Financial Crisis and Innovation in Banking Business Model: Are We Minding the Gap with the Reform Agenda?

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The recent financial crisis has generated an impressive debate between practitioners and scholars about the causes and consequences of the crisis, as well as the need to promote a more resilient banking sector. By focusing the attention on the performance achieved by an international sample of banks during the period from 2005-2008, the objective of this paper is to understand if the reform agenda is going to cover the "gap" which has been revealed by 2007-2008 crisis, between the prudential supervision architecture and the real functioning of international financial system, or if any undisclosed bias is still remaining unresolved.

INTRODUCTION

The recent financial crisis has generated an impressive debate between practitioners and scholars about the causes and consequences of the crisis, as well as about the effectiveness of supervision and the overall architecture of prudential supervision for providing the stability of international financial system. From this perspective, a very large attempt has been dedicated to the analysis of the originate-to-distribute model of financial firms, together with the discussion about the weaknesses that have been revealed in banks' risk management process and capital adequacy framework. In order to address the lessons of the crisis, the reform agenda is now moving in order to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector, as well as improving banks' risk management procedures, transparency and disclosure. By focusing the attention on the performance achieved by an international sample of banks during the period from 2005 to 2008 (the top 100 global player are considered), for whose it is possible to distinguish between different characteristics of financial innovation, consistency of the capital base, quality of governance, and other fundamental banks' attributes, the objective of this paper is to understand if the reform agenda is going to cover the "gap" which has been revealed by 2007-2008 crisis, between the prudential supervision architecture and the real functioning of international financial system, or if any undisclosed bias is still remaining unresolved. The structure of the paper is as follows. Section 2 is dedicated to a brief overview of the literature on the relation between financial innovation and financial crisis. Section 3 summarises fundamental elements which characterize the reform agenda, together with some arguable topics that should take part in this debate. Section 4 shows how the data have been gathered and details the characteristics of the sample of banks analyzed. Section 5 shows the most interesting findings. Section 6 concludes with comments and remarks.

FINANCIAL INNOVATION AND FINANCIAL CRISIS: A DISCLOSED EVIDENCE

A large literature has examined the causes and circumstances that led to the generation of the crisis of 2007-2008, along with the boundaries of the originate-to-distribute (OTD) model of financial intermediation (Borio, 2008; Acharya, Richardson, 2009). By this meaning, the fundamental weakness characterizing the capital adequacy regime have been highlighted, together with the need to strengthen prudential supervision and achieve a stronger coordination for a more effective international supervision architecture (Financial Stability Board, 2009). Moreover, it was pointed out the excessive risks exposure achieved by financial operators willing to maximizing profitability targets through an excessive short-term view (Blundell-Wignall, Atkinson, Lee, 2008; Kirkpatrick, 2009), along with the need to provide a stronger regulation about organization and governance of banks.

In this field, capital adequacy and credit quality are two fundamental topics for bank management, whether within a stable scenario or whether during a financial turmoil. Especially during the subprime crisis there has been an increasing attention on the capacity of banks to face the downturn and the sharp decline in their profitability (Allen, Gale, 2007; Borio, Zhu, 2008; Acharya, Richardson, 2009): by this meaning, bank's capital has become a key variable, along with credit quality measurement and other information coming from capital markets, such as stock price, rating judgment and credit spread (Flannery, 1999; Hancock, Kwast, 2001; Norden; Weber, 2007).

As we already mentioned, a broad literature have been increasing attention on the causes and consequences which have characterized the recent financial turmoil: nevertheless, not yet a clear answer has been already proposed to the question of how different typologies of banks moved up to the financial crisis and which has been more involved on it (Knaup, Wagner, 2008; Altubans et al., 2009). By this way, we try to consider if it is possible to distinguish between different business model, in term of performance achieved before and after the financial meltdown. Otherwise, we are interested on analyzing if others causes, different from the characteristics of business, such as model of governance, characteristics of board, could be used to explain the performance achieved during the sub-prime crisis by the most relevant financial intermediaries.

From this perspective, initially our research aims to investigate for any relationship existing between banks' risk, which we analyze through capital adequacy, credit quality, high leverage and underestimated risks, and market performance achieved by the banking industry of most developed countries (Diamond, Rajan, 2005; Garlappi, Shu, Yan, 2008). In particular, by focusing our attention on a sample of 100 top world's players, we attempt to confirm the linkage existing between the endogenous bank's efficiency and the market performance achieved by those banks during the period from 2005 to 2008. Through this analysis we try to distinguish, before the crises occurred, as well as during its development, between banks which have been riskier than others, because they used less capital, they used higher leverage, they suffered because of a larger amount of subprime loans. If it is possible to make this distinction, we would like to verify if market's prices have reflected the more endogenous risk of the riskier banks in terms of higher volatility or lower performance of their stock (Diamond and Rajan, 2009).

An impressive literature has traditionally been focusing attention on bank capital (Myers, 1984; Merton and Perold, 1993; Froot and Stein, 1995; Matten, 1996): moreover, there is a significant theoretical literature on bank capital requirements and their effects during financial crises (Koehn and Santomero, 1980; Kim and Santomero, 1988; Furlong and Keeley, 1990; Thakor, 1996; Hellmann, Murdock and Stiglitz, 2000). Despite this broad literature, the issues of financial leverage and bank capital have gained special prominence in light of recent events, when the subprime lending crisis has dramatically showed which a high-leverage financial system can find itself beset with a crisis that further erodes capital and sets in motion forces that exacerbate the crisis (Gerardi, Lehnert, Sherland and Willen, 2008). Therefore, even if it is by now well understood that high leverage ratios of banks make the financial system more fragile and increase the likelihood of financial crises (Allen, Gale, 2007), our knowledge of the dynamics of financial-system leverage is rather limited (Goel, Song and Thakor, 2009).

During last decades, the business of banks has undergone fundamental changes, owing to financial innovation, financial integration and increases in market funding: it is common opinion that parts of the

banking sector have moved away from the traditional "originate-to-hold" to an "originate-to-distribute" model of the banking firm, which is much more reliant on market forces (Loutskina and Strahan, 2006; Hirtle, 2007; Altunbas, Gambacorta and Marqués-Ibáñez, 2009).

By this meaning, it is widely recognized that bank risk must be carefully reconsidered, together with other standard bank-specific characteristics, when analyzing the role of the bank in economic system. Due to financial innovation, variables capturing bank size, liquidity and capitalization are fundamental for the analysis of the banks' ability and willingness to face financial shocks (Blundell-Wignall, Atkinson, Lee, 2008; Kirkpatrick, 2009). Moreover, the 2007-2008 credit turmoil has made very clear that the perception of risk by financial markets is crucial to the banks' capability to raise new funds, affecting their balance sheets in different ways.

FUNDAMENTAL ELEMENTS OF THE REFORM AGENDA: IS THERE ANY UNRESOLVED BIAS?

The financial crisis of 2007-2008 has stimulated an intensive program of reforms, aiming to strengthen the resilience of financial system, through a more effective regulatory system and supervisory monitoring, within an unprecedented effort for coordination between supervisory authorities. From this perspective, the Basel Committee aims to raise the resilience of the banking sector by strengthening the regulatory capital framework, as well as to increase the quality of the regulatory capital base and to enhance the risk coverage of the capital framework. It has been planned to introduce a leverage ratio that is intended to constrain excess leverage in the banking system and to provide an extra layer of protection against model risk and measurement error (BCBS, 2009a). Moreover, the Committee is introducing a number of macroprudential elements into the capital framework to help to contain systemic risks arising from procyclicality and from the interconnectedness of financial institutions (BCBS, 2009b).

The Committee is looking to increase the quality, consistency, and transparency of the capital base, so to ensure that large and internationally active banks would be in a better position to absorb losses on both a going concern and gone concern basis. After that, the Committee is planning to strengthen the risk coverage of the capital framework, as well as the capital requirements for counterparty credit risk exposures arising from derivatives, repos, and securities financing activities (BCBS, 2009c). By these enhancements, the resilience of individual banking institutions will be strengthened and the risk of shocks transmitted from one institution to the next through the derivatives and financing channel should be reduced (BCBS, 2009d). The reform agenda has planned to introduce a leverage ratio as a supplementary measure to the Basel II risk-based framework, in a way to contain the build up of excessive leverage in the banking system and introduce additional safeguards against excessive risk assumptions. Moreover, the Committee is going to introduce a series of measures to promote the build up of capital buffers in good times that can be drawn upon in periods of stress: it is intended as a countercyclical capital framework, which can contribute to a more stable banking system, thanks to the capacity to reduce, instead of amplify, economic and financial shocks. At the same time, the Committee is also promoting more forward looking provisioning based on expected losses, which captures actual losses more transparently and is also less procyclical than the current "incurred loss" provisioning model (BCBS, 2009b). Least, but not last, the Committee is introducing a global minimum liquidity standard for internationally active banks that includes a 30-day liquidity coverage ratio requirement underpinned by a longer-term structural liquidity ratio (BCBS, 2009e): through this framework the Committee aims to introduce a common set of monitoring metrics to assist supervisors in identifying and analysing liquidity risk trends at both the bank and system wide level (BCBS, 2008).

Consistent with the objective to evaluate the effectiveness of the proposals introduced by the reform agenda, in this paper we consider the most relevant firms' characteristics which can be examined as determinants of bank's profitability, in order to investigate the main causes of performance achieved by major international banks during the sub-prime crisis: through this analysis, we aim to highlight the financial variables which can be identified as determinants of riskier strategies persecuted by international

banks, and thus, to evaluate if the reform agenda is going to solve the problems that actually characterize the overall financial system.

Nevertheless the judgement one can assign to relevant efforts provided by the reform agenda, we consider that other fundamental topics need to be analysed in order to enforce the resilience of financial intermediaries: by this meaning, the recent financial crisis has contributed to increase attention on the relevant debate, which has been ongoing within the discipline of financial intermediation, about the contribution that a good governance is able to provide in order to ensure a greater stability for financial intermediaries, and for the financial system as a whole (BCBS, 2006; Kirkpatrick, 2009; Beltratti, Stulz, 2009).

From this perspective, the economic literature has already defined the critical role that corporate governance can perform to improving the efficiency of the financial system and thus contribute to economic growth. For the most traditional literature, the issue of corporate governance focuses on the key issues arising from the separation between ownership and management (Berle, Means, 1932), along with other issues that affect the influence that different components of governance can determine on business performance (Hermalin, Weisbach, 2003). Nevertheless, according with the discipline of financial intermediaries, the issue of governance acquires an even broader significance, since it enlarges the number of subjects that are being affected by banks' activity. By this meaning, the regulation of financial intermediaries in corporate governance plays a vital role for the realization of a sound management system, when the management decision system and the discipline of decision-making in the board are able to offer more safeguards to protect the interests of all corporate stakeholders, and not just the one' of shareholders (Macey, O'Hara, 2003).

The Basel Committee has long recognized that given the important role played by banks for financial intermediation in the economy, their high sensitivity to potential difficulties arising from ineffective corporate governance and finally the need to safeguard the shareholders and stakeholders interests, the corporate governance of banking organizations has a significant importance for the international financial system (BCBS, 2006). The banks' governance thus becomes critical to ensure effective management on the one hand the efficient use of resources, secondly the solvency and stability of the financial system (Levine, 2004): by this way, valid governance mechanisms lead to an efficient bank's management functioning and funds' allocation, including improving the governance systems of companies that are receiving those funds (Adams, Mehran, 2003).

An extensive literature has already highlighted how the government of banks appears to be more complex than the one of industrial firms (Adams, Mehran, 2004): the number of stakeholders involved is greater, as well as shareholders, depositors, and also supervisory authorities are directly concerned with banks' performance. Therefore, the classic agency problems (Berle, Means, 1932) also extends to other aspects, related to the possible negative externalities arising from the failure of a bank, the inefficient monitoring by depositors and other stakeholders, the opacity of its operating environment, the regulation (Levine, 2004).

From this perspective, the recent financial crisis has enhanced the debate about the effectiveness of banks' governance, especially allowing for the inadequacy in the conduct of these financial institutions: therefore, if the classical theories of financial intermediation emphasized the specificity of banks in the functioning of the economic system (Gurley, Shaw, 1960, Benston and Smith, 1976; Leland, Pyle 1977, Diamond, 1984), some more recent visions of the financial system helped to accentuate the role that these operators are able to produce in terms of risk management and financial contribution to the innovation process (Merton, Bodie, 1995; Allen, Santomero, 1998). That view led its consequences in terms of rethinking the overall governance of the financial system (Williamson, 1975; Tirole, 1986), but also in terms of opacity and lack of management regulations to stem the flow of innovation and growing complexity of managing such operators (Draghi, 2008).

Among the multiple mechanisms of corporate governance, the board is of particular importance in contexts such as banking, characterized by limited competition, strong regulation and high information asymmetry. This body helps to mitigate the weaknesses of other governance mechanisms, as it constitutes a key tool to monitor the behavior of managers of the bank and protect the interests of shareholders

(Andres Vallelado, 2008). There are several Authors that have investigated over time the characteristics of the board, through the assessment of various empirical studies that have shown conflicting results among them: several studies have analyzed the interaction between board size and financial performance (Jensen, 2005; Linck, Netter and Yang, 2008; Agoraki, Delis, Staikouras, 2009), both with regard to banks and other firms. Others scholars have considered if the composition of board between inside and outside directors can influence firms' performance (Adams, Mehran, 2004; Staikouras, Staikouras, Agoraki, 2006). A number of recent studies have considered if the presence of so-called CEO-duality (Brickley, Coles, Jarrell, 1997; Pi, Timm, 1993), may have the same effectiveness. Moreover, other studies have focused more attention about the structure and functioning of board, including the assessment of the number of meetings held during a year (Mace, 1986; Conger et al., 1998; Vafeas, 1999), the presence of committees aimed at ensuring a effective managing of the most complex issues that characterize banks' governance (Klein, 1995, John, Senbet, 1998, Davidson, Pilger, Szakmary, 1998, Shivdasani, Yermack, 1999). Finally, the different possible board structures could be analyzed in order to understand how it can influence banks performance.

Consistent with the studies that have enlarged in the analysis of various characteristics of the board, in this paper we take into account boards' characteristics, in order to understand how these can affect financial performance and stock performance, and thus they may be included in the reform agenda.

DATASET AND DESCRIPTIVE ANALYSIS

Consistent with the objective to understand if the reform agenda is going to cover the "gap" which has been revealed by 2007-2008 crisis, we first of all worked to identify a large sample of banks, capable to grasp the fundamentals that have generated the recent financial crisis: for this purpose the Bankscope database (Bureau Van Dijk Electronic Publishing ©) has been utilized, in order to collect information about the balance sheet and market prices of top global players.

In the construction of the sample was decided to focus on major global banks, favoring a choice taking into account the size and significance of banks for each of the countries chosen: initially, the top 200 global banking groups were identified, selected by the value of total assets on December 2007, referring to the categories of intermediaries surveyed in this database as commercial banks, investment banks, bank holding companies, other financial groups, taken from 22 major countries worldwide. By this meaning, through the evaluation of the financial characteristics presented in the period 2005-2008 an initial sample of 145 banks has been selected, which then, depending on the availability and completeness of data, was used to arrive to a final sample of 98 banks, which could represent a significant sample of international banks affected by the crisis. In this analysis it was decided to assess the period 2005-2008, because the account value prior to 2005 could lead to major problems of analysis of time series data, because of changes in accounting standards occurred because the introduction of IAS-IFRS. Thus, the need to maintain as an object of the analysis a cluster of banks that would guarantee a minimum size, it made necessary to include 22 no-listed banks, which effectively reduced the sample of listed banks analyzed at 76 compared to the total sample examined. In our opinion, it was a necessary choice in order to keep the investigation of banking performance in such dimensions as to allow a comparison of key strategies designed to address the process of financial innovation that has affected the international financial system before the crisis, together with the impact of the crisis itself has involved, in terms of reduced profitability and decrease performance equity.

At this point, once identified the sample of banks considered in the analysis, we proceeded to the assessment of financial and stock performance recorded by the banks under analysis: it was taken into account the distinction resulting from the classification of institutional affiliation of each operator, but, more importantly, through the evaluation of the business model analyzed from the estimation of the composition of the balance sheet and income statement. Through this analysis, it was possible to distinguish between different business models achieved by different intermediaries, mainly synthesized by structural indicators of balance sheet composition. Then, it has been possible to analyze the quality of the assets and the degree of risk exposure, measured by ratios expressing the financial position and capital

adequacy of banks, together with other characteristics of business, key indicators of profitability and efficiency shown by each firms. Afterward, through the use of the Datastream database, it was possible to evaluate the stock performance recorded by the banks under analysis: we referred to the value of buy-and-hold-dollar return BHAR, which has been analyzed before the crisis, conventionally recognized with the moment of announcing the bankruptcy of Lehman Brothers, as well as after that time (Beltratti, Stulz, 2009).

The second part of the analysis considers some of the fundamental characteristics of banks governance, we collected through the analysis of financial statements and corporate governance documents, as well as other information available from the websites of companies for the period 2006-2007: we refer, for example, to the number of directors comprising the board, the board composition, the number of meetings held, and others characteristics of board structure and functioning, like the business model adopted (we distinguished between the one-tier board system, the vertical two-tier board system, the horizontal two-tier board system), the ownership structure, the institutional classification and type of activity performed by each operator.

Once constructed the dataset, we proceeded to analyze the fundamental differences characterizing the sample of banks, both by the properties on the sample as a whole, both through the performance evaluation on the banks belonging to different countries considered. Table 1 e Table 2 show a description of the characteristics of the banks taken together and by countries' sample: both the tables show a significant heterogeneity between the banks included in the sample, even for financial variables, then for governance attributes. In Table 1, between the others, a relevant size diversity is illustrated, whilst in table 2 a significant heterogeneity between different business model and profitability is showed for the countries considered by our study.

EMPIRICAL ANALYSIS

Coherently with the objective to estimate the effectiveness of the key proposals of reform agenda, in Table 3 the results of regression estimating the relation between buy-and-hold stock returns over the period January 2005 - June 2007 and bank characteristics are reported. Regression 1 takes into account a judgment of the relation between stock performance and financial firm characteristics computed in 2006. Characteristics like Total Assets, Deposits, Loans, Equity, Net Income, Other Operating Income are analyzed, in order to show the relation with stock performance, and thus assess the effectiveness of reform agenda proposals. In this case, high bank leverage, together with net income, represent significant determinants of stock performance achieved before the crisis by large banks. Regression 2 and 3 increase the complexity of the model, considering the significance of others banks characteristic, such as Board Size, Outside (ratio of number of outside directors to number of board members), Board Meetings, Two-Tier Board, One-Tier Board. In this case, the innovation realized by large banks, measured through the ratio of other operating income to total assets, and the choice of two-tier board model result significant predictor of the stock performance achieved during the period January 2005 - June 2007, whilst the choice of one-tier model seems to influence negatively this index.

In Table 4 the relation existing between buy-and-hold stock returns over the period June 2007 - December 2008 and bank characteristics in reported. In particular, regression 1 considers the relation between stock performance and financial firm characteristics computed in 2008, so that characteristics like Total Assets, Deposits, Loans, Equity, Net Income, Other Operating Income are considered to understand stock performance after the developing of the crisis. Regression 2 and 3 show the relevance of other banks' characteristics, like Board Size, Outside (ratio of number of outside directors to number of board members), Board Meetings, Two-Tier Board, One-Tier Board, which, in our opinion, should be objective of an effectiveness reform aiming to strengthen the resilience of financial system. In this case, capital market seems to change its belief, with a positive judgment for banks capital base and a greater appreciation for net income in all the versions of the model. However in regression 2 and 3 also the board size exhibits a positive role for stock performance, confirming the resource-based view (Hermalin,Weisbach, 2003), whilst the choice of two-tier board in this case shows a negative influence on

stock performance. Therefore it seems the banks that the market rewarderd with large stock increases in 2006 are banks whose stock suffered the larger losses during the crisis.

In Table 5 the results of regression estimating the relation between return on equity in 2006 and bank characteristics are reported. Regression 1 takes into account financial firm characteristics computed in 2006. It considers Total Assets, Deposits, Loans, Other Operating Income, in order to evaluate their influence on economic performance before the crisis. Regression 2 and 3 show the significance of other characteristics, like Two-Tier Board, One-Tier Board, CEO Duality, Nomination Committee, Remuneration Committee, Audit Committee, as determinant of economic performance realized by the banks included in the sample. In this case, all the regressions show a positive and significant role for other operating income as determinant of economic profitability, whilst regression 2 and 3 demonstrate also a significantly positive coefficient for CEO duality and nomination committee, whilst the choice of the two-tier board model exhibits a negative sign.

Finally, Table 6 comprises the regression estimate of the relation between return on equity in 2008 and bank characteristics computed in 2008. Regression 1 considers Total Assets, Deposits, Loans, Other Operating Income, as determinants of economic performance. Regression 2 and 3 consider other characteristics like Two-Tier Board, One-Tier Board, CEO Duality, Nomination Committee, Remuneration Committee, Audit Committee, in order to highlight the main area which should be included in the framework of supervision reform. In this case, all the regressions show a significantly negative coefficient for other operating income, whilst not other significant evidences are highlighted for other banks characteristics.

CONCLUSIONS

The financial crisis of 2007-2008, with its related problems of capitalization, liquidity, deterioration of assets quality, market losses, stimulated an intensive program of reforms, aiming to strengthen the resilience of financial system, through a more effectiveness regulatory system and supervisory monitoring, within an unprecedented effort for coordination between supervisory authorities. From this perspective, the Basel Committee has approved a series of proposals to amend the current regulatory framework, with the aim to create a financial system stronger, more liquid, with less debt, and thus, more capable to prevail to possible future crises. Nevertheless the fundamentals proposals contained in the pattern of reform agenda, in this paper we considered other characteristics of banks governance which can have a fundamental role in order to explain the circumstances that affected the last financial crisis. We have found evidence about the necessity for supervisor authorities to take into account other determinants of banks performance, rather the financial characteristics which have been claimed by the reform agenda: we refer to fundamental governance characteristics which constitute significant determinants of the performance achieved worldwide by a large sample of banks during the period 2005-2008, for which we retain favorable a serious consideration by the supervisory authority, in order to make the reform agenda more effective and capable to really increase the resilience of financial system.

TABLE 1
SUMMARY STATISTICS

Value	Mean	Median	Dev. St.	Max	Min	25° Perc	75° Perc
Number of Board Members	15,30	15,00	5,93	37,00	0,00	2,85	30,35
Number of Outside Directors	9,12	9,00	4,95	23,00	0,00	0,00	21,46
Number of Board Meetings	14,02	13,00	8,11	47,00	0,00	0,00	39,62
Total Assets 2008	557.043	367.763	524.486	2.515.718	92.870	108.316	2.221.221
Total Capital Ratio 2008	11,99	11,40	2,12	18,00	5,70	8,09	17,43
Equity / Tot Assets 2008	4,51	4,26	2,79	12,60	-3,60	-1,95	11,93
Return On Avg Assets (ROAA 2008)	-0,10	0,23	1,37	1,17	-6,54	-6,16	1,16
Return On Avg Equity (ROAE 2008)	-10,24	4,86	57,43	25,06	-405,42	-267,46	21,95
BHAR JAN 05 - JUN 07	55,30	48,51	60,88	433,78	-50,78	-17,53	255,73
BHAR JUL 07 - DEC 08	-63,00	-65,86	24,46	-10,24	-100,00	-100,00	-12,11

TABLE 2
SUMMARY STATISTICS (COUNTRY DESCRIPTION)

Country	N° of board components	N° of Outside directors	N° of board meetings	Total Assets 2008	Loans / Total Assets 2008	Equity / Total Assets 2008	ROE 2008	BHAR Jan05-Jun07	BHAR Jul07-Dec08
Australia	9,3	7,8	10,8	293.487,43	0,67	5,04	15,35	44,43	-43,31
Austria	18,0	n.a.	7,0	201.441,00	0,61	5,51	9,36	52,51	-70,80
Belgium	16,3	6,7	19,7	366.397,67	0,35	4,35	-152,09	52,15	-86,25
Brazil	7,0	1,5	15,5	151.011,59	0,38	6,64	25,82	84,39	-56,25
Canada	16,2	14,3	17,5	323.756,02	0,46	4,67	7,61	45,22	-40,02
China	11,3	4,0	9,0	620.534,76	0,45	5,97	14,88	51,90	-28,63
Denmark	15,0	10,0	13,0	481.848,80	0,31	2,77	1,05	35,53	-77,51
France	17,9	7,8	10,9	956.890,57	0,34	2,85	-1,35	41,86	-57,86
Germany	20,3	11,2	10,5	493.512,03	0,38	2,68	8,53	110,04	-74,76
Japan	13,7	4,3	11,0	534.438,47	0,38	5,09	6,78	47,38	-65,28
Hong Kong	20,0	n.a	n.a	367.763,48	0,30	5,08	25,40	n.a	n.a
India	13,0	n.a	6,0	249.022,18	0,59	6,80	13,72	137,29	-20,70
Ireland	15,0	6,5	10,0	189.788,50	0,70	4,53	16,93	28,00	-92,53
Italy	18,0	15,4	21,4	427.774,44	0,67	7,79	3,54	56,04	-60,50
Korea. Rep.	16,5	7,3	3,0	154.306,03	0,65	5,53	6,58	118,51	-75,31
Norway	30,0	21,0	n.a	188.023,90	0,65	4,44	10,97	30,80	-64,02
Netherland	12,0	11,0	11,0	870.200,00	0,52	3,40	8,86	56,26	-88,30
Russia	19,0	4,0	24,0	165.469,94	0,75	11,14	13,03	433,78	-79,09
Spain	18,8	5,0	14,0	508.735,83	0,63	6,17	13,69	45,60	-50,12
Sweden	13,0	8,8	17,0	267.580,33	0,62	3,76	14,18	53,36	-58,08
Switzerland	12,5	12,0	30,0	1.075.915,90	0,22	3,14	-31,01	67,59	-69,84
UK	13,5	7,6	18,4	990.323,65	0,50	3,16	-25,77	20,22	-68,47
USA	13,0	11,2	16,8	715.538,32	0,34	6,11	32,75	28,41	-67,52

TABLE 3
STOCK RETURNS FOR JANUARY 2005 – JUNE 2007

Regression	(1)		(2)		(3)	
	Beta	t-statistic	Beta	t-statistic	Beta	t-statistic
Costant	249.154*	1.883	59.410	0.667	67.824	0.791
Ln (Total Assets 2006)	-15.735	-1.623	-4.185	-0.707	-4.660	-0.811
Loans 2006	-0.263	-0.554	0.187	0.683	0.204	0.757
Deposits 2006	0.499	1.157	0.428	1.534	0.448	1.642
Equity 2006	-10.371**	-2.312	-4.996	-1.490	-3.954*	-1.858
Net Income 2006	57.466**	2.367	7.988	0.405		
Other Operating Income 2006	-0.183	-0.482	0.735***	2.717	0.746***	2.801
Ln (Board Size)			-17.556	-1.173	-18.248	-1.240
Outside			21.660	1.165	21.603	1.173
Ln (Board Meetings)			5.927	0.743	5.317	0.686
Two-Tier Board			46.861***	2.784	43.857***	2.931
One-Tier Board			-18.515**	-1.851	-17.720*	-1.824
Number of Observation	75		75		75	
Adj-R^2	0.117		0.187		0.202	

The regression estimate the relation between buy-and-hold stock returns over the period January2005-June2007 and bank characteristics. Firm characteristic are computed in 2006. Ln (Total Assets 2006) is natural logarithm of Total Assets 2006, Deposits is the ratio of deposits to total assets, Loans is the ratio of loans to total assets, Equity is the ratio of equity to total assets, Net Income is the ratio of net income to total assets, Other Operating Income is the ratio of other operating income to total operating income, Ln(Board Size) is the natural logarithm of number of board members, Outside is the ratio of number of outside directors to number of board members, Ln(Board Meetings) is the natural logarithm of number of board annual meetings, Two-Tier Board is a dummy variable equal to 1 when a vertical two-tier board system is adopted, One-Tier Board is a dummy variable equal to 1 when a one-tier board system in adopted. Alternative models have been developed to test robustness to different included/excluded variables. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Adj.-R^2 is adjusted R-squared.

TABLE 4
STOCK RETURNS FOR JUNE 2007 – DECEMBER 2008

Regression	(1)		(2)		(3)	
	Beta	t-statistic	Beta	t-statistic	Beta	t-statistic
Costant	-95.169	-2.061	-126.895	-2.347	-138.820	-2.794
Ln (Total Assets 2008)	1.605	0.472	2.627	0.732	1.9061	0.562
Loans 2008	-0.122	-0.845	-0.124	-0.800	-0.088	-0.618
Deposits 2008	14.049	0.886	6.511	0.388	5.468	0.340
Equity 2008	233.677**	2.079	271.881**	2.228	257.013**	2.214
Net Income 2008	5.109**	2.024	5.530*	1.729	4.5169*	1.705
Other Operating Income 2008	-0.041	-0.837	-0.026	-0.470	-0.005	-0.108
Ln (Board Size)			13.994*	1.407	17.779**	1.981
Outside						
Ln (Board Meetings)			-4.823	-0.974		
Two-Tier Board			-13.788*	-1.776	-15.977*	-2.205
One-Tier Board			-5.443	-0.746	-7.740	-1.133
Number of Observation	73		73		73	
Adj-R^2	0.211		0.204		0.246	

The regression estimate the relation between buy-and-hold stock returns over the period June2007-December2008 and bank characteristics. Firm characteristic are computed in 2008. Ln (Total Assets 2008) is natural logarithm of Total Assets 2008, Deposits is the ratio of deposits to total assets, Loans is the ratio of loans to total assets, Equity is the ratio of equity to total assets, Net Income is the ratio of net income to total assets, Other Operating Income is the ratio of other operating income to total operating income, Ln(Board Size) is the natural logarithm of number of board members, Outside is the ratio of number of outside directors to number of board members, Ln(Board Meetings) is the natural logarithm of number of board annual meetings, Two-Tier Board is a dummy variable equal to 1 when a vertical two-tier board system is adopted, One-Tier Board is a dummy variable equal to 1 when a one-tier board system in adopted. Alternative models have been developed to test robustness to different included/excluded variables. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Adj.-R^2 is adjusted R-squared.

TABLE 5
RETURN ON EQUITY 2006

Regression	(1)		(2)		(3)	
	Beta	t-statistic	Beta	t-statistic	Beta	t-statistic
Costant	20.014	1.935	31.032***	2.904	33.071***	2.933
Ln (Total Assets 2006)	-1.181	-1.559	-1.747**	-2.235	-1.777**	-2.152
Loans 2006	0.041	1.171	-0.031	-0.815	-0.044	-0.967
Deposits 2006	0.041	1.294	0.006	0.190	0.007	0.217
Other Operating Income 2006	0.131***	4.846890	0.074**	2.280	0.062*	1.698
Two-Tier Board			-2.538**	-1.925	-2.423	-1.645
One-Tier Board			-2.019	-1.496	-2.002	-1.444
CEO Duality			2.905**	2.348	2.644**	1.970
Nomination Committee			4.876***	3.305	5.391***	2.982
Remuneration Committee					-0.114	-0.060
Audit Committee					-0.724	-0.232
Number of Observation	98		98		98	
Adj-R^2	0.195		0.215		0.179	

The regression estimate the relation between return on equity 2006 and bank characteristics. Firm characteristic are computed in 2006. Ln (Total Assets 2006) is natural logarithm of Total Assets 2006, Deposits is the ratio of deposits to total assets, Loans is the ratio of loans to total assets, Other Operating Income is the ratio of other operating income to total operating income, Two-Tier Board is a dummy variable equal to 1 when a vertical two-tier board system is adopted, One-Tier Board is a dummy variable equal to 1 when a one-tier board system in adopted, CEO Duality is a dummy variable equal to 1 when the CEO is also a managing director, Nomination Committee is a dummy variable equal to 1 when the board has nominated a nomination committee, Remuneration Committee is a dummy variable equal to 1 when the board has nominated a remuneration committee, Audit Committee is a dummy variable equal to 1 when the board has nominated an audit committee. Alternative models have been developed to test robustness to different included/excluded variables. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Adj.-R^2 is adjusted R-squared.

TABLE 6
RETURNS ON EQUITY 2008

Regression	(1)		(2)		(3)	
	Beta	t-statistic	Beta	t-statistic	Beta	t-statistic
Costant	-84.752	-0.663	-35.847	-0.352	-34.952	-0.333
Ln (Total Assets 2006)	7.963	0.828	1.098	0.138	0.517	0.061
Loans 2006	0.279	0.715	0.320	1.014	0.187	0.541
Deposits 2006	-33.726	-0.828	15.020	0.464	11.732	0.338
Other Operating Income 2006	-0.005**	-2.267	-0.004***	-2.743	-0.005***	-2.841
Two-Tier Board					16.816	1.120
One-Tier Board					-21.261	-1.515
CEO Duality			-5.319	-0.418	-8.148	-0.605
Nomination Committee			5.936	0.434	8.438	0.490
Remuneration Committee					5.058	0.273
Audit Committee					13.227	0.421
Number of Observation	96		96		96	
Adj-R^2	0.025		0.047		0.061	

The regression estimate the relation between return on equity 2008 and bank characteristics. Firm characteristic are computed in 2008. Ln (Total Assets 2008) is natural logarithm of Total Assets 2008, Deposits is the ratio of deposits to total assets, Loans is the ratio of loans to total assets, Other Operating Income is the ratio of other operating income to total operating income, Two-Tier Board is a dummy variable equal to 1 when a vertical two-tier board system is adopted, One-Tier Board is a dummy variable equal to 1 when a one-tier board system in adopted, CEO Duality is a dummy variable equal to 1 when the CEO is also a managing director, Nomination Committee is a dummy variable equal to 1 when the board has nominated a nomination committee, Remuneration Committee is a dummy variable equal to 1 when the board has nominated a remuneration committee, Audit Committee is a dummy variable equal to 1 when the board has nominated an audit committee. Alternative models have been developed to test robustness to different included/excluded variables. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Adj.-R^2 is adjusted R-squared.

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