

## The Value Relevance of Accounting and Financial Information in Stock Returns: The Case of Jordanian Commercial Banks

*Oroba Mohammad Jadallah<sup>1</sup>, Fayez Salim Haddad<sup>2</sup> and Ahmad Hussein Al Tarawneh<sup>3</sup>*

### ABSTRACT

The primary aim of this research is to examine the value relevance of accounting and financial information in explaining stock returns by using panel data for a sample of 13 commercial banks listed in Amman Stock Exchange (ASE), through the period from 2010 to 2018. It uses dividends payout ratio, book value per share and earnings per share as proxies of accounting and financial information.

The findings indicate that earnings per share, book value per share, dividends payout ratio and bank size do not influence stock returns. These results are consistent with Black and Scholes (1974) and Fama and French (1992), among others.

**Keywords:** Commercial banks, Amman Stock Exchange (ASE), Accounting and financial information, Stock returns.

1 Master Student, Finance Department, The University of Jordan, Amman 11942, Jordan. \* Corresponding Author. [jadallah.oruba@gmail.com](mailto:jadallah.oruba@gmail.com)

2 Professor, Finance Department, The University of Jordan, Amman 11942, Jordan. [fhaddad@ju.edu.jo](mailto:fhaddad@ju.edu.jo)

3 Lecturer, Finance Department, The University of Jordan, Amman 11942, Jordan. [ah.altarawneh@ju.edu.jo](mailto:ah.altarawneh@ju.edu.jo)

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## أهمية قيمة المعلومات المحاسبية والمالية في عوائد الأسهم: حالة البنوك التجارية الأردنية

عروبة محمد جاد الله<sup>1</sup>، فايز سليم حداد<sup>2</sup>، أحمد حسن الطراونة<sup>3</sup>

### ملخص

الهدف الأساسي من هذا البحث هو اختبار أهمية قيمة المعلومات المحاسبية والمالية في تفسير عوائد الأسهم، باستخدام حزم البيانات المقطعية العرضية (Panel Data) لعينة تتكون من 13 مصرفاً تجارياً مدرجاً في سوق عمان المالي خلال الفترة الزمنية من 2010 حتى 2018، وذلك باستخدام نسبة توزيعات الأرباح، والقيمة الدفترية للسهم، وربحية السهم كمغيرات للمعلومات المحاسبية والمالية. تشير نتائج الدراسة إلى أن ربحية السهم والقيمة الدفترية للسهم ونسبة توزيعات الأرباح وحجم البنك لا تؤثر على عوائد الأسهم. وتتوافق هذه النتائج مع Black and Scholes (1974) و Fama and French (1992)، من بين دراسات أخرى.

**الكلمات الدالة:** البنوك التجارية، سوق عمان المالي، المعلومات المحاسبية والمالية، عوائد الأسهم.

1 طالبة ماجستير، قسم التمويل، الجامعة الأردنية، عمان 11942، الأردن. jadallah.oruba@gmail.com

2 أستاذ، قسم التمويل، الجامعة الأردنية، عمان 11942، الأردن. fhaddad@ju.edu.jo

3 مدرس، قسم التمويل، الجامعة الأردنية، عمان 11942، الأردن. ah.altarawneh@ju.edu.jo

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## 1. INTRODUCTION

Since the beginning of the 21<sup>st</sup> century, the information content of accounting elements in general as well as accounting profits in particular are among the most studied topics. Indeed, the main objective of studying the information content of published financial statements is to provide many of parties, such as shareholders, investors, creditors, analysts and others, with valuable information for making investment decisions, especially in a competitive environment (Haddad & Haddad, 2003; Abu-Rumman & Al-Debi'e, 2020). The value relevance measures the ability of accounting and financial data to interpret stock prices and it's often determined by the association between a firm's market value and the information provided by its financial reporting parameters. Under this construct, the value relevance concept is a validation of quality standards, which may be interpreted as the usefulness of accounting data in allowing investors to make responsible decisions (Takacs, 2012).

Literature that examines the value relevance is huge, starting from Ball and Brown (1968) who were the first to lay the foundations of the usefulness of the information included in companies' financial statements and its association with stock returns. In particular, their study showed that accounting earnings are used to measure the economic performance of companies and are also correlated with stock returns to some extent. After that, many researchers have attempted to investigate this relationship in different market settings, time frames, research methodologies and techniques. This has led to, not only the publication of several theoretical models and countless research papers, but it has also sparked academic debate. On one hand, scholars, such as Lipe (1986), Ohlson (1995), Easton and Harris (1991), Ball, Kathori and Watts (1993), Booth, Broussard and Loistl (1997), King and Langli (1998), Francis and Shipper (1999), Graham and King (2000) and Ebaid (2012), showed a strong empirical evidence on the relationship between accounting

performance measures and stock returns. On the other hand, and despite the strong empirical evidence found in many of the previous research, scholars, such as Kaplan (1983), Fisher and McGowan (1983), Kaplan (1984) and Rappaport (1986) found contradicting results arguing that accounting measures are not value-relevant for many reasons. These reasons include the availability of different accounting measures, not considering the time value of money as well as the cost of equity ignorance.

The analysis of literature brings to light that the value relevance of accounting and financial measures varies across countries and despite the extensive literature available on this field, mainly for developed countries, the available knowledge on this relationship for developing countries is still relatively poor and inconclusive. Therefore, the purpose of this study is to analyze the value relevance of accounting and financial information that might affect stock returns of the Jordanian commercial banks listed in Amman Stock Exchange (ASE). In doing so, this study focuses on the impact of three primary variables; namely, earnings per share (EPS), dividends per share (DPS) and book value per share (BVPS).

Next, the study problem, significance, objectives, questions and hypotheses are presented. The rest of the paper is composed of three sections. Section 2 contains a review of the relevant literature. In Section 3, the data and methodology are outlined and the results are provided and examined. Finally, Section 4 summarizes and concludes the paper.

### 1.1 Problem of the Study

Most of the early empirical research studies on the importance of accounting and financial information and its relevance to stock returns have reported mixed results. Therefore, this study examines the accounting and financial factors that may influence stock returns;

it examines the value relevance of accounting and financial information for banks listed in Amman Stock Exchange (ASE).

### **1.2 Study Significance**

A strong banking sector is vital for every country to stimulate economic growth and maintain financial stability of the entire financial system. Moreover, the financial statements of companies provide valuable information to many parties, including investors, especially in a competitive environment. This would affect their beliefs about the securities characteristics of the companies declared in these reports and is consequently reflected on the market reaction in response to this information, whether in the form of a change in prices or an increase in the trading volume (Al-Khoury & Al-Qasem, 2006).

Therefore, the significance of this study is derived from the scientific importance that is formed around supporting theoretical studies and research in the field of earnings, payout ratio and book value and its impact on the stock returns of commercial banks. The study is also intended to assist investors in Amman Stock Exchange to identify the appropriate accounting elements that help them assess banks' shares for their investment.

### **1.3 Study Objective and Questions**

This study aims at examining factors that may affect stock returns of financial commercial banks listed in ASE; its primary goal is to determine the value relevance of accounting and financial information in stock returns. The following questions will be discussed:

- 1.What impact do earnings have on Jordanian commercial banks' stock returns?
- 2.What impact does book value have on Jordanian commercial banks' stock returns?
- 3.What impact does payout ratio have on Jordanian commercial banks' stock returns?
- 4.What impact does bank size have on Jordanian commercial banks' stock returns?

### **1.4.Study Hypotheses**

Based on the study objective and questions, the following hypotheses were developed:

- H01:** There is a positive and significant relationship between earnings per share and stock returns in Jordanian commercial banks.
- H02:** There is a positive and significant relationship between book value per share and stock returns in Jordanian commercial banks.
- H03:** There is a positive and significant relationship between dividends payout ratio and stock returns in Jordanian commercial banks.
- H04:** There is a positive and significant relationship between bank size and stock returns in Jordanian commercial banks.

## **2. LITERATURE REVIEW**

Most of the first empirical evidences in the value of accounting information come from the American market. The value of earnings in stock returns from 1962 to 1990 has been examined by Hayn (1995). The study found that profits are positively correlated with dividends. However, when only the consolidated statements of profitable companies are considered, stock-price movements are more strongly correlated with returns.

Collins et al. (1997) found that both profit and book value are significantly correlated with market price over the forty years from 1953 to 1993. Barth et al. (1998) found that the explanatory power of earnings and book value variables varied regularly across industries. Lev and Zarowin (1999) used the statistical relationship between accounting data and market capitalization to assess the usefulness of financial information to investors. This link reflects the investors' work, while another procedure, such as questionnaires or interviews, simply reflects the opinions and beliefs of investors.

The relationship of stock prices and accounting variables that use data in 20 countries was explored by Frankel and Lee (1998). They found that current dividends, current book value and dividends show common expectations that share prices will fluctuate by 72 percent on average.

King and Langli (1998) found that book value and profits were closely related to stock prices in Germany, Norway and the United Kingdom (UK). However, the combined explanatory power of the three different forms is around 70% within the UK, 60% in Norway and 40% in Germany. They also found that the explanatory power of variables differed within the accounting systems of the three countries. The book value explains more than earnings in Germany and Norway, but less than earnings in the UK.

Pathirawasam (2010) investigated the appropriateness of earnings, book value and earnings per share within the share price in Colombo Stock Exchange (CSE). The study sample included 129 items selected from 6 major companies in (CSE). Cross-sectional regressions and statistics are used for analyzing data. The importance of the worth of accounting profits and therefore the book value of stocks also proved that accounting earnings are associated with the share price (Ball and Brown, 1968; Beaver (1968); Kormendi and Lipe (1987); Lipe (1986). Some studies also suggested that assets and liabilities relate to the share price (Landsman, 1986; Amir, 1993; Francis and Schipper, 1999).

Research in finance indicates that a company's characteristics (such as company size, growth and efficiency) can predict a share price in the future. Johnson and Soenen (2003) analyzed 478 companies in the United States of America (USA) during the period (1982-1998) and concluded that large and profitable large-scale companies with high-level advertising spending had better performance in terms of these three metrics.

The relation between financial indices and company performance for listed companies in the United States of

America (USA) has been examined by Höbarth (2006). For a period of 19 years, he used 17 financial indicators in addition to three variables to measure the performance of a company; namely, stock market value, dividends per share and profitability. The results showed that companies with a low book-to-market ratio, effective working capital management, more equity, low liquidity, high retained earnings and fewer liabilities have high profitability based on return on investment (ROI), while companies with an unqualified audit opinion, less equity and more liabilities, lower retained earnings and total assets have better cash-flow performance as measured by cash dividends. Moreover, companies with a low book-to-market ratio, effective management of working capital, more equity, fewer liabilities, lower total assets, earning margins before interest taxes (EBIT) and depreciation have better market performance (measured by the percentage change in share prices).

In the United States of America (USA), Lev and Thiagarajan (1993) researched the relationship between 12 key variables and the company's abnormal return for the period (1974-1988), using changes in inventory, receivables, capital expenditures, research and development, gross margin, sales, administrative expenses, actual tax, provision for doubtful receivables, backlog, workforce, audit qualification and LIFO earnings as independent variables. The results showed that changes in capital expenditures, receivables, inventory, gross margin, sales, administrative expenses and late demand significantly affect yield at the 5% level of significance. They also noted that the relationship between yield and basic variables will be stronger when looking at macroeconomic variables, such as inflation and gross national product (GNP) growth.

By the same token, Pervan (2012) used a sample of 97 companies to analyze the importance of the

value of accounting information in capital markets in southeastern Europe. The documented evidence from the research indicates that accounting information is a relevant value for all observed markets. Besides, the study noted some differences in the importance of value among countries. Also, Yudianti (2013), in a related study, showed that simultaneous earnings and book values are relevant information in explaining stock prices.

Much of the preceding research analyzed the value relevance of accounting and financial information in stock returns in the industrial sector. Some of the previous studies researched the value relevance of both financial and non-financial information in high-tech industries, such as Abayadeera (2010) who used a sample of (91) companies running through various industries in several sectors in Australia and concluded that value relevance declined in earning and increased in book value. Moreover, Lev and Zarowin (1999), Core et al. (2003), Vishnani and Shah (2008), Kormendi and Lipe (1987) and Sharma et al. (2012) studied the subject and indicated a drop in value relevance of accounting information.

Moreover, Tahat et al. (2021) examined the relationship between a firm's financial statements and its share price for non-financial firms listed in Amman Stock Exchange over the period (2012-2016). They suggested that investors consider the value of accounting information when making their investment decisions and that accounting measures can help explain variations in a firm's market value over the long run. This lacuna in the literature provides a basis for this study.

Referring to the financial stability reports issued by the Jordan Central Bank, the importance of the banking sector in achieving economic and monetary stability is evident despite the shocks and risks that Jordan faces. This is attributed to its high level of capital, which is the highest in the region, as well as its sufficient level of liquidity (Jordan Central Bank, 2012; Association of Banks in Jordan, 2018).

In general, the size of the assets of the financial system in

Jordan amounted to 41,578 billion Jordanian dinars at the end of 2012, where the licensed banks made up 94% and thus are considered the main component of the total system. The banking system sector constitutes 177% of the gross domestic product (Financial Stability Report, 2012), and generally, it ranges somewhere between 150% and 170% of the GDP.

### 3. DATA, METHODOLOGY AND EMPIRICAL RESULTS

The population of the study includes all 16 listed banks in Amman Stock Exchange (ASE) for the period between 2010 and 2018. Islamic banks have been excluded from the study sample and the selection of commercial banks is due to their high influence on Jordanian economic growth. The sample size became 13 Jordanian commercial banks. In this study, the required information is obtained from the banks' annual reports. Financial reports are a credible data source for public companies, since they are audited externally.

In order to achieve the study objective, the Ohlson (1995) model was adopted, which can be expressed as follows:

$$RETURN_{it} = \beta_0 + \beta_1 EPS_{it-1} + \beta_2 DPR_{it-1} + \beta_3 BVPS_{it-1} + \beta_4 SIZE_{it} + \varepsilon_{it}$$

where  $RETURN_{it}$  is the stock return calculated by taking the change in stock price for a specific year divided by the price of the stock at the beginning of the same year,  $EPS_{it-1}$  is the prior-year earnings per share,  $DPR_{it-1}$  is the prior-year dividends payout ratio,  $BVPS$  is the book value per share,  $SIZE_{it}$  is the natural logarithm for the bank total assets,  $\varepsilon_{it}$  is the error term.  $i$  and  $t$  refers to the bank and time, respectively.

At first, we provide a summary of the descriptive statistics for the study variables during the period (2010-2018).

**Table (1)**  
**Descriptive statistics for dependent and independent variables**

<b>Variable</b>	<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>Median</b>	<b>S. D.</b>	<b>N</b>
<i>RETURN</i>	- 0.371	0.416	- 0.018	- 0.016	0.152	117
<i>EPS</i>	- 0.020	0.650	0.209	0.160	0.139	117
<i>DPR</i>	0.000	1.333	0.498	0.556	0.314	117
<i>BVPS</i>	0.836	1.699	1.104	1.055	0.185	117
<i>SIZE</i>	8.535	10.413	9.338	9.303	0.411	117

Table 1 shows that, on average, banks have a stock return of - 0.018, ranging from a minimum of -0.371 to a maximum of 0.416. The standard deviation of stock returns is about 15 percent, showing the spread in returns. However, earnings per share, as depicted by the selected sample, have an average of 0.209 and a standard deviation of 13.9 percent, ranging from a minimum of -0.02 to a maximum of 0.650. The dividends payout ratio has an average of 0.498, ranging from a minimum of 0 to a maximum of 1.333. It is worth noting that the maximum

value of DPR indicates that in one year, a certain bank has paid dividends per share more than its earnings per share.

Moreover, the range of book value per share varies from a minimum of 0.836 to a maximum of 1.699, with a standard deviation of 18.5 percent and an average of 1.104. Finally, the bank's size has an average logarithm of total assets equal to 9.338, with a standard deviation of 41.1 percent. Pairwise correlation coefficients between the variables are shown in Table 2.

**Table (2)**  
**Pearson correlation <sup>a</sup> matrix of the variables**

<b>Variable</b>	<i>RETURN</i>	<i>EPS</i>	<i>DPR</i>	<i>BVPS</i>	<i>SIZE</i>
<i>RETURN</i>	1				
<i>EPS</i>	0.019	1			
<i>DPR</i>	0.102	0.228*	1		
<i>BVPS</i>	-0.053	0.487**	-0.119	1	
<i>SIZE</i>	-0.048	0.688**	0.399**	0.204*	1

\* Significant at the 5% level and \*\* significant at the 1% level (2-tailed).

Table 2 shows the correlation matrix for the variables used in this study. Pearson correlation matrix shows significant pairwise correlations between independent variables. The significant correlation between these variables is noteworthy. First, earnings per share are positively and significantly correlated with dividends payout ratio ( $\alpha = 5\%$ ), book value per share ( $\alpha = 1\%$ ) and firm size ( $\alpha = 1\%$ ). The positive correlation between *EPS*

and *DPR* suggests that when the payout ratio increases, the stock becomes more attractive to buyers. The increased demand will cause sellers to raise the price to gain more profits. This leads to a higher stock return. The positive correlation between *EPS* and *BVPS* can be attributed to the fact that the book value of equity represents an important explanatory variable for earnings per share, consistent

with Burgtähler and Dichev (1997) who found that the accounting system can provide information which is improving each other about book value and earnings. Book value from the balance sheet represents information about the net value of company resources, while earnings from the income statement express the result of company effort in using its resources. The positive correlation between *EPS* and *SIZE* implies that stock returns are higher in large banks than in small banks. This may be an indication of that large bank size has inherent advantages over small bank size due to their benefits from economies of scale which reflect positively their profits and thus their stock return. This result is consistent with Pouraghajan et al. (2013), Ernayani & Robiyanto (2016) and Anwaar (2016). Second, firm size is positively and significantly correlated with dividends payout ratio ( $\alpha = 1\%$ ) and book value per share ( $\alpha = 5\%$ ). The positive correlation between *SIZE* and *DPR* can be attributed to the fact that large banks have more ability to distribute dividends than smaller banks; therefore, they have a higher payout ratio. *BVPS* has a positive correlation with *SIZE*, which implies that larger banks have a higher book value per share.

As for the dependent variable, Table 2 does not record any significant association between stock return and any of the independent variables. The table reports an insignificant negative correlation between stock return and book value per share. The same relation exists between stock return and firm size. Moreover, an insignificant positive relation exists between stock return and both earnings per share and dividends payout ratio.

The highest correlation coefficient (0.688) is between *EPS* and *SIZE*, while the lowest correlation coefficient (0.204) is between *SIZE* and *BVPS*. As a further test of multicollinearity problem, collinearity diagnostic test was run as depicted in Table 3. Table 3 presents the tolerance

test and variance inflation factor (*VIF*), where multicollinearity problem exists when *VIF* is more than 10 and tolerance level is lower than 0.05 (Gujarati, 2009). Table 3 shows that *VIF* is less than 10 and tolerance level is greater than 0.05, which means that there is no issue of multicollinearity between the independent variables and that multicollinearity is not a problem in interpreting the results of the regression analysis.

**Table (3)**  
**Collinearity statistics**

<i>Independent Variables</i>	<i>Variance Inflation Factor (VIF)</i>	<i>Tolerance</i>
<i>C</i>		
<i>EPS</i>	2.500	0.400
<i>DPR</i>	1.255	0.797
<i>BVPS</i>	1.437	0.696
<i>SIZE</i>	2.190	0.457

The Hausman test was performed to decide which model is best for panel data, with the null hypothesis being that the optimal model is the random-effect model and the alternative one is the fixed effect model. The Hausman test is used to check whether the unique errors (*ui*) are correlated with the regression; the null hypothesis is that they are not. Based on the Hausman test results, the chi-square value (0.175) is statistically insignificant ( $p = 0.996$ ). Thus, the random-effect model was used for testing the hypotheses. The study also reports the pooled-regression results (in Appendix 1), in addition to the results of the fixed-effect regression model (in Appendix 2). The results of the random-effect regression model are as follows.



**Table (4)**  
**Results of the random-effect regression model**

<i>Independent Variables</i>	<i>Coefficient</i>	<i>Std. E.</i>	<i>t- Stat.</i>	<i>P &gt;  t </i>
<i>C</i>	0.664	0.493	1.346	0.181
<i>EPS</i>	0.175	0.169	1.037	0.302
<i>DPR</i>	0.066	0.053	1.241	0.217
<i>BVPS</i>	- 0.061	0.096	- 0.634	0.528
<i>SIZE</i>	- 0.073	0.054	- 1.367	0.174
R <sup>2</sup> = 0.030; N =117 Adj. R <sup>2</sup> = - 0.004		F = 0.874, Prob. > F = 0.482		

Table 4 shows that earnings per share and dividends payout ratio have a statistically insignificant positive effect on stock returns. The insignificant impact of dividends payout ratio on stock returns indicates that earnings per share and dividends payout ratio cannot explain the variation in share prices; this may be due to the assumption that there is a large group of investors who have no reason to prefer dividends to capital gains and who may therefore be indifferent to the dividend yield of the shares that they hold. Thus, stock returns will not be affected by dividends, which is consistent with Black and Scholes (1974).

The estimated results show that book value per share has an insignificant negative effect on stock returns. The fact that the book-value coefficient is negative can be rationalized by the value of book value itself, which means that a very high book value can cause an overvalue on stock and thus, the price will tend to decrease to reach the intrinsic value. Therefore, the stock return is low. This finding is consistent with Utama & Santosa (1998) and Fama and French (1992).

Bank size has been discovered to have a statistically insignificant negative effect on stock returns, indicating that there is no difference between larger and smaller banks in terms of their impact on stock returns. Overall, there is no significant relationship between the dependent and independent variables whatsoever as the adjusted R<sup>2</sup> for within variance accounted only for (-0.004), which means

that -0.4% of the overall variance is explained by the variables in the model, the low value of adjusted R<sup>2</sup> indicating that the independent variables did not explain the change in stock returns.

The panel data results indicate that trading on the publicly available information related to the announcement of profits or losses by firms, dividends policy and published financial statements fails to provide an abnormal return. As per the semi-strong form of market efficiency theory, any of these events will not have an impact on stock prices, because it's assumed that such information must have been reflected in prices before being publically announced. This result has been confirmed in many of the previous research studies, such as Black and Scholes (1974), Fama & French (1992), Utama and Santosa (1998), Gersdorff & Bacon (2009) and Earl & Frank (2011).

#### 4. SUMMARY AND CONCLUSIONS

This research contributes to the extant literature by investigating the influence of accounting and financial information on Jordanian commercial banks' stock returns, with earnings per share (EPS), dividends per share (DPS), book value per share (BVPS) and bank size (SIZE) as independent

variables. To perform such analysis, panel data and for the time period (2010-2018) was used for all 13 Jordanian commercial banks.

According to the results of the analysis, none of the independent variables have a statistically significant impact on stock returns. This implies that accounting earnings and book value of equity have no value relevance in explaining stock price. In other words, movement in accounting information on earnings and book value cannot be used to predict stock-price movements. Moreover, the results showed that dividends and bank size have no influence on stock returns; this also means that fundamental and technical analysis is useless when it comes to predicting stock prices, because this publically available information is already discounted in the stock-price, which confirms the semi-strong form of market efficiency theory.

## REFERENCES

- Abayadeera, N. 2010. Value Relevance of Information in Hi-tech Industries in Australia: Accounting Information and Intangible Asset Disclosures. *Global Review of Accounting and Finance*, 1 (1): 77-99.
- Abu-Rumman, Z., & Al-Debi'e, M. 2020. The Value Relevance of Financial Performance Measures during Firm Life-cycle Stages. *Jordan Journal of Business Administration*, 16 (4): 812-833.
- Amir, E. 1993. The Market Valuation of Accounting Information: The Case of Post-retirement Benefits Other Than Pensions. *Accounting Review*, 703-724.
- Al-Khoury, R., & Al-Qasem, M, 2006. Impact of Timing of Disclosure of Financial Statements on Stock Prices and Trading Volume: An Applied Study on Jordanian Public Shareholding Companies. *Jordan Journal of Business Administration*, 2 (2).
- Ball, R., & Brown P. 1968. An Empirical Evaluation of Accounting Income Numbers. *Journal of Accounting Research*, 159-178.
- The study, thus, recommends that investors should consider elements other than the publically available information when they make their investment decisions, since the past accounting and financial performance measures fail to capture or predict any change in future stock price movements.
- Although this result is inconsistent with some prior related studies, such as King and Langli (1998), Graham and King (2000), Pathirawasam (2010) and Pervan (2012)], who found an association between stock return and accounting and financial information, it's in line with some studies, such as Black and Scholes (1974), Fama and French (1992) and Utama and Santosa (1998), who failed to link accounting and financial information to stock returns.
- Ball, R., Kothari, S.P., & Watts, R.L. 1993. Economic Determinants of the Relation between Earnings Changes and Stock Returns. *Accounting Review*, 622-638.
- Beaver, W.H. 1968. The Information Content of Annual Earnings Announcements. *Journal of Accounting Research*, 67-92.
- Barth, M.E., Beaver, W.H., & Landsman, W.R. 1998. Relative Valuation Roles of Equity Book Value and Net Income As a Function of Financial Health. *Journal of Accounting and Economics*, 25 (1):1-34.
- Black, F., & Scholes, M. 1974. The Effects of Dividend Yield and Dividend Policy on Common Stock Prices and Returns. *Journal of Financial Economics*, 1 (1): 1-22.
- Booth, G.G., Broussard, J., & Loistl, O. 1997. Earnings and Stock Returns: Evidence from Germany. *European Accounting Review*, 6 (4): 589-603.
- Core, J.E. et al. 2003. Market Valuations in the New

- Economy: An Investigation of What Has Changed. *Journal of Accounting and Economics*, 34 (1-3): 43-67.
- Collins, D.W., Maydew, E.L., & Weiss, I.S. 1997. Changes in the Value Relevance of Earnings and Book Values over the Past Forty Years. *Journal of Accounting and Economics*, 24 (1): 39-67.
- Earl, A., & Frank, B. 2011. Fdic Bank Failure Announcements: A Test of Market Efficiency. *ASBBS Annual Conference*, Las Vegas, 18 (1): 125-133.
- Easton, P.D., & Harris, T.S. 1991. Earnings As an Explanatory Variable for Returns. *Journal of Accounting Research*, 29 (1): 19-36.
- Ebaid, I.E. S. 2012. The Value Relevance of Accounting-based Performance Measures in Emerging Economies: The Case of Egypt. *Management Research Review*.
- Fama, E.F., & French, K.R. 1992. The Cross-section of Expected Stock Returns. *Journal of Finance*, 47 (June): 427-465.
- Fisher, F.M., & McGowan, J.J. 1983. On the Misuse of Accounting Rates of Return to Infer Monopoly Profits. *The American Economic Review*, 73 (1): 82-97.
- Francis, J., & Schipper, K. 1999. Have Financial Statements Lost their Relevance? *Journal of Accounting Research*, 37 (2): 319-352.
- Frankel, R., & Lee, C.M. 1998. Accounting Valuation, Market Expectation and Cross-sectional Stock Returns. *Journal of Accounting and Economics*, 25 (3): 283-319.
- Gersdorff, N., & Bacon, F. 2009. U.S. Mergers and Acquisitions: A Test of Market Efficiency. *Journal of Finance and Accounting*, 1-8.
- Graham, R.C., & King, R.D. 2000. Accounting Practices and the Market Valuation of Accounting Numbers: Evidence from Indonesia, Korea, Malaysia, the Philippines, Taiwan and Thailand. *The International Journal of Accounting*, 35 (4): 445-470.
- Hayn, C. 1995. The Information Content of Losses. *Journal of Accounting and Economics*, 20 (2): 125-153.
- Höbarth, L.L. 2006. *Modeling the Relationship between Financial Indicators and Company Performance: An Empirical Study for US-listed Companies*. Doctoral Dissertation, WU Vienna University of Economics and Business.
- Haddad, F., & Haddad, S. 2003. The Association between Security Price and Future Accounting Earnings. *Dirasat: Administrative Sciences*, 30 (2): 269-278.
- Johnson, R., & Soenen, L. 2003. Indicators of Successful Companies. *European Management Journal*, 21 (3): 364-369.
- Kaplan, R.S. 1983. Measuring Manufacturing Performance: A New Challenge for Managerial Accounting Research. *Readings in Accounting for Management Control* (284-306). Springer, Boston, MA.
- Kaplan, R.S. 1984. The Evolution of Management Accounting. *Readings in Accounting for Management Control*, 586-621.
- King, R.D., & Langli, J.C. 1998. Accounting Diversity and Firm Valuation. *The International Journal of Accounting*, 33 (5): 529-567.
- Kormendi, R., & Lipe, R. 1987. Earnings Innovations, Earnings Persistence and Stock Returns. *Journal of Business*, 323-345.
- Lev, B., & Thiagarajan, S.R. 1993. Fundamental Information Analysis. *Journal of Accounting Research*, 31 (2): 190-215.
- Lev, B., & Zarowin, P. 1999. The Boundaries of Financial Reporting and How to Extend Them. *Journal of Accounting Research*, 37 (2): 353-385.
- Landsman, W. 1986. An Empirical Investigation of Pension Fund Property Rights. *The Accounting Review*, 61: 662-691.
- Lipe, R.C. 1986. The Information Contained in the Components of Earnings. *Journal of Accounting Research*, Supplement: 37-64.
- Ohlson, J.A. 1995. Earnings, Book Values and Dividends in Equity Valuation. *Contemporary Accounting Research*, 11 (2): 661-687.

- Pathirawasam, C. 2010. Value Relevance of Accounting Information: Evidence from Sri Lanka. *International Journal of Research in Commerce & Management*, 8 (1): 13-20.
- Pervan, I. (2012). Utilization of Accounting Information for Decision Making in Croatian SMEs: Preliminary Findings. *The Business Review*, Cambridge, 19 (2): 165-171.
- Rappaport, A. 1986. The Affordable Dividend Approach to Equity Valuation. *Financial Analysts Journal*, 42 (4): 52-58.
- Sharma, A.K. et al. 2012. Value Relevance of Financial Reporting and Its Impact on Stock Prices: Evidence from India. *South Asian Journal of Management*, 19 (2): 60.
- Tahat, E., Al-Mawali, H., & Tahat, Y. 2021. The Value Relevance of the Financial Statements' Information: The Moderating Role of the Board of Directors. *Jordan Journal of Business Administration*, 17 (2): 177-193.
- Takacs, L.M. 2012. The Value Relevance of Earnings in a Transition Economy: Evidence from Romanian Stock Market. *Annales Universitatis Apuleius Series Economical*, 14 (1): 88-103.
- Utama, Siddharta, & Santosa, Anto Yulianto Budi. 1998. Kaitan Antara Rasio Price/Book Value dan Imbal Hasil Saham pada Bursa Efek Jakarta. *Journal Riset Akuntansi Indonesia*, 1 (1): 127-140.
- Vishnani, S., & Shah, B.K. 2008. Value Relevance of Published Financial Statements with Special Emphasis on Impact of Cash-flow Reporting. *International Research Journal of Finance and Economics*, 17 (1): 84-90.
- Yudianti, N. 2013. The Value Relevance of Accounting Information at Indonesia Stock Exchange. *An International Conference on Business, Economice and Accounting*.
- <http://www.cbj.gov.jo/Pages/viewpage.aspx?pageID=45>  
<https://www.abj.org.jo/>