NET INCOME, BOOK VALUE AND CASH FLOWS: THE VALUE RELEVANCE IN JORDANIAN ECONOMIC SECTORS

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Abstract

This paper examines the value relevance of financial statements variables namely net income, book value and cash flows simultaneously relative to Jordanian services and industrial firms for the period from 2000 to 2009. The main findings of this paper are three- dimensional. First, net income is value relevant, while book value and cash flows are irrelevant. Second, net income is more value relevant than book value and cash flows in both sectors. Third, this value relevance is greater in services sector than in industrial sector. The study shows that net income assist more in explaining market values in Jordanian services and industrial firms. Since research on the value relevance of these variables has neglected Jordan (and the Middle Eastern region), the study tries to fill this practical gap. The study is the first in Jordan that examines the value relevance of net income, book value and cash flows simultaneously and compares this value relevance according to Amman Stock Exchange sectors in one study in Jordan.

Keywords: value relevance, share price, net income, book value, cash flows and Jordan.

1. Introduction

Financial statements (hereafter FSs) are a structured representation of the financial position and performance of a firm. One of FSs objectives is "to provide information about the financial position, financial performance and cash flows of an entity that is useful to a wide range of users in making economic decisions" (International Accounting Standard (IAS), 2007).

Although the financial position, performance and cash flows have been presented by financial position, (comprehensive) income and cash flows statements respectively, these statements have not represent the firm's actual position (Weygandt et al., 2003). This is because they are based on historical cost which is a recording system for economic events that occurred at one moment in time. Because of the limited ability of historical cost in reflecting the future earnings market's expectations, the forecasting power of share prices arises with respect to future earnings changes (Kothari and Zimmerman, 1995). So, there is a need to more examine the relationship between FSs variables and share price to conduct the variables that can better reflect the changes in market values. Therefore, the study correlates FSs variables namely net income, book value and cash flows simultaneously with share price to conduct the relevant information that may fulfill the needs of FSs users (investors, managers, financial analysts and others).

Since the relationship between the market values of equity and the information disclosed in FSs has been examined at least 40 years back starting with (Ball and Brown, 1968), the value relevance has been used in literature as a direct term to express this relationship. [1] This term has been used in literature to extract the incremental information or the explanatory power of FSs in explaining the variance in market value of equity. FSs variables ability to provide information that reflects the variances in stock values can be

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[1]   Value relevance term was used at the first time by (Lev, 1989).

considered as relevant information. To provide relevant information, FSs variables and share price relationship has been tested in prior research. The relationship between FSs variables and share price according to Amman Stock Exchange (hereafter ASE) services and industrial sectors will be tested in this study to conduct how much of the variance in share price (as research dependent variable, DV) can be explained by net income per share, book value of total assets per share and total cash flows per share simultaneously (as research independent variables, IVs).

Although the value relevance of net income, book value and cash flows individually and in a combination is widely researched in developed countries such as Europe and Northern America, Jordan (and the Middle Eastern region) has been neglected (Alakra et al., 2009). Therefore, there is a need to extend the valuation research in this region. This is important to find whether the value relevance of these FSs variables simultaneously has kept the same trend in ASE as emerge financial market.

While the value relevance of the combined net income and book value and combined net income and cash flows has been well researched in literature according to different economic sectors, few studies have examined the value relevance of these variables simultaneously (Misund et al., 2005; Vishnani and Shah, 2008; Khanagha et al., 2011). Therefore, we try to extend literature in this area by providing new evidence regarding the simultaneous effect of these variables on share price in Jordan as a developing country.

According to these aspects, the study tries to address the following questions; (a) Are FSs variables namely net income, book value and cash flows simultaneously value relevant regarding ASE services and industrial sectors? (b) Is the value relevance of net income greater than that of book value and cash flows in these sectors? (c) In which sector, the value relevance of these FSs variables is greater?

In ASE services and industrial sectors, the study objects to find whether (a) these accounting variables simultaneously are value relevant, (b) net income is more value relevant than book value and cash flows and (c) these variables are more value relevant in one sector than in the other. Consistent with previous studies, it is expected for this study that these variables will be value relevant. As net income is used as a measure of firm performance and a proxy for its profitability, it is expected for it to be more value relevant than book value and cash flows regarding to both sectors. Since industrial sector is greater in trading volumes, market capitalizations, share prices, net incomes and book values within the study's period than in services sector (ASE annual reports from 2000 to 2009), it is expected that the value relevance in this sector will be greater than that in services sector.

A study on testing FSs variables and share price relationship as value relevance is important to indicate the firm value which supports users' decisions based on the results of this relationship. Therefore, the study attempts to more investigate the usefulness of FSs information and provide further evidence about the value relevance of net income, book value and cash flows simultaneously which might assist in better evaluating the firm value and taking the right decisions. Also the study attempts to fill the practical gap (neglecting Jordan in international accounting research) that exists in previous research since the value relevance of these variables has not received the required attention before in Jordan.

In addition to the introduction section, the study reviews the literature related to the topic in the second section. The third section explains the hypotheses development and methodology. The empirical results and discussion are presented in the fourth section, while the summary and conclusions are presented in the last section.

2. Literature review

As mentioned before, since FSs do not represent the firm's actual position, FSs could weakly support users' decisions which are affected by changes in share price. As a complete change form or perhaps an alternative to FSs representations, users might use data in alternative disclosures to determine a firm value (Whisenant, 1997). Therefore to strengthen this support, relevant information that can assist in guiding decisions makers might be devised from FSs and share price relationship. This relationship is considered as a replacement of the limitations of FSs representation. In recent years, many studies have examined this relationship and focused on its significance and strength. These studies interested in examining whether particular FSs variables can reflect firm value as they are assessed by FSs users and reflected in equity prices (Barth et al., 2000). Actually, inconsistent results have been concluded from testing the same variables.

The empirical evidence regarding FSs information value relevance was presented by many studies that tested the Ohlson model (Ohlson, 1995) in a simplified empirical variation which leads both earnings and book values to well explain market value. Amir and Lev (1996) proved that financial variables (earnings and book value) are largely irrelevant in the wireless communication industry valuation using returns/earnings and price/book value framework. Collins et al. (1997) argued that the value relevance of combined earnings and book value has not declined over sample period (1953-1993) for industrial and services firms and the declined incremental value relevance of earnings has been replaced by increasing value relevance of book value. The last result is consistent with Francis and Schipper (1999) who showed that a decline in earnings relevance and an increase in balance sheet and book value relevance had been supported over the period 1952-1994. Lev and Zarowin (1999) found weak relationship between market values and FSs variables.

While the mentioned studies examined the value relevance of the combined variables, few studies examined the simultaneous effect of FSs variables on share price. Misund et al., (2005) used share price as their DV, while book value of equity, abnormal earnings and cash flows from operation were their IVs for 15 of the largest international oil and gas companies for the period 1990-2003. They concluded that these variables are statistically significant in explaining the variance in share price. Vishnani and Shah (2008) investigated the value relevance of FSs (balance sheet, income statement and cash flows statement) by using the ratio of market price per share to book value per share as their DV, and net worth, cash flows from investment, profit after tax, cash flows from operation and return on net worth as their IVs in India for the period 1997-2006. They found that when the balance sheet, income statement and cash flows statement were run, they can significantly explain the variance in the DV. Khanagha et al. (2011) have examined the value relevance of net income (earnings), book value and cash flows in Iran for the period 1996-2008. The results show that all coefficients on these accounting variables are statistically significant and earnings have a higher explanatory power than book value and cash flows.

Despite Jordan has been experiencing a decent economic growth in recent years, there are only few studies that examined the relations between share price and accounting variables such as earnings, net income before tax and interest, total revenue to total assets, cash dividends, stock profitability, inflation rate, market to book equity ratio, sale, gross profit, operating income, earnings per share, book value per share and price to earnings ratio according to ASE sectors for different periods as reported in Table 1. These studies conducted significant relationships between share price and the above accounting variables. Our study differs from these studies in that study's independent variables measures and that of previous studies are not too similar.

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The study hypothesizes the relationship between its DV and IVs and tests its hypotheses using share price as the average annual share price calculated by its annual value traded/No. of shares traded annually, net income (extracted from income statement) as total earnings of a business after income tax and other deductions per share at the end of the fiscal year, [2] book value of total assets (extracted from statement of financial position) as current and non-current assets less the accumulated depreciation per share at the end of the fiscal year and cash flows (extracted from cash flows statement) as ending balance of cash and cash equivalents from operating, investing and financing activities per share at the end of the fiscal year.

Table 1
FSs variables value relevance studies in ASE

Study	ASE economic sectors	DV	IVs	Sample size (firm)	Sample period
Anandarajan and Hasan (2010)	All sectors except financial	SP	Annual stock returns. Earnings before interest and tax Stock price in prior period.	10	1994-2005
Alakra and Ali (2010)	All sectors except financial	MT/BV	VDI, SLGR, PROF, LEV & LIQ	27	1996-2004
Hadi (2006)	Industrial sector.	MTP	SALE, GROSS, OPR, IPT & NI	41	2000-2003
Almawed (2006)	All sectors	SP	TRPS, EPS, EPSD, IRD & IR	42	1998-2003
Khaleel (2005)	All sectors	SP	SNV, CP, TV, STN, CEN, EPS, TRR, CDPS, P/Es, D/P, ROA, ROE, NP/R & I/A	20	1999-2003

SP: share price; MT/BV: ratio of market value to book value of equity; VDI: voluntary disclosure index; SLGR: logarithm of sales; PROF: return on equity; LEV: ratio of total liabilities to shareholders' equity; LIQ: ratio of current assets to current liabilities; MTP: market to book equity ratio; SALE: sale; GROSS: gross profit; OPR: operating income; IPT: income before tax; NI: net income; TRPS: turnover ratio per share; EPS: earnings per share; EPSD: earnings per share from dividends; IRD: interest rates on deposits; IR: inflation rate; SNV: shares nominal value; CP: closing share price; TV: traded volume; STN: shares traded number; CEN: contracts executed number; TRR: turnover ratio rate; CDPS: cash dividends per share; P/Es: price to earnings ratio; D/P: dividends to price ratio; ROA: return on total assets ratio; ROE: return on equity ratio; NP/R: net profit/total revenues ratio; I/A:total income /assets ratio.

3. Hypotheses development and methodology

3.1 Study's sample size and period

Jordanian firms are particularly well suited for the study's empirical investigation for several reasons. Jordan has had stability in policies and practices in finance and accounting for a long time (International Monetary Fund (IMF), 2003; Jordan Central Bank, 2009). Also, there is a need to increase focus on scientific research of accounting disclosure in ASE, in addition, FSs users' needs for accounting information should be taken into consideration for future research (Khaleel, 2005). Jordanian services and industrial firms are selected to be the research sample. A total of 91 firms (3640 observations) including 39 services firms (1560 observations) and 52 industrials firms (2080 observations). Whereas the number of companies for each sector is not similar, the disproportionate stratified random sampling is argued to be the appropriate sampling technique.

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[2] The annual earnings are defined as net income (Collins et al., 1997.

Research period is chosen from 2000 to 2009 since ASE was established in March 1999 and the year 2000 is the first financial year that has complete information about firms' FSs and share price movements. Also, there were many qualitative and quantitative developments in the Jordanian capital market within this period. Some of these developments are reported in the Appendix.

3.2 Hypothesis development

As mentioned before, few studies have examined the relationship between net income, book value and cash flows simultaneously and share price. The study hypothesizes this relationship as follows:

H1: Simultaneously, net income, book value or cash flows are value relevant in ASE services and industrial sectors.
H2: Simultaneously, net income is more value relevant than book value and cash flows in services sector.
H3: Simultaneously, net income is more value relevant than book value and cash flows in industrial sector.
H4: Simultaneously, net income has more value relevance than book value and cash flows in industrial sector compared with services sector.

3.3 Study's models

The main objective of value relevance research is to increase the knowledge related to relevance and reliability of accounting variables which appear in equity value. The accounting variable will be value relevant if it demonstrates information related to FSs users in firm value and the measures are reliable enough to be reflected in share price (Barth et al., 2001). Valuation theory can explain how the value relevance of FSs variables can be tested and why. Since this study examines the value relevance of FSs variables for FSs users' decisions, a prior knowledge of firm valuation is important to understand this value and how to test it. Various valuation models have been used in prior studies that examine the relationship between FSs variables and share price. Typically, these models were used in the value relevance studies to validate their tests and using share price as valuation benchmark in assessing how well particular FSs variables can reflect the information used by users (Barth et al., 2000 ;Bao, 2004). The research models are:

$$P_{SRV}= \beta 0+ \beta 1\, NI_{SRV}+ \beta 2\, BV_{SRV}+ \beta 3\, CF_{SRV} +e \qquad (1)$$

$$P_{IND}= \alpha 0 + \alpha 1\, NI_{IND}+ \alpha 2\, BV_{IND}+ \alpha 3\, CF_{IND}+ e \qquad (2)$$

where P: average annual share price; NI: net income per share; BV: book value of total assets per share; CF: total cash flows per share; SRV: services sector; IND: industrial sector.
H1, H2 H3 and H4 can be stated in terms of the regression coefficients as follows:
H1: $\beta 1 > 0$, $\beta 2 > 0$, $\beta 3 > 0$
     $\alpha 1 > 0$, $\alpha 2 > 0$, $\alpha 3 > 0$
H2: $\beta 1 > \beta 2$ and $\beta 3$
H3: $\alpha 1 > \alpha 2$ and $\alpha 3$
H4: $\alpha 1 > \beta 1$

Some studies focus on accounting variables' coefficients (Barth and Clinch, 1996; Aboody and Lev, 1998), while others focus on its overall explanatory power represented by R^2 (Table 2) which measures the strength of the relationship between accounting variables and market values. As the primary metric to measure value relevance, adjusted R^2 is used (Francis and Schipper, 1999; Lev and Zarowin, 1999; Bao, 2004). This study depends on R^2, Adjusted R^2 and *F* statistics values in evaluating the models and

coefficients (betas and t-test) in evaluating the value relevance of FSs variables. The results of the pooled sample were used to accept or reject the study's hypotheses.

Table 2

R^2 in previous studies

Study	Sample		price model R^2
	Period & #Obs.	Description	
Harris et al. (1994)	1982-1991	German firms	0.14
	1200 obs.	U.S. firms	0.34
Nwaeze (1998)	1970-1990	Utilities	0.78
	2400 obs.	Manufacturing	0.51
Ely and Waymire (1999)	1927-1993 6.700 obs.	U.S. firms	0.44
Francis and Schipper (1999)	1952-1994 78000 obs.	U.S. firms	0.62
Lev and Zarowin (1999)	1977-1999 100000 obs.	U.S. firms	0.76
Ota (2001a)	1979-1999 27000 obs.	Japanese firms	0.46

#obs. is the approximate number of observations used in a study.

Source: Ota, 2001b: pp 33-34).

4. Empirical results and discussion

4.1 Pre-tests for data and variables quality

Since this study uses the regression analysis, the strength of this analysis will be achieved by pre-testing the research data and variables. Several assumptions were tested by the researchers when using the regression analysis. The major assumptions considered were normality, linearity, homoscedasticity, correlation and multicollinearity. All these assumptions were tested to make this data suitable for regression analysis. Skewness and kurtosis values showed that research raw data has non-normal distribution (above and below ±2). To solve this problem, transformation process is needed to be done since it is the best step to transform the non-normal distribution into a normal one (Tabachnick and Fidell, 1996). Since the study data has substantial positive skewness, it is transformed by using logarithm (Pallant, 2007). Table 3 illustrates the statistics of Skewness and Kurtosis values for research raw data and transformed variables. Other assumptions were checked and no violation for the regression assumptions has been found.

Table 3

The statistics of Skewness and Kurtosis values for research raw data

Sectors	SP		NI		BV		CF	
	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
SRV	3.18	12.73	-1.54	42.70	19.08	372.08	3.09	12.09
SRV*	0.33	0.00	-0.82	1.62	0.46	1.15	-1.25	2.34
IND	2.31	5.93	5.72	35.55	3.54	12.51	4.57	22.98
IND*	0.55	-0.23	0.58	0.39	0.63	0.59	-0.15	1.69

*: transformed data; SP: share price, NI: net income, BV: book value, CF: cash flows, SRV: services sector, IND: industrial sector.

4.2 Descriptive statistics

Descriptive statistics deals with different aspects measures of a population as the mean for location measure, standard deviation for scale measure and the skewness and kurtosis values measures (Pallant, 2007). Descriptive statistics are conducted to make primary comparisons of the main differences among the research variables according to ASE services and industrial sectors within the research period. Table 4 presents the descriptive statistics for research variables in services and industrial sectors. This table shows that standard deviation values are less than 3 which ensure the absence of the outliers (Pallant, 2007) and the mean values for each IV in these sectors seem to be similar in addition to that skewness and kurtosis values are within ±2 which ensure that the scores lie within the normal distribution range.

Table 4
Descriptive Statistics: DV and IVs in services and industrial sectors

Vs	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
SP	383	-0.66	1.31	0.26	0.36	0.33	0.00
SP*	520	-0.82	1.73	0.28	0.36	0.55	-0.23
NI	288	2.40	7.57	5.94	0.78	-0.82	1.62
NI*	375	3.73	8.49	5.91	0.78	0.58	0.39
BV	390	5.59	9.95	7.27	0.56	0.64	1.15
BV*	520	5.59	8.95	7.14	0.58	0.63	0.59
CF	381	1.48	7.44	5.72	1.03	-1.25	2.34
CF*	511	1.11	8.27	5.40	1.10	-0.15	1.69

*: data for industrial sector.
Other variables are defined before.

After transformation process, in services sector we missed 7, 102, 9 observations for share price, net income and cash flows respectively, while in industrial sector we missed 145 and 9 observations for net income and cash flows respectively. The missed data is from 12 services firms and 15 industrial firms. A total of 64 services and industrial firms with 2368 observations will run into analysis.

4.3 Multiple regression findings

Results from testing the study's hypotheses in services and industrial sectors for the yearly and pooled sample regression are presented in Tables 5 and 6 panels A and B. These tables show statistically significant R^2, adj. R^2 and F statistic values. Net income in both sectors records the highest coefficients, while the lowest were for book value. t-test doesn't show statistically significant values except with net income.

The findings show that the value relevance of net income is significantly increases in 8 and 6 out of 10 yearly regression supported by the pooled sample as it is reflected in the positive coefficients on net income in services and industrial sectors respectively. The value relevance of book value is insignificantly declines in 7 out of 10 yearly regressions supported by the pooled sample in services sector and in 5 out of 10 yearly regression in industrial sector as it is reflected in the negative coefficients on this variable. The value relevance of cash flows is insignificantly increases in 7 and 9 out of 10 yearly regressions supported by the pooled sample in services and industrial sectors respectively.

Table 5
H1: H2: H4: value relevance of net income, book value and cash flows in services sector
Panel (A)

Stat.	00	01	02	03	04	05	06	07	08	09	Pooled
R^2	0.50	0.31	0.48	0.50	0.37	034	0.22	0.38	0.05	0.15	0.33
adj. R^2	043	0.21	0.40	0.43	0.31	0.29	0.10	0.30	-0.06	0.04	0.25
F	6.46***	3.14***	6.13***	8.14***	6.41***	5.32***	1.82*	4.80***	0.47	1.31	4.32***

* and *** Significant at 10% and 1% levels.

Panel (B)

VIs	Stat.	00	01	02	03	04	05	06	07	08	09	Pooled
NI	$B1$	0.46	0.51	0.66	0.63	0.26	0.50	0.17	0.92	0.23	0.54	0.49
	t-test	2.12**	2.50***	2.54***	3.29***	1.58	2.53***	0.75	3.55***	0.87	1.92*	2.17**
BV	$B2$	-0.03	-0.15	-0.13	-0.15	0.05	0.15	0.21	-0.55	-0.04	-0.24	-0.09
	t-test	-0.16	-0.76	-0.55	-0.77	0.29	0.71	0.95	-2.25	-0.17	-0.96	-0.37
CF	$B3$	0.34	0.21	0.20	0.45	0.42	-0.01	0.24	-0.03	0.03	-0.12	0.17
	t-test	1.52	1.07	1.04	3.01	2.62	-0.06	0.98	-0.17	0.13	-0.54	0.96

Notes:
*, ** and *** Significant at 10%, 5% and 1% levels.
All variables are defined before.

Table 6
H1: H3: H4: value relevance of net income, book value and cash flows in industrial sector
Panel (A)

Stat.	00	01	02	03	04	05	06	07	08	09	Pooled
R^2	0.26	0.25	0.40	0.47	0.38	0.54	0.39	0.51	0.62	0.43	0.43
adj. R^2	0.18	0.18	0.35	0.42	0.33	0.50	0.34	0.47	0.57	0.37	0.41
F***	3.49	3.37	8.03	10.24	7.63	15.10	7.35	12.91	12.63	7.04	8.78

*** Significant at 1% levels.

Panel (B)

IVs	Stat.	00	01	02	03	04	05	06	07	08	09	Pooled
NI	$\alpha1$	0.43	0.49	0.41	0.62	0.73	0.51	0.28	0.67	0.13	0.12	0.44
	t-test	1.54	1.91*	1.99*	3.38***	2.92***	2.95***	1.32	2.89***	0.49	0.37	1.98*
BV	$\alpha2$	-0.05	-0.05	-0.03	-0. 30	-0.23	0.05	0.27	0.13	0.50	0.15	0.04
	t-test	-0.19	-0.19	-0.14	-1.57	-0.97	0.31	1.29	0.59	2.05	0.46	0.16
CF	$\alpha3$	0.21	0.10	0.35	0.42	0.09	0.23	0.15	-0.10	0.23	0.44	0.21
	t-test	1.18	0.57	2.40	2.94***	0.53	1.37	0.76	-0.60	1.24	2.18	0.78

Notes:
* and *** Significant at 10% and 1% levels.
All variables are defined before.

4.4 Discussion

As it was mentioned before, net income, book value and cash flows reported statistically significant adj. R^2 values for industrial sector (Misund et al., 2005). Vishnani and Shah, 2008) concluded significant R^2 (0.31). The study reported statistically significant R^2 values (0.33 and 0.43) for services and industrial sectors respectively which are consistent with those studies. Based on the results of this study and in accordance with the significant ANOVA test, we find that our models fit the data well.

According to our results, t-test shows statistically significant values for net income and insignificant values for book value and cash flows in both sectors. In other words net income, but not book value and cash flows, has a significant contribution in explaining the variance in share price according to ASE services and industrial sectors. We concluded that net income is value relevant in both ASE sectors while it is unexpected that book value and cash flows are irrelevant.

As it was expected that net income will be more value relevant than book value and cash flows, our findings show that, in services sector, net income has more value relevance ($\beta1= 0.49$ significant at 0.05 level) than book value ($\beta2 = -0.09$) and cash flows ($\beta3=0.17$) although they are insignificant. In industrial sector, net income also has more value relevance ($\alpha1=0.44$ significant at 0.1 level) than book value ($\alpha2=0.04$) and cash flows ($\alpha3=0.21$) although they are insignificant. These results are consistent with (Khanagha et al., 2011) who found that net income has a higher explanatory power than book value and cash flows. It is unexpected that the value relevance of net income is greater in services sector ($\beta1= 0.49$) than in industrial sector ($\alpha1=0.44$).

5. Summary and conclusions

The accounting research still has a long way to go in extracting the relevant information that can assist users in making their business decisions prudently. The paper aims to provide evidence concerning the value relevance of FSs variables. For this purpose, three questions were formulated to test whether FSs variables (net income, book value and cash flows) are value relevant according to ASE services and industrial sectors and whether net income is more value relevant than book value and cash flows in these sectors; and which sector reflects more value relevance. Four hypotheses were developed to answer these questions. Research data were collected from the annual financial reports of the selected Jordanian companies and ASE website. The collected data were analyzed using SPSS techniques. Multiple regression models were used to test the hypotheses.

Our first hypothesis predicted that net income, book value or cash flows simultaneously are value relevant in ASE services and industrial sectors. The study concluded that net income is value relevant and has a significant contribution in explaining the variance in share price in both sectors, while book value and cash flows did not (irrelevant). Our second and third hypotheses predicted that net income is more value relevant than book value and cash flows in both ASE sectors. Our last hypothesis predicted that this value relevance is greater in industrial sector than in services sector. The study concluded that net income is more value relevant than book value and cash flows in both sectors and this value relevance is greater in services sector than in industrial sector. Therefore, Hypothesis 1 is accepted for net income but not for book value and cash flows. The second and third hypotheses are accepted, while the last hypothesis is rejected.

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The results for the book value and cash flows differ from those in previous studies (Misund et al., 2005; Vishnani and Shah, 2008; Khanagha et al., 2011). The current study as well as the previous ones finds that net income is value relevant. Therefore, we can confirm that net income could assist Jordanian FSs users in better evaluating firm value. This might be explained by that net income represents firm's performance measurement and profitability. Although book value and cash flows have been found to be relevant in prior studies, they are irrelevant in our study. Therefore we concluded that these two variables cannot be depended on in evaluating firm value in Jordan. These findings might be related to our sample size or period 2000 to 2009 in Jordan or it could be the real pattern that these variables could not make significant contribution in explaining the variance in share price.

The study provides useful inputs to many parties such as investors, managers, financial analysts and academia. The results might assist Jordanian investors to better evaluate the firm value and direct their investments successfully. Since the variables tested can be the determinant for firm value, mangers should take into account the value relevance of these variables when preparing their financial reports and managing the firm's investments. Also, our results might provide a clear mechanism for financial analysts to better evaluate the firm performance and indicate which FSs variable can be depended on in explaining share price movements in ASE services and industrial sectors. The study includes Jordan as an emerging market since the value relevance of net income, book value and cash flows simultaneously has never been examined before in Jordan. Therefore we extend the valuation research to fill this gap. The study is the first in Jordan that examines the value relevance of these variables simultaneously and compares this value relevance according to ASE services and industrial sectors in one study in Jordan.

The paper also suffers some limitations. Although we obtained our data from Jordanian firms' FSs and ASE website, the incomplete data about firms' FSs or share price has limited the research sample size and the period of study. Lacking the continuity of the available data formed a setback for extending the sample size to embody all ASE firms.

Future research could extend our study by (a) increasing the sample size and period of study, (b) improving the accounting valuation research by employing different variable measurements to evaluate firm value, (c) examining the value relevance of these variables across countries in Middle Eastern countries or other region and (d) investigating the impact of selected institutional factors on the value relevance of these variables.

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Appendix

Prior to 1997, Jordan had a limited accounting practice. This was because of the deficiency in recording transactions that satisfy only the outdated law requirements with no set form for FSs. Indeed, Jordan suffered from many weaknesses in accounting regulation as the other developing countries did (Alakra et al., 2009). Amman Financial Market (AFM) started with 57 companies which rose to 120 companies in 1988. In 2008, 262 public shareholding companies is registered, while in 2009, the public shareholding companies that listed in ASE were 275. ASE was established on March 11, 1999. Jordanian firms listed on ASE have been divided into three economic sectors; financial (FIN), industrial (IND), and services (SRV). This study deals with the services and industrial sectors. ASE has experienced some growth in a number of aspects. Below is a description of the number of companies listed in ASE, market capitalization, value traded, average daily trading, number of traded shares, number of transactions, turnover ratio, and the market capitalization to Gross Domestic Product (GDP) for the period 2000 to 2009. [3]

Key statistics of ASE

Aspects Yrs	Number of listed companies	Market capitalization (JD million)	Value traded (JD million)	Average daily trading (JD million)	No. of traded shares (million)	No. of transactions (thousand)	Turnover ratio (%)	Market capitalization / GDP (%)
2000	163	3509.7	362.7	1.2	178.3	133.1	11.6	58.4
2001	161	4476.8	668.7	2.3	332.4	293.2	19.9	66.0
2002	158	5029.0	950.3	3.8	461.8	448.6	26.6	80.4
2003	161	7772.8	1855.2	7.7	1008.6	786.2	49.1	116.8
2004	192	13033.8	3793.2	15.4	1338.7	1178.1	58.2	184.7
2005	201	26667.1	16871.0	69.1	2582.6	2392.5	94.1	326.6
2006	227	21078.2	14209.9	58.7	4104.3	3442.6	101.1	233.9
2007	245	29214.2	12348.1	50.0	4479.4	3457.9	91.2	289.0
2008	262	25406.3	20318.1	82.9	5442.3	3780.9	91.5	226.3
2009	272	22526.9	9665.3	38.8	6022.5	2964.6	91.3	149.6

Resource: Annual reports of Jordan Securities Commission (JSC) for 2000 to 2009.

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[3] Resource is annual reports of ASE from 2000 to 2009.