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Practicality and Potential Value of Enterprise Risk Management in the Manufacturing Sector in China

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ABSTRACT

This paper examined the practicality and potential value of Enterprise Risk Management (ERM) in China through three aspects: the impacts of ERM on the relationship between different kinds of risk and whole risk portfolio; the influence of ERM on components of risk structure; and the function of ERM in correlation with risk portfolio and firm performance. A Multiple Indicator Multiple Causes (MIMIC) model was structured for a comprehensive determination of the connection between ERM and firm's performance. The results showed that ERM could reduce the relevance of the kinds of risk to risk portfolio, and the interactions between risk categories are minimised as well. As ERM makes the risk structure more significant to firm's performance, thus, the firm can benefit from risk portfolio and realise profit potentials.

Keywords: Enterprise Risk Management, Firm Performance, Risk Portfolio, Risk Structure

INTRODUCTION

Enterprise risk management (ERM) has been served as a new structured and disciplined approach to help firms predict risks and make tradeoffs between costs and profits. Compared to traditional risk management, not only does ERM allow firms to tread business risks in an organised and integrated manner, it also holistically controls each risk exposure within a portfolio context (Arena, Arnaboldi, & Azzone, 2011). Today, ERM has become an important instrument for event identification, risk evaluation and portfolio optimisation. Meanwhile, it can generate benefits for corporate governance and internal control, which allows management

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to effectively deal with uncertainties, consequent risks, and opportunities, as a result of promoting the firm's capacity to generate value.

In recent years, a general argument in the ERM literature is that effective ERM programmes can enhance firm's performance (Farrell & Gallagher, 2014). However, though ERM has long been practiced and investigated in the U.S. and the Bermudian areas, the empirical evidence of ERM in Asia is quiet limited, especially for firms with primary operations in developing countries. In this context, the aimes of this paper are to overcome this gap and to explore whether ERM can improve the performance of firms in Asia. With data obtained from a sample of firms in the manufacturing sector in China, this paper is specifically designed to examine the practicality and potential value of ERM for Chinese manufacturers. The empirical evidence will contribute to the body of knowledge related to ERM specific to China in particular.

LITERATURE REVIEW

Risk Management and Internal Control

In 1992, the Committee of Sponsoring Organisations of the Treadway Commission (COSO) proposed that an integrated internal control system (ICS) should realise the goal of effective and efficient operations, reliability of financial reporting and compliance with applicable laws and regulations. On the basis of the internal control framework, in 2004, COSO announced another advanced concept known as the Enterprise Risk Management Integrated Framework and expanded the entity's objectives to include strategic, operating, reporting and compliance. As practiced by senior executives, COSO's two frameworks then became the criterion reference of risk management and internal control for all entities. It is not always clear whether risk management is a sub-division of internal control or vice versa. However, there should certainly be a close relationship between them.

Dr. Larry E. Rittenberg, the chairman of COSO viewed ERM as an extension of internal control. Nevertheless, the ERM framework has a relatively wide range of implication compared with the internal control framework. In real practice, although internal control does not involve establishing the ultimate operational objectives of a firm, it can take action in the evaluation and assessment of the objective making process (Dong, 2009). In this context, it is obvious that the emphasis of internal control should be based on the strategic decision of risk management, and an integrated ICS will do favour to the goal of attaining efficient risk management.

ERM and Firm Performance

Many scholars have emphasised the objective of risk management, that is, achieving a higher level of profitability; it should be made known that profitability is not necessarily the only indicator of improved firm performance. Some academics and industry commentators also support this view; it is argued ERM

benefits firms by mitigating external capital costs, improving capital efficiency, reducing earnings and stock price volatility, and enhancing synergies of management activities among departments (Beasley, Pagach, & Warr, 2008; Cumming & Hirtle, 2001; Lam, 2001; Meulbroek, 2002). From a wider perspective, ERM is considered to promote increased risk awareness which assists managers in better operational and strategic decision making.

A further advantage of ERM programmes arises from comprehensive information about a firm's risk profile. The current trend among academics is for ERM to be regarded as a fundamental paradigm for managing the portfolio of risks confronting a firm (Beasley *et al*., 2008; Hoyt & Liebenberg, 2011). Therefore, the goal of risk management is no longer to minimise all risks within a firm, but to optimise the combination of risks to maximise shareholder value (Meulbroek, 2002). Thus, for a firm that wishes to implement effective ERM programmes, it has to firstly define and understand its risks.

However, most previous studies classify business risks into endogenous and exogenous categories, which are not appropriate for ERM study. As ERM is an extension of internal control, compared with risk external to the firm, its emphases are more on internal elements. As both COSO's two frameworks include financial and operational objectives, and as ERM even added strategic objectives into consideration, this paper would adopt a design to incorporate strategic risk, operational risk and financial risk to help evaluate the impacts of risk portfolio on firm's performance.

METHODOLOGY

The Sample

To control for biases generated by the differences in market and regulation across industries, this paper focuses on firms in the manufacturing sector. By the end of December 2013, there were 1,601 public listed firms in the manufacturing industry. Of the total number of listed companies in China, 64.35% are in manufacturing sector. Therefore, while this paper focuses only on the manufacturing firms, it can still provide the empirical evidence for future research on ERM in China.

Data streams used in this paper are limited to the period between 2003 and 2012, which covers ten fiscal years and includes both pre- and post-financial crisis periods. A comparison of the different scenarios among firms was conducted by categorising the data into two groups. The integrated ICS was chosen to estimate the engagement of firms in credible ERM. The identification of the integrated ICS is declared by the independent board of supervisors, which can be found in the financial reports, summaries, and other announcements of the firms.

After excluding firms with missing values, the sample was ultimately reduced to 335 manufacturing firms, or 3,350 firm-year observations, operating in each year during the 10-year period. Eventually, among the sample, there were 2,310 firm-

year observations with credible ERM and 1,040 firm-year observations without credible ERM.

The Key Risk Indicators (KRIs)

One objective of this paper is to ascertain the risk structure by classifying risk portfolio into various categories. Mercer Management Consulting (MMC) shows that most Fortune 1,000 firms suffered stock declines due to their failure in strategic decisions (58%), operational decisions (31%) and financial decisions (6%). Therefore, the risk portfolio in this paper is quantified in terms of strategic risks, operational risks and financial risks.

According to Andersen (2008), firms are facing strategic risks because of the imperfections in terms of resource and output markets, where firm's abilities to organise and distribute resources to generate valuable products and services differ. While operational risk is not a well-defined concept, the most popular definition of the concept is the one given by the Basel Committee. They defined operational risk as the losses incurred as a result of inadequate or failed internal processes, people and technology, or external events. In contrast, financial risks would influence the average cost of capital and effectiveness of investments (Verbano & Venturini, 2011).

As all categorical risks exist in business, it is common that some of the risks might overlap or interplay. Based on an understanding of the concept of strategic risk, operational risk and financial risk, this paper chose Net Profit Margin, Return on Invested Capital, Return on Total Assets, Operating Costs, Managing Costs and Financing Costs as matrixes of strategic risk. It applies Operating Cycle, Inventory Turnover, Receivables Turnover, Fixed Assets Turnover, and Total Assets Turnover to quantify operational risk, and regards Debt Ratio, Equity Ratio, Real Ratio, Acid Test Ratio, Solvency Ratio, and Operating Cash Flow Ratio as measurements of financial risks.

The Key Performance Indicators (KPIs)

Another important target of this paper is to determine the relationship between risk portfolio and firm value. Hence, a comprehensive method in the evaluation of corporate level performance is essential. Consistent with the general practice in corporate finance, most empirical studies of risk management use Tobin's Q as a proxy for firm value. Due to the existence of a large amount of non-tradable shares in most Chinese firms, however, the market value of this kind of share cannot be directly evaluated by the equity market, which impairs function of Tobin's Q for analysis in China (Wu & Zhang, 2009).

So assessment using Tobin's Q alone is not accurate enough to quantify a firm's performance. Therefore, a Structural Equation Model, which consists of a set of key performance indicators that is believed to have impacts on firm value, is adopted to compensate for this deficiency. Based on a review of related literature, the target KPIs selected are related to Firm Size, Return on

Assets, Tobin's Q, Market Position, Weight Average Cost of Capital, Sales Growth, Stock Price Volatility and Value Change. According to the descriptions of these eight aspects, firm's performance is represented by a much more comprehensive expression.

The Multiple Indicators Multiple Causes Model

To assess the potential impacts of risk management on firm performance, this paper uses a Multiple Indicators Multiple Causes (MIMIC) model to estimate paths linking firm performance and the categorical risks (strategic, operational and financial). As a variation under the umbrella of the SEM, MIMIC can model latent variables that cannot be directly estimated by a single observed measure and can model measurement errors, rather than assuming measurements made without error (Finch & French, 2011). Generally, the MIMIC model was utilised to describe the relationship between observable variables and unobservable variables by minimising the distance between the covariance matrix of the sample and the covariance matrix predicted by the model.

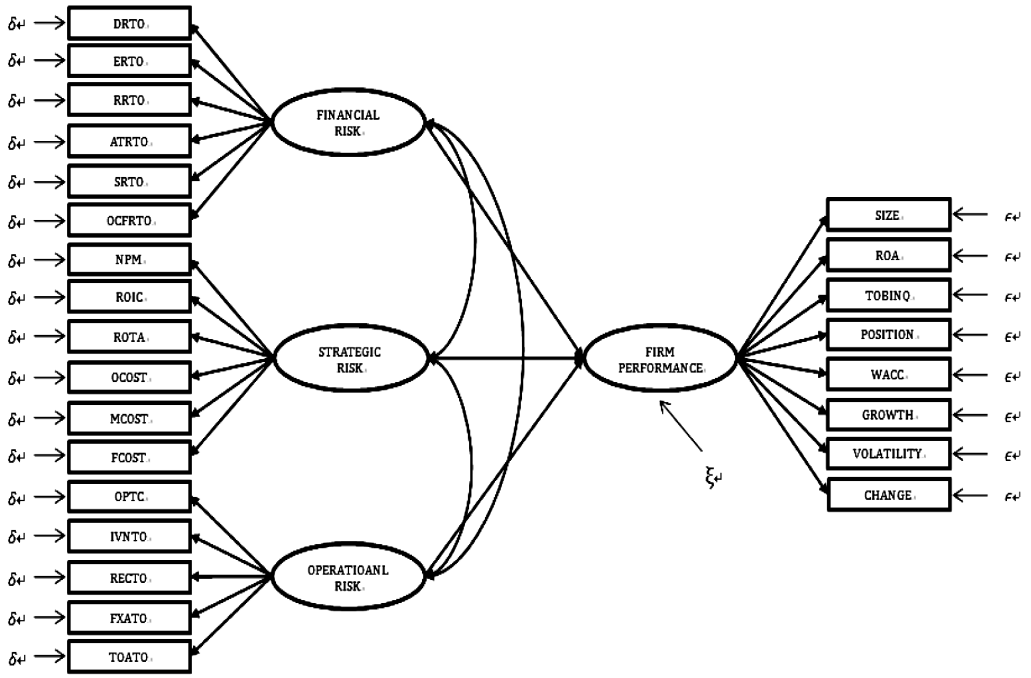

Fig.1: Framework of the MIMIC model

Fig.1 shows the framework of a full structural equation model, in which the MIMIC model used in this paper can be quantified into three levels, with the following mathematical representations:

Level 1: $y_{ij} = \lambda \eta_{ij} + \varepsilon$

Level 2: $\eta_{ij} = \gamma \chi_{ij} + \xi$

Level 3: $\alpha_{ij} = \mu \chi_{ij} + \delta$

Where y_{ij} = (size, roa, tobinq, position, wacc, growth, volatility, and change) are indicators of the latent variable η_{ij} (firm performance) for firm i in group j; = (strategic risk, operational risk, and financial risk) are causes of ; = (npm, roic, rota, ocost, mcost, fcost, drto, erto, rrto, atrto, srto, ocfrto, optc, ivnto, recto, fxato, and toato) are congeneric measures of .

Testing for Validity of the MIMIC Model

In contrast to normal linear regression, the structural equation model can never be accepted, it can only fail to be rejected. Thus, it is necessary to determine goodness-of-fit between the hypothesised model and the sample data before performing an analysis of estimates. According to Hair (1998), at least four fit indexes are needed to construct the validity of a measurement model. Therefore, this paper chose Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI) and Root Mean Square Error of Approximation (RMSEA) as primary fit statistics and used them to validate the MIMIC model.

TABLE 1
Model fit assessment and test statistics

Test statistics	Original mimic model	Modified mimic model	Acceptable criteria
Goodness-of-Fit Index (GFI)	0.6158	0.9270	> 0.90 Good Fit
Comparative Fit Index (CFI)	0.4790	0.9410	> 0.90 Good Fit
Normed Fit Index (NFI)	0.4745	0.9359	> 0.90 Good Fit
Root Mean Square Error of Approximation (RMSEA)	0.1262	0.0578	< 0.05 Close < 0.08 Good < 0.10 Reasonable

It can be noted that all four indexes for the original MIMIC model are out of the recommended range of acceptability, which means the current MIMIC model cannot be used to estimate the sample data accurately. It is rare that a model fits well at first, while model modification is sometimes required to obtain a better-fitting model. As space is limited, the details of modification procedure will not be described here. In reviewing the fit indexes in Table 1, it can be concluded that the MIMIC model is relatively well fitting after modification. The model can finally be deemed as valid for representing good fit to the sample data.

TABLE 2
Maximum likelihood estimates for key risk indicators

		Group 1: Firms with credible ERM			Group 2: Firms without credible ERM		
		S.M.C.	S.R.W.	P	S.M.C.	S.R.W.	P
NPM	<---strategic risk	0.730	-0.854	***	0.791	-0.889	***
ROIC	<---strategic risk	0.271	-0.521	***	0.388	-0.623	***
ROTA	<---strategic risk	0.953	-0.976	***	0.926	-0.962	***
OCOST	<---strategic risk	0.001	-0.024	0.063	0.000	-0.011	0.567
MCOST	<---strategic risk	0.009	0.096	***	0.013	0.116	***
FCOST	<---strategic risk	0.030	0.173	***	0.023	0.150	***
OPTC	<---operational risk	0.682	0.826	***	0.583	0.763	***
IVNTO	<---operational risk	0.692	-0.832	***	0.674	-0.821	***
RECTO	<---operational risk	0.165	-0.406	***	0.153	-0.391	***
FXATO	<---operational risk	0.057	-0.239	***	0.090	-0.300	***
TOATO	<---operational risk	0.308	-0.555	***	0.411	-0.641	***
DRTO	<---financial risk	1.000	1.000	***	0.966	0.983	***
ERTO	<---financial risk	0.716	0.846	***	0.757	0.870	***
RRTO	<---financial risk	0.338	-0.581	***	0.441	-0.664	***
ATRTO	<---financial risk	0.221	-0.470	***	0.295	-0.543	***
SRTO	<---financial risk	0.370	-0.608	***	0.403	-0.635	***
OCFRTO	<---financial risk	0.144	-0.379	***	0.158	-0.397	***

RESULTS AND DISCUSSION

Compared with firms without credible ERM, the correlation between KRIs and financial risk for firms with credible ERM is significantly decreased in Table 2. In addition to drto, the absolute value of standard regression weight (S.R.W) for all other financial risks of group 1 is lower than that of group 2. This indicates that one unit change in the standard deviation of financial risk will be accompanied by less variance of standard deviation for the relevant risk indicators. As shown in Table 2, in contrast to financial risk, optc, ivnto, and recto of group 1 increased the impacts on operational risk slightly, while fxato and toato decreased their effects. Compared to financial risk and operational risk, the effect of credible ERM on risk portfolio is more ambiguous in strategic risk. Among the six risk indicators, the correlation between strategic risk and rota, ocost, and fcost is enhanced, while for the others like npm, roic, and mcost, their correlation with strategic risk diminishes.

TABLE 3
Maximum likelihood estimates for risk portfolio

		Group 1: Firms with credible ERM			Group 2: Firms without credible ERM		
		Correlation	Covariance	P	Correlation	Covariance	P
Strategic risk Operational risk	<-->	-0.028	-0.946	0.034	-0.037	-1.095	0.069
Operational risk Financial risk	<-->	-0.025	-33.820	0.207	-0.102	-146.244	***
Financial risk Strategic risk	<-->	0.317	1.673	***	0.308	1.195	***

The correlation among the three categorical risks can also be regarded as evidence of the impacts of credible ERM on a firm's risk portfolio. It is shown in Table 3 that there is a strong correlation between strategic risk and financial risk for all the firms. However, the most significant variation is the downtrend in the interrelated nature of operational risk in both strategic and financial risks. Indeed, the relevance of operational risk to financial risk turned out to be insignificant. As interactions between categorical risks are potential risks for a firm, the weakening of relevance among risks in the portfolio can therefore be treated as the good performance of credible ERM in risk management.

TABLE 4
Maximum likelihood estimates for risk structure

	Group 1: Firms with credible ERM			Group 2: Firms without credible ERM		
	S.M.C.	S.R.W.	P	S.M.C.	S.R.W.	P
Firm performance <--- Strategic risk	0.946	-0.940	***	0.928	-0.936	0.185
Firm performance <--- Operational risk	0.946	0.020	0.009	0.928	0.005	0.690
Firm performance <--- Financial risk	0.946	-0.089	***	0.928	-0.078	0.187

Table 4 shows the estimates of categorical risks to firm performance so as to provide a brief understanding of risk structure existing in manufacturing firms. Based on a comparison within each group, it was found that strategic risk had the biggest impact on firm's performance, the contribution of which was as high as 93%. Besides, the correlation between financial risk and firm performance is higher relative to operational risk. However, the relevance of categorical risks to firm performance is nonsignificant in group 2. Even if the risk structure is confirmed to be a little

bit weak for firms without credible ERM, nevertheless, all the evidence argues that risk managers should give priority to strategic risk because it plays the most important role compared with the others.

In order to provide a more intuitive distribution of categorical risks in structure, this paper uses a simple formula to quantify the constitution of the three categories of firm performance. As the squared multiple correlations (S.M.C.) of firm performance for the two groups are 0.946 and 0.928, this means predictors such as strategic risk, operational risk and financial risk explain 94.6% and 92.8% variance of firm performance in these two groups. Hence the formula should be:

$$Distribution_{rj} = [Categorical\ Risk_{rj} \div \sum (S.R.W._{rj})] \times S.M.C._{rj}$$

Where distribution of categorical risk *r* in group *j* to the whole risk structure should be equal to standard regression weight of the categorical risk divided by summation of standard regression weights of all categorical risks and then multiplied by squared multiple correlation. Finically, the risk structure of group 1 constituted approximately 84.79% strategic risk, 1.76% operational risk and 8.03% financial risk, while the constitution of group 2 is roughly defined as 85.23% strategic risk, 0.41% operational risk, and 7.14% financial risk. Compared with group 2, both operational risk and financial risk in group 1 increased their distributions to risk structure, and this could be interpreted by the upward trend of S.R.W of these categorical risks for firms with credible ERM relative to those firms without.

Table 5 reports the estimates for all the performance indicators in the MIMIC model. The S.R.W. of roa for both groups is greater than 0.9, therefore, it can be regarded relatively as the strongest indicator of firm performance. Besides, growth is also an important indicator for group 1, which describes 1 standard deviation change in the risk portfolio leading to 0.321 standard deviation changes in sales growth. However, the function of other indicators in group 1 is weak in relation to risk portfolio because their factor loadings are lower than 0.3. According to Hair's (1998) argument, one measurement variable where the factor loading is lower than 0.3 is not a significant indicator because it cannot even explain 9% variance of objective variable. Thus, the impacts of risk portfolio on firm size, Tobin's q, market position, cost of capital, stock price volatility, and change of market value are limited. In the same situation, all performance indicators, except for roa, are under 0.3 factor loading level in group 2. Consequently, all categories of risk faced by a firm will influence its performance in terms of profitability.

TABLE 5
Maximum likelihood estimates for firm's performance

		Group 1: Firms with credible ERM			Group 2: Firms without credible ERM		
		S.M.C.	S.R.W	P	S.M.C.	S.R.W	P
SIZE	<--- Firm performance	0.024	0.156	***	0.001	0.028	***
ROA	<--- Firm performance	0.919	0.959	***	0.964	0.982	0.173
TOBINQ	<--- Firm performance	0.005	0.070	***	0.008	0.090	0.204
POSITION	<--- Firm performance	0.012	0.108	***	0.000	-0.012	0.638
WACC	<--- Firm performance	0.000	0.009	0.584	0.001	-0.033	0.321
GROWTH	<--- Firm performance	0.103	0.321	***	0.078	0.280	0.181
VOLATILITY	<--- Firm performance	0.000	-0.004	0.755	0.006	-0.074	0.211
CHANGE	<--- Firm performance	0.013	0.116	***	0.011	0.104	0.178

In order to compare the two groups, the correlation between firm performance and roa, tobinq, wacc, and volatility in group 1 is mitigated in relation to group 2. This means that after improving credible ERM, a firm's profitability, market value, capital cost, and stock price are less exposed to variance in its risk portfolio. In contrast, size, position, growth, and change in group 1 are bigger than those in group 2. Nevertheless, one cannot say that credible ERM causes firms to lose advantage in terms of firm size, market share, sales growth and market value. It is appropriate to treat this as a limitation of the function of ICS in risk management. As the ERM framework has a relatively wide range of implications compared with the internal control framework, thus, maturity ERM programmes should add more potential value to a firm.

CONCLUSION AND RECOMMENDATIONS

This paper provides initial evidence of the potential effects of ERM on Chinese firms in the manufacturing sector. As the maturity stage of ERM programme is quite rare in China, therefore it treats integrated ICS as a sign of credible ERM. In order to examine the practicality and potential value of ERM, this paper examined it in three aspects: the impact of credible ERM on the relationship between different kinds of risk and a firm's risk portfolio; the influence of credible ERM on components of a firm's risk structure; and the function of credible ERM in correlation with risk portfolio and firm performance. Consequently, this paper found that credible ERM could help to mitigate the impact of risks on the risk portfolio by reducing the correlation between them. Since ERM is an extension of ICS, each individual risk might therefore contribute

fewer hazards to a firm as a whole after it has adopted maturity ERM programmes. It can be noted that Chinese firms, with or without credible ERM, are exposed to most of the risks from a strategic point of view. As ERM is a management activity related or linked to its strategic objective, a firm's risk ought to be well-controlled and well-managed with an effective maturity ERM framework. This paper also found that the strong negative relationship between risk portfolio and firm's profitability is reduced by credible ERM. Therefore, firms that could implement maturity ERM efficiently would be able to improve their profit potential.

The results of this paper have authentically shown the practicality and potential value of ERM in China based on the empirical evidence in the manufacturing sector. The analysis has provided a starting point for future research on ERM in China. However, there are several limitations that need to be addressed in this regard. One is the measurements at the effects of ERM, which are indirectly defined by the effects of integrated ICS. Even if ICS is argued to be the foundation of ERM, it can only be proven in some sectional functions in ERM programmes, and that makes quantification difficult and inaccurate. Another limitation is the determination of both risk and performance indicators. The non-availability of relevant data in China adds to the constraints on the selection of effective indicators. Thus, this paper has only demonstrated the relevance of the risk portfolio to a firm's profitability, which is just one predictor of firm performance. Though profitability is a significant factor in firm performance, it is not necessarily the only one. In addition, the MIMIC model cannot represent firms without credible ERM as perfectly as firms with credible ERM (disclosed as nonsignificant estimates for some parameters); thus, this limitation affects the results as well. Accordingly, further research using more effective indicators will make important contributions to the body of ERM literature in Asia.

REFERENCES

Andersen, T. J. (2008). The Performance Relationship of Effective Risk Management: Exploring the Firm-Specific Investment Rationale. *Long Range Planning, 41*(2), 155-176. doi: http://dx.doi.org/10.1016/j.lrp.2008.01.002

Arena, M., Arnaboldi, M., & Azzone, G. (2011). Is enterprise risk management real? *Journal of Risk Research, 14*(7), 779-797. doi: 10.1080/13669877.2011.571775

Beasley, M., Pagach, D., & Warr, R. (2008). Information Conveyed in Hiring Announcements of Senior Executives Overseeing Enterprise-Wide Risk Management Processes. *Journal of Accounting, Auditing & Finance, 23*(3), 311-332. doi: 10.1177/0148558x0802300303

Cumming, C. M., & Hirtle, B. J. (2001). The challenges of risk management in diversified financial companies. *Economic Policy Review - Federal Reserve Bank of New York, 7*(1), 1-17.

Dong, Y. C. (2009). The Diversities and Sameness of Internal Control and Risk Management Based on COSO Frameworks. *Auditing Research,* (004), 94-96.

Farrell, M., & Gallagher, R. (2014). The Valuation Implications of Enterprise Risk Management Maturity. *Journal of Risk and Insurance*. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/jori.12035/full. doi: 10.1111/jori.12035

Finch, W. H., & French, B. F. (2011). Estimation of MIMIC Model Parameters with Multilevel Data. *Structural Equation Modeling: A Multidisciplinary Journal, 18*(2), 229-252. doi: 10.1080/10705511.2011.557338

Hair, J. F., Anderson, R. E., Tatham, R. L., & William, C. (1998). In Black (Ed), *Multivariate data analysis* (Vol. 6). Upper Saddle River, NJ: Prentice Hall.

Hoyt, R. E., & Liebenberg, A. P. (2011). The Value of Enterprise Risk Management. *Journal of Risk and Insurance, 78*(4), 795-822. doi: 10.1111/j.1539-6975.2011.01413.x

Lam, J. (2001). The CRO is here to stay. *Risk Management, 48*(4), 16-22.

Meulbroek, L. K. (2002). Integrated risk management for the firm: a senior manager's guide. *Available at SSRN 301331*.

Verbano, C., & Venturini, K. (2011). Development paths of risk management: approaches, methods and fields of application. *Journal of Risk Research, 14*(5), 519-550. doi: 10.1080/13669877.2010.541562

Wu, X. M., & Zhang, C. Y. (2009). The Literature Review of Tobin's Q and Limitation of Application in China. *Modern Business, 27*, 132.