

The Value Relevance of Accrual Components in Saudi Listed Firms

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Abstract. This study examines the value relevance of accrual components in Saudi Arabia during the 1995-1999 sample period. The three components of accruals this study investigates are total accruals, current accruals, and non-current accruals. Furthermore, this paper investigates the influence of operating cycle on the relationship between cash flow and security returns of Saudi Arabian listed firms. The empirical results suggest that total accruals are not as important as aggregate accruals in mitigating mismatching and timing problems in cash flow from operation. Also, the study reveals that current accruals play an important role in improving earnings' ability to measure firm performance. Finally, the results indicate that non-current accruals are less important with regard to reducing mismatching and timing problems in cash flow from operation.

I. Aims and Motivation

Since Ball and Brown [1] Market Based Accounting Research (MBAR) focused on the U.S. market or other developing countries' markets. However, the increasing emphasis on the role of accounting information in global markets (e.g., Lev and Ohlson [2], Ball, Kothari and Robin [3], and Barth and Clinch [4]) has encouraged researcher to investigate the usefulness of accounting information in less developing countries' markets. Moreover, a very little known about the validity of the existing empirical evidence in developing capital markets. We argue that national standards setters ought to understand the nature of the demand placed on accounting information by their local investment community and other stakeholders before they rush into adapting a unified set of accounting standards.

While the role of earnings has been subject to some empirical investigation in Saudi Arabia (see for example, Alsehali and Spear [5] and Al-Bogami, Green and Power [6]), it is still unclear which particular components of accruals affect the value-relevance of earnings. Indeed, it is unreasonable to presume that all components of affect

have the same contribution to the value-relevance of total accruals in explaining security returns. Thus, this paper aims to investigate the value relevance of accruals components of Saudi firms. In particular, this paper assesses the validity of the existing empirical evidence with respect to the following research issues:

- (a) the impact of the magnitude of accrual components on the relationship between earnings and cash flow and security returns of Saudi listed firms;
- (b) the impact of the measurement interval on the relationship between the cash and accrual components of earnings and security returns of Saudi listed firms; and
- (c) the influence of operating cycle on the relationship between cash flow and security returns of Saudi Arabian firms.

In fact, there are several factors that motivate us to examine these accounting issues in a Saudi context. First, Saudi Stock Market (SSM) is the largest stock market in the Arab world, accounting for 63% of the volume of shares on all Arabian stock markets in 2003 [7]. Moreover, it is considered the 8th largest among those of developing countries. However, there is little known about the role of accounting information in terms of its ability to explain changes to the security prices of listed Saudi firms in this market. This paper, to my knowledge, will be the first study to provide empirical evidence on these issues in Saudi Arabia.

Second, the demand on accounting earnings and its components (and hence the value relevance of accruals) could be changing over the last few years as a result of recent developments that aim to increase the participation level by domestic and foreign investors in shaping the future of Saudi Arabia.

The remainder of the study is organized as follows. Section II reviews key relevant studies. Section III discusses the hypotheses development. Section IV presents the research methodology and sample selection criteria. Section V reports the results. Section VI concludes the study.

II. Literature Review

Standard-setters around the world maintain that the primary focus of financial reporting is to provide information about a firm's performance provided by measures of earnings and its components. Several studies have investigated the value relevance of various components of earnings. Overall, these studies indicate that some components of earnings are informative, and that some information is lost when earnings components are aggregated into a single-line item. Most of these studies focus on the examination of value relevance of the cash and accrual components of earnings⁽¹⁾.

⁽¹⁾ While some academics argue that cash is "king", standard setters and other academics argue that earning is superior to cash flows as a predictor of future cash flows. Kothari [8] notes that accruals represent accountants' attempt to transform cash flows into earnings that are more informative about a firm

For example, Wilson [9] investigates the two following questions: (1) Do accruals and funds components of earning have incremental information content beyond earning themselves?; and (2) does the accrual components have incremental information content beyond the funds components? The study desegregates accruals into two variables, namely, current accruals and non-current accruals. Wilson finds that the cash and total accruals components of earnings have incremental information contents beyond earnings and that the aggregate accruals component of earning has incremental information content beyond the cash component.

Wilson [10] investigates whether the accrual and funds components of earnings have incremental information content beyond earnings itself. He decomposes earnings into two components, cash flow and accruals. He considers two ways of the decomposition: the first way being working capital from operations and non-current accruals, and the second being cash from operations and aggregate accruals. He argues that working capital from operation is more closely related to long run profitability, whereas cash from operation is more closely related to recent operation and liquidity. The results are consistent with the existence of incremental information content when funds are defined as cash flow from operation but not when funds are defined as working capital from operations.

Bowen, Burgstahler and Daley [11] examine the incremental content of accrual versus cash flow through examining the relationship between unexpected security returns and unexpected cash flow over an annual window. They show that cash flow information is consistent with the data impounded in security prices and also has incremental explanatory power beyond that contained in accrual data alone. In addition, they show that accrual data have incremental explanatory power beyond that contained in cash flow data alone.

Bernard and Stober [13] argue that it was not obvious that a more favorable response to cash flows than to current accruals should necessarily hold. They provide several explanations of why cash flow and accruals could have different effects on security returns. First, accruals might have lower quality because they were subject to management manipulation. Second, price impacts vary according to macro-economic conditions. Finally, the price impacts could vary according to the specific mix of components of unexpected current accruals. They find no systematic evidence that cash flow or accruals could explain stock price behavior in short windows surrounding the release dates of financial statements. Bernard and Stober offer two possible explanations for their results. First, financial statements release dates may not be important events for pricing, because information included therein has already-been-made available through alternative channels. The second possible explanation is that differences between the valuation implications of cash flow and accruals were more contextual than they had contemplated in models used.

performance. However, "self-interested managers might use accounting discretion opportunistically and manipulate accruals, which would distort earnings as a measure of firm performance" (p. 48).

Dechow [13] develops cross-sectional predictions about the conditions that make earnings more informative about a firm's performance than cash flows. She notes that the superiority of accruals cash flow stems from the ability of accruals to mitigate timing and matching problems in cash flows. She indicates that the focus of her study is "to assess the ability of each measure (accruals and cash flows) to reflect firm performance in their realized form as opposed to their innovative or unexpected from".

Barth, Beaver, Hand and Landsman [14] examine the characteristics of the accrual and cash flow components of earnings that affect their relation with firm value. They show that accruals and cash flows do not have the same ability to predict future abnormal earnings.

Saudi evidence

Mubarak [15] examines the incremental content of cash flow versus accrual in Saudi listed firms through examining the correlations between various measures of cash flow (cash flow from operation, cash flow after investment, and cash change) and accrual earnings (net profit and working capital from operations) during the sample period of 1992 through 1996. The paper examines the incremental information of cash flows in Saudi Arabia. Also, the paper tests whether cash flows information is reflecting the firms' ability to pay its financial commitments and reflecting the firms' investment policies. In fact, the paper findings suggest that cash flow measures provide different information from that contained in the earnings number.

Al-Min [16] investigates whether cash flow information of Saudi firms measures firms' performance, and whether these information predict firms' profitability, liquidity, and risk during the sample period of 1992-1997. The empirical findings indicate that cash flow measures provide investors with better understanding about firms' performance and help investors in predicting firms' performance. However, the study concludes that earnings measures are more important to investors than cash flow measures

Alsehali and Spear [5] conclude that there is no difference between the association between security returns and cash flow relative to the association between security returns and accruals as the absolute magnitude of aggregate accruals increases. Their results indicate that accruals increase the ability of earnings to reflect performance on a timely basis. However, this does not mean that cash flows are not a useful measure of firm performance. Instead, it means that under certain circumstances, such as undertaking new projects, earnings outweigh cash flows in terms of measuring the firm performance.

III. Hypotheses Development

The role of accruals components

The primary motivation of this study is to assess the validity of existing empirical evidence with respect to the value relevance of cash and accrual components in Saudi

listed firms. This study provides the first market-based empirical evidence with respect to the value relevance of earnings components in a Saudi context. Several studies, such as Wilson [9], indicate that some components of accruals are greater than others in alleviating the timing and matching problems which accrual accounting generally seeks to remedy. This means that the significance of accruals in the earnings-return relationship could be different when the components of accruals are investigated separately. While the role of earnings has been subject to empirical investigation in Saudi Arabia, such as Alosehali and Spear [5], it is still unclear which particular components of accruals have the largest effect on the value-relevance of earnings.

While accrual accounting is at the heart of earnings measurement [17] and financial reporting, the valuation implications of the accrual and cash flow components of earnings are unexplored in the Saudi accounting literature. This study investigates three components of accruals to provide insights into which accruals are relatively more important in reflecting firm performance in the Saudi firms. The three components of accruals this study investigates are total accruals, current accruals, and non-current accruals.

- H1 *There is no difference between the association between security returns and the cash flow component of earnings relative to the association between security returns and the accrual components of earnings as the absolute magnitude of total accruals increases.*
- H2 *There is no difference between the association between security returns and the cash flow component of earnings relative to the association between security returns and the accrual components of earnings as the absolute magnitude of current accruals increases.*
- H3 *There is no difference between the association between security returns and the cash flow component of earnings relative to the association between security returns and the accrual components of earnings as the absolute magnitude of non-current accruals increases.*

The role of firm's operating cycle

Dechow [13] argues that firms with longer operating cycles are expected to have larger working capital requirements for a given level of operating activities. Therefore, the length of operating cycle is predicted to be an underlying determinant of the volatility of working capital. Accordingly, cash flow from operations would be expected to diminish as a measure of firm's performance as the length of operating cycle decreases. Conversely, the ability of the accrual component of earnings to reflect firm's performance is not expected to be as sensitive to the length of operating cycle. This is because working capital accruals are hypothesized to reduce the timing and matching problems inherent in cash accounting. This gives rise to the following hypothesis, expressed in null form:

- H4 *There is no change in the association between security returns of Saudi Arabian listed firms and cash flow from operating activities as the firm operating cycle increases.*

IV. Research Methodology

The research design of this paper employs cross-section and time series analysis [18] over a five-year period from 1995 to 1999. Hypotheses 1, 2 and 3 are examined by estimating the following regressions for the pooled cross-section and time series sample of available data:

$$\text{Ret}_{i,t} = \alpha + \beta_1 (E_{i,t} / P_{i,t-1}) + \varepsilon_{i,t} \quad (1)$$

$$\text{Ret}_{i,t} = \alpha + \beta_1 (\text{CFO}_{i,t} / P_{i,t-1}) + \varepsilon_{i,t} \quad (2)$$

where,

E	earnings level per share
CFO	net cash flows from operating activities per share
Ret	raw annual security return
P	the price per share of firm i at time t

To empirically examine hypothesis 1, which relates to the ability of operating cash flows to reflect firms' performance changes as a function of the level of absolute value of total accruals ("abs(TA)"), it is necessary to rank all observations on the basis of abs(TA). Two portfolios are formed according to the level of abs(TA). The first (second) portfolio will contain observations for which abs(TA) is higher than or equal to (lower than) the median value of abs(TA). Conversely, the second portfolio will contain observations for which abs(TA) is lower than the median value of abs(TA).

Separate regressions are then estimated for each portfolio for Eqs. 1 and 2. Following Dechow [13], these procedures are replicated for annual, two-year, and five-year intervals. Inferences about the validity of this hypothesis are then drawn from comparing the coefficients (β_1) and the explanatory power (R^2) of each regression.

It is expected that earnings and cash flows will have similar association with security returns, as measured by the R^2 statistics, when firms are not experiencing a large change in their working capital, and where abs(TA) is small. However, cash flows relative to earnings is expected to have a lower association with security returns when firms are experiencing a large change in their working capital, and hence abs(TA) is large. In addition, the Spearman correlation is then estimated between earnings and cash

flows from operations with security returns across the aforementioned quintiles over one-year, two-year, and five-year pooled data.

Hypotheses 2 and 3 examine the impact of accrual components on the ability of earnings and cash flows to measure firm performance. Specifically, the two hypotheses examine two subsets of accruals, namely: current accruals, and non-current accruals, respectively. To empirically examine these hypotheses, it is necessary to repeat the procedure of testing hypothesis 1 on each of the two subsets of accruals respectively.

To empirically examine hypothesis 4, two proxies for the length of the operating cycle are calculated for the annual interval as follows:

$$\text{Operating cycle} = \frac{(AR_{i,t} + AR_{i,t-1})/2}{Sales_{i,t}/360} + \frac{(Inv_{i,t} + Inv_{i,t-1})/2}{C.G.S_{i,t}/360}$$

$$\text{Trade cycle} = \frac{(AR_{i,t} + AR_{i,t-1})/2}{Sales_{i,t}/360} + \frac{(Inv_{i,t} + Inv_{i,t-1})/2}{C.G.S_{i,t}/360} - \frac{(AP_{i,t} + AP_{i,t-1})/2}{Purchases_{i,t}/360}$$

where:

AR	is accounts receivable
Inv	is inventory
C.G.S	is cost of goods sold
AP	is account payable

Then, it is necessary to empirically examine firm-level correlations between the length of the operating (trade) cycle and the variability of the change in working capital (current accrual). Also, it is necessary to investigate the effect of the operating (trade) cycle on cash flow from operations and earnings association with stock returns at the industry level. To obtain this, the following procedure is performed. Firstly, firms with estimated operating (trade) cycle are categorized according to one of four industries.⁽²⁾

Secondly, separate regressions of security returns on earnings and also on cash flows from operations are performed for each industry. Thirdly, Spearman correlations between the length of the operating (trade) cycle for the industry and the R² statistics for earnings and cash flows from operations from the four industry-specific regressions are obtained.

⁽²⁾ Out of six-industry in SSM, only four-industry included since bank- and cement-industry do not provide the essential data for calculating the operating (trade) cycle.

Independent variables

Market Variables

$Ret_{i,t}$: The raw security returns for firm i , adjusted for stock dividend, stock split and capitalization changes compounded over the time period t , where t is either one week, one year, or five years.

P the price per share of firm i at time t .

Financial Variables

All financial statement variables used in the empirical procedures in this paper are stated on a per-share basis and scaled by beginning-of-period price. Similar to Dechow [13], the required financial statement variables are defined as follows:

- $E_{i,t}$: Earnings per share for firm i for period t excluding extraordinary items, discontinued operations, and zakat (religious tax) and tax obligations scaled by beginning-of-period price.
- $CA_{i,t}$: The current accrual component of earnings for firm i for period t $\{\Delta$ (non-cash) working capital $_{i,t}$ / No. of common shares outstanding $\} / P_{t-1}$ with Δ (non-cash) working capital = Δ account receivables + Δ inventory + Δ other current assets - Δ accounts payables - Δ other current liability other than notes payable and the current portion of long term debt, where Δ is the change in each variable from period $t-1$ to t .
- $CFO_{i,t}$: Net cash from operations per share for firm i for period t , scaled by beginning-of-period price $\{(\text{operating income before depreciation} - \text{taxes} - \text{zakat} - \Delta \text{ (non-cash) working capital}_{i,t}) / \text{No. of common shares outstanding}\} / P_{t-1}$.
- $NCA_{i,t}$: Non-current accruals per share for firm i for period t , scaled by beginning-of-period price $\{(E_{i,t} - CFO_{i,t} - \Delta CA_{i,t}) / \text{No. of common shares outstanding}\} / P_{t-1}$.
- $TA_{i,t}$: Total accruals = $CA_{i,t} + NCA_{i,t}$.
- $AA_{i,t}$: Aggregate accruals is the net change in all non-cash accounts on a per share basis for firm i for period t , scaled by beginning-of-period price $\{(E_{i,t} - NCF_{i,t}) / \text{No. of common shares outstanding}\} / P_{t-1}$.

Sample selection

The study period chosen is the five-year period from 1995-1999. The sample was drawn from the total population of firms listed on the Saudi Arabian stock market during the full five-year sample period, of which there were 72 firms. Of these 72 firms, 10 firms were suspended from trading on the Saudi Arabian stock market, pending satisfaction of certain operating and financial criteria imposed by the Saudi Arabian stock market. These 10 firms were excluded from the sample. Of the remaining 62 firms, a further 10 firms were excluded from the sample due to missing data. The remaining 52 firms (see Appendix 1) satisfied the following selection criteria:

1. complete weekly share prices series for the 1995-1999 sample period;
2. complete financial statements data for at least four years from the 1995-1999 sample period;
3. complete dividend and stock split data for the 1995-1999 sample period; and

The final sample, though representing 72% of the total population by number, represents 96.45% of the total population by market capitalization. The sample is therefore representative of the Saudi Arabian stock market.

V. Results

Descriptive statistics

Table 1 presents summary statistics for the main variables of interest. All accounting variables are stated on a per share basis and scaled by beginning of period price. As can be seen in Table 1, the mean (median) value for annual earnings per share as a percentage of beginning share price is 4.8% (5.3%). The mean (median) value for net annual operating cash flows per share as a percentage of beginning share price is 15.7% (10.4%). Two-year earnings are lower than twice of annual earnings and five-year earnings are greater than five times the annual earnings, and a similar pattern is observed for operating cash flows. Since the variables are scaled by beginning of period price, average reported values will tend to increase disproportionately over longer intervals due to the reinvestment of earnings and the influence of negative values. The standard deviation of operating cash flows is consistently higher than that of earnings. However, over longer intervals, the standard deviation for operating cash flows decline relative to earnings. The mean (median) value for annual security returns is 4.6% (-2.2%) and is significantly different from zero.

Table 1. Descriptive statistics

Variable	Mean	S.D.*	Lower quartile	Median	Upper quartile
Panel A: Annual pooled observations					
E	0.048	0.130	-0.003	0.053	0.103
CA	0.016	0.517	-0.067	0.040	0.116
CFO	0.157	0.559	0.008	0.104	0.198
TA	0.152	0.611	-0.011	0.122	0.265
NCA	0.135	0.235	0.041	0.104	0.181
RET	0.046	0.299	-0.168	-0.022	0.243
Panel B: Two-yearly pooled observations					
E	0.079	0.209	-0.039	0.095	0.186
CA	0.043	0.598	-0.116	0.059	0.176
CFO	0.267	0.708	0.037	0.183	0.375
TA	0.292	0.727	0.007	0.255	0.486
NCA	0.248	0.306	0.080	0.182	0.339
RET	0.178	0.435	-0.173	0.163	0.420
Panel C: Five-yearly pooled observations					
E	0.258	0.364	-0.012	0.285	0.543
CA	0.177	0.609	-0.137	0.178	0.495
CFO	0.612	0.778	0.126	0.569	0.945
TA	0.748	0.988	0.143	0.446	1.324
NCA	0.570	0.545	0.135	0.546	0.859
RET	0.296	0.831	-0.300	0.140	0.920

All financial statements variables are on a per share basis and scaled by beginning-of-period price.

* Standard Deviation

E = net income before zakat and tax

CA = current accruals

CFO = cash flow from operations

TA = total accruals

NCA = non-current accruals

RET = return of stock

The role of total accruals magnitude

Table 2 provides the empirical results of tests that aim to determine whether cash flows will be a relatively poor measure of firm performance when absolute total accruals are large (that is, when earnings and cash flows differ by the greatest magnitude). Panel A of Table 2 presents the adjusted R-squared and the coefficients of separate regression for each quintile level. Panel B of Table 2 presents Spearman rank correlations for each quintile level. Spearman correlations used as an additional test due to small sample size at the quintile level, especially for longer measurement intervals.

Observations in Table 2 are ranked on the basis of the absolute total accruals [abs(TA)] to two quintiles. Quintile 1 contains observations where abs(TA) are small in magnitude, while quintile 2 contains observations where abs(TA) are large in magnitude. Both the regression tests and the Spearman correlation in Table 2 indicate that as abs(TA) increases, the association between cash flow from operation and security returns declines across quintiles over each interval. However, the cash flows/returns relation is stronger than the earnings/returns relations across quintile 1 over each interval. The R-squared on annually cash flows is 17.60% in quintile 1 and declines to 3.90% in quintile 2. In contrast, the R-squared on annually earnings is 6.20% in quintile 1 and increases to 17% in quintile 2.

Table 2.

Panel A: Tests comparing the association of earnings and cash flow from operation with annual stock returns across two quintiles which formed based on the absolute value of total accruals. Quintile 2 contains firm-observations with the absolute value of total accruals that are above the median of the absolute value of the total accruals

	E		CFO	
	Cof.	Adj R ² (%)	Cof.	Adj R ² (%)
Panel A: Annual pooled data				
Quintile 1	0.825	6.20	0.581	17.60
Quintile 2	0.848	17.00	0.090	3.90
Panel B: Two-year pooled data				
Quintile 1	1.378	28.80	0.713	43.30
Quintile 2	1.195	41.40	0.188	14.00
Panel C: Five-year pooled data				
Quintile 1	1.877	42.20	0.620	46.30
Quintile 2	1.157	59.00	0.454	8.90

Panel B: Spearman Correlation between Earnings and cash flow from operation with annual stock returns across two quintiles. Quintile 2 contains firm-observations with the absolute value of total accruals that are above than the median of the absolute value of the total accruals

	E	CFO
	Corr.	Corr.
Panel A: Annual pooled data		
Quintile 1	0.267**	0.393**
Quintile 2	0.519**	0.388**
Panel B: Two-year pooled data		
Quintile 1	0.550**	0.667**
Quintile 2	0.730**	0.319*
Panel C: Five-year pooled data		
Quintile 1	0.669**	0.698**
Quintile 2	0.830**	0.419*

Obviously, this fluctuation in the earnings and cash flows association with security returns could mean that total accruals is not important as aggregate accruals in mitigating mismatching and timing problems in cash flow from operation.

The role of current accruals magnitude

While the previous section investigated the role of total accruals in the cash flows/returns relation, the following two sections seek to evaluate the contribution of the disaggregation of total accruals into current and non-current to the contemporaneous association between earnings and returns. The existing section focuses on the effect of current accruals on the association between cash flow from operation and security returns in the Saudi context. Current accruals normally reverse within one year and, therefore, expected to mitigate temporary mismatching problems in cash flow from operations. Thus, firms with more volatile current accruals requirements are expected to have, relatively to earnings, low association between cash flow from operation and security returns.

Table 3 performs identical test to those conducted for the total accruals. Table 4 presents results of quintile regressions in Panel A and Spearman correlations in Panel B where observations are ranked based on the absolute value of the current accruals [$\text{abs}(\text{CA})$]. Quintile 1 contains observations where $\text{abs}(\text{CA})$ is small in magnitude, while quintile 2 contains observations where $\text{abs}(\text{CA})$ is large in magnitude. With the exception of quintile 1 in the one-year interval, for each measurement intervals the R-squared on CFOs are smaller in magnitude to those of earnings in both quintiles 1 and 2. For each interval, the R-squared on earnings in quintile 2 are of similar magnitude to those reported in quintile 1. This is contrast with the results for cash flows for each interval. In fact, the R-squared in quintiles 1 are always smaller than those reported in quintile 2. For example, the R-squared on annually cash flows is 14.20% in quintile 1 and declines to 5.10% in quintile 2.

The coefficient on cash flows also declines in size across quintiles over each interval. For the annually interval, the coefficient on cash flows is 0.821 in quintile 1 and an insignificant 0.101 in quintile 2. Similar declines are observed in the two- and five-year intervals, but with significant value. One thing that is worth noting here is the large decline in the cash flows coefficients, in which associated with R-squared declines as well. While the coefficient on earnings declines also across quintiles over each interval, this declines is smaller relative to that of cash flows coefficient. Besides, the R-squared on earnings do not decline, but instead is increasing across quintiles. In summary, the evidence is consistent with the literature that current accruals are playing an important role in improving earnings' ability to measure firm performance.

Table 3.

Panel A: Tests comparing the association of earnings and cash flow from operation with annual stock returns across two quintiles which formed based on the absolute value of current accruals. Quintile 2 contains firm-observations with the absolute value of current accruals that are above than the median of the absolute value of the current accruals

	E		CFO	
	Cof.	Adj R ² (%)	Cof.	Adj R ² (%)
Panel A: Annual pooled data				
Quintile 1	1.352	11.20	0.821	14.20
Quintile 2	0.841	19.20	0.101	5.10
Panel B: Two-year pooled data				
Quintile 1	1.979	42.20	0.784	24.70
Quintile 2	1.131	43.40	0.226	20.90
Panel C: Five-year pooled data				
Quintile 1	2.388	57.10	0.815	37.60
Quintile 2	1.299	63.00	0.466	33.80

Panel B: Spearman correlation between earnings and cash flow from operation with annual stock returns across two quintiles. Quintile 2 contains firm-observations with the absolute value of current accruals that are above than the median of the absolute value of the current accruals

	E	CFO
	Corr.	Corr.
Panel A: Annual pooled data		
Quintile 1	0.363**	0.415**
Quintile 2	0.446**	0.242**
Panel B: Two-year pooled data		
Quintile 1	0.686**	0.645**
Quintile 2	0.750**	0.522**
Panel C: Five-year pooled data		
Quintile 1	0.694**	0.679**
Quintile 2	0.817**	0.654**

The role of non-current accruals magnitude

Non-current accruals, e.g. depreciation and amortization, by definition take several years to reverse. While non-current accruals component cause inaccuracy in current (periodic) earnings, this inaccuracy (error) will diminish as the measurement interval increases. That is, the measurement error becomes less important as measurement interval increases. Therefore, non-current accruals, relative to current accruals, are not important to reduce mismatching problems in cash flow from operations. Thus, the non-current accruals/returns relation is expected to improve as the measurement interval increases. In other words, cash flows/returns relation is not expected to decline as the absolute non-current accruals increases [abs(NCA)].

When observations are ranked on $\text{abs}(\text{NCA})$, Table 4 suggests that cash flows from operations exhibit no obvious decline in its association with security returns. Instead, the relation is improving across quintiles over each interval. The R-squared on annually cash flow is 0.30% in quintile 1 and increases to 3.10% in quintile 2. Over the two-year interval, the R-squared increases from 1.60% in quintile 1 to 16.70% in quintile 2. Finally, over the five-year interval, the R-squared increases from 0 in quintile 1 to 6.50% in quintile 2.

Table 4.

Panel A: Tests comparing the association of earnings and cash flow from operation with annual stock returns across two quintiles which formed based on the absolute value of non-current accruals. Quintile 2 contains firm-observations with the absolute value of non-current accruals that are above than the median of the absolute value of the non-current accruals

	E Cof.	Adj R² (%)	CFO Cof.	Adj R² (%)
Panel A: Annual pooled data				
Quintile 1	0.291	0.40	0.103	0.30
Quintile 2	0.761	11.00	0.084	3.10
Panel B: Two-year pooled data				
Quintile 1	0.923	15.80	0.219	1.60
Quintile 2	1.145	33.00	0.209	16.70
Panel C: Five-year pooled data				
Quintile 1	0.816	5.10	0.215	-2.00
Quintile 2	1.797	51.40	0.321	6.50

Panel B: Spearman correlation between earnings and cash flow from operation with annual stock returns across two quintiles. Quintile 2 contains firm-observations with the absolute value of non-current accruals that are above than the median of the absolute value of the non-current accruals

	E Corr.	CFO Corr.
Panel A: Annual pooled data		
Quintile 1	0.155	0.291**
Quintile 2	0.477**	0.372**
Panel B: Two-year pooled data		
Quintile 1	0.589**	0.402**
Quintile 2	0.707**	0.411**
Panel C: Five-year pooled data		
Quintile 1	0.325	0.291
Quintile 2	0.797**	0.396

Thus, non-current accruals appear to improve the ability of cash flows as a measure of firm's performance. Also, the results indicate that non-current accruals are less important to reduce mismatching and timing problems in cash flows from operations. Accordingly, the null hypothesis, there is no difference between the association between security returns and cash flow relative to the association between security returns and accruals as the absolute magnitude of non-current accruals increases, is rejected.

The impact of the length of the firm's operating cycle on the relationship between the cash components of earnings and security returns of Saudi firms

Generally speaking, the results in the previous sections indicate that cash flows have a lower association with stock returns in firms experiencing large changes in their working capital requirements in the SSM. Panel A of Table 5 provides descriptive statistics on firms' operating and trade cycles. The average (median) of operating cycle in the sample is 311 (231) days. That is, it takes the average (median) firm in the sample 311 (231) days from receiving of inventory to produce a product, to sell the product and receive the cash from customers. The average (median) trade cycle is 171 (142) days.

Panel B of Table 5 analyzes firm-level correlation between the length of the operating (trade) cycle and the variability of the change in working capital. The results suggest that there is an association between the firm's operating cycle and the firm's volatility of working capital, the correlation is 0.148. The results reveal that the association between the firm's operating cycle and the firm's volatility of working capital (0.148) is stronger than the association between the firm's trading cycle and the firm's volatility of working capital (0.065).

In fact, operating and trade cycle depend on the type of industry in which the firm is operating, hence, measuring the operating and trade cycle are very sensitive to outliers caused by the industry type. Therefore, we calculate the average industry operating (trade) cycle by first calculating firm-specific average operating cycle and then taking the average across firms in the same industry. A similar procedure is used to obtain the trade cycle. Panel C of Table 5 reports the Spearman correlation between the length of the average operating (trade) cycle for the industry and the R-squared from regression performed by industry of stock returns on earnings or stock returns on cash flow from operations. The results indicate negative and insignificant correlation of -0.738 between R-squared from earnings and the length of operating cycle and negative and insignificant correlation of -0.949 between R-squared from earnings and the length of trade cycle. The negative correlation means that industries with long operating (trade) cycle tend to have weaker association between stock returns and cash flow from operations. The results show that cash flow from operation exhibit lower negative correlation with the length of the operating (trade) cycle, however they are not significant. The overall results suggest that accruals, relative to cash flows, do not play more important role in firms with long operating cycles. That is, the ability of cash flows to measure firm's performance is not declining as the length of the operating cycle increases.

Table 6. Descriptive statistics on the operating and trade cycles (in days) and Pearson correlation between the explanatory power of earnings and cash flow from operation and the average length of the industry operating or trade cycle; annual observations 1995-1999

Panel A: Descriptive statistics

Variable	n	Mean	S.E. Mean	S.D. ²	Lower quartile	Median	Upper quartile
Operating cycle	153	311	22	272	136	231	336
Trade cycle	114	171	15	163	86	142	225

Panel B: Spearman Correlation between the absolute current accrual and the length of the operating or Trade cycle at the firm level

	Operating cycle	Trade cycle
Corr. with abs. current accruals	0.148	0.065
P-value		
n	152	113

Panel C: Spearman correlation between R² from 4 industry-specific regressions of stock returns on earnings or stock returns on cash flow with average industry operating or trade cycle

	Operating cycle	Trade cycle
R ² from earnings	-0.738	-0.949
R ² from cash flow from operation	-0.400	-0.400

VI. Conclusion

This paper provides, to my knowledge, the first empirical evidence on the value relevance of accruals components in Saudi Arabia. The focus of the paper is to examine the association between accruals components with the security returns of Saudi firms. This paper argue that although accruals improve earnings' association with stock returns, certain accruals are less likely to mitigate timing and matching problems in cash flow. The contribution made by this paper is to document benefits of accrual accounting. Overall, the evidence suggests that accruals play an important role in improving the ability of earnings to reflect firm performance. Using a sample of 52 firms from the period 1995-1999, the empirical evidence suggests that total accruals is not important as aggregate accruals in mitigating mismatching and timing problems in cash flow from operation. The empirical tests provide evidence consistent with, and comparable to, those reported in developing countries in terms of the important role of current accruals in improving earnings' ability to measure firm performance. Also, the results indicate that non-current accruals are less important to reduce mismatching and timing problems in cash flow from operation. Finally, the evidences show that the ability of cash flows to measure firm performance is not declining as the length of the operating cycle increases.

Implications of this study apply to analysts and investors, educators, standards setters, Capital Market Authority, and firm management in Saudi Arabia. Analysts and investors need to be aware of the characteristics of components of earnings in order to help forecast future earnings and to predict equity market values. Educators need to discuss earnings components in their classes given the result of this study. Standards setters and Capital Market Authority need to be aware of characteristics of earnings components for setting the disclosure requirements of SSM.

Future studies in Saudi context might want to consider the investigation of the role of earnings components in predicting contemporaneous equity values, incorporating the implications of these findings on earnings management and earnings quality, and the examination of the value relevance of other accounting variables, such as general and administrative expenses, depreciation expenses, and Zakat and income taxes. Another avenue for future research is to explore the reasons for earnings' superiority over cash flows in SSM different industries. We call for further MBAR in Saudi Arabia to increase the investors' knowledge and to match the new developments in SSM. Thus, we call upon the newly Capital Market Authority and SOCPA to support this line of research.

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Appendix 1
List of firms Used in This Study

Sector	Company Name	Paid-up Capital at End of 1999
Banking Sector	1. Riyadh Bank	44,000,000,000
	2. Aljazirah Bank	600,000,000
	3. Saudi Investment Bank	585,000,000
	4. Saudi Hollandi Bank	420,000,000
	5. Saudi French Bank	1,800,000,000
	6. Saudi British Bank	1,600,000,000
	7. Arab National Bank	1,500,000,000
	8. Saudi American Bank	3,153,846,000
	9. Alrajhi Invetment Bank	2,250,000,000
Industrial Sector	10. Saudi Basic Industries Co.	10,000,000,000
	11. Saudi Ceramic Co.	250,000,000
	12. Savola Co.	550,000,000
	13. National Industrialization Co.	600,000,000
	14. Saudi Pharmaceutical Co.	600,000,000
	15. National Gas Co.	500,000,000
	16. National Gypsum Co.	144,000,000
	17. Food Products Co.	200,000,000
	18. Saudi Industrial Development Co.	400,000,000
19. Alahsa Development Co.	300,000,000	
Cement Sector	20. Arabian Cement Co.	600,000,000
	21. Yamamah Cement Co.	450,000,000
	22. Saudi Cement Co.	1,020,000,000
	23. Qassim Cement Co.	450,000,000
	24. Southern Cement Co.	1,050,000,000
	25. Yanbu Cement Co.	1,050,000,000
	26. Eastern Cement Co.	645,000,000
	27. Tabuk Cement Co.	700,000,000
Services Sector	28. Saudi Hotels & Resorts Co.	500,000,000
	29. Saudi Real Estate Co.	600,000,000
	30. National Shipping Co.	1,997,368,387
	31. Saudi Public Transport Co.	1,000,000,000
	32. Saudi Automotive Services Co.	420,000,000
	33. Almawashi Co.	1,200,000,000
	34. Aseer Co.	250,000,000
	35. Taibah Investment & Real Estate Co.	750,000,000
	36. Makkah Construction Co.	1,405,319,100
	37. Saudi Land Transport Co.	300,000,000

	38. Riyadh Development Co.	1,000,000,000
	39. National Agr. Marketing Co.	26,826,000
Electricity Sector	40. Central Saudi Elect. Co.	8,000,000,000
	41. Western Saudi Elect. Co.	7,400,613,000
	42. Eastern Saudi Elect. Co.	4,151,004,000
	43. Southern Saudi Elect. Co.	3,564,410,000
Agricultural Sector	44. National Agricultural Co.	400,000,000
	45. Qassim Agricultural Co.	245,564,905
	46. Hail Agricultural Co.	300,000,000
	47. Tabuk Agricultural Co.	200,000,000
	48. Saudi Fisheries Co.	100,000,000
	49. Eastern Agricultural Co.	178,343,450
	50. Aljouf Agricultural Co.	200,000,000
	51. Beshah Agricultural Co.	32,122,150
	52. Gizan Agricultural Co.	250,000,000

ملائمة عناصر الاستحقاق المحاسبي في تقييم شركات المساهمة السعودية

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ملخص البحث. يقدم هذا البحث شواهد مبيّنة على التجربة لمكونات الاستحقاق من خلال التركيز على دراسة العلاقة التي تربط بين مكونات الاستحقاق وعائدات الأسهم في الشركات السعودية. وتستدل الورقة على أنه رغم كون الاستحقاقات تؤدي إلى تحسين العلاقة في عائدات الأسهم، إلا أن هناك استحقاقات معينة ليس من المؤمل أن تؤدي إلى تقليل المشاكل المتعلقة بالتوقيت الملائم والمضاهاة في التدفق النقدي. وتتمثل مساهمة البحث في توضيح أهمية عناصر الاستحقاق في تقييم المنشآت السعودية. وبصورة عامة فإن النتائج تدل على أن عناصر الاستحقاق تلعب دوراً مهماً في تحسين مقدرة العائدات على عكس أداء الشركات. وتدل الشواهد التجريبية لعينة من الشركات المساهمة أخذت للفترة ما بين ١٩٩٥ - ١٩٩٩ م، على أن إجمالي الاستحقاقات أقل أهمية من الاستحقاقات المتراكمة فيما يختص بتخفيف مشاكل التدفق النقدي للعمليات المتعلقة بعدم ملاءمة التوقيت والمضاهاة. كما تتوافق النتائج التي توصل إليها البحث في المملكة العربية السعودية مع تلك التي تشمل عليها الدراسات في الدول النامية فيما يتعلق بأهمية دور الاستحقاقات الجارية في تحسين مقدرة العائدات على قياس أداء الشركات. كما تدل النتائج أيضاً على أن الاستحقاقات غير الجارية ليس لها أهمية كبرى في تقليل مشاكل عدم ملاءمة التوقيت والمضاهاة في التدفق النقدي من العمليات. وتشير النتائج إلى أن مقدرة التدفقات النقدية على قياس أداء الشركات لا تقل بزيادة طول الدورة التشغيلية للمنشآت في السعودية.

إن النتائج التي وصلت إليها هذه الدراسة يمكن أن تفيد المحللين والمستثمرين وواضعي المعايير وهيئة السوق المالية ومديري الشركات بالمملكة العربية السعودية. فالإلام بخصائص مكونات الإيرادات يساعد المحللون والمستثمرون في التنبؤ بالعائدات المستقبلية، ويساعد المسؤولين عن المعايير وهيئة السوق المالية في تحديد متطلبات مشاريع المعايير.