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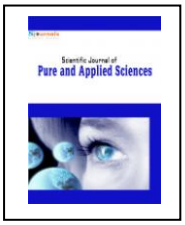

Original article

The investigation of the difference between accounting data error in future operational cash flow predication, before and after adjust, due to inflation in accepted companies in Tehran stock exchange

D. Javid[a,]*, A.A. Louye[b]
[a]*Department of Accounting, Malayer Branch, Islamic Azad University, Malayer, Iran.*
[b]*Department of Accounting, Science and Research Branch, Islamic Azad University, Malayer Iran.*

*Corresponding author; Department of Accounting, Malayer Branch, Islamic Azad University, Malayer, Iran.

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ABSTRACT

The present research examines the difference between accounting data error in future operational cash flow predication before and after adjust due to inflation the population in this research include the accepted companies in Tehran stock exchange. The sample member companies financial statements by mean of current value – constant Rials were adjusted and were accounting data error in future and before adjust due to accounting inflation. After examination of the accounting data prediction before and after adjust, statistical data were tested by means of jariko method so that their normality by examined. The obtained results of jariko-Bera test indicate that the statistical data distribution is not normal. Therefore the sample couple signal Nonparametic test is used for investigation of difference between accounting data error in future cash floe prediction before and after adjust. the research hypothesis is : The accounting data error based on historical values is move than accounting data error based on current values in future period operational cash flow. The obtained results of sample even signal in relation to research hypothesis indication that we can accept the research hypothesis .

1. Introduction

The collection of financial statements include essential financial statements and descriptive notes that are used for informing the user of accounting data for suitable economical decision making in difference time span. One of the financial statements is cash flow that shows the enter and exit channels of cash in a determined time span.(10) . one of the usages of this report is that accounting data users use this report for economic decision making and future entrance and exit cash flow.

For example a share holder in addition to future interest prediction and accounting of his share wants to obtain information of company Caro city in paying interest to share holders. Because benefit ability with out paying ability due to cash shortage is a weak point; thus , share holders try to besides future stock interest , predict the is historical cash flow.

On the other hand during recent years because of a phenomenon of historical finished price inflation that accounting data providing is based on has been challenged and many of theorists believe that financial statements should be presented according to mitigated inflation and current values basics. In other words some people believe that the historical finished costs system should be used that it's product is accounting data based on historical values and has more reliability as some , believe that the inflational accounting system should be used that it's product is accounting data based on current values and information that is related to decision making (9) . As a result the advantages and weaks of inflational accounting system product and accounting system product based on historical finished price should be judged and comprised. Before comporison of these two product group a basic should be selected for comparison and judgment. In dead we wand to know that wether accounting data predication error based on historical values are more than accounting data predication a proof for partial superiority of a data collection cash flow prediction.

2. Theorical bases and literature

2.1 . Theorical bases

In the present research , the accounting data predication error based on historical values is comparised to accounting data predication errors based on current values , and finally the precision of each of them in future operational cash flow is judged.

2.1.1. .Cash flow

Cash flow is an input cash flow (received feel) and output cash flows (payable free) for some issues such as : operational issues – taixial and investment and other cases that need to receiving or paying cash flow.

2.1.2 .The objective of presentation in relation to cash flows

The objective of presentation of data of cash flow is that the share holders and other users can form their expections of future cash flow. In other words the financial reporting should present information that help to present and future investors and also creditors in ti'ming and measurement of stock maturity.

In a simple saying the objective of presenting data of cash flow is that user can predict company future cash flow and their share of this flows. It should be mentioned that in addition to future cash flow and historical flow the lost and gain statement data and balace sheet are used. As a result the future cash flow prediction is a function of benefical unite cash flows and investigation and analysis of cases that are recorded in loss and gain statement and balance sheet.

2.1.3 .Cash flow statement

One of the financial statement that is fundamental and beneficial unit should providing and percent them to accounting data users. In this report the input and output cash flows of a beneficial unit in a determined time span (eg.one year) is recorded . In other word the cash flow statement is a report that indicate input and output channels in a determined time span.

2.1.4 . The loss and gain statement and balance sheet

As we said the presentation of cash flow statement is because of using historical cash flow for prediction of future cash flows. It is should mentioned that many of cases that recorded in gain and loss statement and their changes in a determined time span are used in future cash flow in a trade unit , the prediction of future cash flow is a function of historical cash flow and change in loss and gain statement because the transaction that lead to identify of cases that are recorded in loss and gain statement (eg . income and cost) need to paying and receiving cash flow in a determined time span and this is true about the items that are recorded in balance sheet.

2.1.5 . Inflation

Thus far many definition of inflation have been presented by economists that among them we can refer to :

From kinz viewpoint inflation is : Decisive demand addition and full employment state .

From email jum viewpoint the inflation is : the additive lead to unreturn ability of prices the offormentioned flows continue and lead to helping to country current supply ,

From Robinson viewpoint the inflation is : the irregular , high and controllable increase of prices.

2.1.6 . Inflation and it's effect on accounting

we can said that inflation can lead to uncredition of historical finished cost and reporting based on historical values and as a result the theorists believe that the financial reporting should be done based on current values and then the information based on current values in different fields such as future cash flow prediction should be used . By regard to the items that were reffered in inflational accounting and also historical finished cost principal are placed in a two branced way

That is financial reporting based on historical values (following the historical reporting based on current values (according to inflational condition and using current values).

Hender kis believes that : since the whole structure of finished cost accounting incidence there is this though that accontants should present historical and current data that hep investors in better prediction of future.

Because the traditional accounting is based on finished cost system

It depended on post values in this model invariable many values it's changes is not recorded though these hypothesis in some of economicial section are not relable nowadays this hypothesis that money value changes in financial reports and accounting of trade big institutions don't have any influence and reliability and the changes in financial report should be regarded.

Smith in this regard wrights that :

With disclosing the users of financial statement can measure future cash flow and operational capacity institution task circular procedure and help them to have trade unit general buying strength .

2.1.7 . Inflational accounting

Inflashonal accounting is mitigation of financial data in order to reflection of business units financial operations state and result on business units according to current values and or an acceptable estimation of them and relevant reporting .

In the present research we have tried to present financial reports based on historical values by means of current values model average –mitigated constant rials and translate them to current values and then measure their errors and compare them with each other in future cash flow prediction that enjoy from more precise and also recommended in decision making process.

2.1.8 . Monetary and non-monetary items

Another significant issue in inflation accounting is separation between monetary items and non-monetary items. Monetary items are items that with change in the price level (inflation or recession existence) does not change the value in the real world. The non-monetary items are items that change in the level of prices in the real world can be changed and adjusted and in financial statements amendment, in terms of inflation-adjusted, they should also be reported to the real value. Simply put, monetary assets are assets that raise the level of inflation will increase claim, financial liabilities are debts that creating inflation, rate of commitment to them does not change. In contrast, non-monetary assets and liabilities are items that in the inflation, claimed rate and their commitment are changed. Examples of assets are cash and accounts receivable, and cash is an example of a

monetary debt, accounts receivable and an example of non-monetary assets is including inventory and property, machinery and equipment. The debts based on the fair value of the tangible assets to be paid are considered such non-monetary liabilities [18].

Adjusted Models of financial statements: in connection with the adjustment of the financial statements, due to inflation and making accounting information based on historical values, we study on accounting information based on the current values of the two models discussed in more detail [4].

2.1.9 . Model of historical value – constant Rials

This model moderates the items contained in the financial statements based on the rate of change in the general price level. In this model, it is assumed that cost of goods and services increased at the same rate and the same assumption in this model is the weak point. It rarely happens in real life that all the goods and services increase at the same rate and the same inflationary. The models calculate the conversion factor because the value of the items included in the financial statements is adjusted by multiplying the historic value of the items in the conversion coefficient. [4]

2.1.10 . Current value models – constant Rials

In this model, it should be noted that the rate of change in prices of goods and services is different in times of inflation. As a result, the price of all goods and services in the same period will not be increased during inflation rate. Also in this model to determine the current value of accounting items, different methods can be used [4].

2.2. Literature

The past research in inflational accounting field are described in the following table.

Table 1

the past research in inflational accounting field.

Conclusion	Title of research	year	Researcher
Adjusted financial statements and the financial statements based on historical values, there are significant differences	Effects based on changes in the general price level adjusted financial statements	1975	Hints
Between the speculation method and other methods of adjustment, there was no significant difference	Adjusted financial statements based on speculation method and comparison with other methods of adjustment	1976	Deividson
Adjusted financial statements in making economic decisions of users is	Moderating effect on the financial statements of the economic decisions	1978	sasani
Profit distribution based on the historical conditions of inflationary erosion of capital gains	Eroding effect of inflation on capital	2011	mir
The quality of financial reporting and the volatility of stock returns are negatively related to	The relationship between financial reporting quality and volatility of stock returns	2005	Raj goupal
Between financial reporting quality and investment efficiency , there is a positive relationship	The relationship between financial reporting quality and investment efficiency	2005	Modares
Between profit margins and performance management, financial reporting quality , there is a significant positive relationship .	Provide a model for the assessment of Quality Factors in Financial Reporting	2008	nikooumaram

3. Materials and methods

The present study is an applied research, because its result is used by a wide range of users of financial statements. In terms of the nature or conducting research, it is a quasi-experimental research. The present Study is a library research by the data collection method, because to collect information in this study, related documents available were used to members of the sample.

3.1. Research hypothesis

The error of accounting data based on historical values is more than accounting data errors based on current values in predication of future operational cash flow

H0= Accounting data error based on current values in not more than accounting data error based on current values in predication of future operational cash flow .

H1 =The accounting data error based on historical values is more than accounting data errors based on current values in predication of future operational cash flow .

3.2. Research variable

The variable of this research is accounting data errors in future operational cash flow prediction that are accounted before and after mitigation by regarding inflation.

3.3. Community and statistical sample

The population in this study is all listed companies in Tehran Stock Exchange by the end of Year 2011, for sampling of the population, with regard to the criteria of the systematic removal method used. Thus, companies that did not meet the criteria were excluded. The research summarized in the table below:

Table 2
Sampling in the present study.

471		listed companies in Tehran Stock Exchange in 2011
	140	Being active in the research period(2006-2011)
	105	Companies that end of their financial year is end of march
	33	Companies with investments & brokerage activities
	83	Availability of accounting information
(361)		All companies excluded from the study
110		All remaining companies based on research criteria

According to the table, it is noted that among 471 companies listed in Tehran Stock Exchange in 2011, only 110 companies met criteria for the desired gain, as a result of other companies were eliminated systematically.

3.4. Methods of data collection

In this research, for data collection, documentation listed companies on the Stock Exchange were used, including the basic financial statements and explanatory notes accompanying the financial statements on the website have been indexed by the Stock Exchange . Well to obtain specific prices index was used as a part of the information necessary to conduct research price index profile on the website of the Central Bank of the Islamic Republic of Iran.

3-5 . data analysis

The used models in this research are :

3.4.1. Adjustment model of accounting information

To moderate accounting information due to inflation, the current value - constant IRR is used, and as previously mentioned, in this model, there are different ways to calculate the current value accounting items and due to the limited availability and increasing interest in research on the costs and feasibility, to adjust the financial statements based on current value - fixed IRR method, applying a certain price index is used. In conclusion, in this study, accounting for a number of prediction errors is assumed to be always positive.

Also, the proportion of forecast error as the quality of accounting information will be considered as the quality of accounting information in the investigation, that the quality is always negative [3].

3.4.2. Research variable measurement model

In measurement of research variable that is accounting data error in future operational cash flow prediction before and after adjust by means of inflation Dichav and Dichoo model has been used in the following method :

$CFO_{i,t} = \alpha 0 + \beta 1 CFO_{i,t} + \beta 2\, \Delta AR_{i,t} + \beta 3\, \Delta INV_{i,t} + \beta 4\, \Delta AP_{i,t} + \beta 5 DEPR + \beta 6 OTHER_{i,t} + \varepsilon_{i,t+1}$

$OTHER = OP - (CFO + \Delta AR + \Delta INV + \Delta AP + DEPR)$

$IEP = |\varepsilon_{i,t+1}|$

ΔAR: changes in receivable accounts

ΔAP: changes in payable accounts

CFO: cash follow of opration

ΔINV: Change in inventories

DEPR: tangible and intangible assets amortization expense

ε: the amount of data prediction error

OP: Operating Profit

IEP: information prediction error

3.4.3. the method used to test the research hypothesis

The present study is one-dimensional. In a single study, there is a variable that has been measured before and after a particular action and then two levels of variable are compared with each other. In this study, to test the hypotheses, paired-sample sign test was used. In this test, there is a measure of the sig name if there is more than 0.05, the research hypothesis is rejected and the research hypothesis is accepted otherwise.

4. Statistical analysis

4.1. Descriptive statics

Descriptive statistics and statistical data normalization related to research variable before and after mitigation due to inflation are described in the following tables , where the figures of mean , median and standaral deviation and maximum and minimum and range are in million rials.

Table 3

Descriptive statistics and measurement of normality related to research variable before data adjust.

IEP90	IEP89	IEP88	IEP87	IEP86	IEP85	Variable
110	110	110	110	110	110	number
76000	79400	54100	52000	72200	42500	average
46500	35700	24100	28600	30000	24800	median
126000	124000	-96200	89200	137000	52800	var
4.584476	2.977668	4.283174	4.892090	4.493495	2.168860	skewness
2 7.73245	11.77744	23.57069	29.85997	27.05034	7.755824	elongation
957000	646000	646000	646000	1030000	251000	max
402	983	656	20970	1380	420	min
956598	645017	645344	625030	1028620	250958	domain
3188.917	515.6685	2275.788	3745.455	3021.264	189.9044	jarque
0.000	0.000	0.000	0.000	0.000	0.000	Significant

Table 4
Descriptive statistics of normality measurement of research variable after data adjust.

IEP90	IEP89	IEP88	IEP87	IEP86	IEP85	Variable
110	110	110	110	110	110	number
146000	169000	87600	112000	110000	69200	average
72200	74600	42300	62900	41000	29700	median
243000	270000	161000	167000	206000	99600	var
4.070253	3.122985	5.54429	4.789139	3.991053	2.870186	skewness
22.90119	13.5679	42.11924	34.3224	21.42518	12.73499	elongation
660000	1470000	1400000	1400000	11400000	606000	max
4140	1550	478	3020	499	270	min
655860	1468450	1399522	1396980	11399501	605730	domain
2118.99	690.6748	7577.493	4917.165	1848.005	585.3922	jarque
0.000	0.000	0.000	0.000	0.000	0.000	Significant

Considering above tables the significance level of Jaco quantity equals to 0.000 and this this rate is less than 0.05 and as a result , statistic data related to research variable after mitigation due to inflation during whole years do not follow of normal distribution.

4.2. Inferential statistics

The ontained result of research variable measurement before and after mitigation because of inflation and also hypothesis test of research by means of sample even signal test are presented in the following tables :

Table 5
The result of research variable measurement before data adjust in sectional state.

Variable	85	86	87	88	89	90
F	219.075	466.466	249.1620	14491.21	9.729617	118.5281
F-Proob	0.00	0.000	0.002	0.000	0.000	0.000
Dorbin-watson	1.43	2.434	2.035	2.064	2.314	1.809
R-squared	0.964	0.968	0.999	0.999	0.548	0.936
R	0.7	0.65	0.72	0.7	0.68	0.83
β1 - proob-t	0.4140	0.611723	0.444811	0.033265	2.050655	0.230350
β2 - proob-t	1.0917	0.499274	0.551290	0.164239	1.751036	0.503288
β3 - proob-t	0.1296	12.07762	9.500630	0.780140	1.013288	6.119286
β4 - proob-t	0.74444	0.507561	0.931763	0.104167	1.474740	1.070739
β5 - proob-t	0.6127	5.043355	3.613905	0.243289	1.946766	1.730319
β6 - proob-t	3.0604	4.004199	3.265675	0.019904	5.780950	1.98471
α0 - proob-t	433000000	3300000000	42800000000	12100000000	15200000000	50200000000

Table 6
The results of research variable measurement after data adjust in sectional state.

Variable	85	86	87	88	89	90
F	312.604	298.3561	386.907	14491.21	434.907	449.502
F-Proob	0.0000	0.000	0.002	0.000	0.000	0.000
Dorbin-watson	2.242	2.364	2.082	2.064	1.809	2.314
R-squared	0.983	0.968	0.999	0.998	0.989	0.998
R	0.85	0.74	0.8	0.65	0.87	0.93
β1 - proob-t	0.324000	0.254731	3.65742	0.033265	0.504337	4.876
β2 - proob-t	2.048425	1.76549	2.765121	0.164239	1.013288	1.013
β3 - proob-t	0.231455	1.87945	3.700213	0.780140	2.050655	4.987
β4 - proob-t	0.765804	3.05604	0.914325	0.104167	0.019904	3.213
β5 - proob-t	3.248954	2.99324	1.218065	0.243289	0.324000	1.789
β6 - proob-t	2.654801	5.08745	4.765320	0.019904	0.444811	1.074
α0 - proob-t	523000000	2450000000	34500000000	12100000000	39100000000	36800000000

Table 7
The result of research variable measurement before data adjust in combining state.

Coefficient	α0	β 1	β 2	β 3	β4	β5	β6
var	1520000000	2.0506	1.7510	1.0132	1.4747	1.9467	5.7809
Statistics- t	0.4302	2.9410	-5.4492	1.4551	-4.1411	-2.4277	6.7572
Probability	0.0500	0.0050	0.0000	0.0000	0.0001	0.0190	0.0000
S.E .of regression	32800000000	F-statistic		118.5281	Prob F- statistic		0.000
Dorbin-watson	1.8	Akaike info		-55.9	Schwarz critrion		-56.2
R-squared	0.93	Adjusted R-squared		0.92	Hanan-Quinn criter		56.08

Table8
The results of research variable measurement after data adjust in combining state.

Coefficient	α0	β 1	β 2	β 3	β4	β5	β6
var	5020000000	0.2303	0.5032	6.1192	1.0707	1.7303	1.9847
Statistics- t	2.4453	7.1318	-7.3966	-1.0918	-0.5575	6.5929	-2.9213
Probability	0.0182	0.0000	0.0000	0.0404	0.0501	0.0000	0.0053
S.E .of regression	19300000000	F-statistic		449.5	Prob F- statistic		0.000
Dorbin-watson	2.31	-Akaike info		56.19	Schwarz critrion		-57.44
R-squared	0.998	Adjusted R-squared		0.997	Hanan-Quinn criter		57.28

The regression models reliability in different scientific researches are tested considering thir linearity , absence of self correlation problem and also considering meaningful relation and correlation between regression equation according to variable and different methods are tested. Since in the present research we have used of measuring research variable it is necessary to that it's reliability be evaluated some of the criteria that is used for regression models reliability measurement are : statistic (f) , statistic (t) and statistic Durbin – Watson that are used in this possibility of statistic .f in relational and combining , before and after mitigation due to inflation is less than 0.005 and this indicate that there is a linear relationship (significant) between two sides of equation.

As a result considering statist (f) we can regard measuring model as a relable model and we can use it's results in our research.

Also by regard to Durbin –Watson it is determined that this statistic is in relation to measurement model in sectional and combining stat before and after adjust due to inflation is between 1.5 to 2.5 , that indicate that indicate that the error are independent of each other. As a result the measurement model regarding Durbin-Watson model is reliable and we can rely on it's result.

One of the other methods for measuring reliability is regression models in using statistic T in relation to regression models and according to contract if this statistic in relation to model factors be less than 0.05 the model regarding criteria is reliable and considering above table this criteria in relation to research variable measurement model in sectional and combining sate before and after adjust because of inflation in relation to all of the factors is less than 0.05 tha indicate that all of the variables in model can participate in equation .

As a result regarding this criteria the measurement is reliable and it's results are reliable.

4.2.1. Research hypothesis test

The result of research hypothesizes test in sectional and combined state are as follows :

Table 9
The result of research hypothesis test in sectional state.

Result	Sig	Hypothesis	Test	year
The null hypothesis is accepted	0.106	H0	Signal -test	85
The null hypothesis is accepted	0.418	H0	Signal -test	86
The null hypothesis is rejected	0.000	H0	Signal -test	87
The null hypothesis is rejected	0.000	H0	Signal -test	88
The null hypothesis is rejected	0.000	H0	Signal -test	89
The null hypothesis is rejected	0.001	H0	Signal -test	90

Table 10
The result of research hypothesis test in combined state.

Result	Sig	Test	hypothesis
The null hypothesis is rejected	0.000	Signal - test	H0

5 . Discussion and conclusion

Considering obtained results of research hypothesis test in table 10 , test statistic is zero (0) and this rate is less than 0.65 and as a result hypothesis of research is based on high accounting data error according to historical values of accounting data errors according to current values in prediction of future operational cash flow are accepted , in other words the precise of accounting data based on current values is more than precise of accounting data based on historical values in future operational cash flow because it's prediction error is less.

By regard to this result we advice all of the users of accounting data that in their economic decision making such as investment and presenting credit rely on business units financial statement , in addition to present financial statement by company that have been presented financial statements by company that have been presented following historical finished cost according to historical values , they should use of financial statements based on current values (mitigated financial statement because of inflation) due to the result of the present research indicate that accounting data errors based on current values are less than accounting data errors based on historical values in future operational cash flow predication. As a result we can say that accounting data précises based on current values in future operational cash flow (adjusted accounting data because of inflation) is more than accounting data based on historical values and as a result using accounting predictions can be done.

Therefor all of the users of financial statement recommended that use of accounting data based on current value in their economic decision making and future indices prediction , in addition to presented financial statement by company based on historical values.

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