

A Study of Corporate Governance and Firm Value: The Case of Korean Shipping and Shipbuilding Industry*

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Abstract

As Korea's core industries, shipping and shipbuilding industry of Korea have global competitiveness and mutually related. After the Global Financial Crisis in 2008, both industries fall into financial depression, thus progress financial re-structuring forced by Korean government. In the process of re-structuring, government policy loan much more concentrates shipbuilding industry than shipping industry.

Based on this argument, this study examines the impact of corporate governance on firm value in shipping and shipbuilding industry. This study develops the research question by comparing the firm value between ownership structure and board structure using panel data set during sixteen-year periods (2000-2015).

We find that excessive governmental ownership decrease firm value rather and board composition of shipping industry is more efficiently operated than that of shipbuilding industry. Therefore, systematic government policy should be required to rehabilitate Korean shipping and shipbuilding industry, leading industry of Korean economy.

Key Words: Board Structure, Corporate Governance, Firm Value, Ownership Structure, Shipping and Shipbuilding Industry

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I. Introduction

In the view of business value chain, shipping and shipbuilding industry are considered as strict cooperative relationship. Based on these strong forward and backward effects between two industries, Korea's shipping and shipbuilding industry have been recognized as major leading industries of Korean economy since 1970's. As a result, the volume of shipping industry is ranked 5th in the world as well as that of shipbuilding industry is ranked 1st in the world for past twenty years.

However, both industries have been being under the serious financial risk since Global Financial Crisis in 2008, thus many major shipping companies of Korea were bankrupt. In addition, shipbuilding industry of Korea has been suffered severe financial depression due to rapid decrease of back log of orders. The financial risk of both industries reached peak from late 2016 to early 2017 so that Hanjin shipping, the world 7th biggest container company was forced liquidated as well as DSEM, the world 2nd biggest shipbuilder is carrying out a large-scale restructuring against the Korean government.

By the way, governmental research institute's report in 2017¹⁾ argues that the restructuring process of shipping was discriminated against the Korean government. Even though shipping and shipbuilder have been fall into the financial problem since Global Financial Crisis in 2008, government supports heavily concentrate shipbuilding industry. For example, the volume of policy loan for DSEM was 4.2 trillion KRW (US\$ 4 billion) whereas Hanjin shipping just received 1 trillion KRW (US\$ 1 billion) including short-term P-CBO. These discriminated policy loan supply between them considered as that government ownership of shipbuilding industry is much larger than that of shipping industry. For instance, government ownership of DSME was 58.2 per cent while that of Hanjin Shipping was 5 per cent below as of 2015. Namely, the intensive supports for shipbuilding industry result from the difference of corporate governance, thus it might be considered as the Korean government's strategy to avoid huge loss of governmental investment.

1) Korean Maritime Institute (2017), "why re-structuring and governmental policy loan are not effective for shipping industry?", Trend Analysis Issue No.5

Reflecting these arguments, this study examines the impact of corporate governance on firm value of Korean shipping and shipbuilding industry and compares how ownership structure and firm's board structure affects firm value across shipping and shipbuilding industry.

This study expects to contribute the literature and practice on shipping and shipbuilding industry in several ways. First, this study investigates ownership structure as participants in the corporate governance mechanism of Korean shipping and shipbuilding industry. Thus, this study provides empirical evidence how fragmented ownership structure differently affects firm value between two industries by classifying ownership structure into five categories. Second, few previous researches examines (Nam and Sohn, 2015a and b) the relationship between board structure and firm value for shipping and logistics industry. However, this study examines the influence of board structure and board characteristics on firm value of shipping and shipbuilding firms listed on the Korean Stock Exchange (KRX) for sixteen years (2000 to 2015). Therefore, this study provides comprehensive results of corporate governance for Korean shipping and shipbuilding industry. Finally, this study proposes the implication of government role and board characteristics for Korean shipping and shipbuilding industry. Both industries account for tremendous portion in Korean economy. Despite discriminated policy loan supply for shipbuilding industry, the financial distress of DSME is still progressing and the biggest shipping firm in Korea was finally disintegrated. Thus, this study comes up with the role of government and the importance of corporate governance.

The reminder of this paper is organized as follows. Chapter 2 outlines previous researches and proposes research questions. In Chapter 3, sample selection procedure and research methodology will be addressed. The empirical results are presented in Chapter 4. The summary of the research and suggestions of further research will appear in Chapter 5.

II. Literature Review

Corporate governance is the system by which corporations are directed and managed. It specifies the relationship and distribution of rights and responsibilities among the providers of capital, the board, managers and

other stakeholders (employees, consumer, the community and the state) of the corporation (OECD 1999). Standard and Poor's (2000, p.1) define corporate governance as "*encompassing the interactions between a firm's management, its board of directors, and its financial stakeholders (e.g. shareholders and creditors)*". Rezaee (2004) defines corporate governance as the mechanism by which a firm is managed and monitored, and thus effective and balanced corporate governance can improve the integrity of financial reporting quality and firm value.

Lopez-de-Silanes (2002) argues that firms with better corporate governance might show greater financial reporting quality in terms of lower level of earnings management, greater earnings persistence, and higher stock market returns. Thus, corporate governance plays a crucial role in improving the firm value.

There are very few previous researches on the relationship between corporate governance and firm value in shipping and shipbuilding industry. Yeo (2012) examines how corporate governance affects Merger and Acquisitions (M&As) strategy of shipping firm. Shipping industry has highly concentrated ownership which mainly is family and institutions and board of directors mechanism plays an important role to alliance and M&As strategy. Nam and Sohn (2015a) investigate whether managerial ownership and foreign ownership have impacts on firm value, using a sample of shipping and logistics firms. They find that managerial ownership and foreign ownership can protect shareholders by positively affecting firm values. Another research of Nam and Son (2015b) tests whether board members and board size are effective monitors using sample of shipping and logistic firms. In their research, board size positively affects firm value whereas interlocking board member decrease firm value.

In summary, ownership structure and board structure as important factors of corporate governance are significantly associated with firm value. Thus, the impact of ownership structure and board structure differently affects firm value following their attributes.

III. Research Methodology

1. Sample Selection

This study uses shipping and shipbuilding firms listed on the Korean Stock Exchange (KRX) for sixteen-year (2000-2015). Ownership and corporate governance data is obtained from *DART* and financial statements and stock information data are acquired from KIS-VALUE database respectively. The final sample includes 95 firm-year observations of shipping firms and 78 firm-year observations of shipbuilding firms over the sixteen-year periods.

2. Measurement of Variables

1) Firm Value

There are numerous measures of firm value. This study uses market performance of firm (Tobin's Q) as proxy of firm value. Tobin's Q calculated by firm's market value of equity at the end of fiscal year divided by book value of equity at the end of fiscal year, following Jung and Kwon (2002).

2) Ownership Structure Variables

In order to test the impact of fragmented ownership structure on firm value, five different types of ownership structure variables are used: (1) government shareholders (GOV), 2) institutional shareholders (INST), 3) large internal shareholders (LARGE), 4) foreign shareholders (FOR) and 5) personal shareholders (ANT).

3) Board Structure Variables

The board variables consist of internal directors (BOD), outside directors (OUTB), defined as independent directors without any relationship of firm. In addition, we test the association between board quality and firm value. Board quality variables are decomposed into board activities (ACT) defined as a frequency of board meeting and outside directors' professional background: 1) professor (PRF), 2) entrepreneur (ENT), 3) lawyer (LAW) and 4) banker (BANK).

4) Control Variables

Two control variables that may affect firm value. Firm size (SIZE) is employed to control size effects and calculated as the natural logarithm of

book value of total assets. Leverage ratio (LEV) is the ratio of total debts to total assets.

3. Empirical Model

In order to test the impact of ownership structure and board structure on firm value as measured by Tobin's Q, a linear regression model between corporate governance variables and Tobin's Q is employed using following formula:

$$FirmValue = \alpha_0 + \beta_1 GOV + \beta_2 INST + \beta_3 LAR + \beta_4 FOR + \beta_5 ANT + \beta_6 SIZE + \beta_7 LEV + \varepsilon$$

.....Equation (2)

$$FirmValue = \alpha_0 + \beta_1 BOD + \beta_2 OUTB + \beta_3 ACT + \beta_4 PRF + \beta_5 ENT + \beta_6 LAW + \beta_7 BANK + \beta_8 SIZE + \beta_9 LEV + \varepsilon$$

.....Equation (3)

where, for firm i and period t

Firm Value = Tobin's Q

GOV = the percentage of equity shares owned by government including all governmental financial institutes

INST = the percentage of equity shares owned by institutions excluding government and governmental financial institutes

LAR = the percentage of equity shares owned by internal owner and affiliated firms under the control of internal owner

FOR = the percentage of equity shares owned by foreign shareholders

ANT = the percentage of equity shares owned by personal shareholders

BOD = the number of internal directors on board

OUTB = the number of outside directors on board

PRF = the number of professors out of outside directors on board

ENT = the number of entrepreneurs out of outside directors on board

LAW = the number of lawyers out of outside directors on board

BANK = the number of bankers out of outside directors on board

ACT = a frequency of board meeting

SIZE = natural log of total assets

LEV = book value of debt to book value of equity

As this study uses panel data, panel data methodology should be employed. After conducting the Hausman test, we find the random effects model is more suitable than fixed effect model and pooled-OLS estimation.

Zhou (2001) also argues that random effects model in panel data is appropriate because ownership-firm value relationship is likely to be a cross-sectional phenomenon. Thus, random effects model is utilized in this study.

] **IV. Empirical Results**

1. Descriptive Statistics

Table 1 presents descriptive statistics for firm value, ownership and board structure and other control variables. First of all, mean of Tobin's Q is 7.656 (shipping) and 13.082 (shipbuilding), respectively. Firm value of shipping industry is relatively lower than that of shipbuilding industry. It suggests that financial risk due to Global Financial Crisis more significantly affects shipping industry than shipbuilding industry.

Outstanding feature of ownership structure is that mean value of government ownership for shipbuilding industry (17.327) is four times much more than that of shipping industry (4.275). It proves that government supports have been concentrate to shipbuilding industry. Foreign ownership is also much more concentrated on shipbuilding industry (17.035) than shipping industry (3.637). This can be explained as that foreign shareholders prefer large firms with good firm performance (An, 2015) since mean value of Tobin's Q of shipbuilding industry is higher than that of shipping industry.

Furthermore, financial leverage ratio (LEV) of Korean shipping and shipbuilding industry is also interesting. The mean value of leverage ratio of shipping industry is 1.864 while shipbuilding industry's mean value of leverage is 3.463. It means Korean shipbuilding industry has a significantly high level of dependence on debt, compared with shipping industry. High leverage ratio of Korean shipbuilding industry can be explained by significant decrease of new offshore plant order quantity due to low oil price. Major Korean shipbuilders focused on offshore plant manufacturing following high oil price after 2009. However, slugging global economy and shale energy cause fetch down oil price so that new offshore plant order quantity order quantity were drastically reduced as well as the existing contracts were quashed. In addition, reduced new ship

order due to recession of shipping business after Global Financial Crisis in 2008 intensifies high leverage ratio of shipbuilding industry.

<Table 1> Descriptive Statistics of Variables

<i>Shipping Industry</i>					
	Mean	Median	Max	Min	Std Dev
<i>Tobin's Q</i>	7.656	4.200	35.200	0.485	9.850
<i>GOV</i>	4.275	2.005	23.060	0.000	5.584
<i>INST</i>	9.730	5.740	33.270	0.160	11.238
<i>LAR</i>	29.715	18.760	76.240	9.45	12.893
<i>FOR</i>	3.637	0.565	64.840	0.130	7.651
<i>ANT</i>	32.813	41.075	72.870	16.920	19.861
<i>BOD</i>	2.333	3.000	5.000	1.000	1.351
<i>OUTB</i>	2.552	2.000	5.000	1.000	1.978
<i>ACT</i>	9.854	9.500	26.000	1.000	8.168
<i>PRF</i>	0.542	0.000	2.000	0.000	0.630
<i>ENT</i>	1.135	1.000	4.000	0.000	1.287
<i>LAW</i>	0.864	1.000	2.000	0.000	0.658
<i>BANK</i>	0.552	0.000	2.000	0.000	0.633
<i>SIZE</i>	28.196	28.023	30.047	25.727	1.401
<i>LEV</i>	1.864	1.251	2.579	0.147	0.659
<i>Shipbuilding Industry</i>					
	Mean	Median	Max	Min	Std.Dev
<i>Tobin's Q</i>	13.082	6.350	86.600	0.774	17.359
<i>GOV</i>	17.327	5.060	76.690	0.010	23.989
<i>INST</i>	6.673	5.300	51.070	0.280	8.668
<i>LAR</i>	34.684	19.09	59.760	0.020	2.634
<i>FOR</i>	17.035	21.815	36.200	3.040	14.799
<i>ANT</i>	40.577	43.685	71.320	10.340	17.918
<i>BOD</i>	2.152	2.000	5.000	1.000	1.272
<i>OUTB</i>	3.275	3.000	5.000	1.000	0.981
<i>ACT</i>	8.848	10.000	28.000	4.000	5.449
<i>PRF</i>	0.925	1.000	4.000	0.000	1.099
<i>ENT</i>	0.113	0.000	2.000	0.000	0.389
<i>LAW</i>	0.712	1.000	3.000	0.000	0.783
<i>BANK</i>	1.525	2.000	4.000	0.000	1.006
<i>SIZE</i>	29.341	29.682	31.609	26.901	1.499
<i>LEV</i>	3.463	2.875	42.658	1.216	4.663

2. Correlation

Table 2a shows the Pearson Correlation among ownership structure, firm value and other control variables. Outstanding correlation is government ownership and firm value (Tobin's Q). In shipping industry, government ownership is positively correlated while government ownership of shipbuilding is negatively correlated. It suggests that

excessive government ownership is likely to reduce firm value. Like government ownership, firm size has opposite sign between both industries. It seems different degree of financial depression between both industries caused by discriminated government policy loan supply.

<Table 2a> Pearson Correlation of Ownership Structure

<i>Ownership Structure Correlation of Shipping Industry</i>								
	<i>TQ</i>	<i>GOV</i>	<i>INST</i>	<i>FIRM</i>	<i>FOR</i>	<i>ANT</i>	<i>SIZE</i>	<i>LEV</i>
<i>TQ</i>	1							
<i>GOV</i>	0.544 ^{***}	1						
<i>INST</i>	0.481 ^{**}	0.253	1					
<i>FIRM</i>	0.160	0.318	0.172 ^{***}	1				
<i>FOR</i>	-0.186	-0.298	0.091	-0.105 ^{***}	1			
<i>ANT</i>	-0.231 ^{***}	0.212 ^{***}	0.136 [*]	0.097	-0.089 ^{**}	1		
<i>SIZE</i>	-0.090 ^{***}	0.249 ^{***}	-0.149 ^{***}	0.561	0.080 ^{***}	-0.053	1	
<i>LEV</i>	-0.056 ^{***}	-0.029	-0.026	-0.011 ^{***}	-0.065	-0.044 ^{***}	0.101 ^{**}	1
<i>Ownership Structure Correlation of Shipbuilding Industry</i>								
	<i>TQ</i>	<i>GOV</i>	<i>INST</i>	<i>FIRM</i>	<i>FOR</i>	<i>ANT</i>	<i>SIZE</i>	<i>LEV</i>
<i>TQ</i>	1							
<i>GOV</i>	-0.156 ^{***}	1						
<i>INST</i>	-0.478	0.215 ^{***}	1					
<i>FIRM</i>	-0.141	-0.875	0.103 ^{**}	1				
<i>FOR</i>	0.170 ^{***}	0.501	0.244	-0.238 ^{***}	1			
<i>ANT</i>	-0.424 ^{***}	-0.061 ^{**}	0.482	0.406	0.693	1		
<i>SIZE</i>	0.201 ^{***}	0.351 ^{***}	0.421 [*]	-0.069 [*]	0.895 ^{***}	0.818 ^{***}	1	
<i>LEV</i>	-0.149 ^{***}	0.226 ^{***}	-0.009	-0.168 ^{**}	0.214	0.031 ^{***}	0.222 ^{***}	1

Note: * p<0.10, ** p<0.05, *** p<0.01

Table 2b presents correlation of board structure with firm value and two control variables. Internal boards are negatively correlated with firm value in both industries at 0.01 levels. Interestingly, outside directors on board in shipping industry shows negative correlation with firm value at 0.05 levels. Hence, it seems that board structures in both industries are not properly operated.

In the view of board characteristics, outside directors from banker are significantly correlated to firm size and leverage ratio in both industries. Moreover, outside directors from lawyer has significant correlation with firm size in both industries and leverage ratio with shipping industry. This correlation implies that both industries prefer to appoint financial experts to mitigate their financial depression. In shipping industry, outside

directors from lawyer might be appointed to protect lawsuit due to bankruptcy.

<Table 2b> Pearson Correlation of Board Structure

<i>Board Structure Correlation of Shipping Industry</i>										
	<i>TQ</i>	<i>BOD</i>	<i>OUTB</i>	<i>ACT</i>	<i>PRF</i>	<i>ENT</i>	<i>LAW</i>	<i>BANK</i>	<i>SIZE</i>	<i>LEV</i>
<i>TQ</i>	1									
<i>BOD</i>	-0.422***	1								
<i>OUTB</i>	-0.108**	0.338	1							
<i>ACT</i>	-0.149	0.278	0.247	1						
<i>PRF</i>	-0.082	0.187	0.488	0.338	1					
<i>ENT</i>	-0.136**	0.417	0.633***	-0.142	-0.041	1				
<i>LAW</i>	0.133	-0.061	0.489*	0.173	0.605	0.121	1			
<i>BANK</i>	0.374***	-0.165	0.161***	0.209**	0.240	-0.277	0.429	1		
<i>SIZE</i>	-0.090***	0.130**	0.744***	0.124*	0.393*	0.514*	0.614**	0.285***	1	
<i>LEV</i>	-0.056	0.043	0.065	0.096	0.045	0.012	0.096**	0.075***	0.101***	1
<i>Board Structure Correlation of Shipbuilding Industry</i>										
	<i>TQ</i>	<i>BOD</i>	<i>OUTB</i>	<i>ACT</i>	<i>PRF</i>	<i>ENT</i>	<i>LAW</i>	<i>BANK</i>	<i>SIZE</i>	<i>LEV</i>
<i>TQ</i>	1									
<i>BOD</i>	-0.015***	1								
<i>OUTB</i>	0.173	0.596	1							
<i>ACT</i>	0.051	0.533	0.562***	1						
<i>PRF</i>	0.088	0.201	0.608	0.367	1					
<i>ENT</i>	-0.149	0.335	0.286	0.168	0.103	1				
<i>LAW</i>	0.553	0.022	0.279***	0.163	-0.001	-0.192	1			
<i>BANK</i>	-0.438	0.171	0.127***	0.041	-0.163	0.104	-0.606	1		
<i>SIZE</i>	0.422***	0.579**	0.776***	0.627***	0.578*	0.107*	0.527**	-0.237***	1	
<i>LEV</i>	-0.146*	0.008*	0.251	0.138***	0.254	-0.027	-0.010	0.209***	0.111	1

Note: * p<0.10, ** p<0.05, *** p<0.01

3. Empirical Results

Table 3 provides the random-effect results of how ownership structure affects the firm value for both industries. In shipping industry, government ownership is positively related to Tobin's Q whereas government ownership in shipbuilding industry is negatively associated with Tobin's Q at 0.01 levels. As show in Table 1, government ownership of shipbuilding industry is four times more than that of shipping industry. Thus, this result implies that excessive government ownership rather decrease firm value.

Institutional ownership only positively affects firm value in shipping industry. Thus, positive influence of institutional ownership in shipping

industry on firm value means that institutional shareholder have the resource, expertise and the power to effectively monitor the actions of management and to maximize firm value for the shareholders (Chung, Firth and Kim, 2002).

The impact of personal shareholders (ANT) on firm value is significantly negative for both industries at 0.01 levels. It can be explained as that personal shareholders are transient investors without significant incentives to monitor firm management and tend to sell the stock in the absence of current profits (Graves 1988).

The relationship between firm size and firm value shows contrary results with two industries. Negative coefficient of firm size in shipping industry reflects financial distress of large scaled shipping firms while positive coefficient of shipbuilding industry shows bankruptcy of mid and small sized shipbuilders. Thus, this result directly presents recent re-structuring process of Korean government.

<Table 3> Effect of Ownership Structure on Firm Value

<i>The Influence of Ownership Structure (Random Effect Estimation)</i>		
	<i>Shipping Industry</i>	<i>Shipbuilding Industry</i>
Variables	<i>Tobin's Q</i>	<i>Tobin's Q</i>
GOV	1.014 ^{***}	-0.868 ^{***}
INST	0.298 ^{***}	-0.024
LAR	0.062	-0.049
FOR	-0.025	0.065
ANT	-0.209 ^{***}	-0.155 ^{***}
SIZE	-1.868 ^{***}	1.567 ^{***}
LEV	-0.009	-0.098 ^{**}
Constant	58.822 ^{***}	-32.806 ^{**}
Adj R²	0.587 ^{***}	0.544 ^{***}
F-Stat	20.061	9.338

Note: * p<0.10, ** p<0.05, *** p<0.01

In addition, this study examines the impact of board structure on firm value. Board structure consists of the existence of internal board and outside directors on board, the activity of board and the characteristics of outside directors on board.

The coefficients of internal board (BOD) on Tobin's Q are -3.086 (shipping) and -4.342 (shipbuilding), statistically significant at 0.01 and

0.05 levels, respectively. This result shows that internal board members of both industries do not rather negatively affect firm's management. This result implies that internal board members would be dominated by firm's top management or controlling shareholders. As shown in Table 1, the largest shareholders in both industries are internal owner and affiliated firms under the control of internal owner (LAR). Specifically, in shipbuilding industry, government ownership is also major controlling shareholder to affect firm's management.

Outside directors on board (OUTB) do not affect firm value in both industries. No impact of outside directors on board in both industries suggests that the role of independent director is not effectively operated, thus fail to increase firm's management efficiency. Similar with the result of outside directors on board, board activity (ACT) does not affect firm value in both industries. Overall, board structure in both industries seems not to be efficiently operated to increase firm value and firm's management.

In the characteristics of outside directors in shipping industry, outside directors from entrepreneurs and banker are positively significant with firm value (3.134 and 7.822) at 0.01 levels. Xie et al. (2003) and An (2017) find that outside directors who are financial experts such as banker or CPA and entrepreneurs increase firm value due to their strong financial skills and knowledge of industry. Hence, we can conclude that outside directors in shipping industry are properly composed. Unlike the evidence of shipping industry, no characteristics of outside directors affect firm value in shipbuilding industry. It implies that shipbuilding industry consider re-organizing board structure to increase firm value.

Finally, size effect (SIZE) is different result between shipping industry and shipbuilding industry. The negative effect of firm size on firm value in shipping industry shows financial depression of big company such as Hajin and Hyundai Merchant Marine in recent years. Contrast to shipping industry, shipbuilding industry has positive relationship between firm size effect and firm value. It suppose that shipbuilding industry is so called 'too big to fail' due to heavily concentrated government ownership.

<Table 4> Effect of Board Structure on Firm Value

<i>The Influence of Board Structure (Random Effect Estimation)</i>		
	<i>Shipping Industry</i>	<i>Shipbuilding Industry</i>
Variables	<i>Tobin's Q</i>	<i>Tobin's Q</i>
BOD	-3.086 ^{***}	-4.342 ^{**}
OUTB	-0.217	3.230
ACT	-0.047	-0.584
PRF	0.358	-5.197
ENT	3.134 ^{**}	-4.128
LAW	1.933	-0.745
BANK	7.822 ^{***}	-4.599
SIZE	-3.062 ^{***}	8.573 ^{***}
LEV	-0.018	-0.412
Constant	92.478 ^{***}	-32.806 ^{**}
Adj R²	0.310 ^{***}	0.366 ^{***}
F-Stat	5.693	5.945

Note: *p<0.10, **p<0.05, ***p<0.01

V. Conclusion

This study examines the impact of corporate governance on firm value in shipping and shipbuilding industry. This study develops the research question by comparing the firm value between ownership structure and board structure using panel data set during sixteen year periods (2000-2015). This study finds that ownership structure differently affect firm value in both industries. Specifically, excessive governmental ownership negatively affects firm value shown in case of shipbuilding industry. Institutional ownership such as private financial institutions only positively related to firm value of shipping industry. It means private financial support would be more efficient to increase firm value than that of government.

In addition this study tests board structure influence on firm value in both industries. The results support that internal board is likely to decrease firm value because of dominated internal ownership and governmental ownership. Outside directors on board and board activity have no relationship with firm value in both industries. Thus, the role of board to increase firm value is very weak.

Finally, in the view of board characteristics, outside directors from entrepreneurs and banker in shipping industry are positively significant

with firm value whereas we do not find any evidence of that in shipbuilding industry. Therefore, it seems that board composition of shipping industry is more efficient than that of shipbuilding industry.

On the whole, this study contributes to the literature providing important evidence to test the impact of corporate governance on firm value for Korean shipping and shipbuilding industry. To the practice, this study provides the implication of government policy maker. Although concentrated governmental policy loan, Korean shipbuilding industry is still under the financial depression and the biggest shipping company in Korea was bankrupt due to discriminated governmental policy loan. Accordingly, systematic government policy should be required to rehabilitate Korean shipping and shipbuilding industry as leading industries of Korean economy.

Finally, several related issues left for further study. First, testing of the government intervention can be employed by various factors but not only governmental ownership. In further study, various governmental intervention measures should be considered. Second, although this study attempts to corporate governance factors affecting firm value, there may still be some omitted variables that have not been controlled.

References

An, Y. (2017), "The effect of outside directors' quality on firm value and earnings quality", *Research Journal of Business management*, Vol.11, No.1, pp.39-45.

An, Y. (2015), "Does foreign ownership increase financial reporting quality?", *Asian Academy of Management Journal*, Vol.20, No.2, pp.81-101.

Chung, R., Firth, M. & Kim, J.B. (2002), "Institutional monitoring and opportunistic earnings management", *Journal of Corporate Finance* Vol.8, pp.29-48.

Graves, S.B. (1988), "Institutional ownership and corporate R&D in the computer industry", *Academy of Management Journal* Vol.31, pp.417-428.

Jung, K. and Kwon, S.Y. (2002), "Ownership structure and earnings informativeness evidence from Korea", *The international Journal of Accounting*, Vol.37, 301-325 (2002).

Lopez-De-Silanes, F. (2002), "The politics of legal reform", *Economia*, Vol.2, No.2, pp.91-152.

Nam, H-J and An, Y. (2017), "Patent, R&D and internationalization for Korean healthcare industry", *Technological Forecasting and Social Change*, Vol. 117, No.4, pp.131-137.

Nam, H-J and Sohn, P-D. (2015a), "Forms of governance and firm value in the Korean logistics industry", *Journal of Korea Port Economics Association*, Vol.31, No.3, pp.41-60.

Nam, H-J and Sohn, P-D. (2015b), "The relationship between board structure and firm value in Korean logistics industry", *Korean Logistics Review*, Vol.25, No.4, pp.51-63.

Rezaee, Z. (2002), *Financial Statement Fraud: Prevention and Detection*. New York, NY. John Wiley & Sons, Inc.

Standard and Poor's. (2002), *Corporate governance scores – criteria, methodology and definitions*.

Xie, B., Davidson III, W.N., DaDalt, P.J. (2003), "Earnings management and corporate governance: the role of the board and the audit committee", *Journal of Corporate Finance*, Vol.9, pp.295-316.

Yeo, H. (2012), "Impact of board of directors and ownership structure on consolidation strategies in shipping industry", *The Asian Journal of Shipping and Logistics*, Vol.28, No.1, pp.19-40

Zhou, X. (2001), "Understanding the determinants of managerial ownership and the link between ownership and performance: comment", *Journal of Financial Economics*, Vol.62, pp.559-571