Study of Commitment Items Quality Members Effect on Price Synchronism in Tehran Stock Exchange

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ABSTRACT

Accounting profit always as an exhibited item in financial statements has been considered by investors whom are attended as the most significant users of financial statements, so profit is a basis for the most economical decisions. In the research, effect of committing item quality members with price synchronism (a criterion to measure the proportional amount of corporating special information, which has been reflected in price) has been investigated in accepted corporations in Tehran stock exchange. In research, committing item quality members are independent variables and price synchronism is dependent variable. Price synchronism is an amplitude which shows industry and market returns and stock return differences in corporation level. The research is application based on its aim, is measuring and describing based on its performance and is one of the best. 127 corporations from 2010 to 2014 have been chosen by systematic deletion. To test research hypotheses panel data method and fixed effect method have been used. Research conclusions show that there is no relationship between involuntary commitment items qualities with price synchronism, but there is a meaningful direct effect between voluntary committing items with price synchronism for accepted corporations in Tehran stock exchange.

Keywords: Commitment Items Quality, Involuntary Commitment Items Quality, Price Synchronism
JEL Classifications: E37, E32, C53, C5

1. INTRODUCTION

Accounting profit always as an exhibited item in financial statements has been considered by investors whom are attended as the most significant users of financial statements, so profit is a basis for the most economical decisions. One of the characteristics of stock exchange is parting ownership from their management. So, the situation is created for managers to exclusively access information and exhibit financial information. This characteristic and commitment accounting characteristic because of postpones (difference between cash profit and commitment profit), reward motivations, profit smoothing, and rule regulating give managers motivations and situations to invest information for ejection their benefits against other groups benefits, in otherwise managers want to create profit managers works (Mashayekhi et al., 2014).

Accounting profit is produced by commitment system. Some of the users believe that financial statements are instruments for corporations

operation evaluation. Corporations operation evaluation mean total evaluation of financial situations and operations conclusions to make logical decisions. Profit, as an important basic accessible information for users, can be changed by managers with different motivations. Corporations managers for intended profit report try to direct profit management. Price synchronism means limitation of corporation return which is described by industry and market returns and use of low price synchronism means low effect of industry information on price (Arab et al., 2006).

This research wants to answer to this question "Whether commitment items quality members effect on corporations stock price synchronism in Tehran stock exchange or not?"

2. REVIEW OF RELATED LITERATURE

Scott (2009) defined price synchronism as industry and market information degrees, which are reflected in corporation stock

price. Hirshleifer et al. (2003), and Healy and James (1999), defined stock return synchronism as an attribution amount of industry and market returns to describe corporation stock return changes. So, it can be said that price synchronism is equal to division of the systematic risk ratio on unsystematic risk. Stock price behavior will follow market movement and corporation special information. Market movement is included different topics such as internal, external, political and etc. and corporation special information is related to the corporation. So, investors can trust more to dependent corporation profit of the corporation special information. When the relationship between corporation return and market return (price synchronism) is low, it shows corporation special information more. So, low price synchronism of corporations stock show that their prices are dependent less on a market movement because market actives trust to corporation special information more.

Dopuch et al. (2005) investigated the relationship between commitment items and cash flow with stock market measure. They found many positive relationships between commitment item measure and stock market. However, negative relationship existed between cash flows and stock market.

Thomas and Zhang (2002) investigated the relationship between commitment quality and disclosure quality and showed that how these variables for the description of time serial changes had been used interchangeably in fort fuses durations.

Chan et al. (2013) investigate the relationship between commitment items and stock future return and concluded that the stock market of corporations with high commitment item in next duration of financial information reporting would decrease. These findings indicate that time investors would discover profit low quality and the stock price would decrease with delay, too.

2.1. Research Hypotheses
Two following hypotheses would be introduced based on research theoretical bases and review of literature:
- Involuntary commitment items' quality effect on price synchronism.
- Voluntary commitment items' quality effect on price synchronism.

3. RESEARCH METHODOLOGY

The research is an applicational research based on its aim, and is correlative research based on research hypotheses deduction. Eviews 7 has been used to analyze research data. The panel data method has been used, but before research data analysis, variables lasting should be investigated.

As said before, research is an applicational one, so describing and analyzing methods have been used to answer research questions. The dominant view on the research atmosphere of systematic view is based on system view. The research is a sectional one based on its time because it has been done in one duration time and searched realities. It is an applicational criterion based

on applicational researches. For research performance levels both library and squaring data gathering methods have been used. Research information has been gathered by referring to corporations financial statements sites in stock exchange and Rahnavard software.

Research statistic population includes all accepted corporations in Tehran stock exchange from 1389 to 1393 which have been chosen by systematic deletion, but 127 corporations have been considered as research statistic population. It should be said that each corporation includes 5 collections of exploitable financial information in financial statements and other related information sources.

3.1. Variables Defining and Introducing
This research has two kinds of variables, dependent variable and independent variables.

In the first hypothesis involuntary commitment items quality are independent variables and price synchronism is dependent variable.

In the second hypothesis voluntary commitment items quality are independent variables and price synchronism is dependent variable.

3.2. Commitment Items Quality
Commitment item quality has been created by corporation profit nearness with cash flows degrees. To measure involuntary and voluntary commitment item quality Francis et al. (2004) model should be used. Many researchers have used this model to investigate the effect of the degree of the involuntary factors on commitment items quality which have been introduced as follows:

Francis et al. (2005) model:

$$AQ_{i,t} = \lambda_0 + \lambda_1 size_{i,t} + \lambda_2 \delta(CFO)_{i,t} + \lambda_3 \delta(sales)_{i,t} + \lambda_4 OperCycle_{i,t} + \lambda_5 NegEarn_{i,t} + \mu_{i,t}$$

$AQ_{i,t}$ = Commitment quality of i corporation in t year

$Size_{i,t}$ = Corporation size in t year

$\delta(size)_{i,t}$ = Standard deviation cash flow of I corporation operation in t year

$\delta(sales)_{i,t}$ = Standard deviation of received income from I corporation sale in t year

$OperCycle_{i,t}$ = i corporation operation logarithm cycle, which is needed time amount to change the cash flow into productions or services until related demands come back as cash flow to cycle

$NegEarn_{i,t}$ = Numbers of years during 6 years studied profit before the unusual item has been less than zero

Size = Corporation size

Size = Log (all assets values).

To calculate commitment items quality Dechow and Dychv (2002) model has been used:

$$TCA_{i,t} = \beta_0 + \beta_1 \ast CFO_{i,t-1} + \beta_2 \ast CFO_{i,t} + \beta_3 \ast CFO_{i,t+1} + \beta_4 \ast \Delta REV_{i,t} + \beta_5 \ast PPE_{i,t} + U_{i,t}$$

$$TCA_{i,t} =$$

Total cash flow commitment item of i corporation in t year

$\Delta REV_{i,t}$ = Change in net sale from t−1 year to t year

$PPE_{i,t}$ = Value of impure properties and machinery in t year

$CFO_{i,t}$ = Operating cash flow cycle

$U_{i,t}$ = Estimating error

β_0 = Independent variable coefficient.

$$TCA = \Delta CA - \Delta CL - \Delta Cash + \Delta STDEBT$$

ΔCA = Change in flow properties

ΔCL = Change in flow liabilities

$\Delta Cash$ = Change in cash flow

$\Delta STDEBT$ = Change in long term liabilities (Chan et al., 2013).

At first each sample of flow commitment items should be calculated by the model. To situate them in Regression quotation, we should test flow commitment items to be normal. Then they will be in 5-1 related Regression. Estimating error is estimated by different flow commitment items and calculating commitment items. When estimating error amount is less, commitment items quality will be better. Involuntary commitment items are calculated by the following quotation:

$$InnatAQ_{i,t} = \lambda_0 + \lambda_1 size_{i,t} + \lambda_2 \delta(CFO)_{i,t} + \lambda_3 \delta(sales)_{i,t} + \lambda_4 OperCycle_{i,t} + \lambda_5 NegEarn_{i,t}$$

Voluntary commitment items quality are received by the rest of the model:

$$DiscAQ_{i,t} = \mu_{i,t} \text{ Mashayekhi and et al. (2014).}$$

3.3. Price Synchronism

To calculate price synchronism Kasznik (1996) model is used:

$$Synch = \log\left(\frac{R^2}{1-R^2}\right)$$

R^2 in the above quotation is received determination coefficient from two factors changes, market and industry monthly returns in one financial year and its effect on corporation stock monthly return.

$$R_{it} = \alpha + \beta R_{mt} + \gamma R_{it} + e$$

R_{it} = i corporation stock return for t month
R_{mt} = i corporation market return for t month
R_{it} = i corporation industry return for t month.

Above quotation is used for 12 months duration in each year. R^2 is used as a criterion to measure price synchronism.

4. RESEARCH DATA ANALYSES AND DESCRIPTIONS

Gathered information descriptions are one of the research level in research data analysis part and their reports are important in research. Research data with use of second hand information sources have been gathered and classified. Descriptions of information and statistic data are chosen based on measuring criteria. So, in this part statistic sample characteristics and related indicators to the financial statement of statistic sample members are investigated.

4.1. Research Variables Descriptions and Analyses

Research variables analyses have been used as a methodological aim to describe research conclusions and research hypotheses evaluation description characteristics are statistic deduction based on variables indicators. Research variables are described and analyzed based on statistic indicators of dispersal and central trends. Totally, all the methods, which are describing data are processed and summarized, are called descriptive statistic. It should be said that after omitting additional data and arranging data, corporations numbers of research variables years will decrease.

Descriptive statistic in Table 1 shows standard deviation, minimum and maximum amount of each dependent, independent, and central variable. In this table, the main central indicator is average, which

Table 1: Descriptive indicators of studied variables

Variable	Number	Average	Mode	Standard deviation	Maximum	Minimum
Price synchronism	635	−1.53	−1.47	1.18	−4.658	5.532
Voluntary commitment items	635	0.0131	0.0125	0.117	−0.28	0.35
Involuntary commitment items	635	0.087	0.065	0.235	−0.20	0.37
Corporation size	635	14.23	13.54	0.429	6.77	18.80
Financial lever	635	0.083	0.080	0.076	0.001	0.99
Information asymmetry	635	0.392	0.241	0.1891	0.10	0.71

Numbers are in Million Rials

shows balance point and distribution exertion center, which is a good indicator to show data center.

As shown in Table 1, average amount of price synchronism is −1.53 and variable mode is −1.47. Totally, dispersal criteria are the criteria which investigate and compare dispersal observations, for example standard deviation is one of the dispersal criteria which is 1.18 for price synchronism in the Table 1.

4.2. Analysis Methodology of Test Type Determination

To determine mixture data and homogenous or inhomogeneous specifications of data, Chow Test and F Limer statistic are used. Test hypotheses are:

H_0: Polled data

H_1: Panel data.

If test conclusions are based on paneling data uses, one of the models of random effects or fixed effect will be chosen. To choose one of these models, Hausman test will be done.

H_0: Random effects

H_1: Fixed effects.

As indicated in Table 2, Chow rest conclusions show that the received probability for the F statistic in all research hypotheses are <0.05. So, data in all models are chosen as paneling to test this hypothesis.

4.3. Hausman Test

In this test Cheedow statistic with freedom degree K is used. If received Cheedow is more than table amount, H_0 based on random will be rejected and fixed effects will be accepted (Table 3).

In this test, H_0 is based on panel data model with random effects and its contrary hypothesis is based on panel data with fixed effects model. If the Hausman test is more than its critical amount or its probability is <0.05, H_0 will be rejected and H_1 will be accepted.

Table 2: Chow test conclusions, sections homogenous or inhomogeneous specifications

Chow test conclusion	F statistical probability	F	Hypothesis test
H_0 is rejected	0.000	3.902	Research model

Table 3: Hausman test conclusions to determine use of random or fixed effects models

Test conclusion	F statistical probability	F	Hypothesis test
Fixed effects	0.000	48.365	Research model

Based on received conclusions of the Hausman Test for research model $\alpha = 0.05$, statistic Hausman for research model is 48.365 and P < 0.05, so H_0 is rejected. H_0 rejection shows that random effects are incoherent and fixed effects should be used.

5. RESEARCH HYPOTHESES TEST CONCLUSIONS

In this study panel data model is dominate, this model is a time mixture serial information (1389-1393) and research sectional data are gathered by 127 corporations data in Tehran stock exchange, all the calculated amounts for variables are based on million Rials. Eviews 7 and 8 softwares have been used based on research models hypotheses.

5.1. First Hypothesis Test Conclusions

H_0: Involuntary commitment items' quality has a meaningful effect on price synchronism.

H_1: Involuntary commitment items' quality has no meaningful effect on price synchronism.

The main important aim of the Table 4 is its statistic presentation for practice goodness measuring which is done by determination coefficient. Determination coefficient is a criterion for measuring relationship intensity between x and y which is 0.145. It means that the determination coefficient can describe 0.014 of dependent variable changes (price synchronism). Continuous correlation among the remainders mean observations effects on each other. Based on Watson Doorbin statistic amount 1.905, there aren't any continuous correlations between data. After investigating total model meaningfulness with use of accepted F statistic, we should investigate coefficients meaningfulness by t-test. The following Table 5 describes meaningfulness of Regression model coefficients.

Based on research first model test conclusions, F statistic meaningful level 0.000 is less than accepted error level 0.05, so total regression model is meaningful. Watson Durbin statistic amount 1.905 is situated from 1.5 to 2.5. Then correlations among error members aren't existed. Based on high t statistic (P-value) of accepted error level for β_1 coefficient, test conclusions show no meaningful effect on involuntary commitment items on price

Table 5: Coefficients and t statistic amounts

Meaningfulness	T statistic amount	Coefficients	Variables
0.000	7.569	1.230	Fixed variable
0.387	2.24	0.037	Involuntary commitment items
0.452	−2.580	−0.065	Corporation size
0.006	−2.39	−0.081	Financial lever

Table 4: First model descriptive statistic

Watson doorbin statistic	Meaningful level	F statistic	Adjusted determination coefficient	Determination coefficient	model
1.905	0.000	38.396	0.145	0.159	first

Table 6: Second model descriptive statistic

Watson doorbin statistic	Meaningful level	F statistic	Adjusted determination coefficient	Determination coefficient	Model
1.905	0.000	38.396	0.145	0.159	Second

Table 7: Coefficients and t statistic amounts

Meaningfulness	T statistic amount	Coefficients	Variables
0.000	7.569	1.230	Fixed variable
0.024	1.68	0.043	Voluntary commitment item
0.452	−2.580	−0.065	Corporation size
0.006	−2.39	−0.081	Financial lever

synchronism. So, the research zeros hypothesis of first model can't be rejected in 0.05 error level. Research conclusions show entered controlling variables in financial lever regression have a meaningful effect on price synchronism and corporation size doesn't have any meaningful effects on price synchronism determination coefficient and adjusted the determination coefficient show that entered variables in regression can describe 0.014 of dependent variables changes. Following regression model for the first hypothesis is accepted:

$$Synch = 1.230 + 0.037\ Innat \pm 0.065 SIZE \pm 0.081 LEV$$

As indicated in the Table 5, involuntary commitment items variable with 0.037 coefficient and 0.387 meaningful level have entered the model. So, there is no meaningful effect of involuntary commitment items and price synchronism. Then H_0 of first research hypothesis is not rejected.

5.2. Second Hypothesis Test Conclusions

H_0: Voluntary commitment items' quality has a meaningful effect on price synchronism.

H_1: Voluntary commitment items' quality has no meaningful effect on price synchronism.

The main important aim of the Table 6 is its statistic presentation for practice goodness measuring which is done by determination coefficient. Determination coefficient is a criterion for measuring relationship intensity between x and y which is 0.145. It means that the determination coefficient can describe 0.014 of dependent variable changes (price synchronism). Continuous correlation among the remainders mean observations effects on each other. Based on Watson Durbin statistic amount 1.905, there aren't any continuous correlations between data. After investigating total model meaningfulness with use of accepted F statistic, we should investigate coefficients meaningfulness by t-test. The following Table 7 describes meaningfulness of regression model coefficients.

Based on research first model test conclusions, F statistic meaningful level 0.000 is less than accepted error level 0.05, so total regression model is meaningful. Watson Durbin statistic amount 1.905 is situated from 1.5 to 2.5. Then correlations among

error members aren't existed. Based on high t statistic (P-value) of accepted error level for β_2 coefficient, test conclusions show no meaningful effect on a voluntary commitment item on price synchronism. So, the research zeros hypothesis of first model can't be rejected in 0.05 error level. Research conclusions show entered controlling variables in financial lever regression have a meaningful effect on price synchronism and corporation size doesn't have any meaningful effects on price synchronism determination coefficient and adjusted the determination coefficient show that entered variables in regression can describe 0.014 of dependent variables changes. Following regression model for the first hypothesis is accepted:

$$Synch = 1.230 + 0.037\ Innat \pm 0.065 SIZE \pm 0.081 LEV$$

As indicated in the Table 7, voluntary commitment items vary with 0.043 coefficient and 0.024 meaningful level has entered the model. So, there is a meaningful effect of involuntary commitment items on price synchronism. Then H_0 of second research hypothesis is rejected.

6. CONCLUSION

- Based on received conclusions of first hypothesis, there are some suggestions which attend involuntary commitment item factors to avoid managers manipulations because involuntary commitment items are considered by management.
- Based on received conclusions of first hypothesis, involuntary commitment items are limited because of organizations rules and other outside factors. Involuntary commitment items can be performed by management. Total commitment items which a corporation uses for its business accounts are received accounts and documents, payment accounts and documents, pre-payment and parts of incomes and costs (however, increase or decrease in incomes and costs are results of the recorded in assets and liabilities). Above factors aren't done by management, so they don't effect on price synchronism and should be considered.
- Based on received conclusions of second hypothesis which suggest factors related to internal corporation costs and incomes should be considered because these factors can play important roles for effecting on price and stock return.

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