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
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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
nearnness 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_{it} = \lambda_0 + \lambda_4 Size_{it} + \lambda_2 \delta(CFO)_{it} + \lambda_3 \delta(sales)_{it} + \lambda_4 OperCycle_{it} + \lambda_5 NegEarn_{it} + \mu_{it}

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

Size_{it} = Corporation size in t year

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

\delta(CFO)_{it} = Standard deviation cash flow of I
corporation operation in t year

OperCycle_{it} = 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_{it} = 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:

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

\[
\Delta REV_{i,t} = \text{Change in net sale from } t-1 \text{ year to } t \text{ year}
\]

\[
PPE_{i,t} = \text{Value of impure properties and machinery in } t \text{ year}
\]

\[
CFO_{i,t} = \text{Operating cash flow cycle}
\]

\[
U_{i,t} = \text{Estimating error}
\]

\[
\beta_0 = \text{Independent variable coefficient.}
\]

\[
TCA = \Delta CA - \Delta CL - \Delta Cash + \Delta STDEBT
\]

\[
\Delta CA = \text{Change in flow properties}
\]

\[
\Delta CL = \text{Change in flow liabilities}
\]

\[
\Delta Cash = \text{Change in cash flow}
\]

\[
\Delta STDEBT = \text{Change in long term liabilities (Chan et al., 2013)}.
\]

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:

\[
\text{InnatAQ}_{i,t} = \lambda_0 + \lambda_1 \cdot \text{size}_{i,t} + \lambda_2 \cdot \delta(CFO)_{i,t} + \lambda_3 \cdot \delta(sales)_{i,t} + \lambda_4 \cdot \text{OperCycle}_{i,t} + \lambda_5 \cdot \text{NegEarn}_{i,t}
\]

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

\[
\text{DiscAQ}_{i,t} = \mu_{i,t}
\]

Mashayekhi and et al. (2014).

3.3. Price Synchronism

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

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

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

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

\[
R_{i} = \text{i corporation stock return for } t \text{ month}
\]

\[
R_{mt} = \text{i corporation market return for } t \text{ month}
\]

\[
R_{it} = \text{i corporation industry return for } t \text{ month.}
\]

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

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:

H₀: Polled data
H₁: 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.

H₀: Random effects
H₁: 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, H₀ based on random will be rejected and fixed effects will be accepted (Table 3).

In this test, H₀ 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, H₀ will be rejected and H₁ will be accepted.

<table>
<thead>
<tr>
<th>Chow test conclusion</th>
<th>F statistical probability</th>
<th>F</th>
<th>Hypothesis test</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₀ is rejected</td>
<td>0.000</td>
<td>3.902</td>
<td>Research model</td>
</tr>
</tbody>
</table>

Based on received conclusions of the Hausman Test for research model α = 0.05, statistic Hausman for research model is 48.365 and P < 0.05, so H₀ is rejected. H₁ rejection shows that random effects are incoherent and fixed effects should be used.

5. RESEARCH HYPOTHESES TEST

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. Evies 7 and 8 softwares have been used based on research models hypotheses.

5.1. First Hypothesis Test Conclusions

H₁: Involuntary commitment items’ quality has a meaningful effect on price synchronism.

H₀: 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 coefficient, test conclusions show no meaningful effect on involuntary commitment items on price

<table>
<thead>
<tr>
<th>Meaningfulness</th>
<th>T statistic amount</th>
<th>Coefficients</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>7.569</td>
<td>1.230</td>
<td>Fixed variable</td>
</tr>
<tr>
<td>0.387</td>
<td>2.24</td>
<td>0.037</td>
<td>Involuntary commitment items</td>
</tr>
<tr>
<td>0.452</td>
<td>−2.580</td>
<td>−0.065</td>
<td>Corporation size</td>
</tr>
<tr>
<td>0.006</td>
<td>−2.39</td>
<td>−0.081</td>
<td>Financial lever</td>
</tr>
</tbody>
</table>

<p>| Table 2: Chow test conclusions, sections homogenous or inhomogeneous specifications |
|-----------------------------------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Chow test conclusion</th>
<th>F statistical probability</th>
<th>F</th>
<th>Hypothesis test</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₀ is rejected</td>
<td>0.000</td>
<td>3.902</td>
<td>Research model</td>
</tr>
</tbody>
</table>

<p>| Table 3: Hausman test conclusions to determine use of random or fixed effects models |
|-----------------------------------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Test conclusion</th>
<th>F statistical probability</th>
<th>F</th>
<th>Hypothesis test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed effects</td>
<td>0.000</td>
<td>48.365</td>
<td>Research model</td>
</tr>
</tbody>
</table>

<p>| Table 4: First model descriptive statistic |
|------------------------------------------|----------------|----------------|</p>
<table>
<thead>
<tr>
<th>Watson doorbin statistic</th>
<th>Meaningful level</th>
<th>F statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.905</td>
<td>0.000</td>
<td>38.396</td>
</tr>
</tbody>
</table>
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 the remainders mean observations effects on each other. Continuous correlation coefficient doesn’t have any meaningful effects on price synchronism and corporation size. 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:

\[
\text{Synch} = 1.230 + 0.037 \text{ Innat} + 0.065 \text{SIZE} + 0.081 \text{LEV}
\]

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.

**REFERENCES**

