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ASSOCIATIONS BETWEEN CASH FLOWS AND MARKET PRICES: EVIDENCE FROM JORDAN

Key Words

***Cash Flows; Earnings;
Market Prices;
Regression; Accruals
and Operating Cash
Flows.***

Abstract

The purpose of the paper is to examine the associations between a firm's cash flows and their prices. The author attempts to answer two questions: (1) Does the separation of earnings into operating cash flows and accruals have more information value to users than earnings? and (2) Do cash flow headings (operating, investing and financing) have more information value to users than earnings? Six variables are used: cash flows from operation (OCF), investing cash flows (ICF), financing cash flows (FCF), earnings (EPS), prices (P) and accruals (ACC). The reason for selecting these variables is to test information content of cash flow statements as reported from Jordan firms under IAS 7 (revised 1992). Three regression equations will be used in this analysis. The results support cash flows, earnings and accruals that have associations with market prices. The results on cash flows are consistent with Livnat and Zarowin (1990), Garrod and Hadi (1999), Board, et al (1989) and Board, Day and Napier (1993).

Introduction

The purpose of the paper is to examine the associations between a firm's cash flows and their market prices. Previous research provides conflicting results as to whether an association exists Wilson (1986,

1987), Bowen *et al.* (1986, 1987), Bernard and Stober (1989), Livnat and Zarowin *et al.* (1990). In the UK, firms were investigated by Board, *et al.* (1989), Garrod and Hadi (1998), Attar, Ali and Hussain (2004), and

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Board, Day *et al.*, (1993). This Jordan study extends the previous research and investigates the information content of cash flows in aggregate.

There have been many empirical studies that have investigated the usefulness of cash flow data under FASB 95. Livnat and Zarowin (1990) investigated the usefulness of cash flow components to the stockholders in security markets. O'Bryan (1992) examined the bondholders' reactions to the release of cash flow components. El-Shamy (1989) investigated the ability of cash flow data in predicting failed and non-failed firms. The results of the previous research provide inconclusive evidence about the usefulness of cash flow data. Other empirical research also investigates the usefulness of cash flow data to the investors in security markets using UK data (Board, Day and Walker (1989), Board, Day and Napier (1993), Clubb (1993), Ali and Pope (1994), Livnat and Zarowin (1990), and Garrod and Hadi (1999)). The results of these studies provide inconclusive evidence about the usefulness of cash flow data.

The growing interest in reporting cash flow data internationally can be seen from International Accounting Standard 7 (revised 1992) and IAS7 (revised 1992). The IASC issued IAS7 (revised 1992), which took effect on 1 January 1994 and superseded IAS 7

"Statement of Changes in Financial Position" issued in July 1977. The objective of IAS 7 (revised 1992) is to provide information about the historical change in cash and cash equivalents by means of cash statement. The cash flow statement is classified under three standard headings: cash flow from operations, investments, and financing activities.

Inconclusive evidence from earlier research shows contradictions about the usefulness of cash flow data. For instance, Bowen, Burgstahler and Daley (1987), Rayburn (1986), Livnat and Zarowin (1990) and Ali and Pope (1994) provide evidence for the positive association between unexpected cash flow and abnormal return. On the other hand, Board, Day and Walker (1989) and Board, Day and Napier (1993) do not find any information content for cash flow measures. So far, there is no sufficient evidence regarding the usefulness of cash flow measures. Thus, further research is needed.

The author selected the Jordanian market because it is unique among Arab markets in that it has a strong oil-free economy. Furthermore, income from tax is considered one of the major sources of income to Jordan, which means that tax expenses, cash flows and financial statements for firms will be affected.

The author attempts to answer two questions:

1. Does the separation of earnings into operating cash flows and accruals have more information value to users than earnings?
2. Do cash flow headings (operating, investing and financing) have more information value to users than earnings?

Investors rely on earnings in making investment decisions although earnings are subject to manipulation by management in order to make earnings look better. However, since cash flows are less manipulated by managers, it might be better for investors to use cash flows in making investment decisions.

The cash flow statements under IAS 7 are classified into three standard headings: cash flow from operations, investment, and financing activities. Until now, no research has tested the usefulness of cash flow statement IAS 7 to users using Jordan firms. This paper will investigate these issues.

Literature Survey

The cash flow statement under FASB 95 (1987) is classified into three standard headings: operating, investing and financing activities. FASB

states that cash flow statement should help investors, creditors and others to:

- a) *assess the enterprise's ability to generate positive future net cash flows;*
- b) *assess the enterprise's ability to meet its obligation, its ability to pay dividends and its need for external financing.*

Bowen, Burgstahler, and Daley (1987) examined the information content of unexpected cash flow⁽¹⁾ data beyond unexpected earnings and unexpected working capital. They investigated whether accruals add value to the information contained in cash flow numbers. They found that cash flow data contains incremental information content relative to that found in earnings. Accrual data has additional information content. There is no evidence that working capital has incremental explanatory power beyond that contained in earnings.

Board, Day and Walker (1989) investigated the information content of three measures of unexpected accounting performance: accounting income, working capital fund flow, and cash flow from operation. The analysis performed annual cross-sectional regression and then tested for the incremental explanatory power for each variable. They found that unex-

(1) Unexpected cash flows = WCFO - ▲ non-cash current assets for operations + ▼ current liabilities from operations.

pected accounting income has a more significant association with security return than unexpected fund flow and unexpected cash flow.

Livnat and Zarowin (1990) investigated whether disaggregate cash flow components are more associated with security return than aggregate cash flow components, and whether these associations are consistent with finance theory. They concluded that operating cash flow is strongly associated with security return and has positive signs. Investment cash flows have a lower association with security return. This implies that capital investments might be anticipated by investors. Disaggregated cash flow variables have more information content beyond aggregate cash flow variables.

Attar, Ali, and Hussain (2004) examined the ability of current accounting data to explain future cash flows for UK firms as disclosed under FRS1. They found that the disaggregation of earnings into cash and accruals lead to more power in explaining future cash flow.

Furthermore, Garrod and Hadi's (1998) disaggregation of cash flows have incremental values beyond cash flows themselves. Some disaggregate cash flow components have information content beyond aggregate cash flow such as OCF and collect. Also,

the case for investment cash flows shows that some aggregate cash flows have more information content than the disaggregated cash flow variables. For return on investment cash flows, however, they found that both aggregate and disaggregate cash flow components reveal information content.

Greenberge, Johnson, and Ramesh (1986) reported that current earnings have better predictive power to forecast future cash flow than current cash flow. Finger (1994) found that cash flows have more predictive power than earnings to forecast future cash flow in the short-term.

Ali and Pope (1994) reexamined the incremental information content of three measures of performance: earnings, working capital from operations, and operating cash flows. They found that earnings exhibit higher relative information content than fund flows and cash flows.

Overall, these results show inconclusive evidence regarding the usefulness of cash flow data. For instance, Bowen, Burgstahler and Daley (1987), Livnat and Zarowin (1990), Garrod and Hadi's (1998), Ali and Pope (1994), and Attar, Ali and Hussain (2004) provided evidence for the positive association between unexpected cash flow and abnormal return. On the other hand, Board, Day and Walker (1989), El-Shamy (1989) and Board,

Day and Napier (1993) did not find any information content for cash flow measures.

Taken together, prior studies can be classified into three categories. First, information content of cash flows related to security markets was investigated by Bowen, Burgstahler and Daley (1987), Livnat and Zarowin (1990), Garrod and Hadi's (1998), Ali and Pope (1994), Board, Day and Walker (1989), O'Bryan (1992), and Board, Day and Napier (1993). Second, information content of cash flows that determine failed or non-failed firms was examined by El-Shamy (1989) and others. Third, information content of cash flows that forecast future cash flows and earnings was studied by Greenberge, Johnson and Ramesh (1986) and Finger (1994). That being said, the purpose of this paper is to examine the associations between a firm's cash flows and their market prices using multiple regression.

Sample and Data Collection

The sample consists of 33 industrial firms between 2000-2003 with requisite data⁽²⁾. The data was collected from the Jordan Stock Exchange publications and the list of sampled companies appearing in the

Appendix. Six variables are used: cash flow from operation (OCF), investing cash flows (ICF), financing cash flows (FCF), earnings (EPS), prices (P) and accruals (ACC). The reason for selecting these variables is to test information content of cash flow statements as reported from Jordan firms under IAS 7 (revised 1992). All the variables are expressed on a per share basis.

The analysis first pools all firms over the 4 years, then divides the sample into small and large firms using market values. After that, correlation analysis is used to find the relationship among debt, equity, and all other variables.

Research Methods

Three regression equations will be used in this analysis. The purpose of this test is to find which variables better explain the variation in market prices. The dependent variable is price (P) and the independent variables are earnings and cash flows. Ordinary Least Square Method (OLS) is used to solve the regression equations.

Association between price and operating cash flows is examined first by the equation

$$P_{it} = \alpha + \beta_1 OCF_{it} + \beta_2 ACC_{it} + e_{it} \dots M1$$

where:

(2) Banks and financial companies are excluded from the sample because their accounts are different from industrial firms.

P = prices

OCF = operating cash flows per share.

ACC = accruals per share = earnings - OCF.

e = error term.

$\alpha \beta$ = intercept and slope coefficient of the regression equation.

Some cash flow studies link security valuation theory to empirical research. Lintzenberger and Rao (1979) provided a valuation framework for cash flow data. Also, Green and Stark (1991) followed Ohlson's (1989) analysis of clean surplus relation for cash flow accounting framework. Feltham and Ohlson (1992) provided the basis of recent advances in accounting theory and share valuation for accounting market based research concerning the information content of earnings and cash flows⁽³⁾.

Association between price and several cash flows is examined:

$$P_{it} = \alpha + \beta_1 OCF_{it} + \beta_2 ICF_{it} + \beta_3 FCF_{it} + \beta_4 ACC_{it} + e_{it} \dots \dots M2$$

where:

P = prices

OCF = operating cash flows per share.

ICF = investing cash flows per share.

FCF = financing cash flows per share.

ACC = accruals per share.

e = error term.

$\alpha \beta$ = intercept and slope coefficient.

Corporate finance theory addresses "Market Value Maximization Hypothesis" as the explanation of corporate investment decision. This theory states that managers seek to maximize the value of the firm in making corporate investment decisions. McConnell and Muscarella (1985) assumed:

If managers follow the market value maximization rule, then, according to traditional valuation theory, an announcement of an unexpected increase in capital expenditures should have a positive impact on the market value of the firm and an announcement of an unexpected decrease in capital expenditures should have a negative impact on the market value of the firm.

The theory suggests two opposite points of view, negative or positive, about the coefficient signs of investment cash flow. The positive association is expected because the greater investment cash flows imply more growth and high future cash flow. Alternatively, it is possible that mar-

(3) Clubb (1993) provided a full explanation and derivatives of Feltham and Ohlson model.

ket reaction to the announcement of capital expenditure occurs because such announcements contain signals of current earnings of the project already in place. Hence, a significant positive association is expected between cash flow from investment (owing to the announcement of new investment) and security return. However, some investments in other firms might result in negative market reaction because some managers may accept negative present value of their investment decision on acquisition to diversify their portfolio, Jensen and Ruback (1983).

The theory also suggests two opposite points of view about the market's reaction to the release of FCF information as either positive or negative signals. In debt issuance, for example, Leland and Pyle (1977) suggest that debt issuance is associated with positive market reaction because owners retain a larger proportion of equity than when stock is issued, while Miller and Rock (1985) suggest that negative market reaction is associated with external finance announcement because more external finance will

decrease future cash flows for equity's interest.

Association between price and earnings is examined by the equation

$$P_{it} = \alpha + \beta_1 \text{EPS}_{it} + e_{it} \dots \dots \dots M3$$

where:

P = prices

EPS = earnings per share.

e = error term.

$\alpha \beta$ = intercept and slope coefficient.

The theoretical analysis of the relationship between accounting earnings and share prices in an efficient market framework follows two approaches. The first approach is concerned with the endogenous concept of earnings within an informational perspective on security valuation theory⁽⁴⁾, which was adopted by Beaver and Demski (1979) and Ohlson (1979, 1990). The second approach is an exogenous view⁽⁵⁾ of the role of accounting earnings in security valuation. The contribution of the second approach was accomplished by Lipe (1986) and Kormedi and Lipe (1987),

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- (4) The classical valuation model states that a firm's stock price equals the present value of the expected future benefits accruing to its equity holders. This definition is developed by Miller and Modigliani (1961). There is another definition for valuation theory by Ohlson (1990), which states that the price of security is determined by the present value of its dividends.
 - (5) The exogenous view in the valuation theory suggests that an individual's preferences and beliefs always affect all security values. Also, it suggests that other security prices count as another factor affecting security value. These security prices provide sufficient information about the economy.

who discovered the concept of 'earnings persistence'⁽⁶⁾.

There is much empirical evidence which supports the previous theory and establishes positive association between unexpected stock returns and unexpected earnings. Such evidence is given by Strong and Walker (1991), Livnat and Zarowin (1990), Strong (1992), Ali and Pope (1995), and Donnelly and Walker (1995), among others. The present study will use earnings as a benchmark to test the association between cash flows and prices.

Results

Statistical Description

Table 1 presents the statistical description of all the variables in the Jordan market. The analysis is based on a pooled appearance for each variable. OCF were found to have the highest standard deviation due to the presence of extreme observations, and this can be confirmed by the maximum column in Table 1. This means OCF contains higher transitory than other variables. However, ICF and EPS

Table 1
Descriptive Statistics

Variable	N	N*	Mean	Median	TrMean	StDev
P	132	0	1.550	1.155	1.403	1.360
MV	132	0	20056382	5400000	11513365	45315871
DEBT	132	0	14260371	2948785	6064587	43715446
EQUITY	132	0	15947709	6678676	10942109	27850175
OCF	125	7	8.24	0.34	2.50	46.68
ICF	125	7	-0.874	-0.087	-0.544	2.642
FCF	120	12	-2.645	-0.179	-1.400	8.962
EPS	118	14	-0.200	0.085	0.335	7.182
ACC	122	10	-3.76	-0.17	-1.40	15.30
Variable	SE Mean	Minimum	Maximum	Q1	Q3	
P	0.118	0.100	7.250	0.560	2.000	
MV	3944240	250000	326400084	2090000	11610000	
DEBT	3804941	0	312075209	1174729	6992328	
EQUITY	2424047	-3574899	133705544	2536219	11373224	
OCF	4.18	-42.66	458.02	-0.02	2.71	
ICF	0.236	-14.962	7.977	-0.859	-0.008	

(6) The general use of persistence is a measure of duration, but Lipe (1986) reported that "persistence measure" as earnings component encompassed both duration and magnitude of the effect on earnings from a random shock in that component.

have low standard deviations, which implies they might be permanent. The means for EPS, OCF, ICF, Accruals and FCF are: -0.200, 8.24, -0.874, -3.76 and -2.645, respectively, and these can be interpreted in the following way: OCF and Accruals have the highest means because OCF is the major portion for all firms. This is due to the fact that management uses accruals to smooth earnings, in order to make them look better to stakeholders.

Regression Results

Results of correlation analyses are shown in Table 2, panel A for all firms. There is a high correlation between debt and equity, and a high correlation between accruals and OCF, FCF and EPS. The correlation between prices and variables is low with the exception of equity and EPS.

The correlation results for small firms are shown in Table 2, panel B. Again, these show a high correlation between accruals and OCF, FCF and EPS. However, if these results are compared with large firms in panel C, major differences are found, with a low correlation between accruals and EPS and FCF. The correlation between prices and variables for large firms are higher in most cases than

small firms. EPS shows a higher correlation⁽⁷⁾ with prices for large firms.

There is a very high correlation - 90.1% between OCF and FCF for large firms compared with small firms⁽⁸⁾. This means the movement of OCF depends on the movement of FCF. Borrowing and repaying loans are associated highly with OCF for larger firms than smaller ones.

There is also a low correlation between debt and equity for small firms. By contrast, there is a high correlation between them for large firms. The reason is that the banks have too many conditions to approve loans for small firms. However, for large firms with large equity, it is easier to obtain loan approval from the bank than for small firms.

The regression results for model 1 are presented in Table 3, panel A for all firms. They reveal that operating cash flow has a positive sign and is significant at the 0.01 level. This finding is consistent with theory, which suggests there is a positive market reaction associated with operating cash flow. This result is also consistent with Rayburn (1986), Wilson (1986, 1987), Bowen, *et al.* (1987), Livnat and Zarowin (1990), Clubb (1993) and Garrod and Hadi (1998). However, it

(7) Correlation = 59.2 %

(8) Correlation = -48.6%

Table 2
Correlations (Pearson)

Panel A: All firms:

	P	MV	DEBT	EQUITY	OCF	ICF	FCF	EPS
MV	0.468							
DEBT	0.158	0.514						
EQUITY	0.447	0.917	0.738					
OCF	0.133	-0.027	0.008	-0.029				
ICF	-0.129	-0.009	-0.098	-0.045	-0.442			
FCF	-0.155	-0.014	-0.086	-0.036	-0.509	0.206		
EPS	0.235	0.095	0.069	0.116	-0.002	0.134	0.101	
ACC	0.125	-0.043	-0.362	-0.116	-0.642	0.339	0.453	0.736

Panel: B Small firms:

	P	OCF	ICF	FCF	EPS	ACC	DEBT
OCF	0.371						
ICF	-0.075	-0.452					
FCF	-0.340	-0.486	0.136				
EPS	0.153	-0.082	0.226	0.258			
ACC	0.149	-0.704	0.395	0.565	0.809		
DEBT	-0.270	0.050	-0.195	0.168	0.086	0.150	
EQUITY	0.182	0.012	0.011	-0.032	0.158	0.211	0.141

PANEL: C LARGE FIRMS:

	P	OCF	ICF	FCF	EPS	ACC	DEBT
OCF	0.250						
ICF	-0.320	-0.590					
FCF	-0.176	-0.901	0.431				
EPS	0.592	0.417	-0.450	-0.193			
ACC	0.107	-0.569	0.266	0.353	-0.053		
DEBT	0.046	0.395	-0.212	-0.274	0.116	-0.620	
EQUITY	0.338	0.245	-0.145	-0.183	0.181	-0.265	0.720

Table 3
Regression Results for Pool M1

Model	Predictor	Coef	T	P	VIF	F - sat P--value	Adj. (R ²)
M1	Panel A: All firms:						
	Constant	1.5054	11.70	0.000		6.17	7.9%
	OCF	0.06926	3.20	0.002	1.7	0.003	
	ACC	0.03285	3.16	0.002	1.7		
	Panel B: Small firms:						
	Constant	0.8510	7.33	0.000		0.66	0%
	OCF	0.00415	0.22	0.828	2.0	0.520	
	ACC	0.008853	0.96	0.343	2.0		
	Panel C: Large firms:						
	Constant	2.0188	10.48	0.000		5.46	12.6%
	OCF	0.10612	3.18	0.002	1.5	0.007	
	ACC	0.03961	2.55	0.013	1.5		

* We repeat M1 for small firms using OCF only, and we found OCF coef is significant with positive sign and $R^2 = 12.3\%$.

is inconsistent with Casey and Bartczak (1984), Board, *et al* (1989, 1993). Accruals are a significant predictor and can explain the variation in prices. The t-statistic is significant at 0.01 level and R^2 equals 7.9%.

For small firms in Table 3, panel B, it is found that all variables are insignificant, but when accrual is dropped for M1, the test is repeated. It is found that OCF was significant with a positive sign and $R^2 = 12.3\%$. For large firms in Table 3, panel C, the same results for all firms are found.

The regression results for model 2 are presented in Table 4, panel A, for all firms. The coefficient for finance

cash flow is negative and significant at 0.05 level. This result is consistent with Miller and Rock (1985), suggesting that negative market reaction is associated with external finance announcement. More external finance future cash flow will be lower than expected. Accruals are also significant but ICF and OCF are insignificant.

For small firms for M2 results in Table 4, panel B, investment cash flow (ICF) is significant at 0.065 level and has a negative coefficient, where $R^2 = 21.6\%$. This negative reaction might be the result of managers' engaging in negative net present value acquisitions to diversify their firms and, indirectly, their own portfolio (Amihud and Lev

Table 4
Regression Results for Pool M2

Model	Predictor	Coef	T	P	VIF	F - sat P--value	Adj. (R ²)
M1	Panel A: All firms:						
	Constant	1.4198	10.69	0.000			
	ACC	0.03578	3.46	0.001	1.7	4.96	11.9%
	OCF	0.02346	0.78	0.438	3.3	0.001	
	ICF	-0.11315	-1.57	0.119	1.6		
	FCF	-0.07878	-2.37	0.019	1.9		
	Panel B: Small firms:						
	Constant	0.7177	6.36	0.000			
	OCF	-0.00951	-0.48	0.633	2.5	4.79	21.6%
	ICF	-0.11641	-1.89	0.065	2.1	0.002	
	FCF	-0.13132	-4.12	0.000	2.3		
	ACC	0.03127	3.08	0.003	3.0		
	Panel C: Large firms:						
	Constant	1.9262	10.08	0.000			
	OCF	0.23419	2.49	0.016	12.4	4.39	12.2%
	ICF	-0.0914	-0.77	0.447	1.8	0.004	
	FCF	0.17124	1.91	0.061	7.7		
	ACC	0.05363	3.05	0.003	2.0		

(1981)). FCF and accruals are significant and consistent with Wilson (1986, 1987), Bowen, *et al* (1987), Livnat and Zarowin (1990), Clubb (1993), and Garrod and Hadi (1998).

For large firms for M2 results in Table 4, panel C, it is found that OCF, FCF and accruals are significant at different levels. The FCF coefficient has a positive sign for large firms however, for small firms it is significant with a negative sign. The reason for these differences is that big firms

have more resources and skills to utilize these debts and can achieve higher returns than their cost of capital compared with small firms. These findings are consistent with Leland and Pyle (1977), suggesting that debt issuance is associated with positive market reaction because owners retain a larger proportion of equity than that occurring when stock is issued.

The regression results for model 3 are presented in Table 5, panel A, for all firms. It is found that the earnings

Table 5
Regression Results for Pool M3

Model	Predictor	Coef	T	P	F - sat P--value	Adj. (R ²)
M1	<u>Panel A: All firms:</u>					
	Constant	1.5447	12.57	0.000	6.78	4.7%
	EPS	0.04474	2.60	0.010	0.010	
	<u>Panel B: Small firms:</u>					
	Constant	0.8438	7.44	0.000	1.31	0.6%
	EPS	0.01295	1.15	0.256	0.256	
	<u>Panel C: Large firms:</u>					
	Constant	1.7816	10.73	0.000	31.91	34.1%
	EPS	0.43308	5.65	0.000	0.000	

coefficient is positive and significant at 0.001 level. This result is consistent with theory and previous empirical research, such as Livnat and Zarowin (1990), Strong and Walker (1991), Easton (1985), Kothari and Sloan (1992), and others. The model is significant at 0.01 level and has an adjusted R² of 4.7%.

Small firms are found to have a positive insignificant earnings coefficient. By contrast, for large firms, it is found that the earnings coefficient is positive and significant at 0.001 level. The model is significant at 0.01 level and has an adjusted R² of 34.1 %.

When comparing results in M3 between small and large firms, it is found that investors for large firms act rationally and consistently with theory in their investment decisions, thus affecting market prices. However, in-

vestors in small firms might have another source of information, giving R² = 0.6 %. These results suggest that earnings can be used as an estimate for future prices for large firms.

The results from this research are consistent with Livnat and Zarowin (1990), Garrod and Hadi (1999), Board, *et al* (1989) and Board, Day and Napier (1993) in terms of cash flows.

Comparison

Consistent with previous research, the earnings coefficient is significant at 0.01 level in the pooled regression result. This suggests that earnings have an association with prices and that investors consider the earnings figure to be an important factor in their investment decisions. Turning to cash flow variables, the results from

Table 6
The Explanatory Power of Model 2 and Model 3

Regression Form	Adj R ²	
	Model 2	Model 3
Pool Regression Result	11.9%	4.7%
Pool Regression Result (Small firms)	21.6	0.6
Pool Regression Result (Large firms)	18.2	34.1

$$P_{it} = \alpha + \beta_1 OCF_{it} + \beta_2 ICF_{it} + \beta_3 FCF_{it} + \beta_4 ACC_{it} + e_{it} \dots \dots M2$$

$$P_{it} = \alpha + \beta_1 EPS_{it} + e_{it} \dots \dots M3$$

the previous sections suggest that cash flow variables have an association with prices OCF, ICF and FCF.

Finally, a comparison between the explanatory power of earnings versus cash flow variables as represented by Adj R² is explained.

The comparison between small and large firms in Table 6 reveals that the association between prices and cash flows is higher for small firms than for large ones. This finding supports the argument that investors in small firms depend heavily on the financial report as a source of information more than do the investors in large firms. This confirms that cash flow data is more valuable information for small firms than for large firms. For the association between prices and earnings, R² for earnings is higher for large firms than for small ones. These results are inconsistent with the finding by Lee (1992) that the volume reaction is stronger for small firms than for large firms on

earnings announcement day. Pope and Inyangete (1992) reported sharp increases in stock return variability for small firms but it was less for large firms on earnings announcement day. Therefore, the present study argues that the investors in large firms use earnings information to make investment decisions.

In addition, there might be another reason for these differences relating to risk matter and debt capacity, because small firms are more risky and have less debt capacity than large firms. Therefore, the market reacts unfavourably to increasing FCF for small firms because it is associated with large debt and high risk. However, large firms have a better debt capacity than small ones, which justifies a positive association between prices and FCF for large firms.

Conclusion

This paper examines the associations between cash flows, earnings and

market prices. The results support cash flows, earnings and accruals that have associations with market prices. The results are consistent with existing literature in terms of cash flows.

Before this study, there was no conclusive evidence of the information value of cash flow under revised IAS 7 (1992). The investors in security market, managers and the International Accounting Standard are unable to identify which variables are reflected in market prices. However, the present study provides evidence for the importance of cash flow statements under IAS headings. The operating cash flow of overall cash flow explains the variations in market prices. Furthermore, investment and finance cash flows have information content with different signals.

Financial managers may benefit from this study by distinguishing which cash flow headings have the most impact on market prices. Market prices should give a signal to the managers and encourage them to generate cash inflow from internal resources and activities and discourage them from obtaining external finance

which will result in high interest payments and a decline in future cash flows.

Individual investors can have an alternative source of information besides earnings to decide in which company to invest. Earnings can be used as a measure of profitability, and cash flow can be used to measure the liquidity. Financing cash flows can successfully identify the small firms that will incur negative coefficients which might provide an early signal of future cash flow problems and declining share prices. For large firms, FCF will incur positive coefficients which might provide an early signal of future cash inflow and rising share prices.

This study contributes to the literature on the relationship between prices and cash flow and earnings measures by illustrating a context in which the cash flow levels are most important in the cash flow price models. Future research might, fruitfully, use cash flow ratios as required by IAS 7 (1992) to determine failed or non-failed firms.

Appendix

The Companies List

1. THE PUPLIC MINING
2. ARAB ALUMINIUM INDUS-
TRY /ARAL
3. ARAB PHARMACEUTICAL
MANUFACTURING
4. THE INDUSTRIAL COM-
MERCIAL & AGRICULTUR-
AL
5. NATIONAL STEEL INDUS-
TRY
6. INTERMEDIATE PETRO-
CHEMICALS INDUSTRIES
7. THE JORDAN WORSTED
MILLS
8. JORDAN CERAMIC INDUS-
TRIES
9. JORDAN PAPER & CARD-
BOARD FACTORIES
10. JORDAN PHOSPHATE
MINES
11. THE JORDAN PIPES MANU-
FACTURING
12. JORDAN TANNING
13. PEARL- SANITARY PAPER
CONVERTING
14. ADVANCED PHARMACEU-
TICAL INDUSTRIES
15. INTER NATIONAL TEXTILE
MANUFACTURING
16. JORDAN WOOD INDUS-
TRIES / JWICO
17. WOOLEN INDUSTRIES
18. INDUSTRIAL INDUSTRIES &
MATCH/JIMCO
19. ATTANQEEB CONSTRUC-
TION MATERIAL MANU-
FACTURING
20. NATIONAL CABLE & WIRE
MANUFACTURING
21. JORDAN SULPHO-CHEMI-
CALS
22. THE JORDAN CEMENT FAC-
TORIES
23. UNION CHEMICAL & VEGE-
TABLE OIL INDUSTRIES
24. JORDAN ROCK WOOL IN-
DUSTRIES
25. INTERNATIONAL TOBACCO
& CIGARETTES
26. UNIVERSAL MODERN IN-
DUSTRIES
27. NATIONAL CHLORINE IN-
DUSTRIES
28. ARAB ENGINEERING IN-
DUSTRIES
29. NATIONAL TEXTILE AND
PLASITIC INDUSTRIES
30. JORDAN STEEL
31. ARAB ELECTRICAL INDUS-
TRIES
32. MIDDLE EAST PHARMA. &
CHEMICAL IND. & MEDI-
CAL APPLIANCES
33. INTERNATIONAL CERAMIC
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الملخص

العلاقة بين التدفقات النقدية والأسعار السوقية: دليل من الشركات الأردنية

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هدف هذا البحث هو إيجاد العلاقة بين التدفقات النقدية للشركات والأسعار السوقية، ومحاولة الإجابة عن التساؤلات الآتية: (١) هل تقسيم الأرباح بين التدفقات النقدية من التشغيل والمستحقات لديها قيمة معلومات أكبر من قيمة الأرباح للمستخدمين؟ (٢) هل التدفقات النقدية الرئيسية (تشغيلية، وتمويلية، واستثمارية) لها قيمة معلومات أكبر من قيمة الأرباح للمستخدمين من الأرباح؟ وقد استخدمت ستة متغيرات في هذا البحث، وهي: التدفقات النقدية من تشغيلية، والتدفقات النقدية من تمويلية، والتدفقات النقدية من استثمارية، والأرباح، والمستحقات، والأسعار السوقية. والسبب في اختيار هذه المتغيرات هو دراسة المعلومات الكامنة في قائمة التدفقات النقدية وفق IAS 7 تعديل ١٩٩٢ للأسواق الأردنية، هذا وقد استخدمت ثلاث معادلات انحدار في هذا البحث. وتؤيد نتائج الدراسة العلاقة الإيجابية بين التدفقات النقدية، والأرباح، والمستحقات وبين الأسعار السوقية، وبتماثل مع الأبحاث السابقة.

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