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Research Article

Corporate Governance, Accounting Measures and Market Value

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Abstract: Aiming at finding out the interaction effects between corporate governance, accounting measures (BVE and NI) and market value, we suggest three pathways of market value transmission pathway: performance pathway, direct pathway and capital maintenance pathway, with Partial Least Square (PLS) regression model we analyze the relationship between corporate governance mechanisms, Book Value of Equity (BVE), Net Income (NI) and Market Value of Equity (MVE) basing on a sample of manufacture companies in China A share market from 2007 to 2011. Result shows that most corporate mechanisms which have significant relationships with BVE and NI are significantly related with MVE simultaneously, validating the transmission pathway hypothesis. As for the corporate mechanisms whose significance directions are different among NI, BVE and MVE, we explain them from the perspective of basic features of the variances themselves, the efficiency of transmission pathway and influence direction.

Keywords: Corporate governance mechanism, equity market value, equity book value, net income, transmission pathway

INTRODUCTION

US Congress issued SOX Act since Enron scandal broke out, setting up more strict regulations for corporate governance. SEC also takes a series of steps to ensure the implementation of SOX Act. Yinguangsha fraudulent case in China stock market catches the eyes of the regulation bureau, too. Thus China Securities Regulatory Commission published "Corporate Governance Guideline for Public Companies" in 2002, demonstrating the governance principle, mechanisms to protect investors and directors, supervisors and managers' basic code of conduct and professional ethics. Corporate market value, an indicator of investors' appraisement confirmation, is determined by the company's performance, while corporate governance plays the key role here. So corporate governance aims at reducing adverse selection and minimizes moral hazard, thus influencing investors' appraisement, namely corporate market value. Recent research find evidence of significant value premium for firms that have strong internal firm-level or external country-level governance (Allayannisa *et al*., 2012). To be more specific, adopting one governance proposal increases shareholder value by 2.8% (Cuñat *et al*., 2012). Especially for IPO valuations, different combinations of corporate governance mechanisms with focus on institutional perspectives affect them (Bell *et al*., 2013). Brown and Caylor (2009) confirm that there exist stronger relationships between non mandated corporate governance and performance than those mandated ones. But they don't perfectly explains why sometimes a corporate governance mechanism is positively related or negatively with certain variable. Corporate governance is set up for protecting investors' interests. But does corporate governance really positively improve the company's performance? What kind of corporate governance mechanisms are most important in investors' perspective? These questions are to be answered in this study. Under the circumstances in China, the regulate authority has put heavy attention to the implementation and efficiency of corporate governance, while corporations themselves have gradually understood the significance of corporate governance, which considered to be a grave institute arrangements. However, on the whole, the situations of different companies in implementing corporate governance vary greatly, thus providing a good diversified sample for our study. We provide three pathways to explain how corporate governance is demonstrated in market value, performance pathway; direct pathway and capital maintenance pathway, in the meantime explain the investors' approve level in corporate governance. We intend to find out which corporate governance mechanism influences the corporate performance and investors' appraisement most, how the corporate governance information passes through different pathways and corporate governance

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mechanisms a company should set up to achieve corporate value maximization.

LITERATURE REVIEW

Corporate governance is a mechanism guaranteeing returns for investors (Shleifer and Vishny, 1997); through which outside investors protect themselves against expropriation by the insiders (La Porta *et al*., 2000). Corporate governance is a combination of rules, practice, agents and investor's interest. So we can tell that corporate governance process aim at reducing agency cost and aligning interests between agents and executives and maximizing market value. Other than that, evidence of relationships between corporate governance and information disclosure has been proved (Eng and Mak, 2003). Here leads to the issue we are going to study, which should be "what kind of specific corporate governance mechanism could achieve corporations' maximized market value".

The thought that independent directors play important roles to bring the interests of management and shareholder onto the same boat is popular among academics and regulators now. Independent directors are believed to have provided a valuable service to shareholders (Nguyen and Nielsen, 2010), but the studies which tested the relationship between whether independent directors exist and corporate performance (Baysinger and Butler, 1985; Daily and Dalton, 1992; Kumar and Singh, 2012) haven't shown consistent conclusions.

Whether the separation of CEO and board chairman reduces agency cost and proves corporate value are still under discussion. Rechner and Dalton (1991) that firms opting for independent leadership consistently outperformed those relying upon CEO duality. Though empirical evidence appears to support the separation view, Brickley *et al*. (1997) etcargue that separation has larger potential costs than the benefits for most large firms. Bai *et al*. (2004) also hold the view that leading structure of this kind destroys corporate market value greatly. Researches in China have different conclusions. Some scholars consider board characteristics strongly explain management quality and corporate market value, CEO duality positively promotes corporate performance, while independent board directors have negative influence. They argue that CEO duality alleviates the information asymmetry between management level and the board, thus enabling the board to make positive decisions; besides, some studies find non-significant effect of the independent director's mechanism (Yi and Du, 2005), so CEO duality might haven't jeopardized the capital market in China as seriously as it does in USA. What's more, narrowing down to companies' growth property, independent director ratio and compensation are positively connected with corporate growth rate, directors' part time job number are U curve related with growth (Zeng and Qin, 2011).

Frequent board meeting, generally taken for passive corporate behavior, might be reactions to gliding performance. Special committees under the lead of the board should have played a role in maintaining board's independence and ensuring board's function enforcement. But studies show the opposite. Some Chinese scholar reaches the conclusion that listing companies with special committees are no better than those without. That the history of board's special committees is relatively short and special committees are simply founded and haven't been put into real operation might be the possible explanations.

In order to supervise and control management level, most companies would resort to mechanisms to align the interests between management and shareholders by management shareholding, stock option and management loan. There exists nonlinear relationships between management shareholding and operation efficiency, when management shareholding goes above a certain point, it loses governance effect, even lowers operation efficiency (Jelinek and Stuerke, 2009). Researches in China have similar results, which is, when percent share held by management level is within the low range, the higher, more efficient the corporate operation; gradually management level tends to seize outside investors' interests which boosts agency cost. Then the curve reaches a certain point, after that the higher the share held by management, better the corporate performance (Xu *et al.*, 2005). Information transparency, an environment supervision variable, is positively related with corporate performance. It has proved by the evidence that listed companies with positive information closure strategies have higher market valuation than those without (Zhang and Zhu, 2007). Apart from that, due to the peculiar origin of Chinese stock market which is initiated by state owned companies' reform, state owned companies are equipped with special governance structures in China. The country, as a virtual owner, is less motivated to supervise the listed companies then private owners. Insider control remains common in these companies, impairing their performance greatly. We must pay attention to the insider controllers in state owned companies, whose main concerns include not only economic interests, but also political prospect. So some decisions might have been made in the purpose of maximizing corporate value. While non state owned companies wouldn't have those kinds of problems. Zhang *et al*. (2004) Hua support this idea in their research. They believe that the performance divergence between state and non-state owned companies mainly results from different corporate governance mechanisms, because stock centralization, first shareholder's restrains from other shareholders, management shareholder and independent director ratio are more proper and effective than state owned ones. Thus they consider corporate governance plays the key role here.

Most of the studies listed above generally discuss the relationship between corporate performance and a specific aspect of corporate governance, relatively few talks about the relationship between corporate governance and corporate market value, with unstable relation in certain corporate governance mechanisms. We search the relations among corporate governance, accounting measures and corporate market value with performance pathway, direct pathway and capital maintenance pathway, altogether three kinds, thus figuring out how market value reacts to different corporate governance mechanisms. In the meantime, we explain the unstable directions of certain corporate governance mechanisms by antagonism and synergy functions.

RESEARCH METHOD

Model and variable: According to Ohlson (1995) interactions among Equity Market Value (MVE_j), Equity Book Value (BVE_j) and Net Income (NI_j) can be summarized as the following economic model:

$$MVE_j = a_0 + a_1\ BVE_j + a_2\ NI_j + a_3\ CG_j + \epsilon_j \tag{1}$$

Then we set up the framework of "corporate governance mechanism pathway". Based on the former review, we believe that the effectiveness of corporate governance influences corporate performance (net income) and corporate book value, net income and book value further are reflected on market value by investors' appraisement. Here leads us three thinking pathways for investor appraisement. The first pathway evaluates market value on the basis of book value; the second one decides market value by profitability; the last pathway starts right from corporate governance, assuming a connection between this governance mechanism and market value directly. In practice, investors actually might consider all the three trains here to offer an evaluation, which makes permutation and combination of the above three.

Thus three pathways transmit to the market values are: corporate governance mechanism=>net income=>market value, namely performance pathway, in which corporate governance mechanisms affect market value through performance; corporate governance mechanism=> market value, namely direct pathway, in which corporate governance mechanism influences investors' appraisement directly, thus making a difference on market valuation; corporate governance mechanism=>book value=>market value, namely capital maintenance pathway, which means governance mechanism lift or lower market value by capital maintenance and asset protection

Pathway one " performance pathway" and Pathway three "capital maintenance pathway" reveal the operation effect within corporations, while pathway two "direct pathway" demonstrates investors' direct evaluation on governance information disclosure, since information asymmetry exists absolutely, thus the information transmitted by different pathways might be positive or negative, making sense that some corporate governance mechanisms are unstable or even contradictory in whether above or below zero. This three pathway framework helps us explain phenomena of this kind effectively. The analysis framework above could be summed up in a figure explicitly (Fig. 1).

Deriving from the analysis above, corporate governance might have an impact on both equity and accounting income, so we build the following model:

$$BVE_j = a_0 + a_1\ CG_j + a_2\ SIZEj + \epsilon_j \tag{2}$$

$$NI_j = a_0 + a_1\ CG_j + a_2\ SIZEj + \epsilon_j \tag{3}$$

Then we set criteria (Table 1) for indentifying the effectiveness of different corporate governance mechanisms.

According to theory framework and analysis, we investigate the relationships between corporate governance mechanisms and corporate market value from four aspects: shareholder structure, the board of directors, the board of supervisors, general meeting of shareholders, independent directors and shareholders' behaviors and information transparency. The corporate governance mechanism variables and control variables are listed in Table 2.

We use partial least square analysis to explore and explain the significant variables. Partial least square analysis is a combination of factor analysis and systematic structure path analysis, thus making the evaluation of parameter which represents economics and pathway relationships.

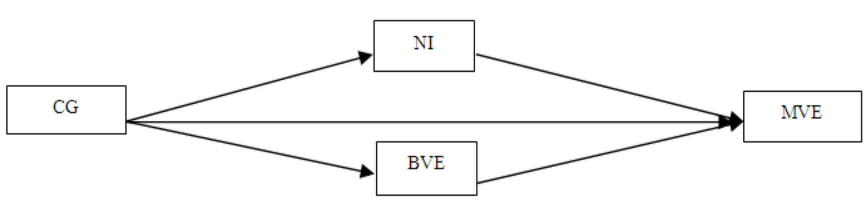

Fig. 1: Corporate mechanisms information channeling pathway based on MVE (The meaning of variables are listed on Table 2)

Table 1: Pathway criteria under different circumstances

Situations	Pathway	Effect	Note
• Corporate governance mechanism is positively (negatively) related with market value, book value and income.	1, 2, 3	Synergy	This corporate governance mechanism transmits to market value by three pathways together.
• Corporate governance mechanism is positively (negatively) related with book value and income but not significant related with market value.	1, 3	Synergy	This corporate governance mechanism transmits to market value by two pathways.
• Corporate governance mechanism is positively (negatively) related with book value and market value but not significant related with income.	2, 3	Synergy	Ditto
• Corporate governance mechanism is positively (negatively) related with income and market value but not significant related with book value.	1, 2	Synergy	Ditto
• Corporate governance mechanism is positively (negatively) related with income, not significant related with book value and market value.	1	/	This corporate governance mechanism transmits to market value by one pathway.
• Corporate governance mechanism is positively (negatively) related with market value, not significant related with book value and income.	2	/	ditto
• Corporate governance mechanism is positively (negatively) related with book value, not significant related with market value and income.	3	/	ditto
• Corporate governance mechanism is positively (negatively) related with book value and income, negatively (positively) related with market value.	1, 2, 3	Synergy antagonism	This corporate governance mechanism transmits to market value by three pathways together.
• Corporate governance mechanism is positively (negatively) related with book value and market value, negatively (positively) related with income.	1,2,3	Synergy antagonism	ditto
• Corporate governance mechanism is positively (negatively) related with income and market value, negatively (positively) related with book value.	1, 2, 3	Synergy antagonism	ditto
• Corporate governance mechanism is positively (negatively) related with income, negatively (positively) related with book value but not significantly related with market value.	1, 3	Antagonism	This corporate governance mechanism transmits to market value by two pathways.
• Corporate governance mechanism is positively (negatively) related with income, negatively (positively) related with market value but not significantly related with book value.	1, 2	Antagonism	ditto
• Corporate governance mechanism is positively related with book value and negatively related with market value but not significantly related with income.	2, 3	Antagonism	ditto
• Corporate governance mechanism is not significantly related with book value, market value or income.	None	/	This corporate governance mechanism doesn't impact market value, or in other pathways we haven't considered in this study.

Synergy effect means corporate governance mechanisms are positively (negatively) related with market value through different pathways; antagonism effect means corporate governance mechanisms are positively or negatively related with market value respectively

Table 2: Variables

Abbreviation	Variable Name	The meaning of Variables
MVE_j	Market Value	Companies' equity market value at t time point.
EVA_j	Economic	EVA_j = Earnings before interest but after tax -6%*total asset. We don't take adjust factors into consideration calculating EVA_j. 6% is required least ROA for share allotment.
BVE_j	Book Value	Companies' equity book value at t time point.
NI_j	Income	Companies' net income at t time point.
CG_j	Corporate Governance Mechanism	Represent variable of corporate governance mechanisms.
ϵ_j	Error	Random error term.
$SIZE_j$	Corporate Scale	Natural logarithm of total assets of the company, controlling variable.
SEP_j	State Owned Share Percent	State owned share number/total share number.
MSP_j	Management Shareholder Percent	High executives' share holding.
WR_j	Compensation Percent	Number of executives who receive compensation from listed companies/number of total high executives.
PT_j	Part-time Percen	Number of executives who do part time job in other companies/number of total high executives.
IDP_j	Independent Director Percent	Number of independent directors/number of total board directors.
DM_j	Meeting of Board of directors	Number of meetings of board of directors.
IDM_j	Independent Directors' Meeting	Number of independent directors' meeting attendance (excluding delegating attendance)/Number of independent directors' meetings in which they should attend.
WLI_j	Consistency	1 = same, 0 = different. This variable represent whether the workplace of independent directors and that of listed companies are the same. If the company hires a number of independent directors, then we the place where the independent director with accounting background counts. If the company hires two independent directors with accounting background, WLI_j = 0 as long as one of their place is different from the company's location.
CN_j	Committee Number	Number of total committees under board.
SMW_j	Meeting of Board of Supervisors	Number of meeting of board of supervisors for this year.
SM_j	Shareholder Meeting	Number of general meeting of stockholders for this year.
SMP_j	Share Percent Present	Present share holders' percentage in the general meeting of stockholders.
IT_j	Information Transparency	IT_j is identified by annual salary disclosure way 1= annual salary is announced explicitly; 0 = annual salary is announced by range.

Sampling: In order to exclude industry's effect on corporate value and performance, we use manufacturing companies as samples. According to Guidelines for listed companies' industry classification, we choose all the sample companies with industry number starts by C of China Stock Market in Shanghai and Shenzhen. Corporate governance numbers from 2007 to 2011 come from CSMAR data base; companies with missing numbers are excluded. Following the selective method above, we get 1773 samples of 423 companies available. We use Excel, SPSS and SIMCA-P to do empirical analysis.

EMPERICAL ANALYSIS

Descriptive statistics: Table 3 throws the result of description statistics.

Partial least square analysis: Table 4 demonstrates the result of partial least square analysis. Our research suggests that BVE_j and NI_j are positively related with MVE_j. Among all the corporate governance mechanisms, SEP_j, PT_j, SM_j and SMP_j positively correlate with MVE_j, DM_j, IDM_j, WLI_j and SMW_j are negatively related with MVE_j.

SEP_j, PT_j, IDP_j, DM_j, IDM_j and SMP_j have positive relationships with BVE_j, WLI_j,SMW_j and SM_j have negative relationships with BVE_j. This matches the conclusion from Beasley (1996). It implies that better independent director guidance leads to better quality of financial reports, which is indicate better quality of book value balance. Apart from that, controlling variable $SIZE_j$ is also positively related with BVE_j.

That IDP_j has no significant role in corporate market value corresponds to previous result from Bhagat and Black, 2002. People assume that director board's independence should positively relate with corporate performance due the effective role of independent directors in corporate governance system. But independent directors' lack of inside and operational knowledge has negative side effects. Bhagat and Black (2002) considers independence requires the regulatory level to not only raise questions, but also provide suggestions. But Table 3 tells that though IDP_j are not significantly related with NI_j or MVE_j, but positively related with BVE_j. The possible explanation would be that independent directors in China might haven't been effective in promoting corporate performance and investors don't interpret higher IDP_j as bull sign, but might play a critical role in maintaining the quality of listed companies' assets, for instance, setting restrictions on mortgages and pledge, thus meaning independent director system has worked in maintain capital maintenance.

WR_j, PT_j, DM_j and SMP_j are positively related with NI_j, SEP_j, WLI_j,SMW_j and SM_j are negatively related with NI_j. Other than that, controlling variable $SIZE_j$ is also positively related with NI_j.

To sum up, we find that SEP_j, PT_j, DM_j, WLI_j, SMW_j, SM_j and SMP_j are all significantly related with MVE_j, BVE_j and NI_j. Among them, PT_j, WLI_j, SMW_j and SMP_j's pathway parameters with MVE_j, BVE_j and NI_j are in the same direction, each positively or negatively. Thus these corporate mechanisms influence MVE_j by three pathways, namely performance pathway, direct pathway and capital maintenance pathway.

SEP_j needs attention here. It's positively related with MVE_j and BVE_j, but negatively with NI_j.

On the one hand, SEP_j does impair profitability of state owned companies through performance pathway. On the other hand, stated owned companies might have priority compared to the non state owned companies, for example, stated owned companies tend to have overwhelming assets and soft constraint is popular among them which makes loan much easier, which leads to bigger BVE_j in the end through capital maintenance pathway. SEP_j's positively relationship with MVE_j shows investors in China stock market approve stated owned companies in spite of all the

Table 3: Description statistics

Variable	Mean	SD	Median	Min	Max
MVE_j	8084100.96000	16760134.1300	3687203.88000	298957.00000000	352250665.3900
EVA_j	-78477230.1100	890653615.370	-27442415.310	-21344682012.86	7259380264.870
BVE_j	2722037627.30	5491779860.80	1176979812.21	-2106204579.350	60997282000.00
NI_j	401804804.140	1084816094.40	133984756.000	-7594199000.000	16281282374.00
$SIZE_j$	21.66	1.33	21.65	16.52	25.80
SEP_j	0.14	0.20	0.000	0.00	0.970
MSP_j	0.00	0.03	0.000	0.00	0.680
WR_j	0.57	0.16	0.560	0.00	1.460
PT_j	0.56	0.17	0.560	0.00	1.000
IDP_j	0.36	0.05	0.330	0.14	0.630
DM_j	8.99	3.29	8.000	1.00	30.00
IDM_j	0.95	0.06	0.970	0.53	1.000
WLI_j	0.40	0.49	0.000	0.00	1.000
CN_j	3.84	0.61	4.000	0.00	8.000
SMW_j	4.92	1.67	5.000	0.00	16.00
SM_j	2.65	1.46	2.000	1.00	14.00
SMP_j	0.45	0.15	0.440	0.00	0.970
IT_j	1.00	0.02	1.000	0.00	1.000

defects and drawbacks. Compared the non stated owned companies in China stock market, many of them commit fraud and are robbed by strong shareholders through tunneling behavior. So relatively investors don't repel stated owned companies, instead they approve them at a certain level.

That DM_j are positively related with BVE_j and NI_j, but negatively related with MVE_j, which is different from the general understanding that board of directors promotes corporate governance greatly, Jensen (1993) also considers board meeting as a reaction after certain events instead of beforehand warning. But DM_j's positive relationship with BVE_j and NI_j means capital maintenance pathway and performance pathway are effective for DM_j. When DM_j transmits market value information through direct pathway, investors might interpret frequent board meeting as a passive signal indicating the company's problem from outsider perspective. While in fact, director board meeting promotes actively BVE_j and NI_j, namely positive roles in both performance pathway and capital maintenance pathway. But investors evaluate this factor passively, demonstrating investors' misunderstanding due to information asymmetry between investors and executives.

SM_j, opposite from DM_j, is negatively related with BVE_j and NI_j, but positively with MVE_j. The former might be due to the influence on companies' daily operation from frequent general meeting of shareholders and overwhelming intervention on management decision making, because executives always know the company best but investors are always non professionals. The latter might be explained as investors' positive interpretation of general meeting of shareholders as a critical component of perfect corporate governance, which reveals executives' attention to the appeals from investors, thus the investors evaluate highly.

MSP_j has no significant relationship with any of MVE_j BVE_j or NI_j, which confronts the result in USA that MSP_j is negatively related with MVE_j. Jelinek and Stuerke (2009) think that maybe stock option induces management to take risk which leads to lower book value and performance. They even come to the conclusion that corporate governance becomes weaker and performance becomes poorer as management share rises. Shocking as it is, it responds to Jensen's outcome, that high executive with material option stake impairs corporate value. The reason why this relationship doesn't exist in China market might be that it's not so common for management to hold the company's shareholder as it's in America, even they do, the related interest might be strong enough to drive executives take excessively risky measures. Othe than that, CN_j also has no significant relationship with MVE_j, BVE_j or NI_j. It might be that insider control is prevailing in China,committees under the guidance of director board, audit committee, strategy committee, nomination committee and remuneration and appraisal committee, haven't fulfilled the responsibility and obligations as expected. IT_j's lack of relationship with MVE_j, BVE_j and NI_j, might be explained that the average of IT_j

Table 4: Path coefficient test of partial least square

Variable	MVE_j	BVE_j	NI_j
BVE_j	0.371***	–	–
NI_j	0.425***	–	–
SEP_j	0.067***	0.053***	-0.004***
MSP_j	-0.015	-0.015	-0.014
WR_j	0.039	0.016	0.040*
PT_j	0.017***	0.052***	0.061***
IDP_j	-0.038	0.088***	0.019
DM_j	-0.045**	0.016***	0.008***
IDM_j	-0.042**	0.031***	-0.006
WLI_j	-0.038***	-0.050***	-0.087***
CN_j	0.017	-0.015	-0.016
SMW_j	-0.020*	-0.018***	-0.008***
SM_j	0.000***	-0.032***	-0.046**
SMP_j	0.114***	0.100***	0.114***
IT_j	0.001	0.006	0.017
$SIZE_j$	–	0.612***	0.470***

*p<0.001; **p<0.050; *** p<0.100; Path parameter means the change of a related variable from a unit change of one variable in structure model

Table 5: Classification of variables

Situations	Involved variable	Effects
1	PT_j, WLI_j, SMW_j, SMP_j	Synergy
2	None	
3	None	
4	None	
5	WR_j	Singularity
6	None	
7	IDP_j	Singularity
8	DM_j, SM_j	Synergy+antagonism
9	SEP_j	Synergy+antagonism
10	None	
11	None	
12	None	
13	IDM_j	Antagonism
14	MSP_j, CN_j, IT_j	None

"Singularity" means this corporate governance mechanism transmits to market value by only one pathway; "synergy" means it does so by synergetic pathways;"antagonism" means it does so by antagonistic pathways;" synergy+antagonism" means it does so by pathways in which exist synergy and antagonism effects at the same time

Table 6: VIP test of partial least square

MVE_j	VIP	BVE_j	VIP	NI_j	VIP
NI_j	2.578	$SIZE_j$	3.117	$SIZE_j$	3.068
BVE_j	2.430	SMP_j	1.218	SMP_j	1.277
SMP_j	1.069	SEP_j	0.853	DM_j	0.847
SEP_j	0.717	DM_j	0.812	SEP_j	0.719
DM_j	0.456	SM_j	0.645	WLI_j	0.689
WLI_j	0.400	SMW_j	0.535	SM_j	0.687
PT_j	0.351	PT_j	0.490	PT_j	0.567
SM_j	0.283	IDP_j	0.472	SMW_j	0.560
SMW_j	0.276	WLI_j	0.427	WR_j	0.258
IDP_j	0.225	IDM_j	0.147	IDP_j	0.185
IDM_j	0.213	IT_j	0.127	IT_j	0.128
WR_j	0.170	MSP_j	0.100	MSP_j	0.127
CN_j	0.087	WR_j	0.100	CN_j	0.086
MSP_j	0.073	CN_j	0.066	IDM_j	0.035
IT_j	0.042				

Table 7: VIP test list

MVE_j	VIP Rank	BVE_j	VIP Rank	NI_j	VIP Rank	Comprehensive VIP Rank
SMP_j	3	SMP_j	2	SMP_j	2	7
SEP_j	4	SEP_j	3	SEP_j	4	11
DM_j	5	DM_j	4	DM_j	3	12
SM_j	8	SM_j	5	SM_j	6	19
WLI_j	6	WLI_j	9	WLI_j	5	20
PT_j	7	PT_j	7	PT_j	7	21
SMW_j	9	SMW_j	6	SMW_j	8	23
IDP_j	10	IDP_j	8	IDP_j	10	28
WR_j	12	WR_j	13	WR_j	9	34
IDM_j	11	IDM_j	10	IDM_j	14	35
IT_j	15	IT_j	11	IT_j	11	37
MSP_j	14	MSP_j	12	MSP_j	12	38
CN_j	13	CN_j	14	CN_j	13	40

Table 8: Path coefficient and VIP test for partial least square on EVA

Variable	Path coefficient	Variable	VIP	Variable	Comprehensive VIP Rank
BVE_j	-0.894***	NI_j	2.675	SEP_j	12
NI_j	1.002***	BVE_j	2.127	SMP_j	13
SEP_j	-0.022**	IDP_j	1.196	SM_j	18
MSP_j	-0.009	WR_j	0.682	DM_j	20
WR_j	0.020***	SEP_j	0.632	WLI_j	20
PT_j	0.005	WLI_j	0.613	IDP_j	21
IDP_j	0.085***	SM_j	0.453	WR_j	26
DM_j	0.044	CN_j	0.422	SMW_j	28
IDM_j	-0.015	SMP_j	0.252	IT_j	32
WLI_j	0.005*	IT_j	0.241	IDM_j	35
CN_j	-0.042**	IDM_j	0.212	CN_j	35
SMW_j	0.013	MSP_j	0.210	MSP_j	36
SM_j	-0.052**	DM_j	0.180		
SMP_j	0.039	SMW_j	0.123		
IT_j	0.009	PT_j	0.072		

is 1 from Table 3, which means IT_j provides no information for this regression, or we can say this variable cannot reflect IT_j as supposed.

In general, some corporate governance mechanisms are related with BVE_j and NI_j, further influencing MVE_j. We might safely conclude that investors in China do pay attention to corporate governance at a certain level.

According to Table 1 "Pathway criteria under different circumstances" and Table 4, we classify corporate governance mechanisms and sum up their role and inter actions in corporate market value, details are listed in Table 5.

Then we conduct VIP test for the above mentioned three models. Table 6 describes the importance degree order of all corporate governance mechanisms. Table 7 is a summary of Table 6, for example, SEP_j ranks 4 in the MVE_j model, 3 in the BVE_j model and 4 in the NI_j model, the sum of three numbers is 11, which is taken as the comprehensive importance of SEP_j. From Table 7, among all the corporate governance mechanisms, SMP_j, SEP_j, DM_j, SM_j and WLI_j have significant impact on MVE_j, BVE_j and NI_j, which means these variables are critical governance mechanisms. Significance testing in table shows that SMP_j, SEP_j, DM_j, SM_j and WLI_j are all critically related with MVE_j, BVE_j and NI_j. The results above match the significance coefficients and VIP, laying a solid testimony of these corporate governance mechanisms' effectiveness.

ROBUSTNESS TEST

Now we use Economic Added Value (EVA_j) to replace market value in model 1 for further robustness test:

$$EVA_j = a_0+a_1\ BVE_j+a_2\ NI_j+a_3\ CG_j+\epsilon_j \tag{4}$$

From Table 8 we know that NI_j,WR_j, IDP_j and WLI_j are positively related with EVA_j, while SEP_j,CN_j and SM_j are negatively. The reason why BVE_j negatively relates to EVA_j might be that bigger book value implies more shareholder and credit holder's capital is occupied which leads to higher capital cost, resulting in lower EVA_j, which makes this negative relationship which confronts the result in model 1 sense. Due to BVE_j's negative relationship with EVA_j, if corporate governance mechanisms by pathway three are to promote EVA_j, they should be negatively related with BVE_j. WR_j, IDP_j and CN_j which have significance in model 4 lose their significance in model 1, while vice versa for PT_j, DM_j, IDM_j, SMW_j and SMP_j which have significance in model 1. Market value transmitting pathway two might differs slightly when market value are calculated differently, or we say different market value measurement indicators take different corporate governance mechanisms as critical consideration. What's more, the key divergence between EVA_j and MVE_j is that MVE_j directly represents investors' appraisals, while EVA_j is in nature an slightly modified accounting measurement of BVE_j and NI_j. So we might say EVA_j and BVE_j, NI_j is information of the same level and there might be another pathway between EVA_j and MVE_j. The analysis somewhat explains the divergence between model 1 and model 4.

Through VIP test (Table 8) we know that SEP_j ,MSP_j ,WR_j and PT_j are key indexes to evaluate EVA_j. Among them, MSP_j, WR_j and PT_j are relatively less material; Variables which are significant in model 1, such as SMP_j, DM_j and WLI_j all lag behind in significance in model 4. According to comprehensive VIP ranking (Table 8 column 6), SEP_j, SMP_j, SM_j, DM_j and WLI_j are relatively important corporate governance mechanisms, largely consistent with the results in MVE_j based models, thus proving the robustness of these corporate governance mechanisms.

CONCLUSION

We construct three pathways of market value transaction, namely performance pathway, direct pathway and capital maintenance pathway, to study the issue in corporate governance mechanisms' transmission to market value with partial least square regression model.

Our result verifies that corporate governance does transmit market value through three path ways. In respect to specific variables, SEP_j, PT_j, SM_j and SMP_j are positively related with MVE_j; DM_j, IDP_j, IDM_j, WLI_j and SMP_j are negatively related with MVE_j. Among them, SEP_j, PT_j, DM_j, WLI_j, SMW_j, SM_j and SMP_j are all positively related with MVE_j, BVE_j and NI_j.

From VIP ranking, we find SMP_j, SEP_j, DM_j, SM_j and WLI_j all have relatively critical influence on MVE_j, BVE_j and NI_j, illustrating these corporate governance mechanisms' importance, whose consistency with significance test further emphasizes them.

Those variables whose significance directions confront each other, such as SEP_j, DM_j, IDM_j and SM_j, we explain them by three pathways with antagonism and synergy effect and respective corporate governance's feature.

In robustness test we replace MVE_j with EVA_j, which shows robustness here. But we also find that some corporate governance mechanisms directly related with MVE_j (pathway two) are not so critically related with EVA_j, while the direction of relationship between BVE_j and EVA_j are opposite from that between BVE_j and MVE_j. We suggest that it might be that EVA_j is on the same information level with BVE_j and NI_j. EVA_j itself closely relates to BVE_j and NI_j, so pathway between EVA_j and MVE_j possibly exists, which needs further consideration.

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