EARNINGS MANAGEMENT AND LONG-RUN MARKET PERFORMANCE OF INITIAL PUBLIC OFFERINGS: EVIDENCE FROM SRI LANKA

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ABSTRACT

The goal of this study is analyze the earnings management and the long-run market performance of initial public offerings at the Colombo Stock Exchange (CSE). Earnings management is the use of accounting adjustments to make financial reports that represent an overly positive view of a company's business activities and financial statement. Initial Public offerings is a process by which privately held company become a public traded company by issuing shares to the general public for the first time. This study analyze the 42 IPO companies listed in Colombo Stock Exchange (CSE) from January 2010 to June 2018. This study used quantitative approach to assess the earnings in an IPO firms in 2010 – June of 2018 IPO firms with secondary data. Researcher Discretionary current accruals (DCA) used to assess earnings management and Buy-and-hold abnormal return (BHAR) method used to assess the Long-run performance.

The main finding of this study is from January 2010 to June 2018 IPO firms demonstrate that high discretionary current accrual of IPO year and lower performance in long-run. Further, researcher reveals that January 2010 and June 2018 period IPO firms used accounting adjustment for represent their financial position. Finally researcher concluded that these findings will help investor to understand the IPO firms long term behavior and select appropriate financial firms for investing or crediting o the companies.

Keywords: Buy-and-hold abnormal return, Discretionary current accruals, Earnings Management, Initial Public Offerings,

Introduction

Earnings management is the use of accounting adjustments to make financial reports that represent high quality view of a company's business activities and financial position. The middle of the '80s held first empirical research related to the earnings management. Many researchers studied about earnings management concept and they found out different findings their investigation. Earnings management concept is very important issue In an IPO time because it could lead investors.

"Earning management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholder about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers." (Healy P M & Wahlen J M, 1999).

Before understand the earnings management concept, accrual concept should be properly understood. According to (Teoh, et al., 1998) indicate that earnings contains of cash flow from operations and accounting adjustments called as "accruals". They divided total accruals into two categories. They are,

  -Current accrual adjustments
  -Long-term accrual adjustments

Current accrual adjustments comprise of current assets and liabilities. Current accrual adjustments accommodate to day-to-day operations of the firm. Long-term accrual adjustments comprise of long-term net assets.

(Teoh, et al., 1998) Used cross sectional (Jones, 1991) assess of accruals. According to them, accruals are divided into four components. Namely,

-Discretionary current accrual (DCA)
-Non-discretionary current accrual (NDCA)
-Discretionary long-term accrual (DLA)
-Non-discretionary long-term accrual (NDLA)

All of these variants contains of total accruals (AC). Researcher found out powerful evidence related to earnings management and IPO firms in U.S data. For example (Friedlan, 1994) found that IPO firms handle their earnings activities get better price before IPO. (Teoh, et al., 1998) Reveal that lower performance after three years IPO firms with high accruals. Discretionary accruals are most important variant representing earnings management. Many researchers developed several method to assess the discretionary accruals. Among them (Jones, 1991) model most popular model for estimate the DCA. These variables can be calculated as follows. In addition to that measured using COMPUSTAT annual item number for that.

$$AC = \text{Net income (172)} - \text{cash flows from operations (308)} \ldots \ldots \text{(Equation 1)}$$

$$CA = \Delta [\text{ current assets (4)} - \text{Cash (1)}] - \Delta [\text{ current liabilities (5)} - \text{current maturity of long term debt (44)}] \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \text{(Equation 2)}$$

However according to (Teoh, et al., 1998) using the following method for calculating Current accruals.

$$CA \equiv \Delta [\text{ Accounts receivables (2)} + \text{Inventory (3)} + \text{other current assets (68)}] - \Delta[\text{Accounts payable (70)} + \text{tax payable} + \text{other current liabilities (72)}] \ldots \ldots \text{(Equation 3)}$$

Non-discretionary current accruals calculated by,

$$NDCA_{i,t} \equiv \hat{a}_0 \left(\frac{1}{TA_{i,t-1}} \right) + \hat{a}_1 \hat{a}_1 \left(\frac{\Delta sales_{i,t} - \Delta TR_{i,t}}{TA_{i,t-1}} \right) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \text{(Equation 4)}$$

Discretionary current accruals calculated by,

$$DCA_{i,t} \equiv \frac{CA_{i,t}}{TA_{i,t-1}} - NDCA_{i,t} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \text{(Equation 5)}$$

$$\frac{CA_{j,t}}{TA_{j,t-1}} = a_0 \left(\frac{1}{TA_{j,t-1}} \right) + a_1 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}} \right) + \in_{j,t} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \text{(Equation6)}$$

Discretionary total accruals and nondiscretionary total accruals first should calculate to estimate discretionary long term accruals and nondiscretionary long term accruals

$$\left(\frac{AC_{j,t}}{TA_{j,t-1}} \right) = b_0 \left(\frac{1}{TA_{j,t-1}} \right) + b_1 \left(\frac{\Delta sales_{j,t}}{TA_{j,t-1}} \right) + b_2 \left(\frac{PPE_{j,t}}{TA_{j,t-1}} \right) + \in_{j,t} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \text{(Equation 7)}$$

Nondiscretionary total accruals are calculated by,

$$NDTAC_{i,t} \equiv \hat{b}_0 \left(\frac{1}{TA_{j,t-1}} \right) + \hat{b}_1 \left(\frac{\Delta sales_{j,t} - \Delta TR_{j,t}}{TA_{j,t-1}} \right) + \hat{b}_2 \left(\frac{PPE_{i,t}}{TA_{j,t-1}} \right) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \text{(Equation 8)}$$

Initial Public Offerings (IPO)
IPO indicate Initial Public offerings. Initial public offerings is a process by which privately held company turn in to public traded company by issuing shares to the general public for the first time. Most of business owners dream is register for an IPO. Because it is important their business life.

Initial public offerings (IPO) market performance can be categorize two different periods in according to two phenomena. Namely,
- Short-run market performance
- Long-run market performance

Many studies examine the effectiveness of IPOs short run and long run and they found out several findings their investigation

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Literature reviews

Many researchers studied long-run performance of IPO firms and many articles have been published to measure the market performance after IPOs. Most of time researches found out negative impact of IPO firms in long-run performance. Researcher reviews following empirical findings on the impact of IPO of companies and market performance after IPOs.

(Teoh, et al., 1998), (Teoh, et al., 1998) and (DuCharme, et al., 2004) found that US firms increase earnings in the IPO year. This firms try to influence investor's perception with discretionary current accruals or current accruals.

(Teoh, et al., 1998) Studies 1526 firms during the period 1975 – 1984. They investigate relationship between earnings management of IPO firms and long-run underperformance. They demonstrate that IPO firms able to record high earnings by taking positive accruals. Finally they indicate that discretionary current accrual is particular signal for assess the earnings management.

(Peter, 2007) Analyzed the returns of initial public offerings (IPOs) in during the period 1996-2000. He investigate the 30 IPOs on the Colombo Stock Exchange (CSE). He found out positive return for first and second years and subsequently decline 3 year return.

(Ahmad-Zaluki & Kect, 2012) Examined the factors that influence the short-run and long-run performance of Malaysian initial Public offering (IPO) firms listed in the MESDAQ market. Market adjusted initial returns used to assess the short-run performance and cumulative abnormal returns (CAR) and Buy-and-Hold return used to assess the long-run performance. However, finally they indicate that investors bought IPO shares by taking high positive returns in short-term but not in the long-term.

(Roosenboom, et al., 2003) Examine the pattern of discretionary current accrual their investigation. They analyzed sample of 64 Dutch IPO firms in the European country. These 64 sample firms consists, 27 firms are listed on the Official Market, and 37 firms are listed on the Parallel Market. Finally they found out negative relationship between the size of the discretionary current accruals (DCA) in the going public year and long-run performance over the next three years. Further they explained that managers manage their company's earnings in the first year as a public company but not in the years before the IPO.

Methodology

3.1 Research Model

This study used quantitative approach to assess the Earnings Management and Long-run Market performance of Initial Public Offerings in 2010- June of 2018 IPO firms, with secondary data. For estimate earnings management used Discretionary current accruals (DCA) and for estimate long term performance used Buy-and-hold abnormal return (BHAR) method.

3.2 Sample and data collection method

The sample consists of 42 Sri Lankan IPO firms during the period 2010 to June of 2018 listed in the Colombo stock exchange.

Data on company's earnings management performance pre-Initial Public Offerings were collected from the prospectors and share pricing performance post initial public offering period data collected from the Colombo Stock Exchange (CSE). Colombo Stock Exchange generates quarterly and annual financial information for the stock market performance in general and individually for each listed company. The daily share prices data collected from the Colombo stock exchange (CSE). This data was organized using MS Excel Spreadsheets.

Data analysis & results

4.1 Data Analysis Techniques

This research mainly focus on find out the relationship between the earnings management and the long run market performance of Initial Public Offerings. In addition to that researcher used to two criterions for measuring short-run results and long-run results of Sri Lankan IPO firms performance. Discretionary current accruals (DCA) used to measure earnings management.

Discretionary current accruals calculated by,

$$DCA_{i,t} \equiv \frac{CA_{i,t}}{TA_{i,t-1}} - NDCA_{i,t}\ldots\ldots\ldots.. \text{(Equation 9)}$$

$CA \equiv \Delta$ [Accounts receivables + Inventory + other current assets] $- \Delta$[Accounts payable + tax payable + other current liabilities] …………….. (Equation10)

Researcher run the following regression model and estimate the coefficients a_0 and a_1.

$$\frac{CA_{j,t}}{TA_{j,t-1}} = a_0 \left(\frac{1}{TA_{j,t-1}}\right) + a_1 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) + \in_{j,t} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. \text{(Equation 11)}$$

Δ Sales = Change in sales
TA = Total assets

By using the estimated coefficients calculate the non-discretionary current accruals (NDCA) for each IPO firms. Non-discretionary current accruals calculated by,

$$NDCA_{i,t} \equiv \hat{a}_0 \left(\frac{1}{TA_{i,t-1}}\right) + \hat{a}_1 \left(\frac{\Delta sales_{i,t} - \Delta TR_{i,t}}{TA_{i,t-1}}\right) \ldots\ldots\ldots\ldots\ldots\ldots. \text{(Equation 12)}$$

$\hat{a}_0$ = estimated intercept
$\hat{a}_1$ = slope coefficient for IPO firm
i = year t
ΔTR_{it} = change in the trade receivables in year **t** for issuer **i**

Researcher used buy-and- hold abnormal rate of return (BHAR) method for data analysis to after IPO. The BHAR calculate as the raw return minus market return.

$$BHAR_{i\,t} = \text{Raw return}_{i\,t} - \text{Market return}_{i\,t}$$

Raw return is the individual return for each company. Market return is the average return from all company that is listed in stock exchange market.

Raw return =
$$\frac{[\text{closing price on n day trading}] - [\text{closing price on first} - \text{day trading}]}{\text{closing price of first day of trading}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. \text{(Equation 13)}$$

Where,
n = the day of trading that the long-run calculated performance is based.

$$\text{Market return} = \frac{ASPI\ CSE_1 - ASPI\ CSE_0}{ASPI\ CSE_0} * 100\% \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. \text{(Equation 14)}$$

Where,
ASPI CSE = All share price index of the Sri Lanka   stock market
$ASPI\ CSE_0$ = The closing price of n-1th day
ASPI CSE = The nth day of trading

Raw return > Market return = Positive BHAR
Raw return < Marker return = Negative BHAR

Data Analysis Results
4.2.1 Earnings Management
(Teoh, et al., 1998) Explained if discretionary current accruals (DCA) has a significantly negative estimated coefficient, indicating that firms with high earnings management proxy to boost earnings in the year of the IPO subsequently show greater underperformance. 2010- 2018 period total IPO companies' discretionary current accruals (DCA) has a significantly negative estimated coefficient (-1.74361). This indicates that the more the earnings management, the lower the long-term performance. However 5 companies' discretionary current accruals (DCA) unable to calculated because this companies not enough information available to analyze in the prospectus.

Insert Figure 1 Here

4.2.2. Short Term Analysis
2010- 2018 period all IPO companies BHAR has a negative value (-1662.50) therefore researcher concluded that post-market performance after one year show that subsequently poor returns. In short term analysis, most of the companies have positive relationship between DCA and after one year BHAR. But in 2018, Jetwing Symphony

Plc discretionary current accruals (DCA) have significantly negative estimated coefficient and LVL Energy Fund Plc companies BHAR cannot be calculated because not available after one-year full information.

Insert Figure 2 Here

4.2.3 Long Term Analysis
2010- 2018 period all IPO companies BHAR has a negative value (-2937.124) therefore researcher concluded that post-market performance after three year show that subsequently lower returns. In long term analysis, most of the companies have positive relationship between DCA and after three year BHAR.
However in 2016, 2017 and 2018 companies not available after 3-year data. Therefore those companies BHAR cannot be calculated.

Insert Figure 3 Here

Discussion of the findings
The data obtained from the Colombo Stock Exchange (CSE) https://www.cse.lk publications of the CSE do. The data sample has been restricted to during the period from 2010 to June of 2018 and it is the period when most IPOs took place, 42 companies. The sample of data has higher reliability and validity because it has been taken by using true data source.
Regression result is,

Variable	Coefficient	Std.error	T-statistic	prob.
B	2.87E-08	7.41891	38.7353	0
C	-0.586441	0.262703	-2.23233	0.0321

Where,

$B = [1/TA\ i, t-1]$………………………. (Equation 15)
$C = (\Delta Sales_{i,t}) / (TA_{i,t-1})$…………..... (Equation 16)

Total DCA of all companies during the period from 2010 to 2018 is -1.7436 and total BHAR of all companies -2,937.12 in long-run. Therefore researcher can concluded that DCA and BHAR has a positive relationship in long run. That is indicate that Sri Lanka IPO firms during the period January 2010- June 2018 use accounting adjustment for present their financial statement positively.

Insert Figure 4 Here

Conclusion & contributions
This research attempted to examine the relationship between the earnings management and the long run market performance of Initial Public Offerings. This study investigate 42 IPO firms from 2010 to June of 2018 period listed on CSE. Researcher Discretionary current accrual method used for assess the Earnings management and Buy-and-hold abnormal returns (BHAR) used to assess the long-run performance.
Earnings management is the use of accounting adjustments to make financial reports for represent better view of a company's financial statement. Initial Public offerings is a process by which privately held company become a public traded company by issuing shares to the general public for the first time.
The main results of this research can be categorize three part. First, researcher found out high discretionary current accrual during the period from 2010 to June of 2018 IPO firms in Sri Lankan market. Secondly, researcher found out negative performance of after one year of IPO and has positive relationship between DCA and after one tear performance. Thirdly, researcher found negative returns of after three year of IPO and positive relationship between long-run performance and DCA after IPO. That is, January 2010 – June 2018 Sri Lankan IPO firms used accounting adjustments to make their financial statements for present positively. Finally researcher concluded that this findings will help to investors understand the financial dynamic behavior in Colombo Stock Exchange. In addition to that it will help investors to select appropriate financial firms for investing or crediting to the companies.

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