

# Short-Term Initial Returns

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**Abstract:** This study examines IPOs' performance on the Market Alternative for Investment (MAI), Thailand. All 123 IPO firms to be listing on the MAI between 2003 and 2015 (January-June) were included in a sample to be assessed employing several metrics. The non-adjusted and market-adjusted models, three types of calculations and a significant test were applied to measure the short-run initial returns. The results are consistent with those reported by previous studies and it is concluded that the Thai IPOs' underpricing is significant and substantial positive. Explicitly, the IPO stocks largely out-perform the market. For the ranking analyses using the MAI index (method1) and the MAI index (method2), the results are robust and suggest that roughly 20-25% of the top twenty best out-performers produce the initial returns more than 200% superior than the market; meanwhile about 75-80% create the initial returns more than 150% larger than the market.

**Keywords:** IPO performance; underpricing; initial return; short-run return; Thailand.

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## 1. INTRODUCTION

A distinguished way for a firm to raise capital is by selling its shares in the public financial markets, which is called going public. It is also referred to as initial public offerings (hereinafter, IPOs), where shares are sold to public, often at a price below those prevailing on the first-day of trading, which the phenomenon is called underpricing (Logue, 1973; Ibbotson, 1975; Krishnamurti & Kumar, 2002; Hanley & Hoberg, 2012).

Going public marks an important watershed in the life of a young company. This provides access to public equity capital and so may lower the cost of funding the company's operations and investments. This also provides a venue for trading the company's shares, enabling the existing shareholders to diversify their investments and to crystallize their capital gains from backing the company.

Nevertheless, there are disadvantages. Underpricing is costly to a firm's owners. Shares sold for personal account are sold at too low price while the value of shares retained after the IPOs is diluted. Also, the company acquires new obligations in the form of transparency and disclosure requirements and becomes accountable to a larger group of relatively anonymous shareholders, who will tend to vote with their feet by selling the shares rather than assist the company's decision makers in the way a venture capitalist might (Ljungqvist, 2004). However, most companies that go public do so via an initial public offering of shares to investors.

Theories of underpricing can be grouped under four broad headings: asymmetric information, institutional reasons, control considerations and behavioral approaches. The empirical studies support the view that information frictions contribute to IPO underpricing; meanwhile the evidence regarding institutional theories is more mixed. Control theories are relatively new and the final one is still out on their plausibility. Behavioral approaches are generally consistent with the presence of overoptimistic investors and with behavioral biases amongst the decision-makers at IPO firms.

Several studies document that IPOs assure superior results in the short-run, which has led to declare that underpricing exists. However, underpricing varies from one market to another market, which is consistent with Lowry, Officer, and Schwert (2010) reporting significant volatility in initial returns; see for example, 5.40% in Canada to 388% in China. Engelen and Essen (2010) analyze 2,920 initial public offers in 21 economies, and show a 10% variation in the level of underpricing. Furthermore, underpricing has tended to fluctuate a great deal, averaging 21% in the 1960s, 12% in the 1970s, 16% in the 1980s, 21% in the 1990s and 40% in the four years since 2000 (Kenourgios, Papathanasiou & Melas, 2007).

As earlier discussion, there are ample of empirical studies explaining the existence of underpricing in equity markets in various economies. These are; see, for instance, studies on the U.S. market by Ritter (1991); studies on the U.K. market by Goergen, Khurshed, and Mudambi (2007); Germany by Ljungqvist (1997); France by Husson and Jacquillat (1989); Switzerland by Kunz and Aggarwal (1994); Finland by Keloharju (1993); Hong Kong by Vong and Trigueiros (2010); Singapore by Saunders and Lim (1990); Korea by Kim, Krinsky, and Lee (1995); India by Ghosh (2005) and Malaysia by Ahmad-Zaluki, Campbell, and Goodacre (2011).

Conversely, some studies show different views. For example, the study by Ghosh (2006) documents that not all IPOs performed well in 1999, the majority of the twenty-five IPOs that had the highest first-day gains over 200% in 1999 also had a poor performance record during 2001–2002. Moreover, it is suggested that ‘irrational exuberance’, as it was witnessed in the late 1990s, will be rare to see for the foreseeable future in the U.S. Jones and Ligon (2009) suggest that only 76% of 6,427 public issues result in positive initial return, which is 18.64%. Additionally, a study by Sieradzki (2013) analyzes IPOs’ underpricing on the Warsaw Stock Exchange between 2003 and 2011, and reports that although on average, IPOs’ investments are profitable, the number of IPOs with negative initial returns is high at 26.69% and that of IPOs with initial returns equal to 0% is 6.75%.

In summary, most studies find positive short-run returns for IPOs even various levels or magnitude; meanwhile some studies show negative and/or neutral initial returns. The results are inconclusive. Thus, it is motivating to reexamine the IPOs’ performances on either develop or developing markets that have dissimilar regulatory aspects and market condition applying different samples, study periods and analytical methods to answer questions related to underpricing and its level.

Considerably, in both developed and developing countries, most studies on IPOs’ underpricing have focused more on the main stock exchanges. Likewise, in Thailand, apart from a limited number of studies on IPOs’ performances, these studies have principally concentrated on IPOs’ investment returns on the Stock Exchange of Thailand (SET)<sup>1</sup> rather than the Market for Alternative Investment (MAI)<sup>2</sup>. Furthermore, most work focuses on the pre-1997 Asian financial crisis period (see Wethyavivorn & Koo-smith, 1991; Lonkani, 2000; Lonkani & Firth, 2005), and employ only a single measure of underpricing. However, in common with evidence from developed markets, these studies suggest that IPOs in Thailand are also substantially underpriced.

Therefore, this study was carried out to evaluate IPOs’ initial returns on the Thai stock market, specifically the MAI. The investigations predominantly emphasize on the underpricing and its magnitude using several different metrics. Furthermore, the ranking of out-performed and under- performed IPO stocks as well as comparison results are also analyzed.

For global view, Ernst and Young 2017 reported that Thailand (SET) and (MAI) ranked No.12 top stock exchanges accounting for 2.4% of global number of IPOs in 2016. For the first half of 2017, there were the global numbers of 941 IPOs resulting in raised capital up to US\$146 billion, which increased 90% by proceeds and 70% by number of deals, when compared to the same period of 2016. Of these, Asia-Pacific was the leading region accounting for 61% of global IPOs and 44% of global proceeds. With a combination of regulatory support, a healthy pipeline of being listed companies, ample liquidity in emerging markets and strengthening investor sentiment on the back of reduced volatility as well as steady stock market gains have been driving Asia-Pacific IPOs’ activities to heights. Asia-Pacific thus ranked No. 2 the world’s largest IPOs accounting for 25% of global proceeds.

Thailand is an emerging market reducing risk and increasing expected returns, which renders significant diversification advantages for globally-minded investors (Bekaert & Urias, 1996 and Khanthavit, 2001). The results presented by this study are interesting and can be guidelines for both local and foreign investors. This study also makes numerous contributions to the literature in the aspect of a variety of outcomes for IPOs’ performances, and national and international comparison results: whether underpricing exists and it is in the same direction and similar magnitude, the IPO stocks’ out-performances as well as the best and worst out-performers added to this area for developed markets as general and emerging markets as particular.

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<sup>1</sup>The national stock exchange of Thailand officially commenced operations on 30 April 1975.

<sup>2</sup> It officially commenced operations on 21 June 1999 purposely to create new fund-raising opportunities for innovative business with high potential growth as well as provide a greater range of investment alternatives.

The remainder of the study is organized as follows. The next section describes the Market for Alternative Investment (MAI) and its regulations. Section 3 reviews the literature of relevant studies from both developed and developing markets. Section 4 explains data and methodologies especially the models, benchmarks and test of performance measures. The results are presented in Section 5. Section 6 contains the conclusion of the study.

## 2. LITERATURE REVIEW

IPOs were the most prevalent form of securities issued to raise capital by firms going public during 1990-2000 in the U.S.; however, they have been imperative in both developed and developing markets. Regarding the definition of underpricing, which is the equally weighted average first-day returns measured from the offer price to the first closing market price, the U.S. has historically been the world's largest IPOs market; meanwhile China has had the most extreme underpricing. The average first-day return in the U.S. during the period 1990-2010 is 18%; whereas it is 156% for China (Mok & Hui, 1998).

Several studies have been conducted to examine IPOs' short-run performances. For example, studies on developed markets by Rock, 1986; Tinic, 1988; Allen & Faulhaber, 1989; Benveniste & Spindt, 1989; Welch, 1992; Brennan & Franks, 1997; Tsangarakis, 2004; Alvarez & Gonzalez, 2005; Kenourgios et al., 2007; Goergen et al., 2007; Dimovski, Philavanh & Brooks, 2011 and Perera, 2014; and those on developing markets; see, for example, studies by Paudyal, Saadouni & Briston, 1998; Jelic, Saadouni & Briston, 2001; Omran, 2005; Li & Naughton, 2007; Peter, 2007; Marisetty & Subrahmanyam, 2010 and Sohail, Raheman & Durrani, 2010.

Specifically, most IPOs' underpricing studies demonstrate positive short-run returns for investments. However, the short-run performance of IPOs significantly varies across markets. For instance, Rhee (2002) analyzes 803 IPOs on the U.S. stock market in 1999 and 2000, and finds that the average initial returns are 72% and 56% respectively. This is considerably higher than those for the same market between 1960 and 2008, which are around 17% (Ritter, 1987; Ibbotson, Sindelar & Ritter, 1994); and between 1990 and 2001, which are approximately 24%. Eckbo (2005) presents statistics on the average IPOs' returns during 1990-2003 for nine-teen European countries and for six-teen countries in Latin-America and Asia-Pacific region: in Europe, the highest average initial return is in Poland, which is over 60%, followed by Greece, Germany and Ireland, which is around 40%. Correspondingly, Sukacz (2005) studies 185 IPOs on the Warsaw Stock Exchange between 1991 and 2002, and reports that the average IPOs' underpricing equals 26%. Sieradzki (2013) finds that the average IPOs' return on the same market between 2003 and 2011 is positive at 14.20%. Also, it is suggested that the lowest average IPOs' return is in Luxembourg and Denmark, which is less than 10%. Meanwhile, Loughran, Ritter, and Rydqvist (2010) find that the Australian IPOs are underpriced on average by 20% during the period 1976-2006. In other regions, the highest average IPOs' return is in Malaysia, which is about 90%, followed by Thailand and Singapore, which is around 30%. The lowest average IPOs' return is in Latin-American countries including Chile, Uruguay, Mexico and Brazil, which is less than 5%.

IPOs' underpricing is a universally persistent phenomenon. The high returns achieved by investors on the very first day of a company's shares being listed on a stock exchange have been reported historically (Reilly & Hatfield, 1969; McDonald & Fisher, 1972). The findings also show that initial underpricing in the emerging markets exceeds that of the developed markets (see Moshirian, Ng & Wu, 2010 and Loughran et al., 2010). Furthermore, developed market underpricing levels are more consistent than those of the emerging markets due to less variation in average initial returns in the first listing day (Perera, 2014).

This is in accordance with the study by Loughran and Schultz (2006), who suggest that the average initial-day returns in the U.S. are 18.10%; Perera (2014) finds that overall, the Australian IPOs underpriced by 25.27%; Kirkulak (2008) reports that the Japanese IPOs generate a statistically significant return of 49.93%. Meanwhile, Al-Hassan, Delgado, and Omran (2007) analyze 47 IPOs on six markets in the Gulf region between 2001 and 2006, and show that the average initial IPOs' return equals 290%, which is in accordance with that for IPOs on the Chinese market documented by Mok and Hui (1998).

It is noticed that even though the average IPOs' returns vary significantly across markets, they are positive. Kooli and Suret (2001) argue that many studies have indicated that the IPOs have been often notably undervalued in the primary market, with some movement towards a security's intrinsic value observed in secondary trading. This short-run phenomenon has been experienced in every country with a stock market although the degree of underpricing varies from country to country.

Conversely, the more recent studies by Jones and Ligon (2009) and Sieradzki (2013) assert that not all IPOs perform positively. Correspondingly, Ritter and Welch (2002) report that approximately 70% of the IPOs end the first day of trading at closing price greater than the offer price, and 16% has a first-day return of exactly zero. Meanwhile, Shaw (1971) and Stigler (1964) suggest that IPOs are overpriced in the short-run. Thus, the results are mixed.

In Thailand, before 1999, all IPO companies were firms to be listing on the SET; however later, the MAI was approved. Since then, Thai IPO firms have had a choice for going public by listing with either the SET or the MAI. With help promoting the listing of IPO companies by easing the requirement on track record; such as market capitalization and net profit, several more small and medium-sized enterprises (SMEs) are in the pipeline for entering the MAI.

Given a very limited number of Thai IPOs studies focusing either short-term or long-term performances; or either IPOs' underpricing or abnormal returns, these studies have only examined the IPOs' returns on the SET. There has not been a great deal of attention paid to those on the MAI. Furthermore, the prior studies used a small sample size of the IPOs, restricted research methods and limited international comparison. This leads to limitations of Thai IPOs' performance results in terms of knowledge, understanding and guidelines for both domestic and international investors.

Therefore, it was justified to conduct a comprehensive study investigating Thai IPO companies' performances on the MAI to add to the prevailing knowledge on the overall performances of the SET. In this study, in addition to including more sample data by covering a longer period from 2003-2015 (January-June), Thai IPOs' underpricing, the IPO stocks' out-performances as well as the best and worst out-performers were also examined. Moreover, a variety of metrics were applied. These include two models: the non-adjusted and market-adjusted approaches plus three types of calculations, and a significance test were employed.

### 3. METHODOLOGY

#### 3.1 Data:

This study uses stock price data rather than accounting data for the IPOs' underpricing measurements. The SET is used as a significant source of data for the study including the list of total 123 IPO companies to be listing on the MAI during 2003-2015 (January-June), the IPOs' subscription dates and prices, the IPOs' first trading dates and prices and the MAI index.

#### 3.2 Measure of IPOs' underpricing:

Underpricing is measured by the percentage difference between the first-day closing price in the secondary market and the offering price at which the IPO shares were sold in the primary market (Ritter, 1998; Shi-yu & Chang, 2008; Chan, 2010). In other words, underpricing means the initial return of an IPO corresponds to the difference between the equilibrium price following the issue and the IPO price. Moreover, it is advised that the post-IPO equilibrium price can be the first trade price following the IPO, the first closing price, or a closing price observed a few days after the IPO date (Loughran & Ritter, 2002; Ritter 2011). Meanwhile, Gajewski and Gresse (2006) document that raw initial returns can be measured by the difference between the post-listing equilibrium price and the final offering price divided by the offering price; and then, the raw initial return can be used as a measure of underpricing assuming that the normal return under efficiency would be 0 and that the equity risk is equivalent to the market risk.

Nevertheless, Kooli and Suret (2001) suggest that the raw initial return measured by equation (1) would be valid in a market, where there is no time gap between the application closing date and the first day of trading and no rationing takes place. If during this period, a major change occurs in market conditions, we should adjust for market return in the raw initial return estimated by equation (1), which is known as the market-adjusted measure model (2). Accordingly, Perrier (1996) states that the adjusted returns are preferred when the delay between the IPO date and the determination of the first equilibrium price is too long.

I disentangle the impact of methods of computing the initial returns by using more methods. Therefore, the both models were selected to be used in the analyses in the study. Thus, to examine the IPOs' performance, the non-adjusted (1) and the market-adjusted measures (2) were chosen for investigating the IPOs' underpricing and its level in the study. The applied methods are similar to those used by international studies such as Affleck-Graves, Hedge & Miller, 1996; Paudyal, Saadouni & Briston, 1998; Jelic et al., 2001 and Ahmad-Zaluki & Kect, 2012, and Thai studies such as Chorruck & Worthington, 2010. This helps make national and internationally comparisons with previous studies.

$$\text{Initial return}_i = (P_m - P_e) / P_e \dots\dots(1)$$

where  $i$  = Firm  $i$ ;  $P_m$  = First day price;  $P_e$  = Offer price

$$\text{Initial return}_i = (P_m - P_e) / P_e - (M_1 - M_0) / M_0 \dots\dots (2)$$

where  $P_m$  = First day price;  $P_e$  = Offer price;  $M_1$  = Market index on the first day of trading;  $M_0$  = Market index on the application closing day (hereinafter, method1);  $M_0$  = Market index on the day before the first day of trading (hereinafter, method2). This measure supposes that the market beta of the stock is 1.

Then, the initial returns were estimated using the three types of calculations along with (1) and (2).

### 3.3 Significance test of underpricing:

To test the significance of underpricing, the  $t$ -test statistic was applied.

$$t = \frac{\bar{x} - \mu}{s / \sqrt{n}} \dots\dots\dots(3)$$

where  $\bar{x} - \mu$  = average returns; and  $s$  = standard deviations of initial returns for the sample of  $n$  firms.

## 4. RESULTS

The following section presents and explains the results of the analyses of performances of IPOs, or IPO stocks first listing on the MAI between 2003 and 2015 (January-June) in terms of the average initial returns for investors. The main issues are the size and signs of these returns, whether or not they are significantly different from zero and whether or not they are outperformed. Moreover, the ranking of out-performed and under-performed IPO stocks as well as comparison results are also presented.

**Table 1 Comparison amongst the initial returns of the IPO stocks and the changes in the MAI index (method1) and (method2) according to the IPO stocks first listing on the MAI between 2003 and 2015**

Year	No. of listed companies	IPO stocks' initial returns	Changes in the MAI index (method1)	Changes in the MAI index (method2)
2003	6	55.8313	1.1887	-0.1147
2004	14	17.1063	-1.2612	-0.7917
2005	14	3.0182	0.0199	0.0472
2006	6	2.6341	0.6482	-0.0664
2007	6	33.0338	0.2793	-0.2382
2008	3	25.2424	0.1546	-1.2709
2009	11	16.2885	0.3844	0.2058
2010	7	50.6242	122.2738	0.3195
2011	7	91.3542	1.1528	0.3804
2012	10	92.6827	0.5742	-0.2195
2013	15	90.3701	-0.3957	-0.1420
2014	20	113.6542	-1.6154	-0.2104
2015	4	71.3568	0.5004	0.9869
Average	Total=123	51.0151	9.5311	-0.0857

Table 1 presents that most of the IPOs issued and to be listing on the MAI in 2014, 2013, 2004, 2005, 2009 and 2012, which are the years for the issues ranging from ten to twenty stocks. The average initial returns of the IPO stocks for each year between 2003 and 2015 are positive at between 2.63% and up to 113.65%; meanwhile those of the market analyzed by the MAI index (method1) and the MAI index (method2) are positive and negative ranging from -1.62% up to 122.27% and -1.27% to 0.99% respectively (also see Figure 1). They are far different. However, the market's performances measured by the MAI index (method1) and the MAI index (method2) are similar in terms of the direction, not the magnitude. The returns estimated by the MAI index (method2) are much smaller, when compared to those of the IPO stocks and the MAI index (method1). As a result, the average of each year initial returns of the IPO stocks is approximately 51.02% and those of the market are 9.53% and -0.09% consecutively.

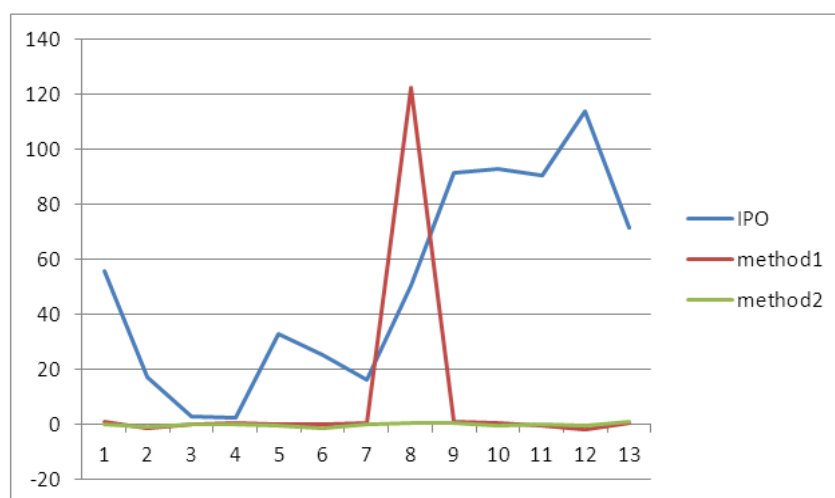
**Table 2 The IPO stocks' out-performances evaluated applying the differences between the IPO stocks' initial returns and the changes in the MAI index (method1) and (method2) according to the IPO stocks first listing on the MAI between 2003 and 2015**

Year	Out-performances of IPO stocks (method1)	Out-performances of IPO stocks (method2)
2003	54.6426	55.9460
2004	18.3675	17.8980
2005	2.9983	2.9709
2006	1.9859	2.7005
2007	32.7545	33.2720
2008	25.0878	26.5133
2009	15.9041	16.0827
2010	49.5223	50.3047
2011	90.2014	90.9738
2012	92.1084	92.9021
2013	90.7658	90.5121
2014	115.2696	113.8645
2015	70.8563	71.1100
Average	50.8050	51.1578

Consequently, table 2 shows that the IPO stocks out-perform the market, when estimated using either the MAI index (method1) or the MAI index (method2). Specifically, the IPO stocks behave greater than the market on average 50.81% and 51.16% respectively.

For robustness the findings, the out-performances of the total IPO stocks first listing on the MAI between 2003 and 2015 were also investigated. The results show that 101 out of 123 stocks or approximately 82.11% out-perform the market assessed by the MAI index (method1) while the remaining 22 out of 123 stocks or 17.89% under-perform the market. Finally, on average, the IPO stocks perform better than the market up to 56.38 %, which is in line with the result of 50.81% shown in Table 2.

Likewise, for the analyses of out-performances of the total IPO stocks first listing on the MAI between 2003 and 2015 using the MAI index (method2), 103 out of 123 stocks or 83.74% out-perform the market while the remaining 20 out of 123 stocks or 16.26% under-perform the market. As a result, by average, the IPO stocks perform greater than the market up to 56.40 %, which is also consistent with the finding of 51.16% presented in Table 2.



**Figure 1**

In short, the results are supportive with each other even when evaluating in different ways. Thus, the IPO stocks completely and greatly out-perform the market. The findings are consistent with those reported by previous studies. For example, Chorruck and Worthington (2010) study 136 IPOs listed on the SET during the period 1997-2007 and the results

show that the average initial returns are approximately 17.6%, in other words, underpricing exists in the Thai stock market. Perera (2014) evaluates Australian IPOs and concludes that for summary, it seems that the consequence of the previous studies appear that the IPOs are set underprice, that is outperform the market in short-run.

As to whether or not the IPOs' underpricing is significant, the results suggest that eighty-seven out of 123 or about 70.73% of the IPO stocks first listing on the MAI between 2003 and 2015 earn significant initial returns. Seventy-eight IPO stocks or 89.66% gain significant and positive returns while the remainders generate significantly negative returns. Accordingly, ninety and 101 out of 123 IPO stocks or approximately 73.17% and 82.11% of the MAI's returns, as estimated applying the MAI index (method1) and the MAI index (method2) respectively are significant. Fifty-three and fifty performances, or around 58.89% and 49.50% consecutively are significantly positive while the remaining thirty-seven and fifty-one changes, or about 41.11% and 50.50% respectively are significant and negative.

Thus, on average, the IPO stocks first listing on the MAI between 2003 and 2015 gain significantly and substantially positive initial returns. Lastly, it is concluded that there is significant IPOs' underpricing on the MAI. The results are consistent with most of the previous studies focusing both developed and developing markets, as earlier mentioned.

**Table 3 Top twenty best out-performing IPO stocks measured using the MAI index (method1) according to the IPO stock first listing on the MAI between 2003 and 2015**

Ranked No.	Year	IPO stocks	Out-performances (method1)
1	2012	PPS	208.0849
2	2014	CCN	207.4267
3	2013	BKD	201.1088
4	2013	AKP	200.7139
5	2014	PSTC	200.4110
6	2014	RWI	199.3715
7	2014	NCL	198.2351
8	2013	UREKA	196.9321
9	2014	LDC	196.8429
10	2014	SPA	194.5081
11	2011	GIFT	183.6898
12	2014	SMART	167.8568
13	2011	QTC	165.1489
14	2015	HPT	164.5336
15	2012	FPI	153.6593
16	2014	AIRA	148.1785
17	2013	WINNER	142.2786
18	2013	FVC	126.0439
19	2003	PD	122.8430
20	2011	COLOR	121.8613

Table 3 presents the top twenty best out-performing IPO stocks or best out-performers. These generate the initial returns higher than those of the market, when measured by the MAI index (method1), ranging from 121.86% up to 208.08%. Most of them performed in 2014, 2013 and 2011, which are the years for the IPOs of eight, six and three stocks consecutively. Five out of twenty or approximately 25% produce the initial returns higher than 200%, when compared to those of the market. These out-performing IPO stocks are PPS, CCN, BKD, AKP and PSTC. Fifteen out of twenty or about 75% create the initial returns more than 150% better than the market. In addition to the above mentioned out-performing IPO stocks, these include RWI, NCL, UREKA, LDC, SPA, GIFT, SMART, QTC, HPT and FPI. Meanwhile, the remainders are AIRA, WINNER, FVC, PD and COLOR build up the initial returns greater than 120%, as compared to the market.

**Table 4 Top twenty worst out-performing IPO stocks measured using the MAI index (method1) according to the IPO stocks first listing on the MAI between 2003 and 2015**

Ranked No.	Year	IPO stocks	Under-performances (method1)
1	2005	PYLON	-20.1382
2	2005	TRC	-17.1668
3	2005	UEC	-16.9079
4	2009	TPOLY	-16.6995
5	2006	T	-14.3853
6	2007	MBAX	-13.1415
7	2006	TRT	-10.8209
8	2005	SPCG	-10.4730
9	2005	STAR	-9.2632
10	2004	TAPAC	-9.2530
11	2004	BOL	-7.0926
12	2004	PPM	-6.5699
13	2005	TPAC	-5.8090
14	2006	UKEM	-5.5146
15	2005	ACAP	-4.1138
16	2009	KIAT	-3.0883
17	2003	MATCH	-1.4539
18	2008	CRANE	-1.3950
19	2009	THANA	-0.2298
20	2006	BROCK	-0.2053

Table 4 demonstrates the top twenty worst out-performing IPO stocks or under-performers. These produce the initial returns lower than those of the market, as assessed using the MAI index (method1) ranging from -20.14% to -0.21%. Most of them performed in 2005, 2006, 2004 and 2009, which are the years for the IPOs of seven, four and three stocks consecutively. Eight out of twenty or roughly 40% build up the initial returns ranging from -20% to -10%, as compared to the market. These IPO stocks are PYLON, TRC, UEC, TPOLY, T, MBAX, TRT and SPCG. Six out of twenty or about 30% create the initial returns between less than -10% and -6% worse than the market. These performers include STAR, TAPAC, BOL, PPM, TPAC, and UKEM. Meanwhile, the remainders are ACAP, KIAT, MATCH, CRANE, THANA and BROCK lead to the initial returns no higher than -5%, when compared to the market.

**Table 5 Top twenty best out-performing IPO stocks measured using the MAI index (method2) according to the IPO stocks first listing on the MAI between 2003 and 2015**

Ranked No.	Year	IPO stocks	Out-performances (method2)
1	2012	PPS	201.0231
2	2013	AKP	200.6791
3	2014	PSTC	200.4635
4	2014	NCL	200.2520
5	2014	RWI	199.9551
6	2014	LDC	199.4120
7	2013	UREKA	199.4097
8	2013	BKD	199.2515
9	2014	SPA	199.2146
10	2014	CCN	198.9436
11	2011	GIFT	186.1777
12	2014	SMART	170.3388
13	2011	QTC	167.5283
14	2015	HPT	165.0556
15	2012	FPI	157.5488
16	2014	AIRA	150.4325
17	2013	WINNER	143.6867



18	2013	FVC	127.4498
19	2003	PD	122.9304
20	2011	COLOR	120.5170

Table 5 shows the top twenty best out-performing IPO stocks or best out-performers that generate the initial returns higher than those of the market, as evaluated applying the MAI index (method2) ranging from 120.52% to 201.02%, which are similar to those assessed using the MAI index (method1). Most of them achieved in 2014, 2013 and 2011, which are the years for the IPOs of eight, five and three stocks respectively. Four out of twenty or only 20% yield the initial returns more than 200% greater than the market. These out-performing IPO stocks are PPS, AKP, PSTC and NCL. Three of these IPO stocks are the repeated ones, when valued by the MAI index (method1). Sixteen out of twenty or up to 80% increase the initial returns more than 150% larger than the market, as compared to fifteen out of twenty or 75% measured by the MAI index (method1). Apart from the above stated out-performing IPO stocks, these include RWI, LDC, UREKA, BKD, SPA, CCN, GIFT, SMART, QTC, HPT, FPI and AIRA. Meanwhile, the remaining out-performing IPO stocks, which are WINNER, FVC, PD and COLOR, create the initial returns greater than 120%, when compared to the market. Noticeably, most of these out-performing IPO stocks are the repeated IPO stocks, when analyzed by the MAI index (method1).

**Table 6 Top twenty worst out-performing IPO stocks measured using the MAI index (method2) according to the IPO stocks first listing on the MAI between 2003 and 2015**

Ranked No.	Year	IPO stocks	Under-performances (method2)
1	2009	TPOLY	-26.0596
2	2014	AIE	-21.2634
3	2005	UEC	-20.2872
4	2005	PYLON	-19.4381
5	2006	T	-16.6546
6	2005	TRC	-16.6373
7	2005	SPCG	-11.7818
8	2007	MBAX	-11.6556
9	2004	BOL	-9.7677
10	2004	TAPAC	-8.8478
11	2005	STAR	-8.6861
12	2006	TRT	-6.1710
13	2006	UKEM	-5.4934
14	2005	TPAC	-4.8245
15	2003	MATCH	-4.4581
16	2004	SWC	-3.6734
17	2004	PPM	-3.3124
18	2005	ACAP	-2.2750
19	2006	BROCK	-0.8438
20	2007	BGT	-0.6507

Table 6 presents the top twenty worst out-performing IPO stocks or under-performers producing the initial returns lower than those of the market, when calculated employing the MAI index (method2) ranging from -26.06% to -0.65%, which are parallel to those of the market, when valued by the MAI index (method1). Most of them performed in 2005, 2004 and 2006, which are the years for the IPOs of seven and four stocks respectively. Eight out of twenty or up to 66.67% yield the initial returns between -26% and -12%, as compared to the market. These IPO stocks are TPOLY, AIE, UEC, PYLON, T, TRC, SPCG and MBAX. Five out of twenty or about 25% gain the initial returns between -10% and -5.5% worse than the market. These under-performing IPO stocks include UKEM, TRT, STAR, TAPAC and BOL. Meanwhile, the remainders consist of TPAC, MATCH, SWC, PPM, ACAP, BROCK and BGT result in the initial returns less than -5%, as compared to the market.

## 5. CONCLUSION

On average, the findings are supportive to each other even though the different methods were used for the investigations. The evidence indicates that the IPO stocks in the sample of this study generate significantly and substantially positive initial returns. The results are robust and firmly consistent with those presented in previous studies focusing on both developed and developing markets; such as Kim, Kitsabunnarat & Nofsinger, 2004; Cook, Kieschnick & Van Ness, 2006; Chorruck & Worthington, 2010; Kosala, 2011; Vithessonthi, 2014 and Loughran, Ritter & Rydqvist, 2015.

The findings also completely confirm prior studies reporting that the IPOs in emerging markets produce positive initial returns higher than those of developed markets (Loughran, Ritter & Rydqvist, 1994; Moshirian et al., 2010).

For further investigations of the IPO stocks' performances, the study demonstrates that the results are supportive with each other even when evaluating in different ways. Obviously, the results are robust and suggest that the IPO stocks completely and greatly out-perform the market, which are also accordance with those of past studies, on the whole, in spite of the fact that these typically used different samples, methods and time periods for their examinations. Thus, it is concluded that the Thai IPOs on the MAI are substantially out-performed.

As to the purposes of extension the findings of the examinations, the rankings of the IPO stocks' out-performances were also assessed using the MAI index (method1) and the MAI index (method2), and the top twenty best-out and under-performing IPO stocks are shown. The results are similar and show that approximately 20-25% of IPO stocks yield the initial returns more than 200% greater than the market; meanwhile about 75-80% of IPO stocks create the initial returns more than 150% better than the market. In addition, most of the out-performing IPO stocks are the same stocks, when analyzed applying the two different methods. Lastly, it is concluded that the Thai IPOs in the sample of this study are significantly and impressively out-performed.

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