BANK RISK AND EXECUTIVE COMPENSATION

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Abstract:

This paper aims at analyzing the effect of various risks faced by commercial banks on the executive compensation in banking industry. Executives in any industry are risk averse if their compensation is not tied to the long term performance of the firm. Board of directors, as representatives of shareholders; establish the governance mechanism in order to ensure long term firm performance. For this the board includes stock option in executive's compensation plan to induce risk-taking. executives in commercial banks are more risk averse due to the regulatory pressure in addition to board governance mechanism. Commercial banks face various accounting based risks e.g., insolvency risk or asset return risk in addition to systematic and idiosyncratic risk faced by all types of firms. The regulatory mechanism and unique asset structure expose the commercial bank executives to various kinds of risk. Because executives in commercial banks are risk-averse agent, it is expected that they should associate their pay and pay-performance sensitivities (PPS) with these risks faced by their banks. This paper analyzes the effect of such risk exposure on executive compensation and pay-performance sensitivities of commercial bank executives.

Using a hand collected dataset of 149 commercial banks and compensation of 1,248 executives (263 CEOs and 1,385 other top five executives), the heteroscedasticity corrected OLS and panel data (random effects) estimates show that executives in commercial banks associate their performance based pay (options grants) with both idiosyncratic risk and systematic risk. But they associate their fixed pay only with systematic risk faced by the bank by claiming premium compensation. The risk based pay-performance sensitivity is also affected by the idiosyncratic risk but not by the systematic risk. Both types of accounting based risks – asset return risk and insolvency risks have significant positive effect on pay-performance sensitivities (PPS). Executives in commercial banks also associate their performance based pay with asset return risk because the asset structure of commercial banks is different and proper management of such assets is also a performance measure for these executives. The results also show a significantly higher risk exposure by the executives and for this executives claim premium compensation over other top five executives in commercial banks. All these results imply that the risk-averse nature of commercial bank executives as they demand premium compensation for the exposure to the different kinds of risks faced by the firm.

Keywords: Corporate Governance, Executive Compensation, Banking Industry, Pay-Performance Sensitivity, Delta, Vega, Idiosyncratic Risk, Systematic Risk, Asset Return Risk, Insolvency Risk.

JEL Classification: G21, G28, G30, G34

Bank Risk and Executive Compensation

1. Introduction:

Shareholders, as they have the ultimate claim on the net assets of the firm, bear the wealth effect resulting from the decisions made by the managers. Thus a firm faces agency problem when the manager does not assume the full or major share of the wealth effect (Jensen and Meckling, 1976; Fama, 1980). Executive compensation arrangements may be an important instrument to mitigate such agency problem and provide incentive for long term optimum firm performance (Gray and Cannella, 1997).

The governance mechanism in a median unregulated firm is established by the firm's board of directors. In a similar way, the governance mechanism of a commercial bank is also set by the bank's board of directors. But commercial banks still need to address the regulatory agendas in addition to the board established governance mechanism. Executives are risk averse in any firm. Core, Guay and Larcker (2003) argue that the performance measures of an executive are noisy and beyond the executive's control. So the performance based pay imposes a risk on the executive and thus a risk-averse executive may claim premium compensation over the fixed cash pay. On the other hand, as the deposits in the commercial banks are insured by the Federal Deposit Insurance Corporation (FDIC) and executive compensation is independent of investment level (Grundy and Li, 2010); executives in banking industry are risk-averse too.

Board of directors, as representatives of shareholders; establish the governance mechanism in order to ensure long term firm performance. For this the board includes stock option in executive's compensation plan to induce risk-taking by the executive. executives in commercial banks are more risk averse due to the regulatory pressure in addition to board

governance mechanism. Chen, Steiner, and Whyte (2006) find evidence supporting this argument in banking sector. They find that banks are progressively using more option-based compensation, which is related to risk taking. On the other hand Houston and James (1995) find evidence against the hypothesis that compensation policies promote risk taking in banking industry. They find that executives receive less cash and option compensation and equity-based incentives and such compensation policies do not promote risk taking. So, literature in this regard is does not provide any conclusive evidence. In this context, the main research question in this paper is –

> *Do executives in commercial banks claim premium compensation for bank risk exposure? If they do so, what are the effects of such risks on executive compensation and pay-performance sensitivities (PPS) in banking industry?*

This paper analyzes the role of various risks faced by executives in commercial banks on their compensation and pay-performance sensitivities (PPS). Commercial banks face various accounting risks e.g., insolvency risk or asset return risk in addition to market based systematic and idiosyncratic risk faced by all types of firms. Most of the prior studies define bank risk as the systematic and unsystematic risk faced by the bank. Gray and Cannella (1997) use beta and sigma as a measure of systematic and unsystematic risk respectively by using the capital asset pricing model (CAPM). Victoravich, Xu, Buslepp and Grove (2011) also define bank risk as systematic and idisyncratic risk. This paper analyzes not only systematic or unsystamatic risk, but also other accounting based risk, e.g., asset return risk and insolvency risk.

The regulatory mechanism and unique asset structure expose the commercial bank executives to various kinds of risk. Because executives in commercial banks are risk-averse agent, it is expected that they should associate their pay and pay-performance sensitivities (PPS)

with these risks faced by their banks. This paper analyzes the effect of such risk exposure on executive compensation and pay-performance sensitivities of commercial bank executives. Using a hand collected dataset of 149 commercial banks and compensation of 1,248 executives (263 CEOs and 1,385 other top five executives), the heteroscedasticity corrected OLS and panel data (random effects) estimates show that executives in commercial banks associate their performance based pay (options grants) with both idiosyncratic risk and systematic risk. But they associate their fixed pay only with systematic risk faced by the bank by claiming premium compensation. The risk based pay-performance sensitivity is also affected by the idiosyncratic risk but not by the systematic risk. Both types of accounting based risks – asset return risk and insolvency risks have significant positive effect on pay-performance sensitivities (PPS). Executives in commercial banks also associate their performance based pay with asset return risk because the asset structure of commercial banks is different and proper management of such assets is also a performance measure for these executives. The results also show a significantly higher risk exposure by the executives and for this executives claim premium compensation over other top five executives in commercial banks. All these results imply that the risk-averse nature of commercial bank executives as they demand premium compensation for the exposure to the different kinds of risks faced by the firm.

This paper makes significant contribution in the growing literature of executive risk-taking in commercial banks. This will be one of the first papers analyzing the effect of various risks faced by the commercial banks. Literature mainly focuses on analyzing the board strength in inducing executives to take risk (Pathan, 2009; Victoravich, Xu, Buslepp and Grove, 2011). This paper rather analyzes the effect of such risk-taking initiatives on executive compensations. Second, this paper not only analyzes the effect of systematic and idiosyncratic risk, but also other

accounting based risks – asset return risk and insolvency risk faced by the bank. This will be the first paper to analyze the effect of the latter two risks on executive compensation. Third, this paper analyzes executive compensation of commercial banks over a longer sample period (from 1992 to 2006). Houston and James (1995) compare CEO compensation between banking and other unregulated industries over a period of 1982 to 1988. Fahlenbrach and Stulz (2011) analyze CEO compensation over a period of 2006 to 2008 (the recent crisis period). This paper, on the other hand, analyzes compensation of both CEO and other top five executives over a longer sample period. Last but not the least, the sample used for the commercial banks is so far the largest one (149 commercial banks) in the literature. Sufficiently larger sample will provide with precise estimates of the analysis as well as better understanding of the results.

The next section discusses literature on bank risk, board monitoring and executive compensation, section 3 discusses the hypotheses, section 4 discusses the methodology and data sources, section 5 explains the summary statistics and findings, and section 6 concludes the paper.

2. Literature on bank risk, board monitoring and executive compensation:

Core, Guay and Larcker (2003) state that the performance measures of a CEO are noisy and beyond the CEO's control. So the performance based pay imposes a risk on the executive and a risk-averse executive may claim premium compensation over the fixed cash pay. The consequence of poor performance is the reduction in the performance based compensation. As the deposits in the commercial banks are insured by FDIC, and executive compensation is independent of investment level (Grundy and Li, 2010) a risk-averse executive would like to design pay structure such as to avoid risk or at least be paid premium compensation for risk-taking.

Investing in risky but positive-NPV projects improves the potential to maximize firm value. As executive s are risk averse, the board designs executive compensation structure to take risk. Haugen and Senbet (1981) and Smith and Stulz (1985) suggest that the use of stock option as a part of executive compensation to mitigate managers'aversion to investing in risky but positive-NPV projects. Crawford, Ezzell and Miles (1995) find support for this such incentives for CEO. They analyze CEO compensation of 124 banks for the period 1976 to 1988. They observe a significant increase in pay-performance sensitivities (PPS) in the period of commercial bank deregulation.

On the other hand, Smith and Watts (1992) and Houston and James (1995) find that CEO compensation in banking industry is designed to discourage risk-taking behavior. Smith and Watts (1992) use total firm risk as risk measure and find that, in regulated sector, firms with higher leverage and dividend yield offer lower stock based compensation. Houston and James (1995) analyze the CEO compensation structure in banking and compare it with other industries.They find that on average, bank CEOs receive less cash compensation, are less likely to participate in a stock option plan, hold fewer stock options, and receive a smaller percentage of their total compensation in the form of options and stock than the CEOs in other industries do. They also use total firm risk as the risk measure.

Chen, Steiner and Whyte (2006) investigate the relation between option-based CEO compensation and risk faced by the commercial banks for the period 1992 – 2000. They find that commercial banks use stock option-based compensation progressively over time in order to induce risk-taking by CEOs. In this paper, the authors use four different risk measures for firm risk – total risk, systematic risk, idiosyncratic risk and interest rate risk.

The principal-agent model predicts that an executive's pay-performance sensitivity will be decreasing in the riskiness of the firm's performance (Aggarwal and Samwick, 1999). They test this prediction by using a sample of top executives at 1,500 of the largest publicly traded firm corporations in the U.S.A. They report that the pay-performance sensitivities of both CEOs and other executives are decreasing in the firm risk. They also show that the variance of a firm's stock returns is an important variable in pay-performance regressions and that omitting it leads to downward-biased estimates of the pay-performance sensitivity. The authors use total risk, systematic risk and idiosyncratic risk as measures of firm risk.

Armstrong and Vashishtha (2012) examine how stock options give CEOs differential incentives to alter the systematic and idiosyncratic risk of the firm. They argue that, vega (the pay-risk sensitivity) gives risk-averse managers an incentive to increase total risk. But they find that the CEOs do so by increasing systematic risk rather than idiosyncratic risk as they can hedge the systematic risk. They also suggest that delta (pay-return sensitivity) gives CEOs incentives to alter the level of their firms' systematic and idiosyncratic risk. They find that delta is positively related to both systematic and idiosyncratic, and thus total risk. This suggests that investing in positive-NPV projects may require managers to increase idiosyncratic risk even though it cannot be hedged.

Hermalin (2005) suggests that the association between board monitoring and the board's decision to hire externally or internally depends on the CEO's ability to operate the firm and the board's ex post monitoring. The higher the uncertainty about CEO's ability, the more valuable is the board monitoring of CEO's performance. Because the firm benefits from upside risk related to this uncertainty and is protected on the downside by the board's right to fire the CEO. Andres and Vallelado (2008) analyze the role of board in the governance mechanism of commercial

banks for the period 1995 to 2005. They find an inverted U-shaped relationship between board size and bank performance. Thus they conclude that higher number of board members to a certain limit should enhance the monitoring and supervisory function of the board.

Victoravich, Xu, Buslepp and Grove (2011) examines whether bank risk is influenced by equity incentives. They analyze board effectiveness using CEO duality, staggered board, board independence and so on and find that when a CEO has more power, they can influence the board's decision-making to their benefit in reducing risk. But powerful CEOs are more likely to take on risk when their personal wealth is tied to long-term firm value as opposed to short-term firm value. They also use total risk, idiosyncratic risk and systematic risk as measures of firm risk. Pathan (2009) analyzes bank risk taking and board strength. They find that strong bank boards positively affect bank risk-taking by influencing CEOs to take risk. This author again uses total risk, idiosyncratic risk and systematic risk as bank risk measure. Song (2011) suggests that monitoring by creditors could serve as substitute for performance-sensitive compensations, e.g., commercial banks. They use total bank loans as a proxy for monitoring by creditors and find that creditors scrutinize and exert influence on CEOs' pay to deter risk-shifting behavior. Banks with large loans tend to have smaller amount of total compensation.

Flannery and Rangan (2008) analyze the commercial bank capitalization and regulatory intervention. They find no evidence that a bank's market capitalization increases with its asset volatility prior to 1994. They use annualized asset return risk (ARR) to analyze capitalization and bank risk. This ARR measure incorporates all banks' risks - asset returns, liability returns, changes in the off-balance-sheet book, and operating efficiencies. Equation 1 provides the calculation of ARR.

$$\sigma_A = \left({}^{E}/_{A}\right)\sigma_E * \sqrt{250} \qquad (1)$$

Here, E = Equity returns;

A = Equity + Book value of Debt,

σ = Standard Deviation.

Boyd, Graham and Hewitt (1993) analyze the bank mergers and effect of insolvency risk. They calculate insolvency risk by using a Z-score. The equation 2 presents the calculation of Z-score.

$$Z = \frac{Average\ (Returns) + Average\left(Equity/Total\ Assets\right)}{Std.Dev\left(Equity/Total\ Assets\right)} \qquad (2)$$

A high Z-score means less insolvency risk. Because both these risks are calculated using accounting numbers from financial statements, they are also known as accounting based risks. This paper analyzes both accounting and market based risks and their effect on the executive compensation and pay-performance sensitivities (PPS).

The market based risks are the idiosyncratic and systematic risks faced by the firm. This paper uses the method suggested by Pathan (2009) to calculate these two risks. Idiosyncratic risk is the standard deviation of the error terms (ε_i) in the equation (3):

$$R_{it} = \alpha_i + \beta_{1i}\, Rm_t + \beta_{2i}\, INTEREST_i + \varepsilon_i \qquad (3)$$

and systematic risk is β_{1i} – the coefficient of Rm_t in equation (3).

3. Hypotheses development:

Because executives are risk averse (Holmstrom and Milgrom, 1987, 1991), they should claim a premium compensation for the risks they assume in their job. As fixed compensation

(salary and bonus) is considered as the reservation pay to the executives, it should not be affected by the idiosyncratic risk of the bank but should be affected significantly by the systematic risk face by the bank. On the other hand, the variable component of the executive pay (options grants) is aimed at binding the firm performance with the executive pay. For this, the variable component of the executive pay should mainly be affected by the idiosyncratic risk. In this light, the first two hypotheses of this paper are –

H_{1A}: The fixed component of executive compensation is not affected at all by the idiosyncratic risk faced by the bank.

H_{1B}: The fixed component of executive compensation is positively affected by the systematic risk faced by the bank.

H2: The variable component of executive compensation is positively affected by both the idiosyncratic and systematic risks faced by the bank.

Boards use stock options plan in compensation to induce executives to take positive-NPV risky projects. So, the vega (the dollar change in executive pay with respect to 1% change in stock return volatility) and delta (the dollar value of executive pay in response to 1% change in the firm's stock price) should be directly affected by the various risks faced by the bank. Vega, being the risk based pay-performance sensitivity, should be directly and positively affected by various types of bank risks. But the direction of the effect of bank risks on delta is not clear. John and John (1993) suggest that delta gives managers an incentive to reduce systematic and idiosyncratic risk, but delta encourages executives to take risks that result in a transfer of wealth from creditors to shareholders. In this light, the third and fourth hypotheses are –

H3: The vega is positively affected by all types of risks faced the bank.

H4: The delta is significantly affected by all types of risks faced the bank.

4. Methodologies and data sources:

All four hypotheses are tested by using the model stated in equation (4) and equation (5). Equation (4) tests the effect of market based risks – idiosyncratic risk and systematic risk on executive compensation and pay-performance sensitivities.

$$Ln\ (Executive\ Compensation_{i,t};\ Delta_{i,t};\ Vega_{i,t}) = \beta_0 + \beta_1\ IDIORISK_{i,t} + \beta_2\ SYSRISK_{i,t} + \beta_3\ CEODUM_{i,t} + \beta_4\ EXCDIRDUM_{i,t} + \beta_5\ INTLCKDUM_{i,t} + \beta_6\ TENURE_{i,t} + \beta_7\ Ln\ (FIRMSIZE_{i,t}) + \beta_8\ ROA_{i,t} + \beta_9\ ROE_{i,t} + \varepsilon_{i,t}. \quad (4)$$

On the other hand, equation (5) tests the effect of accounting based risks – asset return risk and insolvency risk on executive compensation and pay-performance sensitivities.

$$Ln\ (Executive\ Compensation_{i,t};\ Delta_{i,t};\ Vega_{i,t}) = \beta_0 + \beta_1\ ARRISK_{i,t} + \beta_2\ INSVRISK_{i,t} + \beta_3\ CEODUM_{i,t} + \beta_4\ EXCDIRDUM_{i,t} + \beta_5\ INTLCKDUM_{i,t} + \beta_6\ TENURE_{i,t} + \beta_7\ Ln\ (FIRMSIZE_{i,t}) + \beta_8\ ROA_{i,t} + \beta_9\ ROE_{i,t} + \varepsilon_{i,t}. \quad (5)$$

The dependent variable in equation (4) and (4) – executive compensation takes three forms – (i) total pay to the executives, (ii) cash pay to the executives (salary and bonus), and (iii) options granted to the executives. The cash pay to the executives is the fixed part of their compensation that does not vary with the performance of the bank. The option granted to the executives is the variable part of their compensation that varies with the bank performance in the same direction. IDIORISK is the idiosyncratic risk and SYSRISK is the systematic risk faced by the commercial bank calculated using equation (3). ARRISK is the asset return risk and INSVRISK is the insolvency risk faced by the commercial bank and calculated using equation (1) and equation (2).

CEODum is a dummy variable equals 1 if the executive is a CEO and 0 otherwise, ExcDirDum is a dummy variable equals 1 if the executive is also a director in his/her own firm and 0 otherwise, and IntLckDum is a dummy variable equals 1 if the board is an interlocked board (where the executives are also directors in boards of other firms and vice versa) and 0 otherwise. TENURE is tenure period or total service life of an executive in a firm or bank, FIRMSIE is calculated as the total asset size of the firm, ROA and ROE are returns on assets and equity respectively. ε is the noise term, i is the firm indicator and t is the time (year) indicator.

This paper follows Coles, Daniel and Naveen (2006) to calculate delta and vega for each firm. The formula for calculating delta is –

$$Delta = e^{-dT} * N(Z) * \left(S/_{100}\right) * No.of\ options\ issued$$

where $$Z = \left[\ln\left(S/_X\right) + T\left(r - d + \sigma^2/_2\right)\right] \div (\sigma T)^{1/2}.$$

The following equation gives the formula for calculating vega –

$$Vega = e^{-dT} * N'(Z) * S * T^{1/2} * \left(S/_{100}\right) * 0.01 * No.of\ options\ issued$$

Here, S = Stock price,

X = Exercise price of the option grant,

T = Time to maturity of the option in years,

r = log (Risk free return),

d = Dividend payouts,

σ = Expected stock-return volatility over the life of the option,

N( ) = Cumulative probability function for the normal distribution, and

N'( ) = The normal density function.

For econometric purpose, this paper use both heteroskedasticity corrected Ordinary Least Squares (OLS) and panel data (random effects) regression procedure. This paper uses random effects model as the group effect on the executives is assumed to be random. The differences across executives should influence, to a significant extent, the compensation and pay-performance sensitivity.

5. Findings

5.1. Summary statistics

There are a total of 149 commercial banks in the sample from 1992 to 2006. There are a total of 1,648 executives of which 263 are CEOs and 1385 are other top five executives in the sample. Table 1 presents the summary statistics of key variables. For the sample commercial banks, the average cash payment to executives is $843,109.162 with a minimum of $851,300 and a maximum of $22,000,000. A total of 7,384 executives are granted options as a part of their compensation plan. The average options granted to the bank executives is $723,276.783 with a maximum of $47,776,170. The average total payment (salary, bonus, options grant, long term incentive plans and other equity incentives) to the executives is $2,084,266.014 with a minimum of $8,513,000 and a maximum of $84,825,245.

The average delta for all the executives is 438.29 with a minimum of 15.27 and maximum of 936.03. The average vega for all the executives is 61.38 with a maximum of 135.45. The average tenure of the executives in the banking industry is 14.1 years with a maximum of 38 years.

Of the market based risks, the average idiosyncratic risk of 149 sample banks is 0.236 with a minimum of 0.062 and a maximum of 3.107. The average systematic risk is 0.013 with a maximum of 0.494. Of the accounting based risks, the average asset return risk is 4.718 with a minimum of 0.967 and maximum of 16.283. The average insolvency risk is 0.819 with a minimum of 0.073and maximum of 2.266.

A total of 5,618 firm-executives (66.8%) act as directors in their firms where 2,792 firm-executives (33.2%) do not. Again, a total of 8,220 firm-executives (97.7%) work as directors in other board where 190 (2.3%) firm-executives do not do so.

5.2. Regression results

Table 2 and Table 4 present the heteroscedasticity corrected Ordinary Least Squares (OLS) estimates of equation (3) and equation (4). Table 3 and Table 5 present the panel data (random effects) estimates and test results of the same two equations. This paper uses random effects model as the group effect on the executives is assumed to be random. The differences across executives should have some influence on the compensation of pay-performance sensitivity. The Hausman test also suggests the use of random effects model. For the null hypothesis –

H_0: Difference across coefficients is random and not systematic;

the χ^2 value is 3.183 with a p-value of 0.072.

5.2.1. Effects of market based risk:

Table 2 and Table 4 present the OLS and panel data (random effects) estimates respectively of market based risk on cash pay, options grants and total pay to the executives. Table 2 shows that the idiosyncratic risk has no significant effect on cash pay to the executives.

Because the cash pay is the basic pay based on executives' regular appointment, it is not affected by the additional risk the bank faces. This indicates that the fixed compensation is not determined by the performance of the firm, rather it is the minimum pay to the executive for accepting the position in the bank and regular duties. But the idiosyncratic risk has a positive and significant (at 1% level) effect on the performance based compensation (option grants). This indicates that the executives in commercial banks associate their performance based pay with the market based risk the firm faces. Idiosyncratic risk is unique to the bank and the executives are expected not only to bear such risk but also to manage this risk. Such risk exposure may affect the executive performance and for this reason, executives associate their performance based pay with such risk exposure. The total pay of the executives is also positively affected by the idiosyncratic risk, but mainly it reflects the effect on the options granted to the executives. The panel data (random effects) estimates in Table 4 shows similar effects of idiosyncratic risk on three forms of executive compensation. These findings provide support for hypothesis H_{1A} and H_{1B}.

Table 2 also shows the effect of systematic risk on various forms of executive compensation. The systematic risk positively affects the cash pay, options grant, and total pay at 10%, 5% and 10% level of significance respectively. This indicates that the executives in commercial banks also associate their pay to the systematic risk of the bank. The fixed part of the compensation reflects the systematic risk exposure by the executives, but they also associate the variable performance based pay with the systematic risk faced by the bank. This implied the risk-averse nature of the commercial bank executives as they demand premium compensation for the exposure to the market risk faced by the firm. The panel data (random effects) estimates in Table

4 shows similar effects of systematic risk on three forms of executive compensation. These findings provide support for hypothesis H_2.

Both idiosyncratic and systematic risks have significant effect on pay-performance sensitivities (PPS). The idiosyncratic risk has a positive and significant (at 10% level) effect on vega – the risk based pay-performance sensitivity; and no significant effect on delta – the return based pay-performance sensitivity. The risk that is unique to the bank, only affect the risk based pay-performance sensitivity. The return based pay-performance sensitivity is not exposed to the idiosyncratic risk of the bank. On the other hand, the systematic risk positively affects both vega and delta at 5% level of significance. This indicates that both the risk based and return based pay-performance sensitivity is exposed to market risk of the bank. The panel data (random effects) estimates in Table 4 shows very similar but more robust effect of systematic rusk on both types of pay-performance sensitivity measures. These findings provide support for hypothesis H_3 and H_4.

5.2.2. Effects of accounting based risks:

Table 3 and Table 5 present the OLS and panel data (random effects) estimates respectively of accounting based risk on cash pay, options grants and total pay to the executives. Table 3 shows that the asset return risk has positive and significant (at 1% level) effect on cash pay to the executives. A major responsibility of the executives in commercial banks is to manage the assets of the banks and for this the executives associate their fixed pay with the risk related to asset returns. Asset return risk also has a positive and significant (at 1% level) effect on option granted to the executives. This implies that executives in commercial banks associate their performance based pay with asset return risk because the asset structure of commercial banks is different and proper management of such assets is also a performance measure for commercial

bank executives. The total pay is also positively and significantly (at 1% level) affected by the asset return risk. The panel data (random effects) estimates in Table 5 reveals similar and more robust effects of asset return risk on these three forms of executive compensation.

Table 3 also shows the effect of insolvency risk on various forms of executive compensation. The insolvency risk positively affects the cash pay, options grant, and total pay at 10% level of significance. A firm always faces a risk of insolvency and commercial banks are highly exposed to insolvency risk due to the nature of business. For this, commercial banks are governed by strict regulations compared to other industries. The executives of commercial banks, being aware of such risk exposure, associate both their fixed and performance based pay by claiming a premium pay for such risk exposure.

Both asset return risk and insolvency risks have significant effect on pay-performance sensitivities (PPS). The asset return risk has a positive and significant (at 5% level) effect on both the risk based pay-performance sensitivity (vega) and the return based pay-performance sensitivity (delta). On the other hand, the insolvency risk has a positive and significant (at 10% level) effect on both vega and delta. This implies that commercial bank executives put higher focus on asset return risk than that of insolvency risk, but both types of accounting based risks seem to be important for the executives to focus on. And for this they associate their pay and pay-performance sensitivities with these two risks. Again the panel data (random effects) estimates in Table 5 show very similar but more robust results.

5.2.3. Effect on CEOs:

The dummy variable for the CEOs (CEODum) in all the tables indicate that there exists a significant differential risk exposure by the CEOs and for this CEOs claim premium compensation over other top five executives in commercial banks. Both Table 2 and Table 4

show that both the idiosyncratic risk and systematic risk significantly (at 1% level) increase the risk exposure of the CEOs of commercial banks than that of other executives of the banks. Table 3 and Table 5 show that both the asset return risk and insolvency risk again significantly (at 1% level) increase the risk exposure of the CEOs of commercial banks than that of other executives. This result is consistent with the findings of Ang, Lauterbach and Schreiber (2002), who analyze the pay structure of top management in the U.S. Banks and find that CEOs earn higher compensation than that of other top executives. As the CEO holds the most important position in the bank, it is expected that the CEO assumes maximum risk in the bank and for this, associates his/her pay with corresponding risk exposure by claiming premium pay over other executives of the bank.

5.2.4. Other governance and control variables:

Both OLS and panel data (random effects) estimates in all tables indicate that the size of the firm and return on equity (ROE) are highly significant (at 1% level) for all the forms of compensation and pay-performance sensitivities, whereas the return on assets (ROA) is also significant for all variables, but not at 1% level. Tenure of the executive is also significant for all the variables but at 5% level.

The executive director dummy (ExcDirDum) variable, as shown by all the tables, is significant at 1% level for all forms of compensation and at 10% level for delta – the risk based pay-performance sensitivity. It is not at all significant for vega – the return based pay-performance sensitivity. This indicates that executives who are also directors in the board earn significantly higher compensation than the non-executive directors in the board. This result is not consistent with the findings of Cordeiro, Veliyath and Eramus (2000), who suggest that executive directors put less effort for the corporate governance development in the firm. Being a

director in the board, the executives may influence to sanction themselves an above average compensation for them. This implies that executives, who are also board members, are not willing to associate their performance with bank returns, but claim premium compensation for higher exposure to both market based and accounting based risks.

All the tables indicate that the board interlocking dummy (IntLckDum) variable has a positive and significant effect (at 1% level) on cash pay and total pay, but at 5% level for options grants. This is consistent with the finding of Hallock (1997). In the banking industry, the directors an interlocked board remains busy and can't monitor the bank governance mechanism effectively. Board interlocking (IntLckDum) variable has no impact on delta and vega. This indicates that busy directors put no emphasis on performance based pay, especially if it is return based. The executive directors do not put any emphasis on vega but do emphasis on delta (with 10% level of significance). This indicates that the executive directors of firms care about the risk faced by the bank and associate such risk with their pay and performance measures.

6. Conclusion

Commercial bank is a highly regulated industry with a distinguished asset structure. This regulatory framework put a sound governance system in addition to board established governance mechanism. Such regulatory mechanism and unique asset structure expose the commercial bank executives to various kinds of risk. Because executives in commercial banks are risk-averse agent, it is expected that they should associate their pay and pay-performance sensitivities (PPS) with these risks faced by their banks. This paper analyzes the effect of such risk exposure on executive compensation and pay-performance sensitivities of commercial bank executives.

This paper analyzes two types of risks – market based risks (idiosyncratic risk and systematic risk) and accounting based risks (asset return risk and insolvency risk) and their effect on executive compensation and pay-performance sensitivities. Using a hand collected dataset of 149 commercial banks and compensation of 1,248 executives (263 CEOs and 1,385 other top five executives), the heteroscedasticity corrected OLS and panel data (random effects) estimates show that executives in commercial banks associate their performance based pay (options grants) with both idiosyncratic risk and systematic risk by claiming a premium compensation. But they associate their fixed pay only with systematic risk faced by the bank. The risk based pay-performance sensitivity is also affected by the idiosyncratic risk but not by the systematic risk.

On the other hand, both types of accounting based risks – asset return risk and insolvency risks have significant effect on pay-performance sensitivities (PPS). Executives in commercial banks also associate their performance based pay with asset return risk because the asset structure of commercial banks is different and proper management of such assets is also a performance measure for these executives. The results also show a significantly higher risk exposure by the executives and for this executives claim premium compensation over other top five executives in commercial banks. All these results imply that the risk-averse nature of commercial bank executives as they demand premium compensation for the exposure to the different kinds of risks faced by the firm.

Busy directors, who also sit in other boards, put no emphasis on performance based pay, especially if it is return based. The executive directors do not put any emphasis on vega but do emphasis on delta with little significance. This indicates that the executive directors of firms care about the risk faced by the bank and associate such risk with their pay and performance measures.

Appendix 1: Variable Definition and Data Sources

Variable	Definition	Data Sources
Dependent Variable		
Fixed Pay	Log (Salary + Bonus).	ExecuComp
Variable Pay	Log (Options and equity grants to executives).	ExecuComp
Delta	The dollar value of executive pay in response to 1% change in the firm's stock price	ExecuComp, CRSP
Vega	The dollar change in executive pay with respect to 1% change in stock return volatility	ExecuComp, CRSP
Independent Variable		
BANKRISK	Five different bank risks.	
(i) Total risk	The standard deviation of the daily bank stock returns in each year.	CRSP
(ii) Unsystematic risk	The standard deviation of the error terms (ε_i) in the equation (Pathan, 2009): $R_{it} = \alpha_i + \beta_{1i}\, Rmt + \beta_{2i}\, INTEREST_i + \varepsilon_i$	CRSP
(iii) Systematic risk	Coefficient of Rmt in the above equation (β_{1i})	
Rmt	Market return (S&P 500 or CRSP value or equally weighted)	CRSP
INTEREST	3-month (5 year) Treasury-bill (bond) rate	Fed (St. Louis)
(iv) Asset Return Risk	$\sigma_A = \left({}^{E}/_{A}\right)\sigma_E * \sqrt{250}$ E: Equity returns; A: (E+Book value of Debt)	Compustat, CRSP
(v) Insolvency Risk	Z = [Average(Returns) + Average(Equity/Total assets)] / Std. dev.(Equity/Total assets)	CRSP, Compustat
BOARDINT	A dummy variable equals 1 if the executive is a member of the compensation committee.	ExecuComp
TENURE	The tenure period of the executive in the firm or bank.	ExecuComp
FIRMSIZE	Log (Total Asset of the firm or bank).	CompuStat
ROA	The return on assets of the firm.	CompuStat
ROE	The return on Equity of the firm.	CompuStat

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Table 1: Summary Statistics: Compensation, Pay-Performance Sensitivity, Governance, and Risk Measures

Cash pay to the executives is the total of annual salary and bonus paid to the executive. The *Options* grant to the executive is the book value of stock options granted to each executive. *Other pay* includes long term incentive plans and other equity incentives and *Total pay* is the total of all forms of pay to the executives. *Tenure* is the total number of years an executive serves a firm. *Delta* is the dollar value of executive pay in response to 1% change in the firm's stock price, and *Vega* is the dollar change in executive pay with respect to 1% change in stock return volatility. *Idiosyncratic risk* is the standard deviation of the error terms (ε_i) in the equation (Pathan, 2009): $R_{it} = \alpha_i + \beta_{1i} Rm_t + \beta_{2i} INTEREST_i + \varepsilon_i$. *Systematic risk* is the coefficient of Rm_t in the same equation ($\beta 1i$). *Asset Return Risk* is calculated by following method suggested by Flannery and Rangan (2008): $\sigma_A = (E/A)\, \sigma_E * (250)^{½}$, where *E* is Equity, *A* equals (Equity + Book value of Debt), and σ indicates the standard deviation. *Insolvency Risk* is calculated by following the method suggested by Boyd, Graham, and Hewitt (1993): *Z = [Average Returns + Average of (Equity/Total assets)] / Std. dev. of (Equity/Total assets).*

	Obs.	Min	Max	Avg.	SD
Cash Pay ('000)	8,413	8.513	22,000.000	843.110	1,133.720
Option Grants ('000)	7,384	0.000	47,776.170	723,280	2,005.690
Other Pay ('000)	8,413	0.000	34,716.100	347.420	1,582.390
Total Pay ('000)	8,413	8.513	84,825.250	2,084.270	3,844.760
Delta	7,384	15.270	936.030	438.290	382.110
Vega	7,384	0.000	135.450	61.380	113.890
Tenure (Year)	8,413	1.000	38.000	14.100	2.830
Idiosyncratic Risk	2,235	0.062	3.107	0.236	0.118
Systematic Risk	2,235	0.000	0.492	0.013	0.012
Asset Return Risk	2,235	0.967	16.283	4.718	3.024
Insolvency Risk	2,235	0.073	2.266	0.819	1.062

Table 2: OLS Regression Results: Market Based Risk, 1992 – 2006

This table presents the OLS regression estimates of the following equation for the commercial banks for the period 1992 – 2006:

$$Dependent\ Variable_{i,t} = \beta_0 + \beta_1\ IDIORISK_{i,t} + \beta_2\ SYSRISK_{i,t} + \beta_3\ CEODUM_{i,t} + \beta_4\ EXCDIRDUM_{i,t} + \beta_5\ INTLCKDUM_{i,t} + \beta_6\ TENURE_{i,t} + \beta_7\ Ln\ (FIRMSIZE_{i,t}) + \beta_8\ ROA_{i,t} + \beta_9\ ROE_{i,t} + \varepsilon_{i,t}.$$

Model (1), (2), (3), (4), and (5) presents the estimates using Executive compensation – cash pay (salary + bonus), option grants, total compensation, vega and delta as the dependent variables.

CEODum is a dummy variable equals 1 if the executive is a CEO and 0 otherwise, *ExcDirDum* is a dummy variable equals 1 if the executive is also a director in his/her own firm and 0 otherwise, *IntLckDum* is a dummy variable equals 1 if the board is an interlocked board (where the executives are also directors in boards of other firms and vice versa) and 0 otherwise. *REG94* and *REG99* are dummy variables that take the value of 1 if the firm is a commercial bank and in the sample after 1994 and 1999, 0 otherwise, and *REG02* is a dummy variable with a value of 1 for all the firms in the sample after 2002. *Firmsize* is the total assets of the firm, *Tenure* is the total number of years an executive serves a firm, and *ROA* and *ROE* are return on asset and return on equity of each firm in each year respectively. ε is the noise term, i is the firm indicator and t is the time (year) indicator. The p-values are presented in the parentheses.

	Cash Pay (1)	**Options** (2)	**Total Pay** (3)	**Vega** (4)	**Delta** (5)
Constant	3.9679 [a]	2.2587 [a]	1.7115 [a]	1.1235 [a]	1.9731 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
IDIORISK	0.2592	0.1291 [a]	0.0172 [c]	0.1698 [b]	0.1291
	[0.104]	[0.001]	[0.072]	[0.043]	[0.211]
SYSRISK	0.0053 [c]	0.2661 [b]	0.0087 [c]	0.0052 [b]	0.0385 [b]
	[0.067]	[0.046]	[0.089]	[0.029]	[0.031]
CEODum	1.5317 [a]	1.9735 [a]	1.5116 [a]	0.9354 [a]	1.4326 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ExcDirDum	1.9846 [a]	1.4561 [a]	1.2084 [a]	0.5227	1.1431 [c]
	[0.000]	[0.000]	[0.000]	[0.221]	[0.092]
IntLckDum	1.1755 [a]	1.1676 [b]	1.1352 [a]	0.1949	0.1062
	[0.000]	[0.031]	[0.000]	[0.291]	[0.341]
Tenure	0.4261 [b]	0.3810 [b]	0.3717 [b]	0.2915 [a]	0.2914 [b]
	[0.012]	[0.036]	[0.022]	[0.009]	[0.032]
Firmsize	1.3013 [a]	1.4121 [a]	1.4226 [a]	1.2912 [a]	1.4717 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ROA	1.3814 [b]	1.3175 [c]	1.2914 [c]	1.2117 [b]	1.2117 [b]
	[0.023]	[0.081]	[0.077]	[0.042]	[0.039]
ROE	0.7319 [a]	0.5271 [a]	0.6112 [a]	0.7218 [a]	0.3992 [a]
	[0.000]	[0.000]	[0.000]	[0.001]	[0.002]
R^2	0.234	0.219	0.265	0.262	0.345
Observation	8,413	7,384	8,413	7,384	7,384

a, b and c indicates significant at 1%, 5% and 10% level.

Table 3: OLS Regression Results: Accounting Based Risk, 1992 – 2006

This table presents the OLS regression estimates of the following equation for the commercial banks for the period 1992 – 2006:

$$Dependent\ Variable_{i,t} = \beta_0 + \beta_1\ ARRISK_{i,t} + \beta_2\ INSVRISK_{i,t} + \beta_3\ CEODUM_{i,t} + \beta_4\ EXCDIRDUM_{i,t} + \beta_5\ INTLCKDUM_{i,t} + \beta_6\ TENURE_{i,t} + \beta_7\ Ln\ (FIRMSIZE_{i,t}) + \beta_8\ ROA_{i,t} + \beta_9\ ROE_{i,t} + \varepsilon_{i,t}.$$

Model (1), (2), (3), (4), and (5) presents the estimates using Executive compensation – cash pay (salary + bonus), option grants, total compensation, vega and delta as the dependent variables.

CEODum is a dummy variable equals 1 if the executive is a CEO and 0 otherwise, *ExcDirDum* is a dummy variable equals 1 if the executive is also a director in his/her own firm and 0 otherwise, *IntLckDum* is a dummy variable equals 1 if the board is an interlocked board (where the executives are also directors in boards of other firms and vice versa) and 0 otherwise. *REG94* and *REG99* are dummy variables that take the value of 1 if the firm is a commercial bank and in the sample after 1994 and 1999, 0 otherwise, and *REG02* is a dummy variable with a value of 1 for all the firms in the sample after 2002. *Firmsize* is the total assets of the firm, *Tenure* is the total number of years an executive serves a firm, and *ROA* and *ROE* are return on asset and return on equity of each firm in each year respectively. ε is the noise term, i is the firm indicator and t is the time (year) indicator. The p-values are presented in the parentheses.

	Cash Pay (1)	**Options** (2)	**Total Pay** (3)	**Vega** (4)	**Delta** (5)
Constant	2.1281 [a]	2.1852 [a]	1.9713 [a]	1. 8185 [a]	2.972 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ARRISK	0.2381 [a]	0.3314 [a]	0.1928 [a]	0.9217 [b]	0.7126 [b]
	[0.001]	[0.002]	[0.005]	[0.021]	[0.037]
INSVRISK	0.1925 [c]	0.2176 [c]	0.3118 [c]	0.0014 [c]	0.0291 [c]
	[0.071]	[0.081]	[0.079]	[0.092]	[0.037]
CEODum	1.1315 [a]	1.1758 [a]	1.1401 [a]	1.1495 [a]	1.1333 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ExcDirDum	1.4198 [a]	1.1695 [a]	1.2682 [a]	0.2557	0.2141 [c]
	[0.000]	[0.000]	[0.000]	[0.221]	[0.092]
IntLckDum	1.1759 [a]	1.1667 [b]	1.1328 [a]	0.0194	0.0252
	[0.000]	[0.031]	[0.000]	[0.291]	[0.341]
Tenure	0.3463 [b]	0.4409 [b]	0.9113 [b]	0.5251 [a]	0.6393 [b]
	[0.012]	[0.036]	[0.022]	[0.009]	[0.032]
Firmsize	1.4392 [a]	1.1286 [a]	1.4421 [a]	2.4115 [a]	1.1473 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ROA	1.1236 [b]	1.1062 [c]	1.1653 [c]	1.2255 [b]	1.1216 [b]
	[0.023]	[0.081]	[0.077]	[0.042]	[0.039]
ROE	0.1981 [a]	0.1941 [a]	0.1228 [a]	0.1955 [a]	0.1883 [a]
	[0.000]	[0.000]	[0.000]	[0.001]	[0.002]
R^2	0.221	0.219	0.265	0.262	0.234
Observation	8,413	7,384	8,413	7,384	7,384

Table 4: Panel (Random Effect) Regression Results: Market Based Risk, 1992 – 2006

This table presents the Panel (Random Effects) regression estimates of the following equation for the commercial banks for the period 1992 – 2006:

$$Dependent\ Variable_{i,t} = \beta_0 + \beta_1\ IDIORISK_{i,t} + \beta_2\ SYSRISK_{i,t} + \beta_3\ CEODUM_{i,t} + \beta_4\ EXCDIRDUM_{i,t} + \beta_5\ INTLCKDUM_{i,t} + \beta_6\ TENURE_{i,t} + \beta_7\ Ln\ (FIRMSIZE_{i,t}) + \beta_8\ ROA_{i,t} + \beta_9\ ROE_{i,t} + u_{i,t} + \varepsilon_{i,t}.$$

Model (1), (2), (3), (4), and (5) presents the estimates using Executive compensation – cash pay (salary + bonus), option grants, total compensation, vega and delta as the dependent variables.

CEODum is a dummy variable equals 1 if the executive is a CEO and 0 otherwise, *ExcDirDum* is a dummy variable equals 1 if the executive is also a director in his/her own firm and 0 otherwise, *IntLckDum* is a dummy variable equals 1 if the board is an interlocked board (where the executives are also directors in boards of other firms and vice versa) and 0 otherwise. *REG94* and *REG99* are dummy variables that take the value of 1 if the firm is a commercial bank and in the sample after 1994 and 1999, 0 otherwise, and *REG02* is a dummy variable with a value of 1 for all the firms in the sample after 2002. *Firmsize* is the total assets of the firm, *Tenure* is the total number of years an executive serves a firm, and *ROA* and *ROE* are return on asset and return on equity of each firm in each year respectively. u is the between-entity error and ε is the within-entity error, i is the firm indicator and t is the time (year) indicator. The p-values are presented in the parentheses.

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	Cash Pay (1)	**Options** (2)	**Total Pay** (3)	**Vega** (4)	**Delta** (5)
Constant	3.6471 [a]	3.0584 [a]	1.2132 [a]	1.0273 [a]	1.0736 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
IDIORISK	0.3569	0.2291 [a]	0.0371 [c]	0.2096 [b]	0.1931
	[0.104]	[0.001]	[0.072]	[0.043]	[0.211]
SYSRISK	0.0451 [c]	0.2391 [b]	0.0837 [c]	0.0158 [b]	0.0189 [b]
	[0.067]	[0.046]	[0.089]	[0.029]	[0.031]
CEODum	0.3175 [a]	0.1975 [a]	0.1511 [a]	0.2935 [a]	0.2432 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ExcDirDum	1.1984 [a]	1.1456 [a]	1. 1208 [a]	1.5232	1. 2143 [c]
	[0.000]	[0.000]	[0.000]	[0.221]	[0.092]
IntLckDum	2.1755 [a]	2.1676 [b]	1.9352 [a]	1.0949	1.0621
	[0.000]	[0.031]	[0.000]	[0.291]	[0.341]
Tenure	0.1426 [b]	0.1381 [b]	0.1371 [b]	0.1291 [a]	0.1291 [b]
	[0.012]	[0.036]	[0.022]	[0.009]	[0.032]
Firmsize	1.1301 [a]	1.2492 [a]	1.2422 [a]	1.2916 [a]	1.2471 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ROA	1.3281 [b]	1.3317 [c]	1.2191 [c]	1.2611 [b]	1.2311 [b]
	[0.023]	[0.081]	[0.077]	[0.042]	[0.039]
ROE	0.1739 [a]	0.1521 [a]	0.2612 [a]	0.2728 [a]	0.1392 [a]
	[0.000]	[0.000]	[0.000]	[0.001]	[0.002]
R^2	0.244	0.269	0.261	0.273	0.316
Observation	8,413	7,384	8,413	7,384	7,384

a, b and c indicates significant at 1%, 5% and 10% level.

Table 5: Panel (Random Effect) Regression Results: Accounting Based Risk, 1992 – 2006

This table presents the Panel (Random Effects) regression estimates of the following equation for the commercial banks for the period 1992 – 2006:

$$Dependent\ Variable_{i,t} = \beta_0 + \beta_1\ ARRISK_{i,t} + \beta_2\ INSVRISK_{i,t} + \beta_3\ CEODUM_{i,t} + \beta_4\ EXCDIRDUM_{i,t} + \beta_5\ INTLCKDUM_{i,t} + \beta_6\ TENURE_{i,t} + \beta_7\ Ln\ (FIRMSIZE_{i,t}) + \beta_8\ ROA_{i,t} + \beta_9\ ROE_{i,t} + u_{i,t} + \varepsilon_{i,t}.$$

Model (1), (2), (3), (4), and (5) presents the estimates using Executive compensation – cash pay (salary + bonus), option grants, total compensation, vega and delta as the dependent variables.

CEODum is a dummy variable equals 1 if the executive is a CEO and 0 otherwise, *ExcDirDum* is a dummy variable equals 1 if the executive is also a director in his/her own firm and 0 otherwise, *IntLckDum* is a dummy variable equals 1 if the board is an interlocked board (where the executives are also directors in boards of other firms and vice versa) and 0 otherwise. *REG94* and *REG99* are dummy variables that take the value of 1 if the firm is a commercial bank and in the sample after 1994 and 1999, 0 otherwise, and *REG02* is a dummy variable with a value of 1 for all the firms in the sample after 2002. *Firmsize* is the total assets of the firm, *Tenure* is the total number of years an executive serves a firm, and *ROA* and *ROE* are return on asset and return on equity of each firm in each year respectively. u is the between-entity error and ε is the within-entity error, i is the firm indicator and t is the time (year) indicator. The p-values are presented in the parentheses.

	Cash Pay (1)	**Options** (2)	**Total Pay** (3)	**Vega** (4)	**Delta** (5)
Constant	2.3286 [a]	2.2855 [a]	1.8715 [a]	1. 7181 [a]	2.678 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ARRISK	0.3382 [a]	0.4313 [a]	0.2927 [a]	0.8216 [b]	0.6125 [b]
	[0.001]	[0.002]	[0.007]	[0.021]	[0.037]
INSVRISK	0.2926 [c]	0.3175 [b]	0.2117 [c]	0.1015 [c]	0.1094 [c]
	[0.071]	[0.011]	[0.072]	[0.092]	[0.037]
CEODum	1.2316 [a]	1.3757 [a]	1.2404 [a]	1.2496 [a]	1.2464 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ExcDirDum	1.3197 [a]	1.2696 [a]	1.3686 [a]	0.3556	0.3149 [c]
	[0.000]	[0.000]	[0.000]	[0.221]	[0.092]
IntLckDum	1.3757 [a]	1.2668 [b]	1.2329 [a]	0.1195	0.1253
	[0.000]	[0.031]	[0.000]	[0.291]	[0.341]
Tenure	0.2465 [b]	0.3407 [b]	0.7115 [b]	0.4256 [a]	0.3395 [b]
	[0.012]	[0.036]	[0.022]	[0.009]	[0.032]
Firmsize	1.3393 [a]	1.2284 [a]	1.1423 [a]	1.5117 [a]	1.2477 [a]
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ROA	1.2234 [b]	1.2064 [c]	1.2655 [c]	1.3258 [b]	1.2217 [b]
	[0.023]	[0.081]	[0.077]	[0.042]	[0.039]
ROE	0.1582 [a]	0.2943 [a]	0.2225 [a]	0.3956 [a]	0.2882 [a]
	[0.000]	[0.000]	[0.000]	[0.001]	[0.002]
R^2	0.252	0.237	0.214	0.258	0.243
Observation	8,413	7,384	8,413	7,384	7,384