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Procedia - Social and Behavioral Sciences 164 (2014) 194 – 200

Procedia
Social and Behavioral Sciences

International Conference on Accounting Studies 2014, ICAS 2014, 18-19 August 2014, Kuala Lumpur, Malaysia

Owners' equity and accounting information relevance

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Abstract

The paper examines the influence of equity ratio on the value relevance of earnings and book value for Jordanian industrial companies from 1992 to 2002. The findings show that equity ratio significantly influenced the value relevance of individual book value but not earnings. In their combination, the paper indicates that share prices respond more to book value than earnings. Our findings might increase the valuation practices understanding of financial statements users and provide fundamentals for future studies that aim to examine our hypotheses in more details.

Keywords: Share price; value relevance of earnings and book value; owners' equity; Jordan.

1. Introduction

Valuation research has been extended to include different accounting and other information based on the conceptual framework proposed by Ohlson (1995). This study is motivated by the prior valuation studies that examined the influence of owners' equity as other information on the value relevance of accounting information (Davis-Friday, Eng, & Liu, 2006; Anandarajan and Hasan, 2010; Shamki, 2012). Definitively, through those few studies, although the value relevance of accounting information is found to be influenced by ownership structure

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doi:10.1016/j.sbspro.2014.11.067

but it is not widely proven, so this claim needs more confirmation and extension. Beside this, the influence of equity ratio as a proxy to owners' equity, using price model, has not been well examined in previous studies.

Does owners' equity influence the value relevance of earnings and book value? This question is addressed using price model for 18 Amman Stock Exchange (ASE) industrial companies for the period 1992-2002. The paper objects to examine the influence of equity ratio on the value relevance of accounting information to expand valuation research and fill the gap in literature by adding further evidence from Jordan as an emerging stock market. Tracing this influence might increase the valuation practices understanding and support the financial statements users in well relating firm's accounting and other information and in turn alleviating the asymmetric information.

2. Literature review

One positive accounting theory proposition is that managers and shareholders are rational to maximize their utilities. Firm's management is more likely to choose accounting procedures that report high earnings for current period to increase present value of its bonuses. Since the management knows more about a firm than shareholders, information asymmetry forms a main problem. According to agency theory, Fig. 1 illustrates the relationship between firm's management and its shareholders.

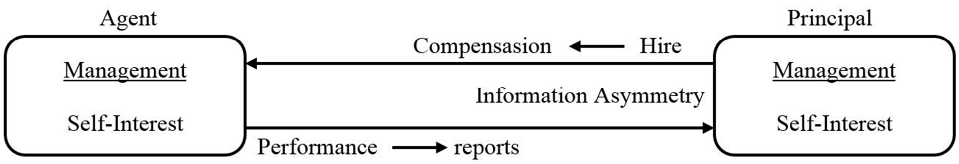

Fig. 1. Management-Shareholders Relationship

It is found that a higher degree of imbalanced information makes it more difficult for shareholders to monitor managers, and firms with high (low) asymmetric information are associated with lower (higher) values (Jiraporn, Miller, Yoonc & Kim, 2008). To alleviate information asymmetries, disclosing more accounting information is essential for capital market efficiency and fairness in case all shareholders will have access of relevant information (Benston, 1973). Relevant information reflects firm performance then its equity market value. The relationship between accounting information and market value of firm equity is explained by valuation theory to indicate the value relevance of the accounting information as illustrated in Fig. 2. Therefore, disclosing relevant information by firm's managers could reduce the agency gap (Debreceny, Gray, & Rahman, 2002).

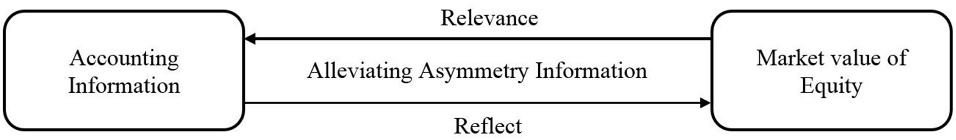

Fig. 2. Valuation Theory

It is found that ownership equity has positive relationship with price-to-earnings (Zeckhauser & Pound, 1990) and market-to-book value of equity (Pedersen & Thomsen, 2003). Reporting relevant information can attract more shareholders and in turn significantly and positively influenced firm's share price evaluation. Therefore, increasing equity motivates firms' managers to present more relevant information that reflects firm performance and in turn increases its value. As a reaction, valuation models have been extended to indicate the influence of other information on the value relevance of accounting information by interacting them in the model as illustrated in Fig. 3.

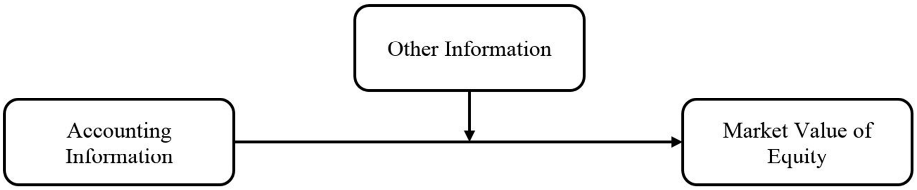

Fig. 3. Influence of Other Information on Value Relevance of Accounting Information

Amir and Lev (1996) examined the value relevance of earnings, book value as accounting information and percentage ownership multiplied by the total population as other information. Many studies, as well as the current one, have replaced other information in Ohlson model by ownership proxies to examine their influence on the value relevance of earnings and book value (Davis-Friday et al., 2006; Anandarajan & Hasan, 2010; Shamki, 2012).

Since foreign and domestic ownership can influence the value relevance of earnings and book value regarding the above studies, this paper extends prior studies by examining the influence of equity ratio on the value relevance of earnings and book value using price model as illustrated in Fig. 4.

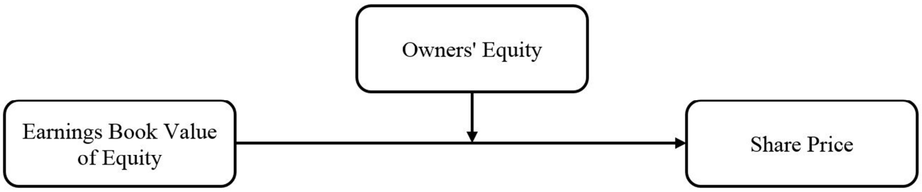

Fig. 4. Influence of owners' equity on Value Relevance of Accounting Information

According to Glautier and Underdown (1997), equity ratio as a financial ratio indicates the relative proportion of equity used to finance a company's assets. It assists in determining how much shareholders financed company's total assets. This ratio represents the percentage of total shareholders' equity to firm's total assets.

Many studies have investigated the relationship between ownership and firm value. Ownership structure is significantly related to firm performance as firm value indicator (Morck, Shleifer, & Vishny, 1988). Consistent with the hypothesis that ownership structure has a significant influence on firm value, McConnell and Servaes (1990) found that firm value is a function of ownership structure when firm's performance depends on share ownership distribution. Few studies have examined the influence of ownership concentration on the value relevance of accounting information. In Indonesia, South Korea, Malaysia, and Thailand, Davis-Friday et al. (2006) found that higher ownership concentration increases the value relevance of earnings and decreases that of book value of equity.

As a contribution to the literature, we examine how equity ratio influences the value relevance of the accounting information which has not been well examined especially in Jordan. As large proportion of shareholders equity could strengthen the firm financial position and in contrast, high leverage (debt financing) increases firm investments opportunities and then its profits, the paper has no clear vision about the nature of this influence. Finally, regarding the paper's variables and based on the aforementioned theoretical relationships and empirical examinations, our conceptual framework is as in Fig. 5.

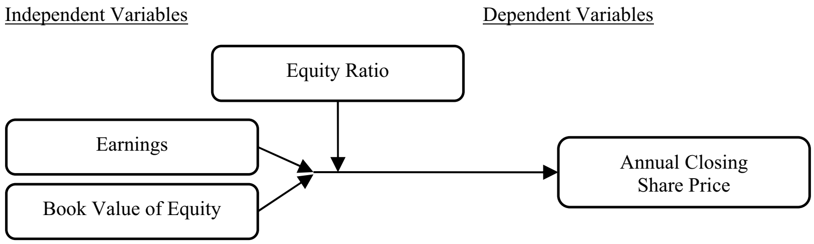

Fig. 5. Conceptual Framework

3. Amman capital market

Amman Financial Market was established on 1978 and replaced by Jordan Securities Commission, Securities Depository Commission, and ASE which established on 1999. Prior to 1997, Jordan had a limited accounting practice due to the deficiency in recording transactions that satisfy only the outdated law requirements with no set form for financial statements (Alakra, Ali, & Marashdeh, 2009). ASE witnessed many developments such as the general weighted price index (point) and value traded have increased from 80.4 points and 269 million Jordanian Dinar (MJD) in 1990 to 170 points and 950 in 2002 respectively and the listed capital increased from 1322 MJD in 1992 to 4189 in 2002.

4. Hypotheses development, methodology and data selection

4.1 Hypotheses development and methodology

Examining the relationship between equity market value and earnings and book value has been developed by Ohlson model (1995) where share price is regressed on earnings and book value with other information term (v) to determine equity value. Ohlson model refers to other information (v) without referring to what this other information is (Shamki, 2012). Since the other information is unclear variable, its use in many studies has been neglected (Beaver, 1999). Ohlson assumed that other information summarizes the relevant variables that influence the accounting information (Lundholm, 1995).

Since the paper examines the influence of owners' equity on the value relevance of accounting information and based on valuation theory, it replaces the other information (v) proposed in Ohlson model (1995) by equity ratio. This influence is hypothesized as;

H1: Equity ratio influences the value relevance of earnings.

H2: Equity ratio influences the value relevance of book value.

Although earnings are considered as the summary measure for firm performance, profitability and value in the financial statements, recent studies turn their attention towards book value as a better proxy for future earnings (Shamki, 2012). Book value is the balance sheet measure of net assets that generate earnings (Penman, 1998). So, the influence of equity ratio on the value relevance of aggrgate earnings and book value has been hypothesized as;

H3: Equity ratio influences more the value relevance of book value than that of earnings in their combination.

It is useful to detect whether equity ratio influenced the value relevance of individual earnings or book value in the first step and whether this influence will keep its trend with their combination in the second step. Following the same methodology in prior studies (Davis-Friday et al., 2006; Anandarajan & Hasan, 2010; Shamki, 2012), and to capture the influence of equity ratio on the value relevance of individual earnings and book value (H1 and H2) and both in combination (H3), interaction terms are included. To test our hypothesis, the models are;

$$P_{it} = \beta_0 + \beta_1\, EQT_{it} + \beta_2\, EPS_{it} + \beta_3\, EPS_{it} * EQT_{it} + e_{it} \quad (1)$$

$$P_{it} = \alpha_0 + \alpha_1\, EQT_{it} + \alpha_2\, BVPS_{it} + \alpha_3\, BVPS_{it} * EQT_{it} + e_{it} \quad (2)$$

$$P_{it} = \theta_0 + \theta_1\, EQT_{it} + \theta_2\, EPS_{it} + \theta_3\, BVPS_{it} + \theta_4\, EPS_{it} * EQT_{it} + \theta_5\, BVPS_{it} * EQT_{it} + e_{it} \quad (3)$$

where for firm i in a year t, P_{it}: annual closing share price; EPS_{it}: earnings per share; $BVPS_{it}$: book value of equity per share; EQT_{it}: equity ratio used as dummy variable with value 1 for firms with equity ratio greater than median equity ratio in our sample, 0 otherwise; and e_{it}: error term.

For all equations, coefficients with number 1 represent the value relevance of owners' equity peroxided by equity ratio. Coefficients β_2, θ_2, α_2 and θ_3 represent the value relevance of earnings and book value respectively without the influence of equity ratio, while coefficients $\beta_2 + \beta_3$, $\theta_2 + \theta_4$, $\alpha_2 + \alpha_3$ and $\theta_3 + \theta_5$ represent share price response to earnings and book value respectively influenced by equity ratio.

4.2 Sample and data selection

Jordanian industrial sector (18 firms) is selected as our sample because, among ASE sectors, it represents the larger companies' numbers, equity ratios, foreign equities, trading volume, and market capitalization within research period. Since our data is secondary in nature and it is collected from the financial statements and database that is published by Amman Stock Exchange Information Center (ASEIC), all firms with complete data for the selected variables are included while those registered after 1992 or having no financial statements or incomplete information related to study's variables have been ignored. The pooled sample results of 198 firms-years and (1188) observations-years (18 firms * 11 years * 6 variables) are analyzed using SPSS.

5. Results and conclusion

Table 1 represents the descriptive statistics for share price and accounting variables.

Table 1. Descriptive Statistics

		PRICE	EPS	BVPS
N	Valid	197	198	198
	Missing	1	0	0
Mean		.5230	.3503	2.7951
Std. Deviation		.36022	.30590	2.00507
Minimum		-1.10	-.20	.10
Maximum		1.38	1.35	9.51

EPS: earnings per share; BVPS: book value of equity per share.

From Table 2, equity ratio is value relevant in its own right in models 2 and 3. Equity ratio significantly influenced the value relevance of the individual book value but not earnings despite earnings are value relevant in its own right. These results support H2 but not H1. For the aggregate earnings and book value, equity ratio influenced negatively the value relevance of earnings which decreased from 0.712 to 0.44, and positively that of book value which increased from -0.046 to 0.47. Equity ratio significantly influences more the value relevance of book value than that of earnings reflected by the significant coefficients on book value interaction term despite it is irrelevant in its own right. This result supports H3 and confirms the significant influence of equity ratio on firm value (McConnell & Servaes, 1990). The result is inconsistent with Davis-Friday et al. (2006) who concluded that ownership concentration influences more value relevance of earnings than that of book value.

Table 2. Influence of Equity Ratio

$$P_{it} = \beta_0 + \beta_1 EQT_{it} + \beta_2 EPS_{it} + \beta_3 EPS_{it} * EQT_{it} + e_{it} \quad (1)$$
$$P_{it} = \alpha_0 + \alpha_1 EQT_{it} + \alpha_2 BVPS_{it} + \alpha_3 BVPS_{it} * EQT_{it} + e_{it} \quad (2)$$
$$P_{it} = \theta_0 + \theta_1 EQT_{it} + \theta_2 EPS_{it} + \theta_3 BVPS_{it} + \theta_4 EPS_{it} * EQT_{it} + \theta_5 BVPS_{it} * EQT_{it} + e_{it} \quad (3)$$

Model 1			Model 2			Model 3		
Variables	Coef.	t-statistics	Variables	Coef.	t-statistics	Variables	Coef.	t-statistics
Constant		6.260***	Constant		6.672***	Constant		6.184***
β_1	-.046	-.578	α_1	-.350	-3.314***	θ_1	-.249	-2.697***
β_2	.676	10.304***	α_2	.434	6.460***	θ_2	.712	7.668***
β_3	.044	.527	α_3	.399	3.777***	θ_3	-.046	-.537
						θ_4	-.272	-2.288***
						θ_5	.516	3.825***
Adj. R^2	.482			.355			.519	
F-stat	61.702***			36.973***			43.339***	

*** Significant at 1% levels.
EQT: Equity ratio.
Other variables are defined before.

In Jordan, these results might be due to the country's specific factors such as the limited shareholders number in Jordanian firms compared with that in developed countries or its financial reporting system and institutional environment that affected the value relevance (Shamki, 2012). The results might be related to study's period, industry or the small sample size and observations of our sample which are considered as study's limitations. Therefore, future research is called to extend sample size by examining different sectors and markets or it might be just in ASE industrial sector or they could be the true pattern.

Although our findings supported H2 and H3 but not H1, they provide accounting research and practice with a simple sign regarding this influence which needs to be more examined in future. In total, since the influence of equity ratio on the value relevance of earnings and book value has not been well researched before, results comparision is unavialable. Future research is invited to more investigate this influence in Jordan and other countries across the world to enrich literature in this area.

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