"Time-series evidence on corporate governance in Thailand: the effect on expected stock returns"

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TIME-SERIES EVIDENCE ON CORPORATE GOVERNANCE IN THAILAND: THE EFFECT ON EXPECTED STOCK RETURNS

Abstract

This paper presents an empirical evidence of a time-varying relationship between corporate governance and its impacts on stock returns in Thailand. The governance grades assessed by the Thai Institute of Directors are used as governance measurement for the analysis. The parameters estimated by Fama-Macbeth regression indicate that firms with higher governance ratings generate greater expected stock returns in a long run. However, on yearly basis, the positive relationship deteriorates and loses explanatory power in the most of the tested years. The coefficients of governance ratings estimated by fixed effect regression are examined for statistical difference, which confirms that effect of corporate governance on stock returns differs year by year. While there are some distinct years that governance ratings affect stock prices positively, higher governance ratings lead to lower returns in other particular years. The both positive and negative magnitudes of corporate governance's impact on expected returns do not stay the same over time. Good governance practice at a firm does not always yield positive returns to investors.

Keywords	responsible investment, corporate governance, panel data regression, emerging market
JEL Classification	C33, G11, G38

INTRODUCTION

This study aims to reveal an unstable relationship between corporate governance and its effect on expected stock returns. Prior researches draw contrasting conclusions on the influence of the firms' corporate governance practices on operating performance and valuation. A theory that a good governance leads to better operating profits and increased firm values is empirically proved by Gompers et al. (2003), Drobetz et al. (2004), Bebchuk et al. (2008), and Ammann et al. (2011). On the other hand, a causal relationship between weak protection shareholder rights and lower expected stock returns is denied by Core et al. (2006) and Bhagat and Bolton (2008). Core et al. (2006) further argue that a positive relationship between corporate governance and stock returns is rather period-specific. The results of Bauer et al. (2003) support such argument and the relationship can be negative depending on the tested year. This study fills the gap by presenting empirical results that show the effects of corporate governance ratings on expected returns are inconstant and time-varying.

This paper focuses on Thailand which is home to the second largest stock market in the Southeast Asia after Singapore. The East Asian Financial Crisis in 1997 started in Thailand, and Zhuang et al. (2000) blame poor corporate governance in the region as one of the causes of the crisis. Deficient firm-level governance practices led to the collapse

of the Thai Baht (Alba et al., 1998). This prompted the government and private sectors to undertake necessary codes of practice and analyze the governance impact on financial outcome (Hodgson et al., 2011). Eventually, in 1999, the Thai Institute of Directorship Association (IOD) was established with an aim for promotion of professionalism in directorship, and it has published the Corporate Governance Report of Thai listed companies since 2001. The report is based on the international governance standards set by the Organization for Economic Cooperation and Development (OECD). This study employs the unique governance score given to each listed firm by the IOD.

1. LITERATURE REVIEW

Gompers et al. (2003) pioneered a holistic approach to analyze a relationship between corporate governance and its effect on stock returns. They constructed the Governance Index, or alternatively called GIM Index, employing 24 provisions that limit or protect shareholder rights. According to the score of the index, firms with the weak shareholder protection are grouped to the Dictatorship portfolio, whereas those with the strong shareholder rights are included in the Democracy portfolio. Their results show that the Democracy portfolio outperformed the Dictatorship portfolio with statistical significance. However, when the sample period is divided into two, the outperformance of the Democracy portfolio loses the statistical significance, which hints that the effect of good governance on expected returns can be period-specific and non-linear.

Bebchuk et al. (2008) narrowed down the constituents of the GIM Index and identified 6 governance provisions, labeled as the E-Index (Entrenchment Index), that significantly relates to the negative correlation with firm value and stock returns. Because it is costly to adapt a number of practices, fewer provisions are beneficial to both corporate managers and investors. The E-Index appears to possess explanatory force for abnormal stock returns. The long-short portfolios, which are buying good governance stocks with the E-Index equal to 0 and/or 1 and selling bad governance firms with the E-Index ranging from 3 to 6, generate positive monthly returns in the tested period. The authors do not show the results for breakdown of shorter periods of time, but the positive alpha from the E-Index is statistically significant not only for the period tested in Gompers et al. (2003), but also for the extended period in the early the 2000s.

On the contrary, Bhagat and Bolton (2008) argue that GIM index and the E-Index do not explain abnormal expected stock returns. Once the endogeneity of the relationship among corporate governance, performance, capital structure, and ownership structure is taken into account, the explanatory power of the governance index for stock return disappears. Core et al. (2006) also state that the weak shareholder protection does not cause lower expected returns. Negative influences of poor governance are already priced in the analysts' prediction. Therefore, there should not be any surprise on the day of earning announcement. Moreover, they assert that the positive relationship between corporate governance and excess stock returns of Gompers et al. (2003) is period-specific. In the period of Dotcom clash from 2000 to 2003, the Dictatorship portfolio actually posts higher returns than the Democracy portfolio even after controlling Fama and French's 3-factor (1993) and momentum factor (Carhart, 1997). Similar inconstant relationship between corporate governance and stock returns is found in other markets such as Germany (Drobetz et al., 2004) and the UK and the European market as a whole (Bauer et al., 2003). The results of Ammann et al. (2011) are based on 22 different developed countries and demonstrate some degree of consistency of corporate governance's positive influence on firm value. Nonetheless, their sample data is only 5 years, which can be argued rather short.

Because of weaker legal protections in the emerging markets, firm-level corporate governance may serve as the alternative to inadequate law enforcements (Klapper & Love, 2004). Good corporate governance practices are considered valuable intangible assets, particularly in the emerging markets, since controlling shareholders tend to expropriate from minority shareholders in an environment with less investor protection (La Porta et al., 2002; Nenova, 2003). Durnev and Kim (2005) presents that a mixed result on the

relationship between firm value and corporate governance in the US market is due to the effect of legal environment because of the strong legal structure in the US.

A number of studies on the relation between corporate governance and firm value in the emerging market have been conducted, including Korea (Black et al., 2006), Turkey (Ararat et al., 2016), Russia (Black, 2001; Black et al., 2006), India (Balasubramanian et al., 2010; Saggar & Singh, 2017), Hong Kong (Cheung et al., 2007, 2011; Lo & Kwan, 2017), Ukraine (Zheka, 2006), South Africa (Dzingai & Fakoya, 2017), and Thailand (Wiwattanakantang, 2001; Hodgson et al., 2011; Connelly et al., 2012). What these prior researches have in common is that a good corporate governance positively affects firm value and operating performance in the emerging markets. However, none of these literatures points out time-varying characteristics of the relation between corporate governance and its effect on stock returns. Perhaps due to insufficient data, most researches in the developing markets are based on single-year cross sectional regression. This study analyzes the relationship using time-series data to examine the presence of time-varying features.

2. DATA AND METHODOLOGY

The sample universe of this study is all the stocks listed on the Stock Exchange of Thailand (SET). REITs (Real Estate Investment Trust), property funds, and infrastructure funds are excluded. The corporate governance ratings are taken from the "Corporate Governance of Thai Listed Companies", an annual report published by the Thai Institute of Directors (IOD). The IOD examines each listed company on the SET according to a predetermined set of governance criteria and scores them 0-100. The numerical scores are not disclosed, but each company is given the corporate governance stars, as shown in Table 1. There are five areas to be assessed: Rights of Shareholders, Equitable Treatment of Shareholders, Role of Stakeholders, Disclosure and Transparency, and Board Responsibilities. The sample period is from 2008 to 2015 for 8 years.

Table 1. CG (corporate governance) star by the IOD (Thai Institute of Directors)

Score range	Number of stars	Description
90-100	*****	Excellent
80-90	****	Very good
70-79	***	Good
60-69	**	Satisfactory
50-59	*	Pass
Less than 50	No star given	–

In order to examine the relationship between the CG star and stock returns, the following cross-sectional equation and time-series mean coefficient is tested with Fama-Macbeth (1973) regression (Gompers et al., 2003; Drobetz et al., 2004; Core et al., 2006, and others) and fixed effects regressions (Ammann et al., 2011):

$$
\begin{aligned}
\breve{R}_{i,t+2,t+1} = {} & \alpha + \beta_1 Dummy_{Excellent_{it}} + \\
& + \beta_2 Dummy_{VeryGood_{it}} + \beta_3 Dummy_{Good_{it}} + \\
& + \beta_4 LnASSETS_{it-1} + \beta_5 LEV_{it-1} + \\
& + \beta_6 \frac{CAPEX}{ASSETS_{it-1}} + \beta_7 SALESG_{it-1} + \\
& + \beta_8 ROA_{it-1} + \beta_9 LnFIRMAGE_{it+1} + \\
& + \beta_{10} BM_{it+1} + \beta_{11} ID_{it+1} + \varepsilon_t,
\end{aligned} \tag{1}
$$

where $\breve{R}_{i,t+2,t+1}$ is monthly geometric average return of stock i from January of year $t+1$ to January of year $t+2$, dummy variables take 1 or 0 according to CG rating of each stock t, $LnASSETS_{it-1}$ is the log of book value of assets (in thousands) of stock i in year $t-1$, LEV_{it-1} is the ratio of total debt to assets of stock i in year $t-1$, $CAPEX / ASSETS_{it-1}$ denotes the capital expenditure to assets of stock i in year $t-1$, $SALESG_{it-1}$ is an average past 3-year sales growth rate of stock i in year $t-1$, t, ROA_{it-1} is return on assets for stock i in year $t-1$, $LnFIRMAGE_{it+1}$ is the log of the number of years since the establishment for firm i in year $t+1$, BM_{it+1} is book-to-market ratio of stock t in January of year $t+1$, ID_{it} is a vector of industry dummies according to the Industry Classification Benchmark (ICB), and ε_t is an error term. All the stock information is obtained from Thomson Reuters' Datastream.

The IOD releases the annual report in the last quarter of the year. In order for investors to have ample time to access the information, as well as to avoid look-

ahead bias, the newly-released CG rating is reflected in January of the following year. Thus, after the CG rating is published in year t, the return of stock is calculated from January in year $t+1$ to January in year $t+2$. In Thailand, all the listed companies are required to submit the year-end financial statements within three months from the end of the accounting period. Therefore, in January of year $t+1$, all the accounting related information of year t is not available to the public. For this reason, in the regression analysis, the log of total assets, leverage ratio, capital expenditure-to-sales ratio, sales growth ratio, and return on assets are lagged one year. Book-to-market is calculated by dividing market capitalization of a stock in January of year $t+1$ by book value of the stock of year $t-1$.

Prior researches indicate that some firm-level characteristics are related to equity return and corporate governance. In order to avoid the likely extent of omitted variable bias, several control variables are included in the regression. The log of firms' total assets is included as a control variable because larger firms tend to have a higher rating on the governance level (Gompers et al., 2003; Drobetz et al., 2004). Bigger corporations get more exposure to the public. Hence, they have more incentives to retain a higher standard of corporate governance to prevent scandals, as well as keep a good public image. Following Drobetz et al. (2004), Black et al. (2006), and Bebchuk et al. (2008), firms' leverage ratio, measured by debt-to-assets ratio in this study, is controlled. Leverage possibly affects firms' governance practice (Black et al., 2006), and governance has an influence on firms' access to credit (Bhojraj & Sengupta, 2003). To control endogenous factor of growth opportunities, the past 3-years' sales growth ratio is included in the equation. Drobetz et al. (2004) write that growth firms desire access to capital markets to raise additional funds to keep expanding their business. The level of capital expenditure, estimated by capital expenditure by total assets, is controlled, as Gompers et al. (2003) report that firms with higher governance practices have higher capital expenditure. Return on assets, labeled as *ROA*, is proxy for profitability, which is likely to have direct effects on stock returns. Among other variables, *ROA* is more powerful measure of operating performance (Barber & Lyon, 1996). The log of firms' number of years listed on the market, labeled as *LnFIRMAGE*, is added to the control variables (Bauer et al., 2003, and others). Governance practic-

es of older firms are different from those of younger firms (Black et al., 2006). Most studies find that the coefficients of this variable to be negative, because younger firms are more likely to grow faster (Ararat et al., 2016). Book-to-market ratio (Fama & French, 1993) is included in the regression. This ratio remains as one of the most powerful explanatory factors for stock returns. Finally, industry group is controlled, because there is always a possibility that firm's corporate governance rating merely reflects an industry that the firm belongs to (Bebchuk et al., 2008). That is, it happens that better governance ratings are more common in certain industries.

Table 2 reports descriptive statistics for all the variables for the full sample period between 2008 and 2015. The mean of the monthly geometric mean stock return is positive at 1.60, while the median is 1.22. The maximum return is 12.84, while the minimum is –7.44. These suggest that stock returns in the sample period are skewed to the right, which is normal for stock return distribution. Although not reported in the table, the skewness of the stock return is 0.48. Among the all control variables, sales growth ratio shows the greatest cross-sectional variation with the standard deviation of 23.77. This might be due to the fact that the sample firms include small cap firms, of which some of those small firms' sales growth can be unpredictably high or low in some years.

Table 2. Descriptive statistics

Variables	Mean	SD	Min	Q1	Median	Q3	Max
Monthly Geometric Mean Stock Return (R)	1.60	3.27	–7.44	–0.43	1.22	3.44	12.84
Log of Total Assets (*LnASSETS*)	15,15	1.73	6.91	13.95	14.88	16.07	21.76
Leverage (*LEV*)	24.24	0.26	0.00	2.00	20.27	39.61	584.10
Capital Expenditure to Assets *CAPEX / ASSETS*	5.73	8.45	0.00	0.85	2.97	7.16	90.60
Average 3-yr Sales Growth (*SALESG*)	8.24	23.77	–79.10	–1.87	6.15	14.26	267.20
Return on Assets (*ROA*)	5.96	10.55	–80.25	2.07	6.05	10.22	97.18
Log of Firm Age (*LnFIRMAGE*)	3.02	0.79	0.00	2.30	3.26	3.61	4.70
Book-to-Market (*BM*)	0.87	1.04	–8.33	0.45	0.78	1.23	5.00

Notes: This table reports the mean, standard deviation, minimum, 1st quartile, median, 3rd quartile, maximum of all the variables in the equation (1). The data are from 2008 to 2015. Monthly Mean Stock Return, Leverage, Capital Expenditure to Assets, Average Sales Growth, Return on Assets are in percentage.

3. RESULTS

The results of the equation (1) are reported in Table 3. The results for industry dummy variables are omitted from the table. The time-series mean of the dummy variables for Excellent and Very Good take positive significant coefficients, whereas that for Good does not, suggesting that only CG ratings with Very Good or higher can lead to higher expected return. However, the dummy variables for Excellent do not get statistical significance in the cross-sectional regressions. There are even two years that the dummy for Excellent gets negative coefficients without significance. The Very Good dummy gets the positive significance only in 2008. The outcome confirms inconsistent influence of the CG ratings on the stock returns. Receiving a high score on the CG ratings does not always result in higher returns.

Besides the CG dummy variables, *ROA* and book-to-market show significant positive coefficients in the time-series mean. The coefficient of *BM* is 0.946 with strong significance, which indicates powerful effect on stock return.

The results of cross-sectional regressions and time-series mean in Table 3 show that the effect of the CG ratings is not constant but rather time-varying. However, that assumption was made based on only 8 years of data, which is not sufficient enough to conclude the time-varying characteristics. Alternatively, parameters of the CG ratings are estimated using fixed effect regression and then the parameters are compared by *z*-test for difference. Table 4 reports the results of the fixed effects regression. *Z*-test is conducted for a null hypothesis that there is no difference in the coefficients between any pair of parameters.

Table 3. Corporate governance by dummy variable and stock returns with industry dummies

Year	2008	2009	2010	2011	2012	2013	2014	2015	Time-series mean
Constant	−2.966 (−1.41)	−1.612 (−0.87)	−1.336 (−0.79)	4.473 (1.95)	5.465** (2.99)	6.68*** (3.38)	−3.017 (−1.31)	0.319 (0.17)	0.734 (0.53)
Dummy_Excellent	1.142 (1.34)	−0.008 (−0.01)	0.903 (1.83)	0.742 (1.01)	0.173 (0.32)	−0.278 (−0.51)	0.386 (0.47)	0.147 (0.291)	0.396* (2.23)
Dummy_VeryGood	1.418** (3.17)	0.421 (1.19)	0.509 (1.33)	0.525 (1.10)	0.164 (0.44)	−0.005 (−0.01)	0.698 (1.45)	0.479 (1.46)	0.485*** (4.66)
Dummy_Good	0.677 (1.80)	−0.057 (−0.14)	0.307 (0.79)	0.031 (0.07)	−0.400 (−1.14)	−0.285 (−0.71)	0.327 (0.81)	−0.379 (−1.10)	0.042 (0.34)
LnASSETS	0.256* (2.08)	0.180 (1.65)	−0.005 (−0.05)	−0.288* (−2.23)	−0.330** (−3.24)	−0.266* (−2.45)	−0.058 (−0.45)	0.192* (1.98)	−0.014 (−0.16)
LEV	0.004 (0.52)	−0.005 (−0.76)	−0.001 (−0.25)	0.010 (1.27)	−0.000 (−0.08)	0.003 (0.52)	0.019* (2.27)	0.010 (1.60)	0.004 (1.45)
$\dfrac{CAPEX}{ASSETS}$	0.031 (1.40)	0.016 (0.65)	−0.001 (−0.06)	−0.012 (−0.54)	−0.017 (−0.82)	−0.004 (−0.25)	0.052* (2.47)	0.029 (1.24)	0.007 (1.05)
SALESG	0.000 (0.04)	−0.003 (−0.42)	−0.001 (−0.21)	0.013 (1.44)	−0.002 (−0.48)	0.021** (2.94)	−0.026** (−2.92)	0.003 (0.58)	0.001 (0.36)
ROA	0.020 (0.04)	0.055** (2.90)	0.033* (2.24)	0.011 (0.57)	−0.013 (−0.99)	−0.011 (−0.74)	0.103*** (4.77)	0.022 (1.68)	0.028** (2.89)
LnFIRMAGE	−0.134 (−0.75)	0.205 (1.13)	0.170 (0.98)	0.271 (1.11)	−0.039 (−0.19)	−0.462* (−1.99)	−0.026 (−0.09)	−0.839*** (−3.64)	−0.123 (−1.05)
BM	1.058*** (7.32)	1.04*** (5.84)	0.658** (2.88)	1.044*** (3.39)	0.549 (1.69)	1.325*** (5.08)	1.962*** (4.80)	1.201*** (4.77)	1.017*** (8.94)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The following equation is tested with cross-sectional regression and time-series mean is tested with Fama-Macbeth (1973) regression model.

$$\breve{R}_{i,t+2,t+1} = \alpha + \beta_1 Dummy_{Excellent_{it}} + \beta_2 Dummy_{VeryGood_{it}} + \beta_3 Dummy_{Good_{it}} + \beta_4 LnASSETS_{it-1} + \beta_5 LEV_{it-1} +$$

$$+\beta_6 \frac{CAPEX}{ASSETS_{it-1}} + \beta_7 SALESG_{it-1} + \beta_8 ROA_{it-1} + \beta_9 LnFIRMAGE_{it+1} + \beta_{10} BM_{it+1} + \beta_{11} ID_{it+1} + \varepsilon_t,$$

where $\breve{R}$ is mothly geometric mean stock return, dummy variables take 1 or 0 according to CG rating of each stock, *LnASSETS* is log of assets, *CAPEX / ASSETS* is capital expenditure to assets, *SALESG* is an average past 3-year sales growth, *ROA* is return on assets, *LnFIRMAGE* is log of firm age, *BM* is book-to-market, *ID* is industry dummy variable. Industry grouping is according to the Industry Classification Benchmark (ICB). There are actually 10 industry groups, but the results for each industry dummy are omitted from this table. The data are from 2008 to 2015. Standard error for the coefficients are in the parentheses. *, **, and *** indicate significance at 0.05, 0.01, and 0.001 level, respectively.

The Excellent dummies get positive significance in 2008 and 2010, and surprisingly, negative significance in 2013. Z-test for coefficient difference confirms that the parameter in 2008 is statistically different from that of the rest of years, except in 2010, perhaps because the both years get the positive significant coefficients. The negative parameter in 2013 differs significantly from those from 2008 to 2011. The contrast of the CG rating's effect on the stock return is an obvious sign of time-varying characteristics.

The result for the Very Good dummies is similar to the one for the Excellent dummies. The dummies from 2008 to 2010 are positively significant and those from 2012 and 2013 are negative but without significance. The parameter in 2008 is statistically different from every year in the sample. Although the parameters in 2009 and 2010 are also significantly positive, that in 2008 is still different from the two years, which means that the

positive magnitude that the CG rating in 2008 affects stock returns is higher than the CG ratings in 2009 and 2010. This is also an indication of time-varying characteristics of the CG score. The negative coefficient in 2013 gets significant z-score when tested with the years from 2008 to 2011. This shows the negative effect on stock returns in 2013 is a distinctive and unique impact, which signals inconsistency of the CG rating's power.

The Good dummies represent weaker influence on stock returns. Only in 2008 gets the significant parameter. Z-test for coefficient difference reveals that the positive parameter in 2008 statistically differs from those in 2012, 2013, and 2015, which are all negative.

ROA and book-to-market show significantly positive influence on stock return in the fixed effect regression, while other control variables are all insignificant.

Table 4. Fixed effects regression of stock returns on corporate governance by dummy variables with industry dummy variables

Dependent variable	Stock returns	Z-test for coefficients difference	2009	2010	2011	2012	2013	2014	2015
Dummy_Excellent 2008	2.231*** (3.32)	–	1.92* (0.02)	1.38 (0.08)	1.86* (0.03)	3.32*** (0.00)	3.99*** (0.00)	2.84** (0.00)	2.61** (0.00)
Dummy_Excellent 2009	0.643 (1.34)	–	–	−0.62 (0.73)	0.00 (0.49)	1.74* (0.04)	2.49** (0.00)	1.25 (0.10)	0.83 (0.20)
Dummy_Excellent 2010	1.077* (2.17)	–	–	–	0.58 (0.27)	2.31* (0.01)	3.09** (0.00)	1.79* (0.03)	1.44 (0.07)
Dummy_Excellent 2011	0.595 (1.57)	–	–	–	–	1.66* (0.04)	2.36** (0.00)	1.19 (0.11)	0.78 (0.21)
Dummy_Excellent 2012	−0.591 (−1.13)	–	–	–	–	–	0.58 (0.27)	−0.37 (0.64)	−0.95 (0.83)
Dummy_Excellent 2013	−0.997* (−2.21)	–	–	–	–	–	–	−0.94 (0.82)	−1.64* (0.95)
Dummy_Excellent 2014	−0.300 (−0.514)	–	–	–	–	–	–	–	−0.50 (0.69)
Dummy_Excellent 2015	0.082 (0.17)	–	–	–	–	–	–	–	–
Dummy_Very Good 2008	1.627*** (4.44)	–	1.95* (0.02)	1.75* (0.03)	2.00* (0.02)	3.30*** (0.00)	3.75*** (0.00)	2.14* (0.01)	2.54** (0.00)
Dummy_Very Good 2009	0.661* (1.99)	–	–	−0.02 (0.50)	0.13 (0.44)	1.59 (0.05)	1.98* (0.02)	0.32 (0.37)	0.65 (0.25)
Dummy_Very Good 2010	0.672* (1.66)	–	–	–	0.13 (0.44)	1.47 (0.06)	1.82* (0.03)	0.31 (0.37)	0.60 (0.27)
Dummy_Very Good 2011	0.595 (1.57)	–	–	–	–	1.38 (0.08)	1.74* (0.04)	0.17 (0.42)	0.48 (0.31)
Dummy_Very Good 2012	−0.171 (−0.42)	–	–	–	–	–	0.28 (0.38)	−1.21 (0.88)	−0.98 (0.83)
Dummy_Very Good 2013	−0.324 (−0.88)	–	–	–	–	–	–	−1.56 (0.94)	−1.33 (0.90)
Dummy_Very Good 2014	0.500 (1.32)	–	–	–	–	–	–	–	0.29 (0.38)
Dummy_Very Good 2015	0.349 (1.01)	–	–	–	–	–	–	–	–
Dummy_Good 2008	0.788* (2.42)	–	1.24 (0.10)	0.87 (0.19)	1.26 (0.10)	2.27* (0.01)	2.34** (0.00)	1.54 (0.06)	2.29* (0.01)

Table 4 (cont.). Fixed effects regression of stock returns on corporate governance by dummy variables with industry dummy variables

Dependent variable	Stock returns	Z-test for coefficients difference	2009	2010	2011	2012	2013	2014	2015
Dummy_Good 2009	0.164 (0.42)	–	–	−0.28 (0.61)	−0.01 (0.50)	0.99 (0.15)	1.02 (0.15)	0.18 (0.42)	0.94 (0.17)
Dummy_Good 2010	0.325 (0.77)	–	–	–	0.27 (0.39)	1.23 (0.10)	1.26 (0.10)	0.47 (0.31)	1.19 (0.11)
Dummy_Good 2011	0.171 (0.46)	–	–	–	–	1.03 (0.15)	1.06 (0.14)	0.20 (0.41)	0.98 (0.16)
Dummy_Good 2012	−0.391 (−0.96)	–	–	–	–	–	0.00 (0.49)	−0.88 (0.81)	−0.09 (0.53)
Dummy_Good 2013	−0.394 (−1.02)	–	–	–	–	–	–	−0.91 (0.82)	−0.10 (0.54)
Dummy_Good 2014	0.070 (0.21)	–	–	–	–	–	–	–	0.82 (0.20)
Dummy_Good 2015	−0.340 (−0.92)	–	–	–	–	–	–	–	–
LnASSETS	0.002 (0.07)	$\dfrac{CAPEX}{ASSETS}$	0.005 (0.79)	ROA	0.028*** (5.01)	BM	1.010*** (14.36)	–	–
LEV	0.004 (1.65)	SALESG	0.002 (0.81)	LnFIRMAGE	−0.068 (−0.94)	Industry dummies	Yes	–	–

Notes: The following equation is tested with fixed effect regression model.

$$\breve{R}_{i,t+2,t+1} = \beta_1 Dummy_{Excellent\,2008} + \beta_2 Dummy_{Excellent\,2009} + \beta_3 Dummy_{Excellent\,2010} + \beta_4 Dummy_{Excellent\,2011} +$$

$$+ \beta_5 Dummy_{Excellent\,2012} + \beta_6 Dummy_{Excellent\,2013} + \beta_7 Dummy_{Excellent\,2014} + \beta_8 Dummy_{Excellent\,2015} +$$

$$+ \beta_9 Dummy_{VeryGood\,2008} + \beta_{10} Dummy_{VeryGood\,2009} + \beta_{11} Dummy_{VeryGood\,2010} + \beta_{12} Dummy_{VeryGood\,2011} +$$

$$+ \beta_{13} Dummy_{VeryGood\,2012} + \beta_{14} Dummy_{VeryGood\,2013} + \beta_{15} Dummy_{VeryGood\,2014} + \beta_{16} Dummy_{VeryGood\,2015} +$$

$$+ \beta_{17} Dummy_{Good\,2008} + \beta_{18} Dummy_{Good\,2009} + \beta_{19} Dummy_{Good\,2010} + \beta_{20} Dummy_{Good\,2011} + \beta_{21} Dummy_{Good\,2012} +$$

$$+ \beta_{22} Dummy_{Good\,2013} + \beta_{23} Dummy_{Good\,2014} + \beta_{24} Dummy_{Good\,2015} + \beta_{25} LnASSETS_{it-1} + + \beta_{26} LEV_{it-1} +$$

$$+ \beta_{27} \frac{CAPEX}{ASSETS_{it-1}} + \beta_{28} SALESG_{it-1} + \beta_{29} ROA_{it-1} + \beta_{30} LnFIRMAGE_{it+1} +$$

$$+ \beta_{31} BM_{it+1} + \beta_{32} ID_{it+1} + \varepsilon_t,$$

where $\breve{R}$ is mothly geometric mean stock return, dummy variables take 1 or 0 according to CG rating of each stock, $LnASSETS$ is log of assets, $CAPEX / ASSETS$ is capital expenditure to assets, $SALESG$ is an average past 3-year sales growth, ROA is return on assets, $LnFIRMAGE$ is log of firm age, and BM is book-to-market, ID is industry dummy variable. Industry grouping is according to the Industry Classification Benchmark (ICB). There are actually 10 industry groups, but the results for each industry dummy is omitted from this table. The data are from 2008 to 2015. Standard error for the coefficients are in the in the parentheses. *, **, and *** indicate significance at 0.05, 0.01, and 0.0001 level, respectively. Z-test is for a null hypothesis that there is no difference in coefficients. P-values are in the parentheses. *, **, and *** indicate significance at 0.05, 0.01, and 0.001 level, respectively.

CONCLUSION

Since Gompers et al. (2003) first explored the field of the corporate governance index and its effect on increased firm value, a number of researches have been conducted. The literature generally supports the theory that better governance practices positively affect the firms' value creation. Nevertheless, some scholars, including Core et al. (2006), propose opposing views. In a broad sense, the results of this study support both pros and cons of the positive relationship. This research fills the gap and claims that the relationship between the corporate governance and its effect on stock returns is non-linear and time-varying.

This paper's result of the cross-sectional regression and Fama-Macbeth (1973) regression reveals that, although the time-series parameter mean for the CG rating on stock returns is positive, the relationship is not constant across the tested individual years. In a longer period of time, better corporate governance leads to better expected returns. However, on yearly basis, the positive relationship deteriorates and loses explanatory power in the most of the tested years. The test for the coefficients difference further confirms that the effect of the governance ratings on the stock returns varies year by year. Corporate governance ratings in a particular year has a greater impact on the expected returns than other years.

Future researches can be conducted to discover the reason that such time-varying relationship exists. As Doidge et al. (2007) suggest, it may be due to a high cost associated with implementation of governance practices. Also, as the corporations' responsibilities are not limited to the protection of shareholders rights, social, environmental, and sustainable factors can be included in analysis.

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