

# Investigating Relationship between Accruals, Cash Flow and Profitability with Stock Return in Firms Accepted in Tehran Stock Exchange

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## Abstract

Accruals are non-cash items of income and represent adjustments made for cash flows that do not create a benchmark for profits that are generally influenced by maturity and cash payments, and increase expected returns of profitability and reduction of offsetting liabilities. The results indicate that operating profitability is based on liquidity of profitability factor, and, moreover, adjusted operating profit based on operating cash flow is predicted at current yield stage. An investor can increase a Sharp strategic ratio by adding an adjusted operating profit factor to a larger investment position.

**Keywords:** Accruals; Operating profit; Adjusted operating profit based on operating cash flow.



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## 1. Introduction

The expected return on profitability increases with accruals (Ball *et al.*, 2015). Accruals are adjustments that accountants apply in relation to operational cash flow to better measure the performance in period (Dechow, 1994). Sloan (1996) has proven a strong link between accruals and expected returns. This relationship, defined as unconventional accruals, is not explained by Fama and French's three-factor model, five-factor modified model and Novy-Marx (2013) or Hou *et al.* (2015). In addition, unusual items are often enhanced when they are valued by asset valuation models, which include accruals-based profitability criteria. Empirical research has shown that cash-based profitability is a measure of profitability that is separate from accruals, and better explains expected return on profitability and net income, all of which includes accruals. The adjusted operating profitability based on cash flow reflects expected performance. In fact, it would be better for investors to only have cash-based operating profit as an investment opportunity, rather than adding accruals and profitability strategies (Ball *et al.*, 2016).

It's always possible that the information that a firm provides is not right, so there may be many risks associated with firm that one of them is information risk. That is, the information that firm wants to display in its financial statements may always be something far from reality or deceptive. On this basis, profit provided in the form of profit and loss can not indicate that the entity will have sustained ability to obtain the amount of profit or how much of this profit can be divided as cash between shareholders because all shareholders are willing to pay an almost constant amount of dividends annually. Stability in dividends is a sign of firm's low risk. Even if a firm suffers losses in a year, it should continue to pay dividends to prevent a negative attitude from current and future investors. By doing so, shareholders will be more likely to interpret these losses temporarily.

## 2. Theoretical Foundations and Research Background

### 2.1. Theoretical Foundations

The primary objective of financial reporting is to provide information that will help investors assess price, timing and risk of future cash flows. However, information that is most useful in assessing future cash flows is controversial. Some analysts and investors claim that cash flows are the main criterion for valuation. For example, Copeland *et al.* (1990) argue that although traditional accounting standards can be a useful tool for understanding cash flow returns, these traditional measures can not replace direct indexes such as cash flows. On the other hand, some accountants believe profit is the main source of information. For example, in conceptual statement No. 1 of Financial Accounting Standards Board, it has been stated that better profit information than cash flow information provides investors with prospect of future cash flows from entity (Bartov, 1991).

Today, corporations with high accruals earn less future returns because they have less cash-based profitability. When they are placed in an asset pricing model without a benchmark of profitability, accruals predict returns because they are inversely related to non-profit elements of profitability. Ball *et al.* (2015) found that operating profitability would better outline the expected return on segmental performance than other benchmarks such as gross margin. The economic implications of this issue can be to compare the maximum portfolio created by Sharp ratios of four factors (market, size, value, and concurrence) and a combination of these factors based on accruals, operating

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profitability and cash-based profitability. Combination of cash-based operating profitability factors with four traditional factors leads to highest ratio of Sharp. Jones (1991) defines the difference between profits and cash flows from operations as accruals, and divides it into two parts. In all research related to accruals, this division is accepted by researchers. (A) Non-discretionary accruals and (b) optional accruals.

The role of accounting for accruals is to facilitate the measurement of firm's operating period (Dechow, 1994). To this end, accountants increase firm's earnings by value of goods and services that are provided to customers over a period with a cash equivalent. The income that increases over a period is generally different from the cash received during the same period, as some cash receipts are received in future periods or prior periods. Accountants make adjustments to these cash receipts by registering earnings accruals. Similarly, accountants calculate costs as the cost and consumption in production and transfer of goods and services to customers based on expected value of cash payments for used resources. The costs of accounting are distinct from timing of their payment. Accounting benefits are defined as accruals-based income minus accruals-based costs. Profit reflects accounting estimates of value added by firm to products and services provided to customers over a period (Ball *et al.*, 2016).

The timing difference between cash flow and profit is based on two primary sources. The initial source of shocks is timing of cash inflows and outflows (payment shocks). Payment shocks are due to external events of firm and management external activities. These shocks affect cash inflows and cash outflows and are a source of fluctuations in cash-backed fiscal years. Payment shocks can also be the result of managing optimal cash flow and managing cash flow through manipulation. As an example of optimal cash flow management, manager can delay payments to suppliers who provide payment terms to their customers. As with other cases, such a delay would result in an increase in current flows, but the cash flow of the future period will be reduced, an example for managing cash flow manipulation is that a manager who is assessed on a cash flow basis, he can show performance of reported issue desirable by providing a delay in payment to suppliers. Accruals-based accounting tends to refine this fluctuation from profit by recording revenue based on expected cash inflow of goods and services and refinancing costs based on expected outflow of cash flows for used resources (Fama and French, 2015). The second primary source is timing difference between cash flow and profit in net investment in working capital due to positive or negative growth.

Growth often changes the optimal level of working capital, such as the inventory of materials and goods and accounts receivable, which, by equivalence, will affect the cash flow of current period. Conversely, accruals and operating profitability, cash-based operating profitability, include information on payment shocks and growth. While accruals-based profits aim to provide an appropriate benchmark for measuring current performance that managers can not easily manipulate through receiving and paying scheduling, cash-based profitability criterion has ability to show more aware of future stock returns (Novy-Marx, 2013). Reviewing the theoretical foundations and financial reporting objectives suggests that one of the objectives of financial reporting is to assist investors and creditors in predicting future cash flows. Many financial analysts and investors believe that cash flow criteria, including free cash flows, are very useful when examining financial health and corporate prospects. Free flow from this perspective is important to allow managers to explore opportunities that increase the value of a firm's stock. Without having cash, developing new products, doing business education, paying cash benefits to shareholders and reducing debt is impossible.

Information about cash flows can be useful in assessing profitability quality of a profit unit, and profitability quality refers to correlation of profit to cash flow. When correlation between profits and cash flows associated with it is higher the profitability quality will be greater too. Cash flows from operating activities are one of the main indexes of assessing business unit's ability to repay loans and maintain the operational capability of business unit and pay dividends without using external sources. If some cash flows can not be restricted to specific headings, such items are classified as cash flows from operating activities.

Accordingly, the purpose of this study is to investigate payment shocks and profitability with stock returns in firms listed in Tehran Stock Exchange.

## 2.2. Experimental Background

Dechow and Dichev (2002) examined the role of accruals in order to measure firm performance over a period of time. They conclude that characteristics of each firm, such as absolute magnitude of accruals, operating cycle length, standard deviation of sales, cash flows of accruals, and profits and size of firm, can be used as a tool for assessing quality of profit. Skinner (2003) validated the hypothesis of information content of cash dividends and hypothesis of messaging, and concluded that cash dividends provide information about future earnings.

The relationship of future profits and current profits to firms that pay dividends is stronger than those do not pay dividends, and this relationship gets stronger for firms that distribute more cash dividends. Lev and Nissim (2004) showed that the negative relationship between accruals and stock returns with assumption of a lack of market efficiency led to this fact that individuals, using these relationships, take advantage of arbitrage opportunities and benefit. They showed that these contradictions have not been diminished over the last decade. But because of transactions volume and cost of information, the individuals speed is not too high by use of accruals.

Francis *et al.* (2005) showed that firms with a weaker quality of accruals have a higher interest cost ratio and lower debt ratios. The results of their research indicate that voluntary and non-discretionary accruals are important in describing profit variations, but the effect of non-discretionary accruals is higher than optional accruals. Chambers (2005) showed that investors are trying to predict the sustainability of accruals and cash flows, but they are not able to reflect on prices. Accordingly, in some firms, sustainability of accruals is more and more realistic and for some others less than real.

Francis *et al.* (2008) examined the way in which accruals were valued and showed that in market valuation, accruals related to receivables are more important than other accruals. Hirshleifer *et al.* (2009) reviews accruals, cash flow of firm, historical profit and its components with stock returns and results show that accruals have a positive and strong relation with stock returns and cash flow has the opposite predictive power in comparison to stock returns. Chen and Shane (2014) have shown that abnormal positive (negative) changes in cash flow have less (more) sustainability than normal positive (negative) changes in cash flow. Foerster *et al.* (2015) examined the ability of cash flow to describe the average return on profit-based profitability criteria.

The results confirm the ability of cash flow to return on average profitability based on profitability criteria. Artikis *et al.* (2016) examined the outcomes of cash and accruals components in earnings sustainability and stock return forecasting and showed that future stock returns have the strongest positive correlation with the most durable component of cash from income and investors, and investment strategies is also possible with high investment in cash items in firms that have a large cash distribution to stockholders.

Saghafi and Kordestani (2004) investigated the relationship between operating cash flow, profit and profit components, profit predictability and sustainability of reported earnings. Their results showed market reaction to rise in corporate cash flow in contrast to positive predictions. Arab Mazar Yazdi *et al.* (2007) examined these data in predicting future operational cash flows by splitting earnings into cash and accruals components, and their results indicate that profit components reflect different information about future operating cash flows. Aghaei *et al.* (2010) examined the ability of cash flows and accruals components to predict cash flows. The results showed that cash flow model and accruals components have better predictive power than profit model. Khodamipour and Poorehmad (2010) examined ability of accruals, operating profit and cash flows to predict operationing cash flows, taking into account specific time lags.

The results showed that there is a significant relationship between future operationing cash flows and operating profit. Bulu *et al.* (2012) examined the information content of profit components by managers and investors in predicting earnings and stated that process of stock valuation requires various information in relation to profit. Aghaei *et al.* (2014) analyzed the effect of operating cash flows separation and accruals on ability to predict cash flows and future earnings. The results showed that ordinary cash flows have more ability than unusual cash flows to predict cash flows and future earnings, also ability of ordinary accrual agents is more than unrealistic accrual items in predicting future cash flows and future earnings.

### 3. Research Hypotheses

Hypothesis 1: Operating profit has ability to predict firm returns

Hypothesis 2: cash-based operating profit has ability to predict firm returns

Hypothesis 3: Accruals have ability to predict firm returns

## 4. Data and Regression Model

### 4.1. Elective Sample and Statistical Community

This research is a correlation type and research methodology is post-event type. To test hypotheses, multivariate regression model has been used for panel data type (cross-sectional). The statistical population of this research is all firms listed in Tehran Stock Exchange during period of 2006-2015. In this research, a non-probabilistic target sample was used to select a sampling method. In an unplanned sampling plan, those members of statistical community are selected to match the criteria that researcher intends to be matching. In this research, the sample is started with entire statistical society and selected after considering following conditions; these limits include their financial period ending on March 20; each firm should have sufficient data in all years 2006-2015, that is, during entire period of this period, actively participate in Tehran Stock Exchange; each firm will be traded for at least six months each year, and selected variables will be available in this research. Based on these criteria, 91 firms were selected as final statistical sample.

### 4.2. Research Variables

In this research, independent variable is social responsibility, dependent variable is institutional ownership, interfere variable is financial performance, control variables include firm size, current ratio, financial leverage, real capital, earnings per share and firm life (Ball *et al.*, 2016).

#### 4.2.1. Independent Variable

1- Adjusted operating profit based on operating cash flow: Cash flows are any increase or decrease in cash from transactions with real or legal entities independent of legal personality of business entity and from other events. Any activity that increases cash flow of an institution is cash flow entry and any activity that causes institution to use cash is known as cash outflow. Operating cash flow is a cash flow that firm creates through its business activities.

Operating cash flow can be used to control dividend quality of firms. For example, if a firm reports a profit in form of a profit or loss, but its operating cash flow is negative, it may have used bold accounting techniques (high risk aversion approach) (Ball *et al.*, 2015).

$$CbOP_{it} = OP_{it} - \blacktriangle RECT_{it} - \blacktriangle INVT_{it} - \blacktriangle XPP_{it} + \blacktriangle (DRC_{it} + DRLT_{it}) + \blacktriangle AP_{it} + \blacktriangle XACC_{it}$$

$CbOP_{it}$  : Adjusted operating profit based on operating cash flow

$OP_{it}$  : Operating profitability

$\blacktriangle RECT_{it}$  : Changes in accounts receivable

- ▲  $INVT_{it}$  : inventory changes
- ▲  $XPP_{it}$  : Changes in prepayment
- ▲  $(DRC_{it} + DRLT_{it})$  : Deferred income changes
- ▲  $AP_{it}$  : Business Payments Trading Changes
- ▲  $XACC_{it}$  : Changes in Expenditures

All changes are calculated year by year. The items that appear in cash-based operating profitability statement balance sheet are as follows:

$$CbOP_{it} = OP$$

- RECCH

- INVCH

- APALCH

RECCH: Decrease in accounts receivable

INVCH :Decrease in inventories

APALCH :Increases in accounts payable and debts owned

#### 4.2.2. Operating Profitability

Taking into account firm's profit before tax, operating profit margin reflects success of firm's management in generating profits of firm's current operations. This ratio reflects the fact that for each monetary unit, amount of sales, amount of operating profit (profit after deduction of operating expenses) income was taken. High operating margin ratios represent success of management in controlling firm costs or outpacing firm sales growth in its cost growth. Operating profit will allow shareholders to compare profitability of firms that typically do not disclose operating costs and cost of sold goods. Operating profit is usually more reliable. Because is less manipulated by accounting tricks. Naturally, due to the fact that this ratio includes all costs, including sales costs and operating costs, its value is less than marginal profit margin (Ball *et al.*, 2015).

This variable is calculated by definition of Ball *et al.* (2015) as follows:

$$OP_{it} = REVT_{it} - COGS_{it} - XSGA_{it} - XRD_{it}$$

$OP_{it}$  : Operating profitability

$REVT_{it}$  : income

$COGS_{it}$  : cost of sold goods

$XSGA_{it}$  : Operating costs (administrative and organizational costs, distribution and sales)

$XRD_{it}$  : Research and development costs

3-Accruals: Accruals are temporary adjustments that transfer cash flows over time periods. The major benefit of this transfer is that adjusted figures provide a more accurate picture of firm's economic performance. Hribar and Collins (2002) argue that difference between net profit and operating cash flow is a correct criterion for all accruals, and that use of a balance sheet approach may lead to a systematic bias in accruals estimates. In this research, accruals have been calculated using a balance sheet approach based on Sloan (1996):

$$Accruals_{it} = \Delta ACT_{it} - \Delta Ch_{it} - \Delta LCT_{it} - \Delta DLC_{it} - \Delta TXP_{it} - DP_{it}$$

$Accruals_{it}$  :Accruals

▲  $ACT_{it}$  :Changes in current assets

▲  $Ch_{it}$  :Cash Changes

▲  $LCT_{it}$  :Current Debt Changes

▲  $DLC_{it}$  Changes in current debt ratio

▲  $TXP_{it}$  :Changes in Income Tax

$DP_{it}$  :Depreciation

The items in accruals balance sheet pattern that lead to a decrease or increase are as follows:

$$Accruals_{it} = - RECCH$$

- INVCH

- APALCH

- AOLOCH

- TXACH

RECCH: Decrease in accounts receivable

INVCH: Decrease in inventories

APALCH: Increases in accounts payable and debts owned

AOLOCH: Net change in other assets and liabilities

TXACH: Increase in income tax savings

#### 4.2.3. Dependent Variable

Stock return is realized return on equity  $i$  in year  $t$ , which is used as performance benchmark. The return on each share based on first and last prices of period as well as benefits of ownership in that period are calculated using the following formula:

$$R_{it} = \frac{(P_1 - P_0 + DPS + (P_1 - 1000)A + P_1B)}{P_0} \times 100$$

where in:

$R_{it}$  : actual return of firm  $i$  in period  $t$

$P_1$ : stock price at the end of period  
 $P_0$ : stock price at the beginning of period  
 DPS: Cash profit of each share  
 A: Percentage of capital increase from cash  
 B: percentage of capital increase from accumulated profit  
 (In above formula, 1,000 is NIS of each share )

$$R_{mt} = \left( \frac{TEDPIX_t - TEDPIX_{t-1}}{TEDPIX_{t-1}} \right) \times 100$$

$R_{mt}$ : Market yield in period t  
 TEDPIX<sub>t</sub>: Stock returns in period t

#### 4.2.4. Control variables

1. Financial leverage: This variable is obtained by dividing total book value of debts by total carrying value of assets at the end of fiscal year.

$$LEV = \frac{TD}{TA}$$

TD: book value of total debt,  
 TA: book value of total assets

2. Size of the firm: This variable is equal to natural logarithm of total sales at the end of fiscal year. Firms with more sales are likely to be more capable of meeting their obligations on time.

Size<sub>it</sub> = Log (TS)

TS: Total Sales

3. Logarithm of book value to market value (log (BE / ME)):

$$BE/ME = \frac{BE}{ME}$$

ME: market value of equity

BE: book value of equity

4. Natural Logarithmic for market value of equity (log (ME)):

log (ME)

ME: market value of equity

## 5. Research Findings

### 5.1. Descriptive Statistics

Table (1) represents descriptive statistics of experimental variables. This table shows what characteristics of research variables are, third column states that all data for all variables studied is 910 firm-year. This table contains indexes for describing research variables, including central indexes, dispersion indexes, and distribution pattern indexes. Stock returns were measured by difference in stock prices at the beginning of period and the end of period as well as percentage increase from place of profit, which is an average of 0/37, which indicates that this shows that total returns on stock are positive, which is between 2/466 and negative 0/927. The profitability logarithm is an average of 12/037 with a range of 16/16 and 7/53. This ratio reflects the fact that for each monetary unit, amount of sales, amount of operating profit (profit after deduction of operating expenses) income was taken. The adjusted operating profit ratio, based on operating cash flow divided by total assets, is about 0/133, with a range of between -0/96 and -0/35. It shows bold and conservative policies. Whatever the ratio is positive, conservative policies are chosen by managers.

The ratio of accruals accrued to total assets is an average of 0/040, with a range of 0/68 and 0/38, respectively. This ratio represents cash flows over time. Firm size is obtained through natural logarithm of total sales. The higher the value, the greater the firm's sales, and the average of which is 13/78.

Table-1. Descriptive analysis of research data

Kurtosis	Skewness	Standard Deviation	Min	Max	Mean	Average	Numbers	Variables
3.01	0.66	0.69	-0.97	2.46	0.25	0.37	910	R
2.98	0.06	1.61	7.53	16.59	12.01	12.03	910	OP
4.48	0.26	0.15	-0.35	0.69	0.12	0.13	910	CbOP
5.95	0.89	0.13	-0.38	0.68	0.02	0.04	910	Accrual
4.22	0.14	1.53	8.32	19.36	13.77	13.78	910	Size
3.11	-0.27	0.21	0.12	0.76	0.41	0.32	910	Lev
4.54	-0.21	0.82	-3.81	2.08	-0.48	-0.46	910	log(BE/ME)
2.85	0.13	1.52	9.57	18.62	13.69	13.65	910	log(ME)

### 5.2. Correlation between Research Variables

The most essential and at the same time the most basic method used in prediction research, is determination of correlation coefficient between predictive variables (independent) and dependent variable (predicted). Due to the fact that scales are distances, Pearson and Spearman correlation test was used and examined at 95% level. The results indicate that several patterns emerge. First, operating profitability criteria are highly correlated (Pearson, 0.845;

Spearman, 0.805). Second, accruals and operating profitability are positively correlated (Pearson, 0.163; Spearman, 0.130). Third, when we remove accruals from operating profitability, accruals and cash-based operating profitability are negatively correlated (Pearson, -0.252; Spearman, -0.280). This negative correlation shows that firms that profit from high yields are less profitable than those reporting little accruals. We investigate this negative relationship between accruals and cash-based operating profitability in Fama and MacBeth (1973) and discover high-yielding types. The results are summarized in the following table:

Table-2. Pearson and Spearman Correlation Coefficients Matrix

Regression							Variables
(7)	(6)	(5)	(4)	(3)	(2)	(1)	
0.20			2.30		2.09	2.14	Operating profitability logarithm
(0.40)			(5.85)		(5.29)	(6.25)	
	-0.75		-2.49	-1.97			Accruals
	(-1.74)		(-8.26)	(-6.30)			
2.21	2.27	2.48					adjusted operating profitability based on operating cash flow
(7.27)	(6.67)	(9.62)					
0.39	0.39	0.40	0.39	0.41	0.41	0.46	Natural logarithm of book value to market value
(5.87)	(6.06)	(6.33)	(5.89)	(6.33)	(6.25)	(7.37)	
-0.25	-0.24	-0.25	-0.25	-0.19	-0.26	-0.26	Natural logarithm of equity market value
(-4.09)	(-3.91)	(-3.92)	(-4.00)	(-2.92)	(-4.17)	(-4.24)	
3.2%	3.0%	3.2%	2.9%	3.1%	3.1%	3.1%	Adjusted coefficient of determination

### 5.3. Fama and Macbeth Regression

Table 3 shows average slope coefficient and t value of Fama and MacBeth (1973) regression of monthly stock returns on operating profitability, accruals, and cash-based operating profitability. Following the previous studies (Novy-Marx, 2013), control variables of natural logarithm for ratio of book value to market value, natural logarithm of equity market value and past returns for previous month and for previous 12 months, with exception of t-1 month is included in regression. To compare the explanatory power of operational profitability and accruals, we focus on value of T. The average coefficient estimate in Fama and MacBeth (1973) can be considered as a monthly return on long-term trading strategies in any part of the matrix.

T-value associated with Fama-Macbeth range is proportional to Sharp ratios of this internal financing strategy. Where T denotes the number of years in sample. Column (1) presents results in terms of operating profitability provided by Ball et al. (2015). In this column, only based on operating profitability variable and control variables. In remaining columns, there is a need for information on accruals and cash-based operating profitability. In column above, t value associated with operating profitability is 5.12. Then, we limit firms that have not lost value of accruals and cash-based operating profitability, t value for operational profitability is reduced to 5.04. In column 3, T is the value associated with negative accruals (3.39).

The results show normal accrual items documented by Sloan (1996). That is, firms with high accruals with average income, low returns. The results show that inclusion of a profitability factor in model asset pricing model worsens its ability to pricing classified accruals. Ball et al. (2015) found that operational profitability has more explanatory power than gross profit or net income.

Table-3. Fama and Macbeth regression results

First Part				Second Part				Variables Operating Profitability
Adjusted accruals based on operating cash flow				accruals of Cash Flow statement				
(8)	(7)	(6)	(5)	(4)	(3)	(2)	(1)	
0.15			2.66	0.97			2.33	Accruals
(0.18)			(5.75)	(1.13)			(5.12)	
-0.67			-2.18	-1.76				adjusted Operating profitability based on operating cash flow
(-1.83)			(-5.78)	(-5.23)				
	2.79	2.11				2.43		Natural logarithm of book value to market value
	(6.11)	(4.35)				(4.99)		
0.55	0.39	0.27	0.51	0.49	0.39	0.42	0.41	Natural logarithm of equity market value
(5.89)	(5.65)	(6.19)	(6.02)	(5.78)	(6.99)	(6.13)	(6.11)	
-0.17	-0.27	-0.23	-0.22	-0.33	-0.16	-0.32	-0.31	Variables
(-2.22)	(-4.04)	(-3.16)	(-2.88)	(-4.65)	(-2.43)	(-5.11)	(-3.78)	
2.8%	3.8%	3.6%	3.4%	2.9%	3.1%	3.3%	3.2%	

### 5.4. Alternative Characteristics

In constructing accruals and operating profitability criteria, based on cash provided in Table (4), a balance sheet approach has been used to calculate accruals. Hribar and Collins (2002) show that accruals drawn from balance sheet

can affect corporate events such as mergers, and sanctions. For example, a large increase in inventories or accounts receivable can be due to merger occurring between balance sheet date and the next. In analysis, we use balance sheet of accruals that are usually used in prepayment pricing studies used before. An alternative method that is not affected by such incidents of large corporations is calculation of accruals using cash flow statement information.

However, it was necessary to report cash flow statement of base year (2006) so that accruals data from that source were available before that date. To assess whether the results are affected by use of accruals on balance sheet, we estimate two characteristics. Initially, the criteria for accruals based on cash have been used. In second specification, we use cash flow statement of accruals to create both cash and cash-based accruals and operating profitability. The results for both characteristics of items presented in first part mimic the following table, although value of  $t$  decreases with respect to shorter period of sample. The difference between two tables is driven by an increase in absolute value of coefficient on accruals when we compute criterion of accruals using cash flow statement.

The results are consistent with accruals accountability balance sheet method, which reduces estimation of coefficient. In general, cash-based operating profitability has the strongest predictive power over profitability criteria considered in research.

Table-4. Results of alternative characteristics

Adjusted Operating Profitability Based On Operating Cash Flow			Accruals			Operating Profitability			Portfo
FF3	CAPM	Excess return	FF3	CAPM	Excess return	FF3	CAPM	Excess return	
-5.63	-4.76	0.63	1.81	1.04	3.00	-4.33	-2.89	1.14	1(low)
-3.82	2.32	1.55	1.55	1.67	3.25	-2.79	-1.05	2.06	2
1.55	1.87	1.06	1.95	1.77	2.99	-1.87	0.65	2.74	3
1.64	1.58	1.07	1.21	1.66	1.95	-1.25	0.99	2.76	4
1.57	1.64	1.61	0.95	1.64	1.91	-1.01	0.85	2.44	5
1.60	1.95	0.92	0.86	1.67	1.35	-1.22	0.62	2.88	6
1.85	1.66	1.07	0.93	1.95	1.87	-1.42	0.88	2.56	7
1.09	1.05	1.33	1.5	1.45	1.64	-1.29	1.09	2.45	8
1.86	1.74	1.64	1.29	1.58	1.27	-1.34	1.25	2.37	9
1.13	1.06	1.52	1.45	1.68	1.95	1.19	1.34	2.74	10 (high)
1.74	1.13	1.46	1.65	1.64	1.54	-1.08	1.85	2.65	1-10

## 6. Conclusion

The precision of profits components in their prediction will improve forecast of profits and can explain reliability and relationship of profits and cash flows. The theory of research assumes that stronger ability of accruals and current cash flows in predicting accruals and future cash flows is positively correlated with predicting future profits, sustainability (profit), and relationship of cash flow earnings. The use of accruals to predict future earnings components has economic implications that can lead to future profitability and sustainability. Separation of profits into operating cash and accrual items, as well as the separation of accruals, into five components of material and commodity inventory changes, changes in accounts receivable, changes in accounts payable, depreciation and other accruals, and then separation of operating cash flows into two main components and sub-module improves the forecast of future operating profit. While decomposition of main component of operating cash flow into two cash components from customers and cash payments to suppliers does not have much effect on improving forecast of future operating profit, an operating profitability criterion that is non-accruals. This measure is considerably relevant for operating profitability in explaining expected return level and accruing unusual accruals (Sloan, 1996). In fact, investors are better to act by adding cash-based operating profitability to their investment opportunities, rather than adding both accruals and profitability strategies. Evidence suggests average returns for profitable firms. In analysis, any increase in profitability is that there is no relation to cross-sectional value simply because of its obligations. The results show when using balance sheet data to calculate Sloan (1996), and when they use it to calculate cash flow figures of data from 1988, it is always possible that different time periods or accruals criteria can produce different results. When accruals make up operating profitability, a strong prediction of future stock performance is achieved. Accruals adjust current cash flow of current period with aim of better performing performance, and therefore accounting profit is more useful than cash-based approach in contractual literature. That is why accruals and cash elements share a prediction power associated with future returns. The results of this research show that cash-based profitability indicates strong signals of future returns.

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