

WENGE WANGUniversity of Auckland, New Zealand, wenge.wang@auckland.ac.nz**INDEPENDENT DIRECTORS AND CORPORATE PERFORMANCE IN CHINA: A META-EMPIRICAL STUDY****Abstract:**

This article reviews empirical studies on the relationship between independent directors and firm performance in Chinese listed companies. The purpose is to generalize empirical evidence on the theoretical claim that independent directors can improve firm performance by performing their monitoring role over management as expected by Chinese regulators. To fulfil this purpose, this article conducts a meta-empirical study by collecting 30 sample articles of existing empirical studies on the relationship between independent directors and firm performance in Chinese listed companies after the independent director institution has been introduced from corporate America to corporate China. The meta-empirical study is to review and generalize an integrated empirical evidence whether independent directors can improve firm performance in Chinese listed companies or not. Based on the statistical data from 30 collected sample articles, this article identifies four categories (board independence, independent directors' characteristic, background and compensation) that authors of 30 sample articles use to test the correlation between independent directors and firm performance in Chinese listed companies. From the integrated empirical evidence from 30 collected sample articles, this article finds on the whole that board independence has no significant impact on firm performance, that independent directors' characteristics and background have a controversial effect on firm performance and that independent directors' compensation has a significant positive effect on firm performance. This may suggest that independent directors may primarily play an advisory role but not a monitoring role in Chinese listed companies.

Keywords:

Independent directors, corporate performance, Chinese listed companies

JEL Classification: K22, G38

1. Introduction

From a viewpoint of economic efficiency, independent directors as an internal control mechanism are concerned with the improvement of corporate governance, which thus increases firm value and maximizes shareholder wealth in a corporation. There is no consensus as regards the impact of independent directors on firm performance because empirical evidence on the correlation between independent directors and firm performance is not consistent and even controversial. This may lead independent directors to become the target of public criticisms for their role as effective monitors in policing management performance, especially after episodes of financial crises. No matter how controversial their effectiveness in corporate governance and corporate performance is, independent directors exist as a given. However, their existence is not only for the improvement of corporate governance but also for the enhancement of corporate performance. This is because good corporate governance is but a means of bringing about better corporate performance. Therefore, it would be inconvincible to study the effectiveness of independent directors in corporate governance without a further investigation of the relationship between independent directors and firm performance. This is especially true in the case that independent directors have been introduced from corporate America to corporate China. Empirical research on the relationship between independent directors and firm performance is rich in China. However, there is not a detailed review study of current empirical research on the relationship between independent directors and corporate performance in Chinese listed companies in the international empirical research literature. Therefore, a further investigation by way of a review study of the existing empirical research on this relationship may evidence a general picture of the influence of independent directors to firm performance in China. For the purpose of this further investigation, this article reviews and generalizes the existing empirical evidence regarding the impact of independent directors on firm performance by way of a meta-empirical study on the correlation between independent directors and corporate performance in Chinese listed companies.

Based on this understanding, the focus of this meta-empirical study is to review the current empirical studies on independent directors and corporate performance in Chinese listed companies so as to identify the existing empirical evidence on the efficacy of independent directors in corporate governance in China. Section 2 contains a literature review of the extant empirical studies on independent directors and firm performance from an international perspective. Section 3 describes the collection of sample articles of empirical studies on independent directors and firm performance in China. Section 4 contains an analysis and discussion of the empirical evidence on independent directors and firm performance from the selected sample articles. Section 5 concludes the article.

2. International Literature Review

Jensen and Meckling (1976, p. 349) postulated that “a manager who invests all of his wealth in a single firm (his own) ... will suffer a wealth loss as he reduces his fractional ownership because prospective shareholders and bondholders will take into account the agency costs”. This suggests that the dispersion of stockholders can decrease a firm’s value because it will inevitably increase agency costs. Beneficially, this may also “tend to increase the optional level of monitoring” (Ibid, p. 346), which can be expected to moderate the decrease of firm value and augment shareholder wealth. As pointed out by Fama & Jensen (1983, p.315), corporate boards generally include outside board members who “carry out tasks that involve serious agency problems between internal managers and residual claimants” because they “have incentives to carry out their tasks and do not collude with managers to expropriate residual claimants”. Accordingly, the presence of outsiders on corporate boards can reduce the possibility of the collusion between managers and internal board members, which can activate the board’s monitoring function and thus decrease managers’ expropriation of residual claimants’ wealth. In this way, firm value may be minimally decreased and stockholder wealth may be maximally increased. Following this line of reasoning, the corollary is that independent directors can improve corporate performance.

True, theoretical reasoning that the presence of independent directors on corporate boards can improve corporate governance and firm performance is sound. Since the monitoring board model has been adopted as the typical internal corporate control mechanism in the United States in the 1970s, the relationship between independent directors and corporate performance has been a more controversial theme of academic research in the corporate governance literature. Empirical studies that examine this relationship look at the impact of different perspectives of independent directors, such as number, proportion, characteristic and background, on firm performance. Internationally, there is no a given answer to this controversy because empirical evidence on whether independent directors can improve corporate performance is mixed. Generally speaking, there are mainly three kinds of empirical findings as regards the correlation between independent directors and corporate performance. That is, there may exist either a positive or a negative correlation, or no correlation between independent directors and corporate performance.

Positive Correlation

In the earlier empirical literature, Vance (1964, p. 46) and Pfeffer (1972, p. 224) examined the impact of the outsider orientation of corporate boards on firm value and find there is a positive association between outside board members and corporate performance. Following Vance and Pfeffer’s work, a stream of empirical research has confirmed this finding. In an examination of 266 U.S. corporations, Baysinger and Butler (1985, pp. 117, 104) provide evidence that more independent directors on firms’ boards

improve corporate performance by having realized higher relative financial performance (RFP), although this effect is mild and lagged. In a similar vein, Rosenstein and Wyatt (1990, p. 186) indicate that the clearly identifiable announcements of appointing independent directors are associated with increases in shareholder wealth. This is by reporting significant positive excess returns accompanying the announcements of the appointment of additional independent directors on firms' boards, even if the numbers of independent directors were dominant before the announcements (Ibid, 174). In a related study, Hermalin and Weisbach (1988, p. 602) find that poor performance leads to changes in board composition and a poorly performing firm is more likely to invite independent directors to join its board, although perhaps with a time lag. A number of other empirical studies have also reported a positive relationship between independent directors and firm performance (Schellenger, Wood, and Tashakori, 1989; Pearce and Zahra, 1992; Ezzamel and Watson, 1993; Rosenstein and Wyatt, 1997, Millstein and MacAvoy, 1998). Wagner et al. (1998, p. 664) conduct a meta-analysis of 63 empirical studies on the correlation between board composition and organizational performance and the result of their work indicates that the greater presence of independent directors is associated with higher organizational performance. Subsequent research is supportive of their result (Lee et al., 1999; Ferris et al., 2003; Hillman, 2005; Honeine and Swan, 2010; Masulis et al., 2012).

Negative Correlation

Contrary to the above empirical findings, another stream of empirical research has found that there is a negative relationship between independent directors and firm performance. Zahra and Stanton (1988, p. 232) conduct an examination on 100 randomly selected companies from the 1980 Fortune 500 List and observe that the ratio of independent directors has a significant negative effect on the firm's financial performance. In a test on the managerial monitoring hypothesis, Fosberg (1989) investigates the impacts of various proportions of independent directors on the level of management performance. By using an extensive accounting means to measure firm performance, he provides the evidence that the relationship between the proportion of independent directors and firm performance is negative in general (Ibid, pp. 29-31). Using panel data of 142 NYSE firms to control for the possible bias due to the joint endogeneity of variables, Hermalin and Weisbach (1991, pp. 108, 110) also find that the different proportions of independent directors on the board makes no noticeable difference but has a negative effect on the firm's profitability measured by Tobin's Q. Consistent with this finding, Agrawal and Knoeber (1996, p. 392) report a consistently negative and significant correlation between the proportion of independent directors and Tobin's Q, suggesting that firms having more independent directors adds little to firm value. The same is true of Yermack (1996, p. 195), whose empirical work on the association between the fraction of independent directors and firm performance concurs with the same finding. There is influential empirical research by Bhagat and Black (1996), who conducted the first large sample, long-horizon study of whether the proportion of independent directors affects firm

performance. Using a wide variety of market and accounting measures, they find that there is a strikingly significant negative correlation between the proportion of independent directors and firm performance measured by a large variety of accounting measures (Ibid, pp. 37, 38, 40, 42, 43 and 44). In their follow-up studies, this finding has been confirmed again (Bhagat and Black 2002, pp. 247, 250 and 258). The finding is also in alignment with a stream of other empirical works (Daily and Dalton, 1993; Klein, 1998; Anderson et al., 2000; Beiner et al., 2004; Boone et al., 2007; Bhagat and Bolton, 2008).

No Correlation

Notably, the empirical literature also includes the evidence that no association exists between independent directors and firm performance. The earliest evidence is perhaps provided by Baysinger and Butler (1985, p. 117), who find that there is no relationship between the proportion of independent directors on the board and the firm's profitability in the same year in 1970s, although there is a mild and lag effect on the positive relationship between the proportion of independent directors on the board in 1970s and firm performance in 1980s. Rechner and Dalton (1986, p. 89) document this no-relationship finding in their examination on the extent to which board composition measured by the percentage of independent directors on the board is associated with shareholder wealth. Chagati et al. (1985, p. 412) and Dalton et al. (1998, p. 279) provide support for the no-relationship proposition. Some researchers also find similar controversial evidence. For example, except for a negative relation between the proportion of independent directors and firm performance measured by Tobin's Q, Hermalin and Weisbach (1991, p. 111) find that "there appears to be no relation" between board composition measured by the percentage of independent directors and firm performance. In a recent empirical work, Duchin et al. (2010) observe an interesting finding. In addressing the exogenous regulation changes in board composition that are presumably explainable for firm performance changes over the period 2000-2005 while controlling the endogeneity issue at the same time, they find that the relationship between independent directors and firm performance is conditional on information cost: independent directors significantly improve firm performance, measured not only by accounting measures such as return on assets (ROA) and Tobin's Q but also by market measure such as stock return, when information cost is low but hurt firm performance significantly when information cost is high, using the same performance measures (Ibid, p. 203). They provide an explanation for this dichotomy phenomena - "the positive and negative effects cancel out on average" (Ibid, p. 204) - and claim that "the unconditional effect of outsiders, which in our sample is close to zero" (Ibid).

Compared with international studies, empirical research on the association between independent directors and firm performance in China seems to be abundant in scope but not plentiful in depth. The empirical evidence provided by Chinese studies is similar to that of international studies. The following sections examines this issue in detail by way of reviewing 30 selected sample empirical studies.

3. Sample Collection of Chinese Research

To review empirical research on the relationship between independent directors and firm performance in China, this research selects 30 empirical works to conduct the review. The selection procedure of sample articles, including sample sources and selection criteria, is described as follows.

3.1 Sample Sources

The aim of the review is to generalize the empirical research on the relationship between independent directors and firm performance in Chinese listed companies, which directs this research to search for any empirical study on this relationship. Searching is divided into two stages: to set selection criteria and to conduct searching. The first stage is to set the criteria for searching. For the quality of academic research, three criteria are set for choosing the sample articles used in this meta-empirical study. First, the sample articles selected are those that examine directly the relationship between independent directors and corporate performance. Thus, empirical research that examines indirectly the relationship between independent directors and corporate performance has not been chosen. Second, the sample articles selected are those from academic scholars who investigate empirically the relationship of independent directors and firm performance. So, empirical research by students (excluding doctoral theses) has been excluded. Third, the sample articles selected are those that have been conducted in private academic research. Therefore, empirical research by governmental institutions has also been left out. These three criteria are mandatory that the selected sample article must meet. In addition, three additional alternative criteria, i.e., endogeneity control, multi-performance measure and robustness check, have also been set for sample article selection with the purpose of improving the credibility of the result of empirical research. Endogeneity control means that the sample article takes into account the endogeneity problem connected with board composition albeit it just runs a simple linear regression without taking into consideration either multi-performance measure or robustness check or both. The same logic applies to the multi-performance measure and robustness check criteria, respectively. Multi-performance measure means that the sample article applies at least two performance measures while robustness check means that the sample article conducts at least one robustness test. These three criteria are not all mandatory but are alternatives for each selected sample article. This means that each sample article, in addition to meeting the three mandatory selection criteria, also needs to meet at least one of three alternative criteria to be selected. The rationale behind three additional criteria is to identify those sample articles with some detailed and in-depth empirical evidence for the purpose of this review study.

The second stage is to conduct the search, which is also conducted in two stages: international and domestic. In the case of some sample articles that are not available via either international or domestic source, the searching was conducted through the

universities' interlibrary loan system. The international search was conducted by way of international scholarly websites such as Google Scholar, ProQuest, Scopus, Heinonline and SSRN, which showed that there are few sample articles on this subject. The searching effort then shifted in the domestic direction through the CNKI website, administered by China Academic Journal Electronic Publishing House. The initial searching identifies 52 sample articles. After the screening procedure according to the six selection criteria set by this study, 30 sample articles have been selected for reviewing in the rest of this meta-empirical study.

3.2 Sample Description

A description of 30 selected sample articles is presented in Table 3.2.1. Some observations can be made from Table 3.2.1. First, the empirical research on the relationship between independent directors and firm performance in Chinese listed companies began in 2001 (Li & Li), which was concurrent with the formal introduction of independent directors from the United States to China by Chinese regulators the same year. The relatively recent study was conducted in 2013 (Zhang & Wang). Even as a late starter in this field of research, Chinese scholars produce abundant empirical works in a short period of thirteen years from 2001 to 2013, compared with international studies at least since the 1970s (see discussions in Section 2). Second, the sample size used by all researchers varied greatly, from the smallest one of 31 (Shen et al., 2007) to the biggest one of 3474 (Wang et al., 2006). Third, the sample period covered in the Chinese studies spans from 1998 to 2010, which reflects the fact that the empirical study of the relationship between independent directors and firm performance is a hot topic in the corporate governance literature in China. For example, the sample periods of three recent studies (Hui & Lu, 2013; Lan & Zhang, 2013 and Zhang & Wang, 2013) range from 2005 to 2010, which shows the authors' interests in changes of law and policy such as the revised Company Law 2005 and the share structure split reform 2005 on the relationship between independent directors and firm performance in Chinese listed companies. Fourth, most studies cover Chinese companies from all industries, or all industries excluding financial industry, listed in both Shanghai and Shenzhen stock exchanges. Some studies are only cover Shanghai or Shenzhen stock exchange (Luo et al., 2004; Zou, 2007; Hu & Zhu, 2008; Wu & Lan, 2009 and Li & He, 2013) or a single industry (Yang et al., 2004; Wu & Lan, 2009 and Hui & Lu, 2013). Fifth, the results of researchers are similar to those of international studies, i.e., they have identified three kinds of relationships between independent directors and firm performance: positive, negative and no relation. Table 3.2.2 describes the distribution of the three relationships in Chinese studies.

Table 3.2.1 Description of 30 Selected Empirical studies on the Correlation between Independent Directors and Firm

Author	Sample Size	Sample Period	Methodology	Stock Exchange	Industry
Yougen Li, Xiping Zhao & Huaizu Li (2001)	91	1998-1999	Linear & Quadratic	SHSE & SZSE	All
Minghua Gao & Shouli Ma (2002)	1018	2001	Linear & Quadratic	SHSE & SZSE	All
Qinqin Hu & Yifeng Shen (2002)	41	2000	OLS	SHSE & SZSE	All
Qisheng Lü & Yue Lü (2003)	152	2001	Linear	SHSE & SZSE	All
Dongzhi Yu (2003)	1088	1997-2000	OLS	SHSE & SZSE	Non-Financia
Jingshui Sun (2003)	58	2002-2003	OLS & Quadratic	SHSE & SZSE	All
Chaojin Xiang & Ming Xie (2003)	110	2001	OLS	SHSE & SZSE	All
Pinliang Luo, Yong Zhou & Hui Guo (2004)	673	1999-2002	Linear	SHSE	All
Shuoli Ma (2004)	1244	2003	Linear & Quadratic	SHSE & SZSE	All
Jie Yang, Jun Zheng & Long Cheng (2004)	59	2002	Linear	SHSE & SZSE	Medicine
Qingquan Tang, donglun Luo & Xueqin Zhang (2005)	297	2002	OLS	SHSE & SZSE	All
Jianguo Gu & Jiancheng Long (2006)	215	2001-2003	OLS	SHSE & SZSE	Non-Financia
Yaotang Wang, Ziyue Zhao & Xiaoyan Wei (2006)	3476	2002-2004	SEM (OLS, 2SLS)	SHSE & SZSE	Non-Financia
Xiaodong Chen & Danfeng Chi (2007)	866	2003-2005	OLS & WLS	SHSE & SZSE	Non-Financia
Fuping Shen, Qiaoyan Han & Hongmei Zhao (2007)	31	2005	OLS	SHSE & SZSE	All
Gang Wei, Zezhong Xiao, Nick Travlos & Hong Zou (2007)	291	1999-2002	SEM (OLS, 3SLS)	SHSE & SZSE	Non-Financia
Jin Zou (2007)	1599	2003-2005	Linear & Quadratic	SHSE	All
Kai Hu & Zegang Zhu (2008)	89	2004	Linear & Quadratic	SHSE	All

Table 3.2.1 Cont'd

Author	Sample Size	Sample Period	Methodology	Stock Exchange	Industry
Dewu Zhao, li Zeng & Lichuan Tan (2008)	993	2002-2004	OLS (Component & Path Analyses)	SHSE & SZSE	Non-Financia
Jie Wu & Faqin Lan (2009)	462	2005-2007	OLS	SHSE	Industrial
Zhigang Zheng & Xiuhua Lü (2009)	4148	2001-2004	OLS	SHSE & SZSE	All
Yihong Lu (2009)	1395	2003-2006	SEM (OLS, 3SLS)	SHSE & SZSE	Non-Financia
Yuchao Ma (2009)	100	2007	Multiple linear	SHSE & SZSE	All
Yingzi Bian (2010)	873	2006	OLS	SHSE & SZSE	All
Helen Wei Hu, On Kit Tam & Monica Guosze Tan (2010)	304	2003-2005	SEM	SHSE & SZSE	All
Luhang Zheng (2010)	1548	2006-2007	OLS	SHSE & SZSE	All
Tiaoyan Hui & Feilan Lu (2013)	305	2005-2010	Linear	Not Reported	Financial
Xiaochun Lan & Tienan Zhang (2013)	1721	2002-2004	SEM (OLS, 2SLS)	SHSE & SZSE	Non-Financia
Ming Li & Hui He (2013)	285	2005-2009	SEM (AMOS)	SZSE	Non-Financia
Zhiping Zhang & Zhiqiang Wang (2013)	1515	2010	OLS	SHSE & SZSE	All

Note: SHSE means Shanghai Stock Exchange and SZSE means Shenzhen Stock Exchange. OLS means Ordinary Least Square. WLS means Weighted Least Squares, 2SLS means Two Stage Least Squares and 3SLS means Three Stage Least Squares. SEM means Simultaneous/Structural Equation Model. Linear means simple linear regression. Quadratic means quadratic curve regression. Multiple Linear means multiple linear regression. AMOS means AMOS path analysis. **, *** denote statistically significant at the 5% and 1% level respectively.

Table 3.2.2 shows that 63.33% of 30 selected empirical studies report a positive relationship between independent directors and firm performance in Chinese listed companies. 5 studies document a significant positive relationship. 9 studies find that independent directors have a negative effect on firm performance; 44.44% of them are significantly negative. Only 2 selected studies find no relationship between independent directors and firm performance, which is 6.67% of the 30 selected sample articles. Of 30 selected sample articles, studies reporting a statistically positive significance comprise 16.67%, while studies reporting a statistically negative significance comprise 13.33%. This means that only less than one third of 30 selected sample articles report a meaningful finding from a statistical perspective. From Table 3.2.2, it appears that less than two thirds of 30 selected studies report a positive relation between independent directors and firm performance in Chinese listed companies. The ratio of studies reporting a positive relationship between independent directors and firm performance to studies reporting a negative and no relationship between independent directors and firm performance is 19 to 11, i.e., approximately 2 to 1. So, it seems that independent directors positively affect firm performance in Chinese listed companies. This is confounding and misleading because it cannot tell us which role, monitoring or advising, played by independent directors, affects firm performance. It is confounding because it is not consistent with the received wisdom that independent directors are just “vase directors” in China. It is misleading because it gives a false impression that independent directors perform their monitoring role well in China. One possible explanation is that independent directors may perform their advising role better than their monitoring role and thus add value to firm performance. A number of selected sample articles may provide evidence for this explanation.

Table 3.2.2 Results of 30 Selected Empirical Studies on the Relationship between Independent Directors and Firm Performance

Result	Number	Percentage	Significance		
			Number	Percentage ¹	Percentage ²
Positive	19	63.33	5	26.32	16.67
Negative	9	30.00	4	44.44	13.33
No Correlation	2	6.67			
Total	30	100	9	32.14	30.00

Note: Percentage¹ is the ratio of significance number to positive/negative number. Percentage² is the ratio of significance number to total number. Number means the number of sample articles. Percentage is the ratio of positive/negative number to total number. Significance means statistical significance.

4. Discussion and Analyses

A review of 30 selected sample articles identifies that the authors of these sample articles examine the relationship between independent directors and firm performance from four categories: board independence, independent directors' background, characteristic and compensation. Table 4 describes the classification of the four categories and this section discusses and analyzes them in detail.

Table 4 Classification of 30 Selected Empirical Studies on the Relationship between Independent Directors and Firm Performance

Panel A: Four Categories				
	Independence	Background	Characteristic	Compensation
Number	28	7	8	5
Percentage	93.33	23.33	26.67	16.67
Panel B: Sub-categories of Board Independence				
	Proportion	Number*	Adoption	
Number	22	2	4	
Percentage	78.57	7.14	14.29	

Note: Number is the number of sample articles. Percentage is the percentage of sample articles in each category. Independence means board independence. Background, characteristic and compensation mean independent directors' background, characteristic and compensation, respectively. Proportion and number* mean the proportion and the number of independent directors, respectively. Adoption means whether or not a firm has independent directors on its board of directors.

4.1 Board Independence and Firm Performance

From Panel A of Table 4, it can be seen that 28 selected sample articles, 93.33% of 30 selected sample articles, examine the impact of board independence on firm performance. Undoubtedly, board independence is the focus that most authors of the selected sample articles are interested in testing the relationship between independent directors and firm performance. To test this relationship, these authors pay attention to three subcategories of board independence. Panel B of Table 4 further classifies these three sub-categories that may affect firm performance, i.e., the proportion of independent directors, the number of independent directors and the adoption of the independent director institution. Table 4.1 reports the relevant test statistics of 28 selected sample articles regarding the relationship between the three sub-categories of board independence and firm performance.

The Proportion of Independent Directors

As shown in Panel B of Table 4, 22 selected sample articles, 78.57% of 28 selected sample articles that test the effect of board independence on firm performance, scrutinize the relationship between the proportion of independent directors and firm performance.

Panel A of Table 4.1 provides the detailed test results of 22 selected sample articles. Of them, 5 studies identify a statistically significant relationship between the proportion of independent directors and firm performance: two are negative and three are positive, accountable for 9.09% and 13.64% of 22 selected sample articles examining the relationship between board independence and firm performance, respectively. Wang et al. (2006) probably conducted the first empirical research that found such a significant relationship. The authors use the SEM model to control the endogeneity problem connected with board composition based on 3,476 observations from Chinese listed companies of non-financial industries in the period of 2002-2004 and find a positive correlation between the proportion of independent directors and firm performance measured by the PER (adjusted ROA), statistically significant at the 1% level (p-Values for both OLS and 2SLS are 0.010 and 0.0102, respectively) (Ibid, p. 70). This finding is consistent with that of Rosenstein and Wyatt (1990) and provides the Chinese evidence. To avoid the multi-collinearity problem caused by multivariate interaction, Zhao et al. (2008) apply the factor analysis method by way of component analysis and path analysis on 993 companies in non-financial industries, listed before 2002 in two Chinese stock exchanges that survived in the period of 2002-2004. They ran an OLS regression on the correlation between the percentage of independent directors and the firm's profit stability measured by E/P (initial stock price per share). They found that the percentage of independent directors has a positive effect on the stability of firm profitability, statistically significant at 1% level (p-Value for all estimated components is 0.000) (Ibid, p. 62).

In another selected sample article, Wu and Lan (2009) provided the evidence to support their findings. The two authors collected the data of 462 Chinese listed companies from the industrial sector in the period of 2005-2007 as their samples to establish a panel regression model to test the correlation between the percentage of independent directors and firm performance measured by ROE and Tobin's Q. Their test result supports the findings of Zhao et al. (2008) and Wu and Lan (2009). The difference is that Wu and Lan (2009, p. 120) report a positive correlation between the percentage of independent directors and firm performance measured by ROE, statistically significant at the 1% level (p-Value is 0.003). In Contrast, Chen & Chi (2007, p. 12) and Zheng & Lü (2009, p. 136) discover a negative relationship between the proportion of independent directors and firm performance measured by Tobin's Q, statistically significant at the 5% and 1% levels, respectively. Chen & Chi (2007) use the data of 886 companies listed before 2002 and existed in the period of 2003-2005 to run both OLS and WLS regressions. Their study aims to investigate whether independent directors add value to their firms from the official introduction of the independent director system in 2001 to the share structure split reform in 2005. The result is consistent with their hypothesis that the percentage of independent directors is negatively associated with firm performance (t-value is -2.338, which is statistically significant at the 5% level). Zheng & Lü (2009) take into consideration of the lag effect of corporate governance. Their samples included 4148 observations from 2001 to 2004 but their data of firm performance and control variables

range from 2002 to 2005. The finding is that the coefficient (r-Value) between the percentage of independent directors and Tobin's Q is -0.314, statistically significant at the 1% level. From the perspective of Chinese practice, the findings of Chen & Chi (2007) and Zheng & Lü (2009) support that of Bhagat and Black (1996).

Table 4.1 Board Independence and Firm Performance

Author	Model	Measure	r-Coefficient	t-Test	F-Test	p-Value
Panel A: Proportion						
Li et al (2001)	Linear	ROE			1.00	0.320
		ROA			1.83	0.179
Gao & Ma (2002)	Linear	ROE	0.55			0.0687
		EPS	0.22			0.3517
Hu & Shen (2002)	OLS	CAR	0.053	-0.329		
		Tobin's Q	0.099	-0.624		
Lü & Lü (2003)	Linear	ROE	0.197			0.185
		EPS	0.067			0.656
		SOA	-0.069			0.645
		ROA	0.215			0.146
Sun (2003)	OLS	EPS	0.007			0.158
		ROE	0.019			0.881
		ROA	0.002			0.973
		Tobin's Q	0.003			0.956
Xiang & Xie (2003)	OLS	ROE	0.001987	0.040		0.968
		Tobin's Q	0.004719	1.279		0.204
Yu (2003)	OLS	AROE	-0.370	-0.571		0.57
		ACPM	-0.0835	0.669		0.51
Luo et al (2004)	Linear	EPS	-0.27521	-0.76		0.4511
		ROE	-17.0986	-0.91		0.3696
Ma (2004)	Linear	ROE	16.9888		1.50	0.221
		EPS	0.8012		1.49	0.223
Wang et al (2006)	SEM	PER	016145			0102***
Chen & Chi (2007)	OLS	Tobin's Q	-0.011	-2.338		**
Shen et al (2007)	OLS	EPS				0.3959
		ROE				0.8710
		SOA				0.8005

		SE				0.9830
		RP				0.7305
Zou (2007)	Linear	CWZP	0.076			
Hu & Zhu (2008)	Linear	CPI	-11.527	-0.658		0.513
Zhao et al (2008)	OLS	E/P	0.191	8.756		0.00***
Lu (2009)	SEM	ROA	0.021	0.337		
		MBV	0.052	0.417		
Wu & Lan (2009)	OLS	ROE	0.2789			0.003**
		Tobin's Q	3.6366			0.056
Zheng & Lü (2009)	OLS	ROA	0.009			
		Tobin's Q	-0.314			***
Bian (2010)	OLS	Tobin's Q	-			0.99
Hu et al (2010)	SEM	Tobin's Q	-0.035	-0.109		
Li & He (2013)	SEM	Tobin's Q	0.7192	1.21		
		ROA	0.054	1.59		
Zhang & Wang (2013)	OLS	ROE	-0.02	-0.30		
Panel B: Number*						
Yang et al (2004)	Linear	EPS	0.87			0.512
Gu & Long (2006)	OLS	EPS	-0.004	-0.092		
		NAS	0.029	0.817		
		RNAS	-0.072	-1.73		
		MB	-0.065	-1.84		

Table 4.1 Cont'd

Author	Model	Measure	r-coefficient	t-Test	F-Test	p-Value
Panel C: Adoption						
Gao & Ma (2002)	Linear	ROE		1.481		0.139
		EPS		0.370		0.712
Lü & Lü (2003)	Linear	ROE		1.232		0.220
		EPS		0.112		0.911
		SOA	+	-0.586		0.559
		ROA		1.053		0.294
Ma (2004)	Linear	ROE		1.061		0.289

		EPS		0.327		0.744
Luo et al (2004)	Linear	EPS	-	-3.20		0.0031***
		ROE	-	-2.29		0.0286**

Note: Measure means the method used to measure firm performance. ROE means return on equity. ROA means return on assets. EPS means earnings per share. SOA means sales on assets. Tobin's Q means the ratio of equity market value to assets replacement costs. AROE means average ROE. ACPM means average SOA. RP means retained profits. E/P means initial price per share. SE means shareholders' equity. CAR means cumulative abnormal return. CPI means integrated performance index. MB means market value. MBV means net market value. NAS means net assets per share. RNAS means ROE. PER means adjusted ROA. CWZP means integrated financial indices. **, *** denotes the statistical significance at the 5%, 1% levels, respectively.

Except for the above 5 studies, 17 selected sample articles identify that there is a correlation, either positive or negative, between the proportion of independent directors and firm performance although the correlation is not statistically significant. Among them, twelve (Li et al., 2001; Gao & Ma, 2002; Hu & Shen, 2002; Lü & Lü, 2003; Sun, 2003; Xiang & Xie, 2003; Ma, 2004; Shen et al, 2007; Zou, 2007; Lu, 2009; Bian, 2010 and Li & He, 2013) are positive and five (Yu, 2003; Luo et al., 2004; Hu & Zhu, 2008; Hu et al., 2010 and Zhang & Wang, 2013) are negative. Among 12 selected sample articles that identify a positive relation between the proportion of independent directors and firm performance, 5 studies ran a simple linear regression. The difference is that Li et al. (2001), Gao & Ma (2002) and Ma (2004) used two measures to measure firm performance, compared with Lü & Lü (2003), who use four measures, and Zou (2007), who used an integrated financial indices consisted of 20 financial indices under 5 categories of abilities in payment, debt, profit, growth and cash flow.

Another seven studies ran an OLS regression, of which two studies also ran a SEM regression. Bian (2010) used one measure to measure firm performance while Hu & Shen (2002), Xiang & Xie (2003), Lu (2009) and Li & He (2013) used two measures. Hu & Shen identified a weak positive effect (r-coefficients are 0.055 and 0.099 for CAR and Tobin's Q, respectively). In comparison, Sun (2003) used four measures and Shen et al (2007) use five measures. By using various measures to measure firm performance, the authors' reasoning is perhaps to strengthen the robustness of their models' predictability. Among 6 selected sample articles that identify a negative relation between independent directors and firm performance, two studies regress a simple linear model. While Luo et al (2004) utilize two measures to measure firm performance, Hu & Zhu (2008, p. 37) apply an integrated performance index comprised of 11 firm performance indices. Four other studies regress an OLS model, of which one study also runs a SEM regression. Yu (2003) employs two measures to measure firm performance but Hu et al (2010) and Zhang & Wang (2013) use one measure. As seen from Table 4.1, Lü & Lü (2003) and Zou (2007) report a weak correlation between independent directors and firm performance, r-coefficients for both are 0.067 and 0.076, respectively. Noticeably, two studies report a no-correlation finding between the proportion of independent directors and firm performance. Although no regression coefficients reported, Yu (2003, p. 39) and Luo et al. (2004, p. 22) identify that there is no correlation between the percentage of

independent directors and firm performance. Just as Duchin et al. (2010), Yu (2003) notices that, in running an OLS model, t-Value is 0.669 when firm performance is measured by average sales on assets (ACPM) but it is -0.571 when measured by average return on equity (AROE). Therefore, he comes to conclusion like Duchin et al. (2010). In running a simple linear model, Luo et al. (2004) find that the absolute value of both Pearson and Spearman correlation coefficients is lower than 0.18 when firm performance is measured by EPS (earning per share) and ROE, and that R^2 is 0.0184 for EPS and 0.0260 for ROE, respectively. These figures are much lower than 1 but close to zero and thus they reach the same conclusion.

The Number of Independent Directors

In Panel B of Table 4, 2 selected sample articles, 7.14% of 28 selected sample articles that test the effect of board independence on firm performance, look into the relationship of the number of independent directors and firm performance. Panel B of Table 4.1 describes the relevant test details of these 2 studies. There is no significant relationship identified between the number of independent directors and firm performance. Yang et al. (2004, pp. 58, 59) use a single linear model and find a positive effect, i.e., the higher the number of independent directors the better the firm performance measured by EPS (r-coefficient is 0.87) and ROE (r-coefficient is 0.045), respectively. Their results come from an investigation of 59 listed companies in the medical industry in 2002. In contrast, Gu & Long (2006) identify a negative effect that the number of independent directors has on firm performance. They use four measures to measure firm performance and find that four relevant regression coefficients are -0.004 for EPS, 0.029 for NAS (net assets per share), -0.072 for RNAS (ROE) and -0.065 for MB (market value), respectively (Ibid, p. 88). The samples chosen by the authors are 215 listed companies from non-financial industries in the period of 2001-2003. The findings based on these figures reject their hypothesis that the number of independent directors has a positive impact on firm performance.

The Adoption of the Independent Director Institution

Panel B of Table 4 also shows that 4 selected sample articles, 14.29% of 28 selected sample articles that test the effect of board independence on firm performance, explore whether or not the adoption of the independent director institution has impact on firm performance. Panel B of Table 4.1 reports the relevant test statistics. The four studies all run a simple linear regression to test whether or not firms adopting the independent director practice have an influence on their financial performance, compared with firms that do not adopt the independent director practice. Although Luo et al. (2004) conclude that there is no correlation between the proportion of independent directors and firm performance, they do document a significant negative effect on firms adopting the

independent director institution, measured by the same measures EPS (t-Value is -3.20, significant at the 1% level) and ROE (t-Value is -2.29, significant at the 5% level). They further find that the average EPS drops RMB¥0.103 and the average ROE goes down 3.768% for firms adopting the independent director institution (Ibid, p. 22). They conclude that firm performance is even worse after the adoption of the independent director institution than before. Contrary to their findings, the other 3 studies all report a positive effect, albeit not statistically significant, that the adoption of the independent director practice has on firm performance. Gao & Ma (2002) and Ma (2004) both use the same two measures to measure firm performance. The latter is in essence a follow-up study of the former, though samples in the former are 1,018 in 2001 while samples in the latter are 1,244 in 2003, and there is no big difference between the results of both studies. Lü & Lü (2003, p. 31) utilize four measures to measure firm performance and report a positive correlation between the adoption of independent director institution and firm performance measured by ROE, EPS and ROA (t-Value is 1.232, 0.112 or 1.053, respectively) but a negative correlation measured by SOA (t-Value is -0.586). From a viewpoint of generalizing the relationship in whole between the adoption of the independent director institution and firm performance, they conclude that there is no significant difference between firms with independent directors and those without because the establishment of the independent director institution has no significant influence on the improvement of firm performance.

4.2 Independent Director's Background and Firm Performance

Panel A of Table 4 shows that 7 selected sample articles, 23.33% of 30 selected sample articles, examine the impact of independent directors' background on firm performance. Table 4.2 provides the detailed test statistics of these 7 studies on the relationship between independent directors' background and firm performance. Most remarkably, 5 studies (Chen & Chi, 2007; Wei et al., 2007; Zhao et al., 2008; Lu, 2009 and Zheng, 2010) find a strong effect, either positive or negative, that independent directors' background has on firm performance measured by several different performance measures. To find what kind of background that influences firm performance, the authors test a variety of independent directors' backgrounds in connection with different performance measures. Four studies provide evidence that independent directors' background has a positive effect on firm performance. Among them, Tang et al. (2005) classify independent directors as two groups according to their academic and industrial experiences, respectively, and use ROA, ROE and Tobin's Q to measure firm performance. They find that no single one group, either academic or industrial, has a significant impact on three performance measures but there is when both groups mix together equally, measured by ROA (t-Value is -2.00) and Tobin's Q (t-Value is -1.93) but not by ROE (t-Value is -0.92) (Ibid, p.100). Based on this finding, the authors comment that listed companies invite academic independent directors just for the "vase director" effect, so as to enhance their companies' reputations. Interestingly, the authors do not

comment on independent directors invited from industry even though they have the same effect as those from academics.

Compared with Tang et al. (2005), Zhao et al. (2008), Lu (2009) and Zheng (2010) document a strong significant relationship between independent directors' background and firm performance. Like the finding on the percentage of independent directors, Zhao et al. (2008, p. 62) also find that independent directors who are professional accountants positively affect the stability of the firm profitability measured by E/P (initial stock price per share), statistically significant at the 1% level (p-Value for independent directors with the professional accountant background as the estimated component is 0.000). Lu (2009) classifies independent directors' backgrounds in six categories, i.e., academic, bank, education, finance, government and neutral (other backgrounds), and uses ROA and MBV (net market value) to measure the effect of independent directors' different backgrounds on firm performance. He finds that independent directors from any background have a positive influence on firm performance, although the influence of each category is different. The influences of independent directors from academic institutions and other backgrounds to firm performance are not statistically significant, though positive (r-coefficients for ROA_a , ROA_n , MBV_a and MBV_n are 0.40, 0.133, 0.016 and 0.532, respectively) (Ibid, p.79). However, independent directors with backgrounds in banking, education, finance and government all have a positive impact on firm performance, statistically significant either at the 1% level (t-Values for ROA_b , ROA_e , MBV_b and MBV_e are 3.658, 2.321, 2.849 and 2.732, respectively) or at the 5% level (ROA_f , ROA_g , MBV_f and MBV_g are 2.024, 2.189, 1.915 and 2.044, respectively) (Ibid). He explains that social relationships, especially the relationships with government officials or those in connection with government officials (banks are owned or controlled by the government in China), can provide resources to companies because government officials control the distribution of social resources in China. This explanation suggests that independent directors' resource role rather than their supervision role is most important to listed companies for their survival and growth in China. This nature of the relation business is endogenous in Chinese commercial practice inherited at least from the late Qing Dynasty's commerce policy of "government supervision and merchant management" (*guandu shangban*).

Zheng (2010) provides evidence to support Lu (2009)'s explanation. Using the data of 1,548 Chinese listed companies in the period of 2006-2007, she investigates the political connection of independent directors and firm performance, measured by independent directors' background in connection with the government on Tobin's Q, which is calculated on either the stock price of negotiable shares (Tobin's Q_1) or the value of net assets (Tobin's Q_2). The finding is that the political background of independent directors has a strong positive impact on firm performance measured either by Tobin's Q_{1g} (t-Value is 2.79) or by Tobin's Q_{2g} (t-Value is 1.78), statistically significant at the 1% level or at the 10% level, respectively (Ibid, p. 23). This suggests that the political background of independent directors is beneficial to companies in a country such as China where

politics is an important determinant factor to influence the firm's profitability. Independent directors with the political background can play an important advisory role by moving in government officials and garnering business opportunities, which may send a positive signal of the firm's prospective to stock investors. In addition to the political background of independent directors, Zheng (2010) also finds the same strong positive correlation between the educational background of independent directors and firm performance (t-Values for Tobin's Q_{1e} and Tobin's Q_{2e} are 2.97 and 1.91, respectively), statistically significant at the 1% level and at the 10% level, respectively.

Table 4.2 Independent Directors' Background and Firm Performance

Author	Model	Measure	r-Coefficient	t-Test	p-Value
Tang et al (2005)	OLS	ROE		0.58	
		ROA	+	-0.23	
		Tobin's Q		1.41	
Wang et al. (2006)	SEM	PER _a	010003		0190
		PER _i	-010058		0122
		PER _p	-010043		0128
Chen & Chi (2007)	OLS	Tobin's Q _a	0.007	1.364	
		Tobin's Q _b	0.007	1.934	*
		Tobin's Q _f	-0.019	-4.447	***
		Tobin's Q _i	-0.014	-3.222	***
		Tobin's Q _l	-0.006	-1.487	
		Tobin's Q _m	0.002	0.385	
		Tobin's Q _p	-0.003	-0.745	
Wei et al (2007)	SEM	MBV _a	-0.023		
		MBV _b	0.121		**
		MBV _c	-0.142		*
		MBV _{cpa}	-0.029		
		MBV _e	-0.017		
		MBV _g	0.134		**
		MBV _l	0.015		
		MBV _n	-0.078		
		CFO _a	0.056		
		CFO _b	0.101		*
		CFO _c	-0.002		
		CFO _{cpa}	-0.012		

		CFO _e	-0.049		
		CFO _g	0.157		**
		CFO _l	0.038		
		CFO _n	0.029		
		EBIT _a	-0.144		
		EBIT _b	0.140		*
		EBIT _c	-0.11		
		EBIT _{cpa}	0.004		
		EBIT _e	0.009		
		EBIT _g	0.199		***
		EBIT _l	-0.096		
		EBIT _n	-0.124		
Zhao et al (2008)	OLS	E/P	0.191	8.756	0.00***
Lu (2009)	SEM	ROA _a	0.040	0.560	
		ROA _b	0.844	3.658	***
		ROA _e	0.032	2.321	***
		ROA _f	1.746	2.024	**
		ROA _g	0.008	2.189	**
		ROA _n	0.133	0.287	
		MBV _a	0.016	0.623	
		MBV _b	1.392	2.849	***
		MBV _e	0.012	2.732	***
		MBV _f	0.902	1.915	**
		MBV _g	0.013	2.044	**
		MBV _n	0.532	0.647	

Table 4.2 Cont'd

Author	Model	Measure	r-Coefficient	t-Test	p-Value
Zheng (2010)	OLS	Tobin's Q _{1e}	0.464	2.97	***
		Tobin's Q _{1g}	0.761	2.79	***
		Tobin's Q _{2e}	0.206	1.91	*
		Tobin's Q _{2g}	0.335	1.78	*

Note: a, b, c, e, f, g, i, l, n, m and p denote academic, bank, corporate, education, finance, government, industrial, law, neutral (others), management and political, respectively, while cpa represents certified public accountant. CFO means net cash flow. EBIT means profits before tax. Others are the same as those in Table 4.1.

Three studies (Wang et al., 2006; Chen & Chi, 2007 and Wei et al., 2007) identify some controversial findings on the impact of independent directors' different backgrounds on firm performance. They find that some backgrounds of independent directors are positive on firm performance, while some are negative. Wang et al. (2006) investigate the influences of independent directors' academic, industrial and political backgrounds to firm performance measured by PER (adjusted ROA). They find that independent directors' academic background in terms of business school education has a positive effect (r-Coefficient is 0.1003) on firm performance but independent directors' industrial and political backgrounds have a negative influence (r-Coefficients are -0.10058 and -0.10043, respectively) on firm performance, though they are all not statistically significant (Ibid, p. 70). Wang et al. (2006)'s findings are consistent with Zheng (2010)'s findings in the independent directors' education background but not in their industrial and political backgrounds. Chen & Chi (2007) classify independent directors' backgrounds into seven categories: academic, bank, finance, industry, law, management and political. They find that independent directors with academic, bank and management backgrounds play a positive role on firm performance measured by Tobin's Q (r-Coefficients are 0.007, 0.007 and 0.002, respectively) and independent directors' bank ground is statistically significant at the 10% level (t-Value is 1.934) (Ibid, p. 12). However, independent directors with backgrounds in finance, industry, law and political are all negative (r-coefficients are -0.019, -0.014, -0.006 and -0.003, respectively) and independent directors' finance and industry backgrounds are both statistically significant at the 1% level (t-Values are -4.447 and -3.222, respectively) (Ibid). These two findings are very interesting because they are obviously against the conventional wisdom that independent directors with financial expertise and industrial experience can effectively play not only their monitoring role but also their advisory role and thus improve firm performance. They may also suggest that independent directors' expertise and experience may not be important for their role-play in China, which is perhaps consistent with the "vase director" effect of independent directors commented on by Tang et al. (2005).

These two findings are also documented by Wei et al. (2007) in their studies. Wei et al. (2007) classify independent directors' backgrounds into eight categories: academic, bank, corporate, certified public accountant, education, government, law and neutral (others) and find that independent directors with corporate experience and certified public accountant qualification are negatively associated with firm performance measured by MBV (net market value), CFO (cash flow) and EBIT (profits before tax). The regression coefficients are -0.142, -0.002 and -0.11 for MBV_c , CFO_c and $EBIT_c$, respectively; while they are -0.029 and -0.012 for MBV_{cpa} and CFO_{cpa} , respectively, but 0.004 for $TBIT_{cpa}$ (Ibid, p. 100). Among them, only independent directors with corporate experience measured by MBV is statistically significant at the 10% level. This finding further questions the conventional wisdom in view of the negative effect of independent directors' background with the certified public accountant qualification on firm performance. Wei et al. (2007) also identify that independent directors with backgrounds in academic,

education and others in general have a negative effect on firm performance measured by these three performance measures, though they are not statistically significant. However, they do find that independent directors with backgrounds in banking, government and law play a positive role on firm performance (r-coefficients are: 0.121, 0.101 and 0.140 for MBV_b , CFO_b and $EBIT_b$; 0.134, 0.157 and 0.199 for MBV_g , CFO_g and $EBIT_g$; and 0.015, 0.038 and -0.096 for MBV_l , CFO_l and $EBIT_l$; respectively) (Ibid). Among them, independent directors with backgrounds in banking and government measured by three performance measures are all statistically significant at the 5% level. These findings confirm Wang et al. (2006) and Chen et al. (2007)'s findings that independent directors' political background can play a positive role on firm performance in terms of the relation business thesis, which may be the virtue of independent directors' advisory role but may also be the Achillean's heel of independent directors' monitoring role. Thus, it may provide evidence why independent directors fail to perform their monitoring role and why they may only perform their advisory role in China.

4.3 Independent Director's Characteristics and Firm Performance

Panel A of Table 4 also shows that another 8 selected sample articles, 26.67% of 30 selected sample articles, investigate whether or not independent directors' characteristics affect firm performance. Table 4.3 delineates the test statistics of these 8 studies on the relationship between independent directors' characteristics and firm performance. These studies investigate if independent directors' characteristics such as age, multi-directorship, gender, location, board meeting attendance, independent opinion, overseas experience and reputation influence firm performance. Of them, 4 studies (Shen et al., 2007; Zhao et al., 2008; Zheng, 2010 and Zhang & Wang, 2013) find a positive relationship between independent directors' characteristics and firm performance and two studies (Lu, 2009 and Bian, 2010) find a negative relationship while two studies (Chen & Chi, 2007 and Wei et al., 2007) find a controversial relationship among independent directors' different characteristics. Chen & Chi (2007, p. 12) report that independent directors' location, board meeting attendance and reputation all have a strong positive influence on firm performance measured by Tobin's Q (t-Values are 2.800, 2.375 and 2.356, respectively), statistically significant at least at the 5% level.

The finding of Zhao et al. (2008, p. 62) supports that independent directors' reputations have a significant positive effect on firm performance. These findings indicate that independent directors coming from the same location as firms they serve, attending more board meetings per se and having a good reputation measured by multi-directorship, all add value to firms. However, Chen & Chi (2007, p. 12) also find that independent directors who deliver dissenting independent opinions have a negative impact on firm performance (r-coefficient is -0.007), statistically significant at 5% level (t-Value is -2.031). This finding is obviously against the utility of independent directors' role as effective monitors by way of actively delivering independent opinions. The inconsistency is

probably because independent directors' dissenting opinions may send a signal to stock markets problems may exist in the listed companies concerned and thus reduce firm value and shareholder wealth.

Zhang & Wang (2013, p. 76) also document a strong positive effect that independent directors' location (r-coefficient is 1.11) and board meeting attendance (r-coefficient is 0.09) have on firm performance measured by ROE, statistically significant at the 5% level (t-Values are 2.03 for ROE_i and 2.04 for ROE_m , respectively). Their findings are aligned with those of Chen & Chi (2007). From these findings, it may be inferred that independent directors coming from the same location as firms they serve can make it convenient for independent directors to provide their services and that independent directors' meeting attendance can reflect the frequency of independent directors who attend board meetings in time. Both may improve a firm's corporate governance and therefore influence the firm's performance.

Shen et al. (2007) provide further evidence on the frequency of independent directors' board meeting attendance on firm performance. They employ five performance measures to evaluate if independent directors' meeting attendance frequency affects firm performance and also report a positive effect, though not statistically significant (p-Values for EPS_m , ROE_m , SOA_m , SE_m and RP_m are 0.6547, 0.9091, 0.4167, 0.8907 and 0.3353, respectively) (Ibid, p. 60). However, Bian (2010, p. 19) identifies a negative correlation between independent directors coming from the same location as the firms they serve and firm performance measured by Tobin's Q, though also not statistically significant (p-Value is 0.72). Yet, this is not in accordance with the finding of Chen & Chi (2007) that there is a strong positive correlation between independent directors coming from the same location as firms they serve and firm performance.

Lu (2009) investigates how independent directors' multi-directorship influences firm performance measured by ROA and MBV. He observes a negative effect (r-Coefficients are -0.012 for ROA_d and -0.455 for MBV_d , respectively) that independent directors' multi-directorship has on firm performance, although the effect is not statistically significant (t-Values are -0.142 for ROA_d and -0.236 for MBV_d , respectively). His finding is a counter to the observation of Chen & Chi (2007) that independent directors' reputation measured by multi-directorship has a strong significant positive effect on firm performance. It is probably because independent directors with multi-directorships are usually acting on behalf of their host companies, which may be in conflict with the interests of companies they serve if their host companies have business interests in companies they serve. Lu (2009)'s finding is in support of the same finding by Wei et al. (2007) who report a strong negative effect of independent directors' multi-directorship on firm performance measured by MBV_d , CFO_d and $EBIT_d$ (r-coefficients are -0.096, -0.093 and -0.080, respectively), statistically significant at the 1% level (MBV_d and CFO_d) and at the 5% level ($EBIT_d$), respectively.

Table 4.3 Independent Directors' Characteristics and Firm Performance

Author	Model	Measure	r-Coefficient	t-Test	p-Value
Chen & Chi (2007)	OLS	Tobin's Q _l	0.008	2.800	***
		Tobin's Q _m	0.007	2.375	**
		Tobin's Q _o	-0.007	-2.031	**
		Tobin's Q _r	0.008	2.356	***
Shen et al (2007)	OLS	EPS _m			0.6547
		ROE _m			0.9091
		SOA _m			0.4167
		SE _m			0.8907
		RP _m			0.3353
Wei et al (2007)	SEM	MBV _a	-0.025		
		MBV _d	-0.096		***
		MBV _g	-0.055		*
		MBV _{oe}	0.236		***
		CFO _a	-0.034		
		CFO _d	-0.093		***
		CFO _g	-0.074		***
		CFO _{oe}	0.219		***
		EBIT _a	0.017		
		EBIT _d	-0.080		**
		EBIT _g	-0.104		***
		EBIT _{oe}	0.189		**
Zhao et al (2008)	OLS	E/P _r	0.191	8.756	0.00***
Lu (2009)	SEM	ROA _d	-0.012	-0.142	
		MBV _d	-0.455	-0.236	
Bian (2010)	OLS	Tobin's Q _l	-		0.72
Zheng (2010)	OLS	Tobin's Q _{1a}	0.865	3.55	***
		Tobin's Q _{2a}	0.649	3.87	***
Zhang & Wang (2013)	OLS	ROE _l	1.11	2.03	**
		ROE _m	0.09	2.04	**

Note: a, d, g, l, m, o, oe and r represent an independent director's age, multi-directorship, gender, location, meeting attendance, independent opinion, overseas experience and reputation, respectively. Others are the same as those in Table 4.2.

Along with independent directors' multi-directorships, Wei et al. (2007) also investigate

the impact of independent directors' age, gender and overseas experience on firm performance. They observe that independent directors' age and gender have a negative impact on firm performance. Except for r-coefficient for $EBIT_a$, which is 0.017 (positive), r-coefficients for MBV_a , MBV_g , CFO_a , CFO_g and $EBIT_g$ are -0.025, -0.055, -0.034, -0.074 and -0.104, which are all negative (Ibid, p. 100). Of them, independent directors' gender in terms of female directors is statistically significant at the 1% level, measured by CFO and EBIT, and at the 10% level, measured by MBV, and even though independent directors' age is not statistically significant, measured by all three performance measures (Ibid). Wei et al. (2007)'s observations seem to suggest that the greater the age of independent directors, the worse the impact of their age on firm performance. However, this observation is challenged by the finding of Zheng (2010), who observes that independent directors' age does have a strong positive effect on firm performance measured by Tobin's Q (r-coefficients are 0.865 and 0.649 for Tobin's Q_{1a} and Tobin's Q_{2a} , respectively), statistically at the 1% level (t-Values are 3.55 for Tobin's Q_{1a} and 3.87 for Tobin's Q_{2a}). The controversial findings between these two studies as regards the impact of independent directors' age on firm performance may be owing to different performance measures used by the authors of two studies. Zheng (2010)'s finding seems to show that the greater the independent directors' age, the more experience they have, which may enable them to provide the valuable advice to the companies they serve. It is perhaps just like an old Chinese saying, which goes: "the older a man the higher his value". Other than independent directors' age, gender and multi-directorship, Wei et al. (2007) further investigate if independent directors' overseas experience in terms of either education or work or both has an influence on firm performance. They identify a strong correlation between independent directors' overseas experience and firm performance measured by all three performance measures. The r-coefficients for MBV_{oe} , CFO_{oe} and $EBIT_{oe}$ are 0.236, 0.219 and 0.189, which are statistically significant at the 1% level for MBV_{oe} and CFO_{oe} , and at the 5% level for $EBIT_{oe}$ (Ibid). This finding may be no surprise because independent directors with overseas experience may bring international experience to the firms they serve, which can add value to firms and thus improve the firms' performance.

4.4 Independent Directors' Compensation and Firm Performance

In Panel A of Table 4, 5 remaining selected sample articles, 16.67% of the 30 selected sample articles, inquire into the relationship of independent directors' compensation and firm performance. Table 4.4 reports the test statistics of these 5 studies on the relationship between independent directors' compensation and firm performance. Noticeably, all 5 studies (Sun, 2003; Shen et al., 2007; Zhao et al., 2008; Lu, 2009 and Wu & Lan, 2009) observe a positive effect that independent directors' compensation has on firm performance, although only one study reports a strong positive effect (r-coefficient is 0.191), which is statistically significant at the 1% level (t-Value is 8.756) (Zhao et al., 2008, p. 62). This finding seems to indicate that economic incentive may

play an important role in encouraging independent directors' role-play, which can add firm value. Two studies use one measure to evaluate if independent directors' compensation affects firm performance. Sun (2003) uses EPS (earning per share) while Zhao et al. (2008) use E/P (initial stock price per share). Lu (2009) and Wu & Lan (2009) employ two performance measures to evaluate the influence of independent directors' compensation to firm performance. The former uses ROA and MBV and the latter uses ROE and Tobin's Q. Although they identify a positive effect that independent directors' compensation has on firm performance the effect is not statistically significant (t-Values are 0.247 for ROA and 0.830 for MBV (Lu 2009, p. 79) while p-Values are 0.1201 for ROE and 0.6483 for Tobin's Q (Wu & Lan 2009, p. 120)). Compared with the authors of four studies above, Shen et al. (2007) use five performance measures to estimate the impact of independent directors' compensation on firm performance. They find that only independent directors' compensation is positively linked with firm performance measured by ROE, significant at the 10% level (p-Value is 0.097) (Ibid, p. 60). Measured by the other four performance measures, the correlation between independent directors' compensation and firm performance is not statistically significant (p-Values are 0.2032 for EPS, 0.3330 for SOA, 0.1294 for SE and 0.3484 for RP, respectively), although it is positive (Ibid). These observations provide further evidence that the positive effect of independent directors' compensation has on firm performance, which may reflect the nature of human beings scrambling for material benefits even in the case of independent directors. Clearly, economic incentives in terms of monetary award do matter.

Table 4.4 Independent Directors' Compensation and Firm Performance

Author	Model	Measure	r-Coefficient	t-Test	p-Value
Sun (2003)	OLS	EPS	0.067		0.203
Shen et al (2007)	OLS	EPS			0.2032
		ROE			0.097
		SOA			0.3330
		SE			0.1294
		RP			0.3484
Zhao et al (2008)	OLS	E/P	0.191	8.756	0.00***
Lu (2009)	SEM	ROA	0.043	0.247	
		MBV	0.014	0.830	
Wu & Lan (2009)	OLS	ROE	0.003037		0.1201
		Tobin's Q	0.091217		0.6483

Note: All abbreviations are the same as those in Table 4.1.

5 Conclusion

This article reviews 30 selected empirical studies on independent directors and corporate performance in Chinese listed companies. The authors of these studies investigate the relationship of independent directors and corporate performance mainly from the perspectives of independent directors' proportion, background, characteristic and compensation. In general, the findings of these studies are similar to those of the international studies. That is, the empirical evidence on the relationship between independent directors and corporate performance is mixed, either positive or negative or no correlation. As to the impacts of independent directors' various perspectives on firm performance, there seems to be some differences. A prevailing majority of 30 studies report that board independence in terms of the proportion and number of independent directors on the board of directors and the adoption of the independent director institution has no significant impact on firm performance. This may explain why independent directors fail to play their monitoring role in China. Although it is somewhat controversial, independent directors' backgrounds on the whole show a significant positive effect on firm performance. Most remarkable is independent directors' political background. This may explain why independent directors primarily play an advisory role in China. Independent directors' characteristics also have a controversial effect on firm performance. Some of independent directors' characteristics such as age, meeting attendance, overseas experience and location are positive while some such as multi-directorships and gender are negative. However, independent directors' compensation has a positive effect on firm performance, which shows that economic incentive may be important in influencing the correlation between independent directors and firm performance.

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