IS THERE A DIFFERENCE IN FINANCING EFFICIENCY?

CONVENTIONAL BANKS VERSUS ETHICAL BANKS

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Abstract

The current economic and financial crisis have underlying, to a certain extend, the short term perspective of the decision making processes of firms, specially of banks, and the weakness of principles and values in the design and selling of complex financial products. Within this context the demand of transparency and CSR has increasing. The named ethical banks appear as a model of supplying financial services with high potential for financing, especially for small firms as well as for individuals. In this paper we analyze and compare the return on assets and on equity over a period of five years of both Ethical Banks and Conventional Banks listed on Sustainability Index. For the empirical analysis we used a fixed data panel model and a Discriminant Function Analysis. We conclude that the conventional banks get higher rates of return, due to higher risk investments they undertake and to wider range of operations. But Ethical banks are more competitive when we compare them in terms of the real economy.

Keywords:

Ethical banking, Corporate Social Responsibility, banking and finance.

JEL codes:

M1 - Business Administration

Area of Research:

Finance and Accounting

1. INTRODUCTION

In 1933 the US Congress passed the Glass-Steagall Act, which regulates the banking system separating banking deposits (deposits and management of relatively small loans to SMEs and families) of investment banking, dedicated to operate with large and risky investments. After strong pressure from Wall Street, the Glass-Steagall Act was repealed in 1999. Until then the law protected the savings of millions of American families. With the crisis of 2007, 2008 showed that many banks, freed from the rules of the Glass-Steagall Act, had lost millions of dollars "invested" without knowledge of their owners, and to some extent subject to very speculative operations. The extent of the crisis originated in the US to Europe first and then across the board showed bad banking practice based on the legal and financial engineering (complex derivatives and structured products) that led to large losses assume savings, especially in the segment of savings relatively modest. It revealed the existence of conflict of interest and possibly committing crimes of market abuse. the reason for these sanctionable practices is the lack of a culture of honesty and ethics in many financial institutions l lack of rigor and forcefulness in banking supervision and capital markets (Lamothe, Pérez Somalo and Perez Guerra, 2013). The banking crisis was saved with taxpayer money under the motto: save the financial system. He helped the banks to save them (assuming the implicit moral hazard). The State aid with the risk has shifted from private to public sector.

Investment banks to issue debt rather than taking deposits made which are subject to minimal supervision. Intermediaries outside the regulatory system, created an alternative financial system (shadow banking system), responding to incentive creation of securitisations high performance but with much hidden risk (Rosaen, 2010). In fact an inseparable pair broke in financial decisions: profitability and risk. They managed to obtain high yields in the short term, transferring the risk to investors directly and indirectly to the entire economy, which ended becoming systemic risk (Duran, 2010). According to Bengtsson (2016) instability in the funding profile of investment funds may threaten the ability to substitute banks' liquidity and maturity transformation; That shortages their potential funding liquidity, leverage and asset reallocations may contribute to procyclicality in credit and market the systemic runs on money and short-term credit markets; Insufficient separation risk and that may eludes managerial and supervisory oversight, and force banks to reduce or interrupt credit intermediation. Shadow banking has grown over 6% (from 36 dolars bill at the end of 2014), which means that more than 12% of the financial assets in the world.

In the past five years parallel credit system developed by the so-called shadow banking has grown at a rate over the 6% (36 billion dollars by the end of 2014, 12% of all financial assets in the world). This shadow banking system offers new financing to companies and savings alternatives to investors. By being outside the supervision and regulatory advantages to offer you raise the need to mitigate systemic risk that implies

this financial segment. It is needed a good or proper regulation of this modality of - financial credit risk due to they are an alternative source of financing the economy.

The shadow banking includes money market funds, hedge funds, crowdfunding platforms, personal loans, securitized products or repurchase agreements (Repos). A broad definition would also include pension funds, insurance companies and other financial institutions such as venture capital (FSB, 2015)

The large volume of financial transactions internationally chained, independent of the real economy, began to question the viability of some institutions, creating distrust, with the loss of value of the collateral assets and rising delinquencies. Opacity "out of balance" in an interdependent world, created great distrust, the interbank market was canceled producing the corresponding shortage of credit, automatically affecting the real economy. The perception of risk increased significantly. Demand dropped, investment declined, increased unemployment, reduced consumption and increased delinquencies. Countries injected liquidity to financial institutions were helped and insurance difficulties, was used fiscal policy stimulus, increased the deficit countries and the new crisis underlined: Public Debt ", speculation accelerates and significant benefits and substantial collection of "bonus" are generated. A process of increasing returns, which provided substantial banking commissions generated

Although it is possible to identify singularities or profiles that can allow differentiation between financial crises if there is also a pattern common to all of them (Minsky, 1972, 1997; Kindleberger and Aliber, 1978). Minsky says that the oscillation of the financial system between robustness and fragility or robustness generates business cycles. So, in times of prosperity, there is liquidity in excess of what is necessary for the payment of debts, triggering a speculative euphoria leading lenders to grant credit levels above the ability of borrowers to meet their commitments with their own income. So-called Minsky moment occurs when borrowers have to sell their assets to meet their debt obligations, creating a downward cycle. In this situation lenders restrict credit generalized to all economic agents manner. The next moment comes when the financial crisis jointly is explicit and real economy. This argument supports the idea of the existence of "unstable economic stability" (Minsky, 1977). Economic stability in good times leads to underestimate the risks. The accumulation of risk in the presence of cheap liquidity, leads to the formation of speculative bubbles that burst when permeate the entire economy (Yellen, 2009).

Some attempts to stop those kind of unethical behaviour has been developed: The Serious Fraud Office in the UK, (SFO) was launched in November 2015 a first process workers against Deutsche Bank and Barclays by manipulation of the Libor and Euribor. The loss of trust and reputation of financial institutions constitutes intangible liability for the whole economy

THE RESPONSIBILITY OF BANKING FIRMS.

In this context, business ethics poses two essential challenges: one of them is the relativity and the other one is the globalization. A decision can be ethical from a point of view, but be unethical from another one: telling the truth is ethical, and it must be told…but is it ethical telling it only because revealing the truth is of our own interest?

On the other hand, it is really well explained by Argandoña (2011) why is it so complicated to behave ethically: in today's fast-changing world everything became global: practically every sector is multi- and international, the emigration and the immigration broke previous records, the language barriers disappeared, the significance of physical distances are sharply reduced with the technology…

How does it affect ethics? Through co-habitation: different nations and cultures live and work together, director boards have members from different countries who have diverse ideas about what is wrong and right, how things have to be handled and which decisions are the most beneficial socially.

To start with, let us talk about CSR (Corporate Social Responsibility). Several definitions and interpretations appeared regarding the term, but in the essentials Holliday et al. and Portney (2002, 2005 respectively) coincide: the voluntary change of the economic focus, taking more into consideration the environment, the society (both internal and external to the company: local people and workers), and the outperformance of the minimum requirements.

CSR is a consistent pattern of companies doing more for the environment, worker safety and health and investment in the communities in which they are operating, in addition to fulfilling all the requirements set by applicable laws and regulations; all those companies who practice CSR have the obligation of focusing on individuals, putting employees first and reporting to all the stakeholders.

In the same sense, Sánchez remarks the characters of following CSR: taking for granted that companies fulfill the minimum requirements set by laws and regulations, being their obligation in order to be permitted to operate in a community, taking additional voluntary measures towards a better future: raising the level of the social development, protecting the environment, respecting human rights and providing transparency by improving the relationship between the leadership and the employees (2008).

It is important to understand that being a CSR participator is voluntary, it is a free decision taken by companies, regardless their size or their private or public being, taking into consideration the direct and indirect effects this practice can have on the company's position.

The direct effects can be observed mainly internally: improving the working conditions, the safety and the health of the workers, employees will show a higher commitment towards the company, resulting in a higher productivity, which is obviously beneficial for any kind of company.

Regarding the indirect effects, which are mainly external, the attention to the company, both by consumers and investors will be augmented, possibly impacting the competitiveness and profitability. More and more consumers are aware of the importance of choosing a fair company, mainly due to the social media having dealt with cases which originated in unethical behaviors of the directorship.

It is difficult to measure how much a company is responsible. Notwithstanding the above, a set of ethical or sustainability stock indexes have been defined which disclose entrepreneurial skills as business leaders. Among these are the Domini 400 Social Index, Calvert Social Index, the British FTSE 4Good or the Dow Jones Sustainability Group Index. There is a high demand for transparency and responsibility of firms.

The banking sector is not immune to this trend. Its importance in developing economies due to their role as intermediaries makes the potential that sustainable development is enormous (Bouma, Jeucken and Klinkers, 2001). After the crisis of 1929, the basis for a regulation which assumed the need for prudential supervision based on four pillars sat: the provision of liquidity by the monetary authority, separation of investment banking and deposit, maintaining a minimum levels of solvency and the establishment of safe deposit guarantee (Soler and Melian, 2012) that could ensure adequate economic growth based on these institutions. In the last 30 years, however, has grown not only its contribution to economic activity through based on excessive debt and financial engineering practices, gaps in regulation, risk oversight (Caruana, 2011), the increasingly globalized economy, (GABV, 2012) and the use of banks as a way to achieve personal goals and aspirations (Dembinski, 2008), has led to a search for financial efficiency aside responsibility and solidarity (Stiglitz, 2012)

The relationship between CSR and financial performance in the Western or conventional model has been analyzed from the 70s but at this time has reached a consensus in the research community. The diversity of concepts of CSR (which includes several dimensions) and its applications is not uniform across industries (Waddock and Graves, 1994). Moreover, CSR is difficult to measure. Therefore, in recent years we have developed important studies to try to establish whether there is a direct relationship between CSR and financial performance of companies. Some authors found a positive relationship (Fombrun and Stanley, 1990; Roberts and Dowling, 2002), others a negative relationship (McWilliams and Siegel, 1997; Jensen, 2002), and others no relationship at all. Although some items are not conclusive, in general, there's researchers argue in favor of a direct positive relationship (in some cases, discrete) between these two variables (Walsh et al, 2003; Orlitzky et al., 2003). However, in these studies, not only they have considered various measures of CSR (indicators, classifications, surveys, publications) but also found differences in the definition of these variables (Garriga and Mele, 2004). Likewise, neither it has used a homogeneous measure of financial performance (contributions, asset size, or equity).

If we accept that the relationship between CSR and financial performance (RF) is indirectly through other mediating variables (Surroca et al, 2010) The question is how

to identify these variables. The social behavior of companies, reputation, corporate culture and level of intangible assets are variables that can have a direct effect on the performance of CSR and financial performance.

This paper is structured as follows. In the second section, we present the main features of the perspective of corporate responsibility in order to present the main features of the ethical banking versus de conventional one. Then we focus the debate on ethical banking to complete the development of the framework and thus be able to continue with the empirical analysis.

2. IS THERE A NATURAL DIVERGENCE BETWEEN ETHICAL AND CONVENTIONAL BANKING?

CSR in the financial system has undergone significant development in recent years since they have had to integrate environmental and social criteria and to respond to requirements and needs of its stakeholders (Pabón et al, 2014). Colevecchio Statement of Financial Institutions (BankTrack, 2003) can be considered as the inflection point. This act summarizes what financial institutions and capital markets can do in a critical situation, which may be caused by their exclusive role of lenders, analysis, advisors and investors regardless of the sustainability consequences of the projects they finance. These institutions play a decisive role in a global context: channel financial flows, create markets or influence the development of international policy with consequences that are not accounted for by the company or that can damage both the environment and human rights or social equity, but they do not admit responsibility accordingly. It is considered that these institutions do not play a proactive role in creating markets that value to both society and the environment. They tend to maximize shareholder value by maximizing their own profit. This role makes civil society questions the role of financial institutions as creators of wealth and future into and, therefore, they begin to demand greater accountability. More than 40 relevant institutions sign the Colevecchio Statement. It defines six principles considered as "best CSR practices in financial institutions". These principles are a commitment to sustainability; the "do no harm"; the acceptance of responsibility; accountability; transparency and support for sustainable markets and good governance. According to that the Pinciples of Equator were stated on 1 July of 2010. These Principles are based on policies and guidelines of the IFC, the World Bank branch dedicated to private sector investment. For the elaboration of the principles, banks received extensive advice and guidance of this institution. According to Dealogic, it is estimated that, overall, the Banks of the agreement represent approximately 75% of the global market for syndicated loans for projects granted in 2003 (Equator-Principles, 2015)

The literature reviewed does not dwell on the characterization of ethical banking, also called social or sustainable, compared to traditional banking, although since the financial crisis that began in 2007 has been given a special coating both by depositors and the media (Karl, 2015).

It could be considered that the financial markets, in which institutions conduct their business, do not give way to concepts such as solidarity and social justice. We might call *traditional* or *conventional banking* as one that acts without these elements (Karl, 2015). Ethical finance is presented as an alternative where values such as solidarity, trust, transparency, closeness, not profitability, cooperation or participation (de la Cruz, 2013) and, therefore, the development of sustainable financial institutions and ethical banking are a fact (Benedikter, 2011a).

Sustainable banking can be defined as one that offers alternative banking, environmental, sustainable or ethical and social values as the main sensitive part of their business strategy (Karl, 2015). This definition is taken as a first conclusion. Ethical banking is the one that ensures a triple result: economic, social and environmental, which provides a broader context that those banks deemed as "social" (Weber and Remer, 2011). According Benedikter (2011b) the ethical banking has a focus on promoting economic sustainability and opportunities for the disadvantaged, the investment community, and the design and development agendas with a clear bias towards social, environmental and the ethical. In summary, the principles on which this business model is based in are (GABV, 2015):

1. Triple bottom line approach at the heart of the business model
2. Grounded in Communities, serving the real economy and enabling new business models to meet the needs of Both
3. Long-term relationships With clients and a direct understanding of Their economic activities and the Risks Involved
4. Long-term, self-sustaining, and resilient to outside disruptions
5. Transparent and inclusive governance
6. All of these principles embedded in the culture of the bank

In short it is one that earns revenue to be sustainable over time through the funding of activities with a positive social impact and at the same time takes into account the social and environmental costs of the projects and activities it funds. These two objectives are equally important priority in the way these banks are structured and are a traditional differentiator over other banks, which may well incorporate some of your products and / or business lines and these same ethical criteria solidarity. In short, it does not maximize the benefits exclusively, but takes into account costs beyond the purely economic projects and activities funded. According to Cross (2013) may be a structure for the realization of justice in the field of financial intermediation, which allows, through solidarity and promote individual and collective processes of co-ownership, generating frames inclusive economic relationship or a tool of social transformation to be structures of opportunity for people excluded from the financial system. Faced with traditional banking, finance reject those businesses that may be linked to irresponsible, socially or environmentally unsustainable (Cross, 2013) unfair business practices.

Traditional banking is not perceived by its customers as entities or social environmentally committed (Ruiz et al, 2014), so this could be a clear differentiator over ethical banking, which does have that consideration.

3. PROFITABILITY OF ETHICAL BANKING

The dual objective of ethical banking -maximización results and inclusion of social, environmental and ethical parameters financing-analysis might suggest that the benefits of these banks are lower than the traditional financial institutions (Karl, 2015).Cecchetti and Kharroubi (2015) warn of the negative relationship between the rate of growth of the financial sector and the growth rate of total factor productivity.

Its business model is based on the pursuit of profit in the medium and long term (Jimenez and Cuesta, 2008), through the financing of projects based on real economy, so it is necessary to analyze the structure of income and expenses related to funding decisions and the impact in the medium and long term (Table 1).

Table 1.- Ethical banking business model and its impacts on the profit

	Impact
Interest rates ethical and social projects financed are below market rates (Cornée and Szafarz, 2013).	Lower income Low short-term benefit
Expenses arising from the credit concession. It is technically train those who get project financing. Similarly, the project monitoring necessary to ensure recovery period (Jiménez and Cuesta, 2008).	Higher spending Low short-term benefit
Study costs: they have to perform analysis of social and environmental impact further risk analysis which has a higher cost (Jiménez and Cuesta, 2008).	Higher spending Low short-term benefit
NPLs increased exposure to a greater concentration and specialization (Karl, 2015)	Minor benefit to medium / long term
Lower staff costs be linked to voluntary or cooperative initiatives (Karl, 2015)	Reduced spending Major short-term benefit
Increased motivation of lenders and depositors against the lower probability of default of borrowers (Cornée and Szafarz, 2013).	Greater benefit in the medium / long term
Greater sectorial specialization that allows greater knowledge and monitoring business portfolio (Acharya et al, 2006)	Mayor benefit medium / long term

	Impact
Ease of access to funding not from the interbank market, which offers more stability in times of global crisis (Scheire and De Maertelaere, 2009)	Mayor benefit medium / long term
Less interest to high-risk projects (Karl, 2015)	Mayor benefit medium / long term
Emphasis on lending relationships (Karl, 2015)	Mayor benefit medium / long term

Cornée and Szafarz (2013) believe that lower short-term profitability is compensated with higher sustainability periods. This difference from traditional banks may be due to what might be called the cost of CSR. If we accept that the relationship between CSR and financial performance (RF) is indirectly through other mediating variables (Surroca et al, 2010) The question is how to identify these variables. The answer may lie in focus on ethical banking has tangible economic growth based on the real economy and in promoting economic, social and environmental impact. Therefore, if the global financial result is compared and a second financial result from those active operations based on real economy characteristic of ethical banking (which returns all banking operations are included), the behavior of these two business models can be isolated and whether CSR principles related to ethical banking make it or not profitable and sustainable over time can be deduced. In summary, if the banks focused on sustainability and based on the real economy provide better financial returns than those showing the largest banks in the world with a business model based not on the principles of sustainable and ethical banking.

4. EMPIRICAL INVESTIGATION

From the financial perspective, it is accepted that the ultimate aim of business firms is to maximize shareholder wealth. Ethic banks have a broader covenant, and they may be willing to sacrifice profitability for utilitarian aspects of social lending. Nevertheless, the continued financial health and existence of a bank requires that capital be maintained. Equity investors will also be concerned that returns are adequate to cover the risks they are taking in their investment in the bank. In this case, profitability is measured by return on average equity and return on average assets.

Respect to the sample, the elected traditional banks is the 29 included in the Financial Stability Board 2014. The 25 ethical banks are part of the Global Alliance for Banking on Values 2014. The period during which we collected data for ours is the interval between 2005 and 2014 (Table 2). Given the variations in the size of these banks, we have collected all indexes as a weighted average based on US dollar assets from the end of the year for each year of analysis

Table 2. Institutions included in the study

Global Sistematically Important Financial Institutions	Institutions belonging to the Global Alliance for banking on values
1. Bank of America	1. Affinity Credit Union
2. Bank of China	2. Alternative Bank Schweiz
3. Bank of New York Mellon	3. Assiniboine Credit Union
4. BanquePopulaireCdE	4. Banca PopolareEtica
5. Barclays	5. BancoFie
6. BBVA	6. BancoSol
7. BNP Paribas	7. Bank Australia
8. Citigroup	8. Beneficial State Bank**
9. Credit Suisse	9. BRAC Bank
10. Deutsche Bank	10. Centenary Bank**
11. Goldman Sachs	11. Clean Energy Development Bank**
12. Group CréditAgricole	12. Group CréditCoopératif
13. HSBC	13. Cultura Bank
14. Industrial and Commercial Bank of China	14. Ecological Building Society
15. ING Bank	15. First Green Bank**
16. JP Morgan Chase	16. GLS Bank
17. Mitsubishi UFJ FG	17. Merkur Cooperative Bank
18. Mizuho FG	18. Mibanco 1
19. Morgan Stanley	9. New Resource Bank**
20. Nordea	20. SAC Apoyo Integral
21. Royal Bank of Scotland	21. Sunrise Community Banks
22. Santander	22. Triodos Bank
23. SociétéGénérale	23. Vancity
24. Standard Chartered	24. Vision Banco
25. State Street	25. XacBank
26. Sumitomo Mitsui FG	
27. UBS	
28. Unicredit Group	
29. Wells Fargo	

** These banks do not have a financial history for the period that has been addressed in the first place because they were institutions that started from zero. They were included in the analysis of profitability after four years of operations and other indices for other years.

4.1 Econometric Specification

We have followed two different approach. The Panel Data with Fixed Effects Modeling was used to compare the return on assets and on equity comparing commercial banks and ethics banks. The Discriminant Function Analysis was used to try to understand similarities and differences between balance sheet composition of these different entities.

4.1.1 Panel Data with Fixed Effects Modeling.

The “Panel Data with Fixed Effects Modeling” methodology. This model is reasonable when we have evidence that differences among the individuals (in this case, several banks) are changes in the constant of the regression function. This item is very

important when the number of cross-section observations is not very large, less than 20 or 25 (from an empirical viewpoint).

The two main approaches to the fitting of models using panel data are known as fixed effects regressions and random effects regression. Basically, random effects model is more attractive because observed characteristics that remain constant for each individual are retained in the regression model. In fixed effects estimation, they have to be dropped. Also, with random effects estimation we do not lose n degrees of freedom, as is the case with fixed effects. However, if either of the preconditions for using random effects is violated, we should use fixed effects instead (Dougherty, 2007) (Baltalgi (2008)).

At a technical level, a fixed effects model allows the exogenous variables to be correlated with the individual fixed effects (different for each unit, bank) without having to specify a behavior model.

By the specification of the model, the partial derivatives of the conditional regression function on each exogenous variable give us the regression coefficient directly. This allows one to identify the marginal effect of the exogenous variable on the endogenous. In addition, the estimates of the parameters are, from a statistical point of view, consistent.

Panel data models are an extension of multiple regression models, introducing the temporal component in cross-section data. We can express an equation in this way:

(1)

where is a linear function of K exogenous variables (i=1….N Banks) measured over time (t=1…T), and is the error represented by all missing variables, that is, the variability of the endogenous variable which is not explained by variability in all exogenous variables.

In addition, the error term has the following structure:

Where, , and is white noise.

According to this procedure, we add N-1 dichotomous variables to control cross-section data effects and T-1 dichotomous variables to control the time effect. These are the fixed effects over intercept.

4.1.2 Discriminant Function analysis

Discriminant function analysis is multivariate analysis of variance MANOVA reversed. In MANOVA, (Poulsen, 2008) the independent variables are the groups and the

dependent variables are the predictors. In DA, the independent variables are the predictors and the dependent variables are the groups.

First, create cross-products matrices for between-group differences and within- groups differences, SStotal = SSbg + SSwg. The determinants are calculated for these matrices and used to calculate a test statistic Wilks' Lambda. Wilks' lambda is used in an ANOVA (F) test of mean differences in DA, such that the smaller the lambda for an independent variable, the more that variable contributes to the discriminant function. Lambda varies from 0 to 1, with 0 meaning group means differ (thus the more the variable differentiates the groups), and 1 meaning all group means are the same. The F test of Wilks' lambda shows which variables' contributions are significant.

Wilks' Lambda follows the equation:

$$\Lambda = \left| \frac{S_{wg}}{S_{bg} + S_{wg}} \right|$$

Next an F ratio is calculated as in MANOVA:

$$F_{approximate}(df_1, df_2) = \left(\frac{1-y}{y} \right) \left(\frac{df_2}{df_1} \right)$$

For cases where n is equal in all groups:

$$y = \Lambda^{1/s}$$

And:

$$s = \sqrt{\frac{p^2 (df_{effect})^2 - 4}{p^2 + (df_{effect})^2 - 5}}$$

Being dferror = number of groups times (n-1):k(n-1)

$$df_1 = p(df_{effect})$$

$$df_2 = s\left[(df_{error}) - \frac{p - df_{effect} + 1}{2} \right] - \left[\frac{p(df_{effect}) - 2}{2} \right]$$

dfeffect = number of groups minus one (k-1)

For unequal n between groups, as in our case, this is modified only by changing the dferror to equal the number of data points in all groups minus the number of groups (N – k). If the experimental F exceeds a critical F, then the experimental groups can be distinguished based on the predictor variables. The number of discriminant functions used in the analysis is equal to the number of predictor variables or the degrees of freedom, whichever is smaller.

The discriminant function score for the ith function is:

Di = di1Z1+ di2Z2+...+ dipZp

Where z = the score on each predictor, and di= discriminant function coefficient. The discriminant function score for a case can be produced with raw scores and unstandardized discriminant function scores. The discriminant function coefficients are, by definition, chosen to maximize differences between groups. The mean over all the discriminant function coefficients is zero, with a SD equal to one.

Discriminant functions are interpreted by means of standardized coefficients and the structure matrix. Standardized beta coefficients are given for each variable in each discriminant (canonical) function, and the larger the standardized coefficient, the greater is the contribution of the respective variable to the discrimination between groups. However, these coefficients do not tell us between which of the groups the respective functions discriminate. We can identify the nature of the discrimination for each discriminant function by looking at the means for the functions across groups. Group means are centroids, which are created in the reduced space created by the discriminant function reduced from the initial predictor variables. Differences in the location of these centroids show us the dimensions along which the groups differ, being its computation for unequal sample size in each group:

$$C_j = c_{j0} + \sum_{i=1}^{p} c_{ij} x_i + \ln\left(n_j / N\right)$$

Where nj = size in group j, N = total sample size.

4.2.Results

4.2.1. Panel Data with Fixed Effects Modeling.

Shareholders' returnonassets

FixedEffectsEstimation[a]

Parameter	Estimation	Standard error	gl	t	Sig.	Confidenceinterval 95%	
						Lowerlimit	Upperlimit

Intersection	,000455	,000113	125	4,016	,000	,000231	,000679
RT_NETINC_ASSETS	-,005867	,006764	125	-,867	,387	-,019254	,007520
NET_INC_ASSETS_ETHC_COM	,013805	,008752	125	1,577	,117	-,003516	,031125

a. Dependant Variable: RT_EPS_NETINC.

FixedEffectsEstimation[a]

Parameter	Estimation	Standard error	gl	t	Sig.	Confidenceinterval 95%	
						Lowerlimit	Upperlimit
Intersección	,000415	,000104	126	4,008	,000	,000210	,000620
NET_INC_ASSETS_ETHC_COM	,008494	,006247	126	1,360	,176	-,003869	,020856

a. Dependant Variable: RT_EPS_NETINC.

Shareholders' returnonequity

FixedEffectsEstimation[a]

Parameter	Estimation	Standard error	gl	t	Sig.	Confidenceinterval 95%	
						Lowerlimit	Upperlimit
Intersection	5,107802E-5	8,683692E-5	125	,588	,557	-,000121	,000223
RT_NETINC_EQUITY	,000696	,000627	125	1,111	,269	-,000544	,001936
NET_INC_EQUITY_ETHC_COM	,005353	,000675	125	7,931	,000	,004017	,006689

a. Dependant Variable: RT_EPS_NETINC.

FixedEffectsEstimation[a]

Parameter	Estimation	Standard error	gl	t	Sig.	Confidenceinterval 95%	
						Lowerlimit	Upperlimit
Intersection	6,238977E-5	8,900162E-5	124	,701	,485	-,000114	,000239
RT_NETINC_EQUITY	,000648	,000633	124	1,023	,308	-,000605	,001901
NET_INC_EQUITY_ETHC_COM	,005412	,000683	124	7,919	,000	,004059	,006764
RT_EBT	-,001985	,003248	124	-,611	,542	-,008413	,004444

a. Dependant Variable: RT_EPS_NETINC.

FixedEffectsEstimation[a]

Parameter	Estimation	Standard error	gl	t	Sig.	Confidenceinterval 95%	
						Lowerlimit	Upperlimit
Intersection	,000108	7,019584E-5	126	1,538	,127	-3,096021E-5	,000247
NET_INC_EQUITY_ETHC_COM	,005918	,000444	126	13,325	,000	,005039	,006797

a. Dependant Variable dependiente: RT_EPS_NETINC.

4.2.2. Discriminant Function analysis

a. Assets

Standardized Coefficients for discriminant canonical function

	Function
	1
OTHER_DEPOS	.586
ADF_IN_CENT_BANK	-2.653
ADF_IN_OTH_INST	.793
MAL_SEC_TREAS_BILL	-.634
MAL_SEC_OTHER	-1.134
FIXED_ASSESTS	2.617
OTHE_ASS_OUT_MAL	.951

Function coefficients classification.
Fisher's Linear discriminant functions

	COMMERC_ETHICS	
	COMMERCIAL BANKS	ETHICS BANKS
OTHER_DEPOS	5058.113	960.903
ADF_IN_CENT_BANK	-1032.530	1001.483
ADF_IN_OTH_INST	12699.157	-69.645
MAL_SEC_TREAS_BILL	-30894.282	-9752.205
MAL_SEC_OTHER	323.419	2841.073
FIXED_ASSESTS	102439.289	-700.273
OTHE_ASS_OUT_MAL	4659.950	-151.280
(Constant)	-634.192	-278.143

b. Demand deposit by holder

Standardized Coefficients for discriminant canonical function

	Function

Function coefficients classification.
Fisher's Linear discriminant functions

	COMMERC_ETHICS

	1
STATUR_AUTH	-.294
FINANC_INST	.369
BUSIN_ENTERP	1.005

	0	1
STATUR_AUTH	786.406	964.945
FINANC_INST	1079.145	887.179
BUSIN_ENTERP	1159.954	905.348
(Constant)	-396.594	-259.046

c. Equity/Assets

Standardized Coefficients for discriminant canonical function

	Función 1
ADF_IN_ETH_BANKS	-.515
ADF_IN_INV_BANKS	.256
BANK_ACCP_OUTST	-.993

Function coefficients classification.
Fisher's Linear discriminant functions

	COMMERC_ISLAMIC	
	COMMERCIAL BANKS	ISLAMIC BANKS
ADF_IN_ISL_BANKS	-678.968	1226.637
ADF_IN_INV_BANKS	6745.287	4582.390
ADF_OUT_MAL	2682.268	618.026
BANK_ACCP_OUTST	-4579.550	-1506.832
BILLS_PAY_OUT_MAL	1173369.381	110577.398
OTHER_LIAB_IN_MAL	3390.267	1715.404
OTHER_LIAB_OUT_MAL	22335.959	5432.091
(Constante)	-251.846	-63.573

d. Loans applied by purpose

Standardized Coefficients for discriminant canonical function

	Function 1
PURCH_SEC	.275
PURCH_TRANS	-.253
PURCH_RES_PROP	.857
PURCH_NONRES_PROP	.558
PERSONAL_USES	-.969
CREDIT_CARDS	.995

Function coefficients classification.
Fisher's Linear discriminant functions

	COMMER_ETHIC	
	COMMERCIAL BANKS	ETHICS BANKS
PURCH_SEC	96.209	53.335
PURCH_TRANS	124.532	189.151
PURCH_RES_PROP	150.646	18.785
PURCH_NONRES_PROP	321.327	156.648
PERSONAL_USES	-299.932	8.909
CREDIT_CARDS	561.750	155.475
(Constant)	-60.718	-28.586

e. Loans by purpose

Standardized Coefficients for	Function coefficients classification.

discriminant canonical function

	Function
	1
PURCH_TR_VEH	-2.241
PURCH_NONRES_PROP	1.080
PERSON_USE	-1.211
CREDIT_CARDS	1.722
PURCH_CONS_DUR	2.292
OTHER_PURPOSE	-.740

Fisher's Linear discriminant functions

	COMMER_ETHICS	
	COMMERCIAL BANKS	ETHICS BANKS
PURCH_TR_VEH	-1770.874	4037.874
PURCH_NONRES_PROP	6069.637	381.359
PERSON_USE	-1558.306	3889.982
CREDIT_CARDS	37227.393	-20125.604
PURCH_CONS_DUR	1083430.553	-630805.407
OTHER_PURPOSE	-1992.413	1540.999
(Constant)	-936.777	-721.195

f. Loans by type

Standardized Coefficients for discriminant canonical function

	Function
	1
TOTAL	.747
LEASING	1.512
BLOCK_DISC	-1.665
BRIDGING_LOANS	.538
FACTORING	-.520
PERSONAL_LOANS	3.405
HOUSING_LOANS	-.630
TRADE_BILLS	3.470
TRUST_RECEIPTS	-2.002
REVOLVING_CRED	-1.283
FOREIGN_CURRENCY	-1.357

Function coefficients classification.
Fisher's Linear discriminant functions

	COMMER_ETHIC	
	COMMERCIAL BANKS	ETHIC BANKS
TOTAL	1230.662	4538.660
LEASING	-26032.565	59610.831
BLOCK_DISC	2913639.154	-384812.198
BRIDGING_LOANS	-8280.054	3876.034
FACTORING	439202.204	-182147.181
PERSONAL_LOANS	-2453.236	17978.163
HOUSING_LOANS	7176.896	4265.265
TRADE_BILLS	-4398.081	9060.750
TRUST_RECEIPTS	104582.458	10041.289
REVOLVING_CRED	9894.814	-2592.359
FOREIGN_CURRENCY	13839.534	1503.940
(Constant)	-2433.746	-2229.973

Eigenvalues

Function	Eigenvalue	% variance	% accumulated	Canonical Correlation
dimension0 1	31.548[a]	100.0	100.0	.985

a. Considering the function 1 of discriminant canonical analysis.

Lambda Wilks

Contrast Functions	Lambda Wilks	Chi-square	gl	Sig.
dimension0 1	.031	398.771	7	.000

5. CONCLUSIONS

Comparing the shareholders' return on assets (ROA) during the studied period between conventional banks and Ethical banks, we explored that Ethical financial institutions have lower returns than conventional institutions during the last five years. Nevertheless, the Ethical financial institutions provide resilient return on assets better

than conventional banks with lower levels of volatility. This result challenges the prevailing assumptions of many investors that Ethical financial institutions would deliver lower returns than larger banks that have a focus on maximising financial returns.

Regarding with the Return on Equity (ROE), conventional banks performed better, on average, with more volatility. In addition, a lower level of Equity/assets for conventional banks than for Ethical financial institutions means that a portion of conventional banks returns is due to greater leverage, implying greater risk.

The issue of growth further demonstrates marked differences between the two groups. Ethical Banks had much higher growth in Loans, Deposits, Assets and Equity compared to Conventional Financial Institutions over time especially during the period of study.

Ethical Financial Institutions maintained strong capital positions, relative to conventional banks, especially when measured as a comparison of Equity/Total Assets regressions. Ethical banks did not show higher levels of capital than conventional banks relative to risk-based capital measures. However, the regression for conventional banks were significantly impacted by the relatively low level of risk weighted assets (RWA) calculated using the loans by type. There is an ongoing discussion as to calculate the RWA but as for this comparison, we can conclude that RWA is much lower in ethical banks than in conventional banks in spite of the method used fully capture the risk for which capital is requited.

Ethical banks demonstrate the ability to deliver steady risk-adjusted financial returns by focusing on the real economy, and acting as financial intermediaries dedicated to supporting economic, social and environmental impact while anchored by strong capital positions as we can deduct after analysing the loans by purpose.

Summarizing, conventional banks get higher rates of return but these returns are linked to higher risk positions than ethics institutions. On the other hand, ethic institutions have a strong position studying the relationship between capital and assets and are more focused on real economy. This characteristic allows this type of banks to deliver steady risk-adjusted financial returns lower but more stable than conventional institutions.

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