

# Corporate Governance, Investment Efficiency: Listed Companies in Market for Alternative Investment - MAI

Hathairat Khuanrudee<sup>\*1</sup> Pattanant Petchchedchoo<sup>\*\*2</sup> and Siridech Kumsuprom<sup>\*\*\*3</sup>

<sup>1,2,3</sup>College of Innovative Business and Accountancy, Dhurakij Pundit University, 110 / 1-4

PrachaChuen Road, Lak-si, Bangkok 10210.

E-mail: 577191060002@dpu.ac.th

Received: October 8, 2019; Revised: October 24, 2019; Accepted: October 24, 2019

## บทคัดย่อ

บทความวิจัยวัตถุประสงค์เพื่อวิเคราะห์การกำกับดูแลกิจการที่มีอิทธิพลต่อประสิทธิภาพการลงทุนของบริษัทจดทะเบียนในตลาดหลักทรัพย์ เอ็ม เอ ไอของประเทศไทย โดยศึกษาจากตัวอย่าง คือ บริษัทที่จดทะเบียนในตลาดหลักทรัพย์ เอ็ม เอ ไอ ที่มีข้อมูลสมบูรณ์ในระหว่างปี พ.ศ. 2557 - 2561 จำนวน 91 บริษัท ซึ่งแบ่งเป็น 7 กลุ่ม คือ กลุ่มเกษตรและอุตสาหกรรมอาหาร กลุ่มสินค้าอุปโภคบริโภค กลุ่มอุตสาหกรรมเทคโนโลยี กลุ่มสินค้าอุตสาหกรรม กลุ่มอุตสาหกรรมอสังหาริมทรัพย์และก่อสร้าง กลุ่มอุตสาหกรรมทรัพยากร และกลุ่มอุตสาหกรรมบริการ ตัวแปรที่ใช้ในการศึกษา คือ การกำกับดูแลกิจการ ซึ่งแบ่งเป็น 4 ด้าน ประกอบด้วย 1) ด้านคุณลักษณะของคณะกรรมการ 2) ด้านผลประโยชน์ตอบแทน 3) ด้านจำนวนชุดของคณะกรรมการที่มากกว่าข้อกำหนด และ 4) ด้านกรรมการตรวจสอบ ส่วนประสิทธิภาพการลงทุนแบ่งเป็น 3 ด้าน ประกอบด้วย 1) ด้านผลตอบแทน 2) ด้านการเติบโต และ 3) ด้านระดับการลงทุน ผลการศึกษพบว่า 1) การกำกับดูแลกิจการด้านคุณลักษณะของคณะกรรมการ และด้านการตรวจสอบ ส่งผลในเชิงลบต่อประสิทธิภาพการลงทุนด้านผลตอบแทน ในขณะที่ การกำกับดูแลกิจการด้านผลประโยชน์ตอบแทนมีอิทธิพลเชิงบวกต่อประสิทธิภาพการลงทุนด้านผลตอบแทน 2) การกำกับดูแลกิจการด้านคุณลักษณะของคณะกรรมการ และด้านการตรวจสอบ ส่งผลในเชิงบวกต่อประสิทธิภาพการลงทุนด้านการเติบโต 3) การกำกับดูแลกิจการด้านผลประโยชน์ตอบแทน ส่งผลในเชิงลบต่อประสิทธิภาพการลงทุนด้านระดับการลงทุน

**คำสำคัญ:** การกำกับดูแลกิจการ ประสิทธิภาพการลงทุน ตลาดหลักทรัพย์ เอ็ม เอ ไอ

## Abstract

This research aimed to analyze corporate governance which influences the investment efficiency of listed companies in the Market for Alternative Investment. The sample group consisted of 91 companies which were the listed companies in the Market for Alternative Investment which had complete information from year 2014 - 2018. These companies were divided into 7 groups which were agriculture and food industry group, consumer product group, technology Industry group, industrial product group, real estate and construction Industry group, resources industry group, and the service industry group. The variables used in the study were corporate governance which were divided into 4 aspects including; 1) the characteristics of the board 2) the benefits 3) the number of sets of the board that was greater than the requirements and, 4) the audit committee. The efficiency of investment was divided into 3 aspects which were 1) return, 2) growth and, 3) investment level. The results of the study revealed that 1) corporate governance regarding the characteristics of the committee and the audit committee had a negative effect on investment efficiency in term of the return aspect while the return on corporate governance had a positive influence on investment efficiency in term of the return aspect, 2) corporate governance regarding the characteristics of the committee and the audit committee had a positive effect on investment

efficiency in term of growth aspect, and 3) governance regarding benefits had a positive effect on investment efficiency in term of investment levels aspect.

**Keywords:** Corporate Governance, Investment Efficiency, Market for Alternative Investment.

## Introduction

Corporate Governance is the determination of the method, structure and business operation of the company. Good corporate governance will increase shareholder value in the long-term through the executive responsibility process and enhance the efficiency of the company. It also eliminates the ownership conflict and control by specifying separate interests of shareholders and managers. Corporate governance is a combination of the process and structure of the Board's operations to provide information, directing, managing and following the company's activities by following established goals (Bloomfield 2013). In a study of McColgan (2001), a study has presented an agency theory of corporate governance by focus on the managers and the benefits of shareholders and found that the problems of the department can be reduced through the operation of an effective corporate governance mechanism. This may be important in reducing the cost of the units and ownership issues in the company. Corporate governance should be designed according to differentiation of the company environment, the Company's corporate governance mechanisms may be more important than some companies. Corporate governance is divided into internal corporate governance and external corporate governance. The internal corporate governance mechanisms, including the characteristics of the board of directors, management and the audit committee. For the external corporate governance mechanisms, it includes shareholders and creditors (Prakobsaeng and Petchchedchoo 2017: 1)

The company's investment efficiency, according to the concept of Modigliani & Miller (1958: 261) identifies that investment efficiency occurs in complete capital markets since there is a complete replacement from internal and external funding. In an incomplete capital market, there is a problem of asymmetrical information in terms of access to resources within the company between management and investors because investors cannot access the inside information of the company and unable to inspect the work of management to bring the investment appropriately. This information asymmetry problem, resulting in the cost of external funding sources being higher than internal sources or cash flows, external funding sources have higher costs will cause financial restrictions and lead to ineffective investments or the problem of a lower investment (Fazzari et al 2000).

Listed Company, There is a separation of ownership from control business which can be divided as owners, shareholders, executives of the company and Board of Directors. For this reason, there may be a conflict of interest between the representatives of various groups, corporate governance is the system that enables the operation and internal control to ensure that the operation of various parts will lead to a benefit of the company. The corporate governance has set guidelines for the right, roles, duties and responsibilities of all stakeholders related to companies, stakeholders including shareholders, the board of directors, management and employees. A company that has a good disclosure and transparent operation, causing relevant parties

to accept and confident in the operation of the company (The Stock Exchange of Thailand 2017)

From related research, it is found that good corporate governance is related to investment efficiency. Rashed and Rahman (2016) found that the size of the board has a negative relationship with the investment efficiency in a sample of companies listed on the Egypt stock market. Chen, Sung and Yang (2017) found that corporate governance has a positive relationship with the investment efficiency of Chinese listed companies. Chen and Chen (2008) found that businesses with better corporate governance structures can leverage their investment efficiency in asset purchases. The characteristics of businesses which have a good corporate governance consists of the size of a larger board, there are more independent committees, the committee has fewer missions, it owned by the institution more, have more ownership and external management, there is more compensation based on CEO shares, better audit quality and better protecting shareholders (Scharfstein and Stein, 2000) Investment allocation in various business sectors with a good corporate governance can improve a better asset acquisition. In addition, businesses with good internal and external governance mechanisms will have higher efficiency. Lee (2017) has the results show that the asymmetry of the data is reduced, resulting in the inefficiency of investment in Taiwan. Ji (2016) found that the size of the board inversely proportional to investment efficiency. From the concept of asymmetry of information and agency problems, an important factor that affects investment efficiency is corporate governance (Stein, 2003). The company which has better corporate governance and better disclosure of information (Bertrand and Mullainathan 2003), there will be less asymmetry of data between

managers and external investors. (Healy and Palepu, 2001) and less representative as well, which results in increased investment efficiency (Bizjak et al., 1993) Therefore, good corporate governance leads to greater efficiency in investment (Chen and Chen 2012).

From past research, there was a study of the relationship between corporate governance and investment efficiency of listed companies in different countries. For Thailand, there is only a study of the relationship between corporate governance and business performance registered in the Stock Exchange of Thailand. Kaseamsap (2011) found that the size of the board of directors and the capital structure of the company are positively related to the performance of the company. From an accounting perspective, Wadhanapatee (2012) has reviewed a literature which related to knowledge of the capital markets and found that there are a fewer studies that conducted on the stock markets in emerging countries compared to the studies that conducted on the stock markets in developed countries, it causes the lack of in-depth knowledge in terms of both concrete and abstract, which can be used in the capital market development and leading to the economic development of emerging economies.

This research is to examine the relationship between corporate governance and investment efficiency of listed companies in the Market for Alternative Investment. It will lead to the findings that allow all relevant parties including executives and shareholders, to be able to use the information and make the right decision which gains benefits at all levels. In addition, it is also a way to improve the development of the capital market and the economic system in the future.

### Research Objectives

1. To analyze corporate governance which influences the investment efficiency in term of returns aspect of company listed in Market for Alternative Investment of Thailand

2. To analyze corporate governance which influences the investment efficiency in term of company's growth aspect of company listed in Market for Alternative Investment of Thailand

3. To analyze corporate governance which influences the investment efficiency in term of investment's level aspect of company listed in Market for Alternative Investment of Thailand

### Methodology

The population used in the study is companies listed on the Market for Alternative Investment, which complete information during B.E. 2557 – B.E. 2561. Due to the entry and exit of companies listed, the number of companies listed on the Market for Alternative Investment each year is not equal. During B.E. 2557 - B.E. 2561 (The Stock Exchange of Thailand 2017), there are a number of companies listed on the Market for Alternative Investment that is not in the financial business group. There are only 91 companies that have

complete information and use in these studies. Collecting data from secondary data and collect from the annual information disclosure form (56-1), annual report (56-2), financial statement reports through the website of the Stock Exchange of Thailand. The website of the Securities and Exchange Commission ([www.sec.or.th](http://www.sec.or.th)), and the website of SETSMART (SET Marketing Analysis and Reporting Tool).

The research tools were created in order to study corporate governance which has an influence on the investment efficiency of listed companies on the Market for Alternative Investment. Data are collected from secondary data, and literature reviews are developed in order to develop the assumption and create a model.

The research variables consist of dependent variables for measuring investment efficiency of the company including IEr represent investment efficiency in term of returns aspect, IEg represents investment efficiency in term of company's growth aspect, IEi represents investment efficiency in term of investment's level aspect. Independent variables are the representatives of corporate governance. The details of variables measurement are shown in table 1

**Table 1** Details of variables used in the study.

Dependent Variable		
Initials	Variable	Measurement
IEr	Investment efficiency in term of returns aspect	Profit before tax and interest on capital expenditure of property, plant and equipment of the company <sub>(i)</sub> as of year <sub>(t)</sub> + Profit before tax and interest exemption on capital expenditures for property, plant and equipment of the Company <sub>(i)</sub> as of year <sub>(t)</sub>
IEg	Investment efficiency in term of company's growth aspect	(Sales to capital expenditures on property, plant and equipment) + (sales to capital expenditures exemption for property, plant and equipment) of the Company <sub>(i)</sub> as of year <sub>(t)</sub>

Dependent Variable		
Initials	Variable	Measurement
IEi	Investment efficiency in term of investment's level aspect	$(\text{CAPEX}_{i,t} + \text{NonCAPEX}_{i,t})$ of company <sub>(i)</sub> a year <sub>(t)</sub>
EBIT <sub>i,t</sub>	Profit before tax and interest	Profit before tax and interest of the company <sub>(i)</sub> as of year <sub>(t)</sub>
SG <sub>i,t</sub>	The rate of sales growth	$[\text{Sales of the Company}_{(i)} \text{ as of year}_{(t)} - \text{Sales of the Company}_{(i)} \text{ as of year}_{(t-1)}] / \text{sales of the Company}_{(i)} \text{ as of year}_{(t)+1}$
CAPEX <sub>i,t</sub>	Capital expenditure on property, plant and equipment	The value of capital expenditure on property, plant and equipment of the company <sub>(i)</sub> as of year <sub>(t)</sub>
NonCAPEX <sub>i,t</sub>	Capital expenditures, excluding property, plant and equipment	Capital expenditure, excluding the value of property, plant and equipment of the company <sub>(i)</sub> as of year <sub>(t)</sub>
The abbreviations of the Director is CGA		
Bsize	The number of Board	Number of Board of Directors
Bind	The proportion of independent directors	The proportion of independent directors on the Board
Bman	The proportion of the number of Directors on the Executive Committee	The proportion of the number of Directors to the position of Executive Director
Bbis	The proportion of directors with an experience related business of the Company	The proportion of directors with experience related to the business of the Company
Bfin	The proportion of directors with a knowledge or expertise in accounting or finance	The proportion of directors with a knowledge or expertise in accounting or finance.to the Board of Directors
Bmeet	The frequency of Board meetings	The number of Board meetings.
The abbreviations of the Benefits is CGB		
CEOcomp	The remuneration of the Chairman	Annually remuneration of the Board of Directors
Bcomp	Remuneration of Directors	Annually remuneration of Directors
The abbreviations of the number of sub-series is CGC		
COMMITother	The number of the Committee over the terms	Number of committees other than the audit committee and Executive Committee

Dependent Variable		
Initials	Variable	Measurement
The abbreviations of the Audit is CGD		
AUDITsize	The size of the Audit Committee	Number of Audit Committee
AUDITfin	The proportion of the Audit Committee with knowledge of accounting or financial on the Board of Directors	The proportion of the Audit Committee with knowledge of accounting or financial on the number of directors
AUDITB	The proportion of the Audit Committee on the Board of Directors.	The proportion of the number of the Audit Committee on the number of the Board of Directors
AUDITmeet	Frequency of meetings	The number of Audit Committee meetings

The equation used to measure the influence show as follows.

1. The analysis of equation of corporate governance influence the investment efficiency in term of returns aspect

$$IE_r = \beta_0 + \beta_1 CGA + \beta_2 CGB + \beta_3 CGC + \beta_4 CGD + \epsilon \quad \text{.....(1)}$$

$$IE_{r\ CGA} = \beta_{CGA} + \beta_{CGA1} Bsize + \beta_{CGA2} Bind + \beta_{CGA3} Bman + \beta_{CGA4} Bbis + \beta_{CGA5} Bfin + \beta_{CGA6} Bmeet + \epsilon \quad \text{.....(2)}$$

$$IE_{r\ CGB} = \beta_{CGB} + \beta_{CGB1} CEOcomp + \beta_{CGB2} Bcomp + \epsilon \quad \text{.....(3)}$$

$$IE_{r\ CGC} = \beta_{CGC} + \beta_{CGC1} COMMITother + \epsilon \quad \text{.....(4)}$$

$$IE_{r\ CGD} = \beta_{CGD} + \beta_{CGD1} AUDITsize + \beta_{CGD2} AUDITfin + \beta_{CGD3} AUDITB + \beta_{CGD4} AUDITmeet + \epsilon \quad \text{.....(5)}$$

2. The analysis of equation of corporate governance influence the investment efficiency in term of company's growth aspect

$$IE_g = \beta_0 + \beta_1 CGA + \beta_2 CGB + \beta_3 CGC + \beta_4 CGD + \epsilon \quad \text{.....(6)}$$

$$IE_{g\ CGA} = \beta_{CGA} + \beta_{CGA1} Bsize + \beta_{CGA2} Bind + \beta_{CGA3} Bman + \beta_{CGA4} Bbis + \beta_{CGA5} Bfin + \beta_{CGA6} Bmeet + \epsilon \quad \text{.....(7)}$$

$$IE_{g\ CGB} = \beta_{CGB} + \beta_{CGB1} CEOcomp + \beta_{CGB2} Bcomp + \epsilon \quad \text{.....(8)}$$

$$IE_{g\ CGC} = \beta_{CGC} + \beta_{CGC1} COMMITother + \epsilon \quad \text{.....(9)}$$

$$IE_{g\ CGD} = \beta_{CGD} + \beta_{CGD1} AUDITsize + \beta_{CGD2} AUDITfin + \beta_{CGD3} AUDITB + \beta_{CGD4} AUDITmeet + \epsilon \quad \text{.....(10)}$$

3. The analysis of equation of corporate governance influence the investment efficiency in term of investment's level aspect

$$IE_i = \beta_0 + \beta_1 CGA + \beta_2 CGB + \beta_3 CGC + \beta_4 CGD + \epsilon \quad \dots\dots\dots(11)$$

$$IE_{i\ CGA} = \beta_{CGA} + \beta_{CGA1} Bsize + \beta_{CGA2} Bind + \beta_{CGA3} Bman + \beta_{CGA4} Bbis + \beta_{CGA5} Bfin + \beta_{CGA6} Bmeet + \epsilon \quad \dots\dots\dots(12)$$

$$IE_{i\ CGB} = \beta_{CGB} + \beta_{CGB1} CEOcomp + \beta_{CGB2} Bcomp + \epsilon \quad \dots\dots\dots(13)$$

$$IE_{i\ CGC} = \beta_{CGC} + \beta_{CGC1} COMMITother + \epsilon \quad \dots\dots\dots(14)$$

$$IE_{i\ CGD} = \beta_{CGD} + \beta_{CGD1} AUDITsize + \beta_{CGD2} AUDITfin + \beta_{CGD3} AUDITB + \beta_{CGD4} AUDITmeet + \epsilon \quad \dots\dots\dots(15)$$

Statistical tools to test the hypothesis consists of

1. Descriptive statistics is the analysis of samples such as Average ( $\bar{x}$ ), standard deviation (S), Minimum, Maximum, frequency, percentage.

2. Inferential statistical analysis

3. Analyzed the regression equation by using computer software. The statistics used in data testing was multiple regression analysis by using OLS in hypothesis testing.

#### Data analysis

There is an analysis of the relationship between variables, therefore, the relationship between independent variables has been

examined by inspection Multicollinearity and use the Variance Inflation (VIF) or Tolerance. The criteria for verification is that an appropriate VIF value should not exceed 10. If this exceeds, it means Multicollinearity. For Tolerance, if the value approaches 0, it is likely to cause problems. The study found that the Variance Inflation (VIF) of all independent variables does not exceed 10 and the Tolerance of all independent variables does not close to 0, therefore, all independent variables are independent of each other and can be analyzed for multiple regression.

On this study, corporate governance which influences the investment efficiency of company listed in Market for Alternative Investment of Thailand which includes the following details:

**Table 2** Analytical results of the overall corporate governance which influence the investment efficiency in term of return aspect, growth aspect, investment level aspect of listed companies in the mai stock exchange of Thailand by using multiple regression analysis (Enter Method)

Variable	IE <sub>r</sub>		IE <sub>g</sub>		IE <sub>i</sub>	
	Unstandardized Coefficients B	P Value	Unstandardized Coefficients B	P Value	Unstandardized Coefficients B	P Value
Constant	15.438	0.002	-5.387	0.060	66.325	0.598
CGA	-4.395	0.011*	1.420	0.040*	-25.096	0.873
CGB	2.894	0.001*	0.601	0.240	68.349	0.050*
CGC	0.059	0.953	-0.777	0.187	-21.317	0.246
CGD	-3.662	0.024*	1.283	0.049*	93.013	0.185
R <sup>2</sup>	0.428		0.215		0.177	
Adj.R	0.399		0.207		0.134	

Note : \* statistically significance at the 0.05 level

From the above table, the equation can be write as follows

1. Equation of the results of corporate governance analysis that influence the investment efficiency in term of return aspect

$$IE_r = 15.438 - 4.395 CGA + 2.894 CGB - 3.662 CGD \quad \dots\dots\dots(16)$$

2. Equation of the results of corporate governance analysis that influence the investment efficiency in term of growth aspect

$$IE_g = - 5.387 + 1.420 CGA + 1.283 CGD \quad \dots\dots\dots(17)$$

3. Equation of the results of corporate governance analysis that influence the investment efficiency in term of investment level aspect

$$IE_i = 66.325 + 68.349 CGB \quad \dots\dots\dots(18)$$

From the above table and equation, we are able to answer the research hypothesis as detailed in the following table.

**Table 3** Analytical results of corporate governance on the characteristics of the committee, the Benefits, the number of sets of the board that is greater than the requirements, and the audit committee which Influence the investment efficiency in term of return aspect, growth aspect, investment level aspect of companies listed on the mai stock market of Thailand

Hypothesis	Influence variable	P Value $\leq 0.05$	Hypothesis test result
H1	CGA $\rightarrow$ IEr	0.011*	accept
H2	CGB $\rightarrow$ IEr	0.001*	accept
H3	CGC $\rightarrow$ IEr	0.953	reject
H4	CGD $\rightarrow$ IEr	0.024*	accept
H5	CGA $\rightarrow$ IEg	0.040*	accept
H6	CGB $\rightarrow$ IEg	0.240	reject
H7	CGC $\rightarrow$ IEg	0.187	reject
H8	CGD $\rightarrow$ IEg	0.049*	accept
H9	CGA $\rightarrow$ IEg	0.873	reject
H10	CGB $\rightarrow$ IEg	0.050*	accept
H11	CGC $\rightarrow$ IEg	0.246	reject
H12	CGD $\rightarrow$ IEg	0.185	reject

From Equation number 16, the corporate governance aspects that have an influence on investment efficiency in terms of returns aspect are the characteristics of the board, Benefits, and

the audit committee. When considering each aspect of corporate governance by regression analysis, the results are shown in the following table.



**Table 4** Analytical results of the corporate governance analysis of the characteristics of the compensation committee and the audit committee that has an influence on investment efficiency in return aspect

Variables	IE <sub>rCGA</sub>		Variables	IE <sub>rCGB</sub>		Variables	IE <sub>rCGD</sub>	
	Unstandardized Coefficients B	P Value		Unstandardized Coefficients B	P Value		Unstandardized Coefficients B	P Value
Constant	-0.673	0.934	Constant	0.212	0.868	ค่าคงที่	6.999	0.328
CGA <sub>1</sub>	1.409	0.050*	CGB <sub>1</sub>	3.779	0.008*	CGD <sub>1</sub>	0.154	0.937
CGA <sub>2</sub>	4.490	0.660	CGB <sub>2</sub>	-3.178	0.021*	CGD <sub>2</sub>	0.937	0.825
CGA <sub>3</sub>	0.960	0.753				CGD <sub>3</sub>	-0.933	0.046*
CGA <sub>4</sub>	8.521	0.048*				CGD <sub>4</sub>	-0.490	0.029*
CGA <sub>5</sub>	0.754	0.905						
CGA <sub>6</sub>	-1.028	0.004*						
R <sup>2</sup>	0.298			0.267			0.253	
Adj.R	0.243			0.259			0.203	

Note : \* statistically significance at the 0.05 level

From the above table, equation can be write as follows

$$IE_{rCGA} = -0.673 + 1.409 \text{ Bsize} + 8.521 \text{ Bbis} - 1.028 \text{ Bmeet} \quad \dots\dots\dots(17)$$

$$IE_{rCGB} = 0.212 + 3.779 \text{ CEOcomp} - 3.178 \text{ Bcomp} \quad \dots\dots\dots(18)$$

$$IE_{rCGD} = 6.999 - 0.933 \text{ AUDITB} - 0.490 \text{ AUDITmeet} \quad \dots\dots\dots(19)$$

From the above table and equation, we detailed in the following table.  
are able to answered the research hypothesis as

**Table 5** Analytical results of corporate governance in the characteristics of the board of directors that have an influence on investment efficiency in term of return aspect of listed companies in the mai stock market of Thailand

Hypothesis	Influence variable	P Value ≤ 0.05	Hypothesis test result
H1a	Bsize → IEr	0.050	accept
H1b	Bind → IEr	0.660	reject
H1c	Bman → IEr	0.753	reject
H1d	Bbis → IEr	0.048	accept
H1e	Bfin → IEr	0.905	reject
H1f	Bmeet → IEr	0.004	accept
H2a	CEOcomp → IEr	0.008	accept
H2b	Bcomp → IEr	0.021	accept
H4a	AUDITsize → IEr	0.937	reject
H4b	AUDITfin → IEr	0.825	reject
H4c	AUDITB → IEr	0.046	accept
H4d	AUDITmeet → IEr	0.029	accept

From equation number 17, the corporate governance aspects that have an influence on investment efficiency in terms of growth aspect are the characteristics of the board and the audit

committee. When considering each aspect of corporate governance by regression analysis, the results are shown as in the following table.

**Table 6** Analytical results of corporate governance on the characteristics of the board and the audit committee that has an influence on investment efficiency in term of growth aspect

Variables	IE <sub>gCGA</sub>		Variables	IE <sub>gCGD</sub>	
	Unstandardized Coefficients B	P Value		Unstandardized Coefficients B	P Value
Constant	0.545	0.907	Constant	-3.851	0.332
CGA <sub>1</sub>	-0.054	0.850	CGD <sub>1</sub>	0.392	0.716
CGA <sub>2</sub>	-1.563	0.042*	CGD <sub>2</sub>	3.440	0.046*
CGA <sub>3</sub>	-0.176	0.920	CGD <sub>3</sub>	4.208	0.414
CGA <sub>4</sub>	2.200	0.044*	CGD <sub>4</sub>	2.256	0.032*
CGA <sub>5</sub>	3.020	0.403			
CGA <sub>6</sub>	0.500	0.014*			
R <sup>2</sup>	0.211			0.245	
Adj.R	0.205			0.231	

Note : \* statistically significance at the 0.05 level

From the above table, equation can be write as follows

$$IE_{gCGA} = 0.545 - 1.563 \text{ Bind} + 2.200 \text{ Bbis} + 0.500 \text{ Bmeet} \quad \dots\dots\dots(21)$$

$$IE_{gCGD} = -3.815 + 3.440 \text{ AUDITfin} + 2.256 \text{ AUDITmeet} \quad \dots\dots\dots(22)$$

From the above table and equation, we are able to answer the research hypothesis as detailed in the following table.

**Table 7** Analysis of corporate governance of the Board of Directors and audit committee which have an influence on the investment efficiency in term of growth aspect of the listed companies in the mai stock market of Thailand

Hypothesis	Influence variable	P Value ≤ 0.05	Hypothesis test result
H5a	Bsize → IE <sub>g</sub>	0.850	reject
H5b	Bind → IE <sub>g</sub>	0.042	accept
H5c	Bman → IE <sub>g</sub>	0.753	reject
H5d	Bbis → IE <sub>g</sub>	0.044	accept
H5e	Bfin → IE <sub>g</sub>	0.403	reject
H5f	Bmeet → IE <sub>g</sub>	0.014	accept
H8a	AUDITsize → IE <sub>g</sub>	0.716	reject

Hypothesis	Influence variable	P Value $\leq 0.05$	Hypothesis test result
H8b	AUDITfin $\rightarrow$ IEg	0.046	accept
H8c	AUDITB $\rightarrow$ IEg	0.414	reject
H8d	AUDITmeet $\rightarrow$ IEg	0.032	accept

From equation number 18, the corporate governance aspects that have an influence on investment efficiency in terms of investment level aspect are benefits aspect. When considering

each aspect of corporate governance by regression analysis, the results are shown as in the following table.

**Table 8** Analysis of corporate governance of benefits which has an influence on investment efficiency in term of investment level aspect

Variables	IE <sub>iCGB</sub>	
	Unstandardized Coefficients B	P Value
Constant	549.512	0.000
CGB <sub>1</sub>	160.808	0.026*
CGB <sub>2</sub>	144.740	0.050*
R <sup>2</sup>	0.294	
Adj.R	0.254	

Note : \* statistically significance at the 0.05 level

From the above table, the equation can be write as follows

$$IE_{iCGB} = 549.512 + 160.808 \text{ CEOcomp} + 144.740 \text{ Bcomp} \quad \dots\dots\dots(24)$$

From the above table and equation, we are able to answer the research hypothesis as

detailed in the following table.

**Table 9:** Analysis of corporate governance of the corporate governance of benefits that have an influence on investment efficiency in term of investment levels of listed companies in the mai stock market of Thailand

Hypothesis	Influence variable	P Value $\leq 0.05$	Hypothesis test result
H10a	CEOcomp $\rightarrow$ IEi	0.026	accept
H10b	Bcomp $\rightarrow$ IEi	0.050	accept

### Research result

Overall, the study of the variables that influence investment efficiency in terms of returns aspect of companies listed on the Market for

Alternative Investment of Thailand found that in the overview of all the variables, there are only 3 variables including benefits, director's qualifications, and the audit committee. When

considering each aspects, it was found that a study of the corporate governance Audit influence the investment efficiency in term of returns of companies listed on the Market for Alternative Investment of Thailand found that the number of the Board of Directors, the proportion of the Board of Directors which have an experience related to business of the Company on the number of the Board of Directors, the frequency of the Board meetings, the remuneration of the Chairman and the remuneration of the Directors, the proportion of the audit committee Company Directors, and the frequency of the Audit Committee meetings Influence the investment efficiency in term of returns of companies listed on the Market for Alternative Investment of Thailand.

Moreover, the study of the variables that influence investment efficiency in term of company's growth aspect of companies listed on the Market for Alternative Investment of Thailand found that in the overview of all the variables, there are only 2 variables including the characteristic of Directors and the nature of the Audit Committee. When considering each aspects, it was found that the proportion of independent directors on the Board, the proportion of directors with experience related to the business of the Company, the frequency of Board meetings, the remuneration of the Chairman, the remuneration of Board of Directors, the proportion of the Audit Committee on the Board, and the frequency of meetings of the Audit Committee influences investment efficiency in term of company's growth aspect of companies listed on the Market for Alternative Investment of Thailand.

Furthermore, the study of the variables that influence investment efficiency in term of investment's level aspect of companies listed on the Market for Alternative Investment of Thailand found that in the overview of all the variables, there is only 1 variable which is benefits. When

considering each aspect, it was found that the remuneration of the Chairman and the Board of Directors influence investment efficiency in term of investment's level aspect of companies listed on the Market for Alternative Investment of Thailand.

## Discussion

The analysis's results of corporate governance in term of the Board of Directors which influence the investment efficiency in term of returns aspect of companies listed on the Market for Alternative Investment of Thailand found that the number of the Board of Directors, the proportion of the Board of Directors which have an experience related to business of the Company on the number of the Board of Directors, the frequency of the Board meetings, the remuneration of the Chairman and the remuneration of the Board, the proportion of the audit committee Company Directors, and the frequency of the Audit Committee meetings Influence the investment efficiency in term of returns of companies listed on the Market for Alternative Investment of Thailand. It is consisted with the research of Rasheda & Rahman (2016: 1) which studied the relationship between the characteristics of the executive board and the investment efficiency of the sample of companies listed on the Egyptian stock exchange and found that the characteristics of the executive committee were Board size, Independent committee, and leader structure. The study also shows that the size of the board has a significant negative relationship with investment efficiency, and the number of independent committees also has a significant negative relationship to investment efficiency, but the leadership structure has a positive relationship with the significant investment efficiency. The above results indicate that in order

to reduce asymmetry of information and facilitate monitoring of investment decisions for greater efficiency, it should reduce one-third of the existing committee. Moreover, It consists of the research of Ji (2016) which studied the impact of the size of the executive committee with the company's investment efficiency of the company. It is found that the size of the Executive Board is inversely proportional to the sensitivity of internal cash flows to investment, and the larger size of the board makes the sensitivity of internal cash flows to investments reduced, it is because of the asymmetry of data between managers and external investors

Moreover, the analysis's result of the variables that influence investment efficiency in term of company's growth aspect of companies listed on the Market for Alternative Investment of Thailand found that the proportion of independent directors on the Board, the proportion of directors with experience related to the business of the Company, the frequency of Board meetings, the remuneration of the Chairman, the remuneration of Board of Directors, the proportion of the Audit Committee on the Board, and the frequency of meetings of the Audit Committee influences investment efficiency in term of company's growth aspect of companies listed on the Market for Alternative Investment of Thailand. It consists of the research of Chen and Chen (2008) which studied the relationship between corporate governance Investment efficiency and surplus-value of various business sectors. The study found that businesses with better corporate governance structures will allow them to improve investment efficiency in asset purchases. The characteristics of better corporate governance consist of the size of the board is bigger, more independent committees, the committee has fewer missions, is owned by the institution more, have more external management ownership, have more

compensation based on CEO shares, better quality auditing, and better protecting shareholders. In addition, the findings show that the changes in investment proportions have a relation to the problem of cross-subsidies (Rajan et al 2000). This problem will not occur in the sector with good corporate governance. (Scharfstein and Stein 2000) investment allocation in various business sectors with good corporate governance, it helps to improve asset purchases. In addition, the business sector that has a good internal and external regulatory mechanisms, will have higher efficiency. The result of the hypothesis examination found that the research had accepted the hypothesis which is corporate governance has a significant impact on the surplus-value of various business sectors through the impact of investment allocation. In addition, it consists of the research of Chen, Sung and Yang (2017) which have studied the ownership structure of corporate governance and investment efficiency Of Chinese listed companies. This research result found that ownership structure and corporate governance affect the investment efficiency of Chinese listed companies according to measuring investment efficiency's model of Richardson (2006). By dividing the listed companies into two types which are state enterprises and the private sector. In addition, the method of study using the OLS equation found that the centralized ownership structure has a negative impact on investment efficiency.

However, this research does not find a significant influence on corporate governance in the number of committees that are greater than the requirements on the benefits to investment efficiency in term of return, growth, and investment level, it is supported by the requirements of good corporate governance principles (The Stock Exchange of Thailand 2019) which conclude that having the number of sets of committees in

accordance with the regulations is sufficient for corporate governance responsibilities in Chapter 5 Board Responsibilities. In addition, the audit committee which has to comply with the regulations of the Stock Exchange of Thailand, Board should consider establishing other sub-committees for good corporate governance, namely the compensation committee and the nominating committee. This is in compliance with the good corporate governance practices of listed companies.

Furthermore, the analysis's results of the variables that influence investment efficiency in term of investment's level aspect of companies listed on the Market for Alternative Investment of Thailand found that the remuneration of the Chairman and the Board of Directors influence investment efficiency in term of investment's level aspect of companies listed on the Market for Alternative Investment of Thailand. It is consistent with the research of Lin, Ma and Su (2009) which studies of corporate governance and the efficiency of the company In the case of Chinese listed companies by used Double Bootstrapping, Data Envelope Analysis: DEA method, to test the implementation of corporate governance in various forms. It is found that the efficiency of the company has a negative relationship with state ownership, while has a positive relationship with ownership by employee partners

### **Suggestion**

Suggestions for applying research results

1. The results of the study of corporate governance of the directors that have an influence on investment efficiency in terms of returns aspect and company's growth aspect of companies listed on the Market for Alternative Investment of Thailand. If the company wants to focus on the return on investment, then should pay attention

on the corporate governance of the directors, such as the number of the Board of Directors, the proportion of the Board of Directors with have experience related to business on the number of the Board of Directors, the frequency of the board meetings. On the other hand, if company want to focus on investment efficiency in term of company's growth aspect, then company should consider the proportion of the Board of Directors, the proportion of the number of independent directors to the number of directors, the proportion of the Board of Directors with have experience related to business on the number of the Board of Directors, and the frequency of the board meetings.

2. The results of the study of corporate governance of the directors that have an influence on investment efficiency in terms of company's growth aspect and investment's level aspect of companies listed on the Market for Alternative Investment of Thailand. If the company wants to focus on investment's level aspect, they should pay attention to corporate governance regarding the remuneration of the Chairman of the Board and the remuneration of the Board of Directors

3. The results of the study of, corporate governance regarding audit committee that has an influence on investment efficiency in terms of returns aspect and company's growth aspect of companies listed on the Market for Alternative Investment of Thailand. If the company wants to focus on its investments and growth, then should pay more attention to the audit committee's corporate governance, including the proportion of the audit committee of the Board of Directors and the frequency of meetings.

### **Recommendations at the policy level**

From the study of variables that influence investment efficiency in terms of returns aspect and company's growth aspect of listed companies in the MAI stock market of Thailand. If the

Securities and Exchange Commission wishes to emphasize investment efficiency in the overall level of investment, then they should pay more attention to corporate governance regarding benefits. However, if they want to focus on investment efficiency the overall growth aspect, then they should consider the variable of the corporate governance of the directors and the audit committee

#### **Suggestions for further research**

From the many limitations of studies that use variables including returns aspect, company's growth aspect, and investment's level aspect. Future research can use Econometric method by using continuous variables instead of investment efficiency. Secondly, this research only uses a small sample focused on companies listed on the Market for Alternative Investment of Thailand. Therefore, the results of the study apply only to companies of this size, future research should choose more samples and extend the period of study.

#### **Acknowledgment**

Thank you to Dr.Pattananat Petchchedchoo that given me valuable suggestions for research development, which leads to knowledge, critical thinking skills, and synthesis, until the research was accomplished and gained knowledge related to good corporate governance in order to increase investment efficiency of the Market for Alternative Investment of Thailand

#### **Reference**

- Bertrand, M., and Mullainathan, S. Enjoying the Quiet Life? Corporate Governance and Managerial Preferences. **Journal of Political Economy**. 111 (2003): 1043-1075.
- Bizjak, J. M., Brickley, J. A., and Coles, J. L. Stock-based Incentive Compensation and Investment Behavior. **Journal of Accounting and Economics**. 19, (1993): 349-372.
- Bloomfield, S. **Theory and Practice of Corporate Governance: An Integrated Approach**. Cambridge: Cambridge University Press, 2013.
- Chen, I. J., and Chen, S. S. Corporate Governance and Investment Efficiency of Diversified Firms: Evidence from Corporate Asset Purchases. **SSRN Electronic Journal**, (February 2008): DOI: 10.2139 / ssrn.1099234.
- Chen, N., Sung, HC, and Yang, J. Ownership structure, corporate governance and investment efficiency of Chinese listed firms. **Pacific Accounting Review**. 29, 3 (2017): 266-282.
- Chen, S., and Chen, I. Corporate Governance and Capital Allocations of Diversified Firms. **Journal of Banking & Finance**. 36, (2012): 395-409.
- Fazzari, SM, Hubbard, GR, and Petersen, BC Investment-Cash Flow Sensitivities Are Useful: A Comment on Kaplan and Zingales. **Quarterly Journal of Economics**. 115, 2 (2000): 695-705.
- Healy, P., and Palepu, K. Information Asymmetry, Corporate Disclosure, and the Capital Markets: a Review of the Empirical Disclosure Literature. **Journal of Accounting and Economics**. 31 (2001): 405-444.
- Ji, A. E. The Impact of Board Size on Firm-Level Capital Investment Efficiency. **International Journal of Economics and Finance**. 8, 10 (2016): 110-120.

- Kaseamsap, W. **The relationship between corporate governance and performance of the Company are listed on the Stock Exchange of Thailand.** Bangkok: Thammasat University, 2011.
- Lee, M. T. **Corporate Social Responsibility, Corporate Governance, and Investment Efficiency: Evidence from an Asian Emerging Market.** the 7th International Conference of The Japanese Accounting Review (TJAR) to be held on 7 January 2017 at Rokkodai Campus of Kobe University in Japan: 1-44.
- Lin, C., Ma, Y., and Su, D. Corporate Governance, and Investment Efficiency: Evidence from China's Publicly Listed Firms. **Managerial and Decision Economics.** 30 (2009): 193-209.
- McColgan P., **Agency theory and corporate governance: a review of the literature from a UK perspective.** Department of Accounting and Finance, University of Strathclyde, Glasgow, 2001.
- Modigliani, F., and Miller, M. H. The Cost of Capital, Corporation Finance and the Theory of Investment. **The American Economic Review.** 48, 3 (1958): 261-297.
- Prakobsaeng, K. and Petchchedchoo, P. Corporate Governance Mechanisms, Political Connection and Earnings Quality, **SUTHIPARITHAT** 31, 99 (2017): 1-15.
- Rajan, R., Servaes, H., and Zingales, L. The Cost of Diversity: The Diversification Discount and Inefficient Investment. **Journal of Finance.** 55 (2000): 35-80.
- Rashed, A. S, and Rahman, E. M. A. **Board Characteristics and Investment Efficiency: Evidence from Egypt.** Proceedings of 34<sup>th</sup> International Business Research Conference to be held on 4 - 5 April 2016 at Imperial College, London, UK: 1-10.
- Richardson, S. A. Over-investment of free cash flow. **Review of accounting studies.** 11, 2-3 (2006): 159-189.
- Scharfstein, D., and Stein, J. The Dark Side of Internal Capital Markets: Divisional Rent-Seeking and Inefficient Investment. **Journal of Finance.** 55, (2000): 2537-2564.
- Stein, J. **Agency, Information, and Corporate Investment.** In George Constantinides, Milton Harris, and Rene' Stulz, (eds), *Handbook of the Economics of Finance* Amsterdam: Elsevier Science, 2003.
- The Stock Exchange of Thailand. **Good corporate governance.** (online) 2019 (cited 30 September 2019). from [https://www.set.or.th/sustainable\\_dev/th/cg/responsibility\\_p1.html](https://www.set.or.th/sustainable_dev/th/cg/responsibility_p1.html)
- The Stock Exchange of Thailand. **Grouping of industry and business category.** (Online) 2017 (cited November 26, 2017). from [https://www.set.or.th/th/regulations/simplified\\_regulations/industry\\_sector\\_p1.html](https://www.set.or.th/th/regulations/simplified_regulations/industry_sector_p1.html).
- Wadhanapatee, S. **The Impact of US Monetary Policy Transmission on Security Prices in the Stock Exchange of Thailand: Tests of Market Efficiency.** Bangkok: Dhurakij Pundit University, 2012.