RELEVANCY OF ACCOUNTING INFORMATION UNDER IFRS AT BORSA ISTANBUL (BIST) FOR MANUFACTURING FIRMS

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JEL Classification
G19, L10, M41

ABSTRACT
This study aims to measure the impact of IFRS adoption on the relevancy of accounting information at the manufacturing firms listed in Borsa Istanbul. To achieve the objectives of the study, a regression model is applied on a dataset divided into two periods; the first covers the pre adoption period from 1996 to 2004, and the second covers the post adoption period from 2005 to 2013. The applied regression model aims to measure the explanatory power of book values and earnings to explain stock prices. The result of the cross-sectional analysis shows that the relevancy of accounting information increases after the adoption of IFRS. However, when quarterly data is used, the result shows that the relevancy declines after the adoption of IFRS.

1. INTRODUCTION

In the business world, a joint mother tongue exists between business firms. Regardless of the firms’ goals, each firm has decision makers, external and internal, who need information to make decisions. The main kind of information needed is accounting information, which is generally presented through financial reports. Concisely, accounting information plays a vital role in the decision-making process in organizations (Corina & Nicolae, 2012; Gafarov, 2009; Stvilia, Gasser, Twidale, & Smith, 2007). Accounting information is also important for equity investing decisions as well as in contracting decisions (Barth, Beaver, & Landsman, 2001).

Accounting information should be characterized by relevance and faithfulness. For information to be relevant, it should have three sub characteristics: predictive value, confirmatory value, and materiality, while to be faithfully represented, information should be complete, neutral, and free from error (International Accounting Standards Board, 2010; Kieso, Weygandt, & Warfield, 2012).

In the last decade, several debates have taken place between related bodies in different countries. The subjects of these debates have ranged from discussing harmonization levels to debating uniform levels of the accounting standards. In 2005, all European countries started to adopt the IASB standards (The IFRS Foundation and the IASB, 2013).
In addition, the Turkish Capital Markets Board issued a bulletin requiring all listed firms to prepare their financial statements in accordance with the IFRS starting from 1 January 2005; some of the firms started the adoption of International Financial Reporting Standards (IFRS) in 2003 (Bahadir & Tolga, 2013; Pekdemir & Türel, 2014).

The IFRS do not forbid the use of accounting procedures which depend on personal judgments to prepare the financial position and the income statements; for instance, estimating the collectable amount of accounts receivable; the amount of bad debt; the value of inventory; the useful life of property, plant, and equipment; and the use of depreciation methods. This means that preparing financial statements is subject to human judgment. The International Accounting Standards Board (IASB) follows the principle-based approach, which allows firms to exploit the flexibility to manage earnings (Barth, Landsman, & Lang, 2008a). Along the same line, there are motives for managers to manipulate the accounting elements, such as inventory, accounts receivable, and earnings, aiming to impact stock price of the firm prior to the expiration of stock option (Fields, Lys, & Vincent, 2001).

When the firm adopts the IFRS to prepare financial reports, it aims to issue information with specific characteristics. But until this moment, scholars have been unsure about the quality of information. Jeanjean & Stolowy (2008) mention that the standards have limited effect on the information quality, and Anandarajan & Hasan (2010) show that value relevance is lower in continental countries relative to that of the USA and Britain. Several studies aim to measure accounting information quality. Most of these studies concentrate on comparing between firms before and after adopting IFRS through comprehensive measurements. (These studies are mentioned in detail in the literature review section.)

Based on the importance of accounting information quality, this study attempts to measure the information relevancy of manufacturing firms listed in Borsa Istanbul. To accomplish its objectives, the study measures the relevancy using Barth’s model for a pooled and a quarterly-interval sample.

The paper is introduced by (1) Accounting Information Quality through presenting the attributes of measuring the quality of accounting information and value relevance, (2) The development of the Turkish accounting system. Then a diverse literature review on value relevance is presented. At the end, data, research design, and the conclusion are presented.

2. ACCOUNTING INFORMATION QUALITY

2.1. Measuring Quality of Accounting Information

Measuring the quality of accounting information has two main attributes: (1) accounting-based and (2) market-based. The accounting-based attribute includes features of accounting numbers which are influenced only by recognition and measurement principles. It includes accruals’ quality, persistence of earnings, predictability of earnings, and smoothness of earnings. The accounting-based attribute does not refer to market value.
The market-based attribute, on the other hand, reflects economic income as represented by market returns, and it includes the value relevance of accounting numbers, timeliness, and conservatism.

The following section presents a brief literature about value relevance.

2.2. Value Relevance

The value relevance of financial information is the ability of financial data to summarize a firm’s value or to reflect information that affects stock market measures, stock returns, and stock turnover (Fiador, 2013), or in other words, measuring the significance of the relationship between the market value and the accounting numbers of a firm.

Francis & Schipper (1999) mention four interpretations for value relevance: “(1) Financial statement information leads stock prices by capturing intrinsic share values toward which stock prices drift. (2) Financial information is value relevant if it contains the variables used in a valuation model or assists in predicting those variables. (3) The ability of financial statement information to change the total mix of information in the marketplace. (4) The ability of financial statement information to capture or summarize information.”

But the achievement of high-quality information is somehow difficult because (1) it exhibits complexity and multidimensionality, (2) it is affected by the economic environment which is out of the control of standard setters, and (3) some tradeoffs might be necessary for the political process (Ely & Waymire, 1999).

Historically, many studies conducted during the seventieth and eightieth decades studied the relevance of accounting information. As event studies (Ball & Brown, 1968; Beaver, 1968), they depend on measuring the impact of the signaling of financial statements through examining the change in share price. In the beginning of the ninetieth decade, researchers evaluated relevancy through measuring the relationship between market return and accounting earnings (Easton & Harris, 1991; Lev, 1989).

Recently, many studies have measured relevancy in different countries. They conclude that significant differences among countries and accounting rules exist. Value relevance is subject to changes to the actions of standard setters and to the changes in the economic and social environment. There is an important transference in the research topic orientation from evaluating exclusively the existence of the information content of accounting numbers towards investigating the interplay of accounting environment and the institutional and economic background of financial reporting (Alford, Jones, Leftwich, & Zmijewski, 1993; Bao & Chow, 1999; Harris, Lang, & Möller, 1994; Joos & Lang, 1994).

Holthausen & Watts (2001) discuss external factors’ ability to influence the relevancy of accounting information. This idea directed researchers to measure the impact of external factors, such as how institutional alterations among different countries influence properties of firms (Ball, Kothari, & Robin, 2000). Ali & Hwang (2000) state that there are many factors which impact the relevance of accounting information; for instance, bank versus market orientation of financial systems, the involvement of private sector bodies in standard setting, code law versus common law-based accounting regimes, tax influence on financial accounting, and external auditing expenditures.
Ball, Robin, and Wu (2003) argue that it is better to measure the relevance of accounting information by giving substantial weight to the institutional influences on actual reporting incentives of the preparers and not to focus the measurement on classifying countries and evaluating the value relevance of accounting information in terms of formal accounting standards.

3. THE TURKISH ACCOUNTING SYSTEM

Turkish firms follow a commerce code, a tax procedural law, Ministry of Finance regulations, and Public Supervision Accounting and Audit Standards Institution regulations (Balsari & Varan, 2014; Cengiz, 2014). The Ministry of Finance issues tax procedural law which includes regulations that should be followed by firms to prepare financial statements for tax purposes (Balsari & Varan, 2014; Cengiz, 2014). The Ministry of Finance published a Turkish uniform accounting system in 1992, and in 1994, firms started to prepare financial statements in accordance with generally accepted accounting principles. In addition, firms listed at the Istanbul stock exchange (IMKB) had to prepare financial statements in accordance with CMB's communiqué serial: XI, NO:1, which states the principles and rules of financial statements of the listed firms. According to this, firms have to prepare two sets of financial statements: one set for tax purposes and another for capital market purposes (Bilgic & Ibis, 2013).

The Public Supervision of Accounting and Audit Standards Institution has been established instead of the Turkish Accounting Standards Board. It is responsible for establishing and publishing Turkish Accounting Standards according to the results of the adoption and implementation of IFRS (Balsari & Varan, 2014; Cengiz, 2014). The IFRS have been translated into the Turkish language by Turkish Accounting Standards Board and published them as Turkish Accounting Standards/Turkish Financial Reporting Standards (TAS/TFRS). The Turkish Capital Markets Board has issued a bulletin that requires all listed firms to prepare financial statements in accordance with the IFRS from 1 January 2005, although the adoption of IFRS started in 2003 (Bahadir & Tolga, 2013; Gürarda, 2013; Pekdemir & Türel, 2014).

4. LITERATURE REVIEWS

Many studies discuss the accounting information quality; a lot of these studies measure the quality by comparing information quality before and after adopting IFRS or by comparing listed firms that adopt IFRS with listed firms that adopt US GAAP or by comparing firms in different countries. Jeanjean & Stolowy (2008) measure the quality of earnings post of the adoption of IFRS in different countries (Australia, France, and the United Kingdom) by analyzing the discontinuities in the distribution of earnings before and after applying the IFRS. Barth, Landsman, Lang, and Williams (2006) measure the accounting quality by making a comparison between firms that apply US GAAP in the USA and firms that apply IAS in France and Germany. Djatej, Gao, Sarikas, and Senteney (2011) find the differences between information quality in western European and eastern European firms. Alali & Foote (2012) measure the relevance of accounting information for firms listed and traded in the Abu Dhabi Securities Exchange.
Haller, Ernstberger, and Froschhammer (2009) compare between equity and net income in German firms before and after adopting IAS 11, IAS 16, IAS 37, IAS 38 and IFRS 3. (Chen et al., 2010) measure the impact of adopting IFRS at firms located in 15 states of the European Union. Ashbaugh & Pincus, 2001) measure the impact of adopting IAS in comparison to domestic standards to find the negative affect of inaccurate IAS forecast.

Most of the published studies measure the accounting information quality through similar approaches; measuring earnings management, income smoothing, and timely loss recognition. Barth et al. (2006) examine accounting information quality by measuring the (1) variability of change in net income and (2) variability of change in net income relative to change in cash flow. Furthermore, Alali & Foote (2012) examine (1) the variability of change in net income and (2) the variability of change in net income relatively to change in cash flow. Haller et al. (2009) use the index of comparability to find the differences between equity and net income before and after adopting the IFRS. Chen et al. (2010) measure the impact of IFRS using five factors: earnings smoothing, managing earnings toward targets, the magnitude of absolute discretionary accruals, accruals quality, and timely loss recognition. Paananen & Lin (2007) measure earnings smoothing and timely loss recognition by creating a regression model with multiple factors, such as liabilities to assets and change in sales. Karampinis and Hevas (2011) measure value relevance by finding the relationship between accounting figures, market returns and prices, and asymmetric recognition of economic losses and gains. Anandarajan and Hasan (2010) measure the association of earnings and change in earnings with equity values. In addition, Rahman, Yammeesri, and Perera (2010) examine information quality by finding the relationship between the abnormal accruals of accounting earnings and independent variables, such as equity, long-term debt, short-term debt, market return, market value, and growth. Clarkson, Hanna, Richardson, and Thompson (2011) measure the relevance of book value and earnings for the level of stock price.

Most studies have different methodologies to measure accounting information quality. Kohlbeck and Warfield (2010) follow three different methodologies to find the relationship between standards and information quality: (1) a comparison between unexplained changings in net income before and after implementing the standards; (2) a measurement of the correlation between cash flow and accruals, according to the assumption that firms managing earnings will have a negative relationship between cash flow and accruals; and (3) a measurement of the correlation between cash flow and accruals after controlling for firm size, growth, equity issues, leverage, debt issues, sales turnover, and the presence of a Big N auditor. Dechow (1994) measures the relationship between earnings and stock return and between cash flow and stock return in short intervals by analyzing the regression between earnings and stock return, cash flow and stock return, and cash flow from operating activities and stock return. Rahman et al. (2010) differentiate between different accounting information qualities according to different influence theories in the country by observing the agency theory in US firms, high block holder concentration in French firms, and family-owned businesses in Thailand.

Several studies examine the quality of accounting information across different countries. Barth et al. (2006) state that US firms have more variances for the change in income and the change in cash flow than non-US firms, and the correlation between accruals and cash is significantly less negative in the US firms compared with non-US firms. Generally, US firms that apply US GAAP have more information quality than non-US firms. Djatej et al. (2011) find that the quality of public and private information in western European countries is higher than the quality of public and private information in eastern European countries. Anandarajan and Hasan (2010) find that the relevancy of information is affected by the level of mandated disclosure, the source of standards in the different countries, and the legal environment.

By looking at the results of different studies, most agree that the adoption of the IFRS improve the information quality when compared with local standards. Alali and Foote (2012) state that adopting the IFRS increases the relevance of accounting information, which is more relevant for small firms than big firms. Haller et al. (2009) state that IAS 16, IAS 19, IAS 37, and IFRS 3 have a significant effect on equity post adoption of IFRS. (Chen et al. (2010) find that adopting IFRS improves accounting information quality by reducing the targeted earnings management, as adopting the IFRS increases accrual quality. Barth et al. (2008a) state that adopting IAS declines earnings management and improves the quality of time for loss recognition, which means that IAS improves information quality. Ashbaugh & Pincus (2001) find that, after adopting IAS, earnings forecasts have been improved.

On the contrary, some studies find that adopting the IFRS increases earnings management.
Paananen and Lin (2007) state that the adoption of IFRS has a negative effect on accounting information quality because of the conversion into the new standards. Karampinis and Hevas (2011) find that adopting the IFRS has a minor impact on information quality, while Clarkson et al. (2011) find that the benefit of adopting the IFRS is limited. Jeanjean and Stolowy (2008) state that earnings management does not decline after adopting the IFRS, but it has even increased in France after the adoption.

5. RESEARCH DESIGN

5.1. Data and Sample Selection

The data used in the empirical part of this study is divided into two periods. The first period is from 1996 to 2004, while the second period is from 2005 to 2013. Numerous databases are used to construct the dataset. The databases of the public disclosure platform (KAP) and Borsa Istanbul (BIST) are utilized for extracting the market share of listed manufacturing firms. Additionally, the database of FINNET is used to extract the data of financial statements of the manufacturing listed firms. The sample is comprised of all manufacturing listed firms on BIST for an 18-year observation period. However, firms that lack consecutive data are eliminated to construct a balanced pooled data model. After applying this criteria on a 187 listed manufacturing firms dataset, only 100 firms are accepted.

5.2. Data Analysis and Results

5.2.1. Relevancy Model

This subsection examines the impact of IFRS adoption by measuring the relationship between market share as a dependent variable and book value of equity and earnings as independent variables. Finding the explanatory power of earnings and shareholder’s equity explains the movement of stock price. This model is applied for cross-sectional data and quarterly data.

The relevancy model examines the ability of book values and earnings to explain stock prices (Barth et al., 2001; Francis & Schipper, 1999; Ohlson, 1995). The following equation is used to measure relevancy:

\[ p_{j,t} = \delta_{0,t} + \delta_{1,t} b v_{j,t} + \delta_{2,t} E A R N_{j,t} + \varepsilon_{j,t} \]

- \( p_{j,t} \): The closing weighted average share price of firm j at the announcement day of period t.
- \( b v_{j,t} \): Book value of firm j according to period t financial statements.
- \( E A R N_{j,t} \): Net earnings after tax for firm j at period t.
- \( \delta_{1,t} \): Coefficient for book values.
- \( \delta_{2,t} \): Coefficient for earnings.

All variables are normalized by their division by the average number of outstanding shares during the related period. In addition, the effects of the adoption of IFRS are measured by the comparison of two periods: (1) 1996 (Q1) to 2004 (Q4) and (2) 2005 (Q1) to 2013 (Q2).
5.2.2. Relevancy for Cross-Sectional Data

This sub-section demonstrates the value relevance for the pre- and post-IFRS adoption periods. According to the fixed effect model, the whole period analysis demonstrates that there is an increase in the value relevance of the combined book values and earnings from 74.5 percent to 80.3 percent after adopting the IFRS. The fixed effect model is deemed as the best model in comparison to the pool and random models. The results are shown in the following tables:

Table (1) shows the measurements of value relevance for the pre- and post-adoption periods through the application of three different statistical models; Pool, Random, and Fixed effect. According to these three statistical models, value relevance increases after the adoption of IFRS.

<table>
<thead>
<tr>
<th>Model</th>
<th>Pre adoption IFRS</th>
<th>Post adoption IFRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool model</td>
<td>0.315</td>
<td>0.713</td>
</tr>
<tr>
<td>Random model</td>
<td>0.361</td>
<td>0.590</td>
</tr>
<tr>
<td>Fixed effect model</td>
<td>0.745</td>
<td>0.803</td>
</tr>
</tbody>
</table>

For the pre-adoption period, a comparison is made in order to reveal the most sufficient regression model among the three from a statistical point of view. The Fixed effect model was deemed to be the most sufficient, as shown in the following table.

<table>
<thead>
<tr>
<th>Model</th>
<th>Result (prob.)</th>
<th>Best model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool model versus random model</td>
<td>0.000</td>
<td>Random model</td>
</tr>
<tr>
<td>Fixed effect model versus pool model</td>
<td>0.000</td>
<td>Fixed effect model</td>
</tr>
<tr>
<td>Fixed effect model versus random model</td>
<td>0.000</td>
<td>Fixed effect model</td>
</tr>
<tr>
<td>Best model</td>
<td></td>
<td>Fixed effect model</td>
</tr>
</tbody>
</table>

In addition, for the post-adoption period, a comparison is made in order to reveal the most sufficient regression model among the three from a statistical point of view. The Fixed effect model was also deemed to be the most sufficient, as shown in the following table.
Table 3: Comparison of Various Regression Models for the post Adoption of IFRS Period

<table>
<thead>
<tr>
<th>Model</th>
<th>Result (prob.)</th>
<th>Best model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool model versus random model</td>
<td>0.000</td>
<td>Random model</td>
</tr>
<tr>
<td>Fixed effect model versus pool model</td>
<td>0.000</td>
<td>Fixed effect model</td>
</tr>
<tr>
<td>Fixed effect model versus random model</td>
<td>0.000</td>
<td>Fixed effect model</td>
</tr>
<tr>
<td>Best model</td>
<td></td>
<td>Fixed effect model</td>
</tr>
</tbody>
</table>

5.2.3. Relevancy for Quarterly Data *(For Each Quarter Separately)*

When the model is applied to quarterly data, the result is completely different than the cross-sectional result. It seems that relevancy for the pre-adoption period is better than the relevancy for the period of post-adoption of the IFRS for the three different regression models. In order to reveal the most sufficient regression model among the three from a statistical point of view, a comparison is made which deemed the Fixed effect model to be the most sufficient.

Table 4: Relevancy Measurements (Quarterly data)

<table>
<thead>
<tr>
<th>Q</th>
<th>Pool model (R square) Pre adoption</th>
<th>Post adoption</th>
<th>Random model (R square) Pre adoption</th>
<th>Post adoption</th>
<th>Fixed effect model (R square) Pre adoption</th>
<th>Post adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>.805</td>
<td>.746</td>
<td>.80</td>
<td>.66</td>
<td>.89</td>
<td>.85</td>
</tr>
<tr>
<td>2.0</td>
<td>.904</td>
<td>.780</td>
<td>.89</td>
<td>.75</td>
<td>.93</td>
<td>.87</td>
</tr>
<tr>
<td>3.0</td>
<td>.880</td>
<td>.716</td>
<td>.85</td>
<td>.64</td>
<td>.93</td>
<td>.81</td>
</tr>
<tr>
<td>4.0</td>
<td>.949</td>
<td>.702</td>
<td>.94</td>
<td>.63</td>
<td>.96</td>
<td>.79</td>
</tr>
</tbody>
</table>

6. CONCLUSION

When a comparison is made between the periods of pre- and post-adoption of the IFRS, it seems that there is a significant difference between the two regarding the relevancy of accounting information using cross-sectional data. Relevancy, in this study, is measured by the relationship between shareholder’s equity and net income as independent variables and share price as the dependent variable. The value of R square increases from 74.5 percent in the pre-adoption period to 80.3 percent in the period of post-adoption of the IFRS, which suggests that the relevancy of accounting information is improved by the adoption of the IFRS.

Through the use of a more detailed approach, however, applying the model on quarterly instead of cross-sectional data, an opposite result is reached. R square for the first quarter declines from 0.805 to 0.746; for the second quarter it declines from 0.904 to 0.780, for the third quarter it declines from 0.880 to 0.716, and for the fourth quarter it also declines from 0.949 to 0.702. These results suggest that the relevancy of accounting information has deteriorated after the adoption of IFRS, which is not consistent with the results of the cross-sectional analysis.
REFERENCES


The IFRS Foundation and the IASB. (2013, May 26), The move towards global standards.