<table>
<thead>
<tr>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of Asymmetric Information on the Investment Sensitivity to Stock Price and the Stock Price Sensitivity to Investment</td>
<td>01-16</td>
</tr>
<tr>
<td>Rehana Kouser, Irum Saba, Farah Anjum</td>
<td></td>
</tr>
<tr>
<td>Effect of Corporate Governance and Financial Leverage on Market value Added in Pakistan</td>
<td>17-26</td>
</tr>
<tr>
<td>Maria Shams Khakwani, Muhammad Sadiq Shahid, Ali Hamza</td>
<td></td>
</tr>
<tr>
<td>Financial Sharing in Infrastructure Joint Venture Projects</td>
<td>27-38</td>
</tr>
<tr>
<td>Norsyakilah Romeli, Faridah Muhamad Halil, Faridah Ismail, Jacqueline Wena Dhelbi</td>
<td></td>
</tr>
<tr>
<td>Philip Jehu, Mohammad Azhar Ibrahim</td>
<td></td>
</tr>
<tr>
<td>Information Content of Earnings Managements: Implications on Growth and Value Companies</td>
<td>47-56</td>
</tr>
<tr>
<td>Windu Mulyasari, Slamet Sugiri, Heyvon Herdhayinta</td>
<td></td>
</tr>
</tbody>
</table>
Editorial Advisory Board

- Prof. Dr. Hayat M Awan, Director, Air University (Multan Campus) Pakistan.
- Prof. Dr. Bashir Tijjani, Bayero University Kano, Nigeria.
- Prof. Dr. Atul Bansal, Dilla University, Ethiopia.
- Prof. Dr. Rafael Felipe Schiozer, FundaçãoGetulio Vargas (FGV) – São Paulo School of Business, Brazil.
- Prof. Dr. Che Ruhana Isa, Faculty of Business and Accountancy, University Malaya, Kuala Lumpur, Malaysia.
- Assoc. Prof. Dr. Ann-Christine Frandsen, Birmingham Business School, Birmingham, United Kingdom.
- Assoc. Prof. Dr. Ayeman Haddad, American University of Kuwait, Kuwait.
- Assoc. Prof. Dr. Nor Aziah Abdul Manaf, Universiti Utara Malaysia.
- Assoc. Prof. Dr. Abdul Rashid, International Institute of Islamic Economics, International Islamic University Islamabad, Pakistan.
- Assoc. Prof. Dr. Radha Raghuramapatruni, GITAM School of International Business, GITAM University, India.
- Asst. Prof. Dr. Irum Saba, Institute of Business Administration Karachi, IBA-CEIF, Pakistan.
- Asst. Prof. Dr. Sohail Saeed, Islamia University of Bahawalpur Pakistan.
- Asst. Prof. Dr. Muhammad Abbas, Air University, Multan, Pakistan.
- Asst. Prof. Dr. Zubair Ahmad, Institute of Management Sciences, Bahauddin Zakariya University, Multan, Pakistan.
- Asst. Prof. Dr. Waris Ali, Department of Business Administration, University of Sahiwal, Pakistan.
- Asst. Prof. Dr. Wang Chung-Jen, National Pingtung University of Science and Technology, Taiwan.
- Asst. Prof. Dr. Mahima Mishra, Symbiosis Institute of Business Management, Pune, India.
- Asst. Prof. Dr. Murniati Mukhlisin, Tazkia University College of Islamic Economics, Indonesia.
- Asst. Prof. Dr. Zlantika Blaber, Salem State University Salem, Massachusetts, USA.
- Asst. Prof. Dr. Dominic A Roberts, School of Business, Accounting , MacEwan University, Alberta, Canada.
- Asst. Prof. Dr. Ahmad Mohammed S Alamri, Administrative Sciences Department, King Saud University, Riyadh, Saudi Arabia.
- Asst. Prof. Dr. Zainab Jehan, Fatima Jinnah Women University, Islamabad Pakistan.
- Asst. Prof. Dr. Khadija Bari, Chairperson (Eco & Fin), Institute of Business Administration, Karachi Pakistan.
- Asst. Prof. Dr. Naeem Ashraf, Lahore University of Management Sciences, Lahore Pakistan.
- Asst. Prof. Dr. Naveed Iqbal Chaudhry, Department of Business Administration, University of the Punjab Gujranwala Campus Pakistan.
- Dr. Ahmad Bello, Lecturer, Ahmadu Bello University, Zaria Nigeria.
- Dr. Sanjay Lanka, Lecturer in Financial Management, University of Sheffiled, United Kingdom.
Impact of Asymmetric Information on the Investment Sensitivity to Stock Price and the Stock Price Sensitivity to Investment

1Rehana Kouser, 2Irum Saba, 3Farah Anjum

1Professor, Department of Commerce Bahauddin Zakariya University, Multan, Pakistan. rehanakousar@bzu.edu.pk
2Assistant Professor, IBA, Karachi Pakistan isaba@iba.edu.pk
3MPhil Scholar, Department of Commerce Bahauddin Zakariya University, Multan, Pakistan

ARTICLEDETAILS

ABSTRACT

Purpose: The purpose of the study is to find out the relation between the stock price and investment and to explore the consequence of information asymmetry on the stock price sensitivity to investment and investment sensitivity to the stock prices for the manufacturing firms that are working in Pakistan and listed at KSE.

Methodology: Study was conducted by 99 firms listed at KSE and 1386 observations for the period of 2001-2014. Empirical studies were conducted based on two hypotheses by using price non-synchronous, price delay, firms’ size and age as a proxy of asymmetric information and change in asset as a measure of investment.

Findings: Overall results show that there is an insignificant negative correlation between the sensitivity of investment to stock prices and there is an insignificant positive correlation between the sensitivity of stock prices to the investment. The critical findings of the study are that the management must learn from the market during the decision making.

Practical Implications: The research has significant impact on investors, firm management, Government and as well as for the young potential in the field of research.

Originality/Value: The paper fills the research gap. It studies the impact of asymmetric information on the investment sensitivity to stock price, and the stock price sensitivity of investment in Karachi stock Exchange (Pakistan) for the first time.

© 2016 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: rehanakousar@bzu.edu.pk

1. Introduction

Every investor invests with the aim to maximize his wealth. As we know the management as the agent of the investors work to achieve this basic objective. There are many issues that affects the achievement of this objective. The optimal strategy is developed by the firm to maximize the total worth of the firm that ultimately maximizes the individual investor’s wealth. Researchers preach the relationship between the investment and the stock prices. They concluded that the investment and the stock prices are strongly correlated with each other. Two major explanations of the correlation had been presented in literature. The first explanation of this correlation depends on the premise that the share price reflects the information about the firms’ fundamentals. Information on the firm’s fundamentals impact the manager’s investment decision making. When the stock prices reflect the information then we should suppose the positive relation between the investment and the stock prices. Second explanation based on the premise that the firm face the financial limitations that inhibit the firms from their best investment decisions.

In this research paper, we focus on the issue to explore the impact of asymmetric information on the investment sensitivity to stock price and the stock price sensitivity to investment. The collected works in corporate finance have claimed that managers may learn information from the stock price for their investment decisions. Due to the variation in the stock price managers can acquire some information about the future. The prevailing stock price can reflect the different kinds of information about the different market practitioners. A lot of chances are there in which no communication of information between firm and market participants. Information asymmetry has been recognized that it is one of the challenges faced by emerging markets (Murray and Oluba; 2008), and particularly where the market is known as the weak form efficient (Elumilade, 2008).

The market situation, having friction and incompleteness of information identifies as asymmetric information. Basically, the asymmetric information is the gap of information between firm managers and market participants.

In imperfect market, there is an informational gap between insiders and outsiders. Investors react in the market based on available information, while this information is reflected in the stock price. On the other side managers have certain information based on which they must take the investment decisions?

Tobins-Q theory was presented by Tobin (1969) stated that if the capital market is perfect, firm’s investment will rely on the ratio market value to book value. When ‘Q’ ratio is low (0 to 1) it indicates that the replacement cost of assets for a firm is greater than the value of its stock. It refers that the firms’ stock is undervalued and the company is not supposed to make any new investment. If the company has the need to acquire equipment, then to acquire second hand equipment is better rather than to acquire new equipment.

When ‘Q’ ratio is high (> 1) it indicates that the value of stock is more than the replacement cost of assets for a firm. It refers that the firms’ stock is overvalued. In these situations, the company can make a capital expenditure to purchase new equipment and will make more capital expenditure.

The Ratio is measured through market value of the firm in the asset replacement cost of the firm; it reflects the two different aspects of enterprise valuation. Here in this ratio denominator and numerator represent that, how much the company has the value in the financial market and the replacement cost is? How much the company contains the value in the financial market depends upon two things, the company’s market value of its stock and market value of its debt. But in the economy and the scenario of Pakistan data regarding replacement cost is not available due to this ratio is calculated as the ratio of
the market value of firm to total asset.

Tobin’s Q-theory of the investment infers the positive association between the firm stock price and the investment, or alternatively positive relation between investments to stock price firm investment. In this article, we focused on firm investment, stock prices and the asymmetric information. The purpose of the study is to investigate the relation between the investment and the stock price, impact of asymmetric information on the firm’s investment sensitivity to stock price and the sensitivity of stock price to the investment.

2. Literature Review

In Boot and Thakor (1997) concluded that investors in the market can be business experts and having more information about the variation in the preferences of customers and the industries. In prevailing condition firm managers have more and better information than the individual investors. Sometime individual investors are more informative than the firm managers based on their investment decisions. This information gap leads towards the variation in market prices. The insider’s (management) are more aware about the value of the firm than the potential investors. This act differentiates the shareholders from the management of the firm creates the problems of asymmetric information. And this asymmetric information caused different financial problems for the firm. Because of this, the internal finance becomes cheaper and external finance becomes costlier (Myer & Majluf, 1987).

When we used the relationship between the investment and market friction using the price impact of trade, relative effective spread and the probability of the informed trading (PIN) to measure the information asymmetry and classified the firms as likely constrained, unconstrained and constrained. The firms with greater asymmetric information is highly sensitive to the cash flow based on classification. Using the PIN, the constrained firm incurs less investment expenditure as compared to constrained or unconstrained firms (Asli Ascioglu, Shantaram & John B. McDermott, 2007).

Keynesian investment theory, concluded that corporate investment expenditure changes by the alteration in the phases of the business cycle. Investors’ expectations about the return tend to fluctuate by the change in the mental nature. This situation is all based on the investors, whether the investor is the optimistic or the pessimistic and based on the investor’s perception of the economic condition during the different phases of the business cycle. Different business cycles named as pessimism and optimism. Depression and recession are known as pessimism while the boom and the recovery are known as optimism. Investors spend less during the phase of pessimism while spending more during the phase of optimism.

Studies of the Blanchard et al. (1993) & Morck et al. (1990) explored the positive relation between the firm investment and the stock price, but these scholars are not agreed on about the reason of the positive relation. Some researchers say that there is negative relation while others say there is positive relationship. In 2007 Chen et.al studies the impact of information in the stock price over the “investment sensitivity to stock price”. They concluded that there is a significant positive relation between investment and stock price. The firm’s information that is reflected through the price keeps the positive effect about the investment sensitivity to stock price. Further they argued that the firm manager performs their duties to increase the firm value by the decision making will use the information that is available in the market. The information that the firm’s managers obtained from the market is not sufficient for the decision making, for the better decision making they must acquire that information which is not present in the market. Accordingly, greater the information that contained in the stock price, greater the firms “investment sensitivity to the stock price” and the firms would be more dependent to the stock prices.
In 2012 Mousavi and Narmin studies the relationship between the Tobins Q ratio and the information asymmetry level to evaluate the performance of the firm. Pearson correlation coefficient used for testing the hypothesis experimentally. They selected firms that were conventional in Tehran Stock Exchange and the data were examined by SPSS software and the EXEL. They concluded that there is no significant relationship between the Tobins Q ratio and the information asymmetry level. Also, they concluded that relationship between the PEPS, EPS and Tobin’s Q Ratio is positive.

Kong, Xiao and Liu, (2011) studied the relationship of the “firm’s investment and stock price”, effect of information asymmetry on the firm’s investment sensitivity to stock price and cash flow sensitivity to investment. Researchers had taken 1878 observations regarding 313 companies listed at China stock market. Three different proxies were used as measure of asymmetric information. Initially, R2 which is taken from stock and market returns. Secondly price delay was taken as proxy of asymmetric information, it is also taken from market and stock returns. Thirdly information disclosure score was used, “information disclosure quality scores” was taken from credit files of the Shenzhen Stock Exchange. Capital expenditure is taken as proxy of investment, which is constructed from fixed asset because this is highly correlates to the current investment activities of the firm. Tobin’s Q was taken as ratio of the firm’s market value to the asset replacement cost. While change in total asset and capital expenditure for investment and Tobin’s Q and size, cash flow as control variable. They concluded that during firm investment decisions the manager are learning from the market; asymmetric information keeps the no significant effect on the “firm’s investment sensitivity to the stock price”. Asymmetric information keeps a significant and positive influence on the “sensitivity of stock price to firm’s investment”.

Although Chen et al. (2007) find that the synchrony of the stock price in the Western countries is informative, in the stock market of China, studies show that companies with lower R2 are firms whose market’s response is not effective enough and companies with lower R2 can make reverse selection to a greater degree, which is different from Western countries (Kong and Shen, 2008). Therefore, in the Chinese stock market, non-synchrony may conversely hold back managers’ learning process. With the increase of the information asymmetry, it will be more difficult for the managers to grasp the real situation of the market investors. So, in the situation of high information asymmetry, especially when this information asymmetry reflects noise instead of information, managers will make conservative estimation of market information since information-asymmetry potentially can cause big mistakes or risks. If this situation is real, results will be different from Western countries. Given this argument, with the data from Pakistan Stock Exchange, according to our first objective we want to explore the relationship between firm investment and the stock price, so our first hypothesis is:

H1: in presence of asymmetric information there is relationship between the corporate investment and stock prices.

Investors face many problems to assess the firm’s behavior toward investment in the presence of market friction. As a result, sensitivity in stock price increase with the increase in friction. Wang and Zhang (1998) given the model for principal-agent relation and found that asymmetric information keeps the influence on firm’s investment. A theoretical model developed based on different theories of asymmetric information and concluded that asymmetric information has a greater impact on the firm’s investment (Cui & Deng, 2007). When we talk about the real world there are various forces that become the cause of influence. Agency problems and asymmetric information are considered as important element for influencing the corporate investment efficiency (Stein, 2003).
The above discussion compels to construct two more hypotheses to guess the firm’s investment pattern considering the investors perception in stock price and change in investors behavior in response to firm investment in the market in the occurrence of the asymmetric information.

H2: Firms investment will response to investor’s behavior in price and information disclosure.
H3: Investors will response to firm’s investment behavior and information disclosure.

3. Methodology

3.1 Data
All the data in this paper refers to the companies listed at Karachi Stock Exchange for the financial year January 1, 2001 to December 31, 2014. There are two main sources that are used for the fulfillment of the data are the balance sheet analysis and the historical data which is given on the official website of Karachi Stock Exchange. We take only those firms that are listed at Karachi Stock Exchange and excluded those firms that are merged and the unlisted firms. The basic reason to take the listed firms is that we can access only the data of listed companies.

3.2 Variables of the Study

3.2.1 Asymmetric Information (Asyinfo)
The market condition having friction and the incompleteness of information is called asymmetric information. Basically, asymmetric information is the information gap between the firm managers and the market participants. In 2002 Michael, Akerlof and Stilitz recognized the information asymmetry as an attitude. Various studies are conducted to measure this behavior in the market and to find out the effect of this on many factors. Many of these are to measure the impact of asymmetric information on investment, source of financing and value of stock.

To measure the asymmetric information different measures are used by different researchers. But we took price non-synchronization (1-R²), price delay, firm age and firm size as measure of asymmetric information.

Price non-synchronization (1 - R²) is the first measure used in this study as a measure of information asymmetry. R² is to detain the idiosyncratic information in the stock prices. Roll (1988) encouraged that the price non-synchronization is linked with the idiosyncratic information. Stock price fluctuate with the new incoming information and this firm specific information is amalgamated in the stock price by two different ways. First way the readjustment of the stock prices on the availability of the idiosyncratic information, such as the change in policies, change in management of the firm, expected future earning, downsizing and current performance etc. Second way is the trend the speculators based on the accumulated and detained idiosyncratic information. Roll (1988) exposed that idiosyncratic price fluctuation are not subject to certain new release information. Private information considered very important for the capitalization of the idiosyncratic information. Empirical evidences supported the hypothesis that fluctuations in the firm specific return are imitated less in the noise than the private information.

Morck et al. (2000) verified that the price non-synchronization is greater in those countries that having the established financial market are very few in the developing markets. Investors are highly encouraged in gathering the firm specific information in those countries that are having established financial markets. Due to this motivational factor, idiosyncratic information is reflected in the stock price. Durnev et al. (2003) concluded that there is high correlation between the ability of the stock price to evaluate the
future earning and the variation in the firm specific returns. He also supported the argument that the variation in the firm specific return are imitated less in the noise than the private information. Kelley (2005) also resist that low R2 imitate lower transmission proficiency. There is significant relationship between the greater the degree of the asymmetric information and the worst information environment.

The variation in the stock price can be composed by two elements. The first component is the firm’s idiosyncratic variation, which measures the systematic variation or the price synchronization. While the second component is the firm specific variation that is used to measure the idiosyncratic information or the price non-synchronization.

\[ R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it} \]

- \( R_{it} \): Return of the firm \( i \) at time \( t \)
- \( R_{mt} \): Value weighted market returns at time \( t \)

The second measure that is used as proxy of the asymmetric information is price delay. Hou and Moskowitz (2005) firstly proposed this measure that reflect how quickly the market data can be incorporated in the stock price. The aim to make this index is to measure the speed with which certain stocks respond to the market information. The higher asymmetric information, the slower stock prices will respond to the new information, as well as more the price delay. Thus, the price delay is considered as a good measure of the degree of the asymmetric information. Specifically, this measure can be assessed by following regression.

\[ r_{i,t} = \alpha_{i,t} + \beta_{i} R_{m,t} + \sum \delta^{(n)} R_{m,t-n} + \epsilon_{i,t} \]

\( r_{i,t} \) refers to the returns of the firm \( I \) at time \( t \), while \( R_{m,t} \) is the value weighted index for \( t \) time. According to the arguments of the Hou and Moskowitz (2005), we cannot eliminate the stock itself. By using the estimated coefficient from the regression, we can measure the price delay for each firm at the end of the fiscal year.

\[ \text{Delay} = 1 - \frac{R^2}{\delta_{t}^{(-\hat{R})=0,V\in\{LA\}}} \]

Our tests based on the fiscal year data, we calculate the price delay as Hou and Moskowitz (2005) for each firm at the end of the fiscal year by the estimation of the regression using the daily stock return. Kong and Shen (2007, 2008) conducted more research on the China Stock market \( R^2 \) and the price delay index, and they concluded that both are associated to the information environment.

Third measure that is taken in this study is the size of the firm. Previous studies describe that many studies used the firm size as the measure of asymmetric information (Arsalan-Ayadin, Ozkan, &Florackis, 2006). In 2004 Ozkan also had used the firm size and found the information asymmetry has less amount of concentration: the corporations having the large size due to the transparent disclosure policies.

Different researchers used the different proxies to measure the firm size as market value of firm, worth of total assets, sales volume and the number of employees etc. in this study we take the total asset of the firm as proxy of the firm’s size. Median value is calculated from natural log of the firm size. Firms sizes are compared with median values, the firms having the size of more than median are stated as the large firms and firms having the size lesser than median value are stated as the small size firms.
Firm age is also used as proxy of the asymmetric information. Firm age as proxy of asymmetric information is used by many researchers (Pagano, Panetta & Zingales 1998). New firms have the lesser access to the external as compared to the older firms. It is very supportive to create a favorable relationship based on credit worthiness and the trust. The firm’s ages are calculated from the date of their listing at Karachi Stock Exchange. After taking natural log on the ages median age of the firms is calculated. Based on these median firms are compared and categorized into two categories, having age more than the median are declared as old while firms having age less than median are declared as young firms.

3.2.2 Investment (I)
Commonly the capital expenditure denotes all spending of firm’s investment activities to take operating assets. Investment denotes to the all the activities of investment that are anticipating for financing (trust management, short term investment etc,.) like the acquisitions, purchasing new equipment’s’, diversification, R & D and the joint ventures. In the narrow sense, the capital expenditure denotes the direct financing in fixed assets, containing the spending in acquiring the long term and the intangible assets or in purchasing the fixed assets.

We take the change in assets as proxy of investment. Because investment activities take place to the change of the firm’s size. We can take change in asset as good proxy (Kong: 2011). Besides the change in assets of the firms also having the firm’s acquisition and the divestiture activities.

3.2.3 Tobin’s Q ratio (Q)
Tobins Q is a ratio that was developed by the James Tobin in 1968 and it was also awarded with the Nobel Prize. He anticipated that the market value of the firms on stock exchange should be same as to their replacement cost.

Ratio is measured through market value of firm to the asset replacement cost of the firm; it reflects the two different aspects of enterprise valuation. Here in this ratio denominator and numerator represent that, how much the company has the value in the financial market and the replacement cost is? How much the company contains the value in the financial market depends upon two things, the company’s market value of its stock and market value of its debt. But in the economy and the scenario of Pakistan data regarding replacement cost is not available due to this ratio is calculated as ratio of market value of firm to total asset.

\[
Q = \frac{(MVE + PS + DEBT)}{TA}
\]
MVE: Market Value of firms Equity
PS: Liquidating Value of the Preferred stock
DEBT: Long Term Debt (Book Value), Short Term Debt and Short Term (current) Assets

When ‘Q’ ratio is low (0 to 1) it indicates that the replacement cost of assets for a firm is greater than value of its stock. It refers that the firms’ stock is undervalued and the company is not supposed to make any new investment. If the company have the need to acquire equipment, then to acquire second hand equipment is better rather than to acquire new equipment.

When ‘Q’ ratio is high (> 1) it indicates that the value of stock is more than the replacement cost of assets for a firm. It refers that the firms’ stock is overvalued. In these situations, the company can make capital expenditure to purchase new equipment and will made more capital expenditure.

Here we calculated the MVE by multiplying the market price per share (MPS) with the total number of common shares outstanding (# of CS).

\[
MVE = MPS \times \# \text{ of CS}
\]
Because of not having the culture of preferred shares in the economy of Pakistan, the liquidating value of preferred shares is zero.

DEBT is calculated by adding up the value of fixed liabilities (FL) and short term (current) liabilities (CL) and then subtracting the value of short term (current) assets (CA).

\[
DEBT = FL + CL - CA
\]

Total assets (TA) are the sum of current assets and the book value of the fixed assets.

\[
TA = CA + NFA
\]

NFA: Net or the Book Value of the Fixed Assets

Net of fixed assets refers to the value of total fixed assets after deducting the total accumulated depreciation of fixed assets.

It was considered to determine the probabilities of the other control variables to minimize the chances of the unrelated deviation (Cannon, 2008).

Different researchers used different variables as control variable. Based on the previous studies on the relation between the investment and the stock price by Xiao, Kong and Liu in 2011 used the Future return measure (RET), Cash flow measure (CF), Institutional ownership measure (Insti-own), Market capitalization measure (Log (Size)), and Managerial private information measure (Manager Info) as control variable. In this study, we took CF and the market capitalization (Log (Size)) variables as control variable.

**Cash flow**

If capital market were not monitoring the investment opportunities appropriately and were imperfect then according to the Fazzari et all. (1988) the relationship between the internally produced fund and the investment would be positive. In 2007 Chen et all. Concluded that firm’s investment is positively impacted by the internally generated funds. In this study, the control variable cash flows are measured as the summation of depreciation and operating profits.

**Market capitalization**

Various studies have documented that the company’s size will have an important impact in corporate finance research. Therefore, we use the market capitalization as control variable. We use the Log (Size) as the nature logarithm value of the market capitalization at the end of the prior fiscal year.

**Institutional Ownership measure (Log (size))**

Literature shows that the institutional ownership has major influence on the stock price and the corporate government (Hou and Moskowitz, 2005; Chan and Hameed, 2006).

Thus, we take the institutional ownership as control variable.

4. **Empirical Model**

After glance over the various literature on the “corporate investment” to test the above hypothesis of this study, considering many alternatives for the empirical models that was collected with empirical and the theoretical justification. These models encourage us to formulate the following econometric models:

\[
I_{it} = \alpha + \beta_1 Q_{it-1} + \beta_2 (\text{Asy-info}_{it-1} \times Q_{it-1}) + \beta_3 \text{ContVars} + \varepsilon_{it}
\]

\[
Q_{it} = \alpha + \beta_1 I_{it-1} + \beta_2 (\text{Asy-info}_{it-1} \times I_{it-1}) + \beta_3 \text{ContVars} + \varepsilon_{it}
\]

$I_{it}$ mentions to the firms’ investment in fixed assets like, equipment, plant and machinery, land and building for the firm $i$ at time $t$. Investment is measured by taking change in asset, (CHGASSET) that includes the firms acquisition and divestiture activities, $Q_{it}$ is the Tobin’s Q ratio presented by James Tobin in 1968 to evaluate the performance of the firm, for the firm $i$ at time $t$. $Q_{it-1}$ is lag of $Q_{it}$ for year 1.
Asy-info$_t$ is in use as proxy of asymmetric information dominant in the market that influences the investors decisions as well as the firms’ investment decisions. $(1 - R^2)$ this is price non-synchronization, wherever $R^2$ capture this information contained in assets prices. Asy-info$_{t-1}$ is lag value of the Asy-info$_t$ for year 1. Market capitalization and CF are taken as the control variables. CF refers to cash flows of the firm (which is measured by the summation of depreciation expense and operating profit). Finally, $\varepsilon_{it}$ denotes to the error terms in the model.

$Q_{it}$ is the ratio that was presented by James Tobin in 1968 to measure the firm performance. It measures the investor’s behavior by capturing the “sensitivity of the stock price”. It denotes the firms’ investment in fixed assets like, equipment, plant and machinery, land and building for the firm $i$ at time $t$. Investment is measured by taking change in asset, (CHGASSET) that includes the firms acquisition and divestiture activities, $I_{it-1}$ is lag of $I_{it}$ at the year 1. Asy-info$_{it}$ is in use as proxy of asymmetric information dominant in the market that influences the investors decisions as well as the firms’ investment decisions. $(1 - R^2)$ this is price non-synchronization, wherever $R^2$ capture this information contained in assets prices. Asy-info$_{t-1}$ is lag value of the Asy-info$_t$ for year 1. Market capitalization and CF are taken as the control variables. CF refers to cash flows of the firm (which is measured by the summation of depreciation expense and operating profit). Finally, $\varepsilon_{it}$ denotes to the error terms in the model.

To measure the asymmetric information different measures are used by different researchers. But we took three different proxies to measure the asymmetric information. The first proxy that is used in this study is price non-synchronization $(1-R^2)$, the. The second measure that is used as proxy of the asymmetric information is price delay. Hou and Moskowitz (2005) firstly proposed this measure that reflect how quickly the market data can be incorporated in the stock price. Third measure that is taken in this study is the size of the firm. Previous studies describe that many studies used the firm size as the measure of asymmetric information (Arsalan-Ayadin, Ozkan, &Florackis, 2006). Firm age is also used as proxy of the asymmetric information. Firm age as proxy of asymmetric information is used by many researchers (Pagano, Panetta &Zingales 1998).

**Results of empirical tests**

**Descriptive statistics**

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>Q</th>
<th>$R^2$</th>
<th>Age</th>
<th>Size</th>
<th>Delay</th>
<th>CF</th>
<th>Log(size)</th>
<th>Insti_own</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>10.8313</td>
<td>1.2528</td>
<td>0.8052</td>
<td>0.4978</td>
<td>0.5</td>
<td>-2.959</td>
<td>745.85</td>
<td>6.7219</td>
<td>64.9843</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>15.6993</td>
<td>0.8098</td>
<td>0.3038</td>
<td>0.5002</td>
<td>0.5002</td>
<td>5.581</td>
<td>1020.73</td>
<td>2.2414</td>
<td>28.0728</td>
</tr>
<tr>
<td>Min</td>
<td>-7.4006</td>
<td>0.4678</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-17.72</td>
<td>-1.9</td>
<td>0.3365</td>
<td>0</td>
</tr>
<tr>
<td>Max</td>
<td>43.3589</td>
<td>4.7324</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3141.6</td>
<td>11.5871</td>
<td>158.68</td>
</tr>
<tr>
<td>25%</td>
<td>-0.1321</td>
<td>0.7938</td>
<td>0.7795</td>
<td>0</td>
<td>0</td>
<td>-2.052</td>
<td>55.7</td>
<td>5.05</td>
<td>40.4</td>
</tr>
<tr>
<td>50%</td>
<td>5.1055</td>
<td>0.9978</td>
<td>0.9413</td>
<td>0</td>
<td>0.5</td>
<td>-0.248</td>
<td>258.5</td>
<td>6.8316</td>
<td>69.125</td>
</tr>
<tr>
<td>75%</td>
<td>19.2238</td>
<td>1.3699</td>
<td>0.9944</td>
<td>1</td>
<td>1</td>
<td>-0.044</td>
<td>914.2</td>
<td>8.3818</td>
<td>91.39</td>
</tr>
</tbody>
</table>

**Table 1: Overview of sample**

Our sample includes 1386 observations of 99 listed firms of Pakistan Stock Exchange for the period of 2001 to 2014. Table 1 shows the descriptive statistics of the model. The statistics table explains the mean value, standard deviation, minimum value, maximum value and the percentile at 25%, 50%, and 75% level in the data about all measures used in the study, as change in asset (INV), Tobin’s Q (Q),
Asymmetric information (ASy-info (1-R2), Age, size and price delay), firms level of available cash flow (CF), market capitalization and the institutional ownership. In the table of the descriptive statistics mean denotes to the average value of the data and the standard deviation denotes to the deviation from their mean value. The mean value of the 1-R^2 is 0.805 it means that the market returns are explaining the change in stock returns twenty percent. When the average amount of size, age and the price delay is 0.4978, 0.5 and -2.9587.

**CORRELATION**

**Table 2: Correlation**

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>Q</th>
<th>Age</th>
<th>Size</th>
<th>Delay</th>
<th>CF</th>
<th>Log(size)</th>
<th>Inti_own</th>
<th>R^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>0.0431</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.0315</td>
<td>0.136</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>0.1067</td>
<td>-0.0353</td>
<td>-0.0227</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay</td>
<td>0.0158</td>
<td>-0.0066</td>
<td>0.07</td>
<td>0.1676</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>0.1106</td>
<td>0.2084</td>
<td>0.0685</td>
<td>0.5844</td>
<td>0.198</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log(size)</td>
<td>0.2144</td>
<td>0.3226</td>
<td>0.1503</td>
<td>0.6557</td>
<td>0.1916</td>
<td>0.6983</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inti_own</td>
<td>0.0073</td>
<td>0.0607</td>
<td>-0.1378</td>
<td>0.0281</td>
<td>-0.0172</td>
<td>-0.0786</td>
<td>0.0183</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>R^2</td>
<td>0.0573</td>
<td>0.0744</td>
<td>-0.1228</td>
<td>0.0509</td>
<td>-0.3294</td>
<td>-0.0686</td>
<td>0.1233</td>
<td>0.055</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2 is containing the correlation matrix that explains the existing relationships among the variables that are being used in this study. The correlation of the variables was calculated by the formula of Spearman coefficient of correlation. There is no issue of multicollinearity among the variables, the reason is that correlation coefficient among the variables are less than the 0.9. The correlation among Asy-info_{it} and is high (0.1233) and its correlation is positive with INV, Q (Tobin’s Q), size, market capitalization and the institutional ownership, while it negatively correlated with age, price delay and cash flow.

**TEST ON SENSITIVITY OF FIRM INVESTMENT TO STOCK PRICE**

**Sensitivity of Firm Investment to Stock Prices**

**Table 3**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>-1.336</td>
<td>0.77</td>
<td>-1.408*</td>
<td>1.77</td>
</tr>
<tr>
<td>R2*Q</td>
<td>0.961</td>
<td>0.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R2</td>
<td>0.121</td>
<td></td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>-0.000982</td>
<td>0.157</td>
<td>-0.00105</td>
<td>0.16</td>
</tr>
<tr>
<td>Log(Size)</td>
<td>1.874***</td>
<td>6.28</td>
<td>2.232***</td>
<td>2.2317</td>
</tr>
<tr>
<td>Insti_own</td>
<td>1.78e-05</td>
<td>0</td>
<td>0.00145</td>
<td>0.0014</td>
</tr>
<tr>
<td>Size*Q</td>
<td>1.267</td>
<td></td>
<td>1.09</td>
<td></td>
</tr>
</tbody>
</table>
Size \(-3.639^{**} \quad -1.99\) 
\((1.826)\)

Age\(\times Q\) \(-2.614^{**} \quad -2.15\) 
\((1.216)\)

Age \(3.015^{*} \quad 1.72\) 
\((1.758)\)

Delay\(\times Q\) \(-0.0743 \quad -0.73\) 
\((0.102)\)

Delay \(-0.0332 \quad -0.21\) 
\((0.160)\)

Constant \(-0.569 \quad -0.802 \quad -2.826 \quad -7.872^{*}\) 
\((2.771) \quad (2.067) \quad (2.199) \quad (4.555)\)

R-squared \(0.0119 \quad 0.0139 \quad 0.0127 \quad 0.018\)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

This part of the study contains the empirical results. It was explained in detail that this study is basically aimed to analyze the existence of relationship between firms’ investment and the stock prices. This part of the study is just to reply the basic questions of the study for which it is conducted. Whether and how information reflected in stock prices (investors’ behavior) impacts the management decision making process. Table 3, column 1 is reflecting the negative correlation between the investment \(INV_t\) and \(Q_{i,t-1}\) with the coefficient \(-1.3364\) that is showing the insignificant t stat \((-0.77)\) at 5 percent level of significance. Similarly the results of this study are also negating the results concluded by Kong. (2011) and Qi Chen (2005). This result is opposite of Kong, 2011 a study of Shenzen Stock Exchange and Qi Chen (2005) a study of Tehran Stock Exchange, both of these markets are developed and strong market according to the efficient market hypothesis. But the data which are used in this study belong to Pakistan Stock Exchange which is example of weak market.

Furthermore we analyzed the sensitivity of investment to stock price. Results show that the direct effect of price to investment is \(-1.3364\) that shows the negative impact. When we focus on the interaction term \(Asy_{t-1}\times Qt-1\) the coefficient is 0.9609 and the 25 percentile value of Asy-info is 0.779464 and median value is 0.9413. Now at 25 percentile value of Asy-info the total effect of price to firm investment is \(-1.49191\)\(=[-1.3364-(0.9413-0.77964)\times0.9609]\). There is negative relation between the investment and the \(Asy_{t-1}\times Qt-1\) that is showing the insignificant t stat \((0.51)\). The results of this study does not support the results concluded by Kong. (2011) and Qi Chen (2005).

Firms cash flows with the coefficient of \(-9.80E-04\), which is showing insignificant t stat \((-1.57)\) at 5 percent level of significant. That negate the results of Kong. (2011) and Qi Chen (2005). This negative relationship of investment and cash flow explains that the increase in the level of available cash flow decreases the level of firms’ investment and in the same way the decrease in the available cash flow will increase the firm’s investment. The correlation between the investment and the market capitalization \([\log (\text{size})]\) is positive with the coefficient value of 1.873 which is showing significant t stat \((6.28)\) at 1 percent level of significant. The results of this study are also negating the results concluded by Kong (2011). This positive relationship between the market capitalization and the firm’s investment shows that with the increase in the level of market capitalization leads to the increase in the level of firms’ investment. In the same way decrease in the market capitalization leads to the decrease in firm’s investment. The relationship between the investment and the \(\text{Insti}_{own}\) is positive with the insignificant t stat \((0)\). The results of this study does not support the results of previous researchers like Kong (2011).
In table 3, except column 2 all the results shows that there is insignificant positive correlation of investment and price. From column 2 we concluded that there is significant negative correlation of investment and price that shows asymmetric information has significant diminishing impact on the investment sensitivity to the stock price.

According to the Keynesian investment theory, the firms’ investment expenditures fluctuate due to the changes in the various business cycle phases. The investors’ returns expectations fluctuate with the mental nature of the investors. All this is based on the investor whether investor is pessimistic or optimistic and how investor perceives the economic conditions during different phases of business cycle. Different business cycle phases are named as optimism and pessimism. Boom and recovery stages of business cycle are named optimism and depression and recession are named as pessimism. Investors use more during the phase of optimism and are spendthrift during the phase of pessimism. According to this theory Pakistani manufacturing industry is passing through the recession or depression phases of business cycle. P-value of F (0.000) is showing the overall significance of the model. The findings of the study are similar with the findings of Kong et al.

TEST ON SENSITIVITY OF STOCK PRICE TO FIRM INVESTMENT

Sensitivity of Firm Investment to Stock Prices

Table 4

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobin’s Q</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>-0.00392</td>
<td>-1.59</td>
<td>0.000495</td>
<td>0.00231**</td>
</tr>
<tr>
<td></td>
<td>(0.00247)</td>
<td>(0.00119)</td>
<td>(0.00115)</td>
<td>(0.000911)</td>
</tr>
<tr>
<td>R2*I</td>
<td>0.00548*</td>
<td>1.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.00286)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R2</td>
<td>0.0934</td>
<td>1.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0664)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>-1.72e-05</td>
<td>-0.64</td>
<td>-1.64e-06</td>
<td>-2.18e-05</td>
</tr>
<tr>
<td></td>
<td>(2.69e-05)</td>
<td>(2.74e-05)</td>
<td>(2.80e-05)</td>
<td>(2.82e-05)</td>
</tr>
<tr>
<td>Log(Size)</td>
<td>0.169***</td>
<td>11.23</td>
<td>0.217***</td>
<td>0.189***</td>
</tr>
<tr>
<td></td>
<td>(0.0150)</td>
<td>(0.0165)</td>
<td>(0.0164)</td>
<td>(0.0165)</td>
</tr>
<tr>
<td>Insti_own</td>
<td>-0.000300</td>
<td>-0.34</td>
<td>-0.000661</td>
<td>-0.000436</td>
</tr>
<tr>
<td></td>
<td>(0.000894)</td>
<td>(0.00921)</td>
<td>(0.00941)</td>
<td>(0.00950)</td>
</tr>
<tr>
<td>Size*I</td>
<td>-0.000381</td>
<td>-0.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.00159)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>-0.387***</td>
<td>-7.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0504)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age*I</td>
<td></td>
<td></td>
<td>-0.00372**</td>
<td>-2.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.00162)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td>-0.241***</td>
<td>-3.36</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.0717)</td>
<td></td>
</tr>
<tr>
<td>Delay*I</td>
<td></td>
<td></td>
<td></td>
<td>4.05e-05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.000146)</td>
</tr>
<tr>
<td>Delay</td>
<td></td>
<td></td>
<td></td>
<td>-0.00152</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.00307)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.0710</td>
<td>0.0289</td>
<td>0.147</td>
<td>0.0566</td>
</tr>
<tr>
<td></td>
<td>(0.143)</td>
<td>(0.124)</td>
<td>(0.131)</td>
<td>(0.129)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.1044</td>
<td>0.153</td>
<td>0.115</td>
<td>0.099</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
This segment of the study having the empirical results that obtained from the equation 2. This was explained in detail that the aim of this study is to analyze the existence of relation between the corporate investment and stock prices. This part of the study is to reply the basic question of the study that why is conducted. How the information reflected in the stock prices effects the process of management’s decision making.

Table 4 column 1 shows the negative correlation of Qit and INV I,t-1 with the coefficient -0.0039, this negative relationship of investment and price explains that the increase in the level of investment decrease the price and in the same way the decrease in the level of investment increase the level of price but when we consider the t stat which is showing insignificant t stat (-1.59) at 5 percent level of significance. Similarly, the results of this study are also negating the results concluded by Kong. (2011). This result is opposite of Kong, 2011 a study of Shenzen Stock Exchange which is developed and strong market according to the efficient market hypothesis. But the data which are used in this study belong to Pakistan Stock Exchange which is example of weak market. As it is already given that the available relationship between the firm’s investment and standard stock price is captured through the interaction term if Asy-info and INV it. The coefficient of the interaction term is 0.00547 with t stat of 1.91 that is significant at 10 percent level of significant. This is showing that the price non-synchronization has significant impact on sensitivity of investment to price.

Firms cash flow is showing the negative relationship with coefficient of -0.0000172 this negative relationship of cash flows and investment explains that the increase in the available cash flows decrease the level of firm’s investment and in the same way the decrease in the available cash flow will lead to the increase in the level of firms’ investment but when we consider the t stat which shows the insignificant t stat (-0.64) at 5 percent level of significant. The results of this study are supporting the results concluded by Kong. (2011). There correlation between the market capitalization and firm’s investment is positive with the coefficient of (0.1687), which is showing the significant t stat (11.23) at 1 percent level of significant. The results of this study are supporting the results concluded by Kong. (2011). The positive correlation between the market capitalization and the firm’s investment explains that the increase in the level of market capitalization will increase the level of firm’s investment. In the same way, the decrease in the market capitalization leads to the decrease in the firm’s investment. There is negative correlation between the firm’s investment and the institutional ownership with the coefficient value of (-0.00029), which is showing the insignificant t stat (-0.34) at 5 percent level of significant. The results of this study are negating the results concluded by Kong. (2011). This relationship of institutional ownership and the firm’s investment explains that increase in the institutional ownership decrease the level of investment and vice versa. P-value of F is (0.000) is showing the overall significance of the model.

In table 4, columns 2 and 4 show that there is insignificant positive correlation of price and investment. From column 3 we concluded that there is significant positive correlation of price and investment. Overall from the results of table 4, we find that there is insignificant positive correlation between the sensitivity of stock prices to the investment.

5. Conclusion

According to the investment theory Tobin’s Q play a major role about the firm’s investment when the market is perfect. While in case of imperfect market, and there prevails asymmetric information, then many queries arise. Firstly, by the study on the sensitivity of firm investment to stock price, we conclude
that managers will learn that from the market while making decision regarding firm investment and there is insignificant negative correlation between firm investment cost and stock price. The test of sensitivity of stock price to investment has shown the insignificant relationship. Results have shown different relationships between investment and price when different proxies to asymmetric information have been used. Similarly, different relationships were concluded with different measures by Kong, Xiao and Liu (2011).

References

Effect of Corporate Governance and Financial Leverage on Market value Added in Pakistan

Maria Shams Khakwani, Muhammad Sadiq Shahid, Ali Hamza

1Air University Multan Campus, Pakistan, maria.shams@wum.edu.pk
2Bahauddin Zakariya University, Multan, Pakistan, sshahidmalik@bzu.edu.pk
3Air University Multan Campus, Pakistan

ARTICLEDETAILS

ABSTRACT

This paper examines the impact of corporate governance rules and regulations and financial leverage on the market value added in Pakistan. Market value added (MVA) is our dependent variable and corporate governance and financial leverage are our independent variables and examine their combined effect on the market value added. This study will help the Pakistani firms who are going to lever their firms and going to practicing the corporate governance rules and regulations. For this purpose we have taken the listed non-financial companies of Pakistan from 2006-2015 because they are actively practicing the corporate governance rules and regulations. The results indicate that the proxy variable of corporate governance which is board size also have the significant and negative impact on the MVA in Pakistan. Interest coverage ratio indicates that if the firm’s ability to pay its interest expenses increases as results MVA also increases. Debt ratio is the proxy variable of financial leverage which is our next independent variable. By the help of our regression model we concluded that Debt also have the positive significant effect on the market value added on the firms in Pakistan. It means if a firm wants to increase their market value they should go for the debt instead of equity. Debt will help firms in Pakistan to increase their market value.

© 2016 The authors, under a Creative Commons Attribution-NonCommercial 4.0

1. Introduction

The main aim of any company is to maximize the wealth of its shareholders. The shareholder’s wealth is mainly dependent on the market value of its firm. Both the factors Corporate Governance (CG) and Financial Leverage (FL) play an important role in maximizing its shareholder’s wealth. While on the
other hand higher financial leverage will decrease the firm value and also increase firm’s Bankruptcy risk. Because shareholders demands more return due to high risk. Therefore, we need a good and sound CG and an optimal capital structure to enhance the shareholders’ wealth and market value of its firm. We can define the corporate governance as a system or manner by which the business corporations are controlled and directed. We can define an optimal structure is a structure which is not 100% either based on debt or equity rather it is the mixture of debt and equity that increase the firm value, reduces its bankruptcy risk and also minimize the cost of financing. Another theory presented by Myers and Majluf (1984) known as the “Pecking Order Theory”, this theory indicates that the firm should first use internal finance to raise its capital, then later it can use Debt to finance its capital and in the end it can use the equity to raise its capital.

The first theory of corporate governance was presented by Adolf Berle and Gardiner Means in (1932) this term was coined by Berle and Means. They wrote a book in (1932) named as “The Modern Corporation and Private Property”. In this book they presented the concept of corporate governance for the first time in the field of finance. The theory of capital structure is presented by the Modigliani and Miller in (1958). They also presented a concept that in the absence of the corporate taxes the value of a levered firm (which is based on taxes) is also same as the unlevered firm if they are same in their nature. This theory also called MM1 preposition. Later they also presented MM2 preposition in which they have taken the concept of the corporate taxes. In which a levered firm gain a tax shield (benefit). To increase the shareholder’s wealth the growth in any firm is very necessary, it is also necessary to achieve the organizational goals and objectives; it also helps to explore and to find out those important factors which help to increase the value of the firm. The value of any firm is highly affected by those factors of the corporate governance and the financial leverage. Therefore this study has been conduct to examine the impact of the corporate governance and the financial leverage on the market value added firms in Pakistan.

The MVA is known as the Market Value added the MVA is basically a mathematical calculation which shows the difference is a company’s Market value and its capital invested by its investors it includes both the bondholder plus shareholder means the portion of debt and equity. So we see the difference of all capital claims which is held against the company and the market value of its debt & equity. This value of MVA is calculated by an accounting formula which shows an amount and that amount can either be positive or negative. MVA shows us that how much value is added to the company, its firm market value is increased or decreased. A good company have its MVA in positive due to their effective operations their value is increased and which is a good indicator of shareholder’s wealth. Massive researches have done on corporate governance and financial leverage. But the study of their effect on MVA with this proxy is very scarce in Pakistan. So we took PSEX 100 index non-service companies. We want to determine that either in Pakistan the corporate governance and Financial leverage affects the MVA or not?

The main objective of this research is to determine whether the firms in Pakistan have any value addition due to corporate governance practices and the financial leverage. Is their market value increased or decreased by these two factors. We will examine their effect on the Market value added in Pakistan.

In relation to research objectives, these are the primary research questions that we have to answer through the help of our research.
What is the effect of corporate governance on Market value added?
What is the effect of Financial Leverage on Market value added?
What is the major impact of corporate governance and financial leverage on the market value of the
firms in Pakistan?

This study can be used by firms in Pakistan who is going to lever their firm and they also want to examine that is there any impact of corporate governance rules and regulation on their organization. Their Market value increased or decreased if they use debt in their organization and what benefit and cost an organization will face if they apply corporate governance rules and regulations in their firm? So it will help the organizations to build their effective capital structure so they can increase their market value.

This paper combines the following parts including an introduction and background. The part II presents the review of previous studies in the relationship of the hypothesis. The parts III provide the information about appropriate data and model, while last part represents the results and its discussion.

2. Literature Review

A massive amount of researches has been conducted on the relationship between the corporate governance and firm performance. And some of the researches also have been done on the financial leverage and firm performances. But their accumulated effect on the firm performance has not yet been seen in any Pakistani firm. A sound and good corporate governance play a vital role in enhancing the value of the corporate firms. But the influence of the corporate governance (CG) varies from country to country this is just because of that each country has its own corporate structure. This results from the different and dissimilar economic, social and the regulatory conditions (Rouf, 2011). This is the same case with the Financial Leverage. Because there is different tax laws and different tax Brackets in different countries so the financial leverage impact varies from country to country. In this study context the Corporate Governance is basically defined as the processes, laws, custom, policies and the institutions which affecting the way by which a firm is directed and controlled (Rouf, 2011). Kajola (2008) said that under the direction of the board of directors the business of a firm is managed and they also delegate the CEO and other staff of the upper management (which managed daily affairs of the firm). The director is one who has an experience, leadership skills and manages the affairs of the firm the high sense of commitment and integrity to the firm, its long term business plan and the shareholder’s value.

The theory which is presented by Mayers and Majluf is known as the Pecking Order Theory. In which they described that the firm should use or firm should prefer the internal source of the financing while raising any money for the company which is commonly known as equity. The logic behind using the internal source of financing is that it reduces the bankruptcy cost. And if the internal financing is not sufficient for the firms to meet it demands then it should go for the external financing. The last option which a firm should use to raise its funds is Debt, which is the least preferable mode of raising the funds for the firm.

Two authors Afza and Hussain through their research work examined that the debt is the best way if a firm wants to highlight the trust of the investors in the firm. It gives a positive signal in the market if a firm issue the debt, because in the future the firm is expecting some positive Cash flows. So, the firm who issues the more debts it shows that it’s manager have more confidence in the future cash flows. But if a firm issue more equity for its projects then the debt it means it will give a negative signal to the market and to the investors.

Another theory presented by the Jensen and Meckling is known as the Agency theory. Agency theory arises when there is a conflict of interest between the mangers and the shareholders interest. Because the
Managers are the agents of the company’s shareholders and they have to protect the rights of the shareholders. But the agency problem arises when the interest of the managers are different from the interest of the shareholders. Fama and French (2002) identifies that the excessive use of the debt in any firm creates the agency problem between the creditors and the shareholders of the firm.

The firm profitability is highly affected by the capital structure decision. We should know those variables by the firm capital structure can be influenced. Gill and Mathur (2011) described some variables which can affect the capital structure choice of the firm. It includes collateralized assets, non-debt tax shield, growth opportunity and income tax. These variables play an important role while determining that what capital structure a firm should use. As Roden and Lewellen (1990) by using the data of US firms (1981-1990) and found a significant and the positive relationship between the Leverage and the firm’s MVA.

The company Capital structure is commonly based on two things; one is debt and the other is equity. A small or a large company is not solely based on either fully debt or equity. The capital structure of a company is a mixture of both debt and equity. So there is a problem that which is best optimal capital structure for a company. How much a company can be lever itself? Weather a company should lever or not? Its market value is increased or decreased due to taking debt or not. Many authors have worked on capital structure theory to know the best optimal level of capital structure. Pandey (2004) worked in Jordanian Firms and argued that the firm value is dependent on the capital structure. So firms can adopt an optimal level of capital structure to increase firm’s value. In 2006 Ward and Price conduct a research and they found that the leverage has a significant positive impact on the firm’s market value. In 2006 Sharma found a positive relationship between the leverage and the market value of the firm. Conversely, Ebaid (2009) concluded that there is no relationship between the structure of the capital and the performance of the firms. In 2007 Tian and Zeitun was also working on the capital structure and they examined that there is significant negative relationship between the leverage and the firm’s value.

Majumdar and Chhibber gathered some sample data on Indian firms and they came to know that there is a significant negative relationship between the value of the firm and leverage. Further, Abor(2007) collected data of Ghana listed firms and found that there is significant positive relationship between the leverage and the company market value. While Gill et al., (2011) conduct a research on the some listed firms of the America and he found that the in America the firm’s profitability is negatively related to the debt.

Al-Qaisi(2010) gathered data from the United Arab Emirates (UAE) and he came to know that there is a significant negative relationship between the leverage and the firm’s profitability while on the other hand the leverage have a positive impact on the size of the firm.

Odit and Gobardhun (2011) worked on Mauritius firms and they concluded that there is a significant positive relationship between the firm’s market value and the leverage.

McConnell and Servaes (1990) conduct a larger survey on the Non-US financial companies. By his research he concluded that the firm who uses debt in their capital structure have negative impact on their market value.

Barkat (2014) gathered some financial data on the Saudi Arabian firms. His results indicate that there is a positive association or relationship between the Leverage and market value of the firms in Saudian.

Adenugba et al., (2016) examine the relationship between financial leverage and firms’ value, by using a sample of firms listed on Nigerian Stock Exchange (NSE) from 2007-2012. Data were sourced from annual reports of selected firms. The Ordinary Least Square (OLS) statistical technique was used for data analysis and hypothesis testing. The results indicate that there is significant relationship between financial leverage and firms’ value and that financial leverage has significant effect on firms’ value. The study concludes that financial leverage is a better source of finance than equity to firms when there is
need to finance long-term projects. However, various economic factors may have despicable effects on the profitability of Nigerian firms, as such the use of debt financing in such firms may yield negative impact such as bankruptcy as well as low firm value. It is concluded that financial leverage be optimized by firms to aid maximization of firms’ value.

Okiro & Omoro (2015) investigate the effect of corporate governance and capital structure on performance of firms listed at the East African securities exchanges (Kenya, Tanzania, Uganda, Rwanda and Burundi) from 2009-2013. Based on the agency theory this study builds a comprehensive framework to answer the research question on whether good corporate governance affects firms performance by integrating capital structure into the governance model. The results indicate that there was a significant positive relationship between corporate governance and firm performance. The study also confirmed a positive significant intervening effect of capital structure (leverage) on the relationship between corporate governance and firm performance. From a theoretical viewpoint, this study not only explains how corporate governance affects firm performance, but also uncovers the importance of capital structure in a corporate governance system.

3. Determinants of Market Value Added: Evidence from Pakistan PSEX Firms

Market Value Added (MVA) is taken as a dependent variable. MVA shows that how much is the market value of a company; it shows how much value is added to the firm’s. It also shows what is the net present value of the companies’ all projects (past and present). The more it will be the more it will show the profitability of the company. Generally the MVA is calculated as

\[
MVA = \text{Market value of equity capital} - \text{Book value of equity capital}
\]

If it is positive it means there is a value addition in the company assets. If it is negative it means there is no value is added in company’s assets. The more it will be the more it will be good for the company.

1. Debt to Equity Ratio

This ratio is used to measure the Financial Leverage of the firm. It is calculated by dividing the firm’s total liabilities (Current and Non-Current) by its stockholder’s Equity. The more higher the D/E ratio, it will indicate that how much a company is using the amount of debt to finance its total assets (current and non-current) in contrast to the amount which is shown in the shareholder’s equity.

\[H_1: \text{There is a significant effect of Debt to Equity and Financial Leverage on the MVA of listed companies on Pakistan stock exchange.}\]

2. Interest cover Ratio

This ratio is also the indicator of the Financial Leverage. This interest cover ratio (INTC) measures that company have enough ability so it can pay the cost of its debt or to meet its interest expense. It can be calculated as Earning before the interest and taxes (EBIT) which is also known as operating income divided by the companies interest Expense

\[H_1: \text{There is a significant effect of Interest cover Ratio on MVA of listed companies of Pakistan stock exchange.}\]

3. Debt Ratio

Debt ratio is another measure of company’s financial leverage measurement tool. Debt ratio indicates that how much assets in a company or a firm is financed through the debt. It is also called to asset ratio.

\[H_1: \text{There is a significant effect of Debt Ratio on MVA of listed companies of Pakistan stock exchange.}\]

Following variables to measure the corporate governance (CG) will be studied.

1. Board Size

The board of directors are responsible for every decision making and they control and leads the
company. A good and effective board size can create a good value for the company and leads the company to success. In (1992) Lipton and Lorsch find out that the smaller board is more effective than the larger one. This is just because there are some free riders in the board so they free ride on the efforts of the other. So if we lemmatise the board size the overall performance of the firm will be increased. In (1993) Jensen examined the board and their functions become less effective, when the board gets larger. In (2009) Ehikioya collected some data on Nigerian firms and from his study he found that the return on asset (ROA) has a positive relationship with the board size. 

\( H_1 \): There is a significant effect of Board Size on MVA of listed companies.

2. Outside Director
Outside director is another variable to measure the Corporate Governance (CG). The outside director is basically the Board of director (BOD) of the company or the firm. But he does not have any stake holding in the company nor is he an employee of the company. He is annually paid by the company. Corporate governance standards in some of the public companies require the outside director so they have an unbiased opinion about the company’s strategies and the company’s decision making. He also has the ability to judge the performance of the organization independently and also have the knowledge about the organizational activities.

\( H_1 \): There is a significant effect of Outside Directors on MVA of listed firms.

3. CEO duality
Basically, CEO duality is related to a situation when the CEO in a firm is performing the same duty as a Chairman in the firm. It is also suggest by the agency theory that the CEO duality minimizes the board monitoring effectiveness over its management. In (1983) Fama and Jensen explained that the CEO role should be separated from the role of role of the Chairperson in the organization otherwise the person who is holding the both positions in their hand will make ineffective monitoring and managerial decisions. In (1997) Brickley et al. suggest that there is not an ideal and optimal structure of leadership, The CEO duality and the separation both have some of its own costs and benefits. So, for some of the organization the CEO duality is valuable, and likewise for some other firms the separation is valuable.

\( H_1 \): There is a significant effect of CEO Duality on MVA of listed companies of Pakistan.

4. Audit Committee
When the corporate governance principles are implemented in a firm then the audit committee plays a major role to enhance that firm value. According to the rules and regulations of audit committee in Pakistan it suggests that the audit committee should work independently and they also should perform their duty with the professional care. To minimize the agency problem the audit committee should improve the quality of information and their flow between the management and the shareholder’s. The first and foremost function of any audit committee is to analyse the financial reports of the company and also analyse the system of the internal controls and other rules and regulations.

\( H_1 \): There is a significant effect of Audit Committee on MVA of listed companies.

Methodology:
Population and Sample
The aim of this research is to examine the effects of CG and FL on MVA. For this purpose we will extract the data from the annual reports of the firms listed on Pakistan Stock Exchange (PSEX) Pakistan. Because every listed company is bound to prepare its financial statements and to follow corporate governance rules and regulations (Nadeem & Zongjun, 2011). For this study, the population is the non-financial and non-service companies from PSEX 100 index and study time period is Ten (10) years from the year 2006-2015.

Model
To determine the effect of corporate governance and Financial Leverage on MVA, we purposed the following equation.

\[
MVA_{it} = \alpha + \beta_1 BOSIZE_{it} + \beta_2 DOUT_{it} + \beta_3 CD_{it} + \beta_4 AC_{it} + \beta_5 DEBT_{it} + \beta_6 DTE_{it} + \beta_7 ICR_{it}
\]

Where:
- \(MVA_{it}\) is market value of firm i in time t;
- \(BOSIZE_{it}\) is Board Size of firm i in time t;
- \(DOUT\) is Outside Directors of firm i in time t;
- \(CD\) is CEO Duality of firm i in time t;
- \(AUDIT\) is Audit Committee of firm i in time t;
- \(CG\) is corporate governance of firm i in time t;
- \(FL\) is financial leverage of firm i in time t;
- \(DEBT\) is debt Ratio of firm i in time t;
- \(DTE\) is Debt to Equity Ratio of firm i in time t and
- \(ICR\) is Interest Cover Ratio of firm i in time t.

<table>
<thead>
<tr>
<th>Table 1: Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOUT</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Median</td>
</tr>
<tr>
<td>Std. Dev.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2: Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVA</td>
</tr>
<tr>
<td>ICR</td>
</tr>
<tr>
<td>DTE</td>
</tr>
<tr>
<td>DEBT</td>
</tr>
<tr>
<td>BOSIZE</td>
</tr>
<tr>
<td>AUDIT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3: Unit Root Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable Name</td>
</tr>
<tr>
<td>MVA</td>
</tr>
<tr>
<td>Audit Committee</td>
</tr>
<tr>
<td>Board Size</td>
</tr>
<tr>
<td>Out Side Directors</td>
</tr>
<tr>
<td>Debt Ratio</td>
</tr>
<tr>
<td>Debt-to-equity Ratio</td>
</tr>
<tr>
<td>Interest Cover Ratio</td>
</tr>
</tbody>
</table>

4. Empirical Results

Based on our results of regression models (Common constant, fixed effect and Random effect model) we concluded that the fixed effect model is more appropriate model for our data analysis. In our regression analysis we have one dependent variable which is the market value added (MVA) and two independent variable corporate governance (CG) and Financial Leverage (FL) and we regress their impact on our dependent variable. We have the data from (2006-2015) of the PSEX 100 index companies.

<table>
<thead>
<tr>
<th>Table 4: Pooled OLS Model Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>DOUT</td>
</tr>
<tr>
<td>ICR</td>
</tr>
<tr>
<td>DTE</td>
</tr>
</tbody>
</table>
Leverage has a positive and significant effect on market value added which is the proxy variable of the financial leverage. Debt ratio (Total debt/Total Assets) also positively affects the market value of the firm. When the firm uses the debt it gives a positive signal to the market that the firm is more worthy or it has a good credibility history that’s why the financial institutions provide them loan. And a firm also gets the tax shield benefit by using the debt in their capital structure. In 2006 Ward and Price found that the leverage has a significant positive impact on the firm’s market value. In the same way, Sharma (2006) evidence a positive relationship between the leverage and the market value of the firm. So the market value of the firm increases because of the debt ratio.

Interest cover ratio is the proxy variable of our independent variable financial leverage. It means that how rapidly or how fast a company is paying its interest expenses. Through or regression model we concluded that interest cover ratio has a significant positive impact on our dependent variable market value added. It means when the Pakistani firm’s ability to pay its interest expenses increases its market value is also increased. Because the company only can met its expenses when it have sufficient amount of cash in hand. And only good profitable company can only have enough cash in hand meet its all interest expenses. These findings are similar to McGahan and porter (1997) that the interest cover ratio has a greater influence on the performance of the firm.

The board size also has the significant negative impact on the value of the firms in Pakistan. Generally this is a believed that the value of a firm is negatively impacts by larger board size. The larger the board size the more negative impact it has on the value of organization. According to the Rouf (2011) believed that smaller board size have a positive impact on the firm value rather than the larger size because monitoring cost is high for the larger board size, there is a poor communication between the larger groups and decision making process is also slow in large board size. Lipton and Lorsch (1992) and Jensen (1993) found that the smaller board size is more efficient and more effective than the larger one. Our results are consistent with Johl & Jackling (2007) and Kiel & Nicholson (2003) findings as board size negatively affect the performance of the firm.

Other variables in analysis indicate that they have an insignificant impact on the market value added listed firms in Pakistan. Other Statistics (like R-Square F-Statistics and Durbin-Watson test) also indicates the model results. The R square is 0.742478 it means that the 74% change or variance in our dependent variable market value added is due to these factors. It means that the variance is our dependent variable is explained by this purposed model. F Statistical value indicates that our model is fit to explain the effect of corporate governance and financial leverage on the market value added in Pakistan.

<table>
<thead>
<tr>
<th></th>
<th>LEV</th>
<th>CD</th>
<th>BOSIZE</th>
<th>AUDIT</th>
<th>MVA t-1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.025273**</td>
<td>-0.143574</td>
<td>-0.026223</td>
<td>-0.046128</td>
<td>0.037590</td>
</tr>
<tr>
<td></td>
<td>0.004957*</td>
<td>-0.158903</td>
<td>-0.019568</td>
<td>-0.038459</td>
<td>0.003821*</td>
</tr>
<tr>
<td></td>
<td>0.003821*</td>
<td>-0.108979</td>
<td>-0.013069</td>
<td>-0.030859</td>
<td></td>
</tr>
</tbody>
</table>

Note: MVA is market value; BOSIZE is Board Size; DOUT is Outside Directors; CD is CEO Duality; AUDIT is Audit Committee; DR is debt Ratio; DTE is Debt to Equity Ratio and ICR is Interest Cover Ratio. *, **&*** indicates that mean comparisons are significant at the 10,5and 1 % level.
5. Conclusion

The main purpose of this study is to examine whether the corporate governance rules and regulations and financial leverage have any impact on the market value added in Pakistan. For this purpose the data have been taken out from the listed firms of Pakistan stock exchange. We have five proxy variables to measure our independent variable corporate governance (Board size, CEO duality, Audit committee, and outside directors) and to measure independent variable financial leverage, following proxies’ (Debt ratio, Debt-to-Equity Ratio, and interest cover ratio) and we examine their effect on the market value added of firms in Pakistan.

The proxy of corporate governance such as board size, results shows that this variable is also significant. It means it also has the significant negative impact on the market value of the firms in Pakistan. In Pakistan the average company’s board size varies between 7 to 9 which is considered as a larger size. So it also has the negative impact on the value of the firms in Pakistan, because there is a high monitoring cost and low level of communication. So smaller size is the most efficient and will have a positive impact on the companies’ market value. Two authors named as Mak and Kusnadi collected some sample data from Singapore and Malaysia. In their research both author work on corporate governor rules and principles, and through their work they concluded that there is a negative association between the board size and the market value of the firms. According to Judge & Zeithamal (1992), the larger board size decreases the value of the firms.

Interest coverage ratio is the proxy variable of our independent variable financial leverage. Interest cover ratio indicate that how many times a company pay its interest expanses the more ICR a company have it means that more the company have ability to meet its interest expenses. In our results we also concluded that it has a significant positive impact on our dependent variable market value. It means the more company have ability to pay its interest expense the more market value of the firm will increase. Ramdani & Witteloostuijn (2010) by using interest coverage ratio; they also have concluded that it has a positive impact on the firm’s market value.

Another variable which is having the positive and significant effect on the market value of the firm is the Debt ratio. Debt ratio is the proxy variable of financial leverage. It can be calculated by dividing the total debt by the total assets of the company. In our regression model the debt ratio is significantly positive. It means it is having the significant positive impact on the market value of the firms in Pakistan. It means if a firm is going to lever itself it will have a positive significantly effect on their market value. Their market value will be increased when they will take debt. In 2006 Ward and Price conduct a research and they found that the leverage has a significant positive impact on the firm’s market value.

In 2006 Sharma analysed that there is a positive relationship between the leverage and the market value of the firm. Barkat (2014) find out that there is a positive association or relationship between the Leverage and market value of the firms in Saudi Arabia.

Through our study we can conclude that our study is matched with the (Sharma and Barkat) and (Ward and Prince) who also concluded that the leverage have a positive impact on the value of the firms. But our study suggest that in leverage the Debt ratio is more significant ratio which is having the positive significant effect on the value of the firms in Pakistan.
References


Financial Sharing in Infrastructure Joint Venture Projects

Norsyakilah Romeli, Faridah Muhamad Halil, Faridah Ismail, Jacqueline Wena Dhelbi

1PhD student, Universiti Teknologi Mara, kilaromeli@gmail.com
2Senior lecturer, Universiti Teknologi Mara, fammuha@yahoo.com
3Associate Professor, Universiti Teknologi Mara, farid346@salam.uitm.edu.my
4PhD student, Universiti Teknologi Mara, jacqueline_wena@yahoo.com

ARTICLE DETAILS

History
Revised format May 2016
Available Online Jun 2016

Keywords
Financial Limitation, Joint Venture, Infrastructure Project

JEL Classification:
G23, H54

ABSTRACT

Objective: The purpose of this paper is to identify the financial sharing limitation in contractor’s infrastructure project in joint venture implementation.

Methodology: Using the quantitative method, the questionnaires, constructed based on external and internal variables were distributed to the selected respondents. The analysis of the data is conducted with simple SPSS analysis to identify the mean, median and standard deviation. The ranking of the variables is drawn from the results.

Results: The outcome of this research has found that the crucial external limitations are penalty to the foreigners and that market legislation requires limitation in the sharing proportion. Meanwhile, for the internal limitation the ownership control and rate fluctuation should be followed with certain marking lines.

Implication: Thus, this paper stimulates the joint venture contractor to set up the post financial remedial plan once one of the collaborative partners breaches the agreement on the joint venture due financial limitation.

© 2016 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: kilaromeli@gmail.com


1. Introduction

Malaysia’s economic development maneuver comprised numerous aspects, including the industries of agriculture, manufacturing, and services (Chan et.al, 2010). However, among the industries that have contributed to the Malaysian gross domestic products, the construction industry currently contributes 4 per cent to the Malaysian Gross Domestic Product (GDP) and is expected to contribute 5.5 per cent to the Malaysian GDP up to 2020 (CITP, 2015). As enacted in the Rancangan Malaysia ke-11 (RMK 11) and the Economic Transformation Plan of Malaysia (ETP), an amount of MYR 120 billion is allocated to accelerate the construction of major infrastructure projects. This is to encourage the growth of
industry which would eventually serve the community for the next 5 years. The involvement of the government in the construction industry has allowed the joint venture contractors from their respective companies to begin executing the projects. In the perspective of high scale and multi-complex projects, the government believes that, through the joint venture approach, contractors can share the assets, technologies, expertise, competency and culture throughout the project executions. The favorable connections are extensively translated in the contracts agreement as both parties seek for a win-win situation. Therefore, having the projects done through the joint venture approach can be significant to the industry players as the management and relationships are dissimilar from the conventional practice. According to CIDB (2015), among 5,267 registered joint venture contractors, 10% of it was the foreign contractors that implemented joint venture projects consist of Civil Engineering Contractors 66%, Housing Developer 21%, and Specialist Sub-Contractors 14%. In 2014, 7,590 of joint venture projects registered to the CIDB have involved a project cost more than 100 million ringgit. The situation unambiguously underlines the current demand for contractor’s joint venture in the infrastructure development in Malaysia. Participation from the foreign contractors is considered as the platform for the survival of local contractors as they practice the sharing of resources, managerial pattern and technology adaptation. Nevertheless, a joint venture may be an upheaval factor without a proper economic surveillance as part of financial management during the project’s execution.

2. Literature review

2.1 The Implementation of Infrastructure Joint Venture Projects

The collaboration between two or more partners compliments the inadequacy of each party and integrates knowledge ability to expedite greater productivity. The collaboration strategies are derived from partnering, alliancing and joint venture. In current practice, joint venture involves two or more legally distinct organizations, which cooperate in the decision-making activities of the jointly owned entity (Geringer, 1998; Chan et.al, 2010; Adnan, 2007). The partner’s admission to the business venture is reckoned as a successful instrument to improve communication, achieve common goals and project-orientated decision making (Crowley & Hakim, 1995; Chan et.al, 2010). In the construction context, joint venture may come in form of sub-contracting by delivering projects with numerous construction specialists. This includes the government and private joint venture, consultant teaming joint venture, contractor and investor joint venture. From the infrastructure construction perspective, the grueling phase within the project chronology is the planning stage up until the implementation stage (Sears et.al, 2007). Hence, the construction industry requires well expertise and the compatibility of team to accelerate the projects until the projects are handed over to the client. Joint venture execution is different than the conventional types of procurement as contractor’s joint venture involves two or more parties to form a joint venture. The strategy is to achieve their business goal, as they opt for high-risk investment by engaging in partnership and joint venture pattern contract. There are various types of the infrastructure development that require joint venture collaboration due to the financial circumstances. Table 1 describes the characteristic times for various phases of infrastructure development accordingly to form the planning phase, design phase and construction phase. Typically, the roads, railway and harbors and commercial projects took the longest planning years among all of the other infrastructure projects. Meanwhile, the industrial types of infrastructure took the least of time for planning phase due to the less complex building in terms of shape and construction methodology.

Table 1: Characteristic times for the various phase of infrastructure development (Howes & Robinson, 2005)

<table>
<thead>
<tr>
<th>Infrastructure Types</th>
<th>Planning phase (years)</th>
<th>Design Phase (years)</th>
<th>Construction Phase (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>0.5-6.0</td>
<td>0.5-4.0</td>
<td>0.5-4.0</td>
</tr>
</tbody>
</table>
During the inception stage, the national budget is provided for the country development, and government acts as the agent who facilitates and monitors the delivery and operation of the projects. From the pre tender stage, the government will request for a development proposal from the Special Purpose Vehicle (SPV) and other name for the contractors joint venture in construction practice, before evaluating the tender according to the government regulations and awarding the tender to the qualified joint venture. As for the SPV, they need to form a joint venture from numerous aptitude contractors with an agreed relational contract apply and prepare the pre-development to bid for the tender. The joint venture contractors choose to share capital; equity, resources, liability, but simultaneously facing the risk which involves paying the borrowed funds to the financer (Howes & Robinson, 2005, Smyth & Pryke, 2008). When the proposal is accepted, the construction needs to start with a financial collaboration with the government and the financer. The financer is conceivably the bank, a private entity that is ready to risk their capital and often expecting to gain from the investment, once the evaluation on the technical and the financial ability of the contractor’s joint venture are completed. The concession contracts agree within a stipulated period of time to return the projects to the user, thus requires the SPV to facilitate the maintenance works during the operation of the infrastructure.

2.2 Financing the Contractor’s Joint Venture in Infrastructure Projects

The main factor the affects the development of the economic in certain countries is the level of the public facilities, provided by the government to the community. The infrastructure consists of the education, health, water; sewerage, power and transportation which require costly technology, foreign expertise, and monetary resources. Financing large scale projects becomes challenging when it comes to securing and raising capital. The contractors have several alternative sources of funding in order to sustain the financial flow and to avoid any dissatisfaction between the collaborative partners (Park, 2008). The methods of financing consist of the sources of increasing capital, international sources of funding, long term and short term projects funding (Gunn, 2005; Park, 2008; Kenley, 2003). Table 2 shows the sources of funding, and contractors prone to use debt for capital, leasing for the machinery and factoring for the materials to finance the projects and to ensure the survival of the joint venture. Some of the joint ventures accumulate the total project capital from venture capitalist, construction banks, World Bank or any other public or private institutions that provided fund for the infrastructure development around the world.

| Table 2. Sources of Project Funding (Gunn, 2008) |
|-------------------|-------------------|-------------------|
| **Funding Sources** | **Types of funding** |
| Increasing capital | 1. Stock exchange |
|                    | 2. Issue of securities |
|                    | 3. Venture capital |
|                    | 4. Conventional credit |
| International sources of funding | 1. Debt securities |
|                                 | 2. Project Finance |
For Malaysian infrastructure development, the sources of funding must be numerous (Khairudin, 2006). The World Bank (IBRD, IDA) and Asian Development Bank have stated that the most lending and funding to the Asian countries were in the infrastructure projects compare to the agriculture, information and communications technology, and the industry of trade. A sum of 103.6 MYR Billion of lending amount received from the World Bank for the infrastructure development in Malaysia. Table 3 shows the breakdown of the Malaysian infrastructure project with the sum of borrowing in the unit of Malaysian Billion Ringgit. The construction of highway annotated the highest lending amount of 30.6 MYR billion. Meanwhile, the energy development project operated by the TNB Western Energy Company charted the least in borrowing from the World Bank. The data shows that sources of funding are very imperative measure to ensure the financing flow is smooth until the delivery of the projects.

<table>
<thead>
<tr>
<th>Malaysia</th>
<th>MYR Billion</th>
<th>USD billion</th>
<th>State-owned</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Lebuhraya Usahasama</td>
<td>30.6</td>
<td>7.0</td>
<td>No</td>
<td>Transport, storage, communications</td>
</tr>
<tr>
<td>Prasarana</td>
<td>15.6</td>
<td>3.6</td>
<td>Yes</td>
<td>Transport, storage, communications</td>
</tr>
<tr>
<td>Pengurusan Air Sarawak Energy</td>
<td>13.5</td>
<td>3.1</td>
<td>Yes</td>
<td>Energy, gas and water</td>
</tr>
<tr>
<td>BGSM Management</td>
<td>8.5</td>
<td>1.9</td>
<td>Yes</td>
<td>Energy, gas and water</td>
</tr>
<tr>
<td>Turus Pesawat</td>
<td>6.0</td>
<td>1.4</td>
<td>No</td>
<td>Transport, storage, communications</td>
</tr>
<tr>
<td>Malakoff Power Manjung Island</td>
<td>4.9</td>
<td>1.1</td>
<td>No</td>
<td>Energy, gas and water</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YTL Power International Celcom Networks</td>
<td>4.8</td>
<td>1.1</td>
<td>No</td>
<td>Energy, gas and water</td>
</tr>
<tr>
<td>Tanjung Bin Power TNB Western Energy</td>
<td>4.0</td>
<td>0.9</td>
<td>No</td>
<td>Energy, gas and water</td>
</tr>
</tbody>
</table>

2.3 The Sharing Concept in Infrastructure Contractors Joint Venture

To participate in the joint venture, it becomes the contractors’ obligation to allocate major of their resources before the project execution. The sharing concept is retrieved from the intention to implement collaboration strategies. In this situation, contractors have decided to integrate the project with other team which they have trusted. Apart from that, the joint venture permits the collaborative partners to
share their main resources, (Adnan, 2007; Muhammad & Torrance, 2005; Chan et al., 2010) for example, capital, assets, machineries, human resources and others. The sharing concept basically covers from the technical aspects up to the management aspect, predominantly once the joint venture signed between two or more parties. Figure 1 shows the timeline of the contractor’s joint venture infrastructure project, which begins from the inception stage, tendering stage, construction stage, concession period and handing over. The table also indicates the phase where the sharing element starts. Initially, the non-disclosure agreement is signed before the joint venture officially is announced to the public. The agreement has already stated the sharing elements in the contract which covers profit and loss of the joint venture. After the project is awarded to the disclose joint venture, the challenging stage then follows, which is, to manage the resources. The proportions of sharing will be determined and the management will be controlled by the party that is assigned to perform the task. The focus of this study is on the financial sharing among the contractors, which mainly involves the whole organization, from technical to the management team due to the financial stability that boosts the joint venture performance, regardless any department. Apart from the incoming resources, the collaboration ought to consider the impact of sharing, loss and damages which are classified as the most unwanted circumstances in business (Sears et al., 2007; Gunn, 2005). However, the sharing concept in joint venture is obligated to insert the mentioned elements in the joint venture contract clause.

Figure 1. Timeline of Contractor’s Joint Venture Infrastructure Projects

2.4 Financial Limitation as the defense mechanism for the contractors

Limitation describes the act of controlling the size or extent, and the act of control on how much of something is allowed for certain activities. In business context, limitation represents the act of allowing quantity or equivalent measurement in certain procedures in the business (Bramford. J et.al, 2005; Atkins. M, 2014). The limitation order is received from the upper management, which covers the management of the business, control of the inflow and outflow of the business and the marketing strategies to the costumers. For construction joint venture projects, the limitation predominantly marks the line between the collaborative partners of ownership and the control of the business movement. As one of the defense mechanisms to the contractors, setting the limitation secures the position of the partners by having a transparent access to the financial cash flows and management. However, a few joint venture formations prefer to keep the business movement flexible without having a limitation. This may lead to the financial problem when handling with the technology that will certainly bring to an additional cost to the joint venture (Sharon, 2011). To secure the financial sharing in the joint venture,
contractors select to limit their sharing coverage in the relational contract. Some divergence arise from the economics perspectives of the SPV as they have allocated all of their assets as stated in the contracts and they need to guard the investment to avoid loss in the investment (Beamish and Lupton, 1999). The limitation is also applied to the responsibilities charged to the collaborative partners (Sears et.al, 2005). Hence, it is crucial to set a boundary within the investment capital to avoid sporadic and accumulated investment which eventually complicates the separation process of the joint venture. The benefits of having the limitation in the joint venture is to boost the performance of the joint venture by avoid the financial dissatisfactions. Financial distribution has unequivocally declared the relational performance of the joint venture, and despite the decision making in the joint venture, economic aspect can be the trickiest predicament to tackle. Managing monetary resources, distributing the financial support and securing profits make up the science of economics that are necessary for the contractors to deal with.

Even though major joint venture agreement has justified the proportion of shares in the contracts, not all stakeholders are able to comply with the stipulated clause. In construction, as in other project based-industries, the need for cooperation arises from uncertainty, interdependence and complexity (Shirazi et.al, 1996; Dubois and Gadde, 2002; Smyth and Pryke, 2008). The purpose of forming a joint venture to resolve the financial scarcity’s equation is beaten and hence, locating the limitation would be an excellent solution. In the UK case studies Bamford, J, et al. (2004) reported in 1991, the performance of 49 joint ventures and alliances has found that only 51% were successfully subjected to each partner had achieved returns greater than the cost of capital. Meanwhile, as reported by Ma and Voo (2010), Malaysian case study projects have suffered delays in the construction project delivery and overrun costs.

<table>
<thead>
<tr>
<th>Name of Authors</th>
<th>Elements of Sharing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Profits, Risk, Equity, Managerial Style</td>
</tr>
<tr>
<td>Adnan (2007)</td>
<td>Liability, Asset, Market</td>
</tr>
<tr>
<td></td>
<td>Profits, Risk, Equity</td>
</tr>
<tr>
<td>Chan et.al (2010)</td>
<td>Liability, Asset, Market</td>
</tr>
<tr>
<td></td>
<td>Profits, Risk, Equity</td>
</tr>
<tr>
<td></td>
<td>Profits, Risk, Equity</td>
</tr>
<tr>
<td>Sears et.al (2007)</td>
<td>Profits, Asset, Culture</td>
</tr>
<tr>
<td></td>
<td>Loss, Risk, Capital</td>
</tr>
<tr>
<td></td>
<td>Profits, Risk, Equity</td>
</tr>
<tr>
<td>Howes and</td>
<td>Culture, Asset, Risk</td>
</tr>
<tr>
<td></td>
<td>Loss, Human Resource, Capital</td>
</tr>
</tbody>
</table>
Cost overrun, increase in borrowing cost and overdue delivery of projects are listed as the common dissatisfactions occurred during the implementation of construction. From the literature review, a few authors have listed the elements of sharing consisted of liability, profits, asset, market, culture, risk, equity, managerial style, loss, human resources, and capital. Table 4 above shows the literature reviews that are retrieved form year 2000 until year of 2014. There are ten (10) numbers of authors that have discussed the elements of sharing in the joint venture projects. The authors, Smyth and Pryke (2008); Adnan (2007); Chan et.al (2010); Beamish and Lupton (2000); Sears et.al (2007); Kale et.al (2001); Atkins, M. (2014) have listed the important elements of sharing are liability, asset, market, culture, profits, risk, equity, managerial style, loss human resource and capital. Meanwhile, Howes and Robinson (2005); Khairudin et.al (2005) have stated that the most important sharing element are culture, asset, risk, profits, equity, capital and loss. The authors’ studies have contributed to the literature review in this research. As for the Malaysian construction study, the financial sharing in-depth has yet to be discovered, particularly for infrastructure joint venture.

Figure 1. Most important sharing elements in joint venture listed by the authors

Figure 1 indicates the cross tabulation of number of the authors and the elements of the sharing. The result shows that the important element discussed by the authors from year 2000-2014 are profits, loss, assets, risk, equity and capital. The elements are including the biggest sharing categories, which is from the financial categories. Meanwhile, the sharing elements consist of liability; managerial style, human resource, and market have been listed as less important in comparison to the financial elements. Hence, it is necessary to investigate the limitations in financial sharing to improve the contractor’s joint venture
performance and help the researchers to enrich the literature review in contractor’s joint venture for further studies.

3. Methodology
The research methodology adopted in this study is quantitative method. This method is chosen due to its reliability and objectivity. Using the quota sampling methods, the respondents have been chosen according to the criteria required in the study (Sekaran, 2009). From the Construction Industry Development Board (CIDB) a list of joint venture contractors, there are 5 foreign contractors and 5 local contractors that have registered, and have been part of the joint venture projects specialist in the construction of infrastructure in Malaysia for more than 10 years. The perceptions are needed from both local and foreign contractors due to the various preferences in financial limitation selection. The questions are derived from the literature review by listing the variables suggested from previous studies. The questionnaire preliminarily runs for the reliability to examine the accuracy of the questions to be tested to the sample. Using the Likert scale, the financial limitation measured to identify the contractors’ preferences on the financial sharing. The data analysis for quantitative data conducted is SPSS version 16.00. The results are keyed in the data variables sheet, then the data is analyzed for mean, median and standard deviation to investigate the ranking on each element, before the documentation of the final findings.

4. Outcome of the Research
4.1 Research Question 1

<table>
<thead>
<tr>
<th>Item</th>
<th>Financial Sharing Limitation on Contractor’s Infrastructure Project Joint Ventures?</th>
<th>Local Contractors</th>
<th>Rank</th>
<th>Foreign Contractors</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Internal Limitation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Government taxes imposed to the joint venture</td>
<td>4.20</td>
<td>5</td>
<td>1.095</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Fluctuation of exchange rate in the country of the project implemented</td>
<td>4.40</td>
<td>4</td>
<td>0.548</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Insurance various requirement and changes in insurance coverage policy</td>
<td>4.20</td>
<td>5</td>
<td>1.095</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Business strategy and pattern in the collaboration</td>
<td>4.00</td>
<td>4</td>
<td>0.707</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Equity control and ownership that directs to rights of making a decision</td>
<td>3.80</td>
<td>4</td>
<td>0.837</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Client’s variation orders in technical’s specifications which affects the financial outflows</td>
<td>4.00</td>
<td>4</td>
<td>1.000</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Political stances in the once country affected the management of the internal organizations</td>
<td>4.00</td>
<td>4</td>
<td>1.000</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 5 indicates the financial sharing limitation on the infrastructure joint venture projects between local contractors and foreign contractors. The Likert scale is divided from 1 until 5, as “strongly disagree” to “strongly agree”. After the participants have responded to the questions, the ranking is gathered from the mean, median and standard deviation. For the internal financial sharing limitation, the local contractors have agreed that the fluctuation of exchange rate in the country where the project is implemented requires limitation in sharing especially in contractual documentation. The foreign contractors have agreed on the equity control and ownership that directs to the rights of making a decision which needs concern and action to determine the limitation. Meanwhile, for the external limitation, the local contractors have stated the liability of foreigners, responsibilities, and paying for penalties. The foreign contractors have annotated that market legislation in the host’s country requires several pre requested conditions that is the element of sharing need major limitation. Willingness to carry the responsibilities by both parties is obtained from the result. Local contractors prefer to limit the responsibilities and control in exchange to avoid the risks in the projects. In addition, the local contractors have sensed that responsibilities regarding the penalty on the foreign collaborative partners should be managed by the foreign contractors themselves. For the foreign contractors, they prefer to limit the equity control and ownership because of the dominant character of the host contractors, which have more authority on the rights of making decision in financial issues. Besides that, foreign contractors have agreed that the local contractors should be more responsible on the market legislation within the construction process occurred. Both contractors aware that identifying the financial sharing limitation elements is imperative, hence the research questions 2 are developed.

### 4.2 Research Question 2

Table 6 below indicates the significance of identifying financial sharing limitation on contractor’s infrastructure project joint ventures between local contractors and foreign contractors.

<table>
<thead>
<tr>
<th></th>
<th>Market legislation in the parents country requires several pre requested condition</th>
<th>4.20</th>
<th>4</th>
<th>0.700</th>
<th>5</th>
<th>5.00</th>
<th>5</th>
<th>0.000</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Liability of foreignness and responsibilities, paying a penalties</td>
<td>4.60</td>
<td>5</td>
<td>0.548</td>
<td>1</td>
<td>4.20</td>
<td>4</td>
<td>0.447</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Financial risk which loss and damages in the joint venture</td>
<td>4.20</td>
<td>4</td>
<td>0.837</td>
<td>2</td>
<td>3.80</td>
<td>4</td>
<td>0.837</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Cost of additional manpower and expensive technology</td>
<td>4.20</td>
<td>4</td>
<td>0.837</td>
<td>3</td>
<td>4.20</td>
<td>4</td>
<td>0.837</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Loan application process and management from the construction banks</td>
<td>4.20</td>
<td>4</td>
<td>0.837</td>
<td>4</td>
<td>4.40</td>
<td>5</td>
<td>0.894</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>Insolvency of one party could jeopardize the collaborations partners</td>
<td>4.40</td>
<td>5</td>
<td>0.894</td>
<td>6</td>
<td>4.20</td>
<td>4</td>
<td>0.447</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Political positions and advantages of the political domination to the business endeavor</td>
<td>4.00</td>
<td>4</td>
<td>1.000</td>
<td>7</td>
<td>4.20</td>
<td>4</td>
<td>0.837</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 6. Significant of identification Financial Sharing Limitations in joint venture
<table>
<thead>
<tr>
<th>Item</th>
<th>Significant of identifying financial sharing limitation on contractor’s infrastructure project joint ventures?</th>
<th>Local Contractors</th>
<th>Foreign Contractors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>Median</td>
</tr>
<tr>
<td>1</td>
<td>The business splitting process easily applicable with the justified boundaries</td>
<td>5.00</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Replaced financial dispute with problem solving approach with the documented limitation as per agreed</td>
<td>4.20</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>To prepared with personal indicators before embark into joint venture in future projects</td>
<td>3.80</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>As a defend mechanism for the collaboration partners when handling with the future financial disagreement</td>
<td>4.20</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>To overcome the consequences of incomplete contracts as the contractual provisions of joint ventures such as options and exit clauses</td>
<td>4.00</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Provides a transparent delivery of resource costs, incentive requirements for advanced technologies and machineries, and</td>
<td>3.60</td>
<td>4</td>
</tr>
</tbody>
</table>
Both contractors have agreed that the rational of having the limitation in financial sharing is to make the business splitting process easier with the justified boundaries. The joint venture is all about sharing all of the resources to begin with. However, when the financial crisis in the joint venture occurs, both parties agree that the limitation can secure their position. This shows the preferences in responsibility, ownership and control in collaborative partner.

5. Conclusion and Recommendation
As the conclusion for this research, financial sharing limitation can act as the defense mechanism to the contractors as the two parties aim for hassle-free separation after the completion of the project, prior handing over to the client. There is a need for a clear joint venture agreement in proportion of sharing, before implementing the project as it involves mega structure and high scale projects. Any possible risks can be reduced and avoided, if the collaborative partners are aware of their capabilities and responsibilities in order to sustain the performance of the joint venture. The research require future study in others types of sharing limitations as this study only focuses on the financial sharing.

6. Acknowledgement
The authors would like to extend the utmost admiration to all participated agencies especially the local highway and infrastructure contractors, the foreign contractors from the Middle East, India and Canada for their outstanding commitment and keenness for sharing their valuable time and support. The authors have also featured the productive commentary for reviewing the paper.

References


Financial Analysts’ Processing of Financial Reporting Information in Emerging and Frontier Markets

¹Philip Jehu, ²Mohammad Azhar Ibrahim

¹PhD Scholar, TISSA-UUM School of Accountancy, University Utara Malaysia, jehuphilip@gmail.com
²Senior Lecturer, TISSA-UUM School of Accountancy, University Utara Malaysia, m.azhar@uum.edu.my

ARTICLE DETAILS

Objective: The purpose is to establish the relationship between the analysts’ stock valuation, the reporting environment and the stock recommendations. And to investigate the process of incorporating both quantitative and qualitative information into their forecasts.

Methodology: The research will be archival, obtaining historical information from DataStream, Stock Exchanges and MSCI. A survey will also be carried out to corroborate findings, as the analysts’ valuation process may not be obtained through desk research.

Results: The results are expected to show evidence for the incentive conflicts of the analysts’ decisions with regards to the peculiarities of the macroeconomic environments under consideration.

Implication: The write up has implications for sell-side analysts where they have perceived incentive conflicts when they make recommendations. The research contributes to the argument on the conflicts of interest analysts face in forecasting earnings and making recommendations within the markets peculiar environment.

© 2016 The authors, under a Creative Commons Attribution-NonCommercial 4.0


1. Introduction

Financial analysts play a very important role in generating, processing and disseminating corporate financial information to investors. Their activities include among others; corporate data collection, forecasts earnings, stock valuation and stock recommendations. However, studies have shown that financial analysts are imperfect intermediaries, in part because of incentive conflicts with biased earnings forecast reports and recommendations (Beyer, Cohen, Lys, & Walther, 2010; Healy & Palepu, 2001). Friesen and Weller (2006) attempted to quantify the analyst’ biases in earnings forecasts. Their
model present evidence of analysts’ overconfidence on the accuracy of their own information. They show that these biases exist, in their data.

These conflicts of interest within the context of the analysts’ market environment tend to influence their decisions.

The analyst’s decision does not hinge solely on the valuation of forecast earnings. The process begins with incorporating all publicly known information both quantitative and qualitative as contained in the company’s accounts and reports such as economic and industry outlook, quality of management, business connections, competitive advantage, strategies, and financial indices. It is on this basis that analysts make their decisions. Since their decisions to public disclosure are not regulated, analysts tend to have conflicts of interest. It is pertinent to note that financial analysts as economic agents have their own incentives, similar to managers of companies. These incentives can affect the relevance and reliability of information that investors acquire from the analysts. In addition, research has shown that analysts’ bias recommendations will diminish with the establishment of financial regulation (Barniv, Hope, Myring, & Thomas, 2009; Chen & Chen, 2009).

Some academic research have been conducted on financial analysts’ activities in the capital markets, with focus on developed markets. Analysts in these markets perused, and based their conclusions on quantitative earnings forecast (Lustgarten & Tang, 2008; Mest & Plummer, 2000; Stickel, 1990; Wong & Zhang, 2014), financial regulations (Bradshaw, 2009), the All Share Index and market capitalisation (Boissin & Sentis, 2012; Karamanou, 2012). Sufficient attention has not been given to the financial analysts’ information processing role in the emerging and frontier markets. This is evident with the studies carried out (e.g. Corredor, Ferrer, & Santamaria, 2014; Jegadeesh & Kim, 2006) in G7 countries and European countries respectively. But the increase in financial deregulations, globalisation of capital markets, cross-border listings, economic growth and Foreign Direct Investments (FDI) around the world, underscores the need to also study the emerging and frontier markets is. Also, Bradshaw (2009) asserts that researchers are keenly interested in the valuation process that leads to stock recommendations, but which unfortunately is not easily penetrated using empirical archival research, especially from financial reports.

In recent years, the concern for transparent and credible financial reporting as a necessary means designed to enhance information flow and resource allocation in the capital markets cannot be over emphasized. An important goal of financial reporting is to bridge the gap between and among the market participants. However, financial accounting and reporting itself does not completely resolve this information problem. The information asymmetry that exists between company managers and investors (shareholders) makes equity analysts’ financial intermediation necessary. In their study, Brennan, Jegadeesh, and Swaminathan (1993) found that firms followed by many financial analysts tend to lead those with fewer financial analysts in responding to new market information. This was consistent with the findings of Chuang and Lee (2011) that firms followed by fewer analysts tend to react to market-wide information more sluggishly than firms followed by more analysts.

Of recent, financial scandals and capital market crashes around the world shows the necessity for corporate financial transparency in order to regain investors’ trust. Companies that fail to communicate clearly to investors are likely to face difficulty in raising more finance. The professional analyst is expected to be fair in interpreting and communicating the necessary information to the investors objectively without prejudice. However, financial analysts face incentive conflicts sometimes leading to bias reports and stock recommendations. This poses concern as to whether reliance could be placed on the accounting valuation process that led to such reports. The research aims to assess the importance of
financial analyst as information intermediary in the equity market. The main purpose is to establish the relationship between analysts’ valuation, earnings forecast and stock recommendations. To achieve this, the study investigates the nature of the disaggregated information that is most important to analysts in their earnings forecast. It explores the regulatory and institutional factors that account for the differences in analysts’ role and their forecast properties across markets. The study also examines how financial analysts’ incentive conflict affect the reliability and relevance of information they supply to investors and to establish whether analysts rely on accounting-based valuations models in making earnings forecasts and recommendations.

Prior studies in this area focused mainly on the developed markets. With global financial contagion around the world, emerging and frontier markets peculiarity sometimes viewed as investors haven becomes of interest. This research has potential to contribute knowledge and to build on previous studies. For example, Karamanou (2012) suggested that future research should examine the link between the financial analysts and other market variables, in both emerging and the frontier markets. However, the study will go further to examine analysts’ role in the frontier markets. The research will also contribute by extending the models, methods and analysis tools that were used in previous studies.

Credible and transparent financial reporting is essential for efficient resource allocation in the capital markets. Financial reporting should reduce the information asymmetry that exist between managers and outside stakeholders. The financial analysts do not only play a complementary intermediation role to reduce this information gap, but expected to exhibit independence and objectivity devoid of incentive conflicts in their reports and recommendations. The recent global financial crisis reflects the relevance of an efficient capital markets and the important consequences that market frictions could have on the society. The series of financial reporting scandals around the world has major consequences for company employees - jobs and pensions, and financial markets. It is equally significant not to quickly forget the events which led to introduction of International Financial Reporting Standards (IFRS). These events further highlight the necessity for high quality financial intermediation. Financial analysts are important intermediaries that are generally expected to have superior information processing skills. However, because financial analysts tend to have incentives to provide inaccurate and bias information to outsiders in order to impress company management, it is still arguable whether analysts actually add value to the society.

The paper follows with literature review in section 2, followed by the proposed method in section 3. The write up finishes with a conclusion.

2. Literature review

2.1 Conceptual framework

2.1.1 Stock recommendations

Stock recommendations represents analysts’ opinion to investors whether to buy, sell or hold a given stock. They are the main information source for equity investors based on their stock coverage. The recommendations are associated with significant reactions in stock prices, and the macroeconomic conditions. As market intermediaries, the analysts collect, examine, analyse and divulge valuable advice to investors. Such advice compares the present and expected market valuation of a given stock which translate into recommendation. In their study, Kliger and Kudryavtsev (2013) found that positive (negative) excess returns which follows recommendation upgrades (downgrades) are stronger when accompanied by daily volatility index decreases (increases). These behavioural pattern of the analysts is most likely not going to yield itself to investors track.
Empirical findings show that financial analysts play important role in the capital markets. Healy and Palepu (2001) asserted that financial analysts in the capital market play a valuable role in improving market efficiency. They depend on information they collect whether from private or public source, and on that basis evaluate companies’ performance. They then make earnings forecast and give recommendations to investors. This is evidence that analysts add value to the capital markets.

2.1.2 Financial analysts’ decision process

Analysts’ research bridges the information asymmetry and aid prices reflect information on security’s fundamentals. Their private incentives however, potentially contribute to misguided findings, with possible market fixation on such optimism of misleading reports. Farooq (2013) argued that lack of proper disclosure makes it difficult for analysts to gauge firms’ true value. Consequently, they rely on private information source about firm in order to make informative predictions as well as recommendations.

According to Bradshaw (2009), researchers are keenly interested in the valuation process that leads to stock recommendations, but which unfortunately is not easily penetrated using empirical archival research. The study found a strong evidence that the analysts’ personal conflicts of interest has less impact on the association between their forecasts and stock recommendations. In their survey on analysts’ decision processes, Ramnath, Rock, and Shane (2008) pointed out that analysts’ earnings forecasts depend mostly on disaggregated and qualitative information. The two most frequently used sources of information, other than reported earnings are management communication and segment reporting.

2.1.3 Human information processing

There has been increasing interest in behavioural decision making or human information processing. In their study, Libby and Lewis (1982) examined some research that exposes humans as poor intuitive statisticians. They asserted that this has subsequently accelerated the application of statistical sampling and regression analysis in auditing, and other decision aids developed to overcome common heuristics. They evaluated accounting research conducted using the lens model, predecisional behaviour, probabilistic judgment, and cognitive style approaches. This behavioural intuition in human is argued to play a significant role on the final outcome of the process.

2.1.4 Analysts’ incentive conflicts

According to Healy and Palepu (2001) although there is evidence that financial analysts produce valuable new information through their earnings forecasts reports and stock recommendations, there are yet systematic biases in financial analysts’ outputs, seemingly arising from the incentive conflict that they face. This was buttress by Dechow, Hutton and Sloan (2000) that analysts do have incentives in making positive forecasts and recommendations when their brokerage firm is hired to underwrite a new securities issue. Information asymmetry and incentive conflicts impede efficient resource allocation in a capital market economy. The institutions that are established to facilitate credibility in disclosure requirement by managers play important role in mitigating the problems. Analysts forecasting research has evolved considerably since the early work documenting what appeared to be a bias toward optimism in forecasts and recommendations (Ramnath et al., 2008). Ramnath et al., (2008) stressed that “incentives related to the career concerns of analysts, the underwriting and trading incentives of their employers, and how the incentives of, and communication with the company management influence analyst behaviour.” Francis (1997) identified three types of bias that could affect analysts’ forecasts optimism: First is selection bias where analysts report and recommend only favourable views about stock performance but keep silent when it is unfavourable. The second is reporting bias where analysts
deliberately report some positive amount in order to foster their relationship with management and to generate brokerage. The last is cognitive bias, where analysts inadequately process the available information. This incentive conflict ultimately influences the analyst’s decision.

2.1.5 Valuation models
Research findings by Barth and Hutton (2004) indicates that whereas analysts incorporate information identifying firms with low persistent accrual, on revised results into their earnings forecast, investors however do not incorporate this information into their valuation assessment. In another study, Ramnath et al., (2008) asserted that it is a herculean task to discover the valuation model and important information that determines equity stock prices. However, in an efficient market analyst forecasts will immediately reflect all disclosed information. De Franco, Vasvari and Wittenberg-Moerman (2009) stated that the bond market is of higher sophistication level relative to the equity market. The presence of rating agencies provides independent and objective information which aid to determine prices of fixed income securities. This suggests bond analysts will add less bias to their reports and recommendations than do equity analysts. Demirakos, Strong, and Walker, (2010) investigated the choice of valuation model by equity investment analysts to know whether the model affects the accuracy of their target prices forecast. In their findings, the Discounted Cash Flow (DCF) models outperformed Price-Earnings (PE) models. Consistent with this findings, Imam, Barker, and Clubb (2008) examined the valuation models used by investment analysts in the UK. They observed that:

“Analysts perceive the DCF which is somewhat sophisticated, to be significantly more important than prior survey evidence suggests, although we also find the continued importance of ‘unsophisticated’ valuation multiples, notably the price/earnings ratio” (p.503).

They found that, even though the DCF model is ostensibly credible, it is rarely relied upon in determining target prices and investment recommendations. It requires an understanding of the socio-economic context and motivations in addition to the valuation models.

Earnings forecasts which are futuristic tend to be more accurate than the historical time-series earnings models. This is likely because they incorporate company news immediately into their forecasts than time-series earnings models. The question now is, what are the valuation models equity analysts employ in the emerging and frontier markets?

2.1.6 Agency problem
According to Beyer et al., (2010) “the corporate information environment evolves endogenously as a result of information asymmetries and agency problems between managers, entrepreneurs, and investors” (p.296). They concluded that, “to date, little is known about the association between firms’ mandatory disclosure requirements, voluntary disclosure policies, and the information produced by equity analysts” (Beyer et al., 2010, p. 335). In another study, Armstrong, Guay and Weber (2010) reviewed the role of transparency in financial reporting and how it reduces governance-related agency conflicts among the stakeholders. The financial analysts also as economic agents face this agency conflict especially when their firms act as underwriters to their client.

2.1.7 Analysts’ information environment
According to Yin and Zhang (2014) little is documented in the literatures concerning the financial analysts’ environment and its effect on their decision. Beyer et al. (2010) reviewed the decisions that influence corporate information environment in the stock markets as: mandatory regulatory disclosure, voluntary disclosure and analysts reporting decisions. Other current macroeconomic news and variables and analysts’ professional expertise are areas of influence to their decisions.
2.2 Theoretical framework

Ball and Brown (1968) concluded that the income number of a firm for a given year captures a half or more of all the information made available for that year. This statement has implication for the efficient-market hypothesis. They also observed that the process of measuring the value of information about income and its statistical nature is little understood. This process of assumed value of the qualitative information that forms part of the analysts forecast basis is of keen interest.

The financial analysts’ intermediation role is expected to complement in reducing the information asymmetry which ultimately reflects on stock prices. The agency theory comes to relevance in this aspect. Also, the analysts sometime act as both agent of the management as well as that of the investor. According to Bradshaw (2009) the analyst’s information processing role on which he forecast earnings and generate stock recommendations is of implicit interest. These variables need to be explored within the information environment of both the emerging and frontier markets.

The information environment could be facing differing characteristics of regulations. Bradshaw (2009) supported the fact that when analysts’ activities are regulated, there would be positive effect on the decision usefulness of their recommendations. Where there are several overlapping regulations, it would be uncertain whether which specific regulation at a point limits the analysts’ conflict of interest. In the emerging and frontier markets, regulations might be influenced by infrastructural and macroeconomic conditions. Consistent with the findings of Barniv et al. (2009) and Chen and Chen (2009), tighter regulatory changes alters the characteristics of analysts’ activities, and can be observed before and after the regulations were introduced.

3. Method

The research methodology will be both archival and survey study, that is, historical data will be obtained from I/B/E/S earnings forecast through DataStream, MSCI Index, and Stock Exchanges, on which statistical analysis will be carried out using Stata application. A survey of financial analysts’ valuation process that lead to their stock recommendation will be carried out. The study covers the emerging and frontier equity markets as extension from previous research on the developed markets. Data source from previous research such as I/B/E/S, MSCI, and DataStream will be explored in order to benchmark the research outcome with that of the developed economies. Data will be collected for two countries; one in the emerging market, the other from the frontier market. Non-probability purposive sampling of financial analysts, stockbrokers and investment advisors. We shall use DataStream to obtain analysts earning forecast reports from I/B/E/S database. The panel data will be analysed using Stata statistical analysis application. The extent to which findings could be generalized to all emerging and frontier market countries around the world is limited to the countries under study, as they may not be a sufficient representation of the whole markets. The research is also subject to all the limitations recognized in data collection.

4. Conclusion

In conclusion, the study seeks to investigate the nature of the disaggregated information and valuation process the analysts use to make recommendations. It aims to establish the link between these four variables, namely; analyst’s earnings forecast, reporting environment, valuation incentives and stock recommendations. Prior works indicate that valuation multiples such as DCF and PE models were used by analyst as basis of their decisions (Demirakos et al., 2010; Imam et al., 2008). But less sufficient evidence on the impact of the analysts reporting environment has been documented (Yin & Zhang, 2014). Therefore, the research will contribute to the debate on analyst’s bias in forecasting earnings and the incentives of making a particular recommendation within the context of the reporting environment.
Although the analyst’s incentives are not easily verified through archival means, survey will however be carried out in order to determine the extent bias.

References


Information Content of Earnings Managements: Implications on Growth and Value Companies

1Windu Mulyasari, 2Slamet Sugiri, 3Heyvon Herdhayinta

1Fakultas Ekonomi dan Bisnis, Universitas Sultan AgengTirtayasa, Indonesia, windu.nryd@gmail.com
2Fakultas Ekonomika dan Bisnis, Universitas Gadjah Mada, Yogyakarta, ssugiri@feb.ugm.ac.id
3Fakultas Ekonomika dan Bisnis, Universitas Gadjah Mada, Yogyakarta, heyvonh@ugm.ac.id

ARTICLE DETAILS

Objective: The purpose of this study is to investigate the pattern of earnings management on growth and value companies in Indonesia. This study predicts that earnings management has information contents. Therefore, earnings management tends to degrade the quality of earnings, then affect the future profitability. This study analyzes the effect of earnings management information content to the company's future profitability. This study provides an understanding about accounting information at certain market price levels for growth and value companies.

Findings: Findings of this study indicate the differences between earnings management influence on growth and value companies. The results also support the differences of relative incremental information content of earnings management on growth and value companies. The growth firms tend to do earnings management and have higher profitability compared to the value firms. The implication is that the incremental information content of earnings management on growth firms is lower than those of the value firms to predict future profitability.

Implication: The contribution of this research is to provide an in-depth review on earnings management study associated with company life cycle (growth and value), as well as to give additional understanding about the existence of incremental information content of earnings management. Thus, firms show different earnings management behaviors and ultimately those behaviors affect the quality of profit to predict future earnings.

© 2016 The authors, under a Creative Commons Attribution-NonCommercial 4.0
1. Introduction
The purpose of this study is to investigate the pattern of earnings management in growth and value companies in Indonesia. Earnings management has information contents and tends to degrade the quality of earnings. This study analyzes the effect of earnings management on company profitability. Kallunki and Martikainen (2009) find that earnings management can be used to predict future profitability. Earnings management can mislead investors and influence decision-making process. However, there is still much debate on the pattern differences of earnings management in each country. Shubita and Shubita (2010) indicate that earnings management has no effect on future profitability. Both studies examine the incremental information content of earnings management. Differences in previous research evidences create a gap within this study.

The pattern of earnings management in a company can be influenced by the company life cycle. Gray (1988) reports that culture affects the values of accounting system and accounting practice. Basuki et al. (2010) observe that countries with high power distance and low individualism or high collectivism have lower earnings quality. Leuz et al. (2003) and Francis and Wang (2008) find that countries with low level of investor protection have low level of earnings quality. De Fond and Hung (2007) and Hung (2000) prove that investor protection is positively correlated with the value relevance of accounting information. The researches support the notion that patterns of earnings management is different for each country. The pattern of earnings management is also different for types of company according to their life cycle.

This research is conducted on public companies in Indonesia with characteristics of high power distance and high collectivism that can affect the behavior of professionalism and transparency in accounting practices (Basuki et al., 2010). The implication is that public company in Indonesia is likely to report low level of earnings quality. Research on the incremental information content of earnings management has been conducted by Subhita and Subhita (2010) in Jordan. Indonesia has different culture compared to Jordan, in which Indonesia has low earnings quality. The research question of this study is whether all publicly traded companies in Indonesia have the same character in earnings management. Is there any difference in earnings management behaviors? Therefore, this study explores earnings management behavior that may be different for every public company in Indonesia.

Public companies as the sample of this study are grouped according to their life cycle. This study attempts to examine factors as the basis of differences in earnings management pattern. According to Madhogarhia et al. (2009), earnings management shows different behaviors on growth and value companies. Another study by Yan (2006) finds that firm size is growing along with its life cycle. Earnings management in growth firms is more aggressive than in any other life cycle stages. The focus of this study is to explore the implications of earnings management on growth and value firms in Indonesia. The growth firms have low profit or high market to book ratio. On the other hand, value firms are companies with high level of profit or low market to book ratio. Thus, a statement that Indonesia tends to have lower earnings quality should be examined by reviewing whether the company is a growth or value firm. Value firms are "glamour", in which investors are confidence. Investors tend to believe in financial statements, and investment decision is based on company reputation. Investor confidence in growth firms is weak and investors still need to analyze financial statements to create investment decisions. This study provides deeper understanding that public companies in Indonesia generally tend to have low earnings quality due to the low investor protection as well as high power distance.

The contribution of this study is to provide in-depth study on earnings management related to company life cycle (growth and value), as well as to provide additional understanding of the existence of additional information content of earnings management. Thus, in a different life cycle, the company has
a different pattern of earnings management. The implication may affect the quality of profits to predict future profitability.

2. Literature Review

Healy and Wahlen (1999) examine the aspects contained in earnings management. The first, intervention of earnings management on financial reporting can be done by using judgment, for instance judgments in estimating future economic events, such as estimations of economic life and residual values of fixed assets, pensions, deferred tax, loss on receivables and impairment. Managers also have choices of accounting method, such as depreciation and cost methods. Second, earnings management can mislead the stakeholders about firm’s economic performance because management has information access that is not accessible for outsiders.

Accounting literature defines two perspectives of earnings management, namely opportunistic perspective and information perspective (Holtausen, 1990). Information perspective means that decisions on accounting choice indicate the expectation of company future performance. Meanwhile, according to opportunism perspective, managers manage earnings to get incentives transferring stakeholders’ wealth for their self-interests. There are various motivations encouraging profit management. Positive accounting theory proposes three motivations of earnings management: (1) the bonus plan hypothesis, (2) the debt hypothesis, and (3) the political cost hypothesis (Watts and Zimmerman, 1986).

Empirical evidences indicate that large companies tend to choose accounting methods that reduce profits (usually based on political cost hypothesis), companies facing debt covenant tend to choose accounting methods to increase profits (usually based on the debt hypothesis), and managers working at companies with bonus scheme will choose accounting methods that can increase profits (usually based on bonus-plan hypothesis) (Watts and Zimmerman 1986, 1990). McNichols and Wilson (1988) add the fourth factor encouraging managers to affect financial achievement, namely the operating, investing, and financing policies.

2.1. Relationship between Earnings Management and Growth and Value Companies

Growth firms are companies with low profit or high market to book ratio. Meanwhile, value firms are companies with high profit or low market to book ratio. The stocks of growth and value companies are determined by the ratio of profit dimension such as market-to-book ratio. Fama and French (1992); Arshanapalli et al (1998); and Capaul et al. (1993) find that in the long run, value stocks outperform growth stocks in the US and overseas markets. Fama and French (1995); and Chen and Zhang (1998) show that companies with high book to market (B/M) ratio have lower profitability, higher financial leverage, and higher earnings uncertainty.

Stock price of growth firms falls when company reports low profits. Information asymmetry leads to earnings management. Growth firms have bigger incentive to manage earnings compared to value firms. Accruals discretionary as an indicator of earnings management would be higher for growth firms rather than value firms. Lakonishok et al. (1994) argue that investor expectations are based on calculations of past performance. Naive investors that are too optimistic about the prospect of glamour stocks tend to over trust the stocks. Therefore, they eventually increase the stock price (overpriced stock). If their expectations are not met, the stocks end up being a loss. According to DeBont and Thaler (1987), profit dissatisfaction adversely affects the market price of growth stock than value stock. Skinner and Sloan (2002) argue that disproportionate response on negative earnings surprise explains different returns between growth and value stocks. Stock price of growth firms will experience significant negative adjustment when the firms report earnings surprise. Therefore, growth firms tend to do earnings management compared to value firms.
H1: Earnings management in growth firms is lower than earnings management in value firms.

2.2. Incremental Information Content of Earnings Management

Previous researches find that earnings management is conducted to obtain positive earnings, to maintain sustainable performance, and to meet analysts' forecasts. Myers et al (2007) argue that firms manage earnings to show growth firm consistency. The firms report increasing profit continuously so that profits remain high. Furthermore, Kallunki and Martikainen (2003) prove that earnings management may affect the quality of earnings information, and ultimately reduce the quality of financial analysis based on earnings figure. Earnings management can be done by adjusting higher profit when the company experiences difficulties and lower profit when company is in a good condition (Subhita and Subhita, 2010). According to Subramanyam (1996) and Ali et al (2000), discretionary accruals improve the ability to predict future earnings. Ali et al (2000) examine the relationship between accruals and future returns of naive investors. The findings show that the ability of accruals to predict future profitability does not work when market participants are unable to understand the relevant valuable information. Kallunki and Martikainen (2003) describe that earnings management is significantly related to future profitability.

H2: Current profitability affects future profitability.

H3: Incremental information content of earnings management affects current profitability in predicting future profitability.

Patel, Prasad, and Naidu (2009) examine the pattern of earnings management between private and state-owned companies. This study refers to company life cycle to distinguish the patterns of earnings management. Logically, growth firms are trying to manage earnings in order to attract investors. Meanwhile, glamorous companies manage earnings to increase reputation and attract more investors.

H4: Growth firm’s profitability is lower than value firm’s profitability.

H5: Incremental information content of earnings management in growth firms is lower than in value firms.

4. Research methods

4.1 Sampling Design

The samples of this research are public companies in Indonesia from 2010 - 2012. The public companies are listed in Indonesia Stock Exchange during that period and report annual financial statement.

4.2 Research Procedure

Growth and value firms are categorized based on several factors: 1) market to book (m/b) ratio; 2) price to earnings (p/e) ratio; 3) price to cash flow (p/cf) ratio; 4) earnings per share growth; and 5) sales growth. Companies are ranked based on geometric mean variable for each year. Growth firms are those in top 25% of the geometric mean and value firms are those in the bottom 25% of the geometric mean. Modified time-series model from Jones (1991) is used in this research. Jones model divides reported total accruals into nondiscretionary (expected) and discretionary (unexpected) components. Accrual nondiscretionary is derived from economic variable such as sales and investment level of fixed assets. Accrual discretionaty is not described by economic variable but as a result of management decision. Accrual discretionaty is used as a proxy of earnings management. Total accrual regression equation is presented in Equation 1.

\[ TA_{it}/A_{it1} = \alpha1 \left[ 1/ A_{it1} \right] + \alpha2 \left[ \Delta REV_{it}/ A_{it1} \right] + \alpha3 \left[ PPE_{it}/ A_{it1} \right] + \varepsilon_{it} \] (1)

- \( TA_{it} \) = total accruals in year t for firm i (the difference between net income and cash flow from operating activities);
- \( \Delta REV_{it} \) = revenues in year t minus revenues in year t-1 for firm i;
- \( PPE_{it} \) = gross property, plant and equipment in year t for firm i;
Ait-1 = total assets in year t-1 for firm i; 
εit = error in year t for firm i; 
α1, α2 and α3 = Model Coefficients. 
i = 1,…, N 
t = 1,…,ti, year index for the years included in the estimation period for firm i. 
Total accrual (TA) is defined as the difference between net income (NI) and cash flow from operating activities (OCF):
TA=NI-OCF …………………………………………………………………………………………………2)

T-test is conducted to test hypothesis 1 whether the growth firms more aggressively manage their earnings. Hypothesis 2 states the current profitability effect on future profitability. The regression equation is presented in equation 3.
PROFITit = α0 + α1PROFITit-1 + α2ASSETit + εit ……………………………………………………………..………………………………3)
PROFITit = profitability in year t for firm i 
PROFITit-1 = profitability in year t-1 for firm i 
ASSETit = total asset in year t for firm i

The objective of the equation is to predict whether current profitability (PROFITit-1) can predict future profitability (PROFITit). Total assets (ASSETit) is a control variable used in equation 4. Hypothesis 3 is tested using regression equation 4.
PROFITit = α0 + α1PROFITit-1 + α2ADit-1 + α3ASSETit + εit ……………………………………………………………..………………………………4)
ADit-1 = earning management in year t-1 for firm i

Hypothesis 4 predicts the differences on profitability of growth and value firms using Mann Whitney U-test. Hypothesis 5 states that the incremental information content of earnings management in growth firms will be lower than that in value firms. To test this hypothesis, the regression equation is presented in equation 5.

PROFIT_it=γ_0+ [γ_1 PROFIT] _it=(it-1) +[γ_3 AD] _it=(it-1)+γ_4 TIPE _it [+ε] _it ……………5)
TIPE: Dummy variable for growth (0) and value (1) firm

The coefficients obtained from the regression test are γ0, γ1, γ2, γ3, and γ4. They are inserted back into the equation to obtain the expected profitability. The new equation is presented in Equation 6.
(PROFIT)_it=(γ_0 )+[γ_1 PROFIT] _it=(it-1) +[γ_3 AD] _it=(it-1)+γ_4 TIPE _it [+ε] _it ……………6)
The next test using Mann Whitney U-test is conducted on the expected profitability of the growth and value firms.

5. Data analysis

Total samples analyzed in this study are 1135 public companies listed in Indonesia Stock Exchange for 2010-2012. Companies are categorized based on five measurement criteria namely: market-to-book (M / B) ratio; price to earnings (P / E) ratio; price to cash flow (P / CF) ratio; earnings per share growth; and sales growth. Companies in the top 25% are classified as the value firms and companies in the bottom 25% are the growth firms.

Hypothesis 1
Hypothesis 1 stated that there is a difference between earnings management in growth and value firms.
The \( t \)-test results can be seen in Table 2.

**Table 2: Results of earnings management in growth and value firms**

<table>
<thead>
<tr>
<th></th>
<th>Growth</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>9.2126</td>
<td>9.5980</td>
</tr>
<tr>
<td>Lavene’s test for equality of variances</td>
<td>F: 0.536</td>
<td>Sig.: 0.465</td>
</tr>
<tr>
<td>t-test for equality of mean</td>
<td>T: -4.4665</td>
<td>Mean difference: -0.38547</td>
</tr>
</tbody>
</table>

The result shows that the mean of earnings management in group growth firms (9.2126) is less than the value firms (9.5980). Variability in test results obtained Lavene’s F test of 0.536 (0.465). Level of statistical significance of >0.05 means that the two groups of observations are not too different. The mean equality of earnings management in the t-test obtained negative t (-4.4665) and the mean difference is negative (-0.38547) at the level of statistical significance 0.00. The conclusion is that the mean of earnings management in growth firm is lower than value firm. The results do not confirm the hypothesis 1 which states that growth firms tend to do earnings management more than value firms. In fact, the value firms tend to perform earnings management more than the growth firms. Hypothesis 1 is not supported because the company faces high political costs to manage earnings to be low or have a high debt to manage earnings to be high.

Hypothesis 2

Hypothesis 2 states that firm current profitability can predict future profitability. Linear regression is conducted and the results are shown in Table 3.

**Table 3: Results of regression equation 4**

<table>
<thead>
<tr>
<th></th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( F )</td>
<td>154,434</td>
</tr>
<tr>
<td>( \text{ADJ} R^2 )</td>
<td>0.214</td>
</tr>
<tr>
<td>Model</td>
<td>B</td>
</tr>
<tr>
<td>Constant</td>
<td>-15.261</td>
</tr>
<tr>
<td>( \text{PROFIT}_{it-1} )</td>
<td>0.431</td>
</tr>
<tr>
<td>( \text{LASSET}_{it} )</td>
<td>2.243</td>
</tr>
</tbody>
</table>

The results shows the value of \( F \) statistic 154.434 (p-val = 0.000). This confirms that the model could explain the research purpose. The value of adjusted \( R^2 \) of 0.214 means that the independent variables used in the equation explains the dependent variable at 21.4%. The rest is explained by other variables. Furthermore, coefficient variables is statistically significance at level <\( \alpha \) (0.05). Coefficient of \( \text{PROFIT}_{it-1} \) is 0.431 (0.000) and \( \text{LASSET}_{it} \) is 2.243 (0.001). The results confirm the hypothesis that current profitability affects future profitability.

Hypothesis 3

Hypothesis 3 states that there is incremental information content of earnings management on current
profitability when current profitability is used to predict future profitability. Equation 5 is basically testing the information content of earnings management on current profitability when used to predict future profitability. Table 4 shows the results of regression equation 5.

Table 4: Results of regression equation 5

<table>
<thead>
<tr>
<th></th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>88.475</td>
</tr>
<tr>
<td>ADJ R²</td>
<td>0.579</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.244</td>
<td>0.032</td>
</tr>
<tr>
<td>PROFIT&lt;sub&gt;t-1&lt;/sub&gt;</td>
<td>0.673</td>
<td>0.000</td>
</tr>
<tr>
<td>AD&lt;sub&gt;t-1&lt;/sub&gt;</td>
<td>-0.025</td>
<td>0.667</td>
</tr>
<tr>
<td>ASSET&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.175</td>
<td>0.036</td>
</tr>
</tbody>
</table>

The results of regression equation 5 shows the value F statistic 88.475 (p-val = 0.000). The value confirms that the model can be used. The value of adjusted R² of 0.579 means that the independent variables used in the equation explains 57.9% of the dependent variable. Furthermore, coefficient variable of earnings management is not statistically significant -0.025 (0.667). When incremental information content of earnings management is low (high), the effect of current profitability when it is used to predict future profitability is high (low). Coefficients of current profitability is 0.673 (0.000) and coefficients of total assets is 0.175 (0.036). The results do not support the hypothesis that current profitability affects future profitability. It shows conflicting evidence compared to Kallunki and Martikainen (2003) which states that earnings management can predict future profitability. However, this finding confirms Shubita and Shubita (2010), that earnings management does not affect future profitability.

Hypothesis 4
Hypothesis 4 states that the profitability of growth firms is lower than of the value firms. Mann Whitney U-test is conducted and the results are shown in Table 5.

Table 5: Results of Mann Whitney U-test

<table>
<thead>
<tr>
<th></th>
<th>Mean Rank</th>
<th>Mann Whitney</th>
<th>Z</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td>375.08</td>
<td>63026.5</td>
<td>-8.024</td>
<td>0.000</td>
</tr>
<tr>
<td>Value</td>
<td>512.98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The test shows the mean rank among growth firms (375.08) is lower than the value firms (512.98). These differences are explained further with negative Z value (-8.024, p-val = 0.000), which means that the mean of growth firms is lower than the value firms. The conclusion is that the profitability of growth firms is lower than the profitability of the value firms. The result confirms hypothesis 4.

Hypothesis 5
Hypothesis 5 states that the incremental information content of earnings management in growth firms will be lower than the value firms to predict future profitability. In hypothesis testing, coefficient
regression model 5 is used ($\gamma_0$, $\gamma_1$, $\gamma_2$, $\gamma_3$, $\gamma_4$) to predict the expected profitability (see equation 6). The results can be seen in Table 6.

**Table 6: Results of equation 6**

<table>
<thead>
<tr>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
</tr>
<tr>
<td>ADJ $R^2$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST (prob)</td>
<td>12,904</td>
<td>0.265</td>
</tr>
<tr>
<td>PROFIT$_{it-1}$</td>
<td>0.461</td>
<td>0.000</td>
</tr>
<tr>
<td>AD$_{it}$</td>
<td>-1,242</td>
<td>0.322</td>
</tr>
<tr>
<td>TIFE</td>
<td>6,422</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Results shows that current earnings management (AD$_{it-1}$) does not affect the future profitability of the company (PROFIT$_{it}$) (0.461, p-val = 0.032). Current Profitability (PROFIT$_{it-1}$) affects the future profitability (PROFIT$_{it}$) to 0.461 (0.000). Furthermore, the coefficient is included in the equation 5 to obtain expected profitability (see equation 6).

\[
(\text{PROFIT})_{it}=12,904+\left[0.461\text{PROFIT}_{it-1}\right]-1,242\text{AD}_{it-1}+6,422\text{TIFE}_{it}+\varepsilon_{it}
\]

The expected profitability then is used to test the difference between growth firms and value firms. Mann Whitney U-test is conducted to test the difference between the expected profitability of the growth and value firms. Results can be seen in Table 7.

**Table 7: Results of Mann Whitney U-test**

<table>
<thead>
<tr>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Rank</td>
</tr>
<tr>
<td>Growth</td>
</tr>
<tr>
<td>Value</td>
</tr>
</tbody>
</table>

Mean of the expected profitability from the value firms is less (480.98) than the growth firms (623.40). Z values (-7.143; p-val = 0.000) shows that means of the value firms is less than the growth firms. The incremental information content of value firms is lower to predict future profitability than the growth firms. The results do not confirm the hypothesis 5. The conclusion is that there is a difference between the incremental information content of growth firms and value firms.

Value firms tend to perform earnings management compared to growth firms. The profitability of value firms is also higher than that of the growth firms. However, the incremental information content on earnings management in value firms is lower than the growth firms. Therefore, the conclusion is that value firms in Indonesia tend to perform earnings management and have higher level of profitability than the growth firms. This might happen because the value firms are reputable and try to make better financial reports for investors. Based on the political cost hypothesis, large companies tend to choose accounting methods that reduce profits. Value firms are companies with high profits or low market to book ratio. Thus, companies are trying to decrease profits due to the possibility of higher political costs. If the value firms are in high debt, there is the possibility of the firms trying to choose the accounting method that can reduce profits as emphasized the debt hypothesis.
6. Conclusion and discussion
Company and management interests lead to earnings management. Earnings management can affect overall company performance. This study addresses relative incremental information content of earnings management, which can affect company profitability. The aim of this study is to investigate the differences of relative incremental information content of earnings management. This study compares two types of firms based on company life cycle namely growth and value companies. Previous studies indicate that public companies in Indonesia generally perform earning management, so that earnings quality is generally low. This study provides deeper understanding about earnings management and contributes in examining the type of companies (growth and value) in performing earnings management in Indonesia.

The findings of this study prove that the value firms tend to perform earnings management to improve the company's profitability. The conclusion is supported by statistical evidence about the differences between earnings management in growth and value firms. The results also indicate that growth firms tend to perform earnings management compared to the value firms. Tests on companies' profitability also show differences between growth and value firms. Growth firms tend to have lower profitability levels than the value firms. Findings on incremental information content on earnings management when current profitability used to predict future profitability indicate that those of the value firms tend to be lower than those of the growth firms. Based on political cost hypothesis, large firms tend to choose accounting methods that reduce profits. Value firms are companies with high profits or low market to book ratio. Thus, companies are trying to reduce profits due to the possibility of higher political costs. Based on debt hypothesis, if the value firms are in high debt, there is a possibility of the firms trying to choose accounting method to lower profits.

This research has limitations, such as sorting company's growth and value based on ranking of geometric mean of 5 variables observation and taking the top 25% as value firms and the bottom 25% as growth firms. Determination of the geometric mean rank is constrained because many companies do not report complete financial statements, and therefore cannot be included in the sample. Future studies suppose to study deeper determination of growth and value companies.

Another limitation is to determine the proxy of company profitability. The proxy used in this study is profit margins. The use of a single proxy bias is unlikely to capture the general purpose of research to study the effect of earnings management on company performance. Suggestion for further research is to use a composite factor with some proxy of profitability. Future researches also need to examine deeper the incremental information content of earnings management since earnings management affects the overall financial performance. Deeper studies can determine the right proxy of incremental information content of earnings management that is expected to reveal the earnings management behavior.

References


