



Financial Architecture and Bank Performance: Comparative analysis of emerging and developed markets

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1. Aim and objectives
2. Literature and gaps
3. The sample
4. The model and the results
5. Conclusion and discussion

The Aim is:

to develop a model of bank performance based on the integrated conception of corporate financial architecture in emerging and developed countries

The objectives are:

- To develop the model of bank strategic performance based on corporate financial architecture issues
- To verify the model for developed markets and emerging markets banks
- To test the model with different performance measures (book-value based, market value based, intrinsic value based)
- To verify the model in dynamics within normal course of business and in global credit crunch

- Issues relating to commercial banks have been neglected (Adam & Mehran, 2003);
- Low understanding on the role of bank's CG given the influence and risks of their activity (Alexander, 2006);
- Influence of regulators in banking industry in the analysis of bank's CG (Fitzpatrick, 2009);
- Very limited number of analyzed countries: both emerging and developed;
- Lack of studies on Bank's governance on emerging markets;
- Unsolved problem of finding better measure of bank performance (Agoraki, Staikouras, Staikouras, 2007)

•ROA / ROE:

Agoraki, Staikouras, Staikouras (2007); Pathan, Skully, Wickramanayake (2007), Papanikolaou, Patsi (2010); De Andres, Vallelado (2008); Adams, Mehran (2008); Busta (2007); Pathan, Skully, Wickramanayake (2007); De Andres, Vallelado (2008).

•Tobin's Q

Agoraki, Staikouras, Staikouras (2007); De Andres, Vallelado (2008), Adams, Mehran (2008); Busta (2007).

•Stochastic frontier analysis

Pi, Timme (1993), Agoraki, Delis, Staikouras (2009).

•**Others:** ROIC, EVA, NPA/TL, Sharp, annual shareholder return, etc.

→ *Problem of measuring strategic performance isn't solved*

→ *Residual Income spread isn't common used*

1. Corporate financial architecture has significant influence over bank strategic performance.
2. **Positive** drivers of strategic performance are:
 - Participation of independent directors in decision-making process;
 - Existence of vice-chairman in the board;
3. **Negative** drivers of strategic performance are:
 - Increase of the ownership concentration;
 - BoD size;
4. State ownership has a negative impact over bank performance in stable economic situation and a positive impact in the period of global financial turmoil in emerging markets;
5. The governance mechanisms that influence performance differ between the commercial banks in developed countries and in emerging countries.

$$Perf = \alpha + (\beta_1, \dots, \beta_n) \overline{OS} + (\gamma_1, \dots, \gamma_n) \overline{CG} + \delta CS + (\lambda_1, \dots, \lambda_n) \overline{CV} + \varepsilon$$

- Where Perf is a bank performance indicator;
- OS is a vector of ownership structure indicators;
- CG is a vector of corporate governance indicators;
- CS is a capital structure indicator;
- CV is a vector of control variables.

The key assumption of such a model is an *exogenous* character of all the independent variables

Residual income for shareholders is one of the measures of economic profit

RI – residual income

NI – net income

Ke – cost of equity

E – shareholder equity (average per year)

Spread is an economic, not accounting rate of return on equity based on risk-return trade-off of shareholders (opportunity costs)

- **Book Indicators:**
 - **Return on average equity (ROAE)**
 - Return on average assets (ROAA)
- **Market measures:**
 - Market Capitalization;
 - **Tobin's Q;**
- **Economic profit:**
 - EVA;
 - **Residual Income;**
 - Created Shareholder Value

Variable	Calculation and definition
<i>maj3</i>	Shareholding of the three major shareholders, %
<i>de</i>	Leverage
<i>G_NII</i>	Growth rate of Net Interest Income, %
<i>gov</i>	Shareholding of the federal and municipal institutions and by the government-related companies, %
<i>pind</i>	Number of independent directors divided by the total number of board of directors' members, %
<i>Inta</i>	Proxy for bank's size = $\log(\text{Total Assets})$
<i>D_country</i>	Dummy variable, equal to 1 if bank is from emerging country
<i>vice</i>	Dummy variable, equal to 1 if there is a vice chairman in the board
<i>bsize</i>	Board of director's size, the number of directors on the board

- 30 banks from developed markets: Austria, France, Germany, Italy, Spain, Switzerland
- 54 banks from emerging markets: Russia, Kazakhstan, Poland, Turkey
- All the banks of the sample use IFRS or GAAP
- The period is 2004-2009

Key characteristics:

- Average RI spread is **+0.4%** for banks from Developed Markets and **-3%** for banks from Emerging Markets,
- Tobin's Q is quite high for both subsamples: **1.46** for developed and **1.56** for emerging markets,
- Banks demonstrate high annual growth rates (net interest income growth): **5%** and **50%** for developed and emerging markets correspondingly,
- Return on equity (ROAE) is about **9%** for developed markets and **13%** for emerging markets on average
- High ownership concentration: **37%** owned by 3 major shareholders in developed countries vs. **74%** in emerging markets.

Descriptive Statistics: Means and Standard Deviations by subsamples

Variable	Developed Markets		Emerging Markets	
	Mean	Std. Dev.	Mean	Std. Dev.
maj3	0.37	0.28	0.74	0.21
de	9.03	8.33	2.88	2.34
G_NII	0.05	0.94	0.48	2.55
gov	0.04	0.15	0.13	0.28
pind	0.56	0.24	0.42	0.30
Inta	10.96	2.09	9.05	1.58
ROAE	<i>0.09</i>	<i>0.19</i>	<i>0.13</i>	<i>0.17</i>
TQ	<i>1.46</i>	<i>0.91</i>	<i>1.56</i>	<i>2.84</i>
RIS	<i>0.004</i>	<i>0.19</i>	<i>0.03</i>	<i>0.18</i>

RESULTS 1: RI Spread and ROAE PANEL REGRESSION ANALYSIS Emerging Markets

Variables	Residual Income (FE)	Residual Income (RE)	ROAE (FE)	ROAE (RE)
maj3	-0.309***	-0.284***	-0.239***	-0.312***
de	-0.020***	-0.024***	-0.018**	-0.015***
G_NII	0.009**	0.004	0.005**	0.009
gov	-0.183	-0.051	-0.030	-0.108
pind	-0.258***	-0.075	-0.080***	-0.254
Inta	-0.046**	0.016	0.020	-0.031*
cons	0.842***	0.175	0.189***	0.785*
<i>F-stat</i>	6.71		5.84	
<i>Wald stat</i>		39.65		34.96
<i>Observations</i>	221	221	232	232

*** - significance at 1% level; ** - significance at 5% level; * - significance at 10% level

1. **Positive** drivers of Bank performance:

- G_NII: growth rate of net interest income has a positive influence over Residual Income spread and ROAE

2. **Negative** drivers:

- Independent directors on the board;
- Financial Leverage (Debt to Equity);
- Ownership concentration

3. **No significant impact** of state ownership and existence of vice chairman over bank performance;

4. The only control variable that is significant is the size of the company measured with logarithm of its total assets

RESULTS 2: RI Spread, ROAE and Tobin's Q PANEL REGRESSION ANALYSIS Developed Markets

Variables	Residual Income (FE)	Residual Income (RE)	ROAE (FE)	ROAE (RE)	Tobin's Q (FE)	Tobin's Q (RE)
maj3	-0.986***	-0.858***	-0.948***	-0.822***	-3.016***	-1.026**
de	-0.003	-0.001	-0.005	-0.004	0.050*	-0.012
G_NII	0.035	0.045	0.022	0.033	0.229	0.296
gov	0.374**	0.137	0.372	0.154	1.049	-0.856
pind	0.042	0.065	0.026	0.051	-0.733	-1.047***
Inta	-0.087***	-0.076***	-0.040*	-0.040*	-0.813***	-0.048
cons	1.391***	1.112***	0.974***	0.787***	11.987***	3.013***
<i>F-stat</i>	26		23.17		9.43	
<i>Wald stat</i>		136.68		120.88		29.80
<i>Observations</i>	145	145	145	145	145	145

*** - significance at 1% level; ** - significance at 5% level; * - significance at 10% level

1. **Positive** drivers of Bank performance :
 - State ownership;
2. **Negative** drivers:
 - Independent directors on the board (only for market performance);
 - Ownership concentration;
3. **No significant impact** of independent directors, financial leverage and existence of vice chairman over bank performance;
4. The only control variable that is significant is the size of the company measured with logarithm of its total assets.

RESULTS COMPARISON for RI Spread (FE): Emerging Markets, Developed Markets and Cross-Country

Variables	Cross-Country	Emerging Markets	Developed Markets
maj3	-0.460***	-0.309***	-0.986***
de	-0.011***	-0.020***	-0.003
G_NII	0.011***	0.009**	0.035
gov	-0.059	-0.183	0.374**
pind	-0.077	-0.258***	0.042
Inta	-0.060***	-0.046**	-0.087***
cons	0.982***	0.842***	1.391***
<i>F-stat</i>	15.97	6.71	26
<i>Obs.</i>	366	221	145

- Emerging markets companies are more sensitive to the changes in Corporate Financial Architecture than developed markets ones
- The controversial influence of state ownership over bank performance in developed countries

*** - significance at 1% level; ** - significance at 5% level; * - significance at 10% level

RIS	2009	2008	2007	2006	2005
maj3*	-0,07	-0,06	-0,15	-0,13*	-0,1
de	-0,06***	-0,03**	0,00	0,00	0,02
G_NII	0,39***	0,07	0	0,02	0,06
gov	-0,13	0,00	-0,10	-0,04	-0,15*
pind	0,19**	0,06	-0,01	0,00	-0,07
Inta	0,03**	0,04**	0,04***	0,04***	0,03*
_cons	-0,14	-0,32	-0,17	-0,18	-0,09
Observations	47	46	41	36	27
R sq.	61%	12%	13%	21%	36%

- Model matches better the post-crisis situation
- In crisis 2008 year the only significant issue was financial leverage
- Financial Architecture is becoming more and more important in EM

*** - significance at 1% level; ** - significance at 5% level; * - significance at 10% level

1. We developed a **model of bank performance** based on corporate governance issues
2. By testing the model on the data of Russian, Kazakh, Eastern and Western Europe banks, we demonstrated quite **high quality of the models**
3. The drivers are quite similar for different strategic performance measures but different for emerging and developed countries:
 - Bank performance in emerging markets is influenced by:
 - + net interest income growth;
 - percentage of independent directors, ownership concentration and financial leverage;
 - Bank performance in developed markets is influenced by:
 - + state ownership (in crisis environment);
 - ownership concentration;

4. In crisis 2008 year the only significant driver of bank performance was financial leverage (EM);
5. Financial Architecture is becoming **more and more important** in EM nowadays ;
6. Next step is to **drop the assumption of exogenous character** of ownership and capital structure.



Thank you
for your attention!

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