

Pay Incentives and Firm Efficiency in a Socialist Capitalist System

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Abstract

We examine the impact of top management pay and relative pay (manager pay divided by average worker pay) on a firm's productivity. We use data from China, which is an interesting setting for our research as it is transitioning from a centrally planned economy to a free market system, albeit with socialist characteristics. We find that top management pay is positively associated with high productivity while relative pay is negatively associated. Our results provide support for the view that workers are alienated when their incomes are far lower than that of top management and this leads to lower productivity. This effect is most pronounced in labor intensive firms. We find no differences in findings between state controlled and private controlled listed firms.

1. Introduction

Effective reward systems that relate pay to performance will enhance a firm's efficiency and economic value. Whether compensation systems are effective in practice has been the subject of much debate and academic study. While there are sound arguments for relating top management pay to a firm's performance, the magnitude of the rewards have led to increasing pay disparities with other employees in the organization. This raises the interesting research question of whether the widening pay differences between top management and other employees within an organization have an impact on a firm's efficiency.

There are several theories on the impact of pay disparities between top managers and other employees in the organization on workers' behaviors and these lead to conflicting predictions on the effects of relative pay on firm efficiency. One theory argues that large differences between the pay of managers and workers will lead to feelings of inequity, which in turn spawn destructive behaviors that reduce an organization's efficiency (Deutsch, 1985). A contrasting theory is that high pay disparities may be a signal to low earning workers that their compensation will increase in the future and this will make them work harder (Clark et al., 2009; Card et al., 2011). Tournament theory posits that high wage disparity is a useful motivator of work effort and

encourages healthy competition among employees to achieve higher levels of both rank and pay (Lazear and Rosen, 1981). Empirical studies have purported to provide evidence for each of these theories.

The purpose of this study is to examine the impact of compensation policies on the productive efficiency of listed firms in China. China is a particularly interesting setting for our research because it is transitioning from a centrally-planned economy to a free market system. Life-time employment practices have been abandoned and labor markets have developed rapidly. This transition represents a major challenge to China's socialist principles. Two forces are at play. In adopting a market economy, firms have been encouraged, or forced by competition, to adopt incentive pay systems that mirror those in Western countries. Under capitalism, one way to 'solve' the agency problem created by the separation of ownership of listed companies from their control, is through executive remuneration contracts that provide an *ex ante* incentive for managers to create shareholder value by allowing the manager to share *ex post* in the gains thus obtained (Holmström, 1999). On the other hand, given its historical socialist principle of egalitarianism, China's government is very concerned about social unrest as it relaxes that principle. This juxtaposition of socialism and capitalism has led to China's economic system being labelled as 'capitalism with socialist principles' or 'socialist capitalism'.

Using data from the period 2001 to 2006, we show that top management compensation is positively associated with firm performance, measured by total factor productivity and sales per employee. However, top management pay relative to the average worker's pay is negatively correlated with firm performance. This negative relationship is more pronounced for those firms with higher labor costs in their cost structure. Surprisingly, we do not find any major differences in the results between private controlled and government controlled listed firms. There is no statistical evidence that the negative impact of relative pay on productivity is attenuated for firms located in those provinces where government intervention is high.

Our paper makes some contributions to the literature on CEO compensation. This study examines the absolute and relative executive compensation on firm performance simultaneously. The results show a sharp tension between top management interests and other workers' feelings in an organization. Managers work hard to improve firm performance when they are rewarded for doing so. However, high top management pay without reciprocal increases in pay for other employees leads to a reduction in firm efficiency. The results are consistent with increases in relative pay leading to feelings of injustice, which may alienate some workers and lead to lower productivity.

The paper proceeds as follows. Section 2 outlines the literature review and hypotheses development. We present the research design in section 3 and describe the sample, variable selection, and the regression models. Section 4 describes the empirical results. Section 5 presents conclusions.

2. Literature review and hypotheses development

2.1. Theories on relative pay

High pay disparities between different ranks of employees and managers, as exist in many firms in the U.S., can be explained by tournament theory (Lynch, 2005). Here, pay disparities increase in the upper hierarchies of an organization. This creates strong incentives for lower level managers and employees to compete hard for promotion and they will exert substantial effort and commitment to win the tournament prize (the large increase in compensation that goes with the

promotion). The increase in effort will benefit the firm's stockholders.

Low pay disparity can be explained by relative deprivation and distributive justice theories, which say that lower level managers and employees feel aggrieved at the high pay of their superiors and therefore cooperation declines in the organization (Deutsch, 1985). The resentment created by high pay disparities can jeopardize the firm's profitability and efficiency (Lazear, 1989). Research on the impact of wage differences within an organization has shown evidence that increased disparity is associated with lower productivity, less cooperation, and increased turnover (Pfeffer and Langton, 1993). To remedy this, an egalitarian approach, where pay differences between top managers and other workers are small, may lead to greater productivity (Levine, 1991). However, there are counter-arguments that compressed pay levels reduce incentives and lead to poor corporate performance (Hibbs and Locking, 2000).

The relative income hypothesis states that relative income, instead of, or in addition to absolute income, is what determines utility. It is social norms, social comparisons, and reference values that influence individuals' subjective evaluations of their economic situations and weaken the relation between income and happiness that one would observe based only on absolute income. Clark and Oswald (1996) show, using regression analysis that controls for standard individual and demographic characteristics, that utility depends on income relative to some reference or comparison income. Ferrer-i-Carbonell and Frijters (2004) find that the income of the reference group is as important as own income for an individual's happiness.

While many studies, including those referenced above, show that high wage differences between employees in an organization can lead to feelings of inequity (Ferrer-i-Carbonell, 2005), other research has reached an opposite conclusion (Card et al., 2011). High wage disparities among employees of an organization can be a signal that future wages of the lower paid employees will increase. Here, the positive future pay signal outweighs the negative status effect of low relative pay (Clark et al., 2009). One reason for the differences in the empirical results reported to date could be the different reference groups used in calculating relative pay. In our study, we compare top management pay and the pay of other employees within the same organization.

2.2. Caps on top management pay

There is increasing public outrage over the seemingly excessive compensation packages granted to top executives. Some people view the "Wall Street bonus culture" as a root cause of the recent financial crisis. "Excessive" top management pay can also affect morale within an organization. Bok (1993) argues that the huge size of executive salaries and bonuses, even if they can be justified on economic grounds, can have a negative impact on others in the organization by engendering feelings of inequity that can weaken loyalty and increase dysfunctional conflict.

In some countries, governments have recently imposed stringent limits on executive compensation after the financial crisis of 2008/2009. For instance, on July 31, 2009, the United States House of Representatives passed the Say-on-Pay Bill, which requires a non-binding vote by shareholders to approve executive compensation (Seitzinger, 2009). The German Financial Markets Stabilization Act (Finanzmarktstabilisierungsgesetz) that became effective on 18 October 2008 empowers the government to formulate and enforce restrictions on executive compensation for all firms that receive government aid from the stabilization fund. These regulations reflect public outrage over what are perceived as excessive compensation packages granted to executives despite the failure of their firms. However, the empirical evidences on the effectiveness of compensation restrictions are mixed. Verret (2009) posits that limiting manager compensation in the U.S. may harm the economy in the globalized environment. Clementi and

Cooley (2009) show that the median CEO compensation in U.S. firms in 2006 was only \$4.85 million, while the average is much higher, \$10.8 million, suggesting that the income inequality problem may be exaggerated. Macey (2009) argues that the legislative salary limits could lead to even higher levels of compensation as was the case with the 1993 compensation tax code reforms, which were intended to limit excessive growth in executive compensation.

China's government has an ambivalent attitude toward top management pay. While encouraging firms to make top managers more accountable and make pay depend on performance, the government is acutely aware that other employees may feel aggrieved by high pay disparities. In light of this, the local and central government have issued a variety of regulations and guidances that limit managers' compensation. In 1986, the government stated that top managers could receive up to three times the average worker's pay if they met performance targets. In 1988 and 1992, regulations were changed such that the performance targets were explained in more detail. The effective cap on top executive pay under the revised regulations was still three times the average wage. In 2002 and 2006 state regulations allowed pay relativities to increase to 12 and 14, respectively. These pay differences had to be justified by performance. The above-mentioned pay regulations relate to government controlled firms and the increases in maximum relativities over time reflect the need of these firms to compete with the privately controlled firms for top managers.

2.3. Hypotheses

The prior literature and anecdotal evidence has given conflicting evidence on whether top management pay and high pay relativities affect a firm's performance. Furthermore, this evidence comes from developed countries with stable economic systems. In order to address the question of incentive pay in China we develop a number of hypotheses. The first hypothesis is: **Hypothesis 1: there is a positive association between the absolute level of top management compensation and firm productivity and a negative association between the relative level of top management compensation and firm productivity.**

Our hypothesis assumes a positive impact of top management pay on performance (incentive impact) and a negative impact for relative pay on performance (large relative pay leads to conflict and a loss of morale within the workforce, which has a negative impact on performance).

A striking characteristic of the listed firms in China is that there is a single dominant owner, be it the state or private person, which has effective control of the company. Workers in state controlled listed firms are likely to have always worked in the state sector and are used to egalitarian pay and socialist principles. In comparison, workers in private controlled firms may be more accepting of wide pay disparities. Thus, workers in state controlled listed firms will feel more aggrieved at highly disparate pay and this translates into poorer work attitudes and lower firm efficiency. Our second hypothesis is:

Hypothesis 2: the negative association between relative compensation and firm performance should be more pronounced for state controlled listed firms.

Amason (1996) finds that affective conflict is significantly and negatively related to both decision quality and affective acceptance of decisions while Jehn (1995) finds that interpersonal conflict creates problems with decision-making and hence affects performance. Lazear (1989) and Levine (1991) use equity-based (fairness-based) arguments to conclude that less pay dispersion is necessary in groups to reinforce desirable social behaviors, such as cooperation, communication, and effort. High wage differences within an organization can hurt morale and productivity. In particular, large disparities in pay can lead to a lack of motivation, increased

turnover and absenteeism, and increased anti-management activity. Pay dispersion will be associated with higher dysfunctional affective conflict and lower useful cognitive conflict especially when the interdependence or team work among jobs is important. Based on the above arguments, our third hypothesis is:

Hypothesis 3: the negative association between relative compensation and firm performance should be more pronounced for those firms requiring more team work.

3. Data and empirical design

Our sample is non-financial companies listed on the Shanghai and Shenzhen stock exchanges (China's two stock markets) in the period 2001 to 2006. Our sample is 5,744 firm-year observations.

The general form of the regression models is as follows:

$$PERF = \beta_0 + \beta_1 COMP + \beta_2 RelPay + \beta_3 COMP * RelPay + controls \quad (1)$$

We employ *SaleLab* as a measure of firm's performance or productivity. *SaleLab* is sales to number of employees (divided by 1,000,000). *Comp* is the average annual compensation of the three highest paid directors (divided by 1,000,000). *RelPay* is the ratio of average annual compensation of the three highest paid directors to the average annual salary of an employee.

We also include the following control variables. *LnBSize* is the log value of the number of directors on the board. *IndDir* is the proportion of the number of independent directors to the total number of directors on the board. *Post* is a dummy variable coded 1 if the chairman and the general manager are different persons and 0 otherwise. *LnAsset* is the log value of total assets. *LivExp* is the family living expenditure level (i.e., a cost of living index) of the province where the firm is located (divided by 1,000). *LnFirmAge* is the log value of the number of years the firm has been listed. *DA* is debt to total assets. *MB* is the market value of equity to the book value of equity. *ROA* is return on assets. *Private* is a dummy variable that is coded one if the controlling stockholder is a private entity or person; *Private* is coded zero if the dominant stockholder is the state (central, regional, or municipal government or an associated ministry or agency). State controlled firms may be more subject to political interference and the managers are more likely to be political appointees or former civil servants. Furthermore, state controlled listed firms may be given a variety of objectives to follow (Shleifer, 1998) and managers will be rewarded for achieving these objectives. This may affect a firm's productivity. Industry and year dummies are additional controls. Industry is based on the expanded list of industries as designated by the China Securities and Regulatory Commission (CSRC).

4. Results

Table 1 shows the means, medians, and standard deviations of the variables. The mean and median compensation for the highest paid executive directors are 173,000 RMB and 123,500 RMB, respectively (this is the total pay for the three highest paid directors of a firm divided by three). *RelPay* has a median of 5.74 which indicates that the average top management pay is nearly six times the wage of the average worker. This is much lower than in the U.S. where Kim and Lu (2009) report that for the average S&P 500 firm in 2003, the CEO earned 300 times what the average production worker earned. This was up from 30 times more in the 1970s. Based on developed countries' norms, pay disparity is low in China and this is consistent with the government's avowed intent to avoid social disharmony created by wide wealth gaps. About 29%

of firms have a private individual or family as the controlling stockholder with the other firms being controlled by local or central government, state ministry, or a wholly-state owned enterprise. Approximately 13% of firms have a single person occupying both the chair and CEO positions. On average, a firm's return on assets is low indicating modest to low profitability.

We report the regression results on the relations between top management compensation, pay relativity, and sales per employee (*SaleLab*) in Table 2. Model 1 shows that there is a positive relationship between top management compensation and *SaleLab*. Model 2 shows that there is a negative association between top management compensation relative to the average worker wage (*Relpay*) and *SaleLab*. We include *Comp*, *RelPay* and the interaction between *Comp* and *RelPay* in Model 4. We find a positive relation for *Comp* and negative relations for *RelPay* and *Comp*RelPay*. This suggests that the negative association between *RelPay* and performance dominates the positive association between *Comp* and performance.

In order to see if the relations between the relative top management pay and firm performance are different between private controlled and state controlled firms we use the interaction of *Comp* and *RelPay* with *Private*, which is a dummy variable coded one if the listed firm is controlled by a private investor. The results are reported in Table 3 (Models 1 - 4). The interaction terms are statistically significant, providing support to hypothesis 2. Employees in private controlled firms appear to be less concerned about high pay disparity between top managers and the average worker compared to their counterparts in state controlled firms.

The operations of different firms require different levels of interdependence or team work. In order to examine how the relations between the absolute and relative top management compensation and firm performance are affected by a firm's cohesiveness and interpersonal cooperation, we use the interaction between *Comp* and *Cost* and *RelPay* and *Cost*, which is the total labor cost to sales. If the total labor cost accounts for a high proportion of sales, it represents a labor intensive industry, which requires a high level of cooperation among its employees. If wage disparity indeed hurts morale and productivity, firms with higher labor costs should be impacted the most. The results are reported in Table 3 (Models 5 - 8). We find the coefficients on *RelPayCost* are significantly negative. The results are consistent with our hypothesis 3 that the negative association between the relative compensation and firm performance should be more pronounced for those firms requiring more team work.

5. Conclusion

China is transitioning from a centrally planned economy to a market economy. This includes the opening up of labor markets where managers and workers can change jobs freely. One challenge faced by firms is how to alleviate agency costs and this has led to a greater use of incentive pay to reward top managers. However, increased rewards to top management results in widening pay disparities between them and other employees, which may have an impact on workers' behaviors and, ultimately, on a firm's productive efficiency. China's government recognizes the need to adequately reward managers but, at the same time, it is acutely aware that an increasing gap in incomes between managers and workers might alienate the workers and even lead to social unrest. Under the rigid communist system that operated up to the 1980s there was very little difference in cash compensation between the workers and top managers. People were indoctrinated with the concepts of egalitarian pay and working for the common good. The change to free markets with increasing pay and wealth disparities is a major shock to the economic system that can lead to dysfunctional worker behaviors.

We find that top executive pay is positively related to a firm's productivity measured by sales per employee. Pay disparity, measured as the ratio of top management pay divided by the average worker's pay in the same organization, is negatively related to productivity. It appears that high manager to worker pay disparities lead to workers' resentment over the high pay of their bosses and consequently a firm's productivity declines. There is some evidence that the negative impact of relative pay is more influential on productivity than is the positive impact of top management pay-performance sensitivity.

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Table 1
Descriptive Statistics

SaleLab is sales to number of employees (divided by 1,000,000). Comp is average annual compensation of the three highest paid directors (divided by 1,000,000). RelPay is the ratio of average annual compensation of the three highest paid directors to the average annual salary of an employee. LnBSize is the log value of the number of directors on the board. IndDir is the percentage of the number of independent directors to total number of directors on the board. Post is a dummy variable coded 1 if the chairman and the general manager are different persons and 0 otherwise. Private is a dummy variable coded 1 if the firm is a privately-owned enterprise and 0 otherwise. LnAsset is the log value of total assets. LivExp is the living expenditure level of the province where the firm is located (divided by 1,000). LnFirmAge is the log value of the number of years the firm has been listed. DA is debt to total assets. MB is market value of equity to book value of equity. ROA is return on assets. COST is total compensation for employees to sales. GQ is the aggregate measure of government quality. GQ is the average of the decile ranks (from 1 to 10) of 4 measures including Taxes and Fees, Entertainment Cost, Bureaucratic Interaction and Confidence in Courts.

	<u>Dummy (1)</u>	<u>Dummy (0)</u>	<u>Mean</u>	<u>Median</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Standard Deviation</u>
SaleLab (1,000,000)			0.8202	0.3975	25.8376	0.0002	1.5707
Comp (1,000,000)			0.1730	0.1235	1.7792	0.0060	0.1640
RelPay			5.7461	4.0824	53.5652	1.0008	5.2933
LnBSize			2.2651	2.1972	2.9444	1.3863	0.2181
IndDir			0.2875	0.3333	0.6000	0.0000	0.1137
Post	5002	742					
Private	1639	4105					
LnAsset			21.2004	21.1067	27.1111	18.1572	0.9296
LivExp (1,000)			7.9219	7.0328	14.8254	4.1102	2.7212
LnFirmAge			1.7462	1.9459	2.8332	0.0000	0.6637
DA			0.4753	0.4861	0.8994	0.0117	0.1757
MB			2.7405	2.1623	20.7750	0.3875	1.9995
ROA			0.0239	0.0285	0.4250	-0.7359	0.0630
Cost			0.0853	0.0709	0.6794	0.0013	0.0629

Table 2
Multivariate Analysis for H1

SaleLab is sales to number of employees (divided by 1,000,000). Comp is average annual compensation of the three highest paid directors (divided by 1,000,000). RelPay is the ratio of average annual compensation of the three highest paid directors to the average annual salary of an employee. LnBSize is the log value of the number of directors on the board. IndDir is the percentage of the number of independent directors to total number of directors on the board. Post is a dummy variable coded 1 if the chairman and the general manager are different persons and 0 otherwise. Private is a dummy variable coded 1 if the firm is a privately-owned enterprise and 0 otherwise. LnAsset is the log value of total assets. LivExp is the living expenditure level of the province where the firm is located (divided by 1,000). LnFirmAge is the log value of the number of years the firm has been listed. DA is debt to total assets. MB is market value of equity to book value of equity. ROA is return on assets. t-statistics are computed using robust standard errors.

	Model 1		Model 2		Model 3		Model 4	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t
Intercept	-1.704	-2.11	-3.873	-5.18	-5.178	-6.89	-1.104	-1.42
Comp	1.403	3.94**					4.758	6.79**
RelPay			-0.046	-10.38**			-0.073	-8.32**
Comp*RelPay					-0.032	-5.25**	-0.105	-3.70**
LnBSize	-0.508	-3.98**	-0.399	-3.31**	-0.450	-3.89**	-0.400	-3.86**
IndDir	-0.318	-0.86	-0.021	-0.06	-0.092	-0.27	-0.277	-0.81
Post	0.010	0.08	-0.065	-0.54	-0.052	-0.45	-0.100	-0.86
Private	-0.124	-1.71	0.024	0.36	-0.070	-1.03	-0.027	-0.45
LnAsset	0.136	3.53**	0.255	6.49**	0.286	7.45**	0.088	2.37*
LivExp	0.074	4.18**	0.078	4.68**	0.083	5.04**	0.038	2.15*
LnFirmAge	-0.036	-0.75	-0.049	-1.02	-0.137	-2.78**	-0.011	-0.26
DA	1.161	4.16**	1.077	4.11**	0.736	3.30**	1.200	4.69**
MB	0.002	0.12	0.012	0.82	0.032	2.14*	-0.011	-0.79
ROA	2.542	5.96**	3.364	6.80**	2.867	6.26**	2.356	5.99**
Industry Dummy included								
Year Dummy included								
Adjusted R ²	0.146		0.169		0.192		0.244	
F-statistics	31.670		38.611		44.982		57.274	
p-value	0.000		0.000		0.000		0.000	

* for significance at 0.05 level.

** for significance at 0.01 level.

Table 3
Multivariate Analysis for H2 and H3

SaleLab is sales to number of employees (divided by 1,000,000). Comp is average annual compensation of the three highest paid directors (divided by 1,000,000). RelPay is the ratio of average annual compensation of the three highest paid directors to the average annual salary of an employee. LnBSize is the log value of the number of directors on the board. IndDir is the percentage of the number of independent directors to total number of directors on the board. Post is a dummy variable coded 1 if the chairman and the general manager are different persons and 0 otherwise. Private is a dummy variable coded 1 if the firm is a privately-owned enterprise and 0 otherwise. Cost is total compensation for employees to sales. LnAsset is the log value of total assets. LivExp is the living expenditure level of the province where the firm is located (divided by 1,000). LnFirmAge is the log value of the number of years the firm has been listed. DA is debt to total assets. MB is market value of equity to book value of equity. ROA is return on assets. t-statistics are computed using robust standard errors.

	H2: Interaction Term of Private								H3: Interaction Term with Cost							
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t
Intercept	-1.196	-1.47	-5.427	-7.31	-5.432	-7.24	-0.438	-0.53	-0.235	-0.27	-1.952	-2.74	-2.197	-2.98	1.681	1.87
Comp	2.032	4.02**					5.932	6.09**	2.660	4.40**					8.126	6.21**
CompPrivate	-1.088	-1.79					-2.855	-2.72**								
CompCost									-9.476	-1.73					-44.700	-3.22**
RelPay			-0.057	-8.74**			-0.087	-6.76**			-0.077	-8.66**			-0.091	-6.75**
RelPayPrivate			0.020	2.13*			0.037	2.19*								
RelPayCost											-0.348	-5.24**			-0.198	-2.00*
CompRelPay					-0.042	-4.42**	-0.151	-3.93**					-0.043	-4.33**	-0.244	-4.08**
CompRelPayPrivate					0.020	1.62	0.093	2.06*								
CompRelPayCost													0.160	2.38*	1.895	3.05**
LnBSize	-0.494	-3.95**	-0.409	-3.65**	-0.443	-3.90**	-0.398	-3.89**	-0.474	-4.00**	-0.348	-3.21**	-0.442	-3.69**	-0.313	-3.40**
IndDir	-0.337	-0.92	-0.087	-0.26	-0.110	-0.32	-0.358	-1.06	-0.167	-0.50	-0.182	-0.55	-0.298	-0.85	-0.182	-0.60
Post	-0.019	-0.15	-0.070	-0.60	-0.051	-0.44	-0.107	-0.93	-0.049	-0.43	-0.076	-0.66	-0.054	-0.46	-0.112	-1.05
Private	0.065	0.72	-0.128	-1.27	-0.106	-1.50	0.088	0.76	-0.143	-2.17*	-0.041	-0.64	-0.133	-1.92	-0.046	-0.84
Cost									-4.813	-5.55**	-8.229	-10.45**	-7.256	-11.27**	-3.085	-1.98*
LnAsset	0.092	2.34*	0.305	8.03**	0.301	7.88**	0.061	1.53	0.070	1.67	0.239	6.49**	0.188	5.02**	0.037	1.01
LivExp	0.087	4.68**	0.077	4.88**	0.079	4.84**	0.030	1.65	0.083	4.93**	0.085	5.32**	0.101	5.72**	0.038	2.41*
LnFirmAge	-0.027	-0.56	-0.136	-2.82**	-0.141	-2.87**	-0.019	-0.46	-0.045	-0.95	-0.105	-2.30*	-0.031	-0.67	-0.040	-0.99
DA	1.068	3.91**	0.800	3.55**	0.694	3.00**	1.239	4.79**	0.419	1.84	0.387	1.83	0.664	2.69**	0.463	2.30*
MB	0.004	0.27	0.030	2.06*	0.037	2.45*	-0.015	-1.06	0.024	1.72	0.042	2.97**	0.038	2.56**	0.008	0.65
ROA	2.473	6.00**	3.035	6.50**	2.908	6.22**	2.306	5.93**	1.119	2.95**	1.713	4.15**	1.887	4.31**	0.955	2.77**
Adjusted R ²	0.142		0.213		0.193		0.254		0.235		0.266		0.191		0.385	
F-statistics	32.742		49.691		41.470		52.480		52.867		57.140		40.914		86.549	
p-value	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	

* for significance at 0.05 level.
** for significance at 0.01 level.