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An Empirical Investigation of Stock Market Reaction to the Announcement of Equity Offerings: The Egyptian Stock Exchange Evidence

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Abstract

This research investigates the stock market reaction to the announcements of secondary public offerings (SPO_S) in Egypt. The methodology used in this research is the traditional event study methodology. The market model approach is used to estimate the abnormal returns around the announcement date. The final sample includes 79 SPO_S issued by firms listed in the Egyptian Exchange (EGX 100) in the period 2006- 2014. The findings indicate that there is a significant negative response to the public offerings announcements. The evidence reported in this research supports the hypothesis that public offerings announcements received as a bad news and resulted in negative stock market response around the announcement date.

Key words: *Abnormal Returns; Market Model; Secondary Public Offerings.*

1. Introduction

The market based accounting research has been one of the major streams of accounting research, since the pioneer work of Ball and Brown (1968) and Beaver (1968). According to Fama's (1970) efficient market hypothesis; the stock price of a firm should always reflect all publicly available information. Therefore, only the public announcement of economic value should cause an immediate reaction in stock prices. Thus, only the public announcements which affect the stock prices have information content. The information content studies take its importance because the magnitude of stock market reactions to accounting disclosure is an indicator to its usefulness to investor (El Sharkawy, 1994).

The main objective of this paper is to investigate the stock price reaction to the announcement of SPO_S in Egypt. However, it is well documented in the literature that when public offerings are announced, a negative stock price reaction between -2% and -3% is observed (e.g., Myers and Majluf, 1984; Masulis and Korwar, 1986). The majority of researches on the effects of public equity issuance are performed in the United States.

The reminder of this paper is organized as follows: Section (2) describes the theoretical background, section (3) involves the problem statement, section (4) presents the research hypothesis, section (5) shows the methodology, section (6) contains the sample selection and the data, the empirical results are showed in section (7). Finally, section (8) illustrates the concluding remarks.

1. Market Reaction to Public Offerings Announcements

The capital market can be divided into two main parts; primary market and secondary market. The primary market or issuing market can be defined as the

marketplace where the investors buy securities directly from the company issuing them and the proceeds go to the company. Investors who purchased the newly issued securities in the primary market sell them in the secondary market. Therefore, the secondary market or trading market is deals with the securities that already issued in the primary market and the money earned from selling a security does not go to the company (Mankiw, 2010).

When a company makes a public issue for the first time and gets its share listed on stock exchange, the public issue is called initial public offering (IPO). While the seasoned equity offering (SEO) is issued when a listed company wants to raise its capital, it is also called follow-on public offering (FPO). The SEO is a kind of primary offering because the public company issues new shares and the proceeds go to the company (Wang, 2011).

A SEO can be issued through a number of flotation methods; SPO, private placement, or rights offer. In public offerings new shares are offered to public while in private placements, new shares are sold to a certain group of investors. These investors can either be current shareholders or new relationships (Wruck, 1989; Wruck and Wu, 2009).

Furthermore, rights offerings are public placements of equity, which give current shareholders the right to purchase a portion of the new shares at a discount price in proportion to their existing holding within a fixed time period. Therefore, it enables existing stockholders to maintain their proportionate ownership in the company when the new issues are made. These rights may or may not be transferable, and unsubscribed rights may be reallocated among subscribing shareholders (Eckbo and Masulis, 1992).

In Egypt, there are three stages in public offerings; filing, announcement, and offering stage. The filing of prospectuses relating to public offerings, whether primary or secondary offering must be made by the issuer before an offer to the public. No securities may be offered before the prospectus has received the approval of the Egyptian Financial Supervisory Authority (EFSA). The filing of the prospectus with the EFSA is governed by the Egyptian Capital Market Law No. 95 of 1992 (CML) and its executive regulation (CMLER) as well as any applicable instructions from the EFSA.

After the EFSA approval, the prospectus must then be published in two widely circulated daily newspapers at least 15 days before the public offer. Finally, the offering will start and the rights issue can be exercised. These rights can be transferable. Thus, shareholders can act on the rights and buy more shares or they can sell them on the market (EFSA web site April 2016). This research focuses on public offerings and right issues.

The announcement effect of SEO_S on common stock returns has been the subject of many empirical researches. The majority of researches on the impacts of public offerings are performed in US. These studies reported consistent negative abnormal returns on equity value between -2% and -3% when public offerings are announced (e.g., Myers and Majluf, 1984; Asquith and Mullins, 1986; Masulis and Korwar, 1986; Dierkens, 1991; Choe et al., 1993; Denis, 1994;

Heron and Lie, 2004; Bethel and Krigman, 2009; Kim et al., 2013). The majority of these studies calculated the announcement period return as the cumulative abnormal return over the 3-day announcement period from the day before through the day after the announcement date.

Eckbo et al. (2007) examined SEO_s in the US stock market for the period 1980–2004. The findings showed that there is a negative market reaction to security issue announcements. However, Eckbo et al. (2007) stated that these results only related to US because there are significant country-specific institutional differences. As opposed to the commonly used issue method in the US is cash offerings, the rights issues have remained the most often used transaction type in the smaller economies.

In United Kingdom, rights offerings remained the usual floatation method choice in SEOs for a long time. A stock price decline has been also observed in UK (e.g., Levis, 1995; Burton et al., 2000; Slovin et al., 2000; Barnes and Walker, 2006). In China, there are inconsistent results, Shahid et al. (2010) found significant positive abnormal returns on announcement of right issues. While Chen and Chen (2007) found market reacts negatively around such announcement.

Several theories provide explanations for why negative announcement effect of SEOs takes place. There are three explanations suggested for the underpricing of SEO_s. First, the Leland and Pyle (1977) signaling effect; it is an information-based theory and assumed that the managers have superior information about the value of the firm. Thus, sales of shares by better-informed investors signal that they believe shares are overpriced.

Second, the Myers and Majluf (1984) adverse selection problem; it assumes issuing equity conveys a bad signal about the true value of the firm that leads to suboptimal investment decisions. The deadweight loss due to suboptimal investments adds extra cost to equity financing and, hence, makes it the financing choice of last resort. Finally, the third explanation based on the conflict of interest between managers and shareholders. It assumes managers may pursue value-destroying growth strategies when there are no positive NPV investment opportunities, increasing their private benefits of control at the expense of shareholders. Investors' awareness of such potential misuse of funds raised in equity offerings causes the negative reaction (Jung et al., 1996; Kim and Purnanandam, 2006).

2. Problem Statement

What is the market reaction to public offerings announcements? And are there abnormal returns associated with these announcements?

3. Hypothesis Development

According to Fama's (1970) efficient market hypothesis, the announcement of an equity offering should not impact the value of the firm, since a security can always be sold at a fair price. However, several studies suggest that announcements of SEOs are associated with abnormal results. Therefore, the research hypothesis will be:

H_1: Firms issuing SPO_S experience negative abnormal stock returns around the announcement.

The hypothesis can be statistically expressed as follows:

H_0: Abnormal return = zero no information content

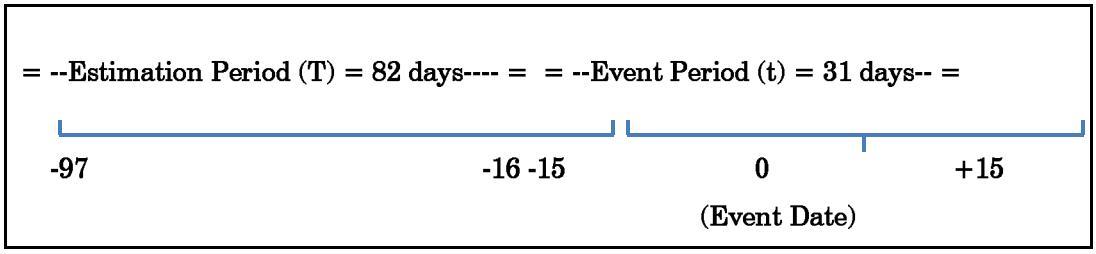
H_1: Abnormal return ≠ zero information content

4. Research Methodology

The methodology used in this research is the traditional event study methodology. The event study procedure is a two-step procedure; first, estimates of the intercept and slope are obtained with the Ordinary Least Squares (OLS) regression using the (T) observations in the estimation period. Second, the abnormal stock performance is calculated as the difference between the actual and the estimated stock performance during the examination or event period (El Sharkawy, 1994). The data intervals for the estimation and the examination periods applied is this research are outlined in figure (1). In order to measure the abnormal return of a stock, several models can be used such as: the market model, the Capital Asset Pricing Model (CAPM) and the Arbitrage Pricing Theory (APT).

Figure (1)

Event Study Procedure



In this research, the market model is applied to estimate the daily abnormal return because it provides the best results (Brown and Warner 1985; MacKinlay 1997). Daily event period abnormal returns (AR_{it}) are calculated as the difference between actual daily returns (R_{it}) and the expected daily returns (ER_{it}) based on the market model.

$$AR_{it} = R_{it} - ER_{it}$$

Abnormal returns are then averaged over the N firms for each day in the event period to form the daily event window average abnormal return (AAR_t). The expected value of AAR_t is zero at the announcement date in the case of no price response.

$$AAR_t = \frac{1}{n} \sum_{i=1}^{n} AR_{it}$$

The cumulative average abnormal returns ($CAAR_t$) are calculated over the event period from day 1 to day k where the maximum period from 1 to k is the event period 31 days.

$$CAAR_t = \sum_{t=1}^{t=k} AAR_t$$

Event period abnormal returns are expected to cumulate to zero at the announcement date in the case of no price response.

5. Sample Selection and Data Collection

The period selected for the research extended from the beginning of year 2006 to the end of year 2014. The sample is limited to firms that issued SPO_S and listed in the EGX 100 index. In Egypt, existing shareholders have a right of first refusal over the offered shares; therefore, rights offerings are included in the sample.

The final sample satisfied the following selection criteria:

a. The public offering announcement date is available.

b. Daily stock prices are available during the estimation and the examination periods.

c. No news announcements other than the offering announcement during the event window.

d. Public offerings made by financial firms are excluded. These firms are removed because they often have specific reasons to issue SPOs. For example, banks often issue equity to meet regulatory capital requirements.

After applying the above selection criteria, the final sample contains 79 SPOs. Table (1) shows the distribution of observations by each year of the study period. Table (2) describes the distribution of observations by industry. Data are collected from public sources:

a. The announcement dates are available at Mubasher website.

b. Companies' stock prices are obtained from Egypt for Information Dissemination Company (EGID).

c. Market index values available at Egyptian Exchange (EGX) website.

Table (1)

Distribution of the Observations by Each Year

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
SPOs	5	14	20	9	7	4	2	5	13	79

Table (2)

Sample Description by the Industry Group

Industry Group	Number of observations
Basic Resources	7
Industrial Goods and Services and Automobiles	8
Food and Beverage	14
Healthcare and Pharmaceuticals	3
Real Estate	19
Chemicals	5
Personal and Household Products	5
Technology	1
Telecommunications	1
Construction and Materials	8
Leisure and Travel	8
Total	**79**

6. Empirical Results

Table (3) presents the statistics for the stock returns for a period of fifteen days before and fifteen days after the event day. The first column shows the event period, i.e. 31 days. The second column shows the AAR_S for each day in the event period. The AAR_S on event day is significantly negative (-0.0421) at the 99% level. The AAR on day 0 (-0.0421) is larger than the average abnormal return on any of the fifteen subsequent or the fifteen prior days except for day 1 (-0.1866). The delay in response may be due to the fact that the news takes time to spread.

Figure (2) presents the daily AAR_S during the event period averaged across all sample observations. As indicated in figure (2), a decrease in stock prices led to negative abnormal returns in the event day and the subsequent day being significantly different from the behavior of abnormal returns during the subsequent and prior days to the event date. These findings support the phenomenon of negative market reaction associated with the announcement of public equity issues.

The third column of table (3) reports the standard deviation of the AAR_S for each day in the event period. The standard deviation increases significantly around the offering announcement date. The fourth column reports the t-statistics for AAR=0 with the p-value and 95% confidence level interval for the mean reported in the fifth

and sixth columns. The t-statistics for AAR on event day 0 is 2.887 and on day 1 is 6.513 which significant at 99% level. The results indicate that there is abnormal returns around offerings announcement at the 99% level on day -2 till day 1, thus the research hypothesis is accepted.

Table (3)

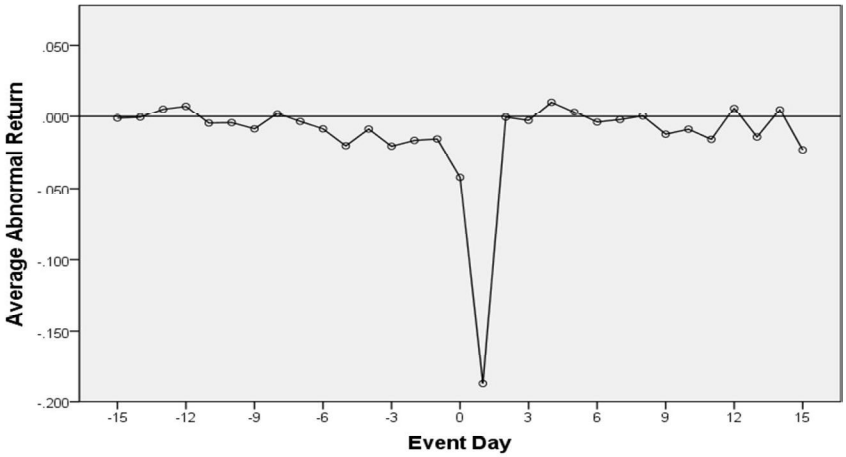
Daily Mean Abnormal Returns (AR) for 31 Days around SPOs Announcement

Day	AAR = 0					
	Mean (AAR)	Standard deviation	t-statistic	p-value	95% Confidence Interval of the Mean	
					Lower	Upper
-15	-0.00121816	0.026479759	-0.409	0.684	-0.0071493	0.0047129
-14	-0.00059433	0.036396339	-0.145	0.885	-0.0087466	0.0075580
-13	0.00533929	0.039533085	1.200	0.234	-0.0035156	0.0141942
-12	0.00735174	0.063580125	1.028	0.307	-0.0068894	0.0215929
-11	-0.00467223	0.061863635	-0.671	0.504	-0.0185289	0.0091844
-10	-0.00436964	0.053455319	-0.727	0.470	-0.0163429	0.0076036
-9	-0.00869101	0.038715531	-1.995*	0.050	-0.0173628	-0.0000192
-8	0.00202870	0.041992882	0.429	0.669	-0.0073771	0.0114345
-7	-0.00355254	0.040458926	-0.780	0.437	-0.0126148	0.0055097
-6	-0.00869908	0.036660840	-2.109*	0.038	-0.0169106	-0.0004875
-5	-0.02042976	0.093613097	-1.940	0.056	-0.0413979	0.0005384
-4	-0.00883569	0.037817910	-2.077*	0.041	-0.0173064	-0.0003649
-3	-0.02073177	0.110074768	-1.674	0.098	-0.0453871	0.0039236
-2	-0.01668153	0.050034146	-2.963**	0.004	-0.0278885	-0.0054744
-1	-0.01568114	0.049604803	-2.810**	0.006	-0.0267920	-0.0045702
0	**-0.04212792**	**0.129714004**	**-2.887****	**0.005**	**-0.0711822**	**-0.0130735**
1	-0.18663936	0.254705753	-6.513**	0.000	-0.2436903	-0.1295883
2	-0.00055620	0.074181787	-0.067	0.947	-0.0171720	0.0160596
3	-0.00283072	0.085329705	-0.295	0.769	-0.0219435	0.0162820
4	0.01014867	0.138564123	0.651	0.517	-0.0208879	0.0411853
5	0.00324714	0.062148817	0.464	0.644	-0.0106734	0.0171677
6	-0.00398272	0.069477949	-0.510	0.612	-0.0195449	0.0115794
7	-0.00228134	0.052378153	-0.387	0.700	-0.01401340	0.0094507
8	0.00026730	0.040143559	0.059	0.953	-0.00872436	0.0092589
9	-0.01235087	0.080054388	-1.371	0.174	-0.03028208	0.0055803
10	-0.00894087	0.041238961	-1.927	0.058	-0.01817789	0.0002961
11	-0.01588741	0.092638790	-1.524	0.131	-0.03663737	0.0048625
12	0.00594400	0.091683789	0.576	0.566	-0.01459204	0.0264800
13	-0.01427073	0.092998449	-1.364	0.177	-0.03510124	0.0065597
14	0.00483860	0.085601532	0.502	0.617	-0.01433509	0.0240123
15	-0.02330245	0.095266971	-2.174	0.033	-0.04464108	-0.0019638

(*) significant at 0.05 level and (**) significant at 0.01 level.

Figure (2)

Average Abnormal Return around SPO_s Announcement



The $CAAR_s$ during each day of the event period is presented in table (4) and plotted in figure (3). The CAAR's values reveal a significant decrease on days 0 and 1. The cumulative abnormal returns do not cumulate to zero at the announcement date. The CAAR values decreases from -0.12% at day -15 to -38.8% by the end of the event period (day 15). Overall, the results are consistent with the findings of previous research investigating negative abnormal returns around SEOs announcement.

Table (4)

Cumulative Abnormal Returns (CAAR) around SPO_S Announcement

Day	AAR	t-value	CAAR
-15	-0.001218161	-0.409	-0.001218161
-14	-0.000594334	-0.145	-0.001812495
-13	0.005339296	1.200	0.003526801
-12	0.007351748	1.028	0.010878549
-11	-0.004672239	-0.671	0.006206311
-10	-0.004369643	-0.727	0.001836668
-9	-0.008691019	-1.995*	-0.006854351
-8	0.002028706	0.429	-0.004825645
-7	-0.003552549	-0.780	-0.008378194
-6	-0.008699081	-2.109*	-0.017077275

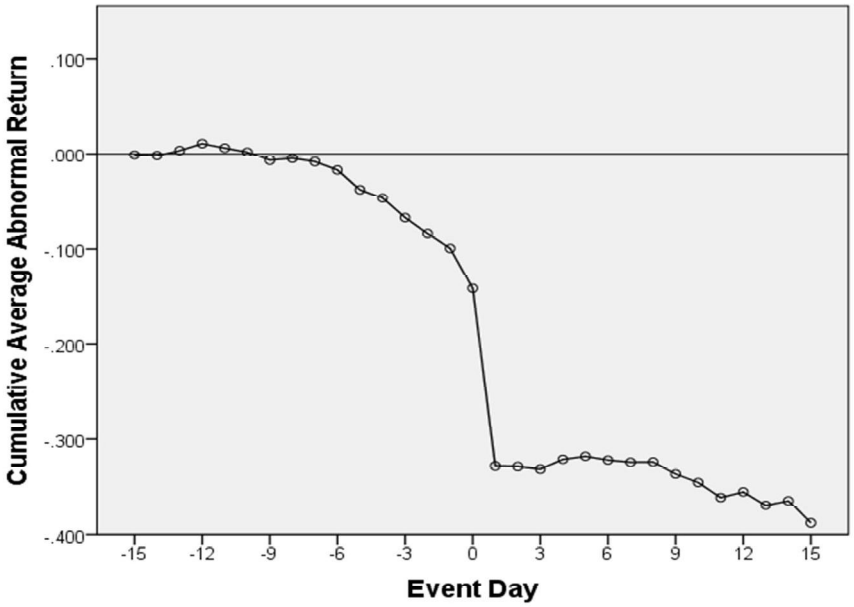
-5	-0.020429764	-1.940	-0.037507039
-4	-0.008835695	-2.077*	-0.046342734
-3	-0.020731778	-1.674	-0.067074512
-2	-0.016681537	-2.963**	-0.083756049
-1	-0.015681147	-2.810**	-0.099437196
0	**-0.042127925**	**-2.887****	**-0.141565121**
1	-0.186639361	-6.513**	-0.328204482
2	-0.000556209	-0.067	-0.328760691
3	-0.002830723	-0.295	-0.331591414
4	0.010148677	0.651	-0.321442737
5	0.003247147	0.464	-0.318195591
6	-0.003982727	-0.510	-0.322178317
7	-0.00228134	-0.387	-0.324459658
8	0.000267301	0.059	-0.324192357
9	-0.012350875	-1.371	-0.336543232
10	-0.008940873	-1.927	-0.345484105
11	-0.015887419	-1.524	-0.361371523
12	0.005944003	0.576	-0.35542752
13	-0.014270731	-1.364	-0.369698251
14	0.004838602	0.502	-0.364859649
15	-0.023302451	-2.174	-0.3881621

$CAAR_t$ is the cumulative average abnormal returns from day -15 to day_t.

(*) significant at 0.05 level and (**) significant at 0.01 level.

Figure (3)

Cumulative Average Abnormal Return around SPO_S Announcement



7. Conclusion

This paper examines the stock market reaction to the announcement of SPO_s for a sample of Egyptian companies. The event study methodology is used to test the stock behavior surrounding the announcement date. The market reaction to public offerings announcements is measured by daily average abnormal returns. The findings show a significant negative abnormal return around public offerings announcements and these abnormal returns do not cumulate to zero by the end of the announcement period.

The result is consistent with prior research (e.g. Heron and Lie, 2004; Bethel and Krigman, 2009; Kim et al., 2013). The evidence reported in this research supports the hypothesis that public offerings announcements received as a bad news and resulted in negative stock market response around the announcement date. There are many theories explaining the negative reaction to public offerings announcements.

Myers and Majluf (1984) proposed that the negative response to offerings announcement is due to the existence of information asymmetry. In the world of information asymmetry, managers have superior information about the value of their firm; they will issue new stocks when the value of stocks is overvalued. Consequently, market explains the public offerings announcements as unfavorable information and thus reacts negatively upon the announcement.

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