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Corporate Governance and Bank Performance: Evidence from Jordanian Banking Industry

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ABSTRACT

Based on a sample of 14 banks listed on Amman Stock Exchange market over the period 1997 to 2006, this paper investigates the influence corporate governance (namely: ownership structure, board composition, and board size), and bank performance using a linear regression analysis. The results show that ownership structure and board composition have a strong impact on the bank performance. Results indicate that banks with institutional majority ownership have the highest performance and that as manager's and board members' ownership percentages increase the bank becomes more efficient. Surprisingly, board size has no effect on bank's performance.

Keywords: Corporate Governance, Ownership structure, Bank Performance.

INTRODUCTION

Corporate governance is about putting in place the structure, processes and mechanisms that insure that the firm is being directed and managed in a way that enhances long term shareholder value through accountability of managers and enhancing firm performance. In other words, through such structure, processes and mechanisms, the well-known agency problem (which results from the separation of ownership from management and leads to conflict of interests within the firm) may be addressed such that the interests of managers can be aligned with those of the shareholders.

The recent corporate governance problems involve frequent incidents of improper activities of managers expropriating the resources of the firm at the ultimate expense of shareholders (Eldenburg et al 2004 and Fan 2004). This has prompted intense reexamination and scrutiny of some of the existing corporate governance practices and considerable interest in empirical research in the effectiveness of various corporate governance institutions and mechanisms (Eldenburg et al 2004; Doidge et al 2007 and Fan 2004). The economic, political, financial and other events that took place during the last two decades influenced involved countries' economic and financial markets development alerting governments to the importance of maintaining efficient corporate governance mechanism to insure stability of the economy (Fan 2004). As a result, governments', organizations' and researchers' attention has turned towards investigating the impact of the corporate governance mechanism on firm performance (Doidge et al 2007; Abdulsamad and Zulkafi 2007 and khumaini et al 1998).

Today, the well-known agency problems resulting from the separation of ownership from management (Jensen & Meckling 1976) still prevail in firms worldwide. Recent research suggests that firms tend to have poor performance when they have greater agency problem (Wisbach 1993 and Wisbach 1995). These

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problems allow managers to generate personal benefits that serve their own interests instead of those of the stockholders. An efficient governance structure is believed to be one of the most important means by which such agency problems may be alleviated.

The determinants of corporate governance addressed in the literature include firm's ownership structure, the composition of board of directors, and board size (Wisbach 1988; Jensen and Meckling 1976; Abdulsamad and Zulkafi 2007 and Yermak (1996). The composition of the board of directors varies according to differences in ownership structures (Eldenburg, Hermalin, Weisbach, and Wasinska, 2004), the composition of the board is what determines the level of monitoring the CEO (Weisbach, 1987), and the size of the board of directors is inversely related to firm value as firms with large boards tend to use their assets less efficiently and earn less profit (Yermack, 1996). Also, Firms with larger boards have lower variability of corporate performance (Cheng 2008).

Based on pertinent literature and empirical findings in other countries, this paper contributes to the corporate governance and bank performance literature in Jordan by investigating the influence of corporate governance mechanism in the Jordanian banking industry on its performance, thus, provides an opportunity to look at various parts of the bank governance framework and the financial incentives that influence managers and owners.

The paper proceeds as follows: Section 2 defines the corporate governance and discusses its importance worldwide and in Jordan particularly, section 3 presents the pertinent literature, section 4 discusses the experimental procedures, section 5 describes the data and methodology used, section 6 presents the results and section 7 concludes the paper.

Corporate Governance defined

There is no universally accepted definition of corporate governance. What is more representative of the concept is the statement that "corporate governance refers to a set of rules and incentives by which the management of a company is directed and controlled. Good corporate governance maximizes the profitability and long-term value of the firm for shareholders", (Khumani *et al.*, 1998). La Porta, Lopez-De-Silanes, and Shleifer (2000) view corporate governance as a set of mechanisms through which outside investors protect themselves against expropriation by insiders, (i.e. the managers and controlling shareholders). They then give specific examples of the different forms of expropriation. The insiders may simply steal the profits; sell the output, the assets or securities of the firm they control to another firm they own at below market prices; divert corporate opportunities from firms; put unqualified family members in managerial positions; or overpay managers. This expropriation is central to the agency problem described by Jensen and Meckling (1976).

Corporate governance has become more prominent nowadays than ever before. Becht, Bolton, and Rosell, (2002) identify several reasons for that. Among those reasons is the takeover wave of the 1980s and the 1997 East Asia Crisis. Yoshikawa & Phan (2001) note that intensifying global competition and rapid technological changes result in lower price/cost margins which in turn force firms to focus on maximizing asset efficiency and shareholder value if they want to access funds to fuel growth opportunities.

In Asia, the prevalence of family ownership, government interference, relationship-based transactions and generally weak legal systems and law enforcement result in agency problems such as large deviations between control and cash flow rights and low degree of minority rights protection (Rajan and Zingals 1998; Weisbach and parrino 1999). Conventional corporate governance mechanisms such as takeovers and boards of directors are not strong enough to relieve agency

problems. The group business and cross-holding structure further complicate agency problems. These agency problems and weak corporate governance, not only lead to poor firm performance and risky financing patterns, but are also conducive to macroeconomic crises, like the 1997 East Asia crisis (Claessens *et al*. 2002b). Therefore, agency problems and corporate governance in Asia warrant urgent attention.

Recently, Jordan has put in place the pillars of corporate governance by sponsoring a series of legislative, economic and financial reforms that intended to promote transparency, accountability and the rule of law in the economic life of the country. Managerial inefficiency and accounting scandals alert the legislators, government and management of banks and big corporations to the danger involved in the absence of constraints governing corporate governance. The lake of constraints was viewed as being conductive to definite losses by the shareholders and those who hold interests in these enter parties, to destabilize the national economy and investment climate. All of that have reinforced interest in consolidating the foundation and principles of corporate governance in the Jordanian economy.

The Jordanian experience, even though it has been a short one, has demonstrated that business communities passed various stages towards adopting effective corporate governance practices, the first and most important stage is raising awareness. Much progress has been made in the regulatory environment in Jordan in the 1990s. For example, the Corporate Compliance Authority plays an important role by enforcing many basic corporate governance provisions of the Company Law. Another key player in enhancing corporate governance is the Central Bank of Jordan. Further to issuing the bank Director's Handbook of Corporate Governance in 2004, the Central Bank of Jordan is continuing its efforts to enhance corporate governance in the Jordanian banking system by preparing the Corporate Governance Code which is intended to promote international best practice in the corporate governance of Jordanian banks. The Code draws upon international best practice, in particular the OECD Principles of Corporate Governance and the guidance issued by the Basle Committee on Banking Supervision in their publication: Enhancing Corporate Governance for Banking Organizations. The interest in corporate governance is not limited to governmental institutions, some private forums and associations have also been established to enhance the adoption of the concept of corporate governance.

Review of Related Literature

There are numerous studies on corporate governance and its impact on firm performance. Most of these studies support the notion that there is a positive relationship between effective corporate governance (namely: ownership structure, board composition and board size) and firm performance which we outline below.[1]

Jensen and Meckling (1976) laid out the theoretical relationship between corporate governance and firm performance. They tied together the elements from the theory of agency, theory of property cost and theory of finance, to develop the theory of the ownership structure of the firm. They deeply explained the definition of the firm, the agency cost and the property rights and analyzed the agency cost of equity and debt. They find that as the manager's ownership claim decreases, his incentive to give effort to maximize the firm's value decreases, and so the agency cost will increase leading to the firm's net value to decrease. So, as the manager's ownership percentage

[1] For detailed description of good comparison in previous empirical results, see Demsetz and Villalonge (2001).

increases, the firm value will increase as well. This argument was also provided in other empirical studies with the same finding (Milton 2002).

Research that followed Jensen and Meckling (1976) work looks at the impact of ownership structure. Eldenburg *et al*., (2004) hypothesized that differences across ownership types will be associated with differences in boards' objectives and governance. They tested this hypothesis by examining critical actions boards take; the decision to replace the CEO and the extent to which this decision differs across different ownership types. They found that the composition of the board of directors varies according to the differences in ownership structure and leads to differences in both; the factors that affect the turnover in the board of directors, and the determinants of CEO turnover.

As for the impact of board of directors (outside directors/board independence), empirical research results are mixed. Some argue for more outside directors (Brickley and coles 1994; Fama and Jensen 1983 and Fama 1980) and others argue against it (Potton and Baker 1987 and Jensen1993). Generally, there appears to be no empirical evidence that the existence of outside directors is correlated with firm performance (Abdulsamad and Zulkafi 2007). However, there is overwhelming empirical evidence on the positive role played by outside directors in board's monitoring and control function (Weisbach 1988; Masulis et al 2005 and Block 1999). Weisbach (1988) tested whether monitoring management in companies with outsider–dominated board is more effective than for companies with insider-dominated board, by relating CEO resignations to performance measures like stock returns and accounting earnings. He also tested whether the CEO replacement relationship varies depending on a firm's size, ownership structure or industry. He finds that the performance measures are more highly correlated with CEO turnover for firms in which outsiders dominate the boards of director than for firms in which insider dominate. The main result of Weisbach (1988) is that the composition of the board determines the level of monitoring the CEO, and this level of monitoring is not caused by differences in the ownership structure, the size or the industry of the firm.

Another dimension of corporate governance investigated in the literature is the board size. Yermack (1996) tested the effect of board size on the performance and management efficiency. The main hypothesis here is that the board size of the firm presents an important determinant of its performance, and that the firm value depends on the quality of monitoring and decision – making by board of directors. He estimated a regression relationship using the ratio of market value of assets to the replacement cost of assets as the dependent variable and board size as the most important of the explanatory variables. Other measures of firm value and profitability used by Yermack (1996) include the return on assets and return on sales ratios. All three dependent variable have negative and significant associations with the board size. The main result of this paper is that there is an inverse relationship between board size and firm value. Companies with large boards appear to use assets less efficiently and earn less profit.

It has been found that firm governance is related to country characteristics. In general, this line of research finds that the quality of governance practices is positively related to growth opportunities, the need for external financing, and the state protection of investor rights, and is negatively related to ownership concentration. Doidge, Karoyli, and Stulz (2007) found that the country characteristics are the most important determinant of a firm's governance and that there are complementarities between country – level of investor protection and firm – level governance. The authors distinguish between investor protection granted by

the state and investor protection adopted by the firm. In less developed countries the benefits from improving governance are usually smaller than it costs because of the lacking in the institutional infrastructure and in capital markets depth. They found that a large fraction of the variation in the rating of corporate governance is attributable to country characteristics. Volpin (2001) studied the determinants of executive turnover and firm valuation as a function of ownership and control structure in Italy which features low legal protection for investors. He found that there is poor governance, measured by a low sensitivity of turnover to performance when country features low legal protection for investors specially for top executives who belong to the family of the controlling shareholder. He also found that turnover is more sensitive to performance when the fraction of cash flow rights owned by the controlling shareholders is larger, and that turnover is more sensitive to performance when control is contestable. Arun and Turner (2004) discussed the corporate governance of banking institutions in developing economies. Based on a theoretical discussion of the corporate governance of banks, they suggest that banking reforms can only be fully implemented once a prudential regulatory system is in place. An integral part of banking reforms in developing economies is the privatization of banks. They also suggest that corporate governance reforms may be a prerequisite for the successful divestiture of government ownership. Furthermore, they found that the increased competition resulting from the entrance of foreign banks may improve the corporate governance of developing-economy banks. Abdulsamad and Zulkafli (2007) suggest that there are differences in the monitoring mechanisms of banking firms and non-bank firms by analyzing the corporate governance of listed banking firms in nine Asian emerging markets. They classified corporate governance mechanism that serves to monitor the banking firms into; first, ownership monitoring mechanism (large shareholders, government ownership, foreign ownership). Second, internal control monitoring mechanism (CEO duality, Board size, board independence). Third, regulatory monitoring mechanism and fourth, disclosure monitoring mechanism. The researchers in this study assumed a direct relationship between corporate governance monitoring mechanism and corporate performance of banking firms that measured by (Tobin's Q ratio and ROA), using a regression model. The findings show that bank performance measures are significantly negatively related with all ownership monitoring mechanism, positively related with both regulatory monitoring mechanism, and disclosure monitoring mechanism, but that there is no significant relationship between performance and the internal control monitoring mechanism. Spong and Sullivan (2007) used a random sample of state-chartered community banks to measure how different aspects of corporate governance influence bank performance. They found that an ownership stake for hired managers can help improve bank performance, consistent with a reduction in principal-agent problems posited by financial theory. They also found that boards of directors are likely to have a more positive effect on community bank performance when directors have a significant financial interest in the bank. Finally, they found that the wealth and the financial positions of managers and directors significantly influence their own attitudes toward taking risk and their bank's risk-return trade-offs.

Micco, Panizza, and Yanez (2004) found that ownership is strongly correlated with performance in developing countries but that ownership is not correlated with performance in industrial countries. In particular, the paper suggests that state-owned banks operating in developing countries tend to have lower profitability and higher costs than their private counterparts and that the opposite is true for foreign owned banks (which tend to be characterized by higher profitability and lower costs).

They also found that, in developing countries, the entry of foreign banks play a useful role by making domestic banks more efficient in terms of overhead cost and spreads, although they do not found any effect on profitability of domestic banks.

Khanna and Rivkin (2001) tested the effects of group affiliation on firm profitability. They defined the business group as a set of firms which, though legally independent, are bound together by constellation of formal and informal ties and are accustomed to making coordinated action. They found evidence that business groups indeed affect the broad patterns of economic performance. They found that business group affiliates earn higher accounting profits than do otherwise comparable unaffiliated firms; they also found that the returns of group affiliates are more similar to one another than the returns of firms which are not members of the same group.

Azofra and Santamaria (2011) analyzed how the ultimate ownership and control structure influences the performance of Spanish commercial banks. By this analysis they highlighted the fact that ownership and control structure play a central role in the governance of Spanish banks, and that these structures also determine the profitability and efficiency of these financial entities. There results indicate that this role has a dual dimension, depending on the control of the ultimate controlling owner. On the one hand, whenever the major shareholder controls the entity, the gap between voting and cash flow rights is a source of inefficiency for the bank. On the other hand, whenever the major shareholder directly controls the bank, they found the inefficiency only at the lower levels of ownership concentration because the higher levels of ownership concentration benefits both the bank's profitability and its efficiency.

Price et al (2011) examined the relation between compliance with the code of 'Best' Corporate Practice and performance. The Code was developed to provide information to market participants regarding the governance strength of firms trading on the Mexican stock exchange. There results indicated that compliance generally not associated with improved performance, suggesting that monitoring alone is not enough to bring about fundamental changes.

Research Methodology

The main question addressed in this paper is: Does the bank's governance mechanism affect its performance?. Based on the literature presented earlier it is necessary to control for bank's size and riskiness because banks of different sizes and exposure to risk can differ in terms of both their performance and efficiency of corporate governance mechanism. Therefore, the following null hypotheses can be stated:

H$\mathbf{o_1}$: The corporate governance of the bank does not affect its performance

H$\mathbf{o_2}$: The corporate governance of the bank does not affect its performance, controlling for bank size.

H$\mathbf{o_3}$: The corporate governance of the bank does not affect its performance, controlling for bank riskiness.

H$\mathbf{o_4}$: The corporate governance of the bank does not affect its performance, controlling for bank size and bank riskiness.

Bank's performance is a difficult concept to define and measure. It has been defined as the end result of an activity, and the appropriate measure selected to assess corporate performance depends on the type of organization to be evaluated, and the objectives to be achieved through that evaluation. To measure bank performance, this paper uses measures that are commonly used in the literature, namely, the Return On Assets (ROA) and Return On Equity (ROE) (Abdulsamad and Zulkafli, 2007, Weisbach, 1988 and

Kobeissi, 2004).

As for the bank's ownership structure, we divide it according to the nature of the stockholders into: Majority individuals, majority corporations, and majority government ownership. The composition of board of directors (affiliated vs. non affiliated**)** variable classifies the board of directors as affiliated if any single member of the board of directors holds at least 20% of the firm's outstanding shares. Such definition of board of directors affiliation is one of many proposed in the literature (Weisbach, 1993; Weisbach, 1995; Musulis et al 2005 and Yermack 1996), other ownership percentages can be tried as robustness checks. The managerial ownership is measured by the percentage of firm's outstanding shares owned by the CEO (Link et al 2007). The board of directors' ownership is measured by the percentage of the firm's outstanding shares owned by members of board of directors excluding the CEO (Link et al 2007) and the board size is measured by the number of members serving on board of directors (Abdulsamad and Zulkafli, 2007).

When estimating the relationship between corporate governance mechanism and bank performance, we control for bank size and risk. Bank size is measured by the logarithm of end of year total assets of the bank (Kobeissi 2004 and Abdulsamad and Zulkafli 2007). Bank riskiness is the potential risk associated with the bank and can be measured by the ratio of total loan loss provisions to total asset (Kobeissi 2004) or by the standard deviation of daily excess return (Coles et al 2008).

Data & Methodology

The influence could be studied by investigating the impact of each element of corporate governance (namely: ownership structure, board composition, manager's and board members ownership percentage, and board size) on bank's performance. In Jordan, there are 23 commercial banks that differ in terms of their monitoring and corporate governance mechanisms and this dispersion in monitoring mechanisms enables us to investigate any systematic relationship that may exist between corporate governance mechanism of the bank and its performance.

There are 23 banks operating in Jordan's economy of which 14 banks are listed on Amman Stock Exchange. The analysis in this paper is based on panel data of the 14 listed banks over the period 1997-2006. This leads to 140 firm-year observations for the whole sample.

The main model used to test for the effect of the various corporate governance dimensions on bank performance takes the following forms:

$$P_{i,t} = \alpha_0 + \beta_1 X + \beta_2 Z + \varepsilon_{i,t}$$

Where,

$P_{i,t}$: performance of bank i at time period t measured by the Return On Assets (ROA) and the Return On Equity (ROE).

X : is a matrix of explanatory variables that includes: BOS: is the bank i ownership structure (Institutional , individual, government) measured as a dummy variable that equals zero if more than 50% of the firm is owned by individuals, one if more than 50% of the firm is owned by institutions, and two if more than 50% of the firm is owned by government agency(here we use the 50% cutoff point to determine the owner of the firm as owning 50% or more of the firm's capital enables the owners to control majority voting rights), BODC: is the composition of the board of directors (affiliated, non affiliated) measured as a dummy variable that equals zero if one or more of the members of the board of directors is affiliated to the bank, and one otherwise, MOWN: is the managerial ownership measured as the percentage of the firm's outstanding shares owned by CEO, BODOWN: is the percentage of the firm's outstanding shares owned by members of board of

directors, and BSZ: is the number of directors appointed by the shareholders on the board.

Z: is a matrix of control variables that includes: BANK-SZ: is the size of the bank and measured by logarithm of end of year total assets of the bank, and BANK-RSK: is the potential risk associated with the bank and is measured by the ratio of total loan loss provisions to net loans.

$\varepsilon \sim N(0, \delta)$: error term normally distributed with mean zero and δ standard deviation.

$E(e_{it}\, e_{jt}) = 0$, $E(e_{it}\, e_{is}) = 0$, $E(e_{it}\, e_{js}) = 0$.

It is necessary to note that the regression models used here treat the data as pooled observations and therefore, assume that the residuals are not correlated either across different time periods or across different banks during the same or different time periods. (i.e. observations are homoskedastic and not serially correlated).

Table (1) summarizes the theoretical as well as the empirical relationship between bank performance and corporate governance dimensions found in previous research.

Table 1

Variable	Sign of relationship with firm performance theoretically predicted or empirically found	Research paper in which the predicted sign appears
Ownership Structure	No relationship	(Weisbach, 1988)
Existence of affiliated board members	Positive	(Weisbach, 1993)
Managerial ownership	Positive	(Jensen and Meckling, 1976)
Board ownership	Positive	(Jensen and Meckling, 1976)
Board size	Negative	(Yermack, 1996)
Firm size and riskiness	No relationship	(Weisbach, 1988)

Results and Discussion

Table (2) presents the distribution of the banks across the various ownership structures as well as board compositions. Most of the Jordanian banks are owned by individuals and about half of them have affiliated board members.

Table 2. Sample Frequency Distribution

	Ownership Structure			Board Composition	
	Individual	**Institutional**	**Governmental**	**Affiliated**	**Non-affiliated**
Number of observations	78	40	8	62	64
Percentage	62%	32%	6%	49%	51%

To provide further insight into the distributional characteristics of the main variables, panels A and B of table (3) show means and medians of the dependent and independent variables classified according to the

ownership structure and board affiliation, respectively. On average, larger banks' ownership structures are dominated by individual owners while smaller banks' ownership structures are dominated by institutional owners. As for the board members affiliation, performance of the bank is slightly higher when the board includes an affiliated member, and banks that have affiliated board members are much smaller than banks that have non-affiliated board members. The highest ROE and ROA is observed when the bank's ownership structure is dominated by institutions and lowest when it is dominated by individual ownership. This may be an indication that institutions provide better monitoring of the bank management than individuals.

Panels A and B of table (3) show that bank's with majority institutional ownership and affiliated board of director members have higher performance (ROA=1.30, ROE =10.23) and lower risk (L.L.P.R=7.92). The tables show that ROA has the highest value (1.300) when the bank has a majority of institutional ownership, and it is higher when the bank has majority of governmental ownership (1.235) than when it has a majority of individual ownership (0.862). ROE is higher when the bank has majority institutional ownership (10.230), but there is no different between ROE value for bank with majority governmental (8.440) and institutional ownership (8.440). ROA does not significantly differ between banks with affiliated (0.995) and non affiliated (0.910) board of director members. ROE is higher for banks that have affiliated board of directors' members (10.440) than for banks that have nonaffiliated board of director members (8.545).

Table 3. Sample Summary Statistics

Panel A:

	Owner Ship Structure					
	Individuals		Institutions		Government	
	Mean	Median	Mean	Median	Mean	Median
Total ASSETS	2,288,693,845	688,312,282	632,301,925	753,282,267	1,974,879,334	1,740,911,507
ROA	0.862	0.765	1.24	1.3	10.34	1.235
ROE	7.582	8.44	11.25	10.82	9.74	8.44
STOCK R	0.214	-0.082	0.21	0.08	1.5	0.241
L.L.P.R	17.328	10.68	10.23	7.92	8.69	11.87
NET INCOME	22,085,154	3,368,894	9,963,095	3,278,992	27,903,426	22,292,685
MOWN %	12.312	9	7.194	0.13	0.09	0.08
BODOWN %	29.060	11	55.530	66.54	47.85	62.22
M to B. R	1.552	1.43	1.818	1.657	1.78	1.136

Panel B:

	Composition of B. of D			
	Affiliated		Non affiliated	
	Mean	Median	Mean	Median
Total ASSETS	567,491,509	382,761,221	2,891,516,562	870,006,642
ROA	1.064	0.995	0.98	0.91
ROE	10.322	10.44	7.67	8.545
STOCK R	0.332	0.009	0.12	-0.081
L.L.P.R	17.439	9.01	11.86	22.655
NET INCOME	7,342,743	3,310,555	29,517,861	5,377,571
MOWN %	14.151	8.5	5.353	3.98
BODOWN %	50.735	65.58	33.104	34.292
M to B ratio	1.810	1.6	1.52	1.253

ROA: Return on assets, ROE: Return on equity, STOCK R: Stock return, L.L.P.R: Loans loss provisions ratio, MOWN%: Managerial ownership percentage, BODOWN%: Board of directors ownership percentage, M to B. R: Market to book ratio

Bank's risk is lowest when the bank has a majority of institutional ownership (7.920) and highest when the bank has majority of governmental ownership (11.870) maybe because the central bank is more willing to support banks that are mainly owned by governments. The risk is lower when bank has affiliated board of director's members (9.010) than it is for banks with non affiliated board of directors members (22.655). The highest managerial ownership percentage is for banks with majority individual ownership (9.0%), and it is higher for banks with majority institutional ownership (0.13%) than it is for those that have majority governmental ownership (0.08%). The managerial ownership is higher when the bank has affiliated board of directors' members (8.50%) than for banks that have nonaffiliated board of director members (3.98%). The board of directors' ownership percentage is highest when the bank has majority institutional ownership (66.54%), and it is higher for banks that have a majority of governmental ownership (62.22%) than for those that have majority individual ownership (11.00%). The board of directors' ownership percentage is higher when the bank has affiliated board of directors' members (65.58%) than for banks that have nonaffiliated board of director members (34.29%). The market to book ratio is highest for banks that have majority of institutional ownership (1.657), and it is higher when the bank has majority of individual ownership (1.430) than when it has a majority of governmental ownership (1.136). The market to book ratio is higher when the bank has affiliated board of directors' members (1.600) than for banks that have nonaffiliated board of director members (1.253).

Tables 4 and 5 show the results of spearman and pearson correlation tests, Measures of performance are significantly positively correlated with bank's ownership structure and board of directors; ownership percentage, and significantly negatively correlated with bank risk. This means that bank's performance improves when bank's majority ownership moves from individual to institutional

and from institutional to governmental and when board of directors members' ownership claims increase.

Table 4: Pearson Correlation

Panel A

	ROA	ROE	BOS	BODC	MOWN	BODOWN	BOSZ	LOG ASSETS	LP_TO_NL
ROA	1.000	.907**	.191*	-.041	-.054	.117	.073	.143	-.256**
ROE		1.000	.173	-.155	-.039	.125	-.039	.249**	-.302**
BOS			1.000	-.219*	-.241**	.479**	-.007	-.012	-.223*
BODC				1.000	-.356**	-.375**	.502**	.380**	-.113
MOWN					1.000	-.398**	.032	-.443**	.198
BODOWN						1.000	.014	-.223	-.262*
BSZ							1.000	.225*	-.209*
LOG ASSETS								1.000	-.331**
LP_TO_NL									1.000

Panel B: Spearman correlation

	ROA	ROE	BOS	BODC	MOWN	BODOWN	BOSZ	LOG ASSETS	LP_TO_NL
ROA	1.000	.910**	.280**	-.109	-.060	.195	.095	.154	-.423**
ROE		1.000	.191*	-.190*	-.095	.206	-.036	.279**	-.407**
BOS			1.000	-.307**	-.424**	.514**	-.042	.002	-.253**
BODC				1.000	-.219*	-.374**	.530	.381	.031
MOWN					1.000	-.399**	.008	-.419	.188
BODOWN						1.000	.063	-.195	-.282*
BOSZ							1.000	.283**	-.062
LOG ASSETS								1.000	-.265**
LP_TO_NL									1.000

ROA: Return on assets, ROE: Return on equity, BOS: Bank's ownership structure, BODC: Board of directors' composition, MOWN: Managerial ownership percentage, BODOWN: Board of directors' ownership percentage, BSZ: Number of board of directors members, LOG ASSETS: Logarithm of total assets, L.L.P.R: Loans loss provisions ratio.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Bank's performance deteriorates when risk increases. Managers tend to own less of the bank's equity when it is predominantly owned by other board members, mainly owned by the government or institutions, and directed by nonaffiliated board of directors members. The board of directors tends to own more of the banks shares when the bank is owned by a majority of

institutions or the government and own less when the board of director members are nonaffiliated and when the manager has a high ownership percentage. The size of the board of directors is positively correlated with the board of directors' composition, which means that the number of the board of directors' members increases when the board of directors is nonaffiliated.

Table 6 provides the results of Mann-Whitney Test and Kruskal Wallis Test, non-parametric methods for testing equality of population medians among groups. Mann-Whitney Test is used to compare between two unpaired groups and Kruskal Wallis Test is used to when having three or more groups. Panel A of the table summarizes the relationship between bank performance and its board of director composition by showing the statistic impact of shifting from affiliated board members to non affiliated board members on bank performance. Panel B estimates the relationship between bank performance and its ownership structure by showing the statistic impact of shifting from individual to institutional and from institutional to governmental majority ownership on bank performance.

Table 6: Mann-Whitney and Kruskal Wallis Tests.

Panel A: Mann-Whitney Test, grouping variable (BODC)

	ROA	ROE	STOCK_R	LP_TO_NL	MOWN	BODOWN	M to B Ratio
Mann-Whitny U	1734	1548	1689	1592	1656	961.5	368
Z	-1.22	-2.125	-1.164	-0.336	-1.601	-2.197	-3.149
Asymp.Sig	0.222	0.034	0.244	0.737	0.109	0.028	0.002

Panel B: Kruskal Wallis Test, grouping variable (BOS)

	ROA	ROE	STOCK_R	LP_TO_NL	MOWN	BODOWN	M to B Ratio
Chi-Square	9.819	6.029	1.24	7.666	18.414	20.505	1.906
Asymp.Sig	0.007	0.049	0.049	0.022	0.000	0.000	0.386

The board of directors composition is significantly negatively correlated with bank's ROE (-1.220), managerial ownership (-1.601) and board of directors ownership (-2.197). This means that ROE becomes lower when the board of directors have nonaffiliated members, and the manager's and the board of director's ownership claims also tend to be lower when the board of directors have nonaffiliated members, which means that when non of the board of director members' ownership percentage exceeds 20%, the manger tends to own less of the banks shares and the over all board members' ownership claims will also be low, leading the manager and the board members to have lower interest or incentives to maximize banks' value, then bank's performance decreases. Bank's ownership structure is significantly positively correlated with both ROA and ROE. This means that when bank's majority ownership moves from individual to institutional and from institutional to governmental, the performance becomes higher.

Regression Analysis

Table (7) reports estimates of regression analysis of performance on firm's corporate governance. To estimate the relationship between bank's performance and its corporate governance mechanism, the null hypotheses of the study supposed are tested by the following four models:

1. $P_{i,t} = \alpha 0 + B1\ BOS_{i,t} + B2\ BODC_{i,t} + B3\ MOWN_{i,t} + B4\ BODOWN_{i,t} + B5\ BSZ_{i,t} + \varepsilon_{i,t}$

2. $P_{i,t} = \alpha 0 + B1\ BOS_{i,t} + B2\ BODC_{i,t} + B3\ MOWN_{i,t} + B4\ BODOWN_{i,t} + B5\ BSZ_{i,t} + B6\ BANK\text{-}SZ + \varepsilon_{i,t}$

3. $P_{i,t} = \alpha 0 + B1\ BOS_{i,t} + B2\ BODC_{i,t} + B3\ MOWN_{i,t} + B4\ BODOWN_{i,t} + B5\ BSZ_{i,t} + B6\ BANK\text{-}RSK + \varepsilon_{i,t}$

4. $P_{i,t} = \alpha 0 + B1\ BOS_{i,t} + B2\ BODC_{i,t} + B3\ MOWN_{i,t} + B4\ BODOWN_{i,t} + B5\ BSZ_{i,t} + B6\ BANK\text{-}SZ + B7\ BANK\text{-}RSK + \varepsilon_{i,t}$

Then, to measure the impact of each element of corporate governance on bank's performance, the main four models mention above have been broken into other partial models answering the following questions:

- Does ownership structure, controlled by bank's size and risk, affect bank's performance?
- Does board of directors' composition, controlled by bank's size and risk, affects bank's performance?
- Does board of directors' size, controlled by bank's size and risk, affects bank's performance?
- Do ownership structure, board of directors' composition and board of directors' size, controlled by bank's size and risk, affects bank's performance?
- Does managerial ownership, controlled by bank's size and risk, affects bank's performance?
- Does board of directors' ownership, controlled by bank's size and risk, affects bank's performance?
- Do managerial and board of directors' ownership, controlled by bank's size and risk, affects bank's performance?

Panel A of table (7) reports estimates of regression of ROA on firm's corporate governance: Model (1) estimates a regression of ROA on bank's ownership structure (Individual, Institutional, Government), measured as a dummy variable that equals zero if more than 50% of the firm is owned by individuals, one if more than 50% of the firm is owned by institutions, and two if more than 50% of the firm is owned by government agency, and this regression controls for bank size and bank riskness. The regression shows that bank's

Table 7. Estimates of regression analysis

Panel A:

Independent Variable	Dependent Variable (ROA)						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	-0.248	-0.437	1.162	0.464	-0.00838	-0.522	-1.916
BOS	0.239	-	-	0.133	-	-	-
BODC	-	0.213	-	-0.106	-	-	-
MOWN	-	-	-	-	0.00212	-	0.00948
BODWN	-	-	-	-	-	0.00343	0.00617
BSZ	-	-	-0.00962	0.00177	-	-	-
BANK SZ	0.144	0.193	0.00168	0.00704	0.138	0.172	0.305
BANK RSK	-0.00938*	-0.0011*	-0.00125*	-0.00112*	-0.00113*	-0.00965	-0.00874
Adjusted R^2	0.065	0.054	0.044	0.036	0.040	0.034	0.027
F value	3.661	3.187	2.773	1.850	2.330	1.820	1.487

Panel B:

Independent Variable	Dependent Variable (ROE)						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	-14.886	-24.657	-9.383	-24.642**	-18.932	-19.748	-46.669
BOS	1.741	-	-	0.929	-	-	-
BODC	-	-4.79*	-	-4.373*	-	-	-
MOWN	-	-	-	-	0.00716	-	0.183**
BODWN	-	-	-	-	-	0.00404	0.00935**
BSZ	-	-	-0.571	-0.00691	-	-	
BANK SZ	2.744**	4.24*	2.921*	4.239*	3.237**	3.187	5.76*
BANK RSK	-0.0086*	-0.0098*	-0.108*	-0.00919*	-0.102*	-0.00714	-0.00638
Adjusted R^2	0.108	0.165	0.111	0.154	0.097	0.089	0.116
F value	5.609	8.509	5.821	5.153	4.436	3.277	3.286

* Significant at 5%

** Significant at 10%

ownership structure has no impact on bank's ROA. The control variable bank size has no impact on bank's performance measured by ROA, it does not have a statistical significant coefficient (0.144), while bank risk has a negative statistically significant coefficient (-.00938).

Model 2 estimates a regression of ROA on bank's board of directors composition (affiliated, non affiliated): measured as a dummy variable that equals zero if one or more of the members of the board of directors is affiliated to the bank, and one otherwise. The regression shows that board of directors' composition does not affect bank's ROA, it does not have a statistical significant coefficient (0.213). Also here, the control variable bank size has no impact on bank's performance measured by ROA, it does not have a statistical significant coefficient (0.193), while bank risk has a negative statistical significant coefficient (-0.0011).

Model 3 estimates a regression of ROA on the size of bored of directors. The regression results show that there is a negative but statistically insignificant relationship between the number of board of directors' members and bank's ROA (-0.00962). The same thing for the control variables is repeated here, bank risk has a negative statistical significant coefficient (-0.00125) and bank size has no effect.

Model 4 estimates a regression of ROA on the three determinants that have been described above, (BOS, BODC, BOZ) together, and this regression also controls for bank size and bank risk. The regression results show that there is no statistically significant relationship between bank's ROA and the ownership structure (0.133), board composition (-0.106), and number of board of directors' members (0.00177). Bank risk is the only control variable that has a negative statistically significant correlation (-0.00112)

Model 5 examines the impact of the managerial ownership on ROA, the test results show that there is no statistically significant correlation between ROA and manager's ownership percentage (0.00212). Bank risk is the only control variable that has a negative statistically

significant correlation (-0.00113). ROA does not affected by managerial ownership percentage.

Model 6 examines the impact of the board of directors' ownership on ROA, the test results show that there is no statistically significant correlation between ROA and the board of directors' ownership percentage (0.00343). ROA does not affected by board ownership percentage. Both control variables banks size and bank risk do not affect ROA according to this model.

Model 7 runs a regression of ROA on managerial ownership and board of directors ownership together. The regression results show that there is no statistically significant relationship between the managerial ownership (0.00948) and board of directors ownership (0.00617) and bank's ROA. Both control variables banks size and bank risk do not affect ROA according to this model.

Panel B of Table 7 reports estimates of regression of ROE on firm's corporate governance: Model 1 estimates a regression of ROE on bank's ownership structure, and this regression controls for bank size and bank riskness. The regression shows that bank's ownership structure dose not matter! It does not affect bank performance; it has a positive but not significant coefficient (1.741). As we said before, the discretion of the nonparametric test in table (6) shows that there is a high statistically positive relation between bank's ownership structure and bank performance. These two inconsistent results have been mainly driven by the extremes values of ROA and ROE that highly concentrate in banks that have individual majority ownership. This shown by the large values of the ranges between the maximum and minimum values of ROA (8) and ROE (69) for banks of individual majority ownership compared with those for the other tow groups (Institutional majority ownership and governmental majority ownership). See table (3) .The control variable bank size has a significant positive coefficient (2.774), while bank riskeness has a negative statistically significant coefficient (-0.0086*). This means that as bank size becomes larger its performance becomes higher, and as bank riskness increases its performance decreases.

Model 2 estimates regression of ROE on bank's board of directors' composition. The regression shows that board of directors composition has a negative and significant coefficient with bank's ROE (-4.79*). This means that when one or more of the board of directors members owns 20% or more of the bank's shares, bank's value measured by ROE increased. The non parametric test also gives consistent results with those explained above. The impact of the extreme values does not occur here as when we test the relationship between bank's performance and bank's ownership structure, because these extreme values are mostly equally allocated over the tow groups (affiliated, nonaffiliated)(See table (1)). The other reason of the consistency in those results is that the sizes of the sample of the two groups (affiliated, nonaffiliated) are very close to each other. Table (1) shows that the number of observations in the affiliated group is (62), while the number of observations in the non affiliated group is (64). The opposite of this occurred when we tested the impact of the bank's ownership structure on the banks performance. The same table shows that the number of observations with individual majority ownership is (78), number of observations with institutional majority ownership is (40), while the number of observations with governmental majority ownership is only (8). Also here the control variable bank size has a significant positive coefficient with return on equity (4.24*), while bank riskeness has a negative statistically significant coefficient (0.0098*). This means that as bank size becomes larger its performance becomes higher, and as bank riskness increases its performance decreases.

Model (3) estimates a regression of ROE on the size

of bored of directors. The regression results show that there is no statistically significant relationship between the number of board of directors' members and bank's ROE (-0.571). The same thing for the control variables is repeated here, bank size has a significant positive coefficient with return on equity (2.921), while bank riskeness has a negative statistically significant coefficient (-0.108).

Model (4) estimates a regression of ROE on the three determinant that have been described above, (BOS, BODC, BOZ) together, and this regression also have been controlled for bank size and bank risk.

The result of this test enforced that the board of director composition is the only variable that has a statistically significant negative coefficient (-4.373) with bank's performance measured by ROE. This robust result insures that when one member or more of the board of directors owns 20% or more of the bank shares, bank's return on equity will increase and then the bank's value will increase. This tells that as the board of director member's ownership claim increase his incentive to give effort to maximize bank's value will increase, and so the agency cost will decrease leads bank's net value to rise. The same thing for the control variables is repeated here, bank size has a significant positive coefficient with return on equity (4.239), while bank riskeness has a negative statistically significant coefficient (-0.00919).

Model (5) examines the impact of the managerial ownership on ROE; the test results show that there is no statistically significant correlation between ROA and manager's ownership percentage (0.00716). Bank size has a significant positive coefficient with return on equity (3.237), while bank riskeness has a negative statistically significant coefficient (-0.102).

Model (6) examines the impact of the board of directors' ownership on ROE; the test results show that there is no statistically significant correlation between ROE and the board of directors' ownership percentage (0.00404). Both control variables banks size and bank risk do not affect ROA according to this model.

The results of models 5 & 6 mean that neither the manager alone nor the board of directors alone has an important effect on ROA. This means that if the manager's ownership claims increase while the board of directors' ownership claims are significantly low, the manager alone cannot affect bank performance, and vise versa, if the board of directors ownership claims are high while the managerial ownership claims is significantly low, the board of directors cannot have a strong impact on bank's performance.

Model (7) runs a regression of ROE on managerial ownership and board of directors' ownership together. This test predicts that the manager and the board of directors have a positive statistically significant coefficient with bank's return on equity only when they both have high ownership claims in the bank. When both manager's and board of directors' ownership claims increase, conflict of interests decrease, led the agency problem to decrease and to increase bank's value and it's return on equity.

It is important to note that the board of directors' ownership has a very low un -standardized coefficient value (0.00935), although it is significant at 10% as found by the regression result. By comparing the un-standardized coefficient parameter to the overall median of the board of directors' ownership we found that the board of directors' ownership is not economically significant. The bank size also is the only control variable that has a positive significant coefficient with return on equity.

Conclusion

Using ownership, board of directors and performance

details of 14 listed banks in Amman Stock Exchange Market with a total of 140 observations during the 1997-2006 sample years, this paper sheds some light on the association and impact of corporate governance (namely : ownership structure, board composition, and board size) on bank performance. Overall, the results show that banks with majority institutional ownership and affiliated board of director members have higher performance and lower risk than all other sample groups. The composition of the board of directors has the highest positive significant impact on bank's performance. This means that when one of the board of directors owns 20% or more of the bank's shares, the board member will tend to act as if he is directing his own money and this will lead bank's performance to increase.

We also find that neither manager alone nor the board of director alone can affect bank's performance. These two important players in managing the bank can only have an effective role to improve bank's performance and increase its value if both of them have a high ownership percentage of the bank's shares. When this case exists, conflict of interests will decrease led to decrease the agency problem and to increase bank's value.

The number of board of directors' members has no important impact on the bank's performance. In general, there is no significant variety in the number of board of directors members in the Jordanian banks. Another finding was that the majority of banks in Jordan are owned by individual owners going with the privatization trend all over the world. Finally, bank's riskniss (as a control variable) does not have an important impact on the bank performance, but bank's size has a positive coefficient with bank's return on equity. So, the larger the bank's total assets the better the performance.

This paper contributes to the literature on Jordanian commercial banks performance, helping to have an insight understanding of a significant determinant mostly associated with bank performance, namely corporate governance.

According to the understanding of the importance of the existence of effective corporate governance mechanism in monitoring banks values, much progress and actions have to take place in Jordan to enhance the protection of banks' shareholders and stakeholders' interests.

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الحاكمية المؤسسية وأثرها في أداء البنوك: دراسة تطبيقية على القطاع المصرفي الأردني

شروق طومار وعادل بينو**

ملخـص

يهدف هذا البحث إلى دراسة العلاقة بين الحاكمية المؤسسية في البنوك الأردنية (المتمثلة في هيكل الملكية، وطبيعة أعضاء مجلس الادارة ، وعدد أعضاء مجلس الإدارة) وأدائها من خلال إجراء تحليل الانحدار على البيانات المالية لمجتمع الدراسة والمكون من البنوك المدرجة في سوق عمان المالي وعددها 14 خلال الفترة الواقعة بين عامي 1997-2006. توصلت الدراسة إلى وجود أثر لهيكل ملكية البنك وطبيعة أعضاء مجلس الادارة في أداء البنك. وقد أظهرت النتائج أن أفضل البنوك أداء هي التي تملك المؤسسات غالبية أسهمها، ويصبح أداء البنك أكثر فعالية كلما زادت نسبة ملكية رئيس مجلس الإدارة وأعضائه في أسهمه، علماً بأنه لم يكن لعدد أعضاء مجلس الإدارة أهمية واضحة في التأثير في أداء البنك.

الكلمات الدالة: الحاكمية المؤسسية، هيكل الملكية، أداء البنك.

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