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An Exploratory Analysis of Cash Holdings and Pay-Performance Sensitivity before and after IFRS Adoption

Abstract:

This paper documents an association between firms' cash holdings and CEO's pay performance sensitivity. Controlling whether CEOs are both president, firm size, leverage, auditor specialization and the ratio of independent board, we find that firms with more cash holdings are more likely to constrain executives' pay-performance sensitivity than firms with less cash holdings do. Empirical evidence also shows a increasing pay-performance sensitivity after adopting IFRS in China. The changes of the fair value for investment property are recognized from the equity to income statement may influence executives contract. After using propensity score matching research design, we further find that decreasing sensitive compensation due to firms with great corporate cash holdings is more pronounced after IFRS adoption than before IFRS adoption.

The results support alignment hypothesis, which argues that managers with high incentive compensation will engage to making risky decisions which may harm firms' value in the future. Therefore, compensation committee should redesign managers' compensation contract for limiting their risk-taking behavior. Compare with pre-IFRS period, firms maintaining sufficient liquidity are more likely to decrease CEOs' incentive compensation for avoiding them pursuing real activities manipulation during post-IFRS period.

Keywords: Precautionary Saving Theory, Alignment Theory, Mandatory IFRS Adoption, Cash Holdings, Pay-Performance Sensitivity, PPS

JEL Classification: G30, G32, G34

1 Introduction

With increasing an awareness of the economic benefits of implementing International Financial Reporting Standards (IFRS) based on better decreasing information cost, increasing reporting transparency and quality, IFRS become a worldwide integration goal for many countries. European Union, Singapore, South Africa, Australia, China, Korea, Canada, Pakistan and Taiwan require listed companies have to prepare their consolidated accounts under IFRS from fiscal year 2005¹ or from 2013 onwards for improving the efficiency of the EU capital market. In America, The Securities and Exchange Commission (SEC) announced to reconcile this accounting standard difference by allowing

¹ EU, Singapore and South Africa (China, Korea, Canada, Pakistan, and Taiwan) required listed companies to prepare in consolidated accounts accordance with IFRS from 2005 (2007, 2009 and 2011, 2013 and 2013) onwards.

non-US corporate using IFRS in 2007 and set forth several milestones in 2008 for leading to the required use of IFRS in 2014.

The standard of IFRS is different from GAAP because it reports tax benefits from employee's restrict stock and option at intrinsic value each period (McAnally, McGuire and Weaver, 2010). However, government and researchers may ask whether this widely using IFRS that provides managers with substantial discretion changes executive pay-performance sensitivity (PPS)? Prior studies show a weak increase in accounting-based PPS in the post-adoption period (Ozkan, Singer and You, 2012).

The purpose of this study is to examine the change of PPS ante-mandatory IFRS adoption and post-mandatory IFRS adoption by considering cash holdings and corporate governance. By adopting propensity score matching approach which is used to reduce bias and increase precision to estimate treatment effects in observational research, we analyzed the difference of executive compensation between treatment firms and control firms before and after mandated IFRS.

Empirical evidence shows that firms with more cash holdings are more likely to constrain executives' pay-performance sensitivity than firms with less cash holdings do. We also find a decrease pay-performance sensitivity after adopting IFRS in China. This decreasing PPS due to firms with great cash holdings is more pronounced after IFRS adoption than before IFRS adoption. The results support alignment hypothesis, which argues that managers with high incentive compensation will engage to making risky decisions which may harm firms' value in the future. Therefore, compensation committee should redesign managers' compensation contract for limiting their risk-taking behavior. Compare with pre-IFRS period, firms maintaining sufficient liquidity are more likely to decrease CEOs' incentive compensation for avoiding them pursuing real activities manipulation during post-IFRS period.

The paper is organized as follows. Section 2 develops models to examine the relationship between cash holdings of firms and executives' pay-performance sensitivity. Section 3 describes research design. Section 4 provides results of executives' PPS and we conclude the study, discuss the limitations and suggest future research in section 5.

2 Hypotheses Development

According to precautionary saving theory (Keynes,1936), initiators argue that firms tend to hold more cash if they have higher cash flow risk or better investment opportunities (Opler, Pinkowitz, Stulz, and Williamson,1999; Duchin, 2010). Firms with great cash to hedge future funding needs. In the other words, firms with better investment opportunity may increase executives' pay-performance sensitivity to encourage them taking risky portfolios to avoid some risk-averse executives advisedly elude risky positive net present value investment. Prior literature show a positive correlation between cash holdings and executives' PPS (Kim, Mauer and Sherman,1998).

Hypothesis 1a. Firms with more cash holdings are more likely to increase executives' sensitive compensation than firms with less cash holdings do.

The other point of view is alignment hypothesis (Jensen and Mechkling, 1976), which argues that corporate align the interests of risk-averse executives with equity-based compensation to motivate them choosing riskier investment. On the contrary, executives with high incentive compensation will engage to making risky decisions which may harm firms' value in the future. Therefore, compensation

committee should redesign managers' compensation contract for limiting their risk-taking behavior if firm with great cash holdings. Coles, Daniel and Naveen (2006) document a negative relation between cash holdings of firms and executives' pay-performance sensitivity.

Hypothesis 1b. Firms with more cash holdings are more likely to constrain executives' sensitive compensation than firms with less cash holdings do.

The favor of implementing IFRS is easier to compare the financial report across different countries and to enhance the effectiveness of international capital market. IFRS provide executives with substantial discretion because it involves considerable judgment and the use of private information (Ball, Kothari & Robin, 2000; Ball, Robin & Robin, 2003; Burgstahler, Hail & Leuz, 2006). This mechanism may change the effect of cash holdings on executives' PPS, Hermalin and Weisbach (2012) provide theoretical evidence that increases in mandated disclosure lead to higher managerial compensation.

Hypothesis 2. Constraining pay-performance sensitivity due to firms with more cash holdings is more pronounced after IFRS adoption than before IFRS adoption.

3 Research Design

This study defines executive compensation as logarithm of executive's (CEO's and CFO's) total compensation or logarithm of the sum of top three executive's total compensation. Following Prior study (Opler, Pinkowitz, Stulz and Williamson, 1999), cash holdings is calculated as the sum of marketable securities and cash scaled by net assets. Control variables are base on prior literature. Prior studies argue that it is necessary to separate the CEO and the board chair offering effective monitoring (Jensen, 1993) owing to a conflict of interest for CEO serving as the board chair. CEO duality was used a binary variable coded as one when CEO was also board chair (Core, Holthausen and Larcker, 1999). Firm size which calculates as nature logarithm of market value. DEBT is the ratio of debt to total assets . Leverage is the debt scaled by the sum of debt and market equity.

Raheja (2005) predicts that firms in industries that are difficult to monitor, for instance the high tech industry, should have a higher proportion of insiders on the board. In equilibrium, the insiders provide more information to outside directors and reduce the costs of monitoring. We also involve independent ratio and auditor industry specialization (calculated as the following equation) in governance control variables. Accounting literature suggests that the accounting quality provide b big five auditors differentiated from non-big five auditors. (Firth,1985; Simon, Ramanan and Dugar, 1986; Chung and Lindsay,1988; Simon, Teo and Trompeter, 1992; Craswell, Francis and Taylor, 1995; and DeFond , Francis and Wong, 2000). We use auditor's market share in a given industry and year to proxy auditor industry specialization (Francis, LaFond, Olsson and Schipper, 2005).

$$Spec_{ik} = \frac{\sum_{j=1}^{jik} Sales_{ijk}}{\sum_{i=1}^{ik} \sum_{j=1}^{jik} Sales_{ijk}} \quad (1)$$

Where $Spec_{ik}$ is the market share based auditor specialization, $Sales_{ijk}$ is the sales of client j of audit firm i in industry k .

In order to examine hypothesis 1, we develop the regression model as following.

$$\ln Comp_{i,t} = \beta_0 + \beta_1 CashHoldings_{i,t} + \beta_2 ROE_{i,t} + \beta_3 CashHoldings_{i,t} \times ROE_{i,t} + \beta_4 Size_{i,t} + \beta_5 Dual_{i,t} + \beta_6 Debt_{i,t} + \beta_7 Lev_{i,t} + \beta_8 IndeBoard_{i,t} + \beta_9 Spec_{i,t} + \beta_{10} \sum \kappa_m Industry + \beta_{11} \sum \kappa_n Year + \varepsilon_{i,t} \quad (2)$$

For better understanding whether the effect of cash holdings on pay-performance vary by IFRS adoption, the propensity score matching technique was used as a means to compare cash holdings effect between pre-IFRS adoption and post-IFRS adoption. Balancing of group using the propensity score matching approach is achieved by grouping observations based on size, the ratio of cash flow to net assets and the ratio of capital expenditures to the book value of net assets by propensity score match to directly compare the treated (firms with great cash holdings) and control (firms with puny cash holdings) in the same stratum.

Observations are matched based on the nearest-neighbor algorithm. The propensity score model is estimated by using a logit model as following (Rosenbaum and Rubin, 1985).

$$q(x) = \log \frac{e(x)}{1-e(x)} = \alpha + \beta^T f(x) \quad (3)$$

Where $q(x)$ is the logarithm odds of receiving the treatment, in this study is performance*cash holdings, $f(x)$ is a specified function of size, the ratio of cash flow to net assets and the ratio of capital expenditures to the book value of net assets.

Differences are examined by the Wilcoxon-Mann-Whitney test. We compare changes in the effect of cash holding on PPS across pre- and post-IFRS with those of the control group. To examine the effect of cash holdings on PPS, we estimate the following OLS regression model:

$$\ln Comp_{i,t} = \beta_0 + \beta_1 CashHoldings_{i,t} + \beta_2 ROE_{i,t} + \beta_3 CashHoldings_{i,t} \times ROE_{i,t} + \beta_4 IFRS + \beta_5 IFRS \times ROE_{i,t} + \beta_6 CashHoldings_{i,t} \times ROE_{i,t} \times IFRS + \beta_7 Size_{i,t} + \beta_8 Dual_{i,t} + \beta_9 Debt_{i,t} + \beta_{10} Lev_{i,t} + \beta_{11} IndeBoard_{i,t} + \beta_{12} Spec_{i,t} + \beta_{13} \sum \kappa_m Industry + \varepsilon_{i,t} \quad (4)$$

4 Result

Table 1 and 2 present descriptive statistics and Pearson correlation matrix. Corporate cash holdings are positively (negatively) related to top three executives total compensation (both CEOs and CFOs total compensation but not significant). Table 3 shows regressions of corporate cash holdings on executives' PPS. CEO subsamples in model 1-2, CFO subsamples in model 3-4, top three executives subsamples in model 5-6. Model 1, 3, 5 consider the association between firms cash holdings and executives' PPS. Model 2,4,6 involved control variables and independent variables. Results document that cash holdings are both negatively correlated to CEOs' and CFOs' PPS but positively correlated to top three executives' PPS. Auditor's industry specialization is negatively (positively) related to CEOs' (top three executives') compensation. Large firms provide high PPS for all types of executives in our samples. Debt ratio and industry competition are negatively related to both CEOs and top three executives' PPS.

Table 4 reports univariate analyses of CEOs' (CFOs'/top three executives') PPS on post-IFRS and pre-IFRS. The difference of mean of total compensation between firms with high cash holdings and firms with low cash holdings in pre-IFRS period is -0.033 (-0.028/0.020). This difference become 0.021 (0.024/0.030) in post-IFRS period. Results indicate that the difference between post-IFRS and pre-IFRS is 0.054 (0.053/0.010) and significant ($p < 0.05$) in CEO (CFO/top three executives) samples. Similarly, the difference of the mean of CEO (CFO/top three executives) total compensation of puny cash holdings firms between post-IFRS and pre-IFRS is 0.460 (0.463/0.292). The difference of the mean of executives' total compensation of great cash holdings firms between post-IFRS and pre-IFRS is 0.514 (0.516/0.302). The difference of these two types of firms is 0.054 (0.053/0.010) and significant ($p < 0.05$).

To further examine whether mandatory IFRS adoption vary the effect of cash holdings on PPS, the coefficient (0.063 in CEO subsamples and 0.018 in top three executives subsamples) of IFRS*Perf*Cash in table 5 indicates that firms the change of cash holdings effect on PPS after adopting IFRS. Model 1, 2 (5, 6) show a significantly ($p < 0.001$) positive relationship between corporate cash holdings and CEOs' (Top three executives') PPS after mandated IFRS adoption. Variables in CFO subsamples are not significant.

5 Conclusion

This study examines how cash holdings of firms influence executives' pay-performance sensitivity. Results show that great corporate cash holdings lead to constrain CEOs and CFOs PPS. Contrarily, firms with great cash holdings tend to enhance top three executives PPS. It may due to their different positions. We adopt alignment hypothesis to explain this decreasing CEO or CFO PPS in great cash holdings companies. Alignment hypothesis argues that corporate with risk-taking internal controllers (such as blockholders) should align the interests of risk-averse executives with equity-based compensation to encourage them engaging riskier investment. These firms keep a small amount cash because investment in cash mitigates overall firm risk.

After compare with pre-IFRS adoption and post-IFRS adoption, we find that a increasing pay-performance sensitivity after mandated IFRS adoption. Firms with great cash holdings increase CEOs sensitive compensation after IFRS adoption. The positive correlation between corporate cash holdings and top three executives' pay-performance is more pronounced during post-IFRS period than pre-IFRS period. However, we do not find a significant difference of the effect of cash holdings on CFOs' PPS between pre-IFRS adoption and post-IFRS adoption.

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TABLE 1. Descriptive statistics

	CEO samples					CFO samples					Top 3 Executives samples				
	N	Mean	Std. Dev.	Min	Max	N	Mean	Std. Dev.	Min	Max	N	Mean	Std. Dev.	Min	Max
lnComp	3669	11.764	2.966	0.000	15.911	3401	11.233	2.857	0.000	15.058	3614	13.531	0.829	6.987	16.651
CashHolding	3667	0.245	0.478	0.000	17.941	3399	0.246	0.379	0.000	6.465	3667	0.245	0.478	0.000	17.941
ROA	3664	5.121	18.298	-362.340	532.820	3399	5.715	24.945	-180.890	1100.500	3664	5.121	18.298	-362.340	532.820
ROE	3536	12.108	67.019	-175.290	2626.340	3285	11.077	62.124	-1442.690	2626.340	3536	12.108	67.019	-175.290	2626.340
SIZE	3668	14.373	1.308	3.932	20.790	3400	14.294	1.272	3.932	20.903	3668	14.373	1.308	3.932	20.790
DEBT	3668	1.169	20.740	0.000	876.664	3400	0.901	15.380	0.009	876.664	3668	1.169	20.740	0.000	876.664
MTB	3667	4.458	80.131	-17.941	3429.549	3399	3.609	58.921	-4.240	3429.549	3667	4.458	80.131	-17.941	3429.549
LEV	3253	1.213	6.154	0.000	210.290	3003	1.298	9.655	0.000	419.523	3253	1.213	6.154	0.000	210.290
SPEC_Sales	3669	0.048	0.067	0.000	0.702	3401	0.048	0.068	0.000	0.702	3669	0.048	0.067	0.000	0.702
SPEC_Count	3669	0.054	0.047	0.001	0.270	3401	0.055	0.047	0.001	0.270	3669	0.054	0.047	0.001	0.270
IndependentRatio	3668	0.369	0.058	0.133	0.667	3399	0.370	0.060	0.133	0.800	3668	0.369	0.058	0.133	0.667
HHI	3669	0.070	0.117	0.013	0.890	3401	0.066	0.096	0.010	0.460	3669	0.070	0.117	0.013	0.890

TABLE 2. Correlation matrix

Panel A. CEO correlation matrix

	InComp	CashHolding	ROA	ROE	DUAL-CEO	SIZE	DEBT	MTB	LEV	SPEC_Sales	SPEC_Count	IndependentRatio	HHI
InComp	1												
CashHolding	-0.008	1											
ROA	0.011	0.114***	1										
ROE	-0.001	0.025	0.452***	1									
DUAL-CEO	-0.015	0.082***	0.038**	0.072***	1								
SIZE	0.080**	-0.137***	-0.015	-0.056***	-0.179***	1							
DEBT	-0.101**	-0.01	-0.136***	0.011	0.018	-0.189***	1						
MTB	-0.092***	0.006	-0.169***	0.047***	0.019	-0.171***	0.995***	1					
LEV	-0.008	-0.027	-0.067***	-0.016	-0.028	0.101***	0.005	-0.005	1				
SPEC_Sales	-0.003	-0.032	0.004	0.029	0.005	0.273***	-0.018	-0.018	0.088***	1			
SPEC_Count	0.018	-0.009	0.021	0.027	0.057***	-0.017	-0.018	-0.019	0.087***	0.663***	1		
IndependentRatio	0.002	-0.043***	-0.003	0.021	0.122***	-0.050***	0.011	0.005	-0.03	-0.008	0.01	1	
HHI	-0.012	0.116***	0.046***	0.012	0.043***	0.021	-0.001	-0.001	-0.009	0.068***	0.127**	-0.01	1

Panel B. CFO correlation matrix

	InComp	CashHolding	ROA	ROE	DUAL-CEO	SIZE	DEBT	MTB	LEV	SPEC_Sales	SPEC_Count	IndependentRatio	HHI
InComp	1												
CashHolding	-0.008	1											
ROA	0.011	0.114***	1										
ROE	-0.001	0.025	0.452***	1									
DUAL-CEO	-0.015	0.082***	0.038**	0.072***	1								
SIZE	0.080**	-0.137***	-0.015	-0.056***	-0.179***	1							
DEBT	-0.101**	-0.01	-0.136***	0.011	0.018	-0.189***	1						
MTB	-0.092***	0.006	-0.169***	.047***	0.019	-0.171***	0.995***	1					
LEV	-0.008	-0.027	-0.067***	-0.016	-0.028	0.101***	0.005	-0.005	1				
SPEC_Sales	-0.003	-0.032	0.004	0.029	0.005	0.273***	-0.018	-0.018	0.088***	1			
SPEC_Count	0.018	-0.009	0.021	0.027	.057***	-0.017	-0.018	-0.019	0.087***	0.663***	1		
IndependentRatio	0.002	-.043***	-0.003	0.021	0.122***	-0.050***	0.011	0.005	-0.03	-0.008	0.01	1	
HHI	-0.012	0.116***	0.046***	0.012	0.043***	0.021	-0.001	-0.001	-0.009	0.068***	0.127**	-0.01	1

Panel C. Top 3 executives correlation matrix

	InComp	CashHolding	ROA	ROE	SIZE	DEBT	MTB	LEV	SPEC_Sales	SPEC_Count	IndependentRatio	HHI
InComp	1											
CashHolding	0.042**	1										
ROA	0.109***	0.114***	1									
ROE	0.015	0.025	0.452***	1								
SIZE	0.414***	-0.137**	-0.015	-0.056**	1							
DEBT	-0.035**	-0.01	-0.136**	0.011	-0.189**	1						
MTB	-0.008	0.006	-0.169**	0.047**	-0.171**	0.995**	1					
LEV	0.021	-0.027	-0.067**	-0.016	0.101**	0.005	-0.005	1				
SPEC_Sales	0.158***	-0.032	0.004	0.029	0.273**	-0.018	-0.018	0.088**	1			
SPEC_Count	0.059***	-0.009	0.021	0.027	-0.017	-0.018	-0.019	0.087**	0.663**	1		
IndependentRatio	0.012	-0.043**	-0.003	0.021	-0.050**	0.011	0.005	-0.03	-0.008	0.01	1	
HHI	0.042**	0.116**	0.046**	0.012	0.021	-0.001	-0.001	-0.009	0.068**	0.127**	-0.01	1

Significance levels: * P<0.1, ** P<0.05, ***P<0.01

TABLE 3 Regression of the effect of cash holdings on executives pay-performance sensitivity

Variables	CEO			CFO		Top3
	(1)	(2)	(3)	(4)	(5)	(6)
Interceptor	11.834*** (0.000)	10.357*** (0.000)	11.088*** (0.000)	8.103*** (0.000)	13.554*** (0.000)	9.109*** (0.000)
CashHoldings	0.405* (0.050)	0.327 (0.142)	0.597** (0.013)	0.484* (0.051)	-0.083** (0.003)	-0.097* (0.090)
Performance	0.003** (0.018)	0.003** (0.012)	0.046*** (0.000)	0.037*** (0.000)	0.000 (0.496)	0.000 (0.310)
Perf*CashHoldings	-0.015 (0.203)	-0.021* (0.092)	-0.045** (0.020)	-0.041** (0.044)	0.024*** (0.000)	0.018*** (0.000)
CEO_DUAL		-0.120 (0.332)				
CFO_DUAL				-0.878 (0.566)		
IndependentRatio		-0.052 (0.952)		0.280 (0.732)		0.141 (0.526)
SPEC_Sales		-1.456* (0.069)		0.254 (0.749)		0.435** (0.036)
SIZE		0.193*** (0.000)		0.190*** (0.000)		0.334*** (0.000)
DEBT		-0.525* (0.079)		-0.047 (0.571)		-0.607* (0.000)
MTB		0.031 (0.163)		0.010 (0.622)		0.009 (0.115)
LEV		-0.001 (0.932)		0.000 (0.967)		-0.001 (0.666)

HHI		-3.510**		1.870		-0.311*
		(0.011)		(0.216)		(0.389)
Industry		Yes		Yes		Yes
Year		Yes		Yes		Yes
R^2	0.003	0.029	0.028	0.056	0.025	0.263
Adj R^2	0.002	0.022	0.027	0.049	0.024	0.258
F-Value	2.781**	4.235***	28.501***	56.338***	26.918***	52.847***
	(0.040)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Durbin-Watson		1.470		1.633		1.001

Significance levels: * P<0.1, ** P<0.05, ***P<0.01

Performance is ROE in model 1, 2, 5,6 and ROA in model 3, 4.

TABLE 4. difference-in-difference analysis

Panel A. Two-by-two analysis of CEO pay-performance sensitivity on high/low cash holdings and pre/post IFRS adoption

	Pre-IFRS	Post-IFRS	Diff
Control	11.524 (529)	11.985 (989)	0.460***
Treatment	11.492 (168)	12.006 (391)	0.514***
Diff	-0.033	0.021***	0.054**

Panel B: Two-by-two analysis of CFO pay-performance sensitivity on high/low cash holdings and pre/post IFRS adoption

	Pre-IFRS	Post-IFRS	Diff
Control	10.927 (670)	11.390 (1311)	0.463***
Treatment	10.898 (143)	11.414 (393)	0.516***
Diff	-0.028	0.024**	0.053**

Panel C: Two-by-two analysis of Top 3 executives pay-performance sensitivity on high/low cash holdings and pre/post IFRS adoption

	Pre-IFRS	Post-IFRS	Diff
Control	13.242 (521)	13.534 (987)	0.292***
Treatment	13.262 (162)	13.564 (387)	0.302***
Diff	0.020***	0.030***	0.010**

TABLE 5. Regression of the effect of IFRS-adoption and cash holdings on executives pay-performance sensitivity

Variables	CEO		CFO		Top3	
	(1)	(2)	(3)	(4)	(5)	(6)
Interceptor	11.531*** (0.000)	10.007*** (0.000)	10.658*** (0.000)	7.862*** (0.000)	13.383*** (0.000)	8.925*** (0.000)
CashHoldings	0.270 (0.193)	0.326 (0.143)	0.533** (0.032)	0.542** (0.034)	-0.228** (0.000)	-0.094 (0.103)
Performance	0.003** (0.040)	0.003** (0.035)	0.045*** (0.000)	0.033*** (0.000)	0.001 (0.810)	0.000 (0.591)
IFRS	0.451*** (0.000)	0.466*** (0.000)	0.653*** (0.000)	0.033*** (0.000)	0.252*** (0.000)	0.209*** (0.000)
Perf*CashHoldings	-0.052*** (0.000)	-0.050** (0.001)	-0.029** (0.329)	-0.020** (0.512)	0.012*** (0.003)	0.010** (0.007)
IFRS*Perf*Cash	0.062*** (0.000)	0.063*** (0.000)	-0.016 (0.527)	-0.021 (0.433)	0.020*** (0.000)	0.018*** (0.000)
CEO_DUAL		-0.124 (0.316)				
CFO_DUAL				0.890 (0.561)		
IndependentRatio		0.155 (0.858)		0.391 (0.632)		0.210 (0.344)
SPEC_Sales		-1.415* (0.077)		0.261 (0.744)		0.450** (0.030)
SIZE		0.168** (0.001)		0.180*** (0.000)		0.327*** (0.000)
DEBT		-0.517		0.045		-0.610***

		(0.083)		(0.563)		(0.000)
MTB		-0.018		-0.013		-0.007
		(0.401)		(0.508)		(0.229)
LEV		0.000		0.000		-0.001
		(0.982)		(0.961)		(0.792)
HHI		-3.402**		1.904		-0.256
		(0.013)		(0.222)		(0.487)
Industry		Yes		Yes		Yes
Year		No		No		No
R^2	0.017	0.016	0.039	0.053	0.025	0.263
Adj R^2	0.016	0.023	0.037	0.046	0.024	0.258
F-Value	11.254***	4.317***	20.217***	7.296***	26.918***	52.847***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Durbin-Watson		1.479		1.641		1.001

Significance levels: * P<0.1, ** P<0.05, ***P<0.01

Performance is ROE in model 1, 2, 5,6 and ROA in model 3, 4.