Board's Characteristics and the Financial Crisis

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Abstract

The 2007-2008 financial crisis is considered the worst financial crisis since the Great Depression and failures in governance, especially concerning boards, have been blamed for this financial turmoil.

But, when dealing with governance issues, most research excludes financial firms from its analysis and is focused on US. So, we intend to fill this gap by analysing European banks.

Also, why some banks suffered much more than others despite that they were exposed to the same macroeconomic factors? Can board's features explain the variation of banks' return during the crisis? And, which is the impact of the gender factor? Literature doesn't answer these questions completely, so we intend to address it in our paper.

Using a sample of 53 publicly listed banks from EMU countries, the main results suggest that banks whose executive directors are older and have more professional experience had better return during the crisis. Also, independence gains significance when combined with the gender factor.

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1 - Introduction

The 2007-2008 financial crisis is described to be the most serious financial crisis since the Great Depression (Brunnermeier [2009], Eichengreen and O'Rourke [2009] and Beltratti and Stulz [2011]) with important effects in the real economy, posing challenges for economists, regulators and policymakers (Gorton [2008]). In fact, the US subprime market crisis had a major impact on financial institutions and banks all over the world: drop in market capitalization liquidity problems, defaults and bailouts.

Many academics, economists and several observers have argued that poor governance contributed or even caused the collapse of an impressive number of many large banks throughout the world.

Concerning governance issues, most academic papers don't analyse financial firms. There is thus still little research and consequently modest knowledge about governance in the banking sector (Adams and Mehran [2003] and Adams [2011]) especially in the European context.

However, are banks different? Or, in other words, do the same control mechanisms that work in the nonfinancial firms also work in banks? There are at least four particularities of banks' corporate governance that make them special and justify a separate analysis: greater opaqueness, greater complexity and greater government regulation than in other industries and deposit insurance (Prowse [1997], Ciancanelli and Gonzalez [2000], Caprio and Levine [2002], Morgan [2002], Macey and O'Hara [2003], Levine [2004] and Mülbert [2009]). These attributes can weaken many traditional governance mechanisms in that they may interfere negatively with the way in which the usual corporate governance mechanisms work. In banks corporate governance plays a special role due to the uniqueness of these organizations (Andres and Vallelado [2008]).

Firstly, banks are generally more opaque than nonfinancial firms. The quality of bank loans as well as the quality of other bank' assets are not readily observable, which makes it difficult to accurately assess the risks they bear. Secondly, the complexity of the banking business increases the asymmetry of information and diminishes stakeholders' capacity to monitor bank managers' decisions. Thirdly, because of the vital role of banks in economic development and prosperity these entities are heavily regulated and supervised entities. Fourthly, the particular nature of banking makes it susceptible to greater moral hazard problems. Despite the positive effect of deposit insurance on preventing depositor runs, this can also encourage banks' excessive risk-taking. In addition, the excessive bank size can also exacerbate important moral hazard problems ("too big to fail").

Throughout the world, several large banks have dramatic collapsed or were saved from bankruptcy by government's bailouts since the onset of the financial crisis in 2007: Bear Stearns, Lehman Brothers, Citigroup and Merrill Lynch (USA), HBOS and RBS (UK) and Dexia, Fortis, Hypo Real Estate and USB (Continental Europe). The resignations of several top executives, e.g. Charles Prince at City Group and Stan O'Neal at Merril Lynch and the recommendations by several proxy advisors against the re-election of the board of some banks (Citigroup, for example) show that the boards are, at least partly, being blamed for the poor performance of those financial institutions.

While the macroeconomic factors (e.g monetary policy too expansionary) that are at the roots of the financial crisis (Taylor [2009]), Erkens et al. [2010] and Rötheli [2010]) influence all banks, not all

were affected with the same intensity. Since monetary policy can only partially explain why some banks performed worse than others during the crisis, it's clear the importance of analyzing the role of the banks' specificities, e.g. their distinguishing features, on their performance. So, we propose to explore the relation between board's characteristics, in particular directors' characteristics, and banks' performance.

Our paper contributes to an emerging body of academic governance literature that attempts to identify the mechanisms that influenced how severely financial firms were impacted by the crisis (Kashyap et al. [2008]; Brunnermeier [2009], Gorton [2009], Kirkpatrick [2009], Barth and Landsman, [2010] Erkens et al. [2010], Mendoza and Quadrini [2010], Rötheli [2010], Adams [2011] and Beltratti and Stulz [2011], among others) since we analyze a number of factors not addressed in the current studies.

Several researchers believe that there is a positive relationship between board diversity and firm value (Carter et al. [2003)). Cox and Blake [1991] and Robinson and Dechant [1997] analized the impact of cultural diversity on organizational performance. While they have focused on workplace diversity in general, a similar analysis can be made for board diversity (Carter et al. [2003]). Despite the potential importance of diversity in creating value few academics have examined the relationship between board diversity and value creation. It is this gap that we intend to eliminate, analyzing various personal characteristics of directors.

Also, we test the influence of the gender factor in the banks' performance using interaction variables. Thus, we combine some board's characteristics with the percentage of female executive directors and conclude that when we combine board independence with the fraction of women on executive board, the coefficient on the board independence indicator is positive and significant, with $p < 10\%$.

As banks were affected differentially by the financial crisis despite that they were exposed to the same macroeconomic factors it seems clear that bank-level governance mechanisms have an important role in the performance during the crisis, or in other words, in the vulnerability of banks to large adverse shocks.

Using a sample of 53 publicly listed banks from EMU countries, (to our knowledge, our study is the first that uses banks from EMU countries as its sample), we examine the relation between banks' performance and board's characteristics, by regressing our measure of return on measures of board independence, board size, CEO unity, board diversity (e.g. percentage of women, degree of education, age, nationality mix, professional experience), concentration ownership and control variables. Concerning the measurement of performance, we are fundamentally interested in the variation of return (extent of the deterioration in return) rather than the return per se, so we use as a measure of performance the difference between ROA during the crisis period and ROA prior the crisis.

The remainder of the study proceeds as follows. Section 2 briefly presents the literature review, Section 3 describes the sample and data, Section 4 presents the methodology and shows the empirical results and Section 5 presents the conclusion and further work.

2 - Brief literature review

Many renowned academics, professionals, public authorities and several organisms, have related the current financial turmoil to weak corporate governance such as lax board oversight. In the wake of the financial crisis numerous boards of financial firms have been quite active with a number of CEO's at problem banks being replaced, but the fundamental question is why boards were not effective before the crisis (Kirkpatrick [2009]).

Board characteristics that have been more extensively studied are board independence and size (Daily and Dalton [1994], Yermack [1996], Klein [1998], Hermalin and Weisbach [1998, 2003], Bhagat and Black [1999], Denis and McConnell [2003], Adams and Mehran [2008], Bhagat and Bolton [2008], Beltratti and Stulz [2011], Leung and Horwitz ([2009], Erkens et al. [2010] and Adams [2011], among others), although most studies focus on sectors other than banking.

Regarding nonfinancial firms there are doubts regarding whether independent boards effectively improve firm performance. Bhagat and Black [1999], Hermalin and Weisbach [2003] and Leung and Horwitz [2009], among others, find no evidence that the presence of non-executive directors contributes to better performance and some research even concludes that a higher proportion of non-executives is negatively correlated with performance (Bhagat and Bolton [2008], among others). However, Daily and Dalton [1994] find a positive correlation between the number of affiliated directors and the likelihood of future bankruptcy.

According to Adams [2011], greater independence in banks may have a negative effect on performance because a more independent board will not have sufficient expertise to monitor the actions of the CEO and to understand the complexity of the banking business. Also, for Erkens et al. [2010] firms with more independent boards experienced worse stock returns during the crisis period. Despite previous evidence, theoretical arguments contend that independence can have a positive effect on performance which justifies why usually the Codes of Best Practices advocate the existence of a specific minimum number and/or percentage of independent directors on the board.

Moreover, smaller boards should be more effective because decision-making costs are lower (Adams [2011]). In accordance with this, board size has been observed to be negatively correlated with corporate performance (Yermack [1996] and Hermalin and Weisbach [2003]) and with the quality of the board's decisions (Hermalin and Weisbach [2003]). Although board size is larger in banks (Adams [2011]), Adams and Mehran [2008] didn't find evidence that larger banks board size would be detrimental to shareholders.

Although less frequently, other features are still being analysed, such as ownership structure and CEO-Chairman duality (Brickley et al. [1997], Berger et al. [2005], Caprio et al. [2007], Iannotta et al. [2007], Bhagat and Bolton [2008], Laeven and Levine [2009], and Leung and Horwitz [2009], among others). It has long been argued that when the Chairman is also the CEO the motivation of the board to monitor and oversee management is compromised due to lack of independence and conflicts of interests (Jensen [1993]), reducing the board's ability to ensure that management pursues the

development of activities that create value and rapidly adopt new strategies during a financial crisis. However, advocates of "no separation" (CEO unity) argue that the "union" of the two positions provides strong and clear leadership, capable of taking decisions in the firms' best interest (Brickley et al. [1997]), and that the separation between the positions could lead to incomplete transfer of information.

Ownership structure is, also, an important mechanism of bank governance (Caprio et al. [2007]).

Concerning ownership concentration there are competing arguments about its effect on firm performance. Some studies show that it can align interests while others refer that the concentration of ownership may lead to more risk-taking and therefore riskier strategies before the crisis and greater losses during the crisis. Larger investors with substantial cash flows rights have greater incentives to increase risk-taking than smaller shareholders (Jensen and Meckling [1976]). However, although not specifically referring to banks, Leung and Horwitz [2009] note that during the Asian financial crisis, firms with higher ownership concentration recorded a smaller decline in the stock~~s~~ prices.

Executive compensation has been much less analysed and dicussed although the academic literature argue that incentives systems have played a fundamental role in influencing financial institutions' performance during the financial crisis (Kirkpatrick [2009] and Adams [2011]). The idea is that compensation policy with a heavier emphasis on variable pay might encourage excessive risk-taking and consequently to larger losses during the crisis.

Finally, other features of boards that may be important for good governance has been investigate such as attendance behavior of directors and the percentage of female directors (Adams and Ferreira [2009] and Adams [2011]). Specifically, Adams and Ferreira [2009], using a sample of US firms, show that female directors have better attendance records than male directors, male directors have fewer attendance problems the more gender-diverse the board is, and women are more likely to join monitoring committees.

3 - Sample and data description

3.1 - Sample of banks

The sample consists of 53 publicly listed banks from EMU countries (with the following distribution: Austria: 2, Belgium: 3, Cyprus: 2 Finland: 1, France: 5, Germany: 8, Greece: 6, Italy: 11, Ireland: 2, Luxembourg: 0, Malta: 0, Netherlands: 2, Portugal: 3, Slovak Republic: 0 Slovenia: 0 and Spain: 8), which represents approximately 44% of all the banks, subject to the following criteria (1) be listed at least 1 year before year of analysis, (2) not be a subsidiary of a bank already included in the sample to prevent duplication of information and (3) be covered by the BoardEx, Thomson One Banker and Datastream databases.

3.2 - Main variables

We now discuss our key variables of interest. Appendix A provides a detailed definition of all variables.

3.2.1 - Performance variable

Performance is measured using an accounting measure. Our measure of bank performance is the difference between ROA during the crisis period (2007/2008) and ROA prior the crisis (2006). We are interested in the variation of return (extent of return's deterioration) rather than the return per se. So the fundamental issue is how much the return decreased during the crisis rather than the return achieved in the crisis.

3.2.2 - Board characteristics variables

We focus our analysis on board independence, board size, CEO unity and board diversity. All data was obtained from BoardEx database and refers to 2006 (i.e. prior to the onset of the crisis).

We analyse board independence because this is one of the most extensively studied board characteristics (Weisbach [1998]). We define board independence as the percentage of independent directors. BoardEx does not classify directors as independent as part of its own analysis, rather where it shows a director as an independent director it is because the company that they work for has disclosed them as such. In other words, BoardEx takes the company's classification for granted and accordingly shows this. But, this fact doesn't constitute a serious problem because the Codes of Best Practices of EMU countries, to the best of our knowledge, tend to converge in the definition of board independence.

Also, we analyse board size and CEO unity as in other previous studies (see literature review in former section). Board size is defined as the total number of directors and CEO unity is a dummy variable equal to 1 if the CEO is also the Chairman and 0 otherwise.

Finally, we focus on board diversity and we analyse several executive directors' characteristics, e.g. percentage of women, age, nationality mix, years on board, degree of education and professional experience. We define age as the average age of executive directors, nationality mix as the proportion of executive directors from different countries and years on board as the executive directors' average years on board. As proxy of education we use the average number of qualifications held by the executive directors and as proxy of professional experience we use the average number of boards on which executive directors have served to date.

3.2.3 - Ownership structure

For ownership structure we focus on ownership concentration. We measure ownership concentration as ln (percentage of shares owned by the 5 largest shareholders).

3.2.4 - Control variables

We define a set of control variables to account for differences in size, capital and bank business structure. The variable "bank size" is computed as ln (assets), the variable "bank capital" as the ratio of equity to total assets and as proxy of bank business structure we use the ratio of net loans to total assets.

The data was obtained from Datastream database and refers to 2006 (i.e. prior to the onset of the crisis).

3.3 - Summary descriptive statistics

Table 1 provides summary statistics for the variables used in our main analysis. Panel A provides summary descriptive statistics of bank performance, ROA in the crisis period minus ROA prior the crisis period and Panel B provides summary descriptive statistics of board's characteristics, ownership structure and controls.

Table 1 - Summary descriptive statistics

Panel A - Summary descriptive statistics of performance during the financial crisis, years 2007/2008 – year 2006

Variable	# Obs.	Mean	Med.	Std. dev.	Max.	Min.
ROA	53	-0.300740	-0.313361	0.625474	2.059974	-3.236059

Panel B - Summary descriptive statistics of board characteristics, ownership structure and controls prior the financial crisis, year 2006

Variable	# Obs.	Mean	Med.	Std. dev.	Max.	Min.
Board Independence	53	37.39839	40.00000	28.26492	95.45455	0.000000
Board Size	53	16.92453	16.00000	6.170180	31.00000	5.000000
CEO unity	53	0.169811	0.000000	0.379060	1.000000	0.000000
Women	50	2.920000	0.000000	9.014795	50.00000	0.000000
Age	49	53.45102	54.00000	6.444090	75.50000	37.30000
Nationality mix	47	0.055319	0.000000	0.141127	0.500000	0.000000
Years on board	50	5.996000	4.950000	4.419390	23.60000	0.100000
Education	50	1.784667	1.800000	0.953504	4.500000	0.000000
Professional experience	50	5.106771	4.700000	3.040784	12.15000	1.000000
Ownership concentration	49	3.294183	3.605770	1.102965	4.599756	0.048790
Bank business structure	51	61.97593	63.83476	17.34253	88.66894	16.71176
Bank capital	53	5.687363	5.380198	2.654479	14.67284	1.791636
Bank size	53	18.15778	17.89405	1.644538	21.08709	13.33367

Note: observations vary because of missing data.

Panel A reports negative average returns, which confirms the hypothesis of deterioration in return during the crisis.

Panel B presents summary descriptive statistics on the variables of board characteristics, ownership structure and controls. We find that the average percentage of independent directors is low (37,4%) relative to other studies (Adams and Mehran [2003], Erkens et al. [2010] and Adams [2011]). Board

has on average seventeen directors, although there is a wide distribution of board size in the sample (a minimum of five directors and a maximum of thirty-one). Concerning board diversity, panel B shows that on average women constitute 2.92% of executive directors and that the average age of executive directors is 54 years old. Nationality mix varies between 0, there is no foreign executive directors on board, and 0,5, half of the executive directors are foreign and half are national. Also, on average executive directors have been on the board 5,99 years, held 1,7 qualifications and have served to date 5,1 boards. Finally, it should also be noted that net loans represent on average about 61% of total assets.

4 – Methodology and empirical results

In terms of econometric methodology, in this paper we use the OLS model (Ordinary Least Squares) and in further work we will address and test the issue of endogeneity. If governance variables are endogenous variables, we will use simultaneous equations.

For now, we examine the relation between bank' performance and board' characteristics, by regressing our measure of return on measures of board independence, board size, CEO unity, board diversity, ownership structure and control variables using OLS model.

Our formal first regression model is as follows:

Bank performance = β_0 + β_1(Board independence) + β_2(Board size) + β_3(CEO unity) + β_4(Women) + β_5(Age) + β_6(Nationality mix) + β_7(Years on board) + β_8(Education) + β_9(Professional experience) + β_{10}(Ownership concentration) + β_{11}(Bank business structure) + β_{12}(Bank capital)+ β_{13}(Bank size) + ε

Where,

Bank performance = ROA during the crisis period (2007/2008) minus ROA prior the crisis (2006);

Board independence = Percentage of independent directors, year 2006;

Board size = Total number of directors, year 2006;

CEO unity = A dummy variable equal to 1 if the CEO is also the Chairman, 0 otherwise, year 2006;

Women = Percentage of female executive directors, year 2006;

Age = Average age of executive directors, year 2006;

Nationality mix = Proportion of executive directors from different countries, year 2006;

Years on board = Executive directors' average years on board, year 2006;

Education = Average number of qualifications held by the executive directors, year 2006;

Professional experience = Average number of boards on which executive directors have served to date, year 2006;

Ownership concentration = Natural logarithm of the percentage of shares owned by the 5 largest shareholders, year 2006;

Bank business structure = Ratio of net loans to total assets, year 2006;

Bank capital = Ratio of equity to total assets, year 2006;

Bank size = Natural logarithm of total assets (in € thousands), year 2006.

The β parameters are the estimated coefficients for the constant and each of the explanatory variables included in the model.

Table 2 illustrates how the explanatory variables mentioned above are supposed to influence banks' performance during the financial crisis, according to the particularities of banks' corporate governance and previous studies.

Table 2 - Expected sign for independent variables

Independent variable	Expected sign	Performance improves as variable…
Board independence	+	Increases
Board size	+	Increases
CEO unity	Ambiguous	Increases/Decreases
Women	+	Increases
Age	Ambiguous	Increases/Decreases
Nationality mix	Ambiguous	Increases/Decreases
Years on board	Ambiguous	Increases/Decreases
Education	+	Increases
Professional experience	+	Increases
Ownership concentration	-	Decreases
Bank business structure	+	Increases
Bank capital	-	Decreases
Bank size	-	Decreases

Additionally, we intend to investigate if the gender factor, percentage of female executive directors, improves several aspects of board behaviour. We examine the influence of the gender factor in the banks' performance using interaction variables.

We test the following interaction variables: (1) board size and percentage of female executive directors; (2) board independence and percentage of female executive directors and (3) executive directors' years on board and percentage of female executive directors.

It is our expectation that the gender diversity may improve a number of important aspects of board and, consequently, improves banks' performance. So, higher percentage of female executive directors better performance.

Table 3 shows the results of the OLS estimations. Column (1) reports the results of our first regression model, without interaction variables. As we intend to test the influence of the gender factor in the banks' performance we use interaction variables. Columns (2) to (4) report the result regression as we add the interaction variables.

Table 3 - Relation between bank performance and board characteristics

Independent variable	Dependent variable: Performance			
	(1)	(2)	(3)	(4)
Board Independence	0.002992 (0.4120)	0.001136 (0.7670)	0.000759 (0.8353)	0.000742 (0.8446)
Board Independence*Women			0.002190 (0.0625)*	0.002179 (0.0869)*
Board Size	-0.018815 (0.2453)	-0.025398 (0.1325)	-0.026182 (0.1046)	-0.026308 (0.1265)
Board Size*Women		0.003012 (0.1897)	-0.004898 (0.2950)	-0.004809 (0.4181)
CEO unity	-0.094061 (0.6870)	-0.011324 (0.9620)	-0.015911 (0.9439)	-0.017343 (0.9419)
Women	0.003400 (0.7065)	-0.038014 (0.2454)	0.008003 (0.8369)	0.007485 (0.8670)
Age	0.057543 (0.0092)***	0.058852 (0.0073)***	0.058264 (0.0056)***	0.058214 (0.0069)***
Nationality mix	0.308046 (0.5918)	0.299015 (0.5974)	0.280916 (0.6017)	0.278871 (0.6156)
Years on board	-0.028473 (0.2405)	-0.043334 (0.1056)	-0.037451 (0.1426)	-0.037263 (0.1695)
Years on board* Women				-0.0000729 (0.9799)
Education	0.041844 (0.6551)	0.065429 (0.4877)	0.069258 (0.4403)	0.069346 (0.4495)
Professional experience	0.063046 (0.0673)*	0.065789 (0.0544)*	0.077657 (0.0213)**	0.077817 (0.0263)**
Ownership concentration	0.027529 (0.7593)	0.040444 (0.6501)	0.020318 (0.8117)	0.019798 (0.8249)
Bank business structure	0.017967 (0.0067)***	0.020110 (0.0034)***	0.021185 (0.0015)***	0.021203 (0.0020)***
Bank capital	-0.079831 (0.0628)*	-0.073806 (0.0818)*	-0.078164 (0.0548)*	-0.077944 (0.0664)*
Bank size	0.117591 (0.1643)	0.139974 (0.1026)	0.127744 (0.1178)	0.128343 (0.1389)
Number of observations	41	41	41	41
R-squared	0.565381	0.593722	0.647365	0.647375
Adjusted R-squared	0.356120	0.374958	0.435785	0.412291

The p-values of coefficient significance are in brackets and asterisks indicate significance at 1% (***), 5% (**), and 10% (*) levels.

In Column (1) we find, firstly, that the coefficients on age, on professional experience and on bank business structure are positive and statistically significant, with *p-value* as shown in table. So, age, professional experience and the ratio of net loans to total assets have a positive impact on performance, which shows that older executive directors, executive directors with more professional experience and

higher percentage of net loans to assets improve returns during the financial crisis. Concerning bank business structure, we conclude that banks more oriented to grant loans have better performance.

Secondly, we find that the coefficient on bank capital is negative and statistically significant with $p < 10\%$, thus suggesting that capital is inversely related to performance during the crisis. This finding is suggestive that banks with higher capital take on more risks.

Thirdly, Table 3 also shows that neither board independence nor board size are significant at conventional levels, in contrast to the previous studies (Yermack [1996], Andres and Vallelado [2008], Erkens et al. [2010] and Adams [2011]). The same is observed for the variable "CEO unity".

Fourthly, regarding board's characteristics, there is no significant relation between the percentage of female executive directors, the nationality mix of executive directors, the executive directors' years on board, the executive directors' number of qualifications and bank performance during the crisis.

Finally, the coefficient on the ownership concentration is insignificant. This finding doesn't confirm the hypothesis that higher concentration leads to an increase risk-taking and so, to worse performance in contrast to the previous studies (Jensen and Meckling [1976] and Leung and Horwitz [2009]).

In Column (2) we introduce in the regression in Column (1) the interaction variable board size and percentage of female executive directors, in Column (3) we add to regression in Column (2) the interaction variable board independence and percentage of female executive directors and, finally, in Column (4) we add to regression in Column (3) the interaction variable years on board and percentage of female executive directors.

Analysing the results in Columns (2), (3) and (4), we conclude that when we combine board independence with the percentage of female executive directors, the coefficient on board independence is positive and statistically significant, in contrast to the coefficient in Column (1). Therefore it gains statistical significance. As the coefficient is positive, higher board independence improves bank performance during the crisis. On the other hand, coefficients on board size and on years on board remain statistically insignificant.

5 – Conclusion and further work

In this paper we provide empirical evidence on whether and how board independence, board size, CEO unity, board diversity, onwnership structure and other specific bank's features influence the performance of banks from EMU countries during the 2007-2008 financial crisis. So, we try to explore the effect of bank-level governance.

Although all banks were affected by the crisis, we find that banks with higher percentage of net loans to assets and whose executive directors are older and have more professional experience had better performance than others banks during the crisis. On the other hand, banks with higher percentage of equity to total assets had worse performance during the crisis.

In order to analyse the influence of the gender factor, we combine some board characterists with the percentage of women executive directors, and we find that board independence when combined with the presence of female directors, has, in this case, a positive impact on performance during the crisis.

Despite the literature having drawn the attention to the danger of compensation policy that might encourage excessive risk-taking, executive remuneration has been much less analysed and discussed (Kirkpatrick [2009]). Since up to now it was not possible in our research to obtain sufficient compensation data on several banks in our sample, we decided not to consider bank's remuneration policy in this paper. However, this variable will be analysed in a further work. We intend also, in future research, to use alternative definitions of the pre-crisis period (e.g. years 2002 to 2006 and not only year 2006) and use different measures of performance, not only accounting measures but also market measures and compare the performance of each bank with the banking index Dow Jones Euro Stoxx Returns.

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Appendix A
Variable definitions

Variables	Definitions	Measurement period	Data sources
Performance			
ROA	Variation in ROA, this is, ROA during the crisis period minus ROA before the crisis; and ROA is the ratio of operating income to the book value of assets.	2007-2008 and 2006	Datastream
Board Characteristics			
Board independence	Percentage of independent directors, this is, number of independent board directors on the board divided by board size.	2006	BoardEx
Board size	Total number of directors.	2006	BoardEx
CEO unity	A dummy variable equal to 1 if the CEO is also the Chairman, 0 otherwise.	2006	BoardEx and Annual Report
Women	Percentage of female executive directors, this is, number of woman executive directors divided by total executive directors	2006	BoardEx
Age	Average age of executive directors, this is, sum of the executive directors' ages divided by the total number of executive directors.	2006	BoardEx
Nationality mix	Proportion of executive directors from different countries. A high number depicts a more diverse board.	2006	BoardEx
Years on board	Average years on board, this is, sum of the number of years that all the executive directors have been on the board divided by the total number of executive directors.	2006	BoardEx

Education	(As proxy of education) average number of qualifications, this is sum of the number of qualifications held by the executive directors divided by the total number of executive directors. This is a count of all qualifications of degree level including all professional qualifications. *All have a count of one.	2006	BoardEx
Professional experience	(As *proxy* of professional experience) average number of boards to date, this is, total number of boards on which executive directors have served to date divided by the number of executive directors.	2006	BoardEx
Ownership Structure			
Ownership concentration	Natural logarithm of the percentage of shares owned by the 5 largest shareholders.	2006	Thomson One Banker
Control Variables			
Bank business structure	(As proxy of bank business structure) Ratio of net loans to total assets (and net loans represent the total amount of money loaned to customers after deducting reserves for loan losses).	2006	Datastream
Bank capital	Ratio of equity to total assets.	2006	Datastream
Bank size	(As proxy of bank size) Natural logarithm of total assets (in € thousands).	2006	Datastream