Dominant shareholders, board structure and bank performance: evidence from Serbia

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Summary: We investigate relation between board structure (size and composition) and bank performance in 18 Serbian commercial banks with a dominant shareholder in 2006-2010. We analyze this relation using OLS regression analysis on an unbalanced panel dataset of 75 observations. We find no significant relation between proportion of independent directors on the board and bank performance. We also find no significant relation between bank market performance and board size. We find that bank profitability, measured by ROA and ROE, increase as the number of directors on the board decreases. This result is statistically significant after controlling for endogenous variables and unobserved macroeconomic effects. We conclude that Serbian banks with dominant shareholder should put limits on board size. The relation between bank performance and ownership concentration ratio is always negative, but significant only in case of ROA and ROE.

Keywords: bank performance, board structure, commercial banks, dominant shareholder.

Rezime: U ovom radu istražujemo odnos između strukture upravnog odbora (veličine i sastava) i performansi 18 komercijalnih banaka sa dominantnim vlasnikom u Srbiji, u periodu od 2006. do 2010. godine. Ovaj odnos analiziramo koristeći OLS regresionu analizu na nebalansiranom panelu podataka od 75 opservacija. Nismo otkrili statistički značajne relacije između performansi banaka i nezavisnosti upravnog odbora. Takođe nismo otkrili statistički značajne relacije između veličine upravnog odbora i tržišnih performansi banaka. Otkrili smo da profitabilnost banaka, merena sa ROA i ROE, raste sa smanjenjem veličine upravnog odbora. Ovaj rezultat je statistički značajan nakon kontrole uticaja endogenih varijabli i neotkrivenih makroekonomskih efekata. Odnos između profitabilnosti banaka i racija koncentracije vlasništva je negativan i statistički značajan samo kada su ROA i ROE zavisne varijable.

Ključne reči: performanse banaka, struktura borda, komercijalne banke, dominantni vlasnik.

1. INTRODUCTION

The important role of banks in the economic system and their sensitivity to governance problems initiated the Basel Committee on Banking Supervision to publish guidelines "Enhancing Corporate Governance for Banking Organizations" in 1999 and its revised versions in 2006 ([4], [5]). The guidelines serve as a reference point for enhancing governance frameworks for banking organizations and are intended to help banking sector supervisors in promoting the adoption of sound governance practices by banks in their countries. The financial crisis that began in 2007 forced the Basel Committee to revisit its guidelines again. In October 2010, it published "Principles for Enhancing Corporate Governance" that reinforces the key elements of the OECD corporate governance principles ([7]). The Committee also recognized the importance of sound corporate governance when it adopted the Basel II Accord in February 2006 and the Basel III Accord in September 2010 ([6]). Both sets of rules are intended to improve the banking sector ability to absorb shocks arising from financial and economic stress, improve risk management and governance, and strengthen banks' transparency and disclosures, but the Basel III Accord provides the rules that are more stringent than the rules of the Basel II Accord.

Although regulation is considered to be an important external governance mechanism, some authors (e.g. [23]) argue that regulation usually weakens the other governance mechanisms. Arguing that aims of regulators may often come into conflict with the aims of other stakeholders, Andres and Vallelado ([2]) suggest an important role of bank boards, especially in conditions of limited competition, strong regulation and high information asymmetry. They also argue that, although some aspects of governance in nonfinancial firms can be applied to banks, specificity and complexity of banking business increase information asymmetry and make it difficult to shareholders and other stakeholders to monitor bank managers.

Because most studies on board effectiveness exclude financial firms from their samples, Adams and Mehran ([1]) argue that we know very little about the effectiveness of bank boards. Because empirical research on bank boards is limited mainly to banks from the United States and other developed countries, we know even less about effectiveness of bank boards in developing countries. In this regard, La Porta et al. ([20]) have questioned the uncritical application of Anglo-Saxon business governance practices in emerging markets. They argue that a weak institutional environment and specific national cultures give rise to conflicts between controlling shareholder and minority shareholders more often than between managers and shareholders.

This paper reports on investigation of the relationship between board structure and bank performance on a sample of 18 commercial banks in Serbia in the 2006-2010. The basic question that we want to answer is whether board can

significantly influence performance of a bank with a dominant shareholder operating in country with weak protection of investors. We analyze the proportion of independent directors on the board and board size, as the characteristics of the board, while the bank performance is approximated with Tobin's Q, ROA and ROE, which is consistent with some previous research ([1], [2], [31]).

2. THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES

In developing economies with weak legal protection of investors, publicly traded firms often have dominant shareholder, who is able to monitor and control managers on its own. However, in the absence of effective legal protection of minority investors, dominant shareholder have the power to expropriate minority shareholders, which results in frequent conflicts between dominant shareholder and minority shareholders [34]. In such conditions, corporate governance is the means by which minority shareholders are protected from expropriation of their rights by managers and dominant shareholder.

According to Dahya et al. [13] the board is the most important part of a firm's governance structure. They also argue that the role of the board in firms with a dominant shareholder operating in conditions of weak legal protection of investors could be understood in two ways. It can be assumed that the board of directors in such circumstances can improve firm performance more than in countries with strong legal protection of investors, where other governance mechanisms are efficient. It could also be argued that the board has no power in countries with weak protection of investors, since the board is at the mercy of the dominant shareholder. The empirical studies on board effectiveness, both in nonfinancial and financial firms, focus mainly on two board characteristics. These are proportion of independent directors on the board and board size.

Perhaps the most studies on boards of directors investigate the relation between proportion of independent directors on the board and firm performance. Some authors ([28]), [29], [34]) find that, due to a lack of institutional support, outside directors are weak mechanism of corporate governance in developing economies. On the other hand, numerous studies have indicated that a strong board can protect the interests of minority shareholders and improve company performance in countries with weak legal protection of investors. For example, Dahya et al. ([13]), Doidge et al. ([15]) and Durnev and Kim ([16]) stress that a strong board can offset the market value discount in firms with a dominant owner, much more in a country with weak than in countries with strong legal protection of investors. There are also authors (see [11]) finding no significant relationship between board independence and firm performance.

Regarding bank governance, Andres and Vallelado ([2]) find significant positive relation between board independence and bank performance, but suggest that an optimum combination of executives and non-executives can contribute to value creation more than excessively independent board. On the other hand, in a sample of Turkish banks, Bektas and Kaymak ([9]) find curvilinear relation between board composition and bank performance, but their results imply that boards composed of a majority of either inside or outside directors contribute to high performance of banks. However, in an earlier study on governance in Turkish banks, Bektas and Kaymak ([8]) find positive relation between board composition and bank performance. Pathan et al. ([27]) find a statistically significant positive relationship between Board independence and performance of Thai banks. There are, nevertheless, many studies ([1], [31]) finding no significant relation between board composition and bank performance.

Based on results of studies on corporate governance in countries with weak protection of investors and more particularly bank governance, we formulate the first hypothesis as follows:

H1: The dominant shareholder of a bank operating in Serbia, a country with weak legal protection of investors, could improve performance of the bank by increasing the proportion of independent directors on the board.

Consistent with the research of Adams and Mehran ([1]) and Andres and Vallelado ([2]), we use data on proportion of independent directors as proxies for the quality of a board.

The important question is also whether board size affects performance. Dalton et al. ([14]) suggest that larger boards may be beneficial because they increase the pool of expertise available to an organization, while Hermalin and Weisbach ([19]) argue that excessive boards lead to problems of coordination, control and flexibility in decision making. Empirical research usually shows negative relation between board size and firm performance. Dahya et al. ([13]) find a negative relation between the board size and firm performance on a large sample of firms from all over the world, although not always statistically significant. Yermack ([33]) also finds a statistically significant negative relationship between board size and Tobin's Q of U.S. industrial corporations.

Adams and Mehran ([1]), contrary to the findings of studies on corporate governance of nonfinancial firms, find that large boards have no negative impact on bank performance. Andres and Vallelado ([2]) view the effect of board size on bank performance as a trade-off between advantages (monitoring and advising) and disadvantages (problems with coordination, control and decision-making). They find that increasing the board contributes to improving the performance of a bank only to a certain level (19 board members in their research), after which performance, measured by Tobin's Q, starts to decrease. Contrary to findings of majority of studies on bank governance, Staikouras et al. ([31]) find that board size is negatively related to performance of large European banks, while Pathan et al. ([27]) find statistically significant negative relation between board size and

performance of Thai banks. Bektas and Kaymak ([9]) find no significant relationship between board size and return on assets of Turkish banks.

Following the results of Adams and Mehran ([1]) and Andres and Vallelado ([2]), we formulate the second research hypothesis as follows:

H2: The dominant owner of a bank operating in Serbia, a country with weak legal protection of investors, could improve bank performance by increasing the bank board.

Since this research covers the 2006-2010 period it will indirectly point to the role of bank board during the periods of financial crisis. In this regard, our study complements studies such as Erkens et al. ([17]) and Beltratti and Stulz ([10]). Erkens et al. ([17]) find that financial firms with higher proportion of independent directors on the board have suffered greater losses during the crisis, while Beltratti and Stulz ([10]) find that banks with more shareholder-friendly boards performed worse during the period from July 2007 to December 2008.

3. CHARACTERISTICS OF THE BANKING SECTOR IN SERBIA

The banking sector of Serbia currently consists of 33 banks, of which 21 are owned by foreign owners, while 12 are under domestic ownership. The owners of the foreign banks come from 11 different countries. The net assets of banks at the end of the second quarter of 2011 amounted to around 24 billion Euros, while the total capital of Serbia banking sector for the same period amounted to slightly over 5 billion Euros [25]. Table 1 presents selected parameters of the Serbian banking sector.

Table 1. Dominant owner and performance of the Serbian banking sector

Dominant owner	Number of banks	Percentage share in total profit	Percentage share in total assets	Percentage share in total capital
Domestic banks	12	24%	27%	29%
State-owned	8	18%	19%	17%
Privately owned	4	6%	8%	11%
Foreign banks	21	76%	73%	71%

Source: National Bank of Serbia, Banking Supervision: Second Quarter Report 2011, Belgrade, Serbia

The Serbian economy is very bank-centered [18], so the most important item of bank assets are loans (63.8%). The capital adequacy ratio of Serbia's banking sector at the end of the second quarter of 2011 equals 19.7%. This indicator has in Serbia been set by regulators to a higher level than the Basel 8%, and equals a minimum of 12%. During the first six months of 2011, the banking sector in Serbia was profitable, with earnings before taxation of 176 million Euros. Over 72% of Serbia's banking sector operated with a profit, while 9 out of the total number of banks in Serbia operated with losses during this period. The ROA of the entire banking sector of Serbia for the year 2010 equaled 1.1%, while the ROE equaled 5.4%.

The largest portion of the banking sector of Serbia is under the ownership of foreign owners who mainly come from developed Western European countries. Corporate governance is at a higher level in these countries than it is in Serbia, so the Serbian banking sector has been improved in this regard, because the foreign owners brought with them the principles of corporate governance. In this regard, Rankovic and Vaskovic [30] discuss the importance of web presentation of banks as a medium to present important information considering bank management and its services to the overall audience. They find that banks in Serbia have high quality of websites, while banks with foreign owners have the best websites.

Ownership of Serbian banks is highly concentrated. Ten banks in Serbia, or 30%, are in the hands of one foreign owner, while all of the remaining banks have minority shareholders. Sixteen banks out of the total number, or 48%, have majority shareholders with over 50% of equity holdings, six banks have shareholders with less than 50% of equity holdings, while one bank does not have a single shareholder with an equity holding greater than 5%. The domestic banks have a more dispersed ownership structure in relation to the banks that are in foreign ownership. Illustration 1 presents parameters of the Serbian banking sector concentration, measured by percentage share of three, five and ten largest banks in total assets of Serbian banking sector.

The basic regulatory framework for banks in Serbia is the Law on Banks which was passed in 2005, and amended in 2010. This Law has been harmonized with European Union regulations and is in compliance with the Basel standards. In addition to this, the National Bank of Serbia, as the regulator and supervisor of the banking sector of Serbia, has passed a series of regulations that set the basis for adequate bank governance, as well as easier control by the supervisor. All regulations concerning the banking sector of Serbia contain the basic elements of good bank governance, which are contained in the Basel Committee recommendations for the strengthening of bank governance, as well as in the Basel standards.

Banks in Serbia are established as joint stock companies, and can be founded by domestic or foreign legal and natural persons. When founding a bank, the National Bank must be provided with data on the bank's founders, all persons who shall participate in the bank and the basis of their participation, as well as with the names of the proposed members of the board of directors and executive

board, and information regarding their qualifications, experience and business reputation. If a proposed member of the board of directors or executive board does not possess the appropriate qualifications or experience, or a good business reputation, or if a person that is to acquire ownership interest in the bank is ineligible for such an acquisition, the National Bank may refuse the establishment of the bank. The law clearly defines the organization of a bank as well as the method of governing a bank (see [21]). Arising as a potential problem of this law is the fact that it emphasizes that shareholders with 1% or more of voting shares cannot be prevented from directly exercising their voting rights. The question arising is what happens with the shareholders who have less than 1% of ownership in the bank – they, therefore, have less rights, because the law implies that they can be prevented from exercising their voting right.

The law specifies that the governing bodies of a bank are the board of directors and executive board. It is their obligation to undertake measures to prevent illegal or inappropriate actions and influences, which are harmful or not in the best interest of the bank and its shareholders. The National Bank of Serbia prescribes the requirements and qualifications that a person must possess in order to be elected as a member of the board of directors or executive board. A board of directors must have at least five members, including the bank president. At least three members of the board of directors must have adequate experience in the field of finance, while at least one third of the bank board of directors must be persons who are independent of the bank. The bank executive board consists of at least two members, including the president of executive board who represents and acts on behalf of the bank. A bank must establish a committee for monitoring the bank operations (audit committee), a credit committee and an asset and liability committee. Such provisions in the domestic law are consistent with the Basel Committee recommendations for the strengthening of bank governance.

The introduction of Basel II standards in Serbia began in 2007. Although their full application was scheduled to begin in 2011, this failed to happen because a certain number of banks were not ready for the new requirements. The application was postponed until the beginning of 2012. The Basel standards have been harmonized with local practice and the characteristics inherent to the domestic banking sector. The main objectives of introducing the Basel II standards in Serbia are the further strengthening of stability in the banking sector and financial system; improvement of the risk management process in banks and the risk-based supervision process; enhancement of transparency and market discipline; harmonization with the business conditions on the international financial market; harmonization with European Union regulations - the EU Directives 48/2006 and 49/2006; creation of a stronger link between capital requirements and risk exposure at bank level [26].

The National Bank of Serbia has on several occasions conducted stress tests which would provide a timely indication to the existence of certain weaknesses and the need for preventive recapitalization under the assumption of very pessimistic macroeconomic scenarios. The tests showed that the banking sector

in Serbia is very "resistant to external shocks", above all due to high preventive capitalization, thanks to the prudential restrictive measures of the National Bank of Serbia during the credit expansion period of 2004-2008 [24]. It is due precisely to the overly restrictive monetary policy of the National Bank of Serbia that the Serbian Banking sector has dealt considerably well with the blow of the economic crisis of 2008.

4.   SAMPLE AND VARIABLES

4.1   Sample

We assemble data on share ownership and board structure, as well as financial and market data for the 2006-2010 period, available in the banks' annual reports or proxy statements and on company website, as well as in the reports of key financial institutions in Serbia (National Bank of Serbia, Securities and Exchange Commission, Belgrade Stock Exchange-BSE). To identify the bank population in Serbia we use list of banks reported by the National Bank of Serbia (NBS). We exclude banks whose shares are not publicly traded and banks without a dominant shareholder. As La Porta et al. ([20]), we believe that the company has a dominant shareholder if the shareholder has more than 10% of direct and indirect voting rights in the company.

In cases where a dominant shareholder is publicly traded company, it is necessary to find the dominant shareholder of the dominant shareholder, and so on, until dominant controller of the votes is found. We identify all shareholders with at least 10% of the banks voting rights. In banks with more than one such shareholder, the dominant shareholder is the one that has the largest share of direct and indirect voting rights. In banks with few shareholders who have more than 3% of voting rights, we check to determine whether two or more of these shareholders are affiliated, so that the percentage of their joint ownership of voting rights exceeds that of the largest individual shareholder. In such cases, joint owners are treated as the single largest shareholder (dominant shareholder).

Using presented sampling procedure and sources of information, we identified a sample of 18 commercial banks operating in Serbia, representing 48.48% of the total population of the banks, or 35.83% of banking assets and 38.92% of deposits in Serbian banking sector. We build an unbalanced panel data of 75 bank-year observations.

4.2   Governance variables

In order to determine the proportion of independent directors on the board, we use the criteria similar to those developed by Dahya et al. ([13]). We believe that the director is affiliated if he or she is: 1) the dominant owner, 2) employee of the bank, 3) employee of any company or subsidiary of any company that is positioned above the sample bank in the ownership tree, 4) employee of another firm in which the dominant shareholder has at least 10% of voting rights, regardless of whether this company is in the same ownership tree, 5) politician or employee of a government agency, when the dominant shareholder is government, or 6) employee of a company domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner. Directors who are not affiliated with the dominant shareholder are considered independent.

In order to determine whether a director is independent, we collect biographical information about the director and check its relationship with the dominant shareholder. On the basis of set criteria and the collected information we determine whether a director is affiliated or independent. The proportion of independent directors on the board (labeled INDEP) is the number of independent directors divided by the total number of directors on the board.

In all the banks in our sample President of executive board and President of the board of directors are different persons, i.e. all the banks have clear two-tier board structure with separate supervisory and executive body. Like in some other studies on bank governance ([12], [22], [32]), board size (labeled SIZE) is defined as the number of board members, including only the members of the board of directors (supervisory body).

To account for potential principal–principal conflict, we also include ownership concentration into our analysis since this variable may have implications for firm performance and board structure (see [20]). The ownership concentration ratio (labeled OWN) is determined as the percentage of shares owned by the dominant shareholder.

Table 2 shows ownership concentration ratio and board structure for the sample banks in 2006-2010.

Table 2. Ownership concentration ratio and board structure for the sample banks in 2006-2010

	2006			2007			2008			2009			2010		
	OWN	SIZE	INDEP	OWN	SIZE	INDEP	OWN	SIZE	INDEP	OWN	SIZE	INDEP	OWN	SIZE	INDEP
Bank 1	10.91	8	62.50	20.07	9	66.66	20.07	7	85.71	20.07	7	85.71	20.07	9	55.56
Bank 2	20.66	5	40.00	20.83	5	40.00	20.84	5	40.00	20.84	5	40.00	20.84	5	40.00
Bank 3	83.00	8	12.50	-	-	-	-	-	-	-	-	-	-	-	-
Bank 4	38.81	5	40.00	38.81	5	40.00	38.81	5	40.00	38.81	5	40.00	38.81	5	40.00
Bank 5	60.55	5	60.00	54.18	5	60.00	55.18	5	60.00	55.18	5	60.00	72.38	5	60.00
Bank 6	97.51	8	12.50	98.08	8	12.50	-	-	-	-	-	-	-	-	-
Bank 7	99.90	7	14.29	99.90	7	28.57	99.91	8	25.00	99.92	7	28.57	99.99	6	33.33
Bank 8	36.75	5	60.00	21.11	5	60.00	21.14	5	60.00	21.17	5	60.00	19.78	5	60.00
Bank 9	38.61	7	14.29	40.31	7	57.00	42.60	7	57.00	42.60	7	57.00	42.60	7	57.00
Bank 10	86.77	6	33.33	91.67	5	40.00	94.50	6	33.33	96.83	5	40.00	96.83	5	40.00
Bank 11	18.95	11	0.00	15.13	11	0.00	15.24	11	0.00	61.88	5	40.00	58.79	5	40.00
Bank 12	-	-	-	85.05	5	20.00	75.21	5	20.00	99.98	5	20.00	99.98	5	20.00
Bank 13	-	-	-	91.43	6	50.00	91.43	6	50.00	91.43	7	42.86	91.43	8	37.50
Bank 14	93.61	6	16.67	93.61	6	16.67	97.11	6	16.67	97.11	6	0.00	96.31	6	0.00
Bank 15	92.94	5	40.00	92.94	5	40.00	92.94	5	40.00	92.98	5	40.00	-	-	-
Bank 16	-	-	-	19.41	5	40.00	19.41	5	40.00	19.41	5	40.00	19.41	5	40.00
Bank 17	96.52	5	20.00	96.52	5	20.00	96.52	5	20.00	96.52	5	20.00	96.52	5	40.00
Bank 18	-	-	-	-	-	-	-	-	-	-	-	-	88.05	7	0.00

Notes: Data in this table is taken from sample banks' annual reports or proxy statements, company websites and reports of key financial institutions in Serbia (National Bank of Serbia, Securities and Exchange Commission and Belgrade Stock Exchange)

4.3 Financial data and control variables

Bank performance is measured using Tobin's Q, ROA and ROE. We calculate Tobin's Q, ROA and ROE as of the end of years 2006, 2007, 2008, 2009 and 2010. Data for calculation are taken from official financial statements of banks available on the websites of NBS, BSE and particular banks.

Tobin's Q is usually defined as the ratio of the market value of assets to their replacement value at the end of the year. For this study, market value of assets is proxied by the book value of assets minus the book value of equity plus the market value of equity, while the replacement value is proxied by the book value of assets. Market value of equity is calculated as the total number of outstanding shares other than preferred stock times the price per share at the end of the year. Tobin's Q is calculated in this or similar way in many other studies on board effectiveness ([1], [2], [13]). ROA is calculated as the ratio of income before taxes to the book value of assets, while ROE is calculated as the ratio of income before taxes to the book value of equity.

We also include bank specific control variables in the analysis. Bank specific variables are factors influenced by the bank's management decisions and policy objectives. These are book value of assets as a proxy for bank size (labeled TA), the ratio of loans to total assets as a proxy for differences in banking business (labeled LA), and the capital ratio as a proxy for capital structure (labeled CAR). We also use time (year) dummies.

5.   RESULTS OF THE ANALYSIS

5.1   Descriptive statistics

Table 3 shows descriptive statistics for bank boards, financial variables and bank specific variables. The average Tobin's Q (labeled Q) is higher than one and slightly different from the median. The average ROA is 0.12% and the average ROE is 0.09%. The mean of OWN is about 62% which is considerably more than mean percentage voting rights of dominant shareholders reported for non-financial firms by Dahya et al. ([13]), and mean equity holdings of the three largest shareholders of firms in emerging economies (51%), and developed economies (41%) as reported by Young et al. ([34]).

Mean and median of board size (labeled SIZE) are 6.04 and 5 directors, which is close to 8.04 and 7 directors on the board of Turkish banks reported in Bektas and Kaymak ([9]). This is, however, considerably less than the average board size reported in some other studies on financial ([1], [2]), and non-financial firms ([3], [13], [33]). These studies report that the average size of a bank board is 16-18, and average size of a board in a non-financial firm is 7-12 directors. In 56%

of bank-year observations in our study there are 5 directors on the board, which is equal to minimal requirement of the Serbian Law on banks.

On average independent directors account for 35.85% of directors on the board, which is again considerably less than the average proportion of independent directors (around 80%) reported for banks ([1], [2], [9]), and average proportion of independent directors (at least 38%) reported for non-financial firms ([3], [13], [33]). In only 25.33% of bank-year observations in our study there is a majority of independent directors on the board. The median bank board comprises 5 directors, which indicates 2 independent and 3 affiliated directors.

Table 3. Descriptive statistics for sample banks

	Obs.	Mean	Median	Standard deviation	Min.	Max.
Q	75	1.13	1.03	0.31	0.38	2.32
ROA (%)	75	0.12	0.82	7.78	-43.54	23.36
ROE (%)	72	0.09	4.26	18.28	-63.19	33.87
OWN (%)	75	62.04	61.88	33.41	10.91	99.99
SIZE	75	6.04	5.00	1.52	5	11
INDEP (%)	75	35.85	40.00	19.76	0.00	85.71
TA (in millions of €)	75	515.02	271.79	567.19	26.82	2,425.33
CAR (%)	75	27.88	23.71	15.08	7.34	68.99
LA (%)	75	50.08	49.28	13.19	18.13	75.46

5.2   Regression analysis

In this section we analyze the relation between bank performance and board structure (size and composition). We rely on some earlier studies of this relationship ([1], [2], [9], [33]). Adams and Mehran ([1]) stress that the legal mandate of bank directors is essentially the same as the one in non-financial firms - to create value for shareholders. Therefore, in order to select the model to analyze the data, we also rely on several papers of the relationship of board structure and performance in non-financial firms ([3], [13]).

We analyze the relation between bank governance variables (board structure and ownership concentration ratio) and bank performance using OLS regression analysis on a panel dataset. We also include bank specific variables as control for endogenous variables and time (yearly) dummies as control for unobserved macroeconomic effects. Our dependent variables are Q, ROA and ROE, as our proxies for bank performance. The equation takes the following form:

$$BP_{it} = \beta_0 + \beta_1 INDEP_{it} + \beta_2 SIZE_{it} + \beta_3 OWN_{it} + \beta_4 LnTA_{it} + \beta_5 CAR_{it} + \beta_6 LA_{it} + \beta_7 Year_t + \varepsilon_{it}$$

where i goes from bank 1 to bank 18 and t takes the values of the years from 2006-2010. BP stands for bank performance, and Year for time dummy. The β parameters are the estimated coefficients for the constant and each of the explanatory variables included in the model, and ε stands for disturbance with the unobserved bank-specific effect and the idiosyncratic error. To check for multicollinearity, we conducted Pearson correlations on the selected variables, and apart from the profitability measures, we do not find any significant high correlations between the variables.

Table 4 presents OLS regression estimates of the relation between bank performance - proxied by Q, ROA and ROE - and governance variables using our sample of commercial banks from Serbia in the 2006-2010 period. We report three alternative models of the regression equation for each performance measure labeled I, II, and III. Model I includes governance variables and natural logarithm of bank assets, Model II also includes the rest of bank specific control variables (capital ratio and loans to assets ratio), and Model III also includes time dummies. Combination of independent variables statistically significantly predicts ROA and ROE in all the regression models, and the adjusted R^2 is relatively high, especially in Models II and III. Combination of independent variables statistically significantly predicts Q only in Model III ($p<0.01$), and R^2 is relatively low except in Model III.

Table 4 shows that proportion of independent directors on the board is always negatively related to bank performance. This means that the dominant shareholder of a bank operating in Serbia could increase bank performance by appointing fewer independent directors to the board. However, this relation is not statistically significant. This finding is consistent with studies on bank governance ([1], [31]), but is surprising given the conclusions from some previous studies on governance issues in countries with weak legal protection of investors ([13]), which show significant positive relation of firm performance and board independence.

Board size is positively related to market performance (proxied by Tobin's Q) of the banks in our sample (consistent with [1]). This relation is not statistically significant. On the other hand, board size is negatively related to bank profitability (proxied by ROA and ROE). This relation is statistically significant in Models II and III, i.e. after controlling for endogenous variables and unobserved macroeconomic effects. This means that dominant shareholder of a bank operating in Serbia could increase bank profitability by appointing fewer directors to the board. This finding is consistent with Staikouras et al. ([31]), a study on corporate governance in large European banks.

Table 4. Regressions of bank performance on governance variables, bank specific variables and time dummies

	Panel A: Dependent variable is Q			Panel B: Dependent variable is ROA			Panel C: Dependent variable is ROE		
	I	II	III	I	II	III	I	II	III
INDEP	-0.090	-0.081	-0.051	-0.023	-0.113	-0.087	-0.077	-0.187	-0.185
	(-0.636)	(-0.570)	(-0.431)	(-0.170)	(-0.888)	(-0.693)	(-0.552)	(-1.622)	(-1.565)
SIZE	0.100	0.069	0.016	-0.234*	-0.314***	-0.364***	-0.098	-0.221**	-0.250**
	(0.751)	(0.519)	(0.145)	(-1.791)	(-2.645)	(-3.094)	(-0.763)	(-2.089)	(-2.279)
OWN	-0.068	-0.029	-0.049	-0.262*	-0.206*	-0.208*	-0.321**	-0.244**	-0.251**
	(-0.490)	(-0.215)	(-0.442)	(-1.942)	(-1.692)	(-1.748)	(-2.332)	(-2.174)	(-2.201)
LnTA	-0.245**	-0.049	-0.116	0.191	0.526***	0.525***	0.231*	0.621***	0.623***
	(-1.988)	(-0.319)	(-0.920)	(1.581)	(3.837)	(3.897)	(1.863)	(4.869)	(4.790)
LA		-0.235*	-0.069		-0.096	-0.059		0.017	0.035
		(-1.895)	(-0.650)		(-0.860)	(-0.523)		(0.164)	(0.333)
CAR		0.217	0.075		0.551***	0.498***		0.696***	0.660***
		(1.543)	(0.642)		(4.376)	(3.955)		(6.062)	(5.540)
Y2006			0.386***			0.154			0.068
			(3.173)			(1.186)			(0.554)
Y2007			0.473***			0.007			0.073
			(3.876)			(0.057)			(0.601)
Y2008			-0.076			-0.022			0.045
			(-0.644)			(-0.178)			(0.381)
Y2009			-0.095			-0.198			-0.097
			(-0.809)			(-1.577)			(-0.825)
Const.	2.460***	1.529*	1.779**	-15.147	-63.986***	-62.703***	-54.561	-196.966***	-195.936***
	(3.716)	(1.859)	(2.632)	(-0.936)	(-3.474)	(-3.469)	(-1.407)	(-4.910)	(-4.811)
F-rat.	1.232	1.704	5.293***	2.057*	4.900***	3.806***	2.307*	8.747***	5.388***
Adj. R^2	0.012	0.054	0.367	0.054	0.240	0.275	0.069	0.396	0.382

Notes: t-values are in parentheses. Statistically significant at 1% (***), 5% (**) and 10% (*).

Ownership concentration ratio is always negatively related to bank performance. This means that banks with less concentrated ownership structure are better performing than banks with more concentrated ownership structure. This relation is statistically significant only when ROA and ROE are dependent variables. Table 4 also shows that natural logarithm of banks total assets is negatively and insignificantly related to market performance, and positively and significantly (except for Model I when ROA is dependent variable) related to profitability of banks in our sample. This means that larger banks with dominant shareholder operating in Serbia are more profitable than smaller banks. We find no significant relation between bank activity, measured by loans to asset ratio, and bank performance, although this relation is negative in almost all the regression models. On the other hand, capital structure is always positively related to bank performance, and statistically significant only to ROA and ROE ($p < 0.01$). This means that banks with dominant shareholder with more capital perform better.

6. CONCLUSIONS

We investigate the relation between board structure (size and composition) and bank performance on the sample of 18 Serbian banks with a dominant shareholder in 2006-2010. We find that the proportion of independent directors on the bank board and the size of the bank board are small if compared to statistics reported from samples of nonfinancial and financial firms in developed countries. The implication of this finding is that dominant shareholders tend to appoint small and weak boards, which can lead to serious conflicts between dominant and minority shareholders. In addition, majority of banks in our sample have only 5 directors on the board, which is equal to minimal requirement of Serbian Law on banks, and majority of affiliated directors. Consequently, in absence of strong boards, policy makers in Serbia should develop better legal and institutional mechanisms for protecting minority shareholders.

We find negative, but statistically insignificant relation between proportion of independent directors on the board and bank performance. This means that our first hypothesis is rejected. We find no significant relation between market performance of banks, measured by Tobin's Q, and board size. On the other hand, board size is negatively and significantly related to bank profitability, proxied by ROA and ROE. This means that dominant shareholder of a bank operating in Serbia could increase bank profitability by appointing fewer directors to the board. This result is statistically significant after controlling for endogenous variables and unobserved macroeconomic effects. We conclude that Serbian banks with dominant shareholder should put limits on board size, which is in line with argument that excessive boards lead to problems of coordination, control and flexibility in decision making. This means that our second hypothesis is partially rejected, because we find no significant relation between board size and market performance of banks in our sample. The relation between bank

performance (market performance and profitability) and ownership concentration ratio is always negative, but significant only in case of ROA and ROE.

The bottom line of our findings is that dominant owner of a bank operating in Serbia could increase bank performance by appointing fewer directors to the board. Our findings are similar to those of Staikouras et al. ([31]) who conducted the analysis on the sample of European banks, but differs considerably from Adams and Mehran ([1]) who conducted the analysis on the sample of U.S. bank holding companies. However, one should bear in mind that our study is specific because it focuses only on banks with dominant shareholder. We do the analysis in developing country with civil-law legal system and weak protection of investors. Also, the 2006-2010 period marked with world financial crisis may have influenced our findings. In connection to financial crisis, we would expect banks with more capital to perform better, which is confirmed in this paper.

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