The Comparison between Balance Sheet of Listed Companies before and after the Consolidation: Case of Iran

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Abstract
In this research, the balance sheets of listed companies in Tehran Stock Exchange have been surveyed before and after the consolidation of accounts during 2006-2010. In this research, one main hypothesis and three sub-hypotheses are postulated. The results of the study reveal that there is a significant difference between the balance sheet of listed companies before and after the consolidation. Further, it is found the significant difference between the assets of listed companies before and after the consolidation of accounts. The results also portray a significant difference between the debit of listed companies before and after the consolidation of accounts. At last the results show that there is a significant difference between the stockholders’ salary of listed companies before and after the consolidation of accounts.

Key Words: Consolidation, Consolidative Financial Statements, Main and Subordinate Relation.

1. Introduction
Clear and comparative information includes the main part of financial reporting process. Presently, a full collection of financial statements includes balance sheet, comprehensive income statement, cash flow statement and explanatory notes. The aim of financial statements consist of submitting summarized and classified information of financial situation, financial performance and financial flexibility of commercial unit which would be useful for wide groups of financial statement users in economical decisions (Harris at al., 1997).

Financial statements term also includes consolidative financial statements. Consolidative financial statements consist of group financial statement (the main company and all of its subsidiary companies) which are provided by using consolidation regulators. The purpose of consolidation is to combine separated financial information of a commercial unit and its subsidiary companies (Whittered, 1986). Whenever combination of commercial units result in main and subordinate relations, the acquainted commercial unit or the main one should make ready and submit consolidative financial statements.

At international level company groups represent a reality just as important as companies. The phenomenon of company groups has expanded in the last decades, including a large range of activity sectors.

2. Literature Review
Nowadays, most of the world countries commercial environment have expand in all dimensions and we see everyday that new-established companies enter global market with new products that cause the other companies
which encounter difficulties in this situation to leave the market or have the ability to change their productive lines. On this basis most of companies have selected another way which is the combination of other companies which causes them to create a new widespread operative set. So this way of combination occurs when two or several companies join together for controlling in a normal condition (Salehi, 2009). Control means that the holder (main) company can dictate operative and financial policies to its subsidiary company.

Generally, control can traditionally be obtained via necessary stock value acquisition which is the holder of franchise in the other companies that this value of control is equal to have 50% out of the franchise holder stock (Salehi and Abedini, 2009). In this conditions which a main company owns some companies in its subsidiary that posses more than 50% of their stock and control their financial and operative policies necessarily, the main financial statements commercial unit don't singly show a complete view of economical activities and financial situation. Financial statement users of main commercial unit need some information about financial situation, operation results and group cash flows for economical decisions. This need would be estimated via consolidative financial statements which submit the financial information of group as a unique economical commercial unit regardless of regular extents of separate legal entity.

Generally, in accounting standards or rules and regulations of most of countries, submitting consolidative financial statements related to investment in subsidiary companies (via possessing the most of stocks) is obligatory, except in some cases that subsidiary company is temporary or is not possessed by the majority of stock holders. Additionally, in international accounting standards, also providing consolidative financial statements are obligatory. Anyhow, when consolidative financial statements are provided by main company, submitting separated financial statements as complementary financial statements is necessary. Regarding the importance of consolidative financial statements, setting accounting standards are also necessary as is considered by authority. Concerning the above point, in this research, the balance sheet of listed companies in Tehran Stock Exchange (TES) has studied for recognizing whether there is a significant difference between main items of balance sheet including assets, debits and the stockholders salary or not, and whether consolidative balance sheet can be used by users regarding the results and analysis of main hypothesis and subordinate hypotheses or not. It is wished these questions would be answered in the end of this research for informing users clearly and completely.

Thought of providing consolidative financial statements was approximately discussed at the beginning of 20th century and contemporary to the First World War. Noble Company in England was the first company which provided a consolidative balance sheet in 1920. The power of this thought resulted in consolidative financial statements development, as England securities exchange obliged it in 1939. In USA, providing consolidative financial statements was started from 1940. Presently, the consolidate financial statements are provided wide spreading even for medium financial terms, but in our country we are still at the first step of this point, and maybe we can say no consolidative financial statements has provided with major problems, and anything that is provided, isn't usually published on time.

Harris et al. (1994) compare the value relevance of accounting measures for U.S. and German firms matched on industry and firm size. One of their conclusions based on their empirical findings states that the explanatory power of accounting data is increasing in the level of consolidation and that unconsolidated data perform poorly relative to the consolidated data.

Niskanen et al. (1998) examine the information content of consolidated versus parent-only earnings, using accounting and market data from Finnish firms. Their results show that consolidated earnings is a significant
incremental explanatory variable for stock returns, while parent-only earnings are not, thus indicating that consolidation improves the information content of earnings, and that the requirement to disclose parent-only earnings should be based on arguments other than their value-relevance to shareholders.

Abad et al. (2000) investigate the value relevance of consolidated versus parent company accounting information on a sample of Spanish firms listed on the Madrid Stock Exchange. The authors use the Edwards-Bell-Ohlson valuation framework to generate the results. The empirical findings show that, from this valuation perspective, consolidated information dominated parent company (non-consolidated) information. Finally, Goncharov et al. (2009) examine the possibly different economic functions of company and group accounts using a large number of accounting and market-based metrics from a sample of German companies. Their analysis indicates higher value relevance, predictive ability, and timeliness of group accounts as compared to company accounts. Furthermore, they could not identify an incremental usefulness of single accounts.

Harris et al. (2007) discussed about the importance of consolidative accounting information and the other that is not consolidative for predicting yield rates and stock cost in German companies. In Germany, financial reporting is based on legal entity, but the companies are obliged to submit financial statements of legal entity for decision making about profit distribution. In addition to this, if the legal entity differs from economic entity, the companies are obliged to submit the setting of group financial statements which include the economic entity. Harris aimed in this research that non-consolidative profit values (the main commercial unit) which are based on an old commercial law, is more beneficial in comparison with consolidative profit for the market values of company. Also, the results show that book value of the equity regarding the old commercial law which emphasize on consolidative values, predict the market values to some extent.

Botman et al. (2008) would survey of macroeconomics conceptions the substituted financial strategies which differ in combination, place and modules scheduling and using two-country samples of GFM which have edited in Japan economic.

The results show that: The comparative parcel that achieves the primary harmony through state less expenditure and social transfusions and more VAT, is the most practical option and influence less effect on development in proportion to other financial modules. Achieving the primary parity is enough for stabilizing net monetary liabilities. Time deposits would have long-term profits in comparison with short-term strategies. Monetary modification including changing company tax to consumption tax can decrease short-term losses with financial consolidative. Bilateral effects on the other countries in short-term resulted in financial consolidation in Japan are positive, although it is inconsiderable.

2. Research methodology

Generally, this method is a collection of procedures which is used for recognizing fact and avoiding error. Scientific method or scientific research method is the process of systematic searching for specifying an undetermined situation. In other word, scientific method is a special format and systematic method which always follows fact, a fact which is determined by logical considerations. In fact, research method is a collection of rules, instruments and valid (certain) and systematic methods for studying realities, unknowns finding and accomplishing difficulties solution.

Regarding the nature and research method of the present research which typically are used library research method and studying scripts and subject contents and field research methods such as observation are among the kind of descriptive-analytic researches. In these researches like the present research, researches don't interfere with the
situation, position and role of variables and don’t control or retouch them and has just studied something that is existed and describes and analyzed them. Descriptive researches enjoy a high quality scientific value which can result in discovering realities and general recognition and general circumstances editing in all sciences and human cognition, because it studies the existing situation and systematically describes its current situation and studies their attributes and qualifications and relationship between variables if it is necessary.

In the present research which is among the scientific, descriptive-analytic researches type, it has tried that all present information that has gathered for doing research, be close to the research and be practical until can investigate the difference between the balance sheet of listed Companies in TSE before and after accounts consolidation and can be a useful guide for all the users of these financial statements.

2.1. Statistical society
Statistical society the present research population includes the entire listed vehicle manufacturing companies in TSE which their number is 31. Among 31 listed vehicle manufacturing companies in TSE, only 11 companies have provided and submitted consolidative financial statements for selected four-year period (2006-2010). So the research sample includes the companies which have provided consolidative financial statements.

2.2. Data collection method
Necessary information for the present research has gathered from audited financial statements of listed vehicle manufacturing companies on Tehran securities exchange. The balance sheet of consolidative companies has studied and necessary information for hypotheses test was gathered.

2.3. Research hypotheses
In this research, the difference between listed vehicle manufacturing companies' balance sheet in TSE is studied before and after accounts consolidation. The present research hypotheses include a main hypothesis and three sub- hypotheses.

Main Hypothesis
H: There is a significant difference between the balance sheet of listed vehicle manufacturing in TES before and after accounts consolidation.

The Subsidiary Hypotheses
H1: There is a significant difference between the assets of listed vehicle manufacturing in TSE before and after accounts consolidation.
H2: There is a significant difference between the debts of listed vehicle manufacturing in TES before and after accounts consolidation.
H3: There is a significant difference between the stockholders' equity of listed vehicle manufacturing in TSE before and after accounts consolidation.

3. Testing of hypotheses
Regarding the present research hypotheses are affiliated sample and related to difference between average of two society, Pierson correlation coefficient test and T-test are used.

In this research, first, the related data to each sub- hypothesis were gathered and then average of this data and next, standard deviation, afterward the median standard error, i.e. before consolidation and after it were specified and upper and lower limit because of median standard error with 95% confidence interval was obtained until achieving prepared value of T statistic value with 43 degree of freedom for each hypotheses and finally, significance level of two domains for rejection or acceptance of hypotheses with error level of $\alpha = 0.05$ were considered. The
main hypotheses were also studied after doing the above processes of subsidiary hypotheses following rejection or acceptance of them. The reason of choosing T test for examining present research hypotheses is using paired samples which are observed twice in two situations.

Pierson correlation coefficient test

Correlation coefficient which is shown with \( r \) is an index that is used for determining correlation type and level and degree relationship between attitudes.

Linear correlation coefficient:

One of the numerical standards for determining strength of linear relationship between \( x, y \) is linear correlation coefficient which is shown by \( p \) and its proportion is obtained by following relation:

\[
p = \frac{\text{cov}(x, y)}{Q_x Q_y}
\]

For calculating \( p \) the distribution of society should be obvious because we can calculate mathematical expectation \( (x - \mu_x)(y - \mu_y) \) and \( p \), but if the distribution of society is not obvious, \( \text{cov}(x, y) \) cannot be found, so in this situation, \( p \) should be estimated by using a random sampling which is derived from society, and here the selected sample is as the ordered pairs of \( (x_1, y_1), \ldots, (x_n - y_1) \).

Statistical sample correlation coefficient which is used for estimating \( y, x \) linear correlation coefficient is shown by \( r \) and is named sample correlation coefficient or Pierson correlation coefficient. The value \( r \) is:

\[
r = \frac{\sum X_i Y_i}{\sqrt{\sum X_i^2 - (\sum X_i)^2} \sqrt{\sum Y_i^2 - (\sum Y_i)^2}}
\]

Interpretation and explanation of \( r \) value:

a. Direct correlation:

Regarding formula for calculating \( r \), it can be shown that \( r \) value varies between \((1,-1)\). So generally it is:

\((-1 < r < 1)\)

If \( x, y \), \((0 < r < 1)\) have the direct correlation, i.e. increasing \( y \) cause \( x \) to be increased and sample points are scattered around a direct line with a positive slope.

b. Reverse correlation:

If \( x, y \), \((-1 < r < 0)\) have reverse correlation, i.e. increasing \( y \), cause \( x \) to be decreased and the sample point are scattered around a direct line with negative slope.

c. Perfect correlation:

If in scatter diagram, all point are placed on line with positive slope, then \( (r=1) \) and correlation of \( x, y \) is direct and perfect. If in scatter diagram all points are placed on a line with negative slope, then \( (r=-1) \), correlation between \( x, y \) is reverse and perfect.

Paired sample T-test:

For testing hypotheses, we use T test with samples. This test is used for analyzing informational which noted sample is observed twice in two situations or is used in some studies that some pairs of noted observations exist that are correlated in some way. One of these studies is the project of before and after:

\[
H^0 : \pi_1 - \pi_2 = 0 \quad \text{average before consolidation:} \; \pi_1
\]
Concerning correlation between two averages of the present research, the data structure is as following format:

<table>
<thead>
<tr>
<th>Case</th>
<th>Square</th>
<th>( D_i = x_i - y_i )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>( x_1 )</td>
<td>( y_1 )</td>
</tr>
<tr>
<td>2</td>
<td>( x_2 )</td>
<td>( y_2 )</td>
</tr>
<tr>
<td>3</td>
<td>( x_3 )</td>
<td>( y_3 )</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>( n )</td>
<td>( x_n )</td>
<td>( y_n )</td>
</tr>
</tbody>
</table>

The structure research pairs \((x_n, y_n)\) is independent and these pairs are tested by statistics of average test and standard deviation test.

\( D^1 \): i pair difference
\( n \): number of observation

\( S^2_d \): pair observations difference variance

\[
D = \frac{1}{n} \sum_{i=1}^{n} D_i
\]

\[
S^2_d = \frac{\sum_{i=1}^{n} (D_i - D)^2}{n - 1}
\]

In this case:

a. confidence interval \(100(1-\alpha)\) for \((\pi_1 - \pi_2)\) are get by

\[
\pi_1 - \pi_2 : D + \frac{t_{\alpha/2} S_d}{\sqrt{n}} \leq \pi_1 - \pi_2 \leq D - \frac{t_{\alpha/2} S_d}{\sqrt{n}}
\]

\( D + \frac{t_{\alpha/2} S_d}{\sqrt{n}} \) Lower limit

\( D - \frac{t_{\alpha/2} S_d}{\sqrt{n}} \) Upper limit

Which \( t \) has \( n-1 \) degree of freedom.

b. \( H_0 = \pi_1 - \pi_2 = 0 \) is based on below test statistics of:

\[
\frac{D}{t = \frac{D}{S_d / \sqrt{n}}} = d.f = n - 1
\]
Related results to the research hypotheses test: This research includes a main hypothesis and three subsidiary hypotheses. For analyzing the gathered information, SPSS software has been used. The hypotheses were tested by using descriptive statistics (T-test and Pierson's tests) and the achieved results related to testing each hypothesis will present in the future.

The first sub-hypothesis:
H 1: There is a significant difference between the assets of listed vehicle manufacturing in TSE before and after accounts consolidation.

H0: There is not a significant difference between the assets of listed vehicle manufacturing in TSE before and after accounts consolidation. The results of the first sub-hypothesis are presented in Table 1.

<table>
<thead>
<tr>
<th>median</th>
<th>S.D</th>
<th>Medians Standards error</th>
<th>95% confidence Interval of medians</th>
<th>T</th>
<th>D.F</th>
<th>significance level of Pierson test</th>
<th>Correlation coefficient</th>
<th>significance level of T test</th>
</tr>
</thead>
<tbody>
<tr>
<td>-12545525</td>
<td>35359644</td>
<td>5330667</td>
<td>-23295840 -1795211</td>
<td>-2.353</td>
<td>43</td>
<td>0.000</td>
<td>0.880</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Concerning the achieved results of Pierson test, because the level of significance is equal to zero and is minor than \(\alpha = 0.05\) (0.000 < 0.05), then linear correlation coefficient is equal to \(r=0.885\) is significance between these two values and regarding the achieved results of T-test, because the significant level of T –test is equal to 0.23 is minor than the error level \(\alpha = 0.05\) (0.23<0.05). So there is a significant difference between the assets of listed vehicle manufacturing in TSE before and after accounts consolidation, then H0 hypothesis is declined and H1 is accepted.

The second sub-hypothesis
H2: There is a significant difference between the debts of listed vehicle manufacturing in TSE before and after accounts consolidation.

H0: There is not a significant difference between the debts of listed vehicle manufacturing in TSE before and after accounts consolidation.

Concerning the achieved results of Pierson test, because the level of significance is equal to zero and is minor than \(\alpha = 0.05\) (0.000 < 0.05) then linear correlation coefficient is equal to \(r=0.885\) is significance between these two values and regarding the achieved results of T-test, because the significant level of T –test is equal to 22% is minor than the error level \(\alpha = 0.05\) (0.22<0.05), so there is a significant difference between the assets of listed vehicle manufacturing in TSE before and after accounts consolidation, then H0 hypothesis is rejected and H2 is accepted which the details are portrays in Table 2.
The third sub-hypothesis testing

H3: There is not a significant difference between the stockholders' equity of listed vehicle manufacturing in TSE before and after accounts consolidation.

H0: There is a significant difference between the stockholders' equity of listed vehicle manufacturing in TSE before and after accounts consolidation.

Concerning the achieved results of Pierson test, because the level of significance is equal to zero and is minor than \( \alpha = 0.05 \) (0.000 < 0.05), then linear correlation coefficient is equal to (r=0.961) between these two significance value and regarding the achieved results of T-test, because the significant level of T –test is equal to 0.052 is minor than the error level \( \alpha = 0.05 \) (0.052<0.05), so there is a significant difference between the assets of listed vehicle manufacturing in TSE before and after accounts consolidation, then H0 is accepted and H3 is rejected. Table 3 shows the result of this hypothesis test.

Table 3. The results of the third sub-hypothesis

<table>
<thead>
<tr>
<th>median</th>
<th>S.D</th>
<th>Medians Standards error</th>
<th>95% confidence Interval of medians</th>
<th>T</th>
<th>D.F</th>
<th>significance level of Pierson test</th>
<th>Correlation coefficient</th>
<th>significance level of T test</th>
</tr>
</thead>
<tbody>
<tr>
<td>-452306</td>
<td>1497959.64</td>
<td>225825.91</td>
<td>-907727.74</td>
<td>3114</td>
<td>-2.003</td>
<td>43</td>
<td>0.000</td>
<td>0.961</td>
</tr>
</tbody>
</table>

The main hypothesis

H: There is a significant difference between the balance sheet of listed vehicle manufacturing in TSE before and after accounts consolidation.

Concerning the achieved results of Pierson test, because the level of significance is equal to zero and is minor than \( \alpha = 0.05 \) (0.000 < 0.05) then linear correlation coefficient equal to (r=0.880) is significance between these two value and regarding the achieved results of T-test, because the significant level of T –test is equal to 0.023 is minor.
than the error level $\alpha = 0.05$ (0.023<0.05), so there is a significant difference between the assets of listed vehicle manufacturing in TSE before and after accounts consolidation, then H0 is rejected and H1 is accepted which Table 4 shows the results.

Table 4. The results of main hypothesis

<table>
<thead>
<tr>
<th>Median S.D</th>
<th>Medians Standards</th>
<th>95% confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Interval</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Of medians</td>
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<tr>
<td></td>
<td></td>
<td>Lower limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upper limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T D.F significance level of Pearson test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Correlation coefficient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>significance level of T test</td>
</tr>
<tr>
<td>-8374180.606</td>
<td>23570105.20</td>
<td>3553327.0</td>
</tr>
</tbody>
</table>

4. Conclusions and Suggestions

When not only two or several companies combine in a case that none of them liquidate, but also the members of combination companies' control them, this combination is named acquisition. In this case, the investors of controller commercial unit (main company) need financial position, financial performance and group' cash flow, due to their own profits. This need is supplied by financial statements of the group (the main commercial unit and its entire subsidiary commercial units) which is provided by using consolidative criteria, and due to this, the financial information of each group as single economic entity regardless legal limits of separate legal entity. In addition to investors, consolidative financial statements avail useful information for the other users. For increasing confidence and relying on reflected information in consolidative financial statement, accounting standards which are the standards of information quality below mentioned in financial statements should be regarded.

The results after analyzing of the subsidiary hypotheses and specifying the difference between them and were used for proving or declining of the main hypothesis. When companies combine with the more financial strength companies causes the 1st one to gain new assets. These new assets themselves make new opportunities for companies of whole group which all of their aim can be accomplished by a systematic and proper managing. When a commercial combination was done, the main companies stock of disposes the subsidiary company or the companies. This point has been also cleared at present research by confirmation of the researcher’s claim about the difference between the assets of listed vehicle manufacturing in TSE before and after accounts consolidation. It was cleared that there is a significant difference between the debts of listed vehicle manufacturing in TSE before and after accounts consolidation. It was explained before that one of the factors which obliges the companies to receive the commercial combination is inability of a company to emulate with the other rivals. One of these factors is existence of many debts which company is managing weakness in controlling the company in the direction of development and the aim that it follows. The companies need new decisions for continuing their activity which cause them to be more and more approached to their aims. Accomplishing this is not possible, and then they should combine with the other companies by more financial strength and more unique situation. Combining the companies, the total debts of the group companies have increased due to the many debts of subsidiary companies. It needs a more strength managing to keep on their activity. In the present research, the total debts of the group companies have increased due
to the many debts of the subsidiary companies that it itself is the reason of researcher’s hypothesis acceptance about the significant difference between the debts of listed vehicle manufacturing in TSE before and after accounts consolidation.

During the commercial combination and at the time of providing consolidative financial statements, one of the general principles of providing these financial statements is removing investment account of main company at subsidiary company and not inserting it in the consolidative balance sheet. Removing the investment account of subsidiary company by the former items of the subsidiary company’s stockholders’ equity during providing the consolidative financial statements, the total stockholders’ equity of the group would decrease due to possessing the stock of subsidiary company by the main company. In the present research, this point has been rejected about being a significant difference between the stockholders’ equity of listed vehicle manufacturing in TSE before and after accounts consolidation.

4.1. Suggestion for the future researches

As it was mentioned before in the present research, all information for research hypotheses has obtained from audited financial statements. So it is suggested that the effect of not providing the consolidative financial statements on the auditors’ report in the listed companies in TSE will be studied.

As regards there are many different kinds of accepted industries and listed companies in TSE, so it is suggested to students that this research be done for other different companies and industries.

It is suggested that providing financial statements in Iran and the other world countries be compared with respect to standards and executive terms in a research for recognizing the value of providing these important financial statements for users and the other organizations.

5. References


