# Short Term IPO Returns in Stock Exchange of Thailand: The Study in 2003-2013 

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#### Abstract

This study examines the short term performance of initial public offering (IPO) in capital market of Thailand from 2003-2013. The daily price data is used in this study to identify the short term returns of IPO of the first trading day until the day that abnormal return cannot be earned. The results confirm the abnormal returns of the first trading day of IPO and also identify that their outperformance returns remain until day $\mathbf{2 4 6}$ after the market. IPO of four industries which are financial, service, resources, and technology outperform the market, while the other four industries which are agro and food, consumer products, industrials, and property and construction do not provide significant abnormal returns.


Index Terms-Abnormal returns, first trading day return, IPO, stock exchange of Thailand (SET).

## I. Introduction

Issuing stocks is an importance source of funds for corporations in their expansion. A pricing process rewards the well-managed firms to have greater allocation of new investment resources.
Stock exchange of Thailand (SET), the equity market in Thailand has become an important tool for raising funds for private companies after the Asian financial crisis in 1997. Since 1997, market capitalization increased from 1,200 billion baht to about 10,000 billion baht in 2012 in which the major issuers of equities are in the eight diversified business sectors [1].
Thailand is also a part of Asian economic community (AEC) which has ASEAN Exchanges plan. ASEAN Exchange is the collaboration from Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. The collaboration aims to promote the growth of the ASEAN capital market by streamlining ASEAN access, introducing cross-border harmonization and creating ASEAN centric products. The ASEAN Exchanges collaboration will bring greater investment opportunities to more people as well as bring greater liquidity tocollaboration members. This collaboration aims to expand opportunities for fund raising channel [1]. SET is considered as a growing emerging capital market. In 2013, the market capitalization of initial public offerings in SET reached the highest level in ASEAN [2].

There are different studies on initial public offering (IPO) returns in both long term and short term prospect. The studies in developed markets indicate that IPO outperform the market in short term but underperform the market in long term. There are limited numbers of this study in Thailand

[^0]especially for short term performance of IPO.
This study is interested in measuring the first trading day returns and also short term performance of IPO stocks in Thailand's equity market. The returns of all IPO stocks in the whole market, and also of each industry are studied. While most research to date studied the monthly return up to the long term returns of IPO, this paper will examine the abnormal return of IPO over the short time horizon using daily data.

It is hypothesized that the abnormal returns of IPO are significantly higher than zero for short time horizon. This study examines the return of IPO relative to the market return to represent its abnormal return. The holding period after the listing since the first trading day up to 360 days are indicated. Then $t$-test statistic is used to test if the abnormal return is higher than zero significantly. The study covers 153 listing stocks from 2003-2013.

This study aims to provide useful insights of IPO performance in Thailand's equity market, and also to identify the efficiency of SET in terms of price movement aftermarket. The results will benefit both individual and institutional investor to manage their portfolio returns.

Author also expects the result to increase the numbers of listing in capital market to be the important sources of funds for private sector.

## II. Stock Exchange of Thailand

From the information of the stock exchange of Thailand (SET), it has been started the operations on April 30, 1975. It operates mandatory to be a market or center for the trading of listed securities, and promoting of financial planning, as well as providing related services connected to such activities, without providing any profits to members. The main operations of SET include listing of securities, supervising of listed companies and disclosing of information, trading, and supervising members, disseminating information, and educating investor [1].

SET Index is a composite index representing the price movement for all common stocks trading on the SET. The market capitalization-weight index method is applied which the base day of April 30, 1975. SET Index is calculated from the prices of all common stocks on the main trading board. The SET also provides industry group indexes and sectoral indexes. There are eight industries in the Stock Exchange of Thailand including agro and food, consumer products, financials, industrials, resources, services, property and construction, and technology [1].

The stock market in Thailand has become an important source of funds for private firms after the Asian financial crisis in 1997. Since 1997, market capitalization increased
from 1,200 billion baht to about 10,000 billion baht in 2012 in which the major issuers of equities are in the more diversified business sectors [1]. In 2013, there are 489 listed companies in SET. A company must apply and comply Security and Exchange Commission (SEC)'s requirements to be listed and able to trade its stocks [1], [2].

There are increasing numbers of IPO in SET after the economic crisis in 1997-2000, especially in 2003-2005 of economic expansion with 85 listing stocks. The number of IPO declined in year 2006-2011 as the results of global economic crisis. New listing stocks have increased since 2012.

In year 2013, the average daily trading value of SET surged to an all-time high and the highest level among ASEAN countries. The market capitalization of initial public offering (IPO) reached SET's record high at THB 346,506 million (USD 10,557 million), the highest level among regional stock markets. This was caused by the launch of the BTSGIF infrastructure fund of THB 62,510 million (USD 1,904 million), the largest IPO in ASEAN [2].

## III. Literature Review

Numerous of international studies conclude that IPO introduce the underpricing and provide high initial returns on the first trading day. Kunz and Aggrawal [3] in 1994 found 35.8 percent average initial return in equity market in Switzerland. Ibbotson, Sindelar, and Ritter in 1994 found the 15.8 percent average return of IPO of the first trading day [4].

The studies also confirm the short term outperformance the market of IPO. IPO price performance in United State showed the significant positive buy-and-hold abnormal return from trading day 17 until day 120 , and the abnormal return reached negative on trading day 201-750 [5]. Ritter in 1991 found the 3 year holding period return of IPO was underperformed relative to the matched portfolio listed on American and New York stock exchanges [6]. Aggarwal and Rivoli in 1990 found that the short term abnormal return of IPO in New York Stock Exchange were $10.7 \%$, and the returns were starting to reduce after the first year [7]. IPO in Istanbul Stock Market also generated the short term abnormal return, and low long term returns. The study of IPO in Istanbul Stock Exchange by Kaya in year 2011 showed the abnormal return only at the end of third trading day [8].

The study of Alvarez, and Gonzalez in Spanish IPO revealed the non-underperformance at 12 months comparing to benchmark returns, and also identified the negative abnormal returns of $36-60$ months [9]. AbdehTabrizi and Demuri in 2003 studied the IPO in Tehran Stock Market in Iran and found the higher returns of new stocks comparing to market return if investors hold them for two months period. They also found the downward movement of accumulative abnormal return in thirty four month period [10].

Younesi, Ardekani, and Hashemijoo in 2012 studied the IPO in Malaysia and concluded that investors who are looking for new opportunities by investing in IPO, cannot gain by purchasing stocks on the listing day and hold those stocks for one year. They could gain only on the first trading day. The IPO cumulative return relative to the market show -3.77 for first week, -14.12 for a month, and -20.7 for a year after listing [11].

The IPO' abnormal returns of different industries are also studied. The study in Iranian oil and chemical industries' IPO showed the higher short term abnormal return than other industries [12]. Schaub, Casey, and Washer in 2003 found the positive abnormal returns of banking industry in New York Stock Exchange over the period 1975-1994, but less than the other non-financial industries [13].

Most existing studies of Thailand investigated the IPO in periods before 1997 economic crisis. Chorruk and Worthington in 2008 identified that IPO in SET underperformed the market at the end of month 19 aftermarket by using buy-and-hold abnormal returns method. There are limited numbers of studies on IPO' short term abnormal return in Thailand especially by using daily based data [14].

## IV. Data and Research Method

The sample of 153 new listing companies in SET during 2003-2013 is used. These IPO are from eight different industries which include 6 companies in agro and food, 3 companies in consumer products, 19 companies in financials, 19 companies in industrials, 14 companies in resources, 28 companies in services, 43 companies in property and construction, and 21 companies in technology. The issuing prices of IPO are collected from Stock Exchange of Thailand. The closing price of IPO, and the closing index of SET over time horizon are collected from SET factsheets, and SETSMART (SET Market Analysis and Reporting Tool). This web-based application from SET integrates the Thai listed company data, including the historical stock prices, indexes, and listed company news.
It is hypothesized that investors can significantly earn the abnormal returns from the first trading day. Also, the abnormal returns are significantly higher than zero at 95 percent level of confidence if the investor invests in IPO stock at the offering price and hold it for short term within 1 year. Abnormal return of IPO stocks will be measured by comparing each IPO's return with the benchmark returns, which are represented by SET Index returns. The methodology of previous study by Ritter in 1991, and Casey, and Washer in 2003 are applied [6], [13].
The steps of data analysis are as follow:
First the daily return for each company $i$ for event day $t$ is calculated as:

$$
R_{i, t}=\frac{\left(P_{c-} P_{i}\right)}{P_{i}}
$$

where:
$R_{i, t}$ is the return for stock $i$ in event day $t$
$P_{i}$ is the issuing price of stock $i$
$P_{c}$ is the closing price of stock $i$ at the end of day $t$
The daily period $t$ is used up to 360 days
Second, the benchmark returns which are represented by market returns are calculated by the same method.

$$
R_{m k t, t}=\frac{\left(P_{c_{-} m k t-} P_{i_{\_} m k t}\right)}{P_{i_{-} m k t}}
$$

where:
$R_{m k t, t}$ is the return for market in event day $t$
$P_{i_{-} m k t}$ is the closing index on a day before the first trading
day
$P_{c_{-} m k t}$ is the closing index at the end of day $t$
Third, abnormal returns $A R_{i, t}$ are computed as the different of the return of stock i and return of the market over the same period:

$$
A R_{i, t}=R_{i, t}-R_{m k t, t}
$$

Fourth, the average abnormal return $\overline{A R_{l, t}}$ for day t of n stocks is calculated:

$$
\overline{A R_{l, t}}=\frac{\sum_{t=1}^{n} A R_{i, t}}{n}
$$

Lastly, t -test statistic is applied to determine whether the abnormal returns are significant different from zero:

$$
A R_{-} t_{d a y}=\frac{\overline{A R_{l, t}}}{\sigma\left(A R_{t}\right) / \sqrt{n}}
$$

## V. ReSUlts and Conclusion

The exploring of the abnormal returns from 153 IPO stocks by using the daily data identifies the short term abnormal returns of IPO. If the investors buy the IPO stocks at the issuing price, they can significantly earn 23.83 percent average abnormal returns on the first trading day at 95 percent level of confidence.
After the first trading day, the abnormal returns decline to be at 16-20 percent until day 33 . Then they increases to 20-30 percent significantly until day 233 . From day 234 until day 246, average abnormal returns of IPO are below 20 percent. The abnormal returns are significantly higher than zero until day 246 . The results identify the negative average abnormal returns after day 312 -day 360 . This confirms the short term outperformance of IPO, but long term underperformance the market of IPO in the equity market of Thailand (Table I).

TABLE I: AbNormal Returns of IPO

| TABLE I: ABNORMAL RETURNS OF IPO |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Average <br> AR | Standard <br> Deviation | $t$-statistic | $p$ value |
| Day 1 | 23.830 | 41.306 | 5.593 | 0.000 |
| Day 2 | 20.749 | 42.509 | 4.732 | 0.000 |
| Day 3 | 20.271 | 44.418 | 4.425 | 0.000 |
| Day 4 | 21.171 | 45.459 | 4.515 | 0.000 |
| Day 5 | 19.832 | 44.340 | 4.337 | 0.000 |
| Day 6 | 19.988 | 46.197 | 4.195 | 0.000 |
| Day 7 | 19.892 | 47.080 | 4.096 | 0.000 |
| Day 8 | 19.519 | 46.826 | 4.041 | 0.000 |
| Day 9 | 18.268 | 46.364 | 3.820 | 0.000 |
| Day 10 | 17.952 | 47.259 | 3.683 | 0.000 |
| Day 11 | 17.875 | 46.576 | 3.721 | 0.000 |
| Day 12 | 16.920 | 46.902 | 3.498 | 0.001 |
| Day 13 | 17.036 | 48.386 | 3.414 | 0.001 |
| Day 14 | 16.751 | 48.629 | 3.340 | 0.001 |
| Day 15 | 16.767 | 48.160 | 3.375 | 0.001 |
| Day 16 | 16.841 | 48.464 | 3.369 | 0.001 |
| Day 17 | 17.153 | 50.190 | 3.313 | 0.001 |
| Day 18 | 17.283 | 50.859 | 3.295 | 0.001 |
| Day 19 | 17.843 | 51.896 | 3.334 | 0.001 |
| Day 20 | 18.065 | 52.692 | 3.324 | 0.001 |
| Day 21 | 18.836 | 54.852 | 3.329 | 0.001 |
| Day 22 | 19.188 | 56.950 | 3.267 | 0.001 |
| Day 23 | 19.701 | 60.728 | 3.145 | 0.001 |
|  |  |  |  |  |


| Day 24 | 19.369 | 59.538 | 3.154 | 0.001 |
| :---: | :---: | :---: | :---: | :---: |
| Day 25 | 20.331 | 62.642 | 3.147 | 0.001 |
| Day 26 | 19.798 | 61.618 | 3.115 | 0.001 |
| Day 27 | 20.458 | 63.399 | 3.128 | 0.001 |
| Day 28 | 20.130 | 62.639 | 3.116 | 0.001 |
| Day 29 | 20.012 | 62.155 | 3.122 | 0.001 |
| Day 30 | 19.712 | 61.206 | 3.123 | 0.001 |
|  | Average | Standard | $t$-statistic | $p$ value |
|  | AR | Deviation |  |  |
| Day 31 | 19.733 | 60.819 | 3.146 | 0.001 |
| Day 32 | 20.262 | 61.771 | 3.180 | 0.001 |
| Day 33 | 19.965 | 60.782 | 3.185 | 0.001 |
| Day 34 | 20.384 | 61.541 | 3.211 | 0.001 |
| Day 35 | 21.239 | 62.145 | 3.314 | 0.001 |
| Day 36 | 22.605 | 64.852 | 3.380 | 0.001 |
| Day 37 | 22.460 | 64.454 | 3.360 | 0.001 |
| Day 38 | 22.960 | 65.608 | 3.393 | 0.001 |
| Day 39 | 23.024 | 65.148 | 3.426 | 0.001 |
| Day 40 | 23.452 | 64.967 | 3.500 | 0.001 |
| Day 41 | 23.692 | 65.093 | 3.529 | 0.001 |
| Day 42 | 23.975 | 65.437 | 3.552 | 0.001 |
| Day 43 | 23.865 | 65.639 | 3.525 | 0.001 |
| Day 44 | 24.752 | 66.724 | 3.597 | 0.001 |
| Day 45 | 25.301 | 68.952 | 3.558 | 0.001 |
| Day 46 | 25.180 | 69.198 | 3.528 | 0.001 |
| Day 47 | 24.237 | 68.210 | 3.445 | 0.001 |
| Day 48 | 24.697 | 68.305 | 3.506 | 0.001 |
| Day 49 | 24.650 | 68.974 | 3.465 | 0.001 |
| Day 50 | 25.947 | 67.303 | 3.718 | 0.000 |
| Day 51 | 25.484 | 67.719 | 3.629 | 0.000 |
| Day 52 | 25.260 | 70.282 | 3.485 | 0.001 |
| Day 53 | 25.785 | 71.344 | 3.485 | 0.001 |
| Day 54 | 25.736 | 71.654 | 3.482 | 0.001 |
| Day 55 | 25.583 | 72.120 | 3.439 | 0.001 |
| Day 56 | 26.311 | 75.816 | 3.365 | 0.001 |
| Day 57 | 27.456 | 74.227 | 3.567 | 0.001 |
| Day 58 | 25.984 | 74.825 | 3.367 | 0.001 |
| Day 59 | 26.167 | 75.279 | 3.370 | 0.001 |
| Day 60 | 26.764 | 74.641 | 3.477 | 0.001 |
| Day 61 | 26.710 | 75.495 | 3.430 | 0.001 |
| Day 62 | 26.210 | 74.538 | 3.409 | 0.001 |
| Day 63 | 27.330 | 76.654 | 3.457 | 0.001 |
| Day 64 | 27.774 | 77.689 | 3.466 | 0.001 |
| Day 65 | 28.201 | 78.648 | 3.477 | 0.001 |
| Day 66 | 28.444 | 77.907 | 3.540 | 0.001 |
| Day 67 | 28.419 | 78.518 | 3.509 | 0.001 |
| Day 68 | 28.950 | 77.973 | 3.600 | 0.001 |
| Day 69 | 30.255 | 79.652 | 3.683 | 0.000 |
| Day 70 | 30.124 | 79.102 | 3.692 | 0.000 |
| Day 71 | 30.842 | 80.214 | 3.728 | 0.000 |
| Day 72 | 30.169 | 79.623 | 3.674 | 0.000 |
| Day 73 | 28.930 | 79.344 | 3.535 | 0.001 |
| Day 74 | 29.428 | 78.224 | 3.647 | 0.000 |
| Day 75 | 29.379 | 77.305 | 3.685 | 0.000 |
| Day 76 | 29.646 | 76.571 | 3.754 | 0.000 |
| Day 77 | 29.680 | 75.156 | 3.829 | 0.000 |
| Day 78 | 30.138 | 75.504 | 3.870 | 0.000 |
| Day 79 | 28.964 | 74.848 | 3.752 | 0.000 |
| Day 80 | 29.668 | 75.949 | 3.787 | 0.000 |
| Day 81 | 29.297 | 78.074 | 3.638 | 0.000 |
| Day 82 | 30.970 | 77.703 | 3.864 | 0.000 |
| Day 83 | 30.197 | 77.627 | 3.751 | 0.000 |


| Day 84 | 30.143 | 77.052 | 3.793 | 0.000 |
| :---: | :---: | :---: | :---: | :---: |
| Day 85 | 30.064 | 75.849 | 3.843 | 0.000 |
| Day 86 | 29.840 | 74.980 | 3.859 | 0.000 |
| Day 87 | 29.572 | 74.397 | 3.854 | 0.000 |
| Day 88 | 30.391 | 75.966 | 3.879 | 0.000 |
| Day 88 | 30.391 | 75.966 | 3.879 | 0.000 |
| Day 89 | 29.752 | 75.419 | 3.825 | 0.000 |
|  | Average AR | Standard <br> Deviation | $t$-statistic | $p$ value |
| Day 90 | 30.149 | 75.800 | 3.856 | 0.000 |
| Day 91 | 32.194 | 80.867 | 3.860 | 0.000 |
| Day 92 | 32.306 | 79.421 | 3.944 | 0.000 |
| Day 93 | 31.923 | 79.099 | 3.913 | 0.000 |
| Day 94 | 31.673 | 77.031 | 3.986 | 0.000 |
| Day 95 | 30.598 | 75.494 | 3.930 | 0.000 |
| Day 96 | 29.769 | 74.498 | 3.874 | 0.000 |
| Day 97 | 31.021 | 75.118 | 4.004 | 0.000 |
| Day 98 | 31.186 | 75.584 | 3.979 | 0.000 |
| Day 99 | 30.891 | 74.765 | 4.006 | 0.000 |
| Day 100 | 30.574 | 74.247 | 3.992 | 0.000 |
| Day 101 | 29.464 | 73.341 | 3.895 | 0.000 |
| Day 102 | 29.009 | 73.435 | 3.830 | 0.000 |
| Day 103 | 29.025 | 73.135 | 3.848 | 0.000 |
| Day 104 | 29.738 | 76.247 | 3.781 | 0.000 |
| Day 105 | 30.267 | 79.520 | 3.690 | 0.000 |
| Day 106 | 30.115 | 79.147 | 3.669 | 0.000 |
| Day 107 | 30.648 | 79.258 | 3.729 | 0.000 |
| Day 108 | 29.288 | 79.595 | 3.549 | 0.001 |
| Day 109 | 29.404 | 78.862 | 3.615 | 0.000 |
| Day 110 | 29.511 | 76.406 | 3.745 | 0.000 |
| Day 111 | 29.063 | 74.160 | 3.800 | 0.000 |
| Day 112 | 29.710 | 76.125 | 3.764 | 0.000 |
| Day 113 | 29.375 | 75.956 | 3.750 | 0.000 |
| Day 114 | 29.603 | 75.193 | 3.817 | 0.000 |
| Day 115 | 29.894 | 75.337 | 3.827 | 0.000 |
| Day 116 | 29.361 | 75.715 | 3.760 | 0.000 |
| Day 117 | 28.799 | 74.940 | 3.726 | 0.000 |
| Day 118 | 28.782 | 75.162 | 3.713 | 0.000 |
| Day 119 | 27.009 | 74.703 | 3.505 | 0.001 |
| Day 120 | 27.925 | 74.358 | 3.641 | 0.000 |
| Day 121 | 27.525 | 75.643 | 3.528 | 0.001 |
| Day 122 | 27.891 | 76.766 | 3.523 | 0.001 |
| Day 123 | 27.578 | 76.548 | 3.474 | 0.001 |
| Day 124 | 27.712 | 78.003 | 3.426 | 0.001 |
| Day 125 | 27.800 | 78.833 | 3.419 | 0.001 |
| Day 126 | 27.683 | 78.198 | 3.432 | 0.001 |
| Day 127 | 27.171 | 77.357 | 3.387 | 0.001 |
| Day 128 | 26.491 | 76.213 | 3.370 | 0.001 |
| Day 129 | 27.104 | 76.905 | 3.417 | 0.001 |
| Day 130 | 27.286 | 75.714 | 3.475 | 0.001 |
| Day 131 | 26.699 | 75.986 | 3.407 | 0.001 |
| Day 132 | 26.977 | 75.669 | 3.456 | 0.001 |
| Day 133 | 27.146 | 77.220 | 3.408 | 0.001 |
| Day 134 | 26.828 | 76.479 | 3.401 | 0.001 |
| Day 135 | 26.628 | 76.698 | 3.366 | 0.001 |
| Day 136 | 25.401 | 77.588 | 3.174 | 0.001 |
| Day 137 | 24.687 | 77.843 | 3.058 | 0.002 |
| Day 138 | 23.758 | 76.721 | 3.002 | 0.002 |
| Day 139 | 23.332 | 75.644 | 2.990 | 0.002 |
| Day 140 | 23.310 | 74.842 | 3.020 | 0.002 |
| Day 141 | 23.107 | 75.321 | 2.974 | 0.002 |
| Day 142 | 23.400 | 75.884 | 2.990 | 0.002 |


| Day 143 | 21.342 | 76.022 | 2.722 | 0.004 |
| :---: | :---: | :---: | :---: | :---: |
| Day 144 | 20.946 | 75.259 | 2.698 | 0.004 |
| Day 145 | 20.637 | 74.794 | 2.675 | 0.005 |
| Day 146 | 21.316 | 76.492 | 2.702 | 0.004 |
| Day 147 | 21.718 | 77.736 | 2.694 | 0.004 |
| Day 148 | 22.358 | 77.937 | 2.781 | 0.004 |
| Day 149 | 22.518 | 79.362 | 2.736 | 0.004 |
|  | Average AR | Standard <br> Deviation | $t$-statistic | $p$ value |
| Day 150 | 22.714 | 79.182 | 2.781 | 0.004 |
| Day 151 | 23.450 | 80.402 | 2.828 | 0.003 |
| Day 152 | 22.173 | 77.411 | 2.777 | 0.004 |
| Day 153 | 20.832 | 78.937 | 2.559 | 0.006 |
| Day 154 | 20.919 | 78.327 | 2.589 | 0.006 |
| Day 155 | 22.113 | 80.304 | 2.656 | 0.005 |
| Day 156 | 23.785 | 79.233 | 2.895 | 0.003 |
| Day 157 | 22.438 | 78.085 | 2.786 | 0.003 |
| Day 158 | 21.876 | 78.481 | 2.703 | 0.004 |
| Day 159 | 21.614 | 79.724 | 2.628 | 0.005 |
| Day 160 | 22.518 | 78.593 | 2.778 | 0.004 |
| Day 161 | 21.484 | 79.652 | 2.615 | 0.005 |
| Day 162 | 22.997 | 76.757 | 2.889 | 0.003 |
| Day 163 | 24.287 | 77.247 | 3.016 | 0.002 |
| Day 164 | 23.543 | 78.407 | 2.911 | 0.003 |
| Day 165 | 25.220 | 80.616 | 3.017 | 0.002 |
| Day 166 | 24.706 | 81.382 | 2.928 | 0.002 |
| Day 167 | 24.155 | 80.356 | 2.914 | 0.002 |
| Day 168 | 22.827 | 80.719 | 2.742 | 0.004 |
| Day 169 | 23.936 | 80.139 | 2.896 | 0.003 |
| Day 170 | 24.036 | 82.356 | 2.830 | 0.003 |
| Day 171 | 23.829 | 81.780 | 2.825 | 0.003 |
| Day 172 | 23.266 | 82.645 | 2.729 | 0.004 |
| Day 173 | 22.166 | 81.599 | 2.634 | 0.005 |
| Day 174 | 24.097 | 80.537 | 2.901 | 0.003 |
| Day 175 | 24.678 | 80.621 | 2.952 | 0.002 |
| Day 176 | 23.901 | 82.366 | 2.813 | 0.003 |
| Day 177 | 24.895 | 82.138 | 2.939 | 0.002 |
| Day 178 | 24.987 | 82.760 | 2.896 | 0.003 |
| Day 179 | 24.026 | 81.907 | 2.844 | 0.003 |
| Day 180 | 24.246 | 81.652 | 2.864 | 0.003 |
| Day 181 | 23.754 | 81.199 | 2.836 | 0.003 |
| Day 182 | 22.709 | 79.758 | 2.761 | 0.004 |
| Day 183 | 22.959 | 82.016 | 2.700 | 0.004 |
| Day 184 | 23.491 | 81.737 | 2.772 | 0.004 |
| Day 185 | 23.511 | 81.995 | 2.780 | 0.004 |
| Day 186 | 24.085 | 83.218 | 2.806 | 0.003 |
| Day 187 | 25.203 | 85.253 | 2.851 | 0.003 |
| Day 188 | 24.742 | 84.173 | 2.850 | 0.003 |
| Day 189 | 24.346 | 84.294 | 2.800 | 0.003 |
| Day 190 | 21.887 | 83.263 | 2.549 | 0.006 |
| Day 191 | 24.418 | 84.380 | 2.806 | 0.003 |
| Day 192 | 24.306 | 84.761 | 2.780 | 0.004 |
| Day 193 | 23.758 | 85.273 | 2.701 | 0.004 |
| Day 194 | 23.996 | 86.270 | 2.697 | 0.004 |
| Day 195 | 23.816 | 86.349 | 2.674 | 0.005 |
| Day 196 | 23.753 | 86.477 | 2.663 | 0.005 |
| Day 197 | 24.487 | 88.795 | 2.674 | 0.005 |
| Day 198 | 26.119 | 90.641 | 2.779 | 0.004 |
| Day 199 | 24.515 | 89.041 | 2.669 | 0.005 |
| Day 200 | 26.025 | 91.050 | 2.757 | 0.004 |
| Day 201 | 22.855 | 90.563 | 2.447 | 0.008 |
| Day 202 | 24.081 | 89.166 | 2.618 | 0.005 |


| Day 203 | 24.907 | 90.253 | 2.676 | 0.005 |
| :---: | :---: | :---: | :---: | :---: |
| Day 204 | 22.705 | 91.070 | 2.417 | 0.009 |
| Day 205 | 24.769 | 88.836 | 2.703 | 0.004 |
| Day 206 | 24.176 | 88.286 | 2.655 | 0.005 |
| Day 207 | 25.112 | 88.069 | 2.750 | 0.004 |
| Day 208 | 24.426 | 88.064 | 2.689 | 0.004 |
| Day 209 | 23.848 | 87.795 | 2.620 | 0.005 |
|  | Average AR | Standard <br> Deviation | $t$-statistic | $p$ value |
| Day 210 | 23.931 | 85.604 | 2.696 | 0.004 |
| Day 211 | 23.373 | 85.491 | 2.637 | 0.005 |
| Day 212 | 22.954 | 88.847 | 2.491 | 0.008 |
| Day 213 | 24.251 | 88.105 | 2.654 | 0.005 |
| Day 214 | 23.825 | 88.051 | 2.595 | 0.006 |
| Day 215 | 24.078 | 88.107 | 2.621 | 0.005 |
| Day 216 | 24.409 | 88.239 | 2.668 | 0.005 |
| Day 217 | 23.073 | 88.911 | 2.503 | 0.007 |
| Day 218 | 24.343 | 88.608 | 2.649 | 0.005 |
| Day 219 | 23.445 | 88.100 | 2.553 | 0.006 |
| Day 220 | 21.373 | 87.440 | 2.345 | 0.011 |
| Day 221 | 22.548 | 85.962 | 2.516 | 0.007 |
| Day 222 | 22.028 | 85.592 | 2.468 | 0.008 |
| Day 223 | 21.860 | 84.258 | 2.488 | 0.008 |
| Day 224 | 23.635 | 85.699 | 2.616 | 0.005 |
| Day 225 | 21.182 | 84.267 | 2.411 | 0.009 |
| Day 226 | 21.809 | 84.018 | 2.476 | 0.008 |
| Day 227 | 20.534 | 85.156 | 2.313 | 0.012 |
| Day 228 | 20.794 | 84.569 | 2.358 | 0.010 |
| Day 229 | 19.479 | 84.403 | 2.202 | 0.015 |
| Day 230 | 20.969 | 82.751 | 2.430 | 0.009 |
| Day 231 | 20.876 | 82.825 | 2.418 | 0.009 |
| Day 232 | 21.379 | 82.904 | 2.460 | 0.008 |
| Day 233 | 21.200 | 82.015 | 2.452 | 0.008 |
| Day 234 | 19.665 | 81.711 | 2.296 | 0.012 |
| Day 235 | 19.500 | 79.140 | 2.363 | 0.010 |
| Day 236 | 19.446 | 81.198 | 2.285 | 0.013 |
| Day 237 | 15.201 | 78.981 | 1.846 | 0.034 |
| Day 238 | 14.997 | 77.827 | 1.848 | 0.034 |
| Day 239 | 14.075 | 75.711 | 1.783 | 0.039 |
| Day 240 | 14.675 | 76.578 | 1.838 | 0.035 |
| Day 241 | 14.132 | 77.650 | 1.746 | 0.042 |
| Day 242 | 14.139 | 77.579 | 1.748 | 0.042 |
| Day 243 | 13.809 | 77.639 | 1.706 | 0.046 |
| Day 244 | 14.034 | 77.657 | 1.733 | 0.043 |
| Day 245 | 13.804 | 77.547 | 1.707 | 0.046 |
| Day 246 | 13.896 | 77.762 | 1.714 | 0.045 |

The study of IPO in different 8 industries was also examined. Table II shows that four industries which are financial, service, resources, and technology provide significant positive abnormal returns at 95 percent level of confidence.IPO of financial industry provides the highest first trading day abnormal returns of 45.93 percent followed by service, resources, and technology industries (Table II).

Financial industry provides the longest period of 246 trading days aftermarket to earn the abnormal return. The results show that financial industry's IPO provide higher abnormal returns than other industries. From day 2 to day 22, the abnormal returns are at 35-45 percent. Then abnormal returns increases to be between 45-75 percent from trading day 23 until day 139. Then the abnormal returns are at the level of 50-60 percent during trading day 140 to day 190 .

Investors can earn high abnormal returns at 60-70 percent on day 191 to day 233, then the performance of this industry's IPO decrease to be at 50-60 percent on trading day 234 to day 246.

TABLE II: AbNormal Returns of IPO from Different Industries

| Industry | First Trading <br> Day Abnormal <br> Return | $t$-statistic | $p$-value | Periods of <br> Abnormal <br> Return |
| :--- | :---: | :---: | :---: | :---: |
| Financial | $45.93 \%$ | 2.470 | 0.150 | until 246 <br> days |
| Service | $34.88 \%$ | 3.065 | 0.004 | until 137 <br> days |
| Resources | $30.53 \%$ | 3.343 | 0.005 | until 120 <br> days |
| Technology | $28.47 \%$ | 2.748 | 0.007 | until 125 <br> days |

Service industry provides 34.88 percent abnormal returns on the first trading day with the period of 137 days aftermarket of generating abnormal returns. The abnormal returns from trading day 2 to day 32 are at 23 to 35 percent. Trading day 33 to day 79 provide the abnormal returns of 35 to 50 percent, then they increases to be at 45 to 55 percent during day 80 to day 137 .

Resources industry' IPO stocks provide the 30.53 percent abnormal returns on the first trading day with 120 days of earning the abnormal returns. The average abnormal returns from the second trading day to day 120 are at 25 to 40 percent.

IPO of technology industry can generate 28.47 percent abnormal returns on the first trading day with the 125 trading days of outperformance. The average abnormal returns are at 20 to 35 percent.

The other four industries which are agro and food, consumer products, industrials, and property and construction do not significantly provide abnormal returns on the first trading day and also other days after listing. The results show the negative average returns of IPO in consumption industry on the first trading day. IPO in property industry provide significantly negative abnormal returns on 293 days aftermarket.

This study's results identify the inefficiency of pricing movement of IPO in capital market in Thailand, which provides the opportunity for investors to generate abnormal returns from this event. The analysis of daily abnormal returns after offerings also contributes the different viewpoint of short term performance of IPO from other studies.

The research's results benefit both individual and also institutional investors such as mutual funds management companies to manage their portfolios by including the IPO stocks and hold them for short term period to outperform the market. The four industries should be emphasized in generating abnormal returns. The insight information in term of number of days to hold the IPO in a portfolio to generate significant positive abnormal returns is also useful for the investors.

The author highly expects that the outperforming of IPO over the market return can encourage the investors to invest more in equity market. This finally provides more opportunities for private corporations to raise funds by issuing stocks for their expansion and to promote the growth and stabilize of economy and Stock Exchange of Thailand, especially as the leading equity market in ASEAN.

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