Bancarization in the first European cities with an equal number of Muslim and Christian inhabitants: Melilla and Ceuta

Miguel Ángel Pérez-Castro[1], Miguel Ángel Montero-Alonso[2]

Akram Abderrahman-Azaar[3]

[1]Department of Applied Economy, Universidad de Granada, Melilla, Spain

[2]Department of Statistics and Operational Research, University of Granada, Melilla, Spain

[3]Applied Economics, Universidad de Granada, Melilla, Spain

Abstract

Purpose – This research study analyzes the situation of the financial system in Spanish-governed cities of Melilla and Ceuta, Christian and Muslim cities located on the north coast of Africa and compared it with the mean bankarization level in the rest of Spain, referred to the 2000-2015 period.

Design/methodology/approach – Although different calculation methods have been proposed, most authors agree that the bankarization level of a country or a territory reflects the development of the society as a whole and has a positive correlation with economic growth. The indicators of financial depth proposed by these researchers are not only the ratio between variables such as loans, deposits, etc., but also the ratios of these variables to the population and the GDP of the country or territory.

Findings – The results obtained revealed that there are significant differences between these two North African cities. Furthermore, the financing gap between the mean bankarization levels of these cities and those of mainland Spain was found to be even larger than most of the other economic indicators (GDP per capita and the unemployment rate).

Originality/value – This is the first work on a financial framework of European cities whose populations are spread by almost 50 per cent between Christians and Muslims. The data provided show the existence of methods of funding or savings parallels to conventional banking, by cultural customs or Muslim religious, must be taken into account by European banks in the near future.

Keywords: Banking analysis, Bankarization, Spanish Autonomous Cities, Islamic bank financing

Paper type- Research paper

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1. Introduction

The 2007 economic crisis in the developed world is considered by many economists to be the most important since the Great Depression at the end of the 1920s. Similarly, the 2007 crisis also had its roots in the financial system. Because of the speed of global interactions in the modern world, it rapidly propagated to the real economy. Its magnitude is currently obliging the world financial system in general and the Spanish financial system in particular to restructure itself. For an accurate assessment of the effects and evolution of the crisis, it is also necessary to consider the adjustments made in financial systems in their efforts to adapt to this new context. According to Martin, Ruano y Salas (2013), the years before the financial crisis raise reasonable doubts about the accuracy of the assessments of the efficiency of banking intermediation due the expansion of credit in the housing market and the high recourse to securitization.

The analysis of financial structural indicators, which reflect the capacity of a sector to offer services to the population, can provide valuable information regarding the *bankarization* level or access to banking services in territories and the evolution of the banking sector.

The favorable financial conditions that resulted from Spain's entry in the Eurozone and the generally favorable economic context in the developed world contributed to a long period of growth and prosperity. This generally favored the expansion of the brokering activities of Spanish credit institutions and produced a significant increase in the overall size of their balance sheets. However, in 2007, the world financial crisis and its subsequent aggravation affected Spain with great virulence. In fact, it transformed the operational environment of financial institutions, and this in turn, affected the structure of business transactions and the financing of the rest of the economy.

The socio-geographic context of our analysis were the financial system and the access to banking services in the Spanish autonomous cities of Ceuta and Melilla, enclaves located on the north coast of Africa. The bankarization level of these cities was compared to that of the rest of Spain. The time period of this study encompassed an initial stage of economic growth (2000–2007) followed by a period of economic crisis (2007–2015). Our objective was to discover whether the fact that near majority of the population of Ceuta and Melilla are Muslim, their culture are influencing on their banking habits.

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Initially it is appreciated that the level of bankarization of the autonomous cities is far from the Spanish average. As the use of the financial services is a decisive variable in the economic development of any territory, there arises the interest to analyze if this difference can be influenced only by economic aspects or, as it have been mentioned, if cultural aspects and the idiosyncrasy of its population could have some inference.

It must be taken into account that the financial system in the cities of Melilla and Ceuta is a European system and they do not commercialize any products of the Islamic banking. In the absence of this double offer, it is not possible to quote the conclusions such as those carried out by Lebdaoui and Wild (2016) about their studies conducted to measure the sensitivity of economic growth to the Islamic banking presence.

At the same time, they analyse empirically the relationship between Islamic banking presence in Southeast Asian countries and the economic growth, and draw conclusions on how the Muslim population plays a positive and statistically significant role in encouraging the contribution of Islamic banking share in the financial sector on the economic growth.

To consider their possible influence, this characteristic should be taken into account as part of financial strategies of those European cities, where the percentage intercultural population is increasing. Mainly, we refer to those cultures whose beliefs or traditions are influencing theirs citizens to make financial decisions, and by which religion is considered as a strong factor. Without forgetting that the recommendation of friends and relatives is the most significant factor in the moment choosing between a conventional bank or Islamic bank.

A pesar de que en Melilla y Ceuta no se comercializan productos financieros con la consideración de banca halal, ni prácticamente en ninguna ciudad española, las fuerzas sociales y económicas que conforman una parte importante de su estructura social básica están siendo influenciadas por la formación y costumbres religiosas. Estas resultan palpables cuando se habla sobre ello en ambientes comerciales, bancarios y educativos, aunque no esté suficientemente medido empíricamente en España en general, ni tampoco en Melilla y Ceuta. Este análisis empírico, aunque difícil, es conveniente que sea realizado y estos autores están buscando la mejor forma de llevarlo a cabo en un futuro próximo.

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Aun así, no consideramos que sea necesario que exista la banca islámica en un territorio con población musulmana para entender que desde el punto de vista financiero está teniendo su marco islámico una importante influencia, ya que está basado en ciertas instituciones fundamentales, como la prohibición del interés y la regla general de permisibilidad donde todos los negocios, los contratos y las inversiones sólo deberían apoyar prácticas o productos que coincidan con las reglas de la Shari'ah. De ahi que the trading and selling of debts, receivables, conventional loan lending and credit cards are not permissible in Islam.

The Shari'ah represents the legal framework of Islamic religious law within which the public and private aspects of life are regulated in many aspects of day-to-day life, including politics, economics, business, family, and social issues. The Islam adopts a more balanced approach and considers that economic activity shouldn't be a mundane bustle or competition among people but a key to a fair growth through participation, thus avoiding the self-interest and individualism of conventional economics.

Como profesores de finanzas y estadísticas de alumnos universitarios en Melilla constatamos que cada vez aquellos que tienen una formación religiosa musulmana más sólida, se hacen planteamientos sobre cuestiones financieras que nos obligan a un mayor conocimiento de su cultura para poder, lo más objetivos posibles, transmitir las teorías económicas más aceptadas en un mundo económico global en dónde vivimos. Por ejemplo, recibimos preguntas o comentarios sobre el tratamiento haram o halal de las relaciones con las entidades bancarias, el ahorro, la inversión, la rentabilidad de proyectos empresariales, el endeudamiento, etc. con comentarios como que it is haraam to deposit money in savings accounts, for two reasons: It is a contract that is based on adding a set percentage to the capital, whilst guaranteeing that the capital will remain intact. In fact it is an interest-based loan, and the scholars are unanimously agreed that every loan that brings a benefit is riba (usury). The lender here is the customer, and the borrower is the institution that provides these accounts. Lo justifican mentioning the texts which forbid riba, in the Qur'aan and Sunnah, all types and forms of riba are forbidden, whether it is additional to the amount that was originally lent, or an additional amount charged when payment is delayed, or this additional amount is stipulated in the contract along with a guarantee that the capital will remain intact.

Any type of earning that does not require any human labour, in commerce as well as in production, is forbidden. For this reason, the use of financial capital to generate earning

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is abolished. The only legitimate way to make use of capital is to invest it in production and share the risk of profit and loss (Aziz, 1993).

Por las razones aludidas y porque ……..To our knowledge, no research has as yet targeted the financial evolution during this period, which has caused the current situation of financial upheaval. With a view to filling this gap, we first identified the most important changes in the brokering activities of financial institutions, and secondly, the potential relation between banking, demographic, and employment data in these territories in order to have a more in-depth knowledge of their economic reality.

The rest of the article is structured as follows. Section 2 gives an overview of the theoretical framework of our study as reflected in the literature on the analysis of banking indicators, and the analysis of aspects related to finance and its cultural or religious inference. Section 3 presents the research design, identifies the variables studied, and describes the methodology used. In Section 4, the results of the study are presented and discussed. Finally, Section 5 lists the conclusions that can be derived from this research.

2. Review of the literature and the formulation of hypotheses

The description, explanation, and analysis of this research topic were based on the data obtained from secondary sources of information, such as the reports and yearbooks of the most important banking associations in Spain, namely the *Asociación Española de Banca* [Spanish Banking Association] (AEB), *Confederación Española de Cajas de Ahorros* [Spanish Federation of Savings Banks] (CECA), and the *Unión Nacional de Cooperativas de Crédito* [National Union of Credit Cooperatives] (UNACC), which were the data sources for Spanish banking indicators.

In this sense, all of the relations between the financial system and society are regarded as bankarization activities. According the *Instituto Mundial de Cajas de Ahorro* [*World Savings Banks Institute*] (IMCA), the highest levels of bankarization are found in developed countries, which include Spain, Germany, and the United States.

In Spain in 2000, the number of bank branches offices per one thousand inhabitants had a ratio close to 1.0. Despite the fact that this number gradually decreased because of bank mergers and the closure of branch offices, Spain is still at the top of the list, mainly because Spaniards are practically obliged to have a bank account where they can pay household expenses, rent, services, and utilities by direct debit and receive their paycheck or other income by direct deposit. The beginning of the international financial crisis with
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its effects of reduced solvency, lack of cash flow, and over-dimensioning triggered a complicated restructuring process of mergers and take-overs. Furthermore, recent legislation in Spain obliges banking institutions to strengthen their capital by means of the *Fondo de Reestructuración Ordenada Bancaria* [Fund for the Orderly Restructuring of the Banking Sector] (FROB) and the *Sistema Institucional de Protección* [Institutional Protection Scheme] (SIP). This signifies that small savings banks (*cajas de ahorro*) have a choice between transforming themselves into larger entities and maintaining their original local scope.

Socio-religious features, which appear to have an impact on the socio-economic indicators of Ceuta and Melilla, could facilitate the creation of products by the European financial system, conceived specifically for the Muslim population. These products would be in consonance with Islamic principles and would respond to the needs of this sector of the population. According to Faeyz (2007), Muslim thinkers have developed their own financial instruments.

There does not exist an implantation of the Islamic banking in these European cities in North Africa, but there are aspects of the Moslem culture that the conventional banking has to go bearing in mind: Islamic financing is based on the ideology of Islam, proposing a different economic system than capitalism (Hanif, 2016).

The investigation realized by Zarrouk et al (2016) to determine if the profitability Islamic bank profitability is driven by same forces as those driving conventional banking in the Middle East and North Africa (MENA) region, says to us that the Islamic banks have a higher intermediation ratio, have higher proportion on fee income-to-total operating income and are less efficient and distinguished by its principles in conformity with sharia, Islamic banking is different from conventional banking, which is likely to affect profitability. Also we would have to bear in mind the effect of the different Islamic finance indicators on the economic growth in the long run is less important than their effect in the short run (Hachicha and Ben Amar , 2015)

The low bankarization level of a territory, or its lack of economic development as reflected in its access to banking services, depends on a wide variety of factors, which include the following: (i) income per inhabitant and unequal distribution of wealth; (ii) low financial coverage and security; (iii) lack of banking products and branch offices; (iv) low educational level; and (v) lack of financial literacy. Since not all of the differences in banking indicators between Melilla and Ceuta and the rest of Spain can be solely justified

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by economic factors, it is necessary to examine other social, demographic, and cultural features that could explain the divergences reflected in our results.

As previously mentioned, almost half of the population in Melilla and Ceuta is Muslim, and economy and economic practices are central aspects of Islamic thought. If they are taken them data of them censuses of population and of them statistics of the *Unión de Comunidades Islámicas de España* [Union of Communities Islamic of Spain] (UCIDE), at end of the year 2015 the population in Melilla is of 43,981 inhabitants Muslim (a 52% of the total of the population) and in Ceuta 36,181 inhabitants Muslim (the 43% of the total of the population).

Literature on marketing and profitability of Islamic banking and their relation with culture and religion in countries with Muslim and non-Muslim population have been reviewed. Khan, M. & Miraknor A. (2001) show that despite the fact that in Western countries, economic growth is based on productive savings, the *Shariah* (Islamic law) states that the return on capital in any financial contract should be based on profit and loss sharing arrangements. Payment at a certain rate for money loaned signifies charging interests, which is usury (*Riba* in Arabic). It should not be forgotten that the basic principle in the Shariah, also prohibits high-risk investments (Gharar) and gambling (MaysirI) (García-Herrero, Moreno and Solé, 2008) and exploitative contracts based on Riba or unfair contracts that involve risk or speculation are unenforceable (Zaher and Hassan, 2001).

Savings and investment are the most important tools for economic growth and interest rate is the most important indicator of savings and investment according to classical, neo-classical and contemporary economists. Researchers such as Kia and Darrat (2007) refer to two major reasons for positive impact of interest-free banking system upon stability in the demand for money. These are speculation from a demand perspective and revaluation of balance sheet items from a banking perspective. Among the factors for determining demand for money, interest rates appear to be the most visible component that is subject to speculation.

It have been identified the interest rates impact with financial stability, monetary policy and risk management in banking, by researchers as by Kassim et al. (2009), Kasri and Kassim (2009), Zaionol and Kassim (2010) and Sukmana and Kassim (2010). They all suggest that any change in the interest rates affects not only the deposits and loans of conventional banks but also such instruments of Islamic banks.

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More specifically, Etem and Bengül (2011), according to the findings, religiosity is not the leading factor in Islamic bank preference; also they determined that people in advanced age, men, people with lower income and businessmen/artisan rely on the religiosity in Islamic bank preference as a stronger factor than people from other backgrounds. It is also said that the Islamic banks play significant role in inclusion of the people staying out of the banking system due to religious concerns and considerations in the financial system. For Diaw (2016), the integration of *Zakat, Awqaf* and other voluntary institutions into the financial system caters for the financial needs of poor people.

For Mushtaq et al. (2016) in Islamic countries, people do not care about interest rate while savings; however growth in GDP per capita income seems to effect positively to the savings decision. For non-Islamic economies GDP per capita growth, as well as interest rate, have a positive impact on savings. Nevertheless, for investment, interest rate affects negatively, while growth in GDP per capita affects positively for both Islamic and non-Islamic countries. Hence there seems to be a need of different policies for Muslim countries in order to increase economic growth, because of the effects of religious factor.

Saba and Danish's (2015) results of their study show that religion is an important factor which can have effect on behavior of savings, investment and economic growth. The Mckinnon effect in non-Islamic countries is also confirmed. This effect produces a GDP growth and an increase in savings, thus in investment, and that will further maximize GDP. While in the case of Islamic countries only half of this cycle is true as savings become insignificant in determining investment. Therefore, a GDP growth will increase not only savings but also investment, because religious factor will cancel out the interest rate impact on savings and investment in these countries. So results suggest that there should be separated and different policies for savings and investment in Islamic countries, because people react differently on the basis of religious impact.

Gerrard and Cunningham (1997) note that Muslims residing in non-Muslim countries, such as Singapore, are still continue practicing their Islamic beliefs. They hold their money in Islamic banks, which do not pay interest on savings or investment. However, Metawa and Almossawi (1998) disagree with Gerrard and Cunningham. They studied the case of Bahrain, where most people practice Islam, and found that while depositors select banks mainly on religious grounds, they also refer to the rate of return.

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Thus, they note that the rate of return is not the only or primary variable influencing deposit volume in Islamic banks.

According to Jalaluddin (1992), there are some ethical and social values that are linked to savings. If a Muslim saves, then there are certain responsibilities that he has to fulfil from this savings and these responsibilities can be toward Allah, family and himself.

Khan et al. (1992) conclude that an increase in the revenue per capita is going to maximize the savings. Salahuddin et al. (2009) observe that the interest rate is insignificant with regard to determining investment. They further conclude that the lending rate, inflation, population growth, and human capital have no impact on investment in developing Muslim countries.

2.1. Conceptual framework

In the literature consulted, the analysis of access to banking services is based on a series of fundamental concepts such as *bankarization, bank deposits, savings, loans, financing gap, gross domestic product* (GDP), and *GDP per capita.* These terms are defined and discussed as follows:

- *Bancarization* is the access to and use of financial services generally and banking services, in particular. It involves the performance of an increasing number of wide-ranging social and economic activities stemming from the use of banking services. According to Morales & Yañez (2006, p. 84), this entails a set of stable relations between financial entities and users of their services. Ruiz (2007) also highlights the establishment of long-term relations between users and financial intermediaries. *Bankarization* is also frequently used in Latin America where organisms belonging to the National Customs Authority [*Superintendencia Nacional de Aduanas*] and the Tax Administration Agency of Financial Institutions or of Banking and Insurance. The dimensions of *bankarization* are financial depth, coverage and level of use. Its indicators include services such as savings, loans, bank employees, and branch offices per 1000 inhabitants. According to Zahler (2008), education and income level, among other factors, also influence bankarization. In line with this, Kumar et al. (2005) also agree that these are important variables that determine a population's access to banking services..

- *Bank deposit*. Bank deposits are money placed in a banking institution for safekeeping. The deposit itself is a liability owed by the bank to the depositor and

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refs to this liability rather than to the actual funds deposited. Such deposits are the traditional source of financing for commercial banks. This is particularly true in Spain, where commercial banks are more important than savings banks. Retailing activity (i.e. the number of clients with small short-term amounts of money, a figure with a high level of stability because of third-party guarantees) contrasts with wholesaling business activity (i.e. stock market operations by clients with important financial resources). According to Beck et al. (2005. p. 124), bankarization links the degree of financial depth to economic growth, where the restrictions on the credit market particularly affect small businesses and prevent the entry of new actors into consolidated markets. This has an impact on the efficiency of markets, economic growth, and the standard of living of a population.

- *Savings* refers to the amount left over when the cost of the expenditures of a person, company, or government is subtracted from the amount of disposable income. Similarly, savings are the portion of income destined not to be spent.

- *Credit* or loan approval is a financial operation in which a physical or legal person lends a certain amount of money to another, known as the *borrower,* who agrees to repay the lender at some future date, generally with interest and possibly with associated costs, as defined in the conditions of the contract.

- *Financing gap* is the difference between the loans and discounts made by credit institutions and the resources obtained from deposits. This concept may also be called financial deficit or surplus.

- *Gross Domestic Product* (GDP) and *GDP per capita* refer to the monetary value of all the finished goods and services produced within the borders of a country or territory in a given time period.

2.2. Hypothesis

This research study had the following two hypotheses: On the one hand, the low bankarization indicators calculated per inhabitant in the autonomous cities contribute to increase the economical differences with the Spanish average, more than other economic indicators, such as the GDP per capita or the unemployment rates. On the other hand, if these low bankarization levels could be influenced by the socio-religious traditions of a large sector of the population in reference to the use of financial services.

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3. Methodology

This research used statistical data published by official government and financial institutions to explain and compare the access to banking services in Melilla and Ceuta with that in Spain. Facts and variables were analyzed on the basis of financial, demographic, and economic information collected from public sources.

3.1. Research design

The study combines different stages and analytical approaches. In a *Exploratory stage* where the research design and the research process basically depend on the state of knowledge regarding the research topic as reflected in the literature. In a *Descriptive stage* we use descriptive statistical techniques to classify data in terms of a selected set of indicators. This facilitate a comparison between Ceuta and Melilla, and also made it possible to compare the bankarization levels of these cities with that of the rest of Spain. We use *regression method* to study the two main concerns. Linear regression is a basic type of regression and commonly used in predictive analysis. The overall idea is to examine if a set of predictor variables has a role in predicting an outcome variable or if the model uses the predictors accounting for the variability in the changes in the dependent variable. A linear regression model is typically stated in the form,

$$y = \alpha + \beta x + \varepsilon$$

where the right hand side may take other forms, but generally comprises a linear combination of the parameters, here denoted α and β. The term ε represents the unpredicted or unexplained variation in the dependent variable; it is conventionally called the "error", whether it is really a measurement of error, or not. The error term is conventionally assumed to have expected value equal to zero, as a nonzero expected value could be absorbed into α.

3.2. Variables and indicators

There is still no consensus on the way to determine the bankarization level of a population. Although different calculation methods have been proposed, most authors (e.g. Beck *et al*. 2006; Anastasi *et al*. 2006; Amor *et al* 2008) agree that the bankarization level of a country or a territory reflects the development of the society as a whole and has

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a positive correlation with economic growth. The indicators of financial depth proposed by these researchers are not only the ratio between variables such as loans, deposits, bank offices, bank employees, etc., but also the ratios of these variables to the population and the GDP of the country or territory. In order to assess the influence of banking on the economy, the following types of variable are used (See Table 1):

[Table 1 about here]

Bankarization indicators are extremely useful, whatever the theoretical approach used, because they provide an objective basis for any type of empirical study. The variables analyzed in our study were those that were most indicative of the financial situation in the territory and and its evolution. Such indicators accurately portray the financial state of affairs in the territory and relate the data to the regulatory framework as well as to the macro-economic panorama.

As part of our research, a systematic revision was performed of existing data sources. The documents published by these institutions, generally in their databases, were consulted in order to extract statistical information. The data obtained from these sources were consolidated, processed and/or systematically recorded for the purposes of our study.

3.3. Data sources and structural analysis

The main data sources consulted were the following; the reports of banking consortiums, such as the *Confederación de Cajas de Ahorros* (CECA), *Asociación Española de Banca* (AEB), *Unión Nacional de Cooperativas de Crédito* (UNACC), reports of the *Instituto Nacional de Estadística* (INE) and economic reports of the *Banco de España*, *Fundación de las Cajas de Ahorros Confederadas para la investigación Económica y Social* [Foundation of Federated Savings Banks for Economic and Social Research], and the Banco Bilbao Vizcaya Argentaria (BBVA).

These documents provided the analytical foundations for the validation of our hypotheses. In order to judge the usefulness and viability of the data for our study, we took into account the year of publication, authorship, and the strengths and weaknesses of each type of source document.

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In regards to the linear regression estimates, as previously mentioned, we used the banking indicators per capita (X) related with the GDP per number of inhabitants (Y) to evalaute the possible existence of a correlation. The goal is to conduct a situation analysis to simulate the possible effects that on the dependent variable (GDP per capita) will have the different strategies for the independent explanatory variable (bankarization per capita).

The reason is that we want to study how to increase the GDP per capita if we got a greater use of the financial system by a part of the population of these cities, in line with the rest of economic indicators. The analysis will confirm the possible relation, through the Pearson's correlation coefficient, where the numerator is the covariance of both variables, and the denominator is the product of their standard deviations. The scatter diagram to see what type of relation that exists between GDP and the rate of bankarization. Annual data from Spain and Autonomous Cities cover the period between 2000 and 2015, and the impact of the bankarization rate upon economic grownt is analyzed.

4. Results and discussion

This section presents the results of the financial data for Melilla and Ceuta and compares them with those of the rest of Spain for 2000–2015. It also performs the analysis the bankarization level of Melilla and Nador as compared to Spain and Morocco. The banking indicators are for different social, demographic, and economic categories, and are used as management tools with a view to finding the most effective perspective for the economic evaluation. Tables 1 and 2 show the banking data for 2000 (the first year studied), 2007 (the last year of economic growth) and 2015 (the last year of available data in the sources consulted). They also list the percentage variations between the first and final years of each phase in the time period studied. All of the tables have the same structure and information fields in order to facilitate the analysis and comparison of the data and variations.

4.1. Bancarization in Melilla, Ceuta and Spain

Table 2 shows the banking, macroeconomic and population data for Melilla and Ceuta. It also reflects the years of economic growth and crisis as well as the percentage variations for the entire period as well as for each of its cycles.

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[Table 2 about here]

Melilla

As shown in Table 2, the evolution of all values is generally positive with varying levels of growth. The number of bank offices increased from 16 to 26 (63 per cent). The number of bank employees also increased from 130 to 164 (26 per cent). However, it is in the number of bank employees where a reduction occurred due to the crisis though the number is still higher than in 2000. Bank deposits grew by 110 per cent and loans by 178 per cent. This means that the loan-to-deposit ratio fell from 117 per cent to only 89 per cent. The total deposits in 2015 came to slightly more than EUR 900 million whereas the total loans were EUR 1,026 million. That meant that in 2015 the financing gap was EUR 118 million. This deficit reflects a significant change since it went from an initially positive balance of EUR 63 million in 2000 to a negative balance of EUR 118 million in 2015. In 2000–2015, the phases of economic growth and of economic crisis are clearly reflected in the reduction of the loans, as well as in the financing gap. In contrast, the number of banks offices, bank employees, deposits, and bankarization indicator increased.

When the same values are calculated per inhabitant, the loans per capita varied with the economic cycle. Nevertheless, this was not the case for the deposits per capita, which anticipated the crisis by remaining at the same level and thus causing a greater financial deficit. It should be pointed out that the high rate of population growth experienced by Melilla in recent years is the main reason why practically all of the financial indicators per capita decreased during this period. In 2015, the average financial deficit per inhabitant in Melilla was EUR 1,396, which is almost twice the deficit per inhabitant in 2000 (EUR 963).

In 2000–2015, the GDP increased 58 per cent. The period of growth lasted until the crisis in 2007, after which the GDP practically only it has varied 7 per cent. The evolution of the population was particularly significant, not so much because of its 29 per cent increase, but rather because this increase was greater in the years of crisis (19 per cent) than in the years of economic growth (8 per cent). The comparison of banking indicators shows that the loans-to-GDP ratio fell from 2.5 to 1.4. Similarly, the deposits-to-GDP

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ratio decreased from 2.1 to 1.6. The unemployment rate also reflects these cycles of economic growth and crisis. Accordingly, it decreased 22 per cent until 2007, when it soared to 102 per cent.

Ceuta

The main banking indicators for Ceuta were not as positive as those for Melilla. For example, the number of bank employees fell from 157 to 135 (14 per cent) though the number of bank offices increased from 20 to 21. Total indebtedness tripled (205 per cent) since loans, which came to EUR 410 million in 2000 rose to a high of EUR 1,252 million in 2015. Deposits also increased (84 per cent), but on a somewhat lesser scale, going from EUR 476 million in 2000 to EUR 875 million in 2015.

Since loans increased more than deposits, the financial deficit worsened significantly, going from a positive balance of EUR 66 million in 2000 to a deficit of EUR 377 million in 2015. The loan-to-deposit ratio varied from 116 to 70 per cent, placing Ceuta in a much more precarious position than Melilla, where the financing gap was three times smaller. The evolution of Ceuta during the periods of economic growth and crisis reflects a reduction in the number of employees and financing gap. In contrast, there is a slight increase in deposits, loans, and the bankarization indicators.

The same values calculated per capita indicate that the loans per inhabitant reflect the economic cycle. In Ceuta in 2015, the level of credit debt rose to EUR 14,792 per person, which almost it trebles the level in 2000. In 2015, the average financial deficit per inhabitant was EUR 4,454, more than five times the amount in 2000 (EUR 866).

The GDP in Ceuta rose by 54 per cent during the cycle of economic growth, and only increased 13 per cent during the years of crisis. The population increased by 19 per cent, which is ten points less in Melilla for the same time period. The ratio of the GDP to the total amount of loans decreased from 2.3 to 1.3. The ratio of the GDP to total deposits also fell from 2.0 to 1.9. The unemployment rate also reflects the economic cycles. During the years of economic growth, it decreased 17 per cent and increased 92 per cent during the subsequent years of economic crisis.

Spain

Table 3 shows the values corresponding to Spain as a whole. These include the same banking, macroeconomic, and population data fields as in Table 1 for Melilla and Ceuta.
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The banking indicators in Spain differ significantly from those for the cities of Melilla and Ceuta. First of all the number of banks decreased because of the mergers that took place from 2007 to 2015. The 281 banks in 2000 became 197 in 2015, which is a 30 per cent reduction. Moreover, in line with this decrease, many branch offices also closed. Consequently, in 2015, there were considerably fewer banks and branch offices than in 2000. This process also signified downsizing and a reduction in bank jobs. Not surprisingly, the evolution of the number of branch offices and bank employees was also parallel to the economic cycles. The number of bank employees rose significantly in 2000–2007. However the adjustment at the beginning of the financial crisis was extremely volatile. The number of jobs plummeted and this sharp reduction exceeded the job growth in the years of economic prosperity. The 270,718 bank employees in 2007 were reduced to 192,295, which was even lower than the number of employees in 2000 (240,316).

Deposits and loans in Spain as a whole evolved similarly to those in Melilla and Ceuta. However, the financing gap was much larger since it grew six times larger over this time period. In fact, from EUR 39,606 in 2000, it soared to EUR 49,879 million in 2015. From 2000 to 2007, loans increased more than deposits though when the crisis began, these became more equal. Credit generally decreased because banks gave fewer loans to private individuals and businesses. In contrast, deposits increased because of the uncertainty engendered by the economic situation. This caused a significant reduction in consumer spending.

Loans per capita amounted to EUR 28,824 compared to deposits of EUR 27,750. The financing gap per capita was EUR 1,074 in 2015, which was higher than EUR 974 in 2000. This is one of the main reasons why once the financial bubble had burst, the adjustments, cutbacks, and payment defaults became such crucial factors. Most of the economic growth from 2004 to 2007 stemmed from a growth in loans per capita for real estate investment. This caused the famous economic bubble and financial deficit per capita to attain a level as high as EUR 10,528. Since the loans and deposits grew more rapidly than the GDP, this meant that the levels of debt and savings exceeded the value of all the finished goods and services in the same time period.

4.2 Comparison of bankarization in Melilla, Ceuta, and Spain

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In order to compare the financial indicators of these territories, it is necessary to use values per capita and highlight the most relevant indicators. Figure 1 shows that the mean bankarization level in Spain almost triples that of Melilla and Ceuta. For example at the end of 2015, this value in Spain was EUR 56,573 per capita, in contrast to EUR 25,131 in Ceuta and EUR 22,908 in Melilla. During the years of economic growth, these cities had practically the same ratio. However, because of the population growth in Melilla, the bankarization rate subsequently fell to become lower than that of Ceuta.

[Figure 1 about here]

As shown in Figure 2, during the time period of our study, Melilla was the territory that experienced the least growth, based on the bank indicator of the total amount of loans and deposits (88 per cent), whereas the mean percentage for Ceuta and Spain was 102 per cent and 111per cent, respectively. The greatest adjustment in Melilla during the crisis (−12 per cent) was due to an important reduction in the level of debt (see Figure 6), which did not occur in Ceuta.

[Figure 2 about here]

Figure 3 shows the deficit or financing gap per capita (difference between deposits and loans). As can be observed, Spain has the lowest value with EUR −1,074/hab. This is fairly close to the mean value in Melilla (EUR −1,396/hab) and is significantly less than that of Ceuta (EUR −4,454/hab). As previously mentioned, Melilla began to adjust this deficit in 2007. Nevertheless, in Ceuta, the financing gap did not stop growing until 2011. It should be underscored that Melilla has always had a better financial position than the average in Spain. In contrast, the situation in Ceuta has progressively deteriorated, Over the years its deficit per capita has exceeded that of Spain and in 2013, it was three times greater than that of Melilla.

[Figure 3 about here]

Regarding savings per capita, Figure 4 shows that the values for Ceuta and Melilla are much lower than those for Spain. It is particularly troubling that deposits per capita,

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which were half of the value for Spain in 2000, fell to a third of this value in 2015. The values and the evolution of savings were very similar in both Ceuta and Melilla. Consequently, the difference between the two cities primarily lies in their respective levels of bank debt.

[Figure 4 about here]

Figure 5 shows the evolution in savings per capita in both economic cycles. As can be observed, this value in Ceuta and Melilla grew at about 50 per cent of the rate in Spain. Durante the years of financial crisis, the apparently lower level of savings in Melilla was due to population growth, which more than doubled that in Ceuta and in Spain.

[Figure 5 about here]

Figure 6 reflects the net borrowing per capita. As can be observed, the average in Spain is significantly greater than the values in Melilla and Ceuta. Although it is not as great as the difference in savings per capita, it is still close to double the value for Spain. There are also differences between the two North African cities since Melilla has a much lower net borrowing per capita (EUR 12,152) than Ceuta, where this value is as high as EUR 14,792.

[Figure 6 about here]

It is worth mentioning that from 2000–2015, the net borrowing in Ceuta increased 157 per cent in contrast to 108 per cent in Spain and 117 per cent in Melilla. However in the period of economic crisis, the adjustment in Ceuta (–7 per cent) was much less than in Melilla (–31 per cent) and Spain (–38 per cent) (see Figure 7).

[Figure 7 about here]

According to the debt-to-GDP ratio data in Figure 8, Melilla is the most solvent territory since its debt is 70 per cent of its GDP as compared to Ceuta, where the percentage is 76 per cent. However, in 2015, the debt-to-GDP ratio in both cities was

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considerably less than the percentage for Spain (124 per cent). As shown in Figure 8, the adjustment was much more drastic in Spain, in comparison to Melilla, where the adjustment did not vary and to Ceuta, where it was quite small.

[Figure 8 about here]

The deposits-to-GDP ratio (see Figure 9) for Melilla and Ceuta show even greater differences in regards to that of Spain since in both cases in 2015, their percentages were approximately half that of Spain.

[Figure 9 about here]

4.4 *Analysis of relation between GDP and bankarization per capita rate*.

In the analysis of bankarization per capita, the central tendency measured by the median is significantly lower, in the three territories, than the value obtained by this indicator in the last year. On the other hand, for GDP per capita, the median in Melilla is the closest to the value of the year 2015, while in Ceuta and the Spanish average are lower and with a greater differential (see Table 4).

[Table 4 about here]

From the correlational point of view, in the three cases there is a high correlation between the variables studied, corroborated by the independence test with *pvalue*<0.001 and also verified the hypotheses of the model by the analysis of the residues.

With regard to Melilla, Figure 10 shows the correlation between the GDP indicator per capita and the bankarization indicator per capita. After applying the simple linear estimation method, the degree of correlation was found to be very acceptable with a coefficient of correlation of Pearson= 0.905. So that, there is a close correlation between variable y (GDP) and variable *x* (bankarization level as reflected in the total loans and deposits). Accordingly, the fitted model has a determination coefficient of R2 = 0.819. In other words, 82 per cent of the GDP per capita is explained by the fitted model, thus confirming the hypothesis of the relation between both variables,

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$$y = 0.3492 \, x + 9690$$

For every increase of EUR 100 per capita in bank products (assets and/or debit), this would contribute to a growth of the GDP per capita in almost EUR 35. Interestingly, these data indicate that if there were an increase in economic activity, this would produce a corresponding increase in the population´s access to banking services, thus leading to the development of the sector. Furthermore, if there were a greater access to banking services, this would increase the GDP of the city or territory. However, promoting access to these services for the population in Melilla is a complex issue since it also depends on culture and sociocultural customs, which make it difficult to create conventional banking products that correspond to the consumer demand of financial services.

[Figure 10 about here]

This same analysis applied to Spain shows the almost perfect relation between the bankarization index and the GDP. This is reflected in a coefficient of Pearson of 0.966 approximating a value of 1.0 and the model has a determination coefficient of $R^2 = 0.933$, in other words, it thus explains almost 93 per cent of the GDP, confirming the hypothesis of the relation between the two variables, even better than for Melilla.

$$y = 0.1656 \, x + 12{,}268$$

For every EUR 100 increase per capita in bank products (assets and/or debit), this would contribute to a growth of the GDP per capita in EUR 16.6.

[Figure 11 about here]

The analysis applied to Ceuta also shows an almost perfect relation between the bankarization index and the GDP. A coefficient of Pearson of 0.953 approximating a value of 1.0 and the model has a determination coefficient of $R2 = 0.909$ confirm the hypothesis of the relation between the two variables, in a similar way than for Melilla.

$$y = 0.3424 \, x + 9624$$

[Escriba aquí]

For every of increase EUR 100 per capita in banks products (assets and/or debit), this would contribute to a growth of the GDP per capita in EUR 34.2

[Figure 12 about here]

5. Conclusions

The main objective of this research study was to ascertain the bankarization levels of Melilla and Ceuta, how these values compared with the bankarization level in the rest of Spain, and their evolution in 2000–2015. There are many studies that analyze the banking sector as an element contributing to the development of a country or territory. Evidently, access to banking services and a customer service network as well as the use of the banking system by means of deposits to encourage savings or loans to finance investments enhance productivity. Many conclusions can be derived from this study but the most relevant are those that provide an explanation for the lower bankarization level of Melilla and Ceuta in comparison to Spain as well as for the differences between the two cities.

1) Regarding the banking network, Melilla is the territory with the highest growth rate in regards to the number of offices and bank employees (+63% and +26%) in contrast to those of Ceuta (+5 % and –14 %) and Spain (–24 % and –20%). Nevertheless, when this is measured per capita, both Melilla and Ceuta are still far below Spain in terms of the number of inhabitant per bank offices. More specifically, Melilla has a ratio of 3,249 inhabitants per bank office and Ceuta, 4,030 inhabitants per office, whereas the ratio in Spain is 1,548 inhabitants per office. Accordingly, the number of bank employees per capita in Melilla is 516 inhabitants per employee and in Ceuta, 627 inhabitants per employee. Both of these figures are considerably lower than the 241 inhabitants per employee in Spain. These data are indicative of the important differences in the bankarization indicators in these North African exclaves in comparison to those in Spain.

2) In regards to the use of banking services, the deposits in Melilla (110%) increased more than in Ceuta (84%). Both of these percentages, however, are lower than the percentage for Spain (145%). The difference in deposits per capita is even greater. In Spain, the amount is EUR 27,750 /hab. as opposed to EUR 10,756/hab. in Melilla and EUR 10,338/hab. in Ceuta. Nevertheless, the evolution in credit volume was

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precisely the opposite. In Melilla, the percentage was 178% as compared to that of Ceuta (205%). Both figures were substantially higher than the percentage in Spain (137%). When debt is measured per capita, Melilla has the lowest level of indebtedness at EUR 12,241/hab, which is much lower than EUR 14,792/hab. in Ceuta and EUR 28,824 /hab. in the rest of Spain. The financing gap, measured as the difference between loans and deposits, indicates that Spain is in the best position with a deficit of EUR –1.074/hab., which is much lower than EURO –1,396/hab. in Melilla and EURO –4.454/hab. in Ceuta.

This means that in reference to per capita values, the bankarization level of Melilla has improved considerably compared to that of Ceuta because savings increased and credit debt was reduced. Nevertheless, the values for both cities are still twice that of the same indicators for the rest of Spain. This reflects the relatively low bankarization levels in Melilla and Ceuta, and thus, the possibility of a potential growth in the sector if the current rate of approximation continues.

3) Concerning the macroeconomic indicators, one might think that the lower bankarization levels in Melilla and Ceuta are due to the difference in their GDP per capita in regards to that in Spain. However, it was observed that this is not the case. Whereas the GDP/hab. is 25 per cent – 16 per cent lower in Melilla and Ceuta than in Spain, the loans/deposits ratio per inhabitant is over 100 per cent less. More concretely, the loans/deposits ratio for Melilla is 89 per cent whereas in Ceuta, the ratio is 70%. Both percentages, however, are lower than the average in Spain, which is 91%. The bankarization level in Spain is 2.4 times greater than the GDP per capita, whereas in Melilla and Ceuta, it is only 1.3 times. With this has been demonstrated the first part of the hypothesis, that the low bankarization calculated per inhabitant in the autonomous cities contribute to increase the economical differential with the Spanish average.

4) The correlation model of the GDP and Bankarization capita says that the three territories analysed have a high coefficient of determination, nearby to 1. In addition, it is appraised in the calculations of linear estimation in the autonomous cities, the greater influence that has the use of financial services in total GDP, with a potential of growth close to the triple of the Spanish average, 0.356 per cent in both cities and 0.134 per cent in Spain. For every increase of EUR 100 per capita in banks products of assets and/or debit, in autonomous cities, this would contribute to a growth of the

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5) Although the wealth per capita would partially justify this state of affairs, there also seem to be other factors as well, which cannot be attributed to the low level of economic development. These factors include the following: difficult access to banking services, the low quality and lack of variety in the services offered, lack of legislation guaranteeing property rights and security of depositors, bureaucratic inefficiency, employee training, etc. These results highlight the need to investigate the influence of the socio-cultural characteristics of the population in Melilla and Ceuta, and their impact on their use and access to banking services. The fact that these regions have a low income per capita signifies that they have correspondingly lower bankarization indicators. However, for a full explanation of this phenomenon, it is also necessary to take other factors into account such as Muslim customs and beliefs in regards to issues such as bank operations and interest rates, which also could influence bankarization in these North African cities. The second part of the hypothesis remains to be confirmed, that is, the possible influence of the socio-religious customs of a large sector of the population in to the use of financial services.

6. References

Amor, B., Tascón M. and Fanjul J. (2008), "Factores determinantes de la rentabilidad anormal de los Bancos de la OCDE", *Revista española de financiación y contabilidad, No. 37 (*139), pp. 469-499.

Anastasi, A., Blanco, E., Elósegui, P. and Sangiácomo, M. (2006), "Bancarization and determinants of availability of banking services in Argentina", *Working Paper No.* 15, Banco Central de la República Argentina

[Escriba aquí]

Asociación Española de Banca (2015)*, "Informes anuales"*, Available at: www.aeb.es. [Accessed on 29 June 2016].

Aziz, TM (1993). "An Islamic perspective of political economy: The views of Muhammad Baqir al-Sadr". *Al-Tawhid Islamic Journal*. 10 (1).

Banco de España (2014), "Un análisis de las diferencias entre entidades en la evolución del crédito al sector privado durante la crisis", *Boletín económico marzo,* Available at: http://www.bde.es/f/webbde/SES/Secciones/Publicaciones/InformesBoletinesRevistas/BoletinEconomico/13/Mar/Fich/be1303-art2.pdf [Accessed on 29 September 2014].

Banco de España (2014), "La evolución del Danbalance agregado de las entidades de crédito españolas a lo largo de la crisis", *Boletín económico octubre*, Available at: http://www.bde.es/f/webbde/SES/Secciones/Publicaciones/InformesBoletinesRevistas/BoletinEconomico/12/Oct/Fich/be1210-art5.pdf [Accessed on 29 September 2014].

Beck, T., Demirgück-Kunt, A. and Martínez, M. (2006), "Banking services for everyone? Barriers to bank access and use around the world", *Working Paper* 4079, World Bank Policy Research.

Confederación de Cajas de Ahorros (2015), "*Anuarios*", Available at: www.ceca.es [Accessed on 29 June 2016].

Diaw, A., (2015) "The global financial crisis and Islamic finance: a review of selected literature", *Journal of Islamic Accounting and Business Research*, Vol. 6 No. 1, pp. 94 – 106.

Etem E., Bengül, K. and Metin T. (2016), "Reconciliation or polarization in Islamic bank preference? Socio-political, socio-economic and demographic aspects: Eskisehir case in Turkey", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 9 No. 1, pp. 67-86.

Faeyz, M.J. (2007), "*El mecanismo de funcionamiento de los bancos islámicos y su tamaño en los mercados financieros*", PhD dissertation presented at the University of Granada.

García-Herrero, A., Moreno, C. and Solé, J. (2008), "Finanzas Islámicas. Desarrollo reciente y oportunidad", *Revista de Estabilidad Financiera- Banco de España*, No. *15*, pp. 120-130.

Gerrard, P. and Barton Cunningham, J. (1997), "Islamic Banking: A Study in Singapore", *The International Journal of Bank Marketing*, Vol. 15 No. 6, pp. 204 – 216.

[Escriba aquí]

Hachicha, N. and Ben Amar, A., (2015), "Does Islamic bank financing contribute to economic growth? The Malaysian case", *International Journal of Islamic and Middle Eastern Finance and Management,* Vol. 8 Iss: 3, pp. 349 - 368

Hanif, M. (2016), "Economic substance or legal form: an evaluation of Islamic finance practice". *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 9 Iss: 2, pp. 277 – 295.

Jalaluddin, A. (1992), "Savings behaviour in Islamic framework", *Economic Bulletin Persatuan Ekonomi, Kajian Perniagaan dan Pengurusan, Shah Alam*, Vol. 2 No. 3, pp. 71-85.

Kasri, R. and Kassim, S. (2009), "Empirical Determinants of saving in the Islamic Banks: Evidence from Indonesia", *Journal of King Abdulaziz University.- Jeddah : Scientific Publ. Centre, King Abdulaziz Univ*, Vol. 22 No. 2 pp. 3 – 23.

Kassim, S., Majid, M. A. and Yusof, R. (2009), "Impact of monetary policy shocks on conventional and Islamic banks in a dual banking system: evidence from Malaysia", *Journal of Economic Cooperation and Development*, Vol. 30, pp. 41 – 58.

Khan, M. and Mirakhor, A. (1990), "Islamic banking: experiences in The Islamic Republic of Iran and in Pakistan", *Economic Development and Cultural Change*, Vol. 38, 353 – 375.

Khan, M. and Miraknor A. (2001), "Monetary management in an Islamic Economics", *Islam Economics*, No. 4, pp. 3-25.

Khasawneh, A. (2016), "Vulnerability and profitability of MENA banking system: Islamic versus commercial banks", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 9 No. 4, pp. 454 – 473.

Kia, A. and Darrat, A. (2007), "Modeling money demand under the profit- sharing banking scheme: evidence on policy invariance and long-run stability", *Global Finance Journal,* Vol. 18, pp. 104 – 123.

Kumar, A.; Beck, T., Campos, C. and Chattopadhyay, S. (2005), "Assessing financial access in Brazil", *World Bank Working Paper, 50*, World Bank, Washington, DC.

Lebdaoui, H. and Wild, J (2016), "Islamic banking presence and economic growth in Southeast Asia", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 9 No. 4, pp. 551 – 569.

[Escriba aquí]

Martín-Oliver, A., Ruano, S. and Salas-Fumás, V. (2013), "Why high productivity growth of banks preceded the financial crisis", *Journal of Financial Intermediation, Vol* 22, No. 4, pp. 688-712.

Metawa, S. and Almossawi, M. (1998), "Banking Behaviour of Islamic Bank Customers: Perspectives and Implications", *International Journal of Bank Marketing*, Vol. 16 No. 7, pp. 299 – 313.

Mushtaq, S. and Siddiqui, D. A. (2016), "Effect of interest rate on economic performance: Evidences from Islamic and Non-Islamic Economies". *Financial Innovation*, Vol. 2 No. 9.

Morales L. and Yañez A. (2006), "*La bancarización"*, Serie Técnicas de Estudios de Superintendencia de Bancos e Instituciones Financieras.

Ruiz J.M. (2007), "La bancarización en Latinoamérica. Un desafío para los grupos bancarios españoles", *Revista Estabilidad Financiera*, No. 13, pp. 123-132.

Salahuddin, M., Islam, R., Syed, A. and Salim, A. (2009), "Determinants of investment in muslim Developing countries: An empirical investigation", *International Journal of Economics and management*, Vol. 3 No. 1, pp. 100 – 129.

Sukmana, R. and Kassim, S. (2010). Roles of the Islamic banks in the monetary transmission process in Malaysia, *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 3, pp. 7 – 19

Unión de Comunidades Islámicas de España (2015), "*Informe de la población musulmana en España. Explotación estadística del censo de ciudadanos musulmanes en España referido a fecha 31/12/2015"*, Available at http://ucide.org/es/observatorio-andalusi [Accessed on 30 may 2016].

Unión Nacional de Cooperativas de Crédito (2015), "*Anuarios"*, Available at: http://www.unacc.com/ [Accessed on 15 June 2016].

Zahler, R. (2008), "*La bancarización de las entidades privadas*", United Nations. New York.

Zaher, T. S. and Hassan, M. (2001), "A comparative literature survey of Islamic finance and banking", *Financial Markets, Institutions and Instruments*, Vol. 10, pp. 155 – 199.

Zainol, Z. and Kassim S. (2010), "An analysis of Islamic banks'exposure to rate of return risk", *Journal of Economic Cooperation and Development*, Vol. 31, pp. 59 – 84.

[Escriba aquí]

Zarrouk, H., Ben Jedidia, K. and Moualhi, M., (2016). Is Islamic bank profitability driven by same forces as conventional banks? *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 9 Iss: 1, pp. 46 - 66

[Escriba aquí]