

## Stability of Accruals and Cash Flows of the Companies Listed in the Tehran Stock Exchange

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**Abstract:** The accounting earnings consists of accruals and cash flows and provided as the most important items of information in the financial statements of the company. Because the accounting choices may be affected by the irregularities in accruals, it is essential to examine the managerial incentives in accounting practices as well as to identify factors affecting in irregularities in accruals. One of the factors that has been widely noted is the financial distress that has been used as an indicator between creditors and business units. In this study, financial distress and eccentricity of accruals listed companies in Tehran Stock Exchange were evaluated for the period 2009-2015 (630 years companies) using multiple regression, compared test and Levene test. The results show that consistent differences accruals and cash flows in firms with less financial distress is higher than the differences in companies with high financial distress.

**Key words:** Financial distress, promiscuity of accruals, accruals persistence, earnings persistence, most important, flows

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### INTRODUCTION

Identifying and reporting is realized and reported based on the accrual basis of accounting profit. Commonly used accrual basis leads to different reported earnings to net cash flow that the difference consist of accruals. Accruals are temporary adjustments to help estimating and forecasting future events and meet compliance problems while identifying and measuring revenues and expenses. Precise estimates of the current means a good agreement between accruals and cash flows but obviously any estimation is accompanied with errors. So, accruals could be affected by the operating environment of the company, intentional or inadvertent errors and be affected by the estimates used and thus the users of the financial statements may be doubtful to accruals and also the quality of earnings and accruals low quality is not satisfactory to investors because it represents a risk to the allocation of resources to the sector but also that it would divert resources from the project with real return on projects with efficiency unreal that will follow a lower economic growth. For this reason, researchers and practitioners of accounting profession concluded that more attention must be paid to assessing the quality of earnings and accruals quality (Akhund and Basirat, 2015). Less stable accruals associated with cash flows in predicting future earnings and promiscuity (pricing incorrectly) accruals were discussed for the first

time by and then investigated by other researchers (Pincus *et al.*, 2007). Subsequent researches, providing clear explanations about the sustainability accruals and identify irregularities affecting accruals, developed Sloan theories (Allen *et al.*, 2013). Less stable accruals results from the accruals errors measurement that can result in conservative and aggressive accounting policies (bold) (ibid). There are differences arising from the difference between the measurement errors accruals in connection with the management behaviors associated with these two types of policy. The risk of major errors is high in accounting measurements and future earnings will be reduced. The tendency of conservative accounting also led to the formation of negative accruals and may be aggregated accruals as a result of management bias (Watts, 2003). In fact, the probability of stability under accruals is more in the tendency of conservative accounting but there are differences in the sustainability of earnings and irregularities accruals in the business that conservative accounting or bold apply them. Because the accounting choices may affect the irregularities of accruals, it is essential to investigate the managerial incentives in the choice of accounting method along with the identification of factors affecting the irregularities of accruals. One of the fundamental factors that is widely referred to is financial distress that is considered as a marker between the creditors and the business units. Although, the measurement of financial distress in

previous research, mixed results are achieved on the impact of financial distress on incentive management (Sweeney, 1994). Hence, it can be concluded that financial distress will motivate the managers to apply the conservative accounting, especially when the business unit relies on the bank loans and needs to receive more bank facilities. So, there should be the differences between accounting choices between companies with and without distress funds this means that the difference should be the same between sustainability and-monthly accruals in these two companies (Dechow *et al.*, 2008).

The relationship between the two concepts is expressed as an important issue and interest of accounting researchers. The main discussion centered on better predict of future cash flows that the issue is being studied as earnings quality. So, one of the fundamental factors that affect all aspects of business units including quality affects profit, financial distress. Accordingly, in this study, financial distress and eccentricity accruals have been examined.

**Theoretical foundations of research:** Irregularities accruals noted that the current level of accruals is negatively correlated with abnormal return next years. These results suggest that the market does not recognize less stable revenue accrual component of the cash component. As a result, the revenue that overreacts to high accruals. The results have been both the most positive and negative accruals. When future earnings are reported, the market realizes that income is not stable period and overactions are reversed. Several researches were observed to find the cause of this phenomenon. Some of these abnormalities are known due to the inability of the investor to understand the mean-reverting tendency that the hypothesis established as accruals (Hafzalla *et al.*, 2011). Another reason arises to explain this phenomenon, arises by the agency theory. According to this theory, managers in order to better show the status of their business units, manipulation of accruals for profit taking. Find accruals misled the market and the reversal of previous accruals and unfold incorrect assessment, the return is negative (Fig. 1).

In the financial sphere when a company is experiencing financial distress is in trouble in the fulfillment of obligations to creditors. So, if it does not improve the company's financial distress, bankruptcy may result by Higgins (2008). Sweeney (1994) believes that most companies are in financial distress status as a result of poor management and economic distress.

Using the measure of common financial distress, two replaced levers and Altman Olson has shown that the differences between the persistence of accruals and cash

flows in the business units with distress are financially less are significantly high than the differences in firms with high financial distress. Irregularities of accruals are examined in previous research study but did not continue. These findings suggest that monitoring managerial behavior differences in accruals involuntary prevent firms are in distress. By studying existing research, it is clear that the irregularities of accruals were prevented (Dechow *et al.*, 2008). The reasons for irregularities have been proposed by researchers in connection with the review of accruals, the following (Dechow and Dichev 2002). Promiscuity of accruals, challenges the efficient market paradigm and accordingly, abnormal returns can be achieved by adopting a strategy based on publicly available information. Irregularities in accruals motivate incentive earnings management in managers. This shows that earnings can impact the real economy have plus the managers can be effective through the choice of accounting methods on the stock price impact potential. There is a strong relationship between earnings and stock returns in relation to cash flows and stock returns. This interpretation usually suggests this relationship that changes in the value of the company's profits better. The main reason for the accrual anomaly justification is to justify the strong relationship between earnings and stock returns (in the hypothesis of bias towards profit).

Irregularities accruals irregularities in financial crisis is unique in many ways. The first anomaly is strongest anomaly that has not been discussed too much and second the irregularity is not promiscuous accruals for real from all directions. Accounting accruals, profit ability is reflected in the company's performance improves, so that the timing and matching problems that are inherent in the cash flow will reach to a minimum. Accruals also allow early detection gives profit and loss (Chu, 2012). The financial crisis has shown that not to consider how leading companies and balance between the interests of shareholders and managers on the one hand and as well as the major shareholder and a member on the other hand have been causing irreparable damage (ibid).

Some researchers believe that investors benefit companies that disclose high quality to better understand and therefore fewer irregularities observed in the components of the company's profit. If the irregularities accruals were due to the limited ability of investors to evaluate the sustainability of these items, companies that investors expect highly skilled accounting information to interpret them will experience less irregularities in accruals (Hafzalla *et al.*, 2011). In recent decades, the financial situation is desperate and bankrupt companies have been a priority for the research. This type of research associated with earnings quality companies are rare

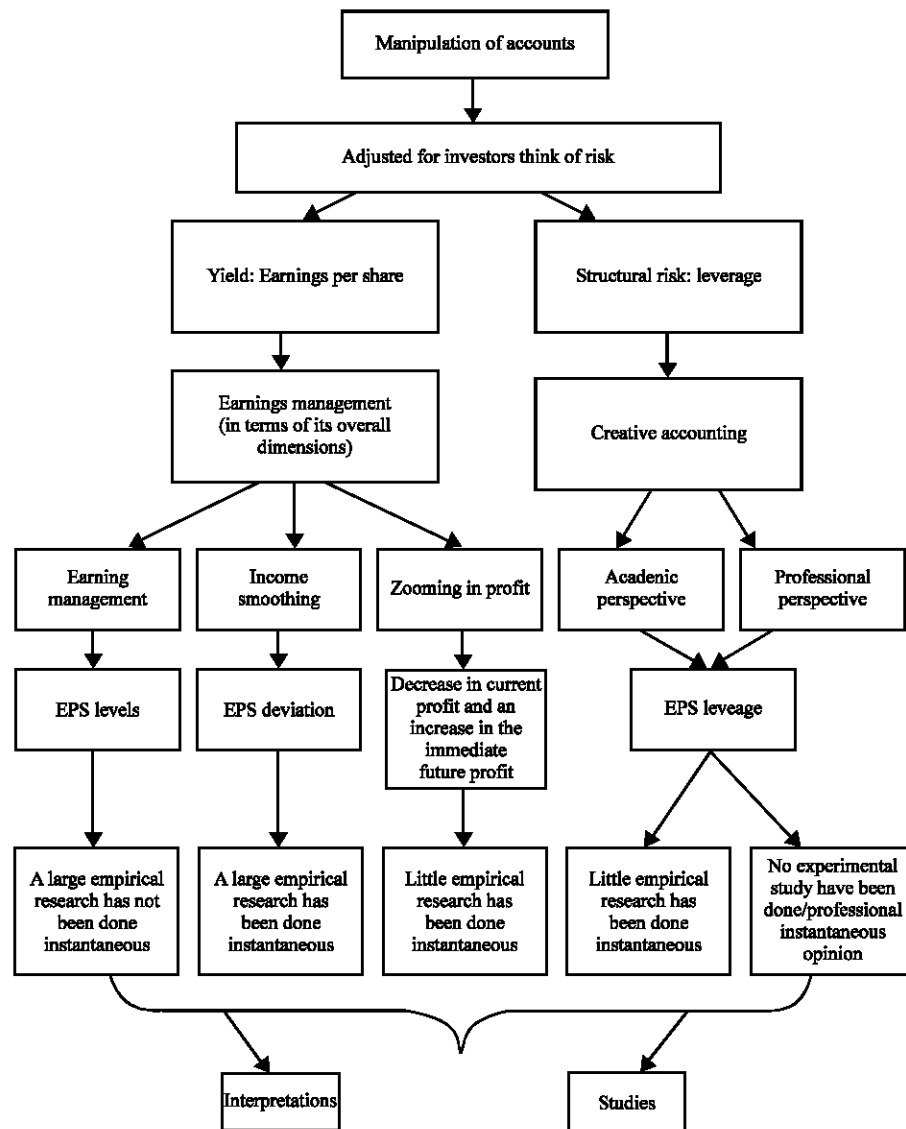


Fig. 1: Framework for the classification of manipulation of accounts

both in Iran and around the world and the results have been inconsistent. However, some foreign researchers found that managers of distressed and bankrupt companies, have more incentives to manage earnings and earnings quality is poor in these companies (Kordestani and Tatli, 2014).

The study aims to evaluate the financial distress and eccentricity accruals in companies listed on the Tehran Stock Exchange.

**Literature review:** Mselmi *et al.* (2017) tested the prediction of financial distress in French medium and small companies. The results show that firms with financial distress are permeable and their liquidity is

low. For investors to identify the main factors associated with distress financing will allow them not to invest in companies with the risk high financial distress, so shareholders should assess the financial situation of the company and signs on the verge of distress financially and be aware that this issue does not result in loss of investment. Arif *et al.* (2016) conducted a research on understanding the relationship between accruals and investment volatility and optionally. The results show that the accruals and investment prospects, particularly within the investment based real choice, offers a useful for understanding the formation of accruals. Alphonse and Hang (2015) conducted a research by financial distress and eccentricity as accruals: the case was vietnam stock

exchange. In this study, three issues of financial distress, the choice of accounting irregularities accruals are examined.

The results show that stability accruals and cash flows are very high for firms with low financial distress risk. At the same time, promiscuity accruals economically and statistics are positive for firms with low financial distress risk but it is meaningless for businesses at high risk of financial distress. The results have shown that the behavior of conservative accounting firms with financial distress may apply. Miglani *et al.* (2015), in their study examined the relationship between corporate governance mechanisms with the company's financial distress. Their study sample consisted of 171 Australian companies that have the financial crisis with 101 companies that were not in critical condition. Their findings show that the components of board independence, dominated by institutional shareholders, Chairman and CEO duality, possession of members of the Board of Directors and Audit Committee, have been related negatively with the financial crisis.

Shahwan (2015), in a study examined the impact of corporate governance on financial performance and Egypt's emerging financial crisis in 86 firms. The results suggest that corporate governance is very low between the Egyptian firms. A significant relationship has been observed between corporate governance and financial performance but a negative relationship has been reported between corporate governance and the financial crisis. Iturriaga and Sanz (2015), in their research examined the neural network model and the financial crisis, banks have developed in America. The results showed that insolvent banks and most have been unsuccessful attempts to quit were more focusing on loans to purchase real estate. The opportunity for them resulted from developing and increasing the volume of activity that thus is leading to a decrease in interest income of equity. Lee (2012), in a study identified the factors affecting the company's financial crisis. Therefore, by examining Canadian companies, it turns out that financial crisis and the threat of bankruptcy can be predicted using the accrual-based variables are more favorable practices. According to Lee, companies that are lower accruals, other companies are likely to face higher bankruptcy.

Masoudifar and Tamimi (2016), in a study entitled evaluation of financial distress companies in Tehran Stock Exchange using Falmer reviewed and assessed Falmer model's ability to predict the bankruptcy of the companies. The results show that the model enjoys a high ability after adjusting in anticipation of financial distress companies in Tehran Stock Exchange. Aflatooni and Khazayi (2016) examined the effect of accruals quality and the quality of disclosure on investment inefficiency in manpower and found that it is reduced with the increase

in AQ and disclosure quality, the more investment and low investment in human resources and employ the number of more efficient employees in service companies. Talebnia (2016) examined the transparency effect of accounting profit on the risk of bankruptcy and research results show that accounting transparency has significant impact on the company's bankruptcy risk and it is the adverse impact (negative). Namely, the risk of bankruptcy is reduced to increase accounting transparency. Have studied the effects of the financial crisis on the relevance of discretionary accruals, accruals and operating cash flow in explaining involuntary price and return on equity. The results show that with regard to the financial crisis there is no significant relationship between accruals involuntary and stock prices. The explanatory power of discretionary accruals and operating cash flow in the stock prices will be affected by the financial crisis. Examined the moderating effect of the financial crisis on the relationship between discretionary accruals and going-concern audit opinion of companies.

In this study, to measure the variables of Jones model adjusted discretionary accruals and Altman z model is used to measure the financial crisis and the results show that the financial crisis as a moderator has not any effect on the relationship between discretionary accruals and the auditor's comments. Soltanzadeh *et al.* (2013) examined menstrual irregularities related to financing activities outer and accruals with stock returns with an emphasis on working capital and accruals the long-term accruals. The results showed no significant relationship between accruals and stock returns and balance sheets as well as external financing activities and the impact on stock returns showed that there is no significant negative correlation between stock returns and there is external financing activities. Mujtahidzade and Ghodrati (2012) have examined the effect of irregularities accruals in pricing stocks. The results are evidence of irregularities in accruals and the impact on stock returns is provided.

**Hypothesis:** In order to answer research questions and cite and theoretical research, the following hypotheses were formulated:

- The difference persistence of accruals and cash flows in companies with less financial distress is more than the differences in companies with high financial distress

## **MATERIALS AND METHODS**

This research is based on objective and its data is practical approach to the events (according to the past data). Variables have happened in the past and there is no manipulation capabilities to researcher. Also, its metering

measure is a relative scale. Research in terms of data collection is library and documentary methods and econometric and multivariate regression analysis models were used. In this study, descriptive statistics were calculated to have a central tendency and dispersion picture of the state of research. Then, the stationary test for the diagnosis of Fisher and the nature of the research, the Chow test (F-Limmer) model was used to determine manner. Panel method can be performed using the random effects and fixed-effects models. To determine which model is used the Hausman test is used.

**Model 1:** In order to calculate financial distress as the dependent variable, Zavgyn model is used. In this model, financial distress is a number between zero and one. As a closer, more and more closer to one, the risk of financial distress is closer to zero, the risk of financial distress will be less (Matinfard and Lausanni, 2015):

$$Z = 0/23883 - 0/108x_1 - 1/583x_2 - 10/78x_3 + 3/074x_4 + 0/486x_5 - 4/35x_6 - 0/11x_7$$

Where:

- $x_1$  = Sales÷average inventory
- $x_2$  = Average balance of accounts receivable÷average
- $x_3$  = Total assets of short-term (current)÷(cash inventory+investments)
- $x_4$  = Immediate assets÷current liabilities
- $x_5$  = Current liabilities-(total assets÷operating profit)
- $x_6$  = Current liabilities-(total assets÷long-term debt)
- $x_7$  = Fixed assets÷(working capital÷sales)

In this model, since the model is based on operating environment and corporate structure developed in other countries is not compatible for the company's activity in Iran, the adjusted model of Zavgyn coefficients was used based on moderated environmental conditions of Iran (ibid):

$$Z = 51/006 - 175/04x_1 - 91/52x_2 - 0/489x_3 + 25/411x_4 + 4/375x_5 - 4/501x_6 - 25/417x_7$$

**Model 3:** In order to calculate the independent variable lower accruals persistence compared to cash flow, the following model is used (Alphonse and Hang, 2015):

$$ROA_{t+1} = Y_0 + Y_c CF_t + Y_A TACC_t + \omega_{t+1}$$

$$ROA_{t+1} = P_0 + Y_t D_t + \lambda_j IN_j + P_1 ROA_t + P_2 TACC_t + \omega_{t+1}$$

$$ROA_{t+1} = P_0 + Y_t D_t + \lambda_j IN_j + P_1 ROA_t + P_2 DWC_t + P_3 DNCO_t + P_4 DFIN_t + \omega_{t+1}$$

Where:

- TACC = Accruals
- ROA = Return on Assets
- CF = Cash
- IN = Dummy variable of industry
- DWC = Total change in non-cash working capital
- DNCO = Change in net non-flowing operating assets
- DFIN = Change in net financial assets
- $\omega$  = Error ingredient

In this study, two variables of firm size and leverage ratio have been considered as control variables in the model to test hypotheses.

**Company size:** Researchers have considered various criteria for company size. In this study, the logarithm of the company's total asset size is used. Total assets of the company = Log size of the company.

**Leverage:** This study the calculation of the leverage ratio is done by dividing total debt by total assets of the company. Total assets÷total debt = leverage ratio.

**Community and statical sample:** The study population consists of listed companies in Tehran Stock Exchange in the period 2009-2015. In this study, sampling was conducted using systematic elimination. The sample includes all companies listed on Tehran Stock Exchange that the following conditions are met:

- For the purpose of comparability of information, the fiscal year of companies is ending to 2nd March
- All data required is available for research companies surveyed
- They are accepted before 2009 in Tehran Stock Exchange
- In the group of companies operating in the industry is not financial intermediation
- Shares during the course of a trading interruption is not >3 months
- During the study period, fiscal year has not changed

Due to these restrictions, 90 firms (630 firm-years) have been selected among companies listed on Tehran Stock Exchange.

## RESULTS AND DISCUSSION

### Research findings

**Descriptive statistics:** Central tendency and dispersion of research variables are as Table 1 and 2. According to

Table 1: Descriptive statistics of research variables

Variables	Accruals	Ratio of book value to market value	Cash	Change in net financial assets	Change in non-current, net operating assets	Total change in non-cash working capital
Symbol	TACC	BTMV	CF	DFIN	DNCO	DWC
Ave.	7/49	6/31	185843/3	1/97	115/95	321168/3
Median	6/10	12/5	22126/50	1167/88	1072	44612/78
Max.	288/98	32/3	6734553	1/88	18065213	7977968
Min.	1416/168	-4/85	147	6/66	-50511740	21/92
SD	77/75	4/84	622520/9	19/1	3484454	934093/9
Skwness	-13/38	1/69	5/721176	10/37	-8/623238	5/023271
Elongation	243/05	11/7	42/84	139/91	128/01	31/26
Observation	630	630	630	630	630	630

Table 2: Research variables descriptive statistics

Variables	Debt ratio	Cost to income ratio	Return on assets	Size of the company	Financial distress
Symbol	LEV	P-E	ROA	SIZE	Z
Ave.	0/605	0/154	0/13	5/979	247/61
Median	0/62	0/028	0/115	5/90	287/39
Max.	15/1	12/82	1/32	8/172	241326/9
Min.	0/019	-18/63	0/262	4/56	-47394/36
SD	0/178	20/1	0/130	0/621	13037/73
Skwness	-0/318	-4/55	2/177	0/860	13/84
Elongation	2/932	157/21	18/135	3/96	252/56
Observations	630	630	630	630	630

Table 3: Test of normality (Bera-Jarkv)

Variables	Symbol	Statistics	Possibility
Accruals	TACC	1152281	0/000
Ratio of book value to market value	BTMV	560/37	0/000
Cash	CF	33947/71	0/000
Change in net financial assets	DFIN	378739/5	0/000
Change in non-current net operating assets	DNCO	314531/3	0/000
Total change in non-cash working capital	DWC	17775/05	0/000
Cost to income ratio	P-E	471357	0/000
Return on assets	ROA	4898/97	0/000
Financial distress	Z	0/124	0/000
Debt ratio	LEV	8/11	0/0172
Size of the company	SIZE	77/027	0/000

Table 4: Results of testing the first hypothesis

Community	No. of observations	Ave.	Mean differences	Levene test (Homogeneity of variances)		Tests of means comparisons	
				Significant (p-value)	F-statistic	Significant (p-value)	t-statistic
$\mu_1$	418	1736/0	0/000	25/286	897/2	000/0	2/897
$\mu_2$	212	1082/0					

the results obtained in Table 1 and 2, mean values are financial distress 247/61, 287/39 median, 241326/9 maximum and -47394/36 minimum is 13037/73 is more than other variables and Fig. 2 indicates that his trend is changing. In this study, Jarkv test for normality of variables was evaluated. As the Table 3 shows, all variables are normal at 5% level.

**Results of the research hypothesis:** The main hypothesis of the study was used to test the Modal 1 and 2. Test comparison of means, the first hypothesis was tested. Default to apply the test of comparison is the identical variance of the population under study. Levene test is used to check the assumption mentioned. The test results

show that Leuven statistical significance level is  $>0/05$  (error test), so the assumption of homogeneity of variances is rejected with respect to the population under study. Thus, conclusions about the comparison of test should be done with the assumption of homogeneity of their variance.

The results presented in Table 4 shows that the average difference in the stability of accruals and cash flows was higher in firms with less financial distress as firms 0/06541 out of financial distress. Also, the significance level is 0/008 that is  $>0/05$  and tests show that the difference between mean is statistically significant. These findings are consistent with the claims made in the hypothesis and showed that stability

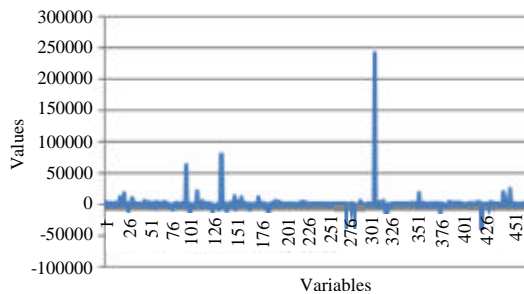


Fig. 2: Process of financial distress varibale

differences between accruals and cash flows are high in the company with less financial distress than companies with financial distress.

## CONCLUSION

Users of financial statements are looking doubtfully to be relied upon and benefit accruals because managers are able to use various methods of accounting legally and accept within the framework of generally accounting principles, company profits changes and in line with their personal desires. For investors is difficult to understand the process of identifying those accruals that affect earnings quality, accurate diagnosis and hinders the company's earnings quality. It may, on the basis of reported profits of investors who are not of high quality, make decisions that lead to the loss of their resources (Akhund and Basirat, 2015). In general, it can be argued that what is causing experts draw attention to the quality of accruals as it is an indicator of earnings quality, information content is a component of accruals. The components of accruals can be used as an indicator to determine the improvement or deterioration of the company. The stock market reaction is different to the data and in some cases the reaction is not rational and makes abnormalities including increases or decreases in prices. Information on financial markets for signs, news and forecasts are reported from the inside and outside the company and is available for shareholders and cause reactions resulting in changes in the stock price. The stock market reactions to different information and in some cases, the reaction is not rational and abnormalites causes including increases or decreases in prices. Overreaction and less than the amount occurs when people due to new information, the stock price will be set higher or lower than the intrinsic value, although the market with the passage of time will understand their error and equilibrium returns but this kind of economic

behavior is irrational behavior in the market that might be a rational response to uncertainty saw investors (Morshedzadeh and Karami, 2014).

Many studies show that investors tend to assess real and lasting persistence of accruals and cash flows less than the real one. As a result, at least asymmetry in companies that have high accruals, actual returns are lower than expected returns. They are inexperienced investors know the cause of accruals anomaly. Although, extensive evidence confirmed sloan and studies later but is still not entirely clear what the causes of irregularities accruals are so that investors assumed reported earnings to be fixed and are unable to understand low sustainability accruals (Kordestani and Ebrahimi, 2013).

The results of this study show that sustainability difference of accruals and cash flows in firms with less financial distress is higher than most of companies with financial distress. This result is consistent with results (Alphonse and Hang, 2015; Dechow *et al.*, 2008). This hypothesis prejudice to accruals follows by two conclusions:

- Investor's expectations of future earnings tend to be increasing (decreasing) the accruals for firms with low (high)
- The ability to predict future earnings reduces through accruals to the stability of accruals

According to the results obtained in this study and according to the majority of investors in the stock they are not familiar with financial statements and analysis in this regard, it is necessary to use the financial statements and they provide analysis methods for investors. It also recommended to investors that pay more attention in their decisions impact indicatorsthe financial distress (accruals and cash flows) resulting in profit and consequently increases efficiency. Of course, now that the companies that their accruals are low are more risky to companies that have high accruals and so they yield higher returns. Therefore, it is recommended that decision-makers focus their attention on accruals to invest in industries and original.

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