indirectly (by citation) contribute to the technology transfer literature.
2. The core articles that influence the international literature
3. The co-occurrence authorship, keywords and citations among technology transfer articles.
4. A map showing where the most productive authors are in the world.

Metodolgy

Bibliometric analysis is a research technique that uses quantitative and statistical analyses to describe the distribution patterns of research articles with a given topic and a given time period (Diadato 1994).

For the realization of this work we have search in the Web of Science (WoS) database for obtain the base of articles necessary for our analysis.

Results

In this section, we will go to analyse the result obtains in the research realized in the Web of Science (WoS). A total of 344 articles realised for 663 authors was obtained for the study period of 1900-2014.

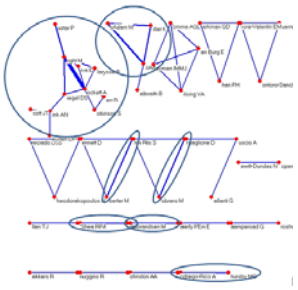
The most articles have been published in the recent years. The year 2007 stated the boom of publication about this topic with 21 articles and reaching a maximum in 2013 with a total of 45 articles.

The most cited article was "Why do some universities generate more start-ups than others?" this work has been realised by Dante Di Gregorio and Scott Shane, and published in 2003 which obtained a total of 261 cites (with an average of 20.08). The most important article of literature in relative terms was "University entrepreneurship: a taxonomy of the literature" realised by Frank T. Rothaermel, Shanti D. Agung and Lin Jiang, published in 2007 in Industrial and Corporate Change, it has got 25 cites per year (225 in total).

More than eighty journals have published the 344 articles of our sample, the two journals with the major representation of publications are the Journal of Technology Transfer (The Netherland) and Research police Transfer (The Netherland) whit 53 and 51 articles respectively. The most productive authors were Wright (n=12), Locket (n=10).

Co-authorship is when two authors or more work together to produce a work. The figure 1 show 19 research groups with different numbers of co-authorships, the groups circled are the groups with more than two co-authorship and the first group formed by Wrigth and Locket mainly is the most important.

Figure 1. Co-authorship.



Source: The author's own (2015)

Figure 2. Keyword co-occurrence (min. of 2).

Source: The author's own (2015)

The co-keywords analyse to describe and discover the interactions between different keywords in the core ATT literature, which produced three different clusters, The most important (yellow) is formed for the keywords: technology transfer, universities, innovation, Academic entrepreneurship and Knowledge transfer. These words indicate a strong co-occurrence and have a high centrality index, which indicate that they are core words in the ATT literature.

Figure 3. Co-citation (Minimum of 10)

Source: The author's own (2015)

The co-citation map provides insight into the breadth and importance of the most cited literature in the core ATT literature. The most cited articles were Siegel DS, 2003 and Cohen WM (n=58) the first article analyse the productivity of the TTO and the second analise the paper of the public research in the industrial R&D. This articles are co-cited and this are the core of the two different groups or clusters. The third most cited was Di Gregorio D, 2003 (n=52) This work analysed university resources and why some universities generate more start-ups than others.

Conclusions

This study allows us to conclude about the point at which the ATT literature is currently at. As we have seen along the present work, the ATT is a relevant topics in the last years as reflected in the exponential increase in the number of articles about the technology transfer from university.

The most productive authors were Wright, Lockett, Grimaldi and Link (from United kingdom the two first, Italy and USA respectively). In the co-authorship analyse we have found an important collaborations among this researchers, this is the case of Wright and Lockett which form the most important authors relation of the literature.

Owing to the importance acquired by topic many journals have decided published articles about the ATT, the most productive journals of this topic have been Journal of Technology Transfer, Research policy and Technovation (all this journals are situated in the first and second quartile of JCR), corroborate the growing importance of research in this area. The most cited works have been of Di Gregorio, D; Shane and Etzkowitz, H.

The co-occurrence gives us a vision of the importance of key-words on the literature. Obviously the most important word of the literature are "Technology Transfer", this word have been studied with other important words within the study area, such as universities, academic entrepreneurship or economic development. This conclusion reaffirms the importance of the academic technology transfer in the new paradigm entrepreneurship and development in the university and development of their environment.

The co-citation analysis indicates that researchers use literature on recourses and differences in universities when they wish to explain the Academic Technology Transfer (ATT). Two of the most important works that the literature cites are Siegel DS, 2003 and Cohen WM.

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Teaching Open Innovation based on LSP: a practical experience

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Abstract

Teaching Open innovation is possible in a wide range of disciplines. For asking this question, a literature review is provided using social network analysis. Moreover, we have performed a practical experience focused on the use of this approach for the students of Public Administration Management, as it links perfectly with the idea of Open Government and the participation of citizens in the improvement and creation of public services. For this purpose, we have used Lego® Serious Play® (LSP) as an innovative educational tool that can contribute to promoting open innovation. We have incorporated the LSP methods in our practical labs of Bachelor courses and, in this paper, we analyse specifically the experiences held with a sample of 35 students after two years. For this part we have applied a content analysis of their reports as well as a test based on a Likert scale. Our experience with this method has been positive and we have achieved a higher efficiency in the learning objectives as well as the group innovation drive. We can conclude that this tool was helpful to experience with concepts related to open innovation.

Keywords: *Open innovation, Lego Serious Play, creativity, education, public administration.*

Literature review

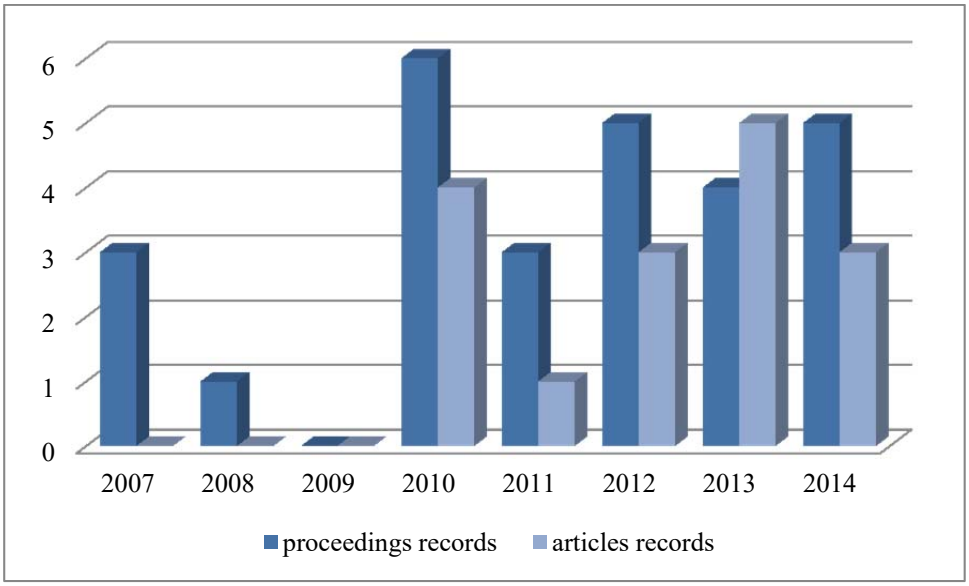
In the model proposed by Hilgers and Ihl (2010), we can found several ways for applying the concept of open innovation to the public sector. They develop several ideas to improve the new public service development and its better fit with the citizens requirements. The participation and integration of the citizens in the government activities may relate to public value-creation and a refined decision-making process. That is, open innovation approach enriches the innovation processes and encourage organizations to create models to support different kinds of actors, information, competence and perceptions coming together in decentralized innovation platforms (Manninen et al., 2011).

Open innovation is also very close to Open Government initiatives, which come hand in hand with e-Government models. And that is because information technologies let public administrations to be closer to the citizens. In this sense, web 2.0 could be useful to a wide range of public services, as education or research (Tacke, 2010). But we should not limit Open innovation to information technologies as not all the public services are online services. This is important because Bachelor students have to be innovative in different experimental situations.

To review the literature on open innovation and education, we have utsed Bibliometric methodology. In our case, we obtained data from Web of Science database, though the query “open innovation AND education” in title, abstract and keywords of scientific works. Results gave us 16 articles and reviews and 27 proceedings. Results were download in text version and then imported in the software VantagePoint (Search Technology, Inc.), where cleaning of data was made. Once the cleaning was finished, tables and matrixes were obtained about citations, keywords and affiliations. Evolution in the field we have analysed

can be observed in Figure 1. The figure indicates that it is a new field, which started to appear in the year 2007.

Figure 1. Evolution in literature about open innovation & education.



Data obtained from query in Web of Science. Cleaning with VantagePoint software.

With the cleaning we have obtained the literature framework, that is, the more cited references by authors who wrote about application of open innovation in education. Institutions involved in the papers and proceedings were 41. There are eight networks, formed by institutions. The two first networks are composed by institutions in USA, mainly, while in the others the European institutions are among the participants.

Practical experience

Critical reflection distinguishes serious play from general play (Hinthorne and Schneider, 2012). Children play for pleasure but adults play for several purposes, seeking some goals. Linder et al. (2001) identify four purposes: social bonding, emotional expression, cognitive development, and competing.

Serious play tools use different materials and LSP tries to help decision-making process using bricks as a neutral language (Mabogunje et al., 2008). Moreover, LSP results in an inclusive and democratic nature process (Swann, 2011). This research relied on empirical data collected teaching open innovation with LSP to Public Adminstration students in the subjects of Strategic Management and Marketing.

It was made in two stages. The first sample was of 99 3rd year Bachelor students. They were asked to discuss their experience with the tool. Furthermore, we performed a content analysis (Berg and Lune, 2012; Bernard, 2000; Weber, 1990), searching for words or phrases related to skills acquired after its use. The characteristics of LSP most valued were: its facilitation for exchanging ideas, being a different and entertaining tool and its competence to provide greater opportunities for team members to interact and participate.

For the second stage, we collected opinions of a subgroup of 35 students from the same group, but on their 4th year Bachelor. We conducted a survey with twelve questions in a Likert scale.

1. To what extent do you consider that LSP has helped the team to understand and assume the objectives of the team?

2. To what extent has LSP helped team members to have clear team goals?

3. To what extent do you think LSP has helped the team to reach the objectives of the challenge?

4. To what extent do you think LSP has helped the team to understand the benefits of achieving team goals?

5. Do you think LSP has helped the team to get the feeling of "we're all in this together"?

6. Do you think LSP has helped team members to be informed about work-related issues (understanding the problem to solve)?

7. Has LSP helped people to feel understood and accepted by the other team members?

8. Has LSP helped the team to share information?

9. Has LSP helped team members to think innovatively?

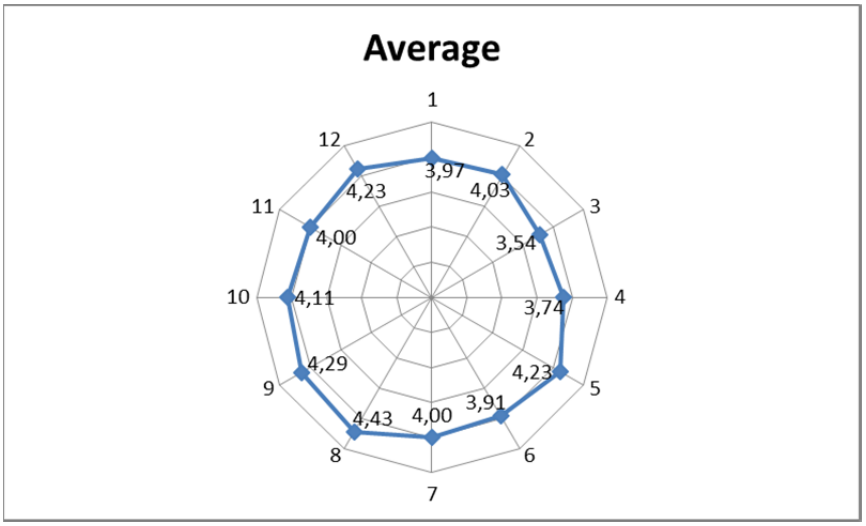
10. Has LSP helped team members to build on the ideas of others to achieve the best possible results?

11. Has LSP helped team members to seek new ways of looking at problems?

12. Has LSP helped team members to collaborate and assist in the development and implementation of new ideas?

The average was as following (Figure 2), where we can observe how all the items where more valued than one year before:

Figure 2. Average of Likert responses



Authors' own.

Conclusion

Our experience with this method has been positive and we have achieved a higher efficiency in the group innovation drive. After two years, the students value more all the items, specially those related to being creative and innovative. We can conclude that this tool was helpful to experience with concepts related to

open innovation, specifically in subjects related to Strategy and Marketing in Public Administrations as it is crucial the citizens' participation.

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Towards the implementation of the social innovation in an international cooperation program: the case of the ecotourism development using Living-labs.

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Abstract

The importance that innovation has in global development is out of discussion today. But innovation is not only an economic or technological tool, it is also a social phenomenon, as already noted by the European Commission in 1995, indicating that it is through the how innovation individuals and societies can express their creativity, needs and desires and that are the characteristics of the environment that largely determine the capacity of society to generate and accept novelty.

The tool to be used for the generation of information from all involved areas of society will be the LIVING LAB and will be studied for the specific case of innovation in the sector of ecotourism in the Dominican Republic.

From the social point of view, this work is relevant to reconsider an important reflection on innovation models, requiring review and proposal of new models of involvement of the local environment in which they are located and public administrations which should give them support, as well as the design of sustainable growth models, which provides for socio-cultural aspects , their values of use and relationship between the actors involved.

Keywords: *Social Innovation, Ecotourism, Living Lab, Dominican Republic.*

Introduction

Several Latin American countries have been pioneers in the ecotourism development because of the abundance and diversity of its flora and fauna. However its development has alot of room for improvement, since the abundance of natural parks and protected areas contrasts with the lack of ecotourism projects so innovation inclusive, taking into account local and sustainability aspects.

Theory development has advanced more than the empirical application and that there is a clearly non-covered hollow, as it is the identification of processes, indicators, variables, models and methods that characterize and measure social innovation, main objective on which articulates this research project. The tool to be used for the generation of information from all the involved areas will be the LIVING LAB and the specific case of innovation in the ecotourism sector will be the case studied. The empirical application be held in a basic sector for the economy of the Dominican Republic, whose barriers are permeable and non-intensive in knowledge, so the results generated will have important economic implications, as well as visibility. The integration of all the elements and the importance of the innovation developed the field (local) will provide a multidisciplinary vision from a social and sustainable focus.

Thus, the specific objectives identified in the project are the following:

1 To model the process of identifying needs, idea generation and evaluation of innovation through the Living labs that integrates the social, business and sustainable objectives demanded by society.

2 To analyze the behavior of firms in relation to their social support in which they operate and establish patterns of business behavior are given regarding the social supports: what are most common, are more effective.

3 To develop and contrast a social innovation generation methodology, since the living labs. Application to the eco-tourism sector.

4. To make recommendations for fostering social innovation through business and political public performances.

Methodology

The first objective is presented as a pilot study. In a recent study, Garcia - Guzman et al. (2013) specifie the steps to be followed to achieve the participation of users in a living lab: (a) the development of a community of local users as a key agent for the innovation process, (b) identify areas of interest and initiatives of innovation in collaboration with researchers and users, (c) detect the needs of users in interviews , reflection sessions, discussions and observations, (d) encouraging the participation of users in the development of products and service, and (e) that the users, researchers and designers evaluate the lessons learnt and prepare new initiatives in collaboration. This scheme will be followed

To achieve the second objective we will analyze the information that companies publish on their websites and in their CSR or sustainability reports. The methodology used will be the analysis of the content of such information, in order to avoid subjectivity in coding.

The information generated will be discussed for the fourth goal and working sessions will be held in group. For the analysis of the actions carried out in other areas apply benchmarking techniques in order to identify the best practices developed by other institutions (Moore et al., 2012). This research will contribute to design actions to make innovation in the field of eco-tourism in the Dominican Republic, promoting the generation of ideas, receiving encouraging responses from different areas and involving both users and public authorities. It is necessary to know how has to promote and improve the social innovation occurs and where to have direct public actions.

Expected benefits

This project aims to raise awareness about social innovation can be improved through research, and its implications for citizens, companies and public administrations. The resolution of issues that affect us as pollution by mass tourism, could be addressed with the methodology we propose, although the empirical application that we have raised is concrete, the generalization of the model of social innovation through co-creation in Living labs is very powerful.

From the scientific point of view, understand merging new ideas generation systems including all the officers involved versus the classical system of generating ideas, inventions and innovations internal to the company provides vital information to search for new analytical tools enabling adaptation of traditional innovation methodologies and procedures, so that to achieve the social and sustainable management of the generation of high value-added knowledge-based economic growth.

From the social point of view, this work is relevant to reconsider an important reflection on the new models of innovation. Tourism and primary resources, which are the specific areas on which it will act, require review and proposal of new models of involvement of the local environment in which they are located and public administrations which should give them support, as well as the design of sustainable

growth models, which provides for socio-cultural aspects, their values for relationship between the actors involved and use, due to the support of the environment with the project we are presenting high.

Also, this project aims to serve as a training platform for young researchers in the host country who work in these lines, creating a dynamic of knowledge production. This project will provide the motivation and the knowledge necessary to drive the formation of third cycle at the University's support in the Dominican Republic (FLACSO).

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Open Innovation in Spanish Education: the cMOOC case

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Abstract
Open education brings new opportunities for exploring new online learning models and innovative practices in teaching and learning. The landscape of education is changing thanks to the introduction of massive open online courses, also known as MOOCs. A type of this new phenomenon is cMOOC, in which students acquire a fully significant role in the process of formation and in which interaction is a key learning element. This kind MOOCs will be analysed in this paper.

Keywords: *cMOOC, MOOC, Open Innovation.*

Introduction

Open Innovation, a term coined by Professor Henry Chesbrough (2003), is a new innovation strategy under which companies go beyond the internal limits of their organization and in which cooperation with external professionals is fundamental. In this sense, Open Innovation means combining internal knowledge with external knowledge to take forward strategic and R&D projects. It also means that companies use both internal and external channels to put on the market their products and innovative technologies. This type of innovation appears because the possibility of occurrence of what it is known as collective intelligence.

Traditionally, companies have managed innovation in a closed system (closed innovation) through which research projects are managed exclusively with the knowledge and means of the organization. Under this classic model, projects can only begin within the company and end up in their own market. Nevertheless, under the Open Innovation model, projects can originate both inside and outside the company, they can be incorporated at the beginning or at intermediate stages of the innovation process, and can reach the market by the same company or through other companies (patent licensing, technology transfer, etc.) (Piñuel, 2014).

During the last 10 years, the business environment has changed dramatically. As a result, the basics of closed innovation collapsed. The changes includes: (1) the speed and ratio of the flow of talent is growing. (2) More and more people get education and training opportunities. (3) Venture capital has developed rapidly. (4) The life cycle of product and service is becoming shorter. Through the observation of these new phenomena, Chesbrough proposes the theory of Open Innovation. It is defined as “a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as firms look to advance their technology”. (Chesbrough, 2003)

Open Innovation in Education

When we speak about innovation applied to the field of education, different approaches appear. For example, Carbonell (2002, p. 11) assures that "educational innovation, used as a synonym for educational reform, is a complex and polysemic concept as are ‘educational quality’ or ‘freedom of teaching’, that lends itself to multiple readings and interpretations. Here we understand it as a set of ideas, processes and

strategies, more or less systematized, used to introduce and cause changes in current educational practices".

It is a process of change that aims to introduce new developments from the perspective of improvement. This implies a critical and reflective positioning, through which not only tries to validate education, but also to transform it (Escudero, 1995) with the objective of improving improve the condition of the subjects and social progress (Kemmis, 1994).

Innovation develops a fundamental role in all levels of education, and in the university field is closely related to e-learning. In this sense, one of the basic ways of implementation is incorporating information systems, communication tools and media (Alarcon , Pradas, & Country, 2005).

The speed of technological change (Rui et al., 2008) and the need for adaptation to the market of the university degrees, means facing a complex scenario that involves innovating continuously in the "Product / educational service" to maintain profitability and competitive market position (Ali, 2000).

Today we could define emerging pedagogies as the set of approaches and pedagogical ideas, not well systematized, that arise around the use of TIC in education. These approaches try to take advantage of their communicative, informational, collaborative, interactive, creative and innovative potential in the new culture of learning. (Adell & Castañeda, 2012)

Virtual environments which are potentially identified as suitable for open innovation are the so called MOOC: learning spaces configured and managed from the creation of collaboration networks between universities and other actors involved in its development. These actors enrich the process with their contributions and the exchange of experiences that occur inside the courses. In this way, virtual environments are presented as suitable instruments for support the student participation.

In this way, the most appropriate relational capital is identified to encourage innovation performance. With this capital, institutions can both make use of its ability to incorporate stakeholders to grow as an institution, and modulate innovation from that new scenario (Iglesias Sánchez, Jambrino Maldonado, de las Heras Pedrosa, nd).

MOOC

The MOOC were originally conceived as a collaborative platform where the contents were dynamic and adapted and modified according to the users. These were also seduced by the idea of establishing networks of collaboration between them. Also, the participation of additional public companies, in addition to students, is feasible and is meant as a basic element to run this virtual environment.

Students participating in a MOOC ideally stop being individual actors in their learning, and become part of a much wider community of learning where knowledge does not come exclusively from a teacher (although it may have been originated or selected by him), but also from the participation and involvement of other students.

The use of social networks (Facebook, Twitter ...) to consolidate these learning communities is emphasized in the MOOC environment. In addition to social networks, those involved in the learning community can benefit from the aggregation of content (RSS, for example) to share information, materials about the issue, and learning strategies. (Garcia, 2013).

Within the term MOOC there is a particular type called cMOOC, which is even closer to the concept of Open Innovation. These type of courses are based on the connective learning, in which the initial design of the course is just one element in the learning network, and where the interaction of the participants, creating content through blogs, social networks, RSS… is critical

The cMOOC designed from this perspective are based on distributed learning network and are based on the connectionist theory and its learning model (Ravenscroft, 2011).

The importance that people have in the MOOC model of action and design, leads us to note that in the cMOOC, what is truly meaningful is: the people, the contributions they make regarding the topic being analyzed, and the collaborative discussion that takes place with the other participants for the construction of knowledge (Martí, 2012). MOOCs are therefore based on the idea that learning is generated through exchange of information and joint participation in education and through intense interaction facilitated by technology. In this case, we can find a close resemblance to a social learning network.

Conclusion

This conference paper tries to make a first study of the state of the art of the MOOC platforms. Due to the limitations of extension of the paper, it will be focused in the spanish platforms. It will also study the use of cMOOC courses in Spain.

Different conclusions will be proposed.

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The microcredit in the hotel sector in Bucaramanga

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Abstract
The article discusses a theoretical review of the microcredit and its behavior in Colombia as an alternative for finance the micro and the new business models. It aims to reveal the impact of microcredit on the development and consolidation of the colombian micro enterprises in the short, medium and long term. Likewise, It pretend to determine the use of microcredit in different sectors, analyzing in this first phase the hotel sector in the city of Bucaramanga, and its metropolitan area (Floridablanca, Girón and Piedecuesta), in Santander, Colombia.

Keywords: *Microenterprise, microcredit, hotel sector.*

Introduction

One of the variables that affect the economic growth of a country is the speed with which the money circulates. The sooner you do, there will be more growth, because in theory, every time the money changes hands, it produces profit or surplus. Every economy should to have two agent: the agents they have liquidity surpluses and the agents they have liquidity needs. Families were found on the first group because they do not make large capital investments; while in the second group are the companies, which incur in large capital investment and they need resources to finance its operations.

Micro-enterprises play a key role in the economic development of the country, however, they are part of agents that they have liquidity needs. For this reason, these micro-enterprises have structural weaknesses that restrict their competitiveness and their chances of survival [1]. These weaknesses affect the aspects of financing of its operations, and it generate restricted access for obtaining external credit [2].

In the first part of this paper it will do a brief theoretical exploration of microcredit in Colombia, and the most important elements in which this research is based is performed. In the second part will seek to analyze the use of microcredit in the hotel sector in the Bucaramanga city, and its metropolitan area (Floridablanca, Girón and Piedecuesta), in Santander, Colombia.

Theoretical background

A. Microcredit

MSMEs in Colombia are regulated by Law 590 of 2000, which sought to alleviate the country's economy and determinated the characteristic of MSMEs (see Table 1) [3] [4]. This law was amended by Law 905 of 2004, in which the creation of SMEs tips and considerations that entities should consider about microcredit promoted. These laws encouraged the creation of MSMEs and strengthened the culture of entrepreneurship by Act 1014 of 2006 for the new generations.

Table 1. Classification of companies in Colombia

Microenterprise	Small Business	Medium
Personal less than 10 workers.	Personal between 11 and 50 workers.	Personal between 51 and 200 workers.
Assets under 500 Monthly Legal Minimum Wages	Assets greater than 501 and less than 5,000 Monthly Legal Minimum Wages	Active between 5001 and 30,000 Monthly Legal Minimum Wages

Source: own calculations based on the law 590 2000/905 2004

Microcredit is defined by Act 590 of 2000 and its implementing decree, "is a scheme designed to finance micro businesses, which encourages and promotes financial inclusion and has a positive impact on the country's development and employment. It directed towards for the micro businesses that they have been established and they not to purposes of business venture or to produce a seed capital. On this regard, although the business venture is highly desirable, high-risk nature makes credit institutions are called upon to finance a more advanced stage of the process, in order to strengthen and expand business and not in its inicial fase " [4].

While the interest of the Colombian State in this field is not null, is very recent in terms of promoting standards for development, motivated today not only for faults representing this gap for the national economy, but also as the experience successful and inspiring as "The Grameen Bank", that reliefed the poverty and they contributed to the women empowerment in Bangladesh, after the incorporation of the microcredit as transforming elements of finance and the creation of social development programs in developing countries, taking into account development uneven of their economies, and the density of population [5].

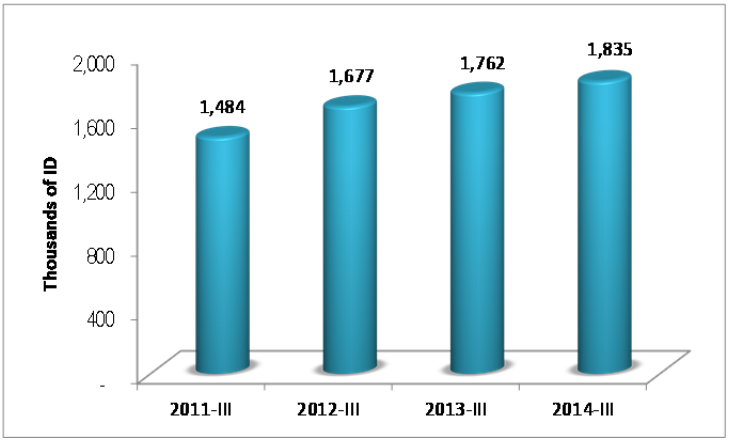
For this reason, only after 1995 is evident that in the country the relationship between legislation on MSMEs was inserted in the industrial and commercial context, through law 590 of 2000 [6] and 905 of 2004 [7]. With these laws not only was defined the public action, but also they delved in promoting institutions for their protection and development for example the Board of Governors of small and medium industries and the Board of Governors of microenterprises with their peers at regional level. From this perspective, only upon recognition of micro, small and medium enterprises as the basis of the national economy, it allow to use of the same language in terms of the importance of the microfinance tools in microcredit and its institutions, and they having clear that these arise and are maintained as alternative financing instruments versus standardized traditional banking system.

Hence some authors [8] [9] [10] explain the microcredit in the Colombian case as a means of funding for poverty alleviation, aimed at low-income households, people that lack purchasing power and marginalized sectors of society who find in the microcredit the elements necessary for access and use productive of capital. Demonstrating in this way the clear relationship of national initiatives with the family micro small.

B. Performance of Microfinance in Colombia

According to Asobancaria the number of people with microcredit increased by 72,000 compared to that observed in September 2013, had a growth of 4.1%. For the first quarter of 2014, the adult population that has this type of credit is 1.83 million, referring to June 2014 increased 4.8% to Figure 1 [12].

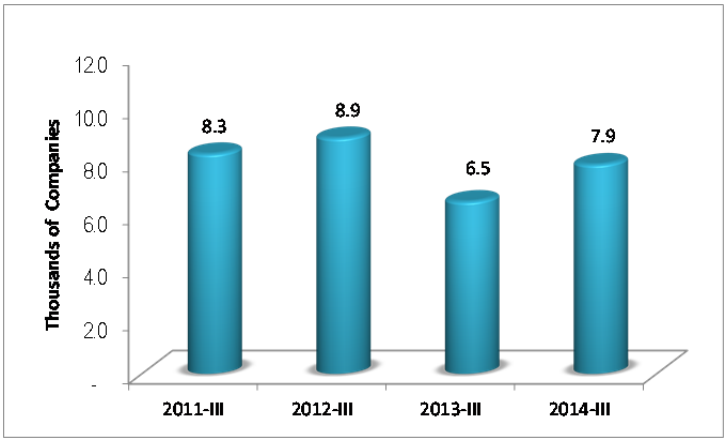
Figure 1. Annual evolution of people with microcredit



Source: Asobancaria 2014 [12]

The figures for the third quarter of 2014 reflect how more and more companies are entering the financial system. The number of loans to companies presented an increase in the periods 2010 and 2014, but in the third quarter of 2014 showed a substantial rise (Figure 2).

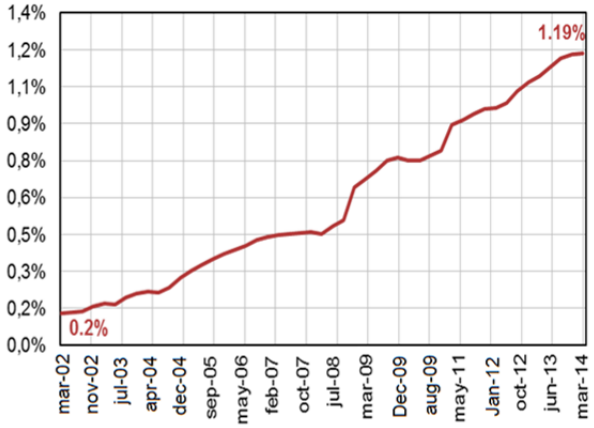
Figure 2. Number of enterprises with microcredit



Source: Asobancaria 2014 [12]

By 2014 the demand for microcredit presents an increasing trend in deepening rising from 0.5% in 2008 to 1.19% in March 2014, as shown in Figure 3 [13]. This evidence is due to its dynamic and the population to which it is addressed, and there is still much potential for growth.

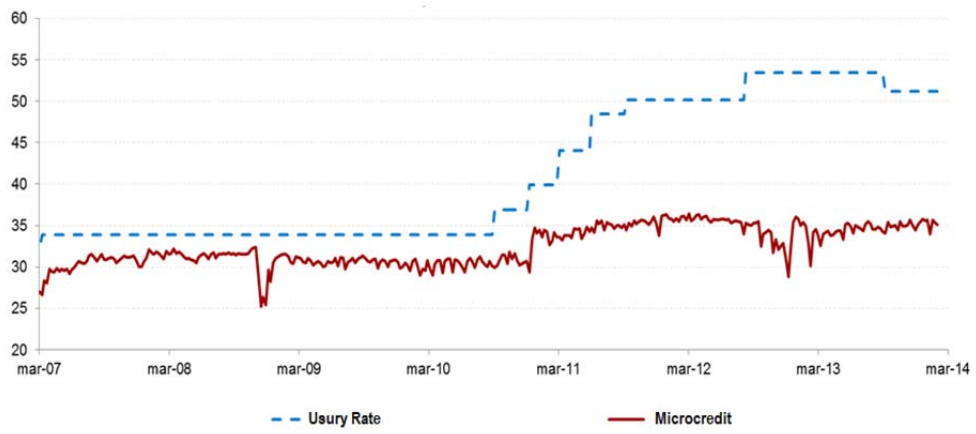
Figure 3. Financial Deepening of microcredit



Source: Superintendencia Financiera de Colombia, 2014 [12]

The weekly average that manage banking and market rate usury rate, has a high difference so the banks have good margin for put more microcredit in the market, as shown in Figure 4 [14].

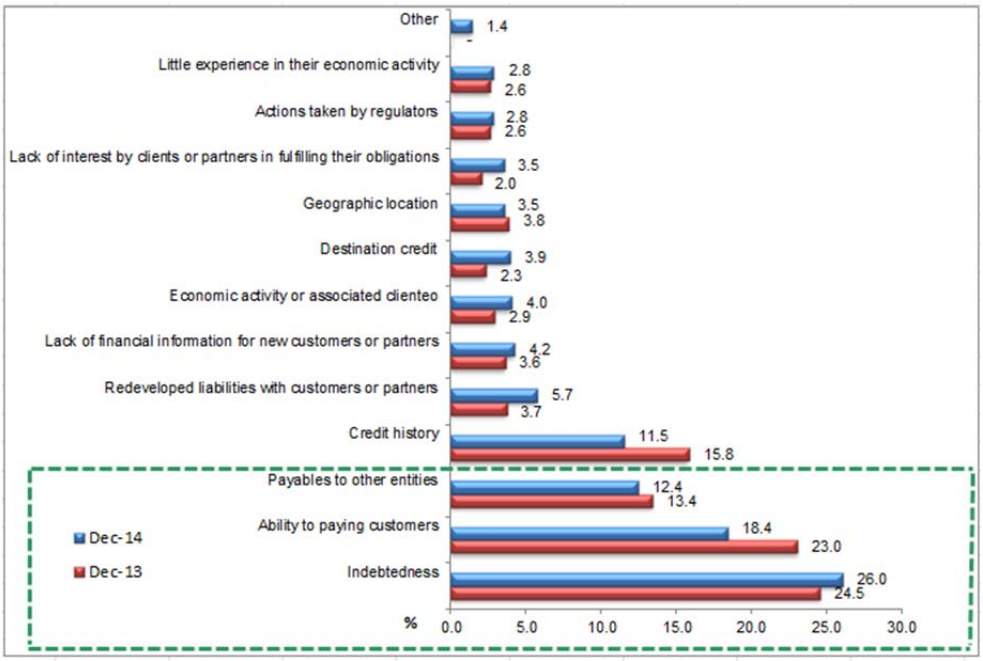
Figure 4. Gap interest rate banks - usury rate



Source: Hernández Correa, G 2014 [13]

According to a survey by the Bank of the Republic, the factors that prevent achieving a higher volume of microcredit are the Indebtedness and the ability to pay debts to other customers, credit history, as shown in Figure 5.

Figure 5. Factors impeding the increase microcredit



Source: Hernández Correa, G 2014. [14]

According to the Departamento Administrativo Nacional de Estadística, DANE (2012) the dynamics of microcredit in Colombia has the following characteristics:

- ✓ The monthly income is $ 7.4 million (2.950 USD) per establishment;
- ✓ On average have 2.2 employees;
- ✓ 66.3% said the reason why the property was a business opportunity and 30.4% was created because no other alternative income;
- ✓ 68% say that the main source of funding for the creation of microenterprises were personal savings.
- ✓ The 51.1% microenterprises were created by women
- ✓ The 82.6% have over 3 years of operation.
- ✓ 75% are individuals
- ✓ 80% have Registro Unico Tributario RUT and 69.7% are commercial register.

Results

The students of hotbed of SIMIPYME Research, which belong "Grupo de Investigacion en Administración, GIA" of Universidad Pontificia Bolivariana Bucaramanga, Colombia, conducted an analysis on microcredit in the hotel industry with characteristics and the results found were:

The economy of Santander has been characterized by the importance of MSMEs. They provide more than 70% of provincial GDP and the largest generators of employment. Currently in Santander are registered at the Camara de Comercio de Bucaramanga 74.617 companies, of which 95.6% (70.885) are micro, 3.7% (2.765) are small businesses, 0.9% (697) are medium enterprises, and 0.4 % (270) are large companies,

Santander's hotel sector is composed of 774 hotels. In Bucaramanga, the target for research, has 319 hotels, of which 293 are micro. A survey was applied to 54 hotels that meet the condition of microenterprise.

To achieve the characterization of microcredit and microenterprise the hotel industry the following variables and indicators were established:

- ✓ Features of the hotel
- ✓ Microcredit: Formal - Informal
- ✓ Amount of microcredit: From $500.000 (200 USD) to $15 million (6.000 USD) Microcredit time: Less than 6 months to 36 months
- ✓ Monthly interest rate of microcredit: Less than 1% to 10%
  - ❖ Investment type of microcredit by the recipient: Purchase building
  - ❖ Maintenance building
  - ❖ Purchase of furniture and fixtures
  - ❖ Purchase of food (food)
  - ❖ Technology Purchase
  - ❖ Working capital investments
  - ❖ Check other credits
- ✓ Impact of microcredit in the growth and competitiveness of business

The general characteristics of micro hoteles show that on average have 5 employees, the main service is providing accommodation and barely have additional services, 77.8% of companies are registered at the Camara de Comercio de Bucaramanga and the Direccion de Impuestos y Aduanas Nacionales, DIAN. The 66% are constituted as natural person and 33% as legal persons. The 72.1% of hotels are recorded in stratum 3 and 14% in stratum 2 and 12% in stratum 4.

In the characterization of microcredit, 36% admit to ever having asked a microcredit; of these 42% have done so through formal financial institutions, 11% from informal sources such as family, friends, lenders called "Gota Gota", among others. The 14% have requested microcredit up to a value of $ 15,000,000 million pesos ($ 6,000), 20% requested amounts less than or equal to $ 5,000,000 million pesos ($ 2,000). Also, show that most have used microcredit to physical arrangements of the premises where the hotel works, a fact that has generated higher growth and revenue in the business.

However, a lot of microhoteles answered that could not access formal microcredit services to improve their business capacity installed. Also, it was found that most of the owners or managers of these hotels only reach the average primary school or, and the financial issues have been handled with distrust with some banks, because they do not have to pay taxes to Dirección de Impuestos y Aduanas Nacionales, Dian, and they prefer informal borrows, with high interest rates.

Conclusions

Microenterprises in Colombia have grown due to the new opportunities that are presenting the economy in each of their regions. It is important to support the Government and banks that support microenterprises, with low interest rates, avoiding resort to informal credit at high interest rates, which undermine the financial results of micro-enterprises.

Regarding Santander, is a region with a large numbers of services micro enterprises, because is an area that is being strengthened in the sector of tourism and health. Also the bet being made to finance other sectors of the economy, for example dressmaking, footwear and hydrocarbons, creating the free trade zone of health, thereby allowing will be increased the micro enterprises, and therefore, new forms of microcredit granted.

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Supply Chain and Risk Management: An empirical approach in food chain businesses

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Abstract

Departing on our limited understanding of how risks give rise to management controls and performance, this paper aims to better understand the role of Performance Measurement Systems (PMS) and Risk Management Systems (RMS) in food chain businesses. To do so, both case-based research and survey methods are used to develop a comprehensive inventory of the main risks that food supply food managers face, and to provide insight regarding the management control mechanisms they use for enhancing relational performance. Results shows a trend toward a higher management control in food supply relationship, with positive effects on partners' organisational fit and performance. However some risk sources are still under-managed, as those related to technical uncertainties (transportation problems, long-distance, uncertain technology) and second-tier problems, which represent upcoming challenges in food supply networks.

Keywords: Performance Measurement Systems; Risk Management Systems; Risk Sources; Food Supply Chain.

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Introduction

Increasing globalization has changed the scenario facing companies involved in international channels, causing them to be exposed to increasing risks and danger firm performance; since 2000, international food channels began to rely on closer relationships between companies, which require openness in the exchange of management accounting information using adapted performance and risk management systems. Associated benefits would include access to new resources and capabilities, flexibility to changes in demand, product quality and innovation, or market penetration. However, more collaborative international relationships could also involve increased inefficiencies, which might be mitigated if partners' organisational structures are complementary and compatible. Risk sources related to individual supplier failures and market characteristics are forcing food supply chain managers to develop more effective management control systems that extend beyond firm boundaries.

However, while there is a significant literature on the effectiveness of buyer-supplier relationships across the management disciplines, much less is known on the characteristics and use of management controls across complex supply networks in presence of multiple sources of risk.

Departing on our limited understanding of how risks give rise to management controls and performance, this paper aims to better understand the role of Performance Measurement Systems (PMS) and Risk Management Systems (RMS) in food chain businesses. To do so, both case-based research and survey methods are used to develop a comprehensive inventory of the main risks that food supply food managers face, and to provide insight regarding the management control mechanisms they use for enhancing relational performance.

Case-study data were obtained from forty-three interviews been carried out with food companies in Spain and United Kingdom, including key managers, secondary company, auxiliary industries, independents broker and dealers as key informants. Results show a need of research on advanced MCS focused on risk analysis and control. These tools should facilitate the integration of partners' individual resources to develop joint capabilities as a means to guarantee the financial, strategic and perceived performance of supply food relationships. Findings show that the problem with material price fluctuations for food commodities is that this risk is largely outside the control of either buyer or supplier. This would indicate that having multiple suppliers or trading on open markets might help to maintain prices paid for commodities. We found some evidence that where long-term collaborative relationships were fostered, information and expertise were shared.

In addition, a survey was administrated to food industry firms in the U.K. and Ireland to identify causal relationships between risk sources, management controls (PMS, RMS), and performance in food chain businesses. Responses were obtained from a further 45 supply and purchasing managers with significant responsibility for risk and supply chain management. We used Partial Least Square (PLS) based on SmartPLS 2.0 M3 software for testing our theoretical hypotheses.

Survey results identify four main risk sources, with a prevalence of performance risks based on product characteristics (price instability, quality) and demand uncertainties (inability to supply demand, lack of alternative suppliers). The problem with material price fluctuations for food commodities is that risk is largely outside the control of either buyer or supplier; this would indicate that having multiple suppliers or trading on open markets might help to maintain prices paid for commodities. However, other risks are not addressed by this approach with requires the use of multiple, simultaneous RMS practices.

In this line, we identified four RMS that represent different attitudes toward supply chain risk; from them risk anticipation and risk reporting tools, which rely on certification programmes, long-term relationships, and shared information to deal with supply chain uncertainties, are preferred to more defensive strategies based on formal instruments as fixed-price contracts, sanctions, escalator prices, certification programs or penalty clauses, among others.

Results also support a positive effect of management control practices (PMS and RMS) on organisational fit and relational performance, even if some difference emerge between defensive and collaborative risk management practices; this finding is particularly significant and support the use of management control tools in food supply chain relationships. Besides, we observe that companies having significant concerns on risk sources are able to leverage this to enable more intense RMS and PMS, which in turn enable a higher relationship performance.

Conclusions

In conclusion, we observe a trend toward a higher management control in food supply relationship, with positive effects on partners' organisational fit and performance. However some risk sources are still under-managed, as those related to technical uncertainties (transportation problems, long-distance, uncertain technology) and second-tier problems, which represent upcoming challenges in food supply networks.

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Patterns in the philanthropic behaviour of spanish listed companies

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Abstract

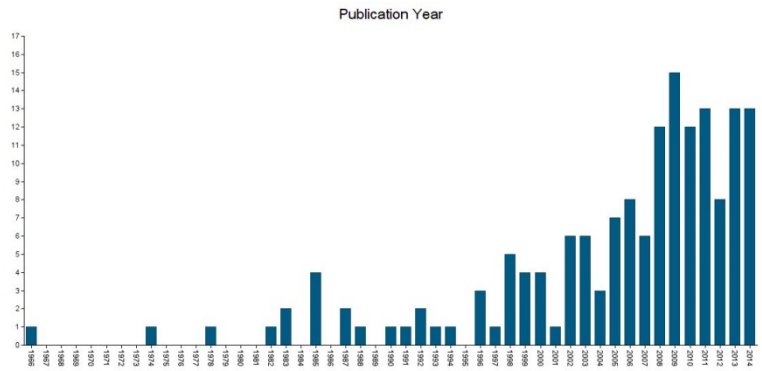
This paper examines philanthropic activities carried out by the companies listed on the Spanish stock market. The analysis is based on the result of a survey sent to companies listed on the IBEX-35 and on the Madrid's stock market. Results indicate that: a) there exist differences between IBEX-listed and non-listed companies in relation to organisation of philanthropic activities; b) objectives more frequently pursued by companies are image, competitive strategy and social responsibility; c)the majority of companies include philanthropic activities which produce economic, social and environmental impact; and d) when companies invest in projects producing the three impacts, they tend to base decisions on economic criteria.

Keywords: *Corporate Philanthropy, Strategic, Stock market, IBEX-35.*

Introduction

Carroll (1991), one of the most cited authors in the literature about philanthropy, associated the philanthropic side of firms with "being a good corporate citizen". However, literature about corporate philanthropy is scarcer in papers than literature related to Corporate Social Responsibility, although different authors have point out the former as an important aspect in the latter. As Liket and Simaens (2015) indicate, literature has let the term as an old-fashioned practice in opposition to what companies and institutions are accomplishing. Evolution in the field, presented in Figure 1, shows that papers about this concept do not increase as other concepts.

Figure 1. Evolution in literature about Corporate Philanthropy. Data from query in Web of Science database. Cleaning with VantagePoint



Empirical Analysis

Our work is intended to contribute to literature, performing an analysis of the philanthropic activities undertook by companies listed in the Spanish stock market. The aim is drawing the patterns in this field in Spain. For this purpose, we selected companies included in the IBEX-35 and others listed in the Madrid market stock.

The research questions answered in this paper are three:

Q1: Does philanthropic behaviour differentiate IBEX35 from non-IBEX35 companies?

Q2: Do companies take into account strategic objectives when they carry out philanthropic actions?
Q3: Do companies take into account the three areas of responsibility (economic, social and environmental) when they carry out philanthropic activities?

For data collection, a survey was developed to analyse philanthropy in its different aspects, like objectives, elements, areas of investment, criteria and stakeholders involved. The questionnaire consisted on 11 questions and was send to the department of Corporate Social Responsibility of the firms. A total of 148 companies were selected from IBEX35 and 113 from the Madrid stock market. The degree of response was about 13%, which represented a sampling error of 21% for a significance level of 5%. An important reason which may explain the limited number of responses is that the survey was send between July and September in the year 2012, when the economic crisis had impacted critically the companies' incomes, with the resulting reduction in their philanthropic activities.

Variables utilised in the study are taken from the literature on corporate philanthropy (based on a Bibliometric analysis) and questionnaires used by other authors (Carrillo et al. 2009: McKinsey 2008). Information obtained was analysed statistically to establish differences in patterns between IBEX-35 memberships and those listed in the Madrid stock market.

Authors like Porter and Kramer (2002) and Mass and Liket (2010) have studied strategic philanthropy previously, indicating how important the complementarity of strategic and social goals is for companies. These authors included in their works examples of companies that carried out both objectives simultaneously. However, when authors like Seifert et al. (2003) or Amato and Amato (2012) conducted empirical studies, the criterion of "doing well by doing good" was not clear.

Results show different patterns of philanthropic behaviour between Spanish companies listed on the IBEX-35 and those not listed in that index. Participation in philanthropic activities is higher in those firms included in IBEX35. Moreover, there are more people orginising activities related to philanthropy in companies listed in IBEX. Concerning the types of donations more used by firms, those listed in IBEX have more volunteering participation of employees and also more sponsorship activities than companies non listed in IBEX. Differences were also obtained in relation to the areas in which companies focus their philanthropic activities. In the case of IBEX-listed companies, the areas with higher participation are education, disabled people, environment, cultural promotion, community development, and science and technology. Companies non-listed in IBEX have as more important areas education, disable people, health and environment. Other differences are observed in elderly and women, being IBEX companies more interested in elderly people and non-IBEX firms more interested in women. Moreover, IBEX companies are also more involved in cultural promotion and rural development than the non-IBEX listed firms.

Companies also differ in relation to criteria more frequent when they select philanthropic projects. Listed companies in IBEX35 base their decisions on the viability of the project, prior knowledge of the organisation to which they are intended to work, and the impact of the project. Non-listed in IBEX companies also take into account prior knowledge and viability, but they are interested also in the

organisation image with which they will work and the recommendations from friends and employees. This may explain the stakeholder that each group of companies take into account when they organise philanthropy; firms listed in IBEX involve more communities and social civil organisations, while companies non-IBEX listed involve more employees, communities and customers.

Research question 2 defined for this paper is related to the objectives that firms intend when they develop philanthropic activities. Results of the survey for this question indicate that, although the main objective for the two groups of companies was improving reputation and image, companies in IBEX were also involved in social responsibility objectives, while non-IBEX companies were less interested in this aim. Moreover, IBEX firms were more worried about reducing risks, while non-IBEX companies were more concerned about differentiation from competitors. Therefore, both groups of companies pursue strategic objectives directly related to their business; moreover, for those firms listed in IBEX35 strategic and social objectives seem to go hand by hand. However, when we combine objectives and organise them into four groups related to Image, Human Resources, Strategy, Industry rules, and Social Responsibility, we obtain that Strategy appears more frequently with image (9 companies) than with social responsibility (5 companies).

Concerning research question 3, areas in which companies invest when they carry out philanthropy, when we combine them and organise depending on its economic, social and environmental impact, we obtain that the majority of companies invest pursuing the three impacts.

Finally, when areas of investment and criteria are combined, we obtain that the majority of companies apply economic criteria in the selection of the area. Economic criteria means that that criteria are based on number of beneficiaries and viability of the project instead on recommendations.

Conclusions

This paper analyses philanthropic behaviour of companies listed in the IBEX35 and in the Madrid stock rating. Differences have been found related to types of donations, areas in which companies invest altruistically, stakeholders taken into account and criteria in which they base their decisions.

Differences have also been obtained when we analised the objectives more important for companies when they carried out philanthropic projects. In this case, companies in the two groups pursued strategic objectives; however, when objectives are combined, strategic ones tend to go more frequently with image than with social aims.

Companies analysed take into account the three areas of responsibility (economic, social and environmental) when they select the projects to which allocate their philanthropic actions. Therefore, the Tripple Botttom Line approach is the pattern in corporate philanthropy. Moreover, in this combination of areas, they take into account economic criteria for decisions instead of criteria like recommendation of friends or employees.

Therefore, the results of this study provide advances both theoretically and empirically, indicating that companies maintained its effort in philanthropic activities despite the crisis.

This work is the starting point for further analyses that we are currently developing, in which we include other countries, other criteria for analysis and more sources of information.

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A critical perspective on governmental accounting regulation in Spain

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Abstract

This paper attempts to bring a critical perspective on the present situation of governmental accounting regulation in Spain, considering mainly its scope, objectives and content. After the approval of the last accounting and financial reporting standards for spanish local authorities that are in force since the beginning of 2015, we can conclude that the process of reformimg spanish governmental accounting system, that started twenty five years ago, has acquired a definitive configuration that deserves a critical analysis, pointing out the improvements introduced in the reporting system of the diferent type of entities but also, some weak points that according to our opinion can also be considered in order to enhance the quality of the financial and economic information provided by governmental units.

The present paper is structured in three parts.

The first one is dedicated to the analysis of the ongoing reforms that have been developed in the spanish governmental accounting system since the late eighties. Those reforms have affected not only central governmental level, and have been also shifted to other lower levels of public administration as regional and local levels.

The second part of the paper focuses its attention on the identification of the main basic characteristics of the present governmental accounting information system, specially concerned with budgeting and financiual accounting, objectives of accounting information, accounting principles and conceptual framework and financial statements presentation for reporting purposes.

The third part of the paper is dedicated to bring a critical analysys of the present situation of spanish governmental accounting, mainly considering the setting of accounting standards process that has been achieved and the present reporting framework available for the different users of accounting information.

The influence of business accounting in governmental accounting, the process of reforms introduced from a contingental perspective, the strong conceptual orientation of the setting of accounting standards process, the role of financial reports consolidation, the present situation of auditing regulation and the relationship of governmental accounting with national accounting are specially considered as main guidelines on this critical analysis.

The paper finally concludes presenting some possible orientations that according to the author's opinion could improve in the future a reformed framework for spanish governmental accounting entities.

Keywords: *Governmental Accounting. Public Sector Accounting. Setting of accounting standards process. Conceptual Framework of accounting. Auditing. Consolidation of governmental financial statements. Financial Accounting. Public Budgeting. Local authorities. Regional Governments. Governmental Financial Reporting.*

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Equity financing in cooperatives. Three case studies in dairy sector (*)

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Abstract
There is a general view in economic literature that cooperatives are under-invested. Currently the issue is on the International Co-operative Alliance's agenda. To contribute to this topic we undertake three case studies from large dairy cooperatives to learn about how they have faced these alleged constraints. This raises questions because not all the successful cooperatives which have been studied have introduced changes to overcome the supposed limitations of cooperative ownership rights.

Keywords: *Cooperative capital, cooperative financing, cooperative ownserhip structure, ownership rights.*

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Introduction

The constraints on cooperative financing have for some time seemed pervasive; there is a general view in the literature that cooperatives are underinvested.

Chaddad and Cook (2004) characterise traditional cooperatives as having the following attributes: "ownership rights are restricted to member-patrons, residual return rights are non transferable non appreciable and redeemable; and benefits are distributed among members in proportion to patronage". They sum these up as representing a "vaguely defined" property rights structure.

These vaguely defined property rights lead to conflicts over residual claims and decision control. These conflicts could explain the recurrent difficulty of cooperatives to attract capital. In this way, common ownership causes the free rider problem as new members pay a small quantity of capital to join the cooperative services diluting the capital between members. This discourages members from investing in the cooperative.

The purpose of this paper is to contribute to this issue. To this end, we undertake three case studies extracted from the dairy sector with the aim to learn how they have faced these alleged constraints. We have chosen dairy cooperatives because, i) it defines a subsector inside the agriculture, therefore the economic activity of the cooperatives is more similar than different agricultural cooperatives and, ii) the dairy sector is very competitive and dynamic and requires high investments in capital (industrial processing of the raw milk, and the subsequent marketing of the industrial products, R+D activities, brands, etc.).

The studied dairy cooperatives are Fronterra (New Zealand), Royal FrieslandCampina and Arla (from Europe). All of them ranked in the World Co-operative Monitor.

We also include in the study the equity accounting classification as an issue, which has not been addressed by economic literature. Finally, we conclude and propose possible work lines.

Fonterra Co-operative Group

Fonterra Co-operative Group Limited is a cooperative company incorporated and domiciled in New Zealand. Fonterra Co-operative is the parent company and presents consolidated financial statements in accordance with IFRS. We examine the annual report and financial statements of 2012 and 2013.

The number of shares held by the members is according to the level of transactions with the cooperative, exactly: "*each shareholder supplying milk to the Company in a season is required to hold one Co-operative share (share) for each kilogram of milksolids obtainable from milk supplied to the Company by that shareholder, excluding milk supplied by that shareholder under contract supply or as unshared supply, in that season*" (Fonterra, 2012).

The previous one is known as the share standard. In addition, each shareholder is able to hold further shares up to 20% of the share standard.

The rights attaching to shares include:

- voting rights of one vote per 1,000 kilograms of milksolids obtainable from milk supplied to the Company by a shareholder during the season preceding[1];
- rights to any dividends[2] declared by the Board; and
- rights to share in any surplus on liquidation of the Company.

Shares are valued on the basis of a Restricted Share Value, which is determined by the Board on an annual basis, for each season, after having regard to a value range determined by an independent valuer.

If a shareholder decreases supply during a season, the number of shares held will be re-apportioned between the number of minimum required shares (calculated using the share standard) and the number of any additional shares that may be held.

Shares held in excess of the number required to be held by the share standard can be surrendered at the election of the shareholder. However shares representing greater than 120% of the number required by the share standard will automatically be surrendered, at the then prevailing share price.

Payment for the surrender of shares may be made at the option of the Cooperative by cash; or the issue of Capital Notes.

Capital notes are unsecured subordinated borrowings which are quoted on NZX's debt market (NZDX). They are classified as non-current liabilities in the financial statements.

Therefore, this system tries to keep equity in hands of shareholder supplier

From 2013 Fonterra has established the "Fonterra Shareholders' Market", where shareholder suppliers are able to buy the share that they need to supply milk or sell shares in excess directly. Consequently the shares are not redeemed.

Also from 2013, shareholders may elect to sell the economic rights[3] of some of their Cooperative shares to the "Fonterra Shareholders' Fund", subject to an individual limit set by the Board within an overall individual limit set out in the Company's constitution,but voting rights are kept by members shareholders.

[1] Less milksolids supplied under contract supply or as unshared supply.
[2] Dividends are based on the number of shares, that is, based on capital
[3] The economics rights are:
– the right to receive any dividends declared by the Fonterra Board;

– the right to any other distributions made in respect of Co-operative shares; and

– rights to share in any surplus on liquidation of Fonterra.

Fonterra is an example which merits a deep study. In few years Fonterra has change its equity structure, has removed the value return (returns to members according to the milk supplied), has introduced dividends on shares held, has introduced the "Fonterra Shareholders' Market" and the "Fonterra Shareholders' Fund" while the cooperative is under control of its members. Following the Chaddad and Cook (2004) models, Fonterra was a member-investment cooperative where distribution of profits were in proportion patronage to a distribution of profits according to the proportion of member shareholdings and after that to a cooperative with an internal market to transfer the shares and losing the characteristic of redeemable. Now it is a cooperative close to new generation cooperatives model.

Royal FrieslandCampina

Royal Friesland Campina is a Dutch cooperative whose members are dairy farmers from Netherlands, Germany and Belgium. Zuivelcoöperatie FrieslandCampina U. A.[4] (the cooperative) is the sole shareholder of Royal FrieslandCampina N.V.[5], which is the parent company of the Group. Royal FrieslandCampina N.V (from now the Parent Company) presents the consolidated financial statements of the Group in accordance the International Financial Reporting Standards (IFRS). We examine the 2013 financial statements and annual report.

All milk supplied by the members is purchased by FrieslandCampina Nederland B.V., a subsidiary of the Parent Company.

FrieslandCampina's milk price comprises the guaranteed price, the performance premium and the distributed registered fixed member bonds. The guaranteed price is the weighted average of the annual milk prices for raw milk paid by the reference companies (twelve German dairy companies, Arla Foods in Denmark, Bel Leerdammer, Cono Kaasmakers and DOC Kaas in the Netherlands and Milcobel in Belgium).

The equity of the parent company is formed by issued capital, share premium, perpetual notes, member bonds, cooperative loan, fair value reserve, other reserves6, retained earnings and non-controlling interest.

Issued capital is formed by 10,000,000 shares all are held by Zuivelcoöperatie FrieslandCampina U. A. (the cooperative).Perpetual notes are perpetual subordinated loans with a 7.125% cumulative interest. There is not repayment commitment, but the notes can be repaid (that is, they are callable). All perpetual notes have been repaid in 2013, therefore there is not perpetual notes at the end of 2013.

The equity structure of Royal Friesland Campina could be seeing as like "member-investor cooperative", where part of the patronage return is in form of registered fixed member bonds. Members cannot trade registered fixed member bonds, only on the termination of business activities and the termination of the membership they are automatically converted into unrestricted member bonds, which can be traded between member bondholders. Member bond is the most important instrument in the equity structure, representing almost the 50% of the equity. But this instrument has a ceiling in their remuneration (3%), therefore the main way to distribute benefits is by means of patronage.

The perpetual notes are so far less important (5,76% of the equity in 2012) and have been repaid in 2013, therefore the wholly owned by the cooperative is not a proper capital seeking entity.

The Royal FrieslandCampina case shows us the important effects of the accounting standard in the design of financial instruments in order to qualify to accounting classification as equity. Member bonds,

[4] Uitgestolen Aansprakelijkheid (U.A.)
[5] Naamloze Vennootschap (N.V.)
[6] Cash flow reserve and currency translation reserve.

perpetual bonds (and cooperative loan) are perpetual and subordinated instruments and their remuneration is not mandatory from contractual characteristics.

Arla

Arla Foods amba is a Danish cooperative with dairy farmer members from Denmark, Belgium, Germany, Sweden, Luxembourg and UK. Arla Foods amba is the parent company of Arla Group and presents the financial statements in accordance with IFRS.

The equity's structure is formed by individual capital, common capital and supplementary payment. Collective capital comprises unallocated equity (capital account and statutory reserve for Special purposes), the individual capital comprises delivery-based owner certificates and contributed capital. The supplementary payment is the proposed profit appropriation, that is to say, the proposed portion of profit to be distributed to members when it is approved by the Board of Representatives. It is formed by the supplementary payment for milk and the interest on contributed capital (interest rate of CIBOR +1.5% on individual member accounts (paid in capital)).

As it is established in the Articles of association, the member, on termination of membership does not entitle to any share of the Cooperative's property or assets. The member has only rights on individual capital, and this is paid "*pursuant to the applicable provisions*", that is, the Board of Representatives shall decide on any payment of delivery-based ownership certificates, contributed capital or other individualised consolidation [7] . Therefore, ownership rights in Arla are restricted to members, nonappreciable and redeemable but subject to the approval by the Board of Representatives, in order to qualify as equity accounting.

On the other hand, the farmer-member receives "on-account" price for the milk, which is paid monthly and a supplementary payment (which comprises the supplementary payment for milk and the interest on contributed capital) and the individual consolidation, which is the share of profit deposited in individual capital. The remuneration is not a mixed configuration of returns based on capital and on patronage, becasuse of the remuneration of contributed capital is capped and only represents the 1.5 % of the Supplementary payment.

The cooperative structure of Arla as very close to a traditional cooperative in models identified by Chaddad and Cook (2004). This fact raises questions on how it can explained the expansion of Arla despite the supposedly limitations on its ownership rights.

Conclusions

The study of how some big dairy cooperatives face financing issues has shown different equity structures and how they can quickly change. Also it has showed that accounting classification as equity matters and it is a characteristic which is taken account.

Equity structures varies from more traditional as Arla Corporation with individual capital and common capital to more innovative as Fonterra with a market to exchange members' shares in order to keep the required number of shares according to the transactions with the cooperative (milk supplied). The case of Arla raises questions to the traditional economic literature on how it can explained the expansion of Arla despite the supposedly limitations on its ownership rights.We think that an expansion of the study, adding new case-studies could be of interest in order to generalize the results.

[7] Article 5.

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Causes Of Tax Evasion Of The Traders In The Informal Market Calculation Of The Amount Of Tax Evasion By Means Of The Methodology Of Real Options

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Abstract

Tax evasion stems from a lack of social consciousness. Similarly, a large number of variables intervene in the decision-making process of an individual or a company when determining whether to pay taxes or not. The purpose of this paper is to prove whether informality arises due to a lack of civic culture among the population of developing nations, particularly in the case of Mexico. Likewise, the methodology used for this investigation takes into account real options as a way to draw a theoretical model from this behaviour. A specific model was selected because it is flexible enough to consider variables related to the country's economic, political and legal conditions. Additionally, the relative uncertainty of a given individual's moral standards, education and social consciousness are evaluated through volatility in opinions. In using this methodology, an approximate model of the behavior of a tax evader can be reached and the potential benefits that fiscal authorities could enjoy by studying the conduct of tax evaders.

All data was collected through a survey carried out in a sample of 200 people. Surprisingly, most of the answers provided by the traders express a willingness to step into the formal economy, each taking into consideration his/her specific needs and fiscal capacity. Moreover, the survey's respondents suggested that a fixed monthly income tax could facilitate their shift. Once an analysis of the obtained data was made, results indicated that tax evasion are due to a lack of information and the absence of trust in government authorities. According to the methodology of real options, a positive effect on taxation as up to $65,000 million Mexican pesos could come from incorporating new taxpayers into the country's formal economy.

Keywords: *Civic culture, Tax evation, Informal economy, Informality, Real options, Volatility, Tianguis (informal farmer's markets in Mexico), Analysis in Discrete Time*

Introduction

According to Lapinell (2014), a high degree of tax evasion is a significant concern for both developed and developing countries. Federal governments have made important efforts to establish mechanisms to increase the number of taxpayers. Nevertheless, this task is extremely complicated because tax evasion is tied inherently to a country's informal economy or to illegal activities.

Tax can be defined as an amount of money that must be paid by individuals to the State whenever they are under such an obligation, whether legally or de facto. Furthermore, Lapinell defines the concept of tax evasion as the non-payment of individuals who are obligated to contribute but choose not to while profiting from fraudulent activities, thus resulting in a decrease in the amount of taxes collected.

Fiscal evaders are those who undertake an activity and profit from it, but retain those resources through illegal means which are legally owed to the State.

Given the degree of complexity that tax evasion entails, its dynamic character, as well as the intervention of countless factors that incentivize or promote said situation, Maquino (2014) concludes that an interdisciplinary approach is required to determine the cause and effect of tax evasion.

Likewise, Maquino explains some of the different causes that have been linked to promote tax evasion or increase its effects: 1) lack of tributary consciousness; 2) an opaque tax collection system; 3) an inflexible tax collection system; and 4) a low risk of being detected. It is important to highlight that Tacchi (2013) states that fiscal evasion is impossible to eradicate without adequately adapting to its rhythm. Considering the State's lack of proactive tax collection, tax evasion occurs as a form of self-defense. Thus, in order for tax evasion to be eradicated, it is important to ensure the presence of a tax authority in order to increase the risk of evasion being detected.

Following this principle, the Tax Administration Service's (SAT) 2014-2018 Strategic Plan proposes "to strengthen the SAT's operational strategy by designating skilled personnel to interact with taxpayers, through the use of a preventive approach beginning at the first stages of said taxpayers' fiscal planning, to strengthen the capacity of timely detection of illegal practices and evasive behaviors, and to have skilled personnel for the detection of elusive practices". Moreover, it establishes that, "the purpose of the SAT is for fiscal evasions to not remain unpunished and that the sanctions' general perception is that they will be strictly enforced in accordance with the regulatory powers approved by Congress, thus allowing for more effective, rapid and conclusive procedures of execution".

Section name

The analysis focuses mainly on individuals that are part of the informal economy, more specifically, those who work in farmer's markets in Mexico. This study has paid special attention to the needs of these traders, for which special surveys were designed to consider, among other things: gender, age, type of product they sell, the sector of the population where they trade (lower class; lower-middle class, middle class, upper-middle class or upper class), if they would agree to pay taxes, and which factor would motivate them most to incorporate themselves into the formal economy. In addition, the study analyzed the level of trust in the government of those surveyed.

To undertake a less rigid analysis and under the assumption that the data acts like a Brownian Geometrical Movement, the quantity of people that work in the informal economy was modeled using a discrete time model. As a result, many calculations were made: daily volatility, crashes in the upswing, crashes in the downswing, trajectory, the neutral risk probability and the option of paying taxes. A daily nodal period was considered for two years.

Once the surveys were processed, multiple scenarios were made in which different variables were modified to analyze their impact. These were volatility, rates of desertion, different ways of taxation and various types of incentives to incorporate new taxpayers to the formal economy.

Conclusions

The Federal Government must consider that the aim of incorporating people into the formal economy will not only have a positive effect regarding taxation, it will also have important social, educational, health and security benefits. Of those surveyed, the most important incentive for entering the formal economy is that they will be granted social security and retirement benefits as well as medical services.

Similarly, the study show that civic awareness exists among the general populus. However, mutual confidence between authorities and people is absent. For this reason, it is important to create a payment scheme that adequately takes into account the fact that income is extremely variable for most Mexicans, which ranges from as low as the sale of a piece of candy up to $1,000 Mexican pesos a week.

Thus, while a significant percentage of people are willing to pay taxes, the majority suggests that this payment should be a fixed amount that should be determined according to their level of income. They also suggest that the government should offer workshops about fiscal obligations in order for people to adequately comply to them. As prescribed by the methodology of real options, incorporating new taxpayers to formality will have a positive effect on taxation of up to approximately $65,000 million Mexican pesos.

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The impact of the economic crisis on the cost of capital. Evidences from Spain

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Abstract
The economic crisis has caused an upheaval in the financial markets which had affected all the parameters involved in fixing the cost of capital. This study aims to determine how these changes in markets have influenced the WACC of two different Spanish industries. On the one hand a stable and steady industry as the food industry with a low income elasticity of demand. On the other hand the homebuilding industry, this industry had a huge growth before the crisis, almost a bubble, and has suffered the aftermath in a very marked way. The evolution of the cost of capital in the 1998-2013 period shows that the cost of capital of the food sector is very stable whatever the model used whereas the cost of capital of the homebuilding industry suffered a sharp decline.

Keywords: *WACC, cost of equity, cost of debt, risk-free rate, market risk, CAPM, return on equity, homebuilding industry, food processing industry, SMEs, betas, leverage.*

Introduction

The Weighted Average Cost of Capital (WACC) is widely used to discount cash flows when valuing companies. The WACC is made up of the cost of equity and the cost of debt both weighted by taking into account the capital structure of the company. The cost of equity is the return required by the owners of the company and it is usually obtained by means of the Capital Asset Pricing Model (CAPM). The cost of debt is equivalent to the interest rate paid for external financial sources, namely loans. The economic crisis has caused an upheaval in the financial markets which had affected all the parameters involved in fixing the WACC. In this context this study aims to determine how these changes in markets have influenced the WACC of two different Spanish industries. On the one hand a stable and steady industry as the food industry with a low income elasticity of demand. On the other hand the homebuilding industry, this industry had a huge growth before the crisis, almost a bubble, and has suffered the aftermath in a very marked way.

In economic crisis times the cost of debt shows higher interest rates in the first stages and can decrease in the last stages as the Governments try to encourage economic growing. On the other hand negative corporate profits can lead to negative return on investments. Depending on the evolution of all of these rates the cost of capital can be decreased which would lead to higher company values or could be increases which would imply lower company values.

Methods

To determine the cost of capital of the aforementioned industries financial statements of Small and Medium Enterprises from 1998 to 2013 have been gathered. The data contain 1,268 food SMEs and 784 homebuilding SMEs. The revenues of all of these Spanish companies are in the 2-50 million € range. The WACC can be broken down into the cost of equity k_e and the cost of the external sources of finance, k_d

(debt). Both costs are weighted by the capital structure E (Equiy) and D (debt), the effect of the corporate tax (t) is also taken into account.

$$WACC = \frac{E \cdot k_e + D \cdot k_d \cdot (1-t)}{E+D} \qquad [1]$$

The different variables of equation [1] have been determined in the following way:

Corporate tax rate: The tax rate has changed in the study period: from 1998 to 2006 (35%), in 2007 (32.5%), and from 2008 to 2015 (30%). The capital structure has been obtained from the book values of equity and debt. The cost of debt (k_d) is estimated using the mortgage market reference interest rate and other preferential rates offered by banks. The cost of equity (k_e) is defined as the sum of a risk-free rate and a risk premium. The risk premium is determined using two approaches: the Capital Asset Pricing Model (CAPM) and historical return on equity of each industry. The first approach assumes a optimizing investor in the Markowitz sense while the second relies on the historical returns as the best way to determine the return required by the shareholders.

The CAPM equation is shown (equation [2])

$$E(r_i) = k_e = r_f + E(r_m - r_f) \cdot \beta_i \qquad [2]$$

- R_f = risk-free rate. It has been fixed from the interest rate of the 10-year Spanish bonds in the primary market. 10-year is the usual maturity when fixing the free rate for valuation purposes.
- R_m = market return. Madrid stock market is the main Spanish stock market. Market returns are measured by using the IGBM (Madrid Stock Exchange General Index).
- β = it measures the sensitivity of an industry to changes in the global market. The published Beta coefficients take into account the level of leverage (debt) of the companies. For this reason, it is necessary unleveraged coefficients (using each company's financial structure) before using them for the calculation of required return on equity. According to Copeland *et al*. (2004):

$$\beta_L = \left[1 + (1-t) \cdot \frac{D}{E}\right] \beta_U \Rightarrow \beta_U = \frac{\beta_L}{\left[1+(1-t) \cdot \frac{D}{E}\right]} \qquad [3]$$

Being: β_L: Levered Beta, β_u: Unlevered Beta, E: Equity, D: Debt (liabilities), t: corporate tax

The CAPM relies on data from the stock market, nevertheless there are few companies of the assessed industries in the Spanish Stock Market. Due to this fact the Betas are obtained from the European and US markets assuming that the behavior of those markets is similar to the Spanish market.

The historical return on equity is worked out by using the difference between the five-year moving average of the return on equity and the 10-year Spanish bonds. The difference between both moving averages provides the risk premium for each industry and year.

Results

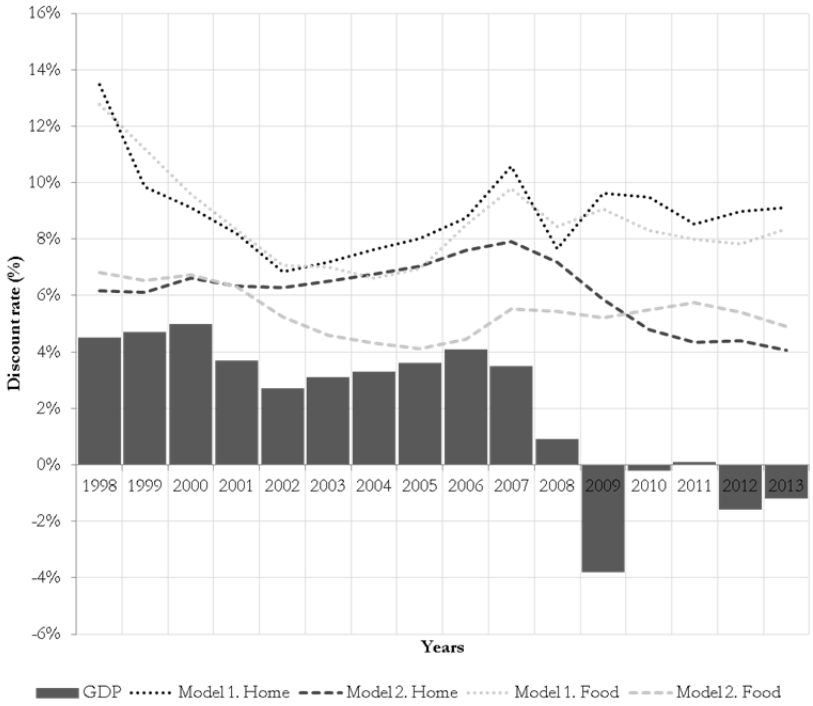
The results are shown in table 1. Model 1 uses the CAPM as the way to fix the cost of equity, whereas Model 2 takes the historical ROE as the main source of the cost of equity.

Table 1. Industry WACC

Year	Food processing WACC		Homebuilding WACC	
	Model 1	Model 2	Model 1	Model 2
2013	8.36%	4.91%	9.13%	4.06%
2012	7.84%	5.42%	8.96%	4.41%
2011	7.98%	5.75%	8.54%	4.34%
2010	8.31%	5.48%	9.49%	4.8%
2009	9.07%	5.21%	9.63%	5.85%
2008	8.44%	5.43%	7.66%	7.19%
2007	9.80%	5.51%	10.57%	7.92%
2006	8.49%	4.46%	8.75%	7.59%
2005	6.95%	4.13%	8.02%	7.05%
2004	6.63%	4.31%	7.64%	6.76%
2003	7.00%	4.59%	7.17%	6.51%
2002	7.08%	5.24%	6.85%	6.28%
2001	8.33%	6.30%	8.19%	6.32%
2000	9.59%	6.73%	9.13%	6.62%
1999	11.21%	6.53%	9.84%	6.11%
1998	12.76%	6.83%	13.46%	6.17%

Using the CAPM model, the WACC of the homebuilding industry is higher than the food industry in several years (1998; 2003-2007; 2009-2013) (figure 1). The average WACC of the homebuilding industry is 8.94% while the food sector shows a 8.61% average WACC. Figure 1 also shows the greater variability of the homebuilding WACC

Figure 1. Evolution of the food industry and homebuilding industry WACC



Regardless the model used to fix the cost of equity the food industry WACC is much more stable than the homebuilding industry one. The evolution of the homebuilding industry WACC obtained by means of the model 2 shows a sharp decline coinciding with the beginning of the economic crisis as the GDP growth shows.

For the period 2009-2010 the cost of capital of both sectors converges when calculated with the model 2.

Conclusions

The cost of equity has been estimated by using the CAPM and by means of the historical industry return on equity. The first approach relies on the systematic risk and assumes a diversifying investor while the second relies in the returns of the shareholders. Interestingly the cost of capital is higher in the first approach.

The cost of equity appears to be the most influential factor in the evolution of the cost of capital in the studied period for the food sector; nevertheless the homebuilding sector is not very influenced by this factor, since it is a leveraged sector. In model 2 the decline in profits entails a lower cost of equity and a lower cost of capital. A lower cost of capital leads to a higher company value if the cash flows are kept constant.

For both sectors the applied methods tend to diverge in recent years. The discount rate is increased if we employ the Model 1, and decreases if we use to the Model 2. This more pronounced difference in the homebuilding than in the food sector.

The evolution (1998-2013) of the discount rate for the food sector represents a 34.45% decrease (Model 1) and a decrease of 28.00% (Model 2). The homebuilding sector presents an evolution of 32.20% decrease (Model 1), and a decrease of 34.23% (Model 2).

Using the CAPM implies greater variability in the cost of capital in both industries. The Betas of the homebuilding industry show a higher variability which leads to a higher variability in the cost of capital.

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Bootstraping accounting variables to obtain the fair value of a brand

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Abstract
The brand is one of the main parts of the intangible assets of the companies, but accounting rules usually understate its value. In this study a model for obtaining the fair value of brands is proposed. The model combines bootstrap techniques applied on financial and accounting information with the differential margin approach. A case study on food brands is presented showing how both tools can make a new model that provides a reliable value. Using the bootstrap allows obtaining the brand value distribution and also confidence intervals. The model can be very easy to standardize in order to define a brand fair value.

Keywords: *brand fair value, food brands, bootstrap, differential operating margin, price premium method.*

Introduction

ISO10668 defines a brand as marketing-related intangible asset including, but not limited to, names, terms, signs, symbols, logos and designs or a combination of these, intended to identify goods, services or entities, or a combination of these, creating distinctive images and associations in the minds of stakeholders, thereby generating economic benefits/values. For Bonet (2011) the brand is the real value added offered by the company to their customers. According to Garcia (2000) there is not any valuation method that can be widely applied to all the companies. The income approach is the most used although there are other approaches as cost or comparative, Salinas (2007). But there can be several methods using an income approach. Damodaran (2006) proposes the generic operating method which is based on replacing the operating margin of the brand name firm with the operating margin of generic companies in the same business. It is assumed that the power of a brand name allows charging higher prices. The ISO10668 names this method as the price premium method.

The brand is one of the main parts of the intangible assets of the companies, but as Damodaran (2006) states traditional accounting rules either understate its value or completely ignore it. Accounting rules encourage to seek the fair value of the assets, according to the International Accounting Standards Board (2011) “the price that would be received to to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date”.

The main objective of this study is to develop a model to quantify the fair value of a brand using accounting information. The model is developed by adding the variability of the accounting variables to the generic operating method by means of bootstrap techniques.

Methods

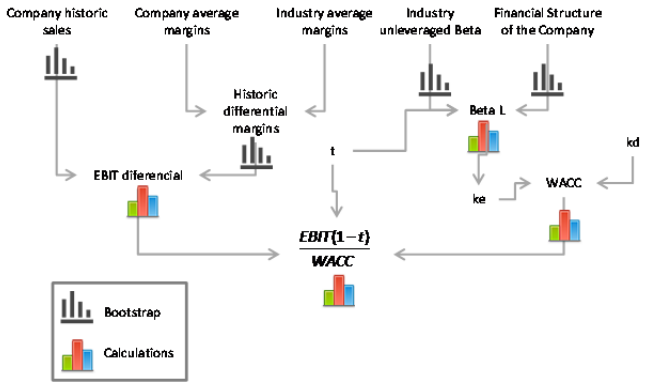
The generic operating method for pricing brands needs the sales and operating margin of the company. It also needs the operating margin of a generic company. Moreover the cost of capital of the company and the corporate tax have to be taken into account. Equation [1] shows the basic model, it estimates the differential flows attributed to the brand and then carries out a perpetual discount process. Despite the simplicity of the model the practical application implies making many decisions about the parameters.

Decisions as whether to use last year data or average data, how to determine the cost of capital and the capital structure.

$$V_{brand}=\frac{Sales \cdot Differential\ margin \cdot (1-t)}{WACC} \qquad [1]$$

In order to consider the available information and its variability bootstrap techniques can be integrated into the model. The boostrap is a resampling technique, it takes several Monte Carlo samples of size *n* with replacement from the original observations (Chernick and Labudde, 2011). Figure 1 shows the procedure to integrate the bootstrap with the operating margin method for valuing brands. It implies gathering a sample of the variables instead of taking one single value. Specifically 4 bootstrap procedures have to be carried out for the sales, differential margins, unlevered betas of the industry and also on the capital structure of the company.

Figure 1. Brand valuation bootstrapping process



Case study

A case study has been carried out to value the brand of the ten major companies of the Spanish food sector. For each company the sales, the operating margin and the capital structure (book values) of the 2007-2011 period have been gathered. For computing the industry average margin the operating margin of all the industry companies with sales between 2 and 10 million € has been gathered for the same period. In order to avoid outliers the harmonic mean of each year has been calculated as the generic margin. It is assumed that companies of that size do not own any recognizable brand. At the same time the Betas of 146 companies of the European food industry for the year 2012 have been gathered.

Four (one for each of the previously explained variables) bootstrap procedures of resampling have been carried out 10,000 times. For each variable the average of each resample has been calculated and by combining each variable resample mean 10,000 values of each brand have been obtained. For computing the beta is necessary to leverage the industry beta with the capital structure of the owner of the brand.

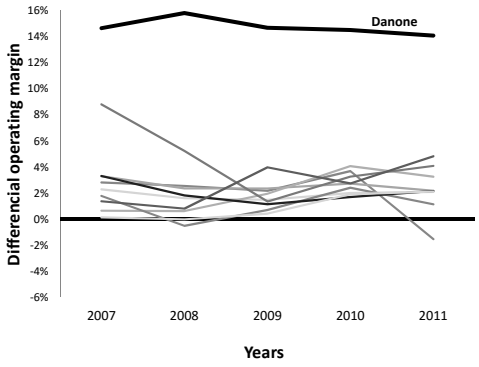
Table 1 shows the brand values obtained and also percentage of that value on the EBIT, sales and Assets of the company. As can be seen Danone is the most valuable brand in the Spanish food industry and it is the only one whose value is greater than the value of its assets. The operating margin of Danone is much greater than the industry one causing a great differential EBIT. Nevertheless in the case of brands owned by multinational corporations operating margins can be strongly determined by internal decisions on transfer prices and this fact can introduce some bias in the value of the brand. The same can happen with the Nestle brand.

Table 1. Brand values

Nº	Brand	Brand Value	Brand Value/EBIT	Brand Value/Sales	Brand Value/Assets
1	Danone S.A.	2.337.552.000	935%	213%	436%
2	Nestle España S.A.	746.635.000	660%	52%	45%
3	Corporación Alimentaria Guissona S.A.	404.852.000	736%	31%	76%
4	Campofrío Food Group S.A.	359.296.000	666%	41%	20%
5	El Pozo Alimentación S.A.	248.662.000	582%	34%	53%
6	Puleva Food S.L.	181.701.000	416%	40%	84%
7	Casa Tarradellas S.A.	162.066.000	470%	24%	47%
8	Martínez Loriente S.A.	133.195.000	691%	27%	53%
9	Miguel Gallego S.A.	79.727.000	346%	16%	32%
10	Lípidos Santiga S.A.	60.717.000	403%	14%	24%

Figure 2 shows the annual differential operating margin of the assessed brands, as can be seen the differential margin of Danones is much greater than the margin of the rest of the companies and leads to a very high value. Observing the ratios computed in table 1 all the companies besides Danone show ratios Brand Value/Sales and Brand Value/Assets below 100%.

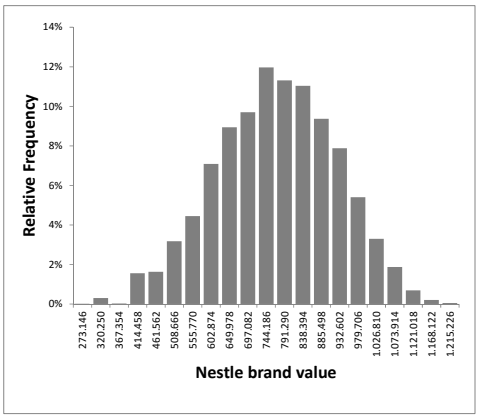
Figure 2. Differentil Operating Margins



Nine of the ten brand values are from companies known by the final consumer. Only the 10th brand, LIPSA owned by Lípidos Santiga SA do not sells a consumer product. In this case it could be considered whether the brand value is including some other factors, a deeper study of the company and the brand would be necessary.

Although table 1 only shows the average brand value for each brand a distribution of the brand value is obtained allowing to determine the interquartile range, the minimum and maximum value of the brand and also the standard deviation of the that distribution, figure 3 shows the brand value distribution of Nestle Spain.

Figure 3. Netle brand value distribution



Conclusions

Applying bootstrap techniques on financial and accounting data togheter with income valuation models can be a useful tool to determine the fair value of brands. Brand value distributions and confidence intervals are obtained improving the information and reducing the uncertainty on the value of brands.

A specific and standarized procedure can be set to obtain a reliable and comparable value. This would allow analyzing the evolution of the brand value providing more real accounting information.

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CSR assurance in sensitive sectors - a worldwide analysis of financial services industry

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Abstract

Corporate Social Responsibility (CSR) reporting and assurance has achieved a great relevance, and the financial services industry is a CSR-sensitive sector, which needs to increase user confidence in the credibility of their reported activities. Our aim is to analyse assurance practices in this sector. Thus, we study what factors are associated with the adoption of assurance and choice of assuror, and whether the type of assurance provider affects characteristics of assurance. The findings indicate that the financial services industry leads the adoption of assurance, which is associated with the country and listing status, and different characteristics by type of provider.

Keywords: *sustainability, assurance, assuror, financial services industry.*

Introduction

Several authors have pointed out how the financial industry has been partly responsible for the current crisis in regulatory failure and over-optimistic policies terms (Fligstein and Goldstein, 2010). The unfavourable situation experienced by financial companies in this context has caused discredit in and distrust of society. According to Simnett et al. (2009) and Kolk and Perego (2010), the financial services industry is highly exposed to environmental and social risks, and the need to increase user confidence in the credibility of their reported activities is great. Therefore, it is considered a 'CSR-sensitive' industry (Sierra et al., 2014).

Very few authors have assessed assurance practices in sensitive sectors like the financial services sector, and this paper addresses this research gap. Our aim was to develop an exploratory analysis about CSR/sustainability assurance in the financial services industry. We studied what determinants are associated with the decision to adopt assurance and to choose assuror, and we investigated whether assurance differs across assurance providers.

Literature review

The financial services industry is of interest in the CSR and organisational reporting context because of its size and the role it plays in easing economic transactions (Day and Woodward, 2009). This is a sensitive sector because of its influence on financial well-being and its large "social footprint". As a result, stakeholder groups are deeply interested in its activities (Simnett et al., 2009)., which has resulted in companies reporting their CSR. However, CSR reporting is subject to concerns as regards to the completeness and credibility of the provided information (Adams and Evans, 2004).

In accordance with Simnett (2012), provision of external assurance on the content and structure of CSR reports improves the relevance, reliability and comparability of reports and, therefore, enhances their overall credibility.

Previous studies have investigated factors that influence the adoption of assurance and choice of assuror. Using a sample of 2,113 companies (from 31 countries) between 2002–2004, Simnett et al. (2009) found that those companies located in stakeholder-oriented countries are more likely to adopt assurance and to choose assurors from the auditing profession. Their results also showed that the adoption of assurance is higher among companies engaging in more highly visible industrial activity and those with a larger 'social footprint'. Moreover, they pointed out that large companies are more likely to assure their sustainability reports and to choose large accounting firms as assurance providers. Kolk and Perego (2010) analysed the behaviour of G250 firms for the years 1999, 2002 and 2005 and found that the likelihood of adopting assurance is greater for firms domiciled in countries that are stakeholder-oriented and have weaker enforcement mechanisms. However, the likelihood of choosing a large accounting firm as an assurance provider is greater for companies from shareholder-oriented countries and larger firms. Zorio et al. (2013) focused on the companies listed on the Spanish capital market between 2005 and 2010, and found that inclusion in a stock exchange and industry are significant in explaining assurance and choice of assuror. Specifically, among the IBEX-35 companies, the decision to adopt assurance depends on size, is positively associated with ROA, and negatively associated with ROE and leverage, while certain industries (such as oil and energy, basic materials, and financial services) significantly tend to hire auditors. (Sierra et al., 2013).

Furthermore, some academics have studied the content of assurance statements and have reported differences across assurors. Among the assurance statements included in reports short-listed for the 2002 ACCA UK and European Sustainability Reporting Awards, O'Dwyer and Owen (2005) found that accountants are more likely than consultants to indicate the assurance level. Deegan et al. (2006) investigated whether a sample of UK and European assurance statements included the key elements suggested by GRI and FEE. They found considerable variability in presentation formats and contents across assurors; for example, they highlighted that accounting firms are more likely to identify assurance standards. Mock et al. (2007) used a sample of 130 entities worldwide and pointed out that non-Big 4 firms are more likely to rely on the AA1000 framework, while Big 4 firms tend to rely on international or local standards. Focusing on the Fortune Global 250 firms, Perego and Kolk (2012) indicated that the most frequent adoption of standards among providers is a combination of the AA1000AS, the ISAE 3000 and GRI guidelines, and that accounting firms use the ISAE 3000 more frequently.

As far as we know, no previous research works have focused on assurance in the financial services industry. Only Fonseca (2010) centred on the mining industry, another 'sensitive sector' according to Sierra et al. (2014), who found that the companies from Latin America that better favour adoption of assurance belong to sensitive sectors.

Methodology

To collect data, we used the *GRI's Sustainability Disclosure Database* to look for financial services companies worldwide that disclosed a GRI-based sustainability report in 2012 and 2013. In accordance with GRI (2013), we selected only those companies whose reports followed guidelines G3, G3.1 or G4, and we excluded 'no-GRI' and 'GRI-referenced' reports. Thus, we found 378 CSR reporters in 2013 and 324 in 2012. Afterwards, we checked whether these companies adopted external assurance and we found 184 and 152 assurance adopters, respectively. We employed cross tabulations and Pearson's chi-square test to analyse whether adoption of assurance and assuror choice are significantly associated with the financial services industry, the status of the country where the company is located, company size and listing status, and we checked whether the assuror is significantly associated with assurance scope, the assurance level and assurance standards.

Conclusions

As to our first research question, significant differences were found between the financial services industry and other industries with regards to assurance adoption. As a sensitive sector, its likelihood of assuring reports is greater than in other industries, which is consistent with Simnett et al. (2009). It also shows the willingness of companies to be accountable and to enhance their credibility towards their stakeholders. We found that the status of the country where companies are located, inclusion in a stock exchange and use of the sector supplement were significantly associated with the decision to adopt assurance. Specifically, companies from OECD member countries better favour assuring their reports, which is in line with Kolk and Perego (2010) and Simnett et al. (2009), who found the country level factor to be a determinant of assurance adoption. The results also showed that inclusion in a stock exchange is positively associated with assurance, which coincides with Zorio et al. (2013), but not with Castelo et al. (2014). We also observed that the companies using the financial services sector supplement are more likely to consider assurance adoption. However, we found no association with company size, unlike Sierra et al. (2013) and Simnett et al. (2009).

To answer our second research question, similarly to Sierra et al. (2013), we found that the companies belonging to the financial services industry are more likely to choose an accountant as an assurance provider. However, no significant associations appeared between choice of assuror and country status or company size, which goes against the findings posited by the existing literature, e.g., Simnett et al. (2013) or Perego (2009), who established that the country level factor and size affect the selection of assuror. Nor did we did find a connection between the assuror and inclusion in a stock exchange, unlike Zorio et al (2013), or an association with use of the sector supplement.

Finally, in response to the third and last research question, we found that different characteristics of assurance engagements are inherent to the assurance provider type, which is in line with Deegan et al. (2006). As regards the level of assurance, we found a significant association with the assuror, which is due to the fact that accountants are more likely to specify the assurance level than non-accountants, as pointed out by O'Dwyer and Owen (2005). Yet even though accountants applied mainly the limited/moderate level, there were no significant differences seen between the limited/moderate level and the reasonable/high level or a combination of both. We also confirm that provider type is connected with use of assurance standards. More accountants specified the standard used, which is consistent with Deegan et al. (2006). According to O'Dwyer and Owen (2005), Mock et al. (2007) and Perego (2009), non-accountants extensively use the AA1000AS approach, which shows a greater interest in stakeholders as this standard is based on their inclusivity and responsiveness to their concerns, and also on identifying material issues to them. In contrast, accountants use mostly the ISAE 3000 approach. However, no significant association between provider type and assurance scope was observed.

In conclusion, the financial services industry leads adoption of assurance compared to other industries, which is a reflection of concern on demands of transparency and need for credibility. Nonetheless, reports are continually being added to the GRI Database, so the results are dynamic and constantly evolving.

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Sustainability assurance in Spanish non-listed companies

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Abstract
In the last decades, sustainability reporting has experienced a noteworthy proliferation in the international arena. However, there is a lack of accountability and transparency, which have promoted that companies adopt assurance on sustainability reports to gain credibility. Spain is a worldwide leader in sustainability reporting but there is few contributions on Spanish non-listed companies about the determinants that influence the assurance adoption. In this line, we analyse what factors are associated with the adoption of assurance and the choice of assuror. The findings indicate that assurance and assuror are significantly associated with company size and industry.

Keywords: *sustainability, assurance, assuror, Spain, non-listed companies.*

Introduction

Due to accountability pressures and the demand for transparency of corporate behaviour (Kolk, 2008), sustainability reporting has proliferated in response to stakeholders' concerns about environmental and social issues, governance and responsibility (Kolk and Perego, 2010; Simnett, 2012). Thus, the number of enterprises that publish a sustainability report has increased considerably over the last few years (CSR Network, 2003; Kolk, 2004; O'Dwyer and Owen, 2005; Simnett, 2012).

In order to ensure the homogeneity and quality of these reports, standards for reporting were developed. The most commonly used standard is the *GRI Sustainability Reporting Guidelines* from the Global Reporting Initiative (GRI). According to KPMG (2013), it has achieved widespread adoption with 82% of Fortune Global 250 firms.

Nevertheless, researchers have criticised sustainability reporting because of lack of accountability and transparency, which have created a need for credible reported information in this area, known as the so-called 'credibility gap'. In this line, voluntary assurance enhances the credibility of such reporting (Adams and Evans, 2004).

The 2013 KPMG Survey of Corporate Responsibility Reporting (KPMG, 2013) noted that 59% of Fortune Global 250 companies use assurance as a strategy to verify and assess their corporate responsibility information. CorporateRegister (2013) pointed out that the annual growth rate in the assured reports between 2000 and 2012 was 20%. This shows that assurance represents the next stage of development of sustainability reporting (ACCA, 2004).

The aim of this paper is to develop an exploratory analysis about sustainability assurance among Spanish non-listed companies. We study what determinants are associated with the decision to adopt assurance and to choose assuror.

Literature review

Despite sustainability reporting has increased because of stakeholders' demand for accountability and credible information, it is subject to concerns as regards to the completeness and credibility of the

provided information (Adams and Evans, 2004; Adams, 2004). In accordance with Simnett (2012), provision of external assurance on the content and structure of sustainability reports improves the relevance, reliability and comparability of reports and, therefore, enhances their overall credibility.

Previous studies have investigated factors that influence the adoption of assurance. Using a sample of 2,113 companies (from 31 countries) that produced sustainability reports between 2002–2004, Simnett et al. (2009) found that large companies and companies located in stakeholder-oriented countries and stronger legal environments are more likely to adopt assurance. Their results also showed that the adoption of assurance is higher among companies engaging in more highly visible industrial activity and those with a larger 'social footprint'. Kolk and Perego (2010) analysed the behaviour of G250 firms for the years 1999, 2002 and 2005 and found that the likelihood of adopting assurance is greater for firms domiciled in countries that are stakeholder-oriented and have weaker enforcement mechanisms. Zorio et al. (2013) focused on the companies listed on the Spanish capital market between 2005 and 2010, and underlined inclusion in the IBEX-35, size and industry as determinants of adoption of assurance. In the case of IBEX-35 companies, the decision to adopt assurance depends on company size, is positively associated with ROA, and negatively associated with ROE and leverage (Sierra et al., 2013). Using a sample of Portuguese firms between 2008 and 2011, Castelo et al. (2014) indicated that size, leverage, profitability, listing status and industrial affiliation are determinants of assurance.

Similarly, factors of choice of assuror have been analysed. The findings showed that the likelihood of choosing a large accounting firm as an assurance provider is greater for larger firms (Simnett et al., 2009; Kolk and Perego, 2010). Simnett et al. (2009) also found that companies domiciled in stakeholder-orientated countries are more likely to choose assurance from the auditing profession. In contrast, Kolk and Perego (2010) affirmed that the likelihood of choosing a large accounting firm as an assurance provider increases for the companies located in shareholder-oriented countries. Perego (2009) sustained that among the firms listed for the *2005 ACCA Sustainability Reporting Awards*, those domiciled in weaker legal systems are more likely to choose a large accounting firm as assuror. According to Sierra et al. (2013), certain industries (such as oil and energy, basic materials, and financial services) significantly tend to hire auditors as assurance providers. Zorio et al. (2013) found evidence that inclusion in a stock exchange and industry are clearly significant towards the decision to hire the assuror.

In this line, our study analyses the determinants associated with the decision to adopt voluntarily assurance on sustainability reports and with the choice of assuror in a Spanish context.

Methodology

In order to investigate practices of sustainability assurance among Spanish non-listed companies, we used the *GRI's Sustainability Disclosure Database* to look for those that disclosed a GRI-based sustainability report between 2012 and 2014. In accordance with GRI (2013), we selected only those companies whose reports followed guidelines G3, G3.1 or G4, and we exclude 'no-GRI' and 'GRI-referenced' reports. Then, we checked whether these companies adopted external assurance. Thus, we found 298 sustainability reporters and 116 assurance adopters.

Afterwards, we employed cross tabulations and Pearson's chi-square test to analyse whether adoption of assurance and choice of assuror are significantly associated with the industry where the company operates and company size.

Results

Our findings show that the percentage of assurance adopters was higher for large companies (56.6%) than for SMEs (16.7%). Therefore, there is a significant association between company size and adoption of assurance (chi-square = 49.387, p = 0.000), with large companies more likely to adopt assurance on sustainability reports.

We also found a significant association between the adoption of assurance and industry (chi-square = 7.294, p = 0.007). It is revealed that 46% of companies that operate in sensitive industries assure their sustainability reports compared to 30.7% of companies from no-sensitive industries.

Among SMEs, 86.4% prefer a non-accountant as assurance provider while 13.6% opt by an accountant. These difference is lower in the case of large companies with 53.2% choosing a non-accounting provider and 46.8% an accounting provider. Thus, we found a significant association between company size and choice of assuror (chi-square = 8.140, p = 0.004), with large companies more likely to choose an accountant to carry out the assurance process.

However, although 41.9% of companies from sensitive industries choose accountants compared to 38.1% of those from no-sensitive industries, the choice of assuror is not significantly associated with industry (chi-square = 0.160, p = 0.689).

Conclusions

This research has studied whether the adoption of assurance and choice of assuror are associated with the factors industry and company size in a Spanish context.

Concerning the adoption of assurance, the company size is a factor associated with this decision, which is in line with Simnett et al. (2009), Sierra et al. (2013), Zorio et al. (2013) and Castelo et al. (2014). Industry is also a clear determinant of adoption, in accordance with Simnett et al. (2009), Zorio et al. (2013) and Castelo et al. (2014).

Regarding the choice of assuror, it is influenced by the company size, as affirmed Simnett et al. (2009) and Kolk and Perego (2010). However, industry is not associated with assuror, in contrast of Sierra et al. (2013) and Zorio et al. (2013).

In comparison with results of Sierra et al. (2013) and Zorio et al. (2013), who focus on Spanish listed companies, our findings evidence that listed and non-listed companies follow almost the same behaviour concerning the adoption of assurance and choice of assuror. Nonetheless, it should be noted that reports are continually being added to the GRI Database, so the results are dynamic and constantly evolving (GRI North America, 2014).

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Premium Risk in Agro-food Sector

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Abstract
The valuation of companies and investments is an essential task for the optimization of resources in corporate management. The assessment process always involves the use of a discount rate, which unavoidably incorporates an associated risk. The aim of this study is the Premium Risk estimation in the Agro-food Sector. The net profits of 20.000 companies from 2009 to 2013 have been taken into account to calculate the Premium Risk. Results are clasified according to their respective economic activity sub-sectors..

Keywords: *volatility, standar desviation, agricultural, economic activity.*

Introduction

The techniques of corporate management in companies are a key element for success in the market. The financial tools allow the companies to keep or expand their products in the markets and provide profits to the firms. The financial planning helps companies to achieve their objectives. It is therefore necessary to apply several techniques to forecast and assess the future financial variables.

In capital budgeting process and the methodology for the company's assessment we can appreciate a robust and significant relationship with the discount rate. Both are based on the updated Cash Flow (CF). The value of an investment project depends on both its expected cash flows and its discount rate. The most used methodology of valuation of companies, recognized by the International Valuation Standards Council, is based on the discount of CF.

When valuating the companies, according to Fernández (2008a) the determination of the disccount rate is one of the important issues. It is carried out taking into account the risk, the historical volatility and in the practice often the minimun disccount rate which is marked by the shareholders (sellers and buyers, who are not willing to invest or sell below a certain return)

The discount rate to update the CF must take into account the free of risk rate in the economy, and a premium risk depending on the economic sector where the target-company operates. Fernandez (2008a) takes into consideration the different CF that can be generated by the companies. He groups the CF according to their origin for their valuation and suggests a discount rate for each group. When the CF is used, the use of Weighted Average Cost of Capital is recommended. But these is an risk-free discount rate. In order to value companies, we need to add a Premiun Risk. The premium risk measures the sector volatility associated with the obtaining of CF (Damodaran, 2013).

Among several factors which affect the Premium Risk, one of the most important ones is the economic sector activity. Other factors that can be highlighted are those in relation with he economic situation of each company that is in the market.

The presented research is an applied study of the Premium Risk in Agro-food Complex, in Spain, all Agro production activities and those for the commercialization and transformation of primary products with Agro-food industry.

The study has been carried out in Spain, and we have used the CNAE (National Code of Economic Activities) that allows the classification and groupation of companies according to their economic activity. The selected codes CNAE are from 10.11 to 10.92, that means the companies whose economic sector is based on Agro-food. Economic dara of companies in the Agro-food complex have been obtainte from SABI data base.

Results show that Agro-food Complex is formed by firms with low risk level, except for a small group of companies in CNAE code.

Agro-food Sector in Spain

With Agro-food Sector, we refer to an important Sector in Spain which include activities that added value to the primary products, as slaughterhouses, sawmills, fruit and vegetable plants manufacturing; food processing: meat processing industry whith the egg products, food and vegetable processing industries, dairy industry, bakery industry, beverages (wine, beer, fruit juices, etc.); energy plants, as solar and eolic parks; agrochemical industry, and similar. The Agro-food industry are located mostly in rural areas (Segura et al., 2011)

In addition, Agro-food Sector includes food industry which represents a significant part of the turnover of manufacturing industry in Spain. The food industry includes all food processing: meat processing industry whith the egg products, food and vegetable processing industries, dairy industry, bakery industry, beverages (wine, beer, fruit juices, etc.).

Most of the companies in Agro-food Sector in Spain are unquoted in the stock market, only 9 companies quoted in the stock market. Thus, to estimate the premium risk we study net profits of an individual firm compared with the net profits of the Agro-food Sector.

Calculation Methodologies for the Premiun Risk

Economic activities are subject to volatility, both in inputs prices as in final product prices. This volatility may place companies and investors in a context of uncertainty, and some risk in generating cash flow (Gilbert and Morgan, 2010). So, many authors use as indicators of risk of obtain CF the volatility of market prices (Jin and Kim, 2012).

Academic literature (Fernández, 2008b) recommends a methodology based on estimation and comparison of the sales price volatility and the prices received by the related economic activity sector. Given the nature of many of the companies that are part of the Agro-food Sector (Von Braun and Tadesse, 2012), it is not possible to identify a single reference price. In these cases, the variability of the CF can be studied in a context of uncertainty over the net profits. Thus, the volatility is obtained by comparing the volatility of averages net profits in sub-sector with the Agro-food Sector in general. In this study we use this methodology.

Premium Risk in Agro-food Sector

The proposed study is based on the net profit of 20,000 companies. Data from companies was obtained from the SABI database (System Iberian Balance Analysis). Data are for five consecutive years from 2009 to 2013. Each group of companies is based on sections of the CNAE code. The risk premium is defined as the ratio of the volatility of the net profits of each section and the overall volatility of the sector:

When the risk premium takes values close to unity, this means that the volatility of the sector and subsector is similar, and therefore it is not considered an activity with additional risk to the sector itself, and the subsector has not an additional risk premium.

Table 1.1 shows the volatility of some subsectors. The subsector of Manufacture of cocoa, chocolate and sugar confectionery has a risk premium near the unit because the volatility of their net profits is very similar to that of the sector. When the ratio is greater than one, manufacture of oil olive, it means a greater volatility of net profit of the companies included in the relevant section, and therefore give greater variability and risk. The result is with more risk activity.

Tabla 1.1. Premium Risk

CNAE code	Sub-Sector	Volatility	Premium Risk
1073	Manufacture of macaroni, noodles,couscous and similarfarinaceous products	0,101964466	0.08
1082	Manufacture of cocoa, chocolate and sugar confectionery	1,227943476	1.01
1043	Manufacture of oil olive	2.493539287	2.05
1083	Processing of tea and coffe	7.51006144	6.16
1011-1092	Agro-food Sector	1,21927863	1

Source: Prepared by the authors based on SABI (2009-2013)

Conclusions and discussion

The valuation of firms and investment involves the use of a discount rate. In the agricultural sector, the discount rate is also important in calculations for land expropriation. Traditionally, the discount rate is taken as a fixed datum. Variability in incomes and net profit of companies may affect the discount rate through the risk premium.

We have studied the net profit of 20,000 companies in the food industry to estimate volatility and the risk premium after. The results show that there is great variability in the risk premium according to sub-sectors.

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Tax Credit In European Cooperatives. A Second Opportunity?

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Abstract

The current economic situation has led to increased losses cooperatives. The account and tax treatment of such losses has special mechanisms in cooperatives in some European countries as in the Spanish case. Also other legal forms include the ability to convert these losses in the field of income tax in tax credits that allow decrease future taxation of these entities.

Therefore in this work through the comparative analysis of the European Cooperative regulation, differences in accounting loss relief are evaluated, taking into account the use for this purpose can be given to the Mandatory Reserve Fund (NRF) to treat losses. Also, studies in European legislation, fiscal loss compensation mechanisms to determine the income tax.

Keywords: *Cooperatives losses; Mandatory Reserve Fund; Tax credit;*

Introduction and Objectives

The crisis has caused negative results in a lot of companies that may weigh down indefinitely its activity and determine its future dissolution and liquidation. It is desirable to detect early enough business failure to prevent it, and that has been the target of numerous research over many years. However, in the field of cooperatives, few studies conducted in this regard (Mateos, Marin, Mari, Segui, 2011) Therefore with this study we aim to analyze what is the treatment that can be given to losses in a cooperative in the accounting and tax matters in Europe.

We will focus on the south, with Spain, France and Italy, and we will compare them with northern countries, like UK and Germany. We must remember that cooperatives in the Spanish case, are regulated by fifteen different substantive laws whose application areas are limited to the Autonomous Community that has been issued, with the exception of Law 27/1999 State level and applicable to entities operating in various autonomous regions, or those that have not yet adopted its own law on cooperatives. Therefore the treatment of losses may be different depending on the Autonomous Community.

We consider it is necessary to analyze the situation of a cooperative with negative results initially but without solvency problems and can get to avoid business failure if you know properly manage the situation. So we make an analysis of the substantive law applicable, the tax regulations and accounting implications arising, in order to reach a second opportunity.

The losses in the Spanish cooperatives laws

The profusion of substantive rules for Spanish cooperatives is motivated by the powers assumed by the Autonomous Communities on cooperatives. This determines differences in its regulation, as is, for example, the economic system, and specifically the financial mechanisms that are linked to the compensation of losses. In this regard all laws of regional cooperatives establish that the allocation of losses can be made with:

- Voluntary reserve funds, if any, which generally may be charged all the losses.

- The mandatory reserve, although various restrictions depending on the cooperative law in question are established.

The amount uncompensated with mandatory funds and volunteers normally will be allocated to members in proportion to their business, services or activities of each with the cooperative.

To ensure the solvency of these institutions the Spanish social economy cooperative legislation requires allocate a percentage ranging between 25 and 30% of the profit for the year to provide two non-distributable funds (in most of the Autonomous Communities) and indefeasible: Mandatory Reserve Fund (NRF) and the Education and Promotion Fund (EFF). The first one aims to consolidate the entity and can be used to offset losses, as already mentioned and the second seeks to promote the cooperative movement.

Mandatory Reserve Fund is set, therefore, as a fundamental tool in the management of Spanish cooperatives in adverse circumstances and situations of losses.

Tax implications

According to Law 20/1990 of Fiscal Regime of Cooperatives, the mandatory minimum for Mandatory Reserve Fund allocations can reduce taxable income in Society Tax by 50% of them. Therefore undistributed profits that it has been used to offset losses, will generate lower taxation.

Furthermore, commercial companies, under the rules of Income tax, losses may be offset against positive income of the tax periods ending in the immediate and beyond. However in the case of cooperatives, negative full contributions are compensated (art. 24, Law 20/1990)

Losses in European cooperative legislation

At the regulatory review conducted we can clearly see two groups of countries with very clear coincidence, as we can see in Table 1.

Southern countries have legislation that requires them to provide reserves to secure its solvency, with an indivisible character in case of dissolution, which determines its non-taxation in the Tax on the profit of the company. Spain and Italy provide them directly. Closed Cooperatives in France not taxed profits from operations with partners and they only tax a minimal income from its transactions with non-partners. Also these countries can offset the losses incurred in the exercise with future profits, limited in time (France), as well as limited in terms of quantity. However they do not allow compensation with past benefits.

In accounting context, the right to offset losses generates a tax credit. However, the cooperative legislation generally is radically different and it notes the incomes origin. Therefore, if such compensation is performed using input from partner or reserves, this will generate accounting inconsistencies because sanitation has already occurred, but in the balance sheet, a tax credit of tax origin will not disappear until not profits are made.

Table 1: Annual evolution of the mechanisms of offsetting losses employees

Country	Spain	Italia	France	United Kingdom	Germany
Provide FRO	**YES**	**YES**	**YES**	**NO**	**NO**
Offset with last profits	**NO**	**NO**	**NO**	**YES**	**YES**
Offset with future profits	**YES**	**YES**	**YES, until 5 years**	**YES**	**YES**

Source: By own author

In the group of northern countries, we observe that there are no obligation to provide funds to the Mandatory Funds. Therefore cooperatives do not have this first mechanism for compensation of losses. It can compensate losses with future tax benefits and using past profits, proceeding in this case to claim the amount to the Treasury.

Thus, all OECD countries support the mechanism of compensation losses, but just 7 do it with profits in prior years (Germany, Canada, United States, United Kingdom, Ireland, Japan, Netherlands). The fact of compensating losses with profits in future years results in a loss for society which increases with the time horizon. This mechanism affects not only the effective tax rate of the company, it can also affect the pattern of investment in the society as well as the response to tax incentives such as accelerated depreciation of fixed assets investment (Cooper, Knittel, 2006).

Conclusions

As we have seen the treatment of losses in European regulations applicable to cooperatives it is uneven and we can distinguish two groups of countries. In the group of Southern countries we can see that the legislation is characterized by greater control and supervision over the solvency of the institution to force cooperatives in the provision of non-distributable Reserves at its dissolution and aimed at ensuring the survival of an entity, but in these countries the general tax legislation also provides offset losses against future profits. Also the Statute for a European Cooperative Society establishes a mandatory reserve that can be used to offset losses but does not establish their irrepartibilidad leaving to regulation by-laws.

As we mentioned this can create an inconsistency in the financial statements, since it can generate a tax credit that already has cleared the accounts with the Mandatory Reserve. In this respect the generated tax credits can help improve debt ratios of the entity. However only 31% of Spanish banks will use this option in the next 7 years (Monterrey, Sanchez, 2013), while the study of the Office of Analysis of the US Treasury estimates that between 50 and 60% of the companies will use it in the next 10 years (Cooper, Knittel, 2006).

The other group of countries, which some authors call the North (Romero, 2010), have been characterized as not contemplating any specific mechanism for cooperatives. It is recognized, for all companies not only the offset against future profits, also with the past benefits, which allows, according to several studies (Cooper, Knittel, 2006) to better exploit the potential of this mechanism.

These two models clearly reflect different spirits in the cooperatives policy in what refers to the degree of protection in times of crisis over other types of companies. This presents us with a future line of research to identify to what extent cooperatives employ this option enabled and compensates losses in the future, to determine whether it contributes to improve its creditworthiness.

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Why are investors loss averters during bull markets and gain seekers during bear markets?

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Abstract

According to the paradigms of behavioral finance, investors' loss-gain profile is framed according to the reference point (e.g. the status quo) or multiple reference points (e.g. the minimum requirement, the status quo and the goal). However empirical tests show that investors' loss aversion and gain appetite is also affected by the market trend mood (see Hwang and Satchell, 2010; Hofschire et al, 2013).

By setting up an asset allocation optimization problem performed in US and UK financial markets, Hwang and Satchell (2010) show that investors are far more loss averse during bull markets than during bear markets. Several empirical tests lend support that tendency. Hofschire et al. (2013) claim that despite the stock bull market started since 2009 investors act as loss adverse agents and continue to shun to invest n equities.

This article proposes to go a step further in investigating the following questions: How do investors identify the bullish and bearish market trend? Does the evidence: "investors display more loss aversion during bull markets than during bear markets" ground on sound normative framework?

To answer the former question we introduce a definition for investor's perceived market trend. We claim that investors watch through "reference-dependent glasses" the market sentiment indicators and elaborate personal vision of the market mood. The latter question is positively answered. In Theorem 1 we show that investors are normatively loss averse during perceived bullish markets, and the sentiment is reversed during perceived bearish trends. The key insight is the one-to-one relationship between the perceived distribution of the market sentiment indicator and the investor normalized utility function.

A more detailed account of our findings follows.

First, we discuss how to identify the subjective investor mood on bullish and bearish trends. To this purpose we discuss the separate values given by the market sentiment of the selected indicator (e.g. the Forex or the stock sentiment indicator) that expresses institutional investors' views ground on fundamental and technical analysis and professional investors' forecasts and the subjective reference point (e.g. the status quo). We claim that the investor perceives a bullish or bearish trend on the basis of the mismatch between the market sentiment indicator figure and the subjective reference point, respectively.

Second, we suggest a user-friendly method for investors to tailor the utility function to their loss-gain profile. Following the seminal intuition of Borch (1968) summarized by the Berhold (1973, p. 825) phrase "there are advantages to having the utility function represented by a distribution", we illustrate how to get full information about loss-gain attitudes using the cumulative distribution function (c.d.f.) of the performance benchmark (e.g. the S&P 500 index, MSCI index among others) used in investment evaluation. We show the equivalence between the c.d.f. of the benchmark to meet and the normalized investor cardinal utility function.

Third. Although over 30 years have gone by the Kahneman and Tversky (1979) ground-breaking work, there is no uniquely agreed-upon loss aversion and risk appetite definitions (for a review see Abdellaoui et al., 2007; and Ghossoub, 2012). On the path of Bordley et al. (2014) we propose a loss aversion and

risk appetite definition. The loss aversion definitions introduced by Kahneman and Tversky (1992, p. 303) and Kahneman and Tversky (1979, p. 279) follow as special cases.

Fourth, we present the main contribution of the paper. In presence of a singular preference point, loss aversion and risk appetite definitions turn out to be formally equivalent to the van Zwet (1979) asymmetry conditions characterizing asymmetrical unimodal distributions. Theorem 1 states the one-to-one relationship between perceived bullish/bearish market trend and loss aversion/gain appetite preference.

Then we address the question whether the most popular utility functions, as the exponential, the Kahneman-power type and kinked linear enjoy the van Zwet (1979) asymmetry conditions. The answer is positive. In fact, the above utility functions properly re-scaled, can be read as c.d.f. belonging to the Pearson family.

In presence of multiple reference points, the asymmetrical sentiment towards loss-gain is related to the location of reference points respect to the market sentiment value.

In conclusion, our findings match a twofold aim. First, we provide theoretical foundations to the numerous empirical studies postulating that investors are far more loss averse during bull markets than during bear markets (see Hwang and Satchell, 2010; Hofschire et al, 2013). Second, we prove that during reference-dependent bullish markets investors are normatively lead to loss aversion, vice versa during reference-dependent bearish markets the sentiment is normatively switched to gain appetite (see Theorem 1). That provides also a descriptive and normative ground to the popular dictum: “Be Fearful When Others Are Greedy and Greedy When Others Are Fearful” inviting investors to be loss averters during bull markets and gain seekers during bear markets.

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Reporting in Agriculture, Forestry, and Fishery. The Case of Romania

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Abstract
The fields "agriculture", "forestry" and "fishery" are sensitive to ecological issues. Due to their importance in a country's economy, the present research investigates the financial and non-financial reporting of companies from these operational areas. The research design is empirical. The sample consists in companies listed at the Bucharest Stock Exchange in Romania, which operate in the business of fields "agriculture", "forestry" or "fishery". These companies are analyzed in order to identify the elements of sustainability reporting made public to the shareholders. The author tests whether there is a correlation between their financial performance and their extent of disclosure in the sustainability domain.

Keywords: *agriculture, Bucharest Stock Exchange, sustainability, reporting, performance.*

Introduction

The fields "agriculture", "forestry" and "fishery" are sensitive to ecological issues. Due to their importance in a country's economy, this area has caught the researcher's attention over time. There are several studies that deal with financial and non-financial reporting in these fields. For instance, Jack (2007) intends to elucidate the difficulties which farmers face when using accounting and to explore the current agricultural environment which means that more than ever farmers are being obliged to engage with accounting. The evidence collected for this paper suggests that in the face of corporate power or 'post productivist' activities, farmers are forced to become engaged with accounting to greater extent than they had in the past. Bosch et al. (2012) presents an empirical research comparing the accounting difficulties that arise from the use of two valuation methods for biological assets, fair value and historical cost accounting, in the agricultural sector.

Whittaker et al. (2013) performs a comparison of 11 existing greenhouse gas (GHG) accounting tools produced in order to calculate emissions from arable crops, either for food or bioenergy production in the UK, whereas a multi-criteria-analysis is performed to test their relative strengths and weaknesses. Of all economic sectors in the UK, agriculture contributes around 9% of GHG emissions annually, and is a significant component of the lifecycle emissions of many everyday food and other products. Similarly, O'Brien et al. (2014) compare the effect of using two different methodologies when completing a MACC (Marginal abatement cost curve) analysis of national agricultural GHG emissions. The study shows that the agricultural sector emitted 10% of EU GHG emissions in 2011, but on a national basis this varied from 2% in Malta to over 30% in Ireland.

Besides reducing GHG emissions, agriculture is also faced with the challenge of increasing production to feed a growing world population, and providing feedstock for expanding biofuel production. Without any doubt, the agri-food industry is crucial. However, there is little accounting academic research on agri-food industry, and little consideration of accounting issues in the agricultural literature (Argiles and Slof, 2001; Juchau and Hill, 2000). The present research tries to fill in this gap by investigating the financial and non-financial reporting of companies from agriculture, forestry and fishery. First, the research design is described in short. The following section presents the results of the research. Last but not least, the final section includes the conclusions.

Research design

The research approach is empirical in nature. The sample consists of all companies which operate in the areas "agriculture", "forestry" and "fishery" and are listed at the Bucharest Stock Exchange in Romania. Consequently, the sample includes 23 companies which have the following NACE codes: 111 "Growing of cereals (except rice), leguminous crops and oil seeds" (5 companies, 22% of the sample), 161 "Support activities for crop production" (6 companies, 26%), 147 "Raising of poultry" (companies, 22%), and others, namely 7 companies representing 30% (146 "Raising of swine/pigs", 130 "Plant propagation", 220 "Logging", 210 "Silviculture and other forestry activities", 164 "Seed processing for propagation", and 322 "Freshwater aquaculture").

For each, the author analyzed the most recent annual financial report published on the official website of the Bucharest Stock Exchange (www.bvb.ro), respectively the package prepared for the year ended 31th of December 2013. Generally, according to the Romanian regulations, the financial report published by listed companies consists in: the financial statements, the administrator's report, the report of the censor, the external auditor's report, the decisions of the general assembly of shareholders, and the report prepared in accordance with the Regulation of the Romanian National Securities Commission no. 1/2006.

Results

First of all, the study analyzes the audit opinion issued upon the most recent financial statements of the selected companies. Regarding the companies in the sample, the five different situations have been identified, as presented in Table 1.1.

Table 1.1: Types of audit opinions in the sample

Case	Number
Unmodified opinion (ISA)	7
Modified opinion (ISA)	7
Limited review (ISRS 4400)	1
Annual reporting not submitted	2
Audit report not available	6
TOTAL	**23**

Source: Own projection

Moreover, Table 1.2 presents the types of auditors that performed the audit of listed companies operating in the field "agriculture", "forestry" and "fishery". Interesting was also the analysis of the areas that triggered a modified opinion. Few such triggers are general, e.g. the lack of operations in the reporting year or going concern issues. The majority of them are related to assets (mostly fixed and financial assets). Another area that was considered to be misstated by the financial auditor was that of receivables and liabilities. The position "Inventory" from the balance sheet was also subject of the qualification of the audit opinion in several companies. Just in two cases, the problems in cash and cash equivalents triggered a modified opinion.

Table 1.2: Types of auditors

Auditor type	Number
Non BIG FOUR	11
BIG FOUR	0
Natural person	4
TOTAL	**15**

Source: Own projection

Second of all, the author analyzed the financial performance and stability of the companies in the sample. The information source is the most recent financial data posted on the Bucharest Stock Exchange site. The key figures of the financial statements of 2013 (for 17 companies) and 2012 (in case of 3 companies) have been included in the analysis, as no other more recent information was available. For 3 out of 23 companies no data was available, therefore this part of the study was performed upon 20 companies only. Four key indicators have been computed for each of the 20 companies, as presented in Table 1.3. Each of these indicators has been interpreted according to the following assessment scale (as presented in table 1.4).

Table 1.3: Description of performance indicators used in the study

Field of analysis		Indicator	Symbol	Formula
Financial stability	Financing	Equity ratio	I1	Equity/Total capital * 100
	Liquidity	Duration of debt repayment in years	I2	(Borrowed capital - Cash and cash equivalents) / Cash flow before taxes
Earnings situation	Return	Return on investment	I3	(Current result + Borrowed capital interest)/Total capital * 100
	Result	Cash flow in percentage of turnover	I4	Cash flow before taxes / Turnover * 100

Source: Own projection

Table 1.4: Interpretation key of the four indicators

Symbol	Assessment scale				
	very good (1)	good (2)	middle (3)	bad (4)	exposed to bankruptcy (5)
I1	> 30%	> 20%	>10%	<10%	negative
I2	< 3 years	< 5 years	<12 years	<30 years	>30 years
I3	> 15%	> 12%	> 8%	<8%	negative
I4	>10%	>8%	>5%	<5%	negative

Source: Own projection

Table 1.5 depicts the results of the performed analysis on the financial performance of the companies in the sample.

Table 1.5: Financial stability and performance of selected companies

Field of activity	I 1	I 2	I 3	I 4	Financial stability	Earnings situation	Overall result
111	1.50	4.00	4.25	3.00	2.75	3.63	3.19
161	1.00	3.00	3.67	3.00	2.00	3.33	2.67
147	2.75	3.25	4.00	3.25	3.00	3.63	3.31
Other	1.00	4.00	4.50	3.83	2.50	4.17	3.33

Source: Own projection

Conclusions

The agri-food industry nowadays faces numerous challenges, among which reducing greenhouse gas emissions; the increasing production to feed a growing world population, and providing feedstock for expanding biofuel production. On this background, the research focused on companies listed at the Bucharest Stock Exchange wichi operate in the fields agriculture, forestry and fishery. The analysis revealed that in terms of financial stability, the situation can be assessed as being “middle”, whereas in terms of earning, the status of such companies tends to be bad. Some are also exposed to bankruptcy. Regarding the auditors’ opinion the financial statements of the selected companies, the situation is split in half: some received a modified opinion, while others benefit fom an unmodified opinion. With reference to the reporting of sustainability issues in the the report prepared in accordance with the Regulation of the Romanian National Securities Commission no. 1/2006, such reporting is scarce and not at all detailed. Most companies simply state that they panies have the operating, sanitary, veterinary and environmental authorizations which are stipulated by law for the activities they carry out; that related to the legal provisions, their operations do not have a significant environmental impact; that no litigations regarding the violation of environmental regulations exist or are foreseen. Future research shall expand upon other reporting environment such as the websites of the selected companies or other reports issued for the shareholders.

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The quality of independent auditor's report – does the size matter? The Romanian case

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Abstract
This study aims to show that, beyond any doubt, there is a link between the size of the auditor and the quality of the auditor's report he issues. We have selected the Romanian listed companies and analyzed first their auditor and then the content and layout of the auditor's report in order to see if, at least with regard to respecting the content imposed by International Standards on Auditing, the auditor respects the requirement imposed by - already old – auditing standards. The companies we performed the research on are all listed company on the Romanian Bucharest Stock Exchange in the first category. All those companies were required by law to audit their financial statements. By applying a qualitative method of research we have examined all the published auditor's reports for the years 2011-2013 and compared them with the requirements of the ISA's in order to see if the content and layout of the paragraphs is are compliant. Our results show that in case of small auditors, the quality of the auditor's report suffers.

Keywords: *audit report, audit quality, Romanian listed companies, financial statemen.t*

Introduction

This study aims to show that, beyond any doubt, there is a link between the size of the auditor and the quality of the auditor's report he issues. The idea which is at the bottom of this article was generated by the increasing number of authors publishing on audit quality but without any reference of the format of the independent auditor's report. Perhaps in the heart of the action was the International Federation of Accountants which released the project aiming to define and measure audit quality. More than that, their ambition is to identify the key elements that create an environment for audit quality. As such, subjects as the link between the audit quality and the size of the audit company was frequent between researchers from which we name DeAngelo (1981), subjects as defining the audit quality and the determinants for it were discussed on many journals by authors among which we mention Francis (2004), Deis, and Giroux (1992) and others. But even if the message of the audit report was considered important, even if the definition of audit quality included the audit report, we were not able to identify a study on the quality of audit reports with regards to their shape.

Research design

In order to analyze if there is a connection between the audit company's size and the compliance with the ISA with regards to the content and layout of the auditor's report, we have selected the Romanian listed companies and analyzed first their auditor and then the content and layout of the auditor's report in order to see if, at least with regard to respecting the content imposed by International Standards on Auditing, the auditor respects the requirement imposed by - already old – auditing standards. The companies we performed the research on are all listed company on the Romanian Bucharest Stock Exchange in the first category (presently the categories changed). All those companies were required by law to audit their financial statements. By applying a qualitative method of research we have examined all the published

auditor's reports for the years 2011-2013 and compared them with the requirements of the ISA's in order to see if the content and layout of the paragraphs is are compliant.

The two companies which were not Romanian companies were removed from the population. In 2013 and 2012 there were 82 companies for which we were able to identify audit reports. For 2011 only 79 audit reports were identified. For three companies we were unable to find published financial statements (and accordingly, the auditor's reports) after more than reasonable efforts.

For all the audit reports we have classified auditors in 3 groups. The first one is the one grouping large international companies – comprising both big four and all subsidiaries of companies which are ranked in TOP 40 international networks, association and alliances by Accountancy Age. Local companies are the second class and this group stands for other Romanian audit companies, affiliated or not to an international network (but not one from the Top 40 list). The third class is made of auditors registered as sole traders, as in Romania it is possible to audit listed companies if an auditor is registered as a sole trader, and the shock was that a significant percent of listed companies were audited by such auditors. Berinde (2013) used also a three class system to classify auditors however, he defined the classes as Big Four auditors, Non-Big Four auditors and auditors that work independently, in the form of accredited individuals, organized into private professional practices. The international literature usually uses two classes of auditors which refer to Big four and Non Big four audit companies. We consider our classification more adequate as, usually, when a company belongs to an international network it imports the entire quality assurance procedures amount which the one referring to the content and layout of the auditor's report is to be found. Keeping that in mind, from the second class we have manually removed the audit companies which were part of an international network, even if not in the first 40.

Results

First of all, the study showed us the market structure when it comes to the type of auditor involved. Contradicting most of the studies previously published; on the Romanian audit market Big 4 companies are not the leaders when it comes to the number of audited companies. We underline that we had no data available to analyze the market share based on the turnover. As presented in Table 1.1 private individuals have a significant share of the market when it comes to audited companies.

Table 1.1: Percentage of types of auditors in the population

Category \ year	2011	2012	2013
1 International Top 40 networks	19.05	20.00	20.51
2 Other companies	64.29	62.50	58.97
3 Private individuals	16.67	17.50	20.51
	100%	100%	100%

Source: Own projection

After identifying the local companies and individual performing audits on listing companies, we analyzed the wording and the layout in their reports. As expected, all the companies belonging to international networks proved they have respected the layout, the wording and the structure of the audit reports as presented by ISAs (International Standards on Auditing). On the other hand, even if most of the local audit companies were compliant with the same requirements, many of the audit reports were misstated. Such reports belong 100% to local audit companies and private individuals. We did not analyze if the grounds for changing the opinion or audit reports were adequate but we analyzed if the paragraph required by ISA are to be found and if they are in the proper order, if there are only allowed information

included in the report, if the paragraphs are labeled and follow the structure in ISA, if they are signed and clearly written.

We imagine that audit companies belonging to international networks will follow the requirements when it comes to reporting as we also considered them as being more "equipped" to act as auditors on capital market due to some advantages that local company do not have. First, they have the knowledge and resources shared by their network, they have a better quality control system (which is also imposed by the network they belong to) and, secondly and very important, for multinational groups, as long as the parent of one company is audited by an auditor belonging to the network, it is more likely for subsidiaries to also be audited by local auditors belonging to that network.

Our results show us that a significant number of local auditors, also specifically private individuals, have included in the report matters not specified (and not allowed) by the standards. As expected, as long as the auditor was not changed by the company, the same mistakes are to be found from one year to another. The most common mistakes we identified were: inclusion of information not necessarily in the audit reports, such as, a mention to the number of audit contract, a reference to the trial balance audited, a detailed financial analyses of the financial statements performed by the auditor or even a specific matter that the corporate income tax form filled by the company was audited. Not labeling the paragraphs or not respecting the order of the paragraphs tends to be a common mistake. Unfortunately the quality of Romanian language was poor and typing mistakes were pretty common among some audit reports. .audit reports counting more than 4 pages were not that rare.

The question comes: when someone sees that and report, should I conclude the audit was not performing to the required quality? Well, such a report does not prove that financial statements are misstated or that the auditor didn't perform all the required audit procedures to assure that financial statements are free from material misstatements. However, we can conclude that the audit quality was poor as long as the auditor, in order to perform an audit of a desire quality should follow the standards. By making reference to un-needed information, by including un-necessarily information o the face of the audit report, the usefulness of this one is lost.

Conclusions

DeAngelo (1981) was among the first to promote the idea that audit quality is not independent of the auditor's size. Our study, in line with his results, shows us that are more likely for a small local audit company or individual not to issue an audit report respecting the requirement of ISAs. It does not mean the financial statements of the client are materially misstated, it only means that the auditor, even when it was about such a non-costly requirement, was not able to follow the ISA. Can we say the quality of such missions was not as expected? We can, as the first step to assure quality should be the apply the requirements. Another important question that raises, which is not investigated in oru reaserch, is the audit committee was not ale to identify the por quality of the audit reports?

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Impact of After-Sales Performances of German Automobile Manufacturers in China in Service Satisfaction and Loyalty: With a Particular Focus on the Influences of Cultural Determinants

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Abstract
This paper shows why and how the after-sales services of German automobile manufactures should be researched (structural equation modelling) in the most important car market – China. Beside key constructs such as service quality, satisfaction, and loyalty, culture is implemented innovatively into the conceptual research model, by applying Schwartz's individual-level value theory as moderating influence on the after-sales service success chain.

Keywords: *satisfaction, brand loyalty, automotive after-sales, culture, China.*

Introduction and Research Gap

Automobile premium brands operate globally, which is undoubtly required, because mostly domestic markets are either decreasing or stagnating. China has recently become the most important and biggest car market, with an average growth rate of over 30% between 2000 and 2010.[1] But selling has become challenging because urban areas are well penetrated and, in poorly penetrated rural areas, incomes are low. This is particularly alarming for German premium brands. Simultaneously, the after-sales market in China has been growing continuously. Also, it is scientificall proven across industries that after-sales services are high-margin profit drivers,[2] with crucial benefits, such as the following.[3]

- Achieving competitive advantage and differentiation.
- Feedback and optimisation function for product or process improvement and development.
- Promoting sales of the core product and general marketing support.
- Increasing customer satisfaction, brand loyalty and image.

Despite its great scientific and practical relevance, the Chinese automobile after-sales market is insufficiently researched, especially in terms of critical success factors.[4] Also, China is its own world in terms of culture, and its market is marked by enormous cultural differences from other markets. Despite continual claims to the contrary, the automotive industry generally pays little attention to the cultural aspects of business, specifically in the area of service demand behaviour.[5] Culture and particularly values are generally considered to be a cause of behaviour,[6] thus understanding these influences could be crucial for success.

This research addresses this gap, with the objective of investigating theoretically and verifying empirically what determines success in the automotive after-sales market, under consideration of the

[1] Cf. VDA (n. a.) (2012), p. 20; Diez (2012), p. 22; Wang (2011), p. 100.
[2] Cf. Bundschuh/Dezvane (2003), pp. 1 ff.; Cohen et al. (2000), pp. 1 ff.; Goffin (1999), pp. 1 ff.; Wise/Baumgartner (1999), pp. 1 ff.
[3] Cf. Asugman et al. (1997), pp. 1 ff.; Saccani et al. (2006), pp. 1 ff.; Cohen/Whang (1997), pp. 1 ff.; Gallager et al. (2005), pp. 1 ff.; Cavalieri et al. (2007), p. 437 ff..
[4] Cf. Wang (2011), p. 100; Gebauer et al. (2012), pp. 123 ff.; Jönke (2012), p. 145; Hünecke (2012), p. 174; Knörle (2011), p. 5.
[5] Cf. Löffler/Decker (2012), p. 405; Wang (2011), p. 100; Gudergan (2010), pp. 251 f.; Zhang et al. (2008), p. 222; Gong (2003), p. 379; Asugman et al. (1997), p. 26.
[6] Cf. de Mooij (2014), p. 54; Meffert et al. (2010), p. 108; Osgood (1951), p. 202 ff.

influence of Chinese culture. This paper therefore focusses on the presentation of an innovative research model, which emphasises the moderating effects of culture on central constructs (quality, satisfaction and loyalty), by taking into account that *Zhang et al. (2008),* claim in their cross-cultural review paper that it is crucial to apply theories other than those of *Hofstede* in the field of consumer service research.[7]

Research Design

Success-factor research will be deployed to achieve the stated objective. The fundamental assumption here is that a few influencing factors have a significant impact on success. Thus, the cause-and-effect relationship of special success-critical determinants is shown.[8] Brand loyalty is set as the main success indicator, because of its great relevance to brand management,[9] due to the recommendations from an expert survey,[10] and the notion of *Sivadas/Backer-Prewitt (2000)*: "There is increasing recognition that the ultimate objective of customer satisfaction measurement should be customer loyalty."[11] With regard to causes, variables are identified which strongly affect the success indicator, namely the success factors.[12] Both independent and dependent variables can occur in complex systems as non-observable (latent) variables, which is why structural equation modelling (SEM) is considered appropriate.[13] The empirical testing of hypotheses will be done by partial least squares (PLS); a statistical technique of SEM, which fits the project methodologically.[14]

The determination of variables, and therefore the conceptualisation of the research model, is structured based on the key relationship between after-sales service satisfaction and brand loyalty, as well as on the automotive marketing mix. As a result, a comprehensive contemplation of possible variables is ensured. Additionally, culture is considered intensively, because it is a phenomenon which explains or influences consumer's assessment or behaviour. As well it is difficulty to reveal and to operationalise as explaining variables.[15]

With regard to the concept of culture, most researchers agree that culture consists of explicit and implicit aspects, and therefore still use the concepta and percepta distinction introduced by *Osgood* in 1951.[16] Here, values are considered as the major element of culture and a crucial cause of behaviour, which is both widely shared in the cultural research field.[17] As values are causal, it is possible to operationalise them as moderating variables in order to explain how culture influences the way the Chinese perform when it comes to satisfaction and loyalty assessment. Due to the need to go beyond *Hofstede* and to consider the level of culture,[18] this research focuses on micro-level analysis. Here, *Schwartz´s* individual level value theory fits perfectly, and significant authors refer to the Israeli psychologist.[19] He defines "(…) basic values as trans-situational goals, varying in importance, that serve as guiding principles in the life of a person or group."[20] A comprehensive set of ten basic values,[21] relevant in every society, are

[7] Cf. Zhang et al. (2008), p. 219.
[8] Cf. Haenecke (2002), p. 166; Baumgarth/Evanschitzky (2009), pp. 237 f.; Schoeneberg (2011), p. 48.
[9] Cf. Esch (2010), p. 72; Knörle (2011), pp. 19 f.
[10] Ten experts were interviewed via e-mail and phone in 2013. Every expert is a specialist in at least one area, as follows: intercultural research, Chinese culture and markets, automotive marketing and industry, after-sales research and success-factor research.
[11] Sivadas/Backer-Prewitt (2000), p. 75.
[12] Cf. Sass (2012), p. 23; Forsmann et al. (2004), p. 3.
[13] Cf. Backhaus et al. (2006), p. 11; Töpfer (2012), p. 282; Shook et al. (2004), p. 403.
[14] Cf. Lowry/Gaskin (2014), p. 123 ff.
[15] Cf. Emrich (2014), p. 25.
[16] Cf. Emrich (2014), p. 31; Meffert et al. (2010), pp. 107 f.; Müller/Gelbrich (2004), pp. 68 f.
[17] Cf. Hofstede (1997), p. 7 ff.; Triandis (1994), pp. 111 f.; Schwartz (1992), p. 2.
[18] Cf. Zhang et al. (2008), p. 221; Craig/Douglas (2006), p. 336.
[19] Cf. de Mooij (2014), p. 183; Zhang et al. (2008), p. 219; Triandis (1994), p. 112.
[20] Cf. Schwartz et al. (2012), p. 664.; Schwartz (1992), pp. 1 ff.
[21] Other operationalisations are applicable, e. g.: Lindeman/Verksasalo (2005), pp. 170 ff. or Saris et al. (2013), pp. 29 ff.

ordered and organised around a motivational circle, as a coherent system. Namely: self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence and universalism. These distinct values can also be consolidated as four higher-order values on two orthogonal dimensions.[22] The circular relation also allows the domain of values to be partitioned into more or less detailed constructs, depending on how finely the researcher wants to discriminate the underlying motivations.[23]

Applying the theory of basic human values by researching the moderating effects on the after-sales service success chain is a powerful method with crucial benefits, for the following reasons. [24]

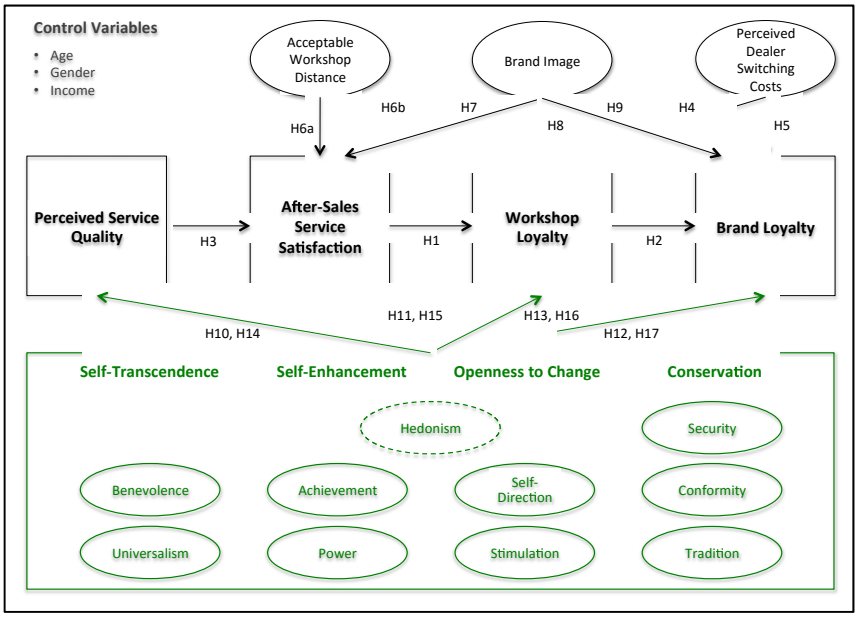
- "Values can provide predictive and explanatory power in the analysis of attitudes, opinions and actions."[25]
- Ten single values can be analysed in detail; those that are especially relevant to any specific topic can be identified.
- There is evidence for the systematic relationship of value priorities to behaviour for China and particularly for consumer purchase behavior.
- Socially desirable responding (neither individual or group caused), does not confound the self reported-values, which might be crucial in the collectivistic China.
- Focussing on and comparing individuals and groups is possible because corrections to individual differences in use of response scales are applicable.
- The design is suitable for self-completion questionnaires and internet surveys.

Hypotheses and Research Model

Due to the length-limitation of this abstract, it is not possible to show in detail how and why the conceptual research model and the abbreviation of hypotheses took place, but figure 1 and table 1 summarise it.

[22] Cf. Davidov et al. (2008), pp. 424 f.; Schwartz/Boehnke (2004), pp. 251 f.
[23] Cf. Davidov et al. (2008), p. 424.
[24] Cf. Schwartz (2003), p. 271 f.f. and the literature cited there; Schwartz (2007), pp. 180 f./274 ff.
[25] Schwartz (2003), p. 261.

Figure 1. Research Model



Source: Author´s table.

Table 1. Overview of Hypotheses

No.	Hypothesis & Relevant Literature
H1	The higher the after-sales service satisfaction, the higher the workshop loyalty.
H2	The higher the workshop loyalty, the higher the brand loyalty.
H3	The higher the perceived service quality, the higher the after-sales satisfaction.
H4	The higher the perceived dealer switching costs, the higher the workshop loyalty.
H5	The higher the perceived dealer switching costs, the higher the brand loyalty.
H6	There is a relationship between acceptable workshop distance and after-sales service satisfaction or workshop loyalty.
H7	The higher the brand image, the higher the after-sales service satisfaction.
H8	The higher the brand image, the higher the workshop loyalty.
H9	The higher the brand image, the higher the brand loyalty.
H10-H13	Perception of service quality, after-sales service satisfaction, brand loyalty and workshop loyalty is significantly influenced by culture, which means by at least one individual level value.
H14-H17	Akin to H10-H13, but using the consolidated higher order value dimensions openness to change, conservation, self-transcendence and self-enhancement.

Source: Author's table.

Conclusions

This paper shows why and how the after-sales services of German automobile manufactures should be researched in China. An innovative cultural approach is implemented, in order to reveal how Chinese

culture moderates the whole after-sales service business in terms of consumer behaviour. A profound research model and a set of hypotheses are elaborated, and the initial results will be ready for presentation at the ICBM conference in July.

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Determining underlying key factors to eco-innovation at the telecom industry: an approach to the service economy

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Abstract
Several studies have pointed out the importance of eco-innovation at the manufacturing industry. Some of them have been developed to unravel the variables that help companies to better target their innovations towards sustainability, but, although the services industry is increasing its economic importance globally, the research carried out on this subject is still scarce. Thus, taking into account that policies of eco-innovation in the EU countries are a key part of sustainable development and also the need to study and understand the different environmental strategies as a key sector in the technological development, in this work we focus in the understanding of the patterns that explain the eco-innovative orientation in the telecommunications industry. We also analyze the similaries and differences among the variables that have been previously studied at the manufacturing industry (ceramic, automotive, etc.) through a detailed state of the art approach.

Keywords: *Service industry, eco-innovation, state of the art, telecom industry.*

Introduction

At the manufacturing sector, several studies have been developed to unravel the variables that help companies to better target their innovations towards sustainability, but, although the service industry is increasing its economic weight, the research carried out on this subject is still scarce.

In this work, the current situation of eco-innovation at the telecommunications industry will be studied through an analysis of the state of the art.

Theoretical background

The relationship between being environmentally sustainable and business competitiveness has been demonstrated in the academic literature (Pujari, 2006, Cheng, 2014) . Since then, there are many works that have deepened the study of firm's performance and environmental sustainability (Da Silva et al. 2009, Segarra-Oña et al., 2013a), in order to understand why some companies go beyond the legislation adopting a proactive environmental attitude and what are the characteristics that define the companies that take into account the environment as a priority in terms of innovation (Segarra-Oña et al., 2014, Triguero et al., 2013, 2014).

The "eco-innovation" concept has emerged with force in recent years (Demirel and Kesidou, 2011, Fussler and James, 1996, Hellström, 2007) and, although the definition is not unique, it is generally understood as any innovation that reduces environmental damage (Carrillo-Hermosilla et al. 2009) although research in this field, in relation to the type of industry is still limited.

Despite the importance that has the sector services in today's economy, there are few papers that have analyzed the eco-innovator behavior in this sector (Gallouj, et al., 2014, Peiró-Signes et al., 2014, Segarra-Oña et al., 2013b). However, when a general perspective has been adopted it has not usually

taken into account the great diversity among subsectors (hotel sector, hospital sector, banking, consulting or telecommunications, for example). In this study, we address the key aspects that drive the activities of service companies, particularly in the telecommunications sector, where one of the authors has developed his professional career for the last 15 years, when envisioning eco-innovation.

Thus, taking into account that policies of eco-innovation in the EU countries are a key part of the sustainable development (see e.g.http://ec.europa.eu/environment/eco-innovation/) and the need to study and understand the different environmental strategies that implement a key sector in the technological development (Peiró-Signes 2011, 2013). Therefore, in this work we advance in the understanding of the patterns that explain the orientation of eco-innovation in the telecommunications companies and if the variables studied previously and that have been probed to influence in the orientation of the manufacturing sector (ceramic, automobile, etc. can be extrapolated to the telecommunications industry.

We will use a PLS analysis (applied on already tested dataset. Conclusions regarding which are the variables involved and how they influence in the sector, will have implications on management actions, as they may gain competitive advantages to make better use of the resources and have the information available.

Objectives and methodology

We aim to develop a model of eco-innovative orientation applied to telecommunications to help decision-making at the enterprise level sector.

The specific objectives of the study are:

1) To identify the variables that underlie the eco-innovative behavior in the telecommunications sector.
2) To develop a model of eco-innovative orientation applied to the telecommunications sector.
3) Segmenting the sector on the basis of the environmental strategy of companies.

We will use a Partial Least Square, PLS, analysis (Chin, 1998, Tenenhaus et al., 2005).

Empirical data for this study will be retrieved from the Spanish Technological Innovation (PITEC[1]) database, which consists of a statistical tool to monitor the technological innovation activities of Spanish companies.

The database was built by the INE (Spanish National Statistics Institute) with the advice of academics and experts. The first data came from 2004 and have been updated yearly to include a comprehensive list of Spanish companies which are characterized by the type of innovation (classified by the Oslo Manual 2005) that they undertake, by industry (in line with the Spanish National Activities Classification, CNAE) or by geographical location.

A total of 255 variables are analyzed in the database. Affiliate level information is not available as data are taken from an anonymous macroeconomic survey.

Contributions of the study

Conclusions regarding which are the variables involved and how they influence in the sector, will have implications on management actions, as they may gain competitive advantages to make better use of the

[1] http://icono.fecyt.es/PITEC/Paginas/por_que.aspx

resources and have the information available.

The main academic contribution of this work is to identify how to go from idea generation to implementation and diffusion of environmental innovations in a key strategic level and non-industrial sector.

The contribution to the enterprise level will improve the information and decision-making more efficiently achieving competitive advantages in business. Finally, in terms of public policy, knowledge of the inner workings of eco-innovative orientation in companies as well as the different types that exist in the sector will develop more efficient industrial policy actions vertical type.

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Analyzing premium risk behavior of European retail distribution companies in the period 2010-2015

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Abstract
This study is a practical case to determine the behavior of companies quoting at different stock markets and comparing those with their respective market indices. Sharpe's methodology is applied to identify the market line that measures the relationship between each stock value and the market trends. The objective is to identify behavior patters of the selectedcompanies, quantifying its level of dependence with the market movements. Finally, the assets are classified according to their Beta values as aggressive, defensive and neutral. This study is useful for the financial agents when selecting assets of investment according to the investors risk profile.

Keywords: *premium risk; stock market; market index; Sharpe's model; retail distribution companies.*

Introduction

The present study consists of a practical case to determine the behavior of companies quoting at different stock markets and comparing those with their respective market indices (Suárez, 2005). Sharpe's methodology is applied to identify the market line that measures the relationship between each stock value and the market trends (Siegel, 1998). The main objective is to identify behavior patters of the selected companies, quantifying its level of dependence with the market movements. Finally, the assets are classified according to their Beta values as aggressive, defensive and neutral ones. This study is useful for the financial agents when selecting assets of investment according to the investors risk profile (Arguedas, 2012).

Methods

The first step consisted of selecting the companies of analysis. We chose a Spanish company (Dia), a French (Carrefour) and a British one (Tesco). The sample of companies quote at three different stock markets, due to this fact we employ three different market indicators: IBEX35, CAC40 and FTSE100 for the Spanish, French and British markets.

The information of the time series of market returns and the stocks to be studied will be obtained from the time series of stock prices and the market indices.

These series are available for monthly periods www.yahoo.es in the Finance section. For both the market indices and also the shares, we access to " Historical Prices " collecting the trend in months and years, from January 2010 to April 2015, with the exception of the company Dia that started quaoting in the market in July 2011.

The annual and monthly return is calculated for both the selected companies and the market indices. Then, we compared the annual and monthly performance of each assets and contrast their relationship with their respective market indices. Thus, the Sharpe's market model or characteristic line is applied:

$$ri = \alpha + \beta * rm + \varepsilon$$

Where:

ri = return required to the stock or to the company

rm = market return (average return of all securities) measured by a stock index , for example , the Ibex 35 .

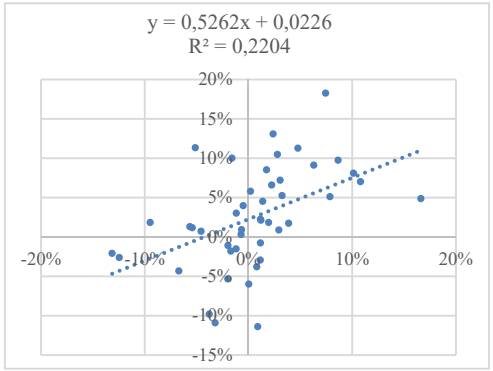
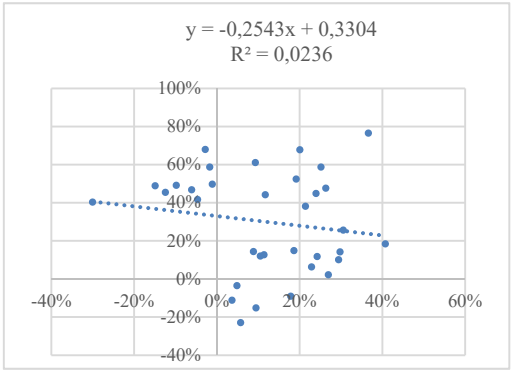
The computed returns employed in the Sharpe's model are annual and monthly ones. As a result different value of α and β can be obtained for monthly and annual computations of each company. Also, by applying Ordinary Least Squares (OLS), we obtain the goodness of fit of each market line.

To estimate the OLS Excel spreadsheet was employed, although there are other statistical programs such as SPSS and Statgraphics more complete.

Results

The market line employing the monthly returns of the retail distribution companies Día, Carrefour and Tesco are shown in Figure 1, 2, 3 respectively.

Figure 1. Día Market line

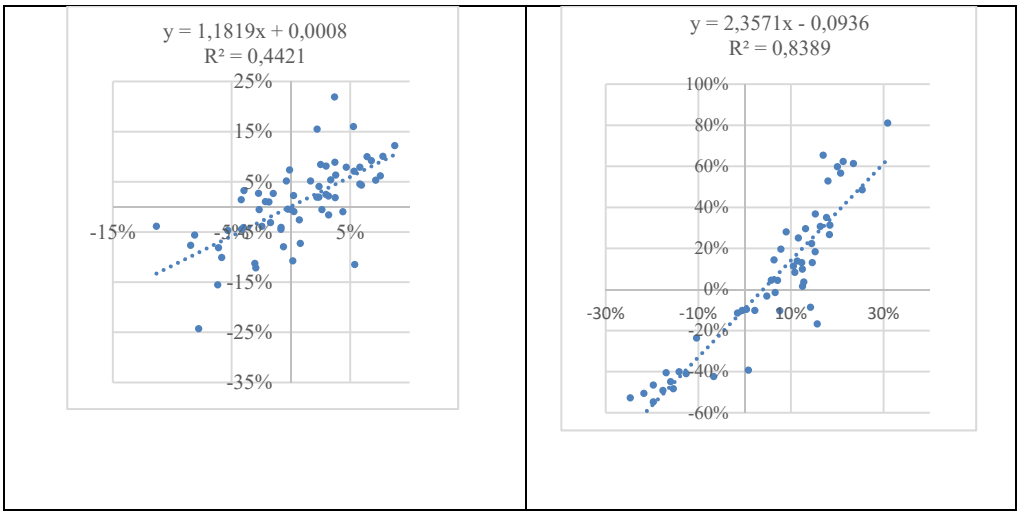
Monthly returns	Annual returns
	

Source: Own performance

Figure 1 shows a slight relationship between the market return measured throughout the stock indexIBEX35 and Dia. The results show Dia can be considered a defensive value considering monthly (Beta=0,53) and also annual returns (Beta=-0,25).

Figure 2. Carrefour Market line

Monthly returns	Annual returns



Source: Own performance

Figure 2 shows a closer relationship between the market return measured throughout the stock index CAC and Carrefour when considering annual returns compared with monthly returns. The results show Carrefour can be considered an aggresive value considering monthly returns (Beta=1,18) and even more taking annual returns (Beta=2,36).

Figure 3. Tesco Market line

Source: Own performance

Figure 3 shows how in annual terms Tesco stock is greater related to the British stock market (measured by the FTSE100) than its trend in monthly terms. As a result, we can identify Tesco as a defensive asset (Beta=0,23; Beta=0,27).

Conclusions

The results show different patterns between the selected companies of retail distribution sector in the stock market. Also, taking into account monthly and annual returns we can clearly identify different trends at each company.

Particulary, Carrefour is classified as an aggressive value, showing a stronger relationship with the market in annual terms than in montly terms. On the other hand, Tesco becomes a defensive asset due to its independence from the market movements in both annual and monthly terms.

Thus, Día is classified as a defensive asset, highly independent from the market; becoming inverse to the market trend in annual terms.

The estimation of these premium risks becomes a necessary financial tool for the financial agents when selecting assets of investment according to the investors risk profile.

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Definition of Job Competency Profiles and Performance indicators for Human Resources Management of a Public organization

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Abstract
The Basic Statute of Public Employees introduces for the first time the per-formance appraisal in the Spanish public sector. In order to guarantee the objectivity in the performance appraisal process, it is required to define the Job Competency Profiles and also a set of performance indicators of each job. This paper focuses on both tasks for a public organization as a previous phase of the performance appraisal design.

Keywords: *Performance appraisal, public sector, job competency profile, performance indicators.*

Introduction

The law 7/2007 of 12 April, on the Basic Statute of Public Employees (hereinafter BSPE) is the regulatory framework which governs the Spanish public service employees. This law represents a modernization of human resources management in public organizations. Among other novelties, it introduces for the first time the performance appraisal in the public sector. The preamble of the BSPE itself announces that "*the fundamental element of the new regulation is [...] the performance appraisal of public employees*" which "*must be taken into account for purposes of promotion in the career, maintenance of jobs and determination of a part of the complementary remuneration, precisely those related to productivity or performance*". In accordance with this, the performance appraisal becomes one of the foundations on which the new management of the civil service is based.

Performance appraisal is a systematic process that assesses employees with regard to their performance on the job during a certain period of time in relation to certain pre-established criteria and organizational objectives (Toppo and Prusty, 2012). This is one of the oldest and most universal practices of management in private organizations (Tripathi, 2006) but it is a new philosophy for public organizations (Álvarez García, 2011). The first step of this process is, therefore, to determine what should be assessed, either the results achieved by employees in their jobs or the "way of doing", i.e. behaviors of employees. Article 20 of BSPE addresses this issue and affirms that "*the performance appraisal is the process by which it is measured and valued professional behaviour and performance or the achievement of results*".

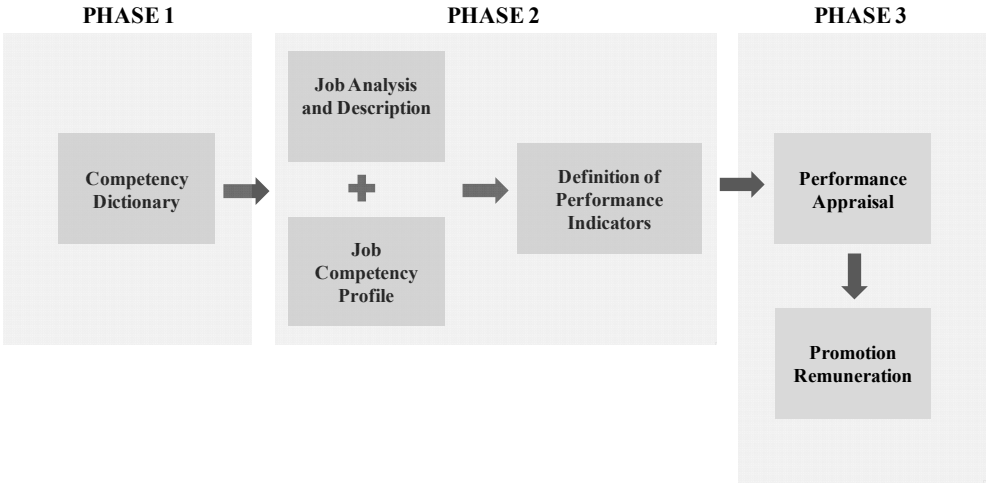
In order to implement the performance appraisal in public organizations it is necessary: (1) to specify the Job Description, (2) to define the Job Competency Profiles and (3) to define a system of management by objectives (MBO). In (1) and (2) are detailed, among other, the tasks of each job and the competences that employees should have. This information allows to evaluate not only results, but also behaviors. Conversely, the MBO identifies the objectives which should be attained per job within a specified time period (Coomisión de Coordinación del empleo Público, 2013). This implies, in turn, the determination of performance indicators, which show the level of achievement of the stated objectives. The aim of this paper is, precisely, to define the Job Description, the Job Competency Profiles and the performance indicators of a Spanish public organization in order to determine, with this information, the performance appraisal.

The remainder of the paper is organized as follows. Next Section presents the proposed methodology to define the performance appraisal. Then Section 3 presents the achieved results following the implementation of the methodology and constitute a detailed description of each position in which performance indicators are included. Finally, conclusions and future lines of this work are presented.

Methodology

This article is part of a larger project divided into three phases. PHASE 1 has been already accomplished in a previous work and consists of determining the Competency Dictionary of a public organization (Guijarro et al., 2015). This dictionary divided competencies into three groups: Core competencies, Technical competencies and Personal competencies. Furthermore, levels associated to each competency have been also defined. To accomplish the objective of this paper we focus on PHASE 2 that consists of developing the Job Analysis and Description, which includes the general identification of the job, the objective of the job, the training profile, the tasks and those competencies, from the Competency Dictionary, that are required. All this information constitutes the Job Competency Profile (JCP further on). After that, we focus on determining the performance indicators per job. These indicators are based on the skills and competencies described in the JCP and will be used to measure the level of performance of any public employee that plays the same job. Finally, PHASE 3 is the further work that will result from this paper.

Figure 1. Methodology schema of the project



Results

Table 1 and Table 2 show the results from applying the PHASE 2 to one of the jobs that have been involved in this work: the Chief Negotiating Officer. Table 1 shows the Job Competency Profile whereas Table 2 shows the list of performance indicators for this job.

Conclusions and further work

The law 7/2007 of 12 April, on the Basic Statute of Public Employees introduces for the first time the performance appraisal in the public sector. However, in practice there are very few public organizations that have implemented it. The work presented in this paper is part of a larger project that consists of

designing a performance appraisal system in a public organization. In this paper we focus on the determination of the Job Competence profile and the definition of the performance indicators per job.

To define a performance appraisal system, first of all it is necessary to determine which exactly the company wants to evaluate. The results of this work will allow designing the last phase of the methodology suggested in this paper (Phase 3 of Figure 1) that will consist of designing the performance evaluation procedure. Following the BSPE, the results of this procedure will be used to determine objectively a horizontal career of public employees and their implications on the remuneration policy, among others.

Table 1. Job Competency Profile of the Chief Negotiating Officer

1-General Identification	
Position	Chief Negotiating Officer
Group and Level	C2 and level 15
Dependent	Head of Area
2-Objective	
Support and develop both operational and administrative tasks to guarantee the quality of the service and the global satisfaction of customers	
3-Trainig profile	
Academic	High School Diploma
Professional	Work group, Quality management, Public attention
Legislative	LAW 20/1992, of 26 November, of the Public Administration and General Administrative. LAW 11/2007, of 22 June, on electronic access to Public Services for members of the public.
Software	Office (Word, Excel, Access and PowerPoint), Oracle
4-Tasks	
Customer service	Receiving and distributing postal mail
Document management	Register documentation
Quality management	Database management
5-Competencies (Level)	
5.1.Core competencies Customer-oriented (3); Continuous learning (3); Focused on quality (2)	
5.2.Tecnical competencies Use of TIC´s (2); Cognitive Capacity (2); Technical-professional expertise (2)	
5.3. Personal competencies Decision making (3); Flexibility (2); Personal Autonomy (2); Initiative (2); Self-motivation (2); Leadership (2); Group work (2); Organization and planning (2); Results-Oriented (2)	

Table 2. Indicators for the Chief Negotiating Officer

6-Indicators
Number of customers that have been served
Average time per customer served
Percentage of customers that are satisfactory served
Ratio of files that have been satisfactory solved
Ratio of files that have been unsatisfactory solved
Average time per file that have been satisfactory solved
Percentage of files on which administrative appeal is requested
Percentage of files that have been modified following an administrative appeal
Global satisfaction of customers

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Legal objectives and measures to improve the functioning of the food chain in European Union and in Spain

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Abstract

The main problems affecting the agricultural sector in Spain and the European Union on the food chain are analyzed. It is considered the harmful consequences of poor bargaining power in the market that farmers have. In order to mitigate such effects and consequences that distort the overall agricultural sector, the main objectives to be achieved and measures to be implemented from the point of view of the law in force are studied.

Keywords: *Improving food chain; current problems; legal objectives and measures.*

Keywords: *Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.*

Introduction

Introductory approach and definitions

Law 12/2013, of 2 August, on measures to improve the functioning of the food chain defines it as "the set of activities carried out by the various operators involved in the production, processing and distribution of food or food products, excluding transport, hospitality and catering activities" (Art. 5.a).

It also defines "food business" as "the set of productive sectors like agriculture, livestock, forestry and fisheries as well as processing and distribution of its products" (Art. 5.b).

In the same conceptual line, law 2/2000 of 7 January on standard contracts of food products includes into the "food system" "all productive sectors involved with agriculture, livestock, forestry and fisheries, as well as processing and marketing of its products" (art. 2.2).

The food chain starts with the first link of the food production and ends with the distribution and marketing of the final product to the consumer, a process that is well reflected in the familiar expression "farm to table".

Thus the food chain system generates an organized set of enterprises and operators in different sub-sectors, whose "chained" activities is directed to supply the market with food products in appropriate and suitable conditions for final consumption.

As mentioned, the food in Spain is a sign of identity that arises from the variety and richness of the agricultural and food production in this country, that result from the diversity of its lands, seas, ecosystems and traditions. The agri-food sector in Spain has an undeniable strategic value for the national economy. However, it is a vulnerable sector as a whole by its own characteristics, as it integrates a wide variety of actors in the sectors of production, processing and distribution, which are limited by their individual idiosyncrasies.

In other words, it is evident relevant imbalances between the various links in this food chain, where almost always the first link (primary production, the farmer or rancher) usually get injured against the subsequent stages of the processing industry and distribution.

Thus, among many others, come to the fore issues such as the low price of agricultural productions (which scarcely pays production costs); year after year you can see stagnation or even decline output prices of food products against the steady increase of costs and production inputs; the minimum profitability of the primary agricultural sector; draconian contractual conditions to the producer; high risk taking by their activity (meteorological, biological, market...); unfair competition from producers of third countries; the limited reaction to market contingencies (such as Russian veto on EU products), etc.

All this problems had led to the abandonment of many farms and rural population desertification of large areas of Spain, with the aggravation that involves not only the loss of agricultural productive potential (crop set-aside), but also the pernicious direct effects on rural areas and the environment.

In this global context, the contractual aspects that affect the development and creation of economic activities and transactions within the food chain, could play an important role in improving working conditions and living standards of farmers. To achieve this, the agricultural product must be fairly and reasonably remunerated by the market, and producers should join the incentives and opportunities to organize and concentrate the offer in a much more efficient way than present. They will strength its bargaining position in the market and will get better prices reflected in the contracts signed by them.

1. Current problems affecting the food chain

The first problem affecting the food chain is the existence of significant imbalances between different links in the chain, with evident asymmetries in bargaining power between operators in the agrifood system.

Indeed, on one side the primary production sector in Spain suffers from weaknesses by several factors.

First of all the activity of the farmers is characterized by being exposed to risks arising from the nature of agricultural activity, exposed to the open air, often under adverse and uncontrollable weather conditions, and may also suffer risks of biological type as plant or animal health diseases, pests, etc. In that sense, the Preamble of Law 2/2000 on standard contracts of food products noted that "agriculture and fisheries develop a biological activity with a close dependence of the natural environment. These conditions involve some risks both for the production process and the perishable nature of the products, all assuming a high degree of uncertainty in the activity. Being biological processes, production cycles are long and seasonal. Moreover, as these products are usually perishable, its offer has stiffness and lack of adaptation to demand".

Also the business organization of farming in Spain suffers from signs of severe fragmentation, territorial dispersion, as well as limited modernization, with the presence of many small farms or family size, poorly updated or modernized, with little investment and with minimal economic profitability, and with a bad perspective of succession in the agricultural holding.

The sub-sector of “food production” in Spain is not significantly concentrated in order to face and negotiate prices and other conditions of business transactions. By contrast, the subsector of “distribution” presents selling channels more organized and grouped, concentrated in a few retailing groups (often multinational), which gives them great bargaining power with suppliers or producers. That is, a great power of imposition of contractual conditions and especially selling prices.

We can now remark another problem about the food chain functioning: the high volatility of prices paid to producers between one to another agricultural season.

As pointed out by the preamble of Law 12/2013 on measures to improve the functioning of the food chain, "this heterogeneity undoubtedly has conditioned the operation and relations of agents operating

throughout the food chain, showing deficiencies aggravated in the context of the current global economic crisis. The volatility of prices received by producers, the high cost of inputs and instability of international markets, are conjunctural factors that have weakened the competitiveness and profitability of the food industry".

As a direct result of that situation, it highlights the great lack of transparency in price formation moving into contracts with producers. In this regard it is said that "the special structural characteristics of the food system do, moreover, difficult knowledge of the transactions that the different and numerous operators performed, resulting *de facto* lack of transparency in the market, away from the desirable perfect competition" (Preamble of Law 2/2000).

And finally, the situation of imbalance between the commercial positions of the different operators in the food chain, in many occasions becomes in unfair trade practices, abuse of dominant position and anti-competitive practices, very far from what it should be a good practice in food contracts. Obviously the effects are really negative, in terms of market distortion, improper functioning of the internal market and the loss of competitiveness of the whole agrifood system.

2. Goals and objectives to improve the functioning of the food chain

2.1. Steps to be taken

Both institutional and legislative steps are being taken to achieve improvements in the food chain.

Within the European Union the problems described above are well known. In fact the European Commission adopted in 2009 a Communication on "improving the functioning of the food chain". Since then many initiatives have been taken to analyze and identify the real problems affecting the development of the chain. It also emphasizes the constitution, in late 2011, of the High Level Forum on Improving the Functioning Food Supply Chain.

About the legislative initiatives, both the general EU rules, framed within the Common Agricultural Policy, as some state regulation in Spain, have attempted to address various problems of the functioning of the chain. Among them some issues related to contractual aspects.

We must cite now the Regulation 1308/2013 of 17 December, stablishing a common organization of the markets in agricultural products. This Regulation together with Regulation 1307/2013 establishing rules for direct payments to farmers under support schemes under the common agricultural policy, form the so-called first pillar of the CAP (organization market policy and payments).

At the national level, it is relevant the aforementioned Law 12/2013 on food chain. The aims of the law are set on the preamble and in art. 3. They are perhaps too ambitious or utopian in relation to the practical content of the Law.

2.2. The main goals proposed

a) To improve functioning, balance and structuring of the food chain.

This objective addresses the core of the problem we studied, since it is clear that food chain does not work properly because of serious imbalances in trade relations between different operators.

Above all, measures and actions should be undertaken to provide greater balance between the positions of production in relation to the processing industry and the distribution sector.

This idea is sensed in Preamble of Regulation 1308/2013 (n. 138): "It should be possible to adopt certain measures to facilitate the adjustment of supply to market needs, which can help to stabilize markets and ensure an equitable standard of living to farmers concerned".

Also the Preamble of the Law 12/2013 affects this issue: "The proper functioning of the food chain is essential to ensure sustainable added value for all operators which contribute to increase its global competitiveness and also a common benefit for consumers. Therefore, it is essential to solve this problem from an overall perspective that reaches all agents that interact along the food chain, so that the unity of the market can be ensured and the food industry can fully develop and deploy all their potential".

b) Strengthening the productive sector and enhancing the activities of interbranch agri-food organizations.

This is a goal closely directed to the structuring and balance of the food chain.

Indeed, in many passages of Regulation 1308/2013 it is reflected the interest of the EU to strengthen the bargaining position of the producer sector. In that way producer organizations and associations of producer organisations, officially recognized, to carry out the commercial and contract negotiations (preamble, n. 131: "Producer organisations and their associations can play useful roles in concentrating supply, in improving the marketing, planning and adjusting of production to demand... ").

And this function is specified in various productive sectors, such as milk and milk products (preamble n. 128 subsectors: "In order to ensure the viable development of production and a resulting fair standard of living for dairy farmers, their bargaining power vis-à-vis processors should be strengthened, which should result in a fairer distribution of added value along the supply chain…";… "to allow producer organisations constituted by dairy farmers or their associations to collectively negotiate with a dairy contract terms, including price, for some or all of their members' raw milk production"; see also Article 149); about olive oil sector and supply contracts (Art. 169); beef and veal sector regarding supply contracts of cattle for slaughter (Article 170); or in relation to supply contracts for certain arable crops (art. 171). As preamble announced: "In order to ensure the viable development of production and thus a fair standard of living for producers in the beef and veal and olive oil sectors, as well as for producers of certain arable crops, their bargaining power vis-à-vis downstream operators should be strengthened, thereby resulting in a fairer distribution of added value along the supply chain" (n. 139).

However, for proper positioning of the production sector in the framework of the negotiation of agrifood contracts, one of the outstanding features of the producer organisations is to concentrate supply and marketing of the products of its members, including direct marketing (vid. art, 152.1.c) of R. 1308/2013).

But at the same time that it is strengthening the production sector, it also should be strengthened the operation and performance of Agrifood Interbranch Organisations (AIO), whose legal status in Spain is included in Law 38/1994 of 30 December.

According to art. 2 of Law 38/1994, Agrifood Interbranch Organisations are constituted by representative organizations of the agrifood production, processing, marketing and distribution, whatever the legal nature of the members represented. An IAO should include an area of the total state or at least an area greater than an Autonomous Community.

On the other hand, the Regulations 1308/2013 states that "interbranch organizations can play an important part in allowing dialogue between operators in the supply chain, and in promoting best practices and market transparency" (Preamble, n. 132). The Regulation 1308/2013 rules the AIOI in arts. 157 and 158, permitting Member States to legally recognize these organizations and to define possible functions and objectives to fulfill.

In the same way, Spanish Law 38/1994 includes, among others, the following purposes of agrifood interbranch organizations (art. 3):

a) To ensure the proper functioning of the food chain and to encourage good practice in relationships between partners as they participate in the value chain.

b) To carry out activities to improve the knowledge, efficiency and transparency of markets.

...

e) To contribute to improving the coordination of the various operators involved in the process of placing new products on the market.

...

i) To develop standard contracts compatible with the rules of national and Community competition law.

...

k) Collective bargaining price where there are binding contracts under the terms provided for Community rules.

...

n) To promote efficiency in the various links in the food chain.

Also we can mention the so called "rules extension", which are passed by an AIO and can have a positive effect. Art. 8 of the Law 38/1994 states: "Once it is adopted an agreement in the agrifood interbranch organization, it will rise to the Ministry of Agriculture, Food and Environment. The Ministry will pass the proposed extension of all or some of its rules to the total set of producers and operators of the sector or product involved".

The requirements and conditions of such extension are detailed in article 8 and in subsequent regulatory developments.

c) Ensuring a fair, loyal and effective competition in the food chain.

We have already shown that the imbalance of trade positions between the production sector and the processing/distribution sectors may generate abuses in negotiations and economic transactions (which are manifested in contracts).

So, in order to avoid unwanted, abusive, unfair and contrary to competition law trading practices, it is a global goal to achieve the right functioning of the food chain.

In Spain the special legislation about this topic is already passed: we talk about Law 15/2007 of 3 July, on competition defense and Law 3/1991, of January 10, on unfair competition. Law 12/2013 also regulates in Arts. 12-14 certain “unfair commercial practices”.

d) To increase the efficiency and competitiveness of the food industry from a global point of view.

To achieve this purpose market unit should be defended. So "the guarantee of a unified market in the scope of food chain is a key competitive factor to enable better use of economies of scale, division of labor and the intensity of competition, reducing production costs, improving productivity and allowing higher levels of employment and welfare "(Preamble of the Law 12/2013).

Do not forget that within the World Trade Organization, where agricultural production is included for years and where the EU is included as a partner, we must compete with other nations and other economic systems within a supply market more and more global and competitive. Technology and the extension of intercontinental transport facilitate trade. So there are reaching Europe food products worldwide. This in turn requires much higher levels of competitiveness to the European food industry, and not only in relation to the amount of product produced, but especially in the field of products quality and its differentiation from the rest.

e) Objectives and purposes of social nature.

These objectives favor the achievement of benefits for society in general, for the common benefit, without focusing on a particular and specific beneficiary. Therefore they have a social component and public interest.

First of all, consumer rights will be ensured in several aspects: improving full and effective information about foods and their quality; providing transparency to the functioning of the supply chain; and providing sufficient food and quality products (art. 3.h, Law 12/2013).

Talking about access and provision to information, it is relevant to introduce innovation measures and information and communication technologies into the food chain.

Along with this, the Preamble to the Law 12/2013 states as common goal, among others, the maintenance of an adequate level of prices in the food chain.

From the perspective of a food consumer, we must remember that art. 33 of the Treaty establishing the EEC includes among the objectives of the Common Agricultural Policy the following: 1) to ensure security of supplies; 2) to ensure that supplies reach consumers at reasonable prices. Well, both purposes shall be present in the functioning of the food chain, in order to benefit consumers and to guarantee them an adequate food supply and "reasonable" prices.

But from the perspective of the agricultural producer, the reference to "price maintenance" has a very different scope than the consumers. Food producers claim a decent remuneration of their work and agricultural production, in the way it was stated in the EEC Treaty: "to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture (Art. 33.1.b)". But in many cases that purpose is not been achieved.

Second, it is essential to generate or improve employment, which is important for the whole society, for rural areas and for national economy (art. 3.a, Law 12/2013).

In that regard "the importance of everything related to food, is not derived only from the need to satisfy a primary function of every human being, but of the intrinsic relationship traditionally maintained between food and society, economy and rural areas in Spain. This inexorable link has been consolidated over time and generating a sector of vital importance. The food sector not only meets the demands of consumers, but generates wealth and contributes significantly to economic growth and development of Spanish rural areas "(Preamble of the Law 12/2013).

Therefore the food industry in Spain has an undeniable strategic value for the national economy, as is corroborated by the economic figures on its share of gross domestic product, trade balance, its size, the number of jobs created, etc.

Finally, the spread of the culture of sustainability in the food chain will be encouraged as a factor of corporate social engagement (art. 3.j, Law 12/2013).

Nowadays you could not miss an allusion to the general principle of sustainability or sustainable development. This principle is applicable to the food chain functioning. That means that the triple consideration or scope of that principle (economic, social and environmental sustainability) should be apparent at different stages or links in the chain. In practice, that general principle of law has already found specific application through a multitude of national and European regulations and laws implemented to the agriculture and food sector. For example, the so called "agri-environmental" measures, which aim to achieve compatibility between the systems of agricultural production and environmental protection and also the protection and rational use of natural resources.

Conclusions

The agri-food industry in Spain and in the European Union has an undeniable strategic value for the global economy. But nowadays the agri-food industry in Spain is especially vulnerable because of its own internal characteristics.

Long are obvious large imbalances between the links of the food chain. In particular the sector of agricultural or livestock producers usually get injured compared to the processing industry and distribution.

In a global context of permanent crisis in agriculture, contract negotiations within the food chain should play an important role in improving working conditions and living standards of farmers.

Agricultural producers should take advantage of the incentives and opportunities offered by the current regulations in order to regroup and organize. So, they should constitute sized agricultural cooperatives, more efficient, introducing economies of scale, or they should create other organizations and associations of agricultural producers in that way. The overall objective is to concentrate supply as much as possible and in a more efficient way.

It must be strengthened the bargaining position of farmers in the market in order to get better prices stated in contracts. In short, it is essential to achieve certain strategic objectives within the framework of the food chain: improve performance, balance and structuring of the food chain; strengthen producers and enhance the activities of agrifood interbranch organizations; ensure a just, fair and effective competition in the food chain; increase efficiency and global competitiveness of the food industry; and finally deepen goals and objectives of a social nature.

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