



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

# Initial and long-term performance of IPOs. Does growth opportunity of issuing firm matter?

**Siti Suhaila Abdul Rahman, Norliza Che-Yahya**

*Faculty of Business and Management, Puncak Alam Campus, UiTM Selangor, Malaysia*

*corresponding e-mail: [norliza9911\[at\]uitm\(dot\)edu\(d\)my](mailto:norliza9911[at]uitm(dot)edu(d)my)*

*address: Faculty of Business and Management, Universiti Teknologi MARA, 42300, Puncak Alam, Malaysia*

## **Abstract:**

The performance of initial public offerings (IPOs) can be viewed at least into two different periods; initial aftermarket and long-term aftermarket. This study is initiated to examine the influence of growth opportunities of firms on initial aftermarket and long-term aftermarket performance. It is crucial to study on the influence of growth opportunities of firms in both periods as the investors, regardless of investment horizons, are looking for capital appreciation so that they can continuously secure good returns in the aftermarket. The growth opportunities are defined as the potential of issuing firms to positively survive in periods after their listing in stock market. The growth opportunities are measured by the allocation of proceeds received during the issuance of newly issued shares to activities which are expected to increase growth of a firm; e.g., spending on capital expenditure and asset acquisition. The information of "growth opportunities" of firms can be gathered from firm prospectus, particularly in the "use of proceeds" section. The growth opportunities of firms are proposed to serve as a signaling tool that transmits information on growth potential of firms to potential investors. This study proposes that higher amount of IPO proceeds allocated to growth and investment activities will attract higher numbers of potential investors to subscribe for the firms' shares. A higher demand and subscription from investors will boost up price of the shares, thus lead to higher aftermarket returns. Employing 403 IPOs listed in Bursa Malaysia from January 2000 to December 2014, this study documents a positive significant relationship between growth opportunities and performance of IPOs in both periods: initial aftermarket and long-term aftermarket.

**JEL Classifications:** G12, G31

**Keywords:** Growth opportunities, initial public offerings, initial aftermarket return, long-term aftermarket return

**Citation:** Abdul-Rahman, S. S., & Che-Yahya, N. (2019). Initial and long-term performance of IPOs. Does growth opportunity of issuing firm matter?. *Business and Economic Horizons*, 15(2), 276-291.  
<http://dx.doi.org/10.15208/beh.2019.17>

## **1. Introduction**

The main goal of a firm is to generate continuous profits for its future growth. The firm need to have enough capital to achieve its goal and one of the ways is by transferring its status from private firm to public firm. The decision of a firm to go-public for the first time is known as the decision to issue initial public offerings (IPOs). Although IPOs is seen as an important step in a firm life-cycle and a plausible fund raising mechanism (Che-Yahya & Abdul-Rahim, 2014), the issuance of shares to public for the first time will not always be pleasing. This is because, an IPO firm will be usually threatened by the possibility of its newly issued shares not to be fully demanded. The consequence of under demanded shares are not to only jeopardize the chance of the firm to acquire needed amount of funds but it will also create lower initial market price of the IPOs such that will produce worst initial aftermarket performance for the IPO firm.

It is crucial for IPO firms to produce a good initial aftermarket performance as it will

usually give an early indication on their growth prospect and sustainability over long-term. As posited by Espenlaub, Khurshed, & Mohamed (2012), the higher is the firm's growth prospect, the higher will be the investors' participation in the firms. This is because, the growth opportunity that a firm could offer also means the potential of growth in wealth of the investors. Therefore, a better rate of demand on shares (i.e., IPOs) and aftermarket performance of the firm can be expected. Nevertheless, previous studies (Aggarwal, Leal, & Hernandez, 1993; Levis, 1993; Goergen, Khurshed, & Mudambi, 2007; Ritter, 1991; Zarafat & Vejzagic, 2014) document that IPO firms produce positive returns only in the initial aftermarket (i.e., in the first trading day). That is, IPO firms usually will experience underperformance in long-term. The findings imply that investors could only realize positive returns when they invest in the short term.

What about the investors' return if they opt to hold onto their shareholdings over a long duration? For certain, the investors especially those with long-term investment objective will be affected severely by this underperformance (i.e., negative return) of IPOs in the long-term. As such, a common investment' goal of investors that is to optimize returns (regardless of period of investment) will not be achieved. This negative consequence is also seen not consistent to one of the main aims of the Malaysia's Economic Transformation Programme aspired in National Key Economics Areas (NKEA), that is, to produce a stable and high income nation. Is the change on period of investment from long-term to short term an appropriate alternative for a better security on the desirable income to investors? This study suggests that the goal to secure desirable quick return or income in the IPO aftermarket is also a challenge to investors as the observation of this study shows that there is a declining pattern on the positive mean initial aftermarket return (i.e., in the first trading day), particularly in Malaysian IPO market, starting from 1980s to the recent year of 2016.

This declining pattern could be observed clearly in studies of Malaysian IPOs. Using 21 IPOs issued from 1978 to 1983, Dawson (1987) reported the initial return of 166.67 percent. Mohamad, Nassir, & Ariff (1994), using 65 IPOs from year 1975 to 1990, found 135 percent. Chronologically, Leong, Vos, & Tourani-Rad (1999) found an initial return of 107 percent using 411 IPOs issued from 1992 to 1998. Corhay, Teo, & Tourani Rad (2002) found the initial return of 47 percent on 258 IPOs from 1992 to 1996. Later, using 295 IPOs from 2000 to 2006 Banerjee, Dai, & Shrestha (2011) found the initial return of 31.18 percent. In the recent sample period from 2009 to 2014 for 104 IPOs, Yong (2016) reported that the mean initial returns lowered to only 15.93 percent. If the declining patterns persist, the investors can expect to produce even a lower return or income of their investment on Malaysian IPOs in coming years. This expectation should lead investors to wisely choose the right firm for them to participate and invest in so that they will be able to secure desirable return both in the initial aftermarket and long-term aftermarket. The danger that the investors have, if they participate in losing IPOs, motivates this study to examine possible determinants which influence IPO performance both in the initial and long-term aftermarket.

In achieving for its objective, this study attempts to concentrate on one potential determinant of IPO performance that has not received as much as attention as other well studied determinants (e.g., firm's size, market condition, demand and offer size). In specific, this study proposes "growth opportunity of IPO firms" as its main explanatory factor to IPO performance. The growth opportunities are defined as the potential of issuing firms to favorably survive in periods after their listing in stock market. It is measured by the allocation of proceeds, received during the issuance of newly issued

shares, to firm's activities which are expected to help sustainability of the firm (Abdul-Rahim & Che-Embi, 2013; Tajuddin, Abdullah, & Taufil-Mohd, 2016). Chung, Li, & Yu (2005) posits that IPO firms which consider a high amount of proceeds for growth purposes will be more likely to attract investors to demand for their shares. The highly demanded shares will help the firms to increase price of their shares and thus, produces good aftermarket performance. As supported by Abdul-Rahim & Che-Embi (2013), an IPO firm will usually rely on proceeds allocated for growth activities as a signal to the firm's ability to better perform in the future. The supposition is supported empirically in Amor & Kooli (2017) which finds that IPO firms with a higher percentage of proceeds allocated for investment activities will have lower chance to underperform in the long run. That is, a positive IPO performance of the firms should not only be expected to occur in the initial aftermarket but, similarly, during a long-term.

As mentioned earlier in this study, studies on growth opportunities of a firm and its influence on IPO performance are limited. The limited evidences are found in e.g., Chung et al. (2005) which examined the influence of growth opportunities but only on IPO initial returns. Meanwhile Chou, Gombola, & Liu (2009) examined the influence of growth firms only on the long-term aftermarket performance. Reuer & Tong (2010) investigated on the influence of growth opportunities on the equities alliance decision. The recent one by Tajuddin et al. (2016) investigated the influence of growth opportunities but focuses on its influence to subscription ratio of IPOs issued in the Malaysian market. The lack of attention given to growth opportunities is somehow paradoxical referring to the fact that the investors, particularly long-term investors, are more interested on a firm's affordability to survive over the long-term than how it operates daily to produce short term earnings. Therefore, it is the motivation of this study to investigate the influence of growth opportunities of IPO firms on both immediate aftermarket and long-term aftermarket performance. The remaining sections of this paper continue with Section 2 as literature review, Section 3 describes data and methodology, Section 4 discusses the preliminary and empirical results and Section 5 concludes the findings.

## 2. Literature review

Based on Tajuddin et al. (2016), firms which go public are motivated mainly by their financial needs. The financial needs can be in the forms of liquidity purposes, debts obligations, capital expenditure and R&D. Once a firm decided to go public for the first time, the firm is required to disclose in the prospectus all activities which and avenue where the proceeds from the sale of its shares (i.e., IPOs) are expected to be channeled to, as required by the Securities Commissions (Amor & Kooli, 2017). This study proposes that the "intended use of proceeds" from IPOs should transmit information about the issuers which later will determine the investors' sentiment and decision to invest. Eventually, the investor's sentiment will influence performance of the IPOs in the aftermarket.

As earlier mentioned, the proceeds from IPOs could be allocated to several activities such as growth activities comprising of working capital, R&D and capital expenditure (Abdul-Rahim & Che-Embi, 2013; Andriansyah & Messinis, 2016) and buying secondary shares (Andriansyah & Messinis, 2016) (*GROWTH*), investment activities which includes future acquisitions, R&D and capital expenditures (*INVEST*), liabilities activities such as the repayment of debts (*DEBT*), marketing activities including sales and advertisement (*SALES*) and; for general corporate purposes (*GENERAL*) (Amor & Kooli, 2017).

Growth opportunities can be defined as the distribution of proceeds from IPOs to activities which can help sustainability of a firm (Abdul-Rahim & Che-Embi, 2013; Tajuddin et al., 2016). In addition, Subrahmanyam & Titman (1999) defines growth financing as the utilization of IPO proceeds for the acquisition of fixed assets. The study puts forward a suggestion that the acquisition of new machines and equipment are likely to lift up productions of a firm such that would expand its market share. Andriansyah & Messinis (2016), from a different view, also claim that the intended use of proceeds to fixed assets will result in positive impacts that are skewed toward improving post-IPO performance of a firm. Acknowledging both definitions in Subrahmanyam & Titman (1999) and Andriansyah & Messinis (2016), Tajuddin et al. (2016) summarizes that the growth opportunities that an IPO firm could offer should be related to its ability in similarly; increasing its market share and shares' price stably in the future. Therefore, growth opportunities of a firm should be one of the important criteria to be considered by a newly listed firm in order to be viewed attractive to both investors and analysts.

Following the definitions offered in previous studies, this study equally posits that growth opportunity is an ability of an IPO firm to enlarge its position in a market by relying on the proceeds gained from IPOs. In other words, growth opportunities that an IPO firm could offer should rely on activities predicted to help it to continuously grow in the future. The activities should be coming from proceeds distributed to *GROWTH* and/or *INVEST* (Abdul-Rahim & Che-Embi, 2013; Andriansyah & Messinis, 2016). This study posits that the higher the amounts of IPO proceeds are allocated to *GROWTH* and *INVEST* activities, the higher is the growth opportunity of IPO firms. Thus, a positive sentiment from investors (which will lead to a higher demand on IPOs of the firm) and a favorable performance of IPO firm are expected. As supported by Amor & Kooli (2017), the market will act favorably when an IPO firm state 'investment' as its main avenue where the proceeds will be headed to. The favorable action from the market will later be translated into positive initial aftermarket performance of the firm. At the same time, the study proposes that firms which allocate a high percentage of proceeds for investment activities will have lower chance to underperform in the long run. That is, a positive IPO performance should not only be expected to occur in the initial aftermarket but similarly during a long-term.

Theoretically, the influence of growth opportunities of firms can be explained by the proposition built in agency theory. From the perspective of this study, the agency conflict occurs when the issuing firms (manager) decided to allocate a large amount of proceeds to activities (e.g., *DEBT*) which are not seen favorable to investors (principal). This could be due to the perception of investors that the distribution of proceeds mostly to debts repayment may not grow the issuing firms as bigger as if the proceeds are prioritized to *GROWTH*. In order to minimize the agency conflict between issuing firm and investors, issuing firms are expected to channel a higher amount of proceeds to growth and investment activities. The influence of growth opportunities of firms can also be explained by signaling theory. As proposed by Ross (1977), signaling theory is derived from information asymmetry hypothesis in which the level of information held by managers of firms and shareholder is not similar. The information asymmetry causes a difficulty to IPO issuers in transmitting their true quality and abilities to potential investors. Therefore, to reduce the information asymmetry, this study proposes that the information on the "use of proceeds" can be treated as a signaling tool to transmit information about good future value as well as quality of issuing firms.

Empirically, Abdul-Rahim & Che-Embi (2013) and Chung et al. (2005) report that growth prospect of a firm influence the investors' willingness to buy an IPO. This behavior implies that the "intended use of proceeds" for growth activities is a significant tool to increase demand of IPOs. Although the two studies (i.e., Abdul-Rahim & Che-Embi, 2013; Chung et al., 2005) have not tested directly the influence of growth opportunities on IPO performance, the studies suggest that based on their finding, growth opportunities could signal positive performance of an IPO firm as performance of an IPO firm in the initial aftermarket is normally related positively to the subscription ratio. That is, the higher the subscription ratio (or demand of an IPO), the better is IPO performance (Andriansyah & Messinis, 2016).

In other instances, some other studies (Amor & Kooli, 2017; Autore, Bray, & Peterson, 2009; Leone, Rock, & Vasvari, 2007) find a negative impact on a firm's performance if the firm state that the use of IPO proceeds is mainly to repay the firm's debt. Based on their finding, the firms which focus only on the debt repayment will be less likely to survive in the market implying that a firm's survival has a relationship to the use of proceeds. In summary, this study proposes that in a way the "intended use of proceeds" gives signal to the firm's future performance. As added by Amor & Kooli (2017), in order to reduce information asymmetry surrounded in an IPO firm, the investors should consider activities which the IPO proceeds will go to as valuable information to estimate future performance and survival of IPO firms. This supposition is evident similarly in Jeanneret (2005) and Walker & Yost (2008) which finds that firms will perform better in the long-term (i.e., three years after listing) if they state that the use of IPO proceeds will be mainly for capital restructuring and investment. That is, the results indicate that the use of proceeds for investment purposes is a signal (or a valuable information) and a guarantee to a good IPO performance in the future.

While some previous studies document a positive relationship between growth opportunities and IPO performance, Tajuddin et al. (2016) finds a negative significant relationship between growth opportunities and subscription ratio of IPOs. The finding implies that mostly, firms with high growth opportunity are large, well established and less risky. Following the rule of thumbs on investment, low risk will go parallel to low return. The low risk will later produce lower initial aftermarket returns which lead to lower demand from profit-oriented investors, particularly. Thus, instead of producing a positive relationship, growth opportunities can also be negatively associated to IPO performance following the justification that is skewed to the level of risk of the issuer, not its reputation or ability to sustain longer in the market. In a nutshell, though there are past studies (e.g., Tajuddin et al., 2016) which document a negative relationship between growth opportunities and performance of the IPOs, majority of other past studies are able to offer evidences on its positive influence on IPO performance in the short term and long-term aftermarket, separately.

### 3. Methodology

The sample used in this study comprises of all IPOs listed in Main Market and ACE Market of Bursa Malaysia from January 2000 to December 2014. In order to let the market recover from the 1997/1998 global financial crisis, this study starts its sample period of January 2000. The purpose of ending the sample period in December 2014 is because that is the latest year this study could cover to examine the three-year returns. From January 2000 to December 2014, a total of 527 IPOs have been issued and these

527 IPOs will first go through some filtering processes to get into final sample. This study excluded all rare types IPOs (e.g., tender offer, warrants, restricted public issue), financial, insurance and REITs firms, outlier and IPO with missing values. The final sample after excluded all the IPOs mentioned is 403 IPOs. The exclusion of financial, insurance and REITs firm is due to the difference in format in their financial statements. The data used in this study are sourced from firm's prospectus, website of Bursa Malaysia, Thomson Reuters Eikon Database and Bloomberg.

### 3.1. Definition of measurement

#### 3.1.1. Dependent variable

The performance of IPOs is the dependent variable of this study, which is estimated based on two periods; initial aftermarket ( $R_{ia}$ ) and long-term aftermarket ( $R_{Long}$ ).

##### Initial aftermarket return

The performance of IPOs in initial aftermarket is measured on the first trading day (Abraham, Harris, & Auerbach, 2016). This study measured initial aftermarket return ( $R_{ia}$ ) as the percentage change in price on the first trading day (Anderloni & Tanda, 2017; Mohd Rashid, Abdul-Rahim, & Yong, 2014). The measurement is as in Equation (1):

$$R_{ia} = \frac{P_{close} - P_{offer}}{P_{offer}} \times 100 \quad (1)$$

Where,  $P_{close}$  - closing price of first trading day of  $i$ th firm;  $P_{offer}$  - offer price of  $i$ th firm.

##### Long-term aftermarket return

This study defines long-term return as the percentage change in price on the first three years of trading (Yong, Yatim, & Sopian, 2011). The measurement of  $R_{Long}$  is as follows:

$$R_{Long} = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100 \quad (2)$$

Where,  $R_{Long}$  - long-term aftermarket return;  $P_t$  - price at time  $t$ ;  $P_{t-1}$  - price at  $t - 1$ . More precisely, this study first calculated the first year return (the difference in price from the first closing day to the closing price of 365<sup>th</sup> day of trading), second year return (the difference in price from the closing price of 365<sup>th</sup> day to the closing price of 730<sup>th</sup> trading day) and third year return (the difference in price from the closing price of 730<sup>th</sup> trading day to the closing price of 1095<sup>th</sup> trading day). To sum up, this study calculates the average annual return for three years using the total of three years returns divided by three.

### 3.1.2. Independent variables

The performance of IPOs ( $R_{ia}$  and  $R_{Long}$ ) is examined against six explanatory factors which are growth opportunity of a firm ( $GOPP$ ), demand of IPOs ( $DEMAND$ ), offer size ( $OFFSIZE$ ), underwriter reputation ( $UNDRANK$ ), firm size ( $COSIZE$ ) and market return ( $MKTRETURN$ ). The main explanatory variable of this study is  $GOPP$ .  $GOPP$  is expected to be an effective signalling tool which can help investors to determine performance of IPOs in the aftermarket. The  $GOPP$  also can be used to minimize the agency cost between issuing firms and investors. The  $GOPP$  of firms is defined as the potential of firms to better survive and traded in stock market for long-period. This study hypothesizes that  $GOPP$  positively influence performance of IPOs in  $R_{ia}$  and  $R_{Long}$ . This study measured  $GOPP$  as the total allocation of proceeds to growth and invest activities divided by the total proceeds from the issuance of newly issued shares (Abdul-Rahim & Che-Embi, 2013; Tajuddin et al., 2016).

The other explanatory variable in this study is demand of IPOs ( $DEMAND$ ).  $DEMAND$  is measured as the number of times that IPO is demanded by investors (Tajuddin et al., 2016; Wan Hussin, 2005). As proposed by Che-Yahya, Mohd Rashid, Rahman, & Mohd Rashid (2017), higher subscription from investors on IPOs are more likely to create positive initial aftermarket return. Che-Yahya, Abdul-Rahim, & Yong (2013) adds that the investors of high subscription IPOs are more likely to hold the shares for a long period of times as they feel confident and optimistic about the quality of IPO issuers. The longer the investors holding the shares, the higher will be the return investors could secure in the aftermarket. Thus, positive relationships are expected on  $R_{ia}$  and  $R_{Long}$ .

Offer size ( $OFFSIZE$ ) is also one of the other explanatory variables in this study, that is measured by a natural log of number of shares issued multiplied by offer price (Abdul-Rahim, Che-Yahya, & Mohd-Rashid, 2015; Che-Yahya, Abdul-Rahim, & Mohd Rashid, 2018; Song, Tan, & Yi, 2014). An inverse relationship is expected between  $OFFSIZE$  and  $R_{ia}$  and  $R_{Long}$ . Normally, larger firms with a higher number of  $OFFSIZE$  indicate that the firms are good quality and stable firms. Abdul-Rahim & Yong (2010) proposed that firms with larger  $OFFSIZE$  are low risk firms. The low risk firms will contribute to lower return thus explaining the expected inverse relationship between  $OFFSIZE$  and  $R_{ia}$  and  $R_{Long}$ .

Next is underwriter reputation ( $UNDRANK$ ). To examine the underwriter reputation, this study used percentage of the total shares underwritten by underwriter (investment banks) to the total underwriter amount of shares underwritten by all underwriters in a listing year (Che-Yahya et al., 2018; Sheela, Sanjay, & Fairuz Ahmad, 2017). A negative relationship is expected between  $UNDRANK$  and  $R_{ia}$  and  $R_{Long}$ . The IPO issuers which engaged with reputable underwriter usually are good firms.

Firm size ( $COSIZE$ ) is measured using natural log of total assets of IPO issuers (Mousa, 2009; Rath, 2008). This study expects a negative relationship between  $COSIZE$  and  $R_{ia}$  and  $R_{Long}$ . Rath (2008) documents an inverse relationship. This could be due to the fundamental of investment in which high risk will lead to high return. Usually, firms with high amount of total assets are stable and less risky firms.

Lastly is market return ( $MKTRETURN$ ). This study proposes that the investors which enter the IPO market when the market is bullish are more likely to secure good returns in



the aftermarket. A positive relationship between  $MKTRETURN$  and  $R_{ia}$  and  $R_{Long}$ , therefore, is expected. The measurement of  $MKTRETURN$  is the percentage change in FTSE Bursa Malaysia KLCI index on the listing day to the FTSE Bursa Malaysia KLCI index a year before listing (Chong & Puah, 2009; Mohamad et al., 1994).

The following multiple regression models are employed in examining the influence of  $GOPP$  (while controlling for effect of other explanatory variables) on  $R_{ia}$  and  $R_{Long}$ .

$$R_{ia} = \alpha + \beta_1 GOPP_i + \beta_2 DEMAND_i + \beta_3 OFFSIZE_i + \beta_4 UNDRANK_i + \beta_5 COSIZE_i + \beta_6 MKTRETURN_i + \epsilon_i \quad (3)$$

$$R_{Long} = \alpha + \beta_1 GOPP_i + \beta_2 DEMAND_i + \beta_3 OFFSIZE_i + \beta_4 UNDRANK_i + \beta_5 COSIZE_i + \beta_6 MKTRETURN_i + \epsilon_i \quad (4)$$

Where,  $\alpha$  is the constant term;  $\beta$  is the estimate coefficient or loading of the respective factor;  $R_{ia}$  is the initial return;  $R_{Long}$  is long-term aftermarket return;  $GOPP$  is growth opportunities of firms;  $DEMAND$  is demand of IPOs;  $OFFSIZE$  is offering size;  $UNDRANK$  is underwriter reputation;  $COSIZE$  is firms size;  $MKTRETURN$  is market condition.

#### 4. Empirical results and discussion

Table 1 provides the descriptive statistic of the variables in the final sample of 403 IPOs from January 2000 to December 2014. The mean initial return is 19.34 percent ranging from a minimum of -70.70 percent to maximum 175 percent. Meanwhile, the average long-term return is -31.87. The range is from -97.35 percent (minimum) to 435.89 percent (maximum).

TABLE 1. DESCRIPTIVE STATISTIC OF SAMPLE IPOs (2000-2014)

VARIABLES	MEAN	MEDIAN	MIN.	MAX.	STD. DEV
Initial return (%)	19.34	10.29	-70.70	175.00	39.43
Long-term return (%)	-31.87	-44.44	-97.53	435.89	60.35
Growth opportunities (%)	65.62	75.00	0.00	100.00	27.00
Subscription ratio (times)	27.35	13.34	-0.89	377.96	41.50
Offer size (RM, Millions)	185.00	22.95	2.40	12500.00	1040.00
Underwriter reputation (%)	8.58	3.20	0.00	53.00	11.30
Firm size (RM, Millions)	490.00	107.00	8.77	28000.00	2010.00
Market condition <sub>ia</sub> (%)	12.76	11.95	-41.24	96.96	18.54
Market condition <sub>Long</sub> (%)	8.86	9.21	-11.50	23.13	6.20

The results suggest that the average return has dropped over the long-term aftermarket which is consistent to the observation of this study on the negative long-term aftermarket return. Although negative average long-term aftermarket return is reported, there are investors who earned as high as 435.89 percent return suggesting that the longer the investors holding the shares, the higher the risk thus, leads to higher long-term aftermarket return. The main explanatory variable that is *GOPP* reported the mean value of 65.62 percent ranging from 0 to 100 percent. The mean value indicates that more than 65 percent of firms went for public listing with an objective of gaining funds for their future expansion. The remaining 34.38 percent probably went public for liabilities or general purposes. Those firms with 0 percent *GOPP* show that the firms went public were not for growth purposes but to fulfill the liquidity needs of existing shareholders (Table 1 and Table 2).

TABLE 2. CORRELATION MATRIX AMONG VARIABLE

VARIABLES	1	2	3	4	5	6	7	8	9
$R_{ia}$	1	-0.1810	0.0622	0.4551	-0.1724	0.0463	-0.0966	0.2655	-0.1612
$R_{Long}$		1	0.0563	-0.0960	0.1123	-0.0557	0.1054	-0.1097	0.0891
<i>GOPP</i>			1	0.0634	-0.1225	-0.1194	-0.2371	-0.0202	-0.0656
<i>DEMAND</i>				1	-0.2489	-0.0816	-0.2559	0.2000	0.0933
<i>OFFSIZE</i>					1	0.3035	<b>0.8594</b>	0.0643	-0.1663
<i>UNDRANK</i>						1	0.2890	0.0823	-0.1336
<i>COSIZE</i>							1	0.0841	-0.1805
$MKTRETURN_{ia}$								1	-0.2656
$MKTRETURN_{Long}$									1

The correlation among variables is reported in Table 2. This study follows the cut-off point set in Asteriou & Hall (2015) that is 0.9. As shown in Table 2, the correlations among variables are below the cut-off point, except for *OFFSIZE* and *COSIZE*. These two variables are highly correlated with the correlation value of 0.8594. To prove whether there is a multicollinearity issue between the variables, this study tested for variance inflation factor (VIF). The highest VIF of 8.07 in  $R_{ia}$  and 4.17 in  $R_{Long}$  indicates that the value is not exceed the cut-off point of 10 (Gross & Groß, 2003). Thus, there is no severe multicollinearity issue among variable used in this study.

#### 4.1. Main empirical result

The main focus of this study is on the influence of growth opportunity of a firm (*GOPP*) on performance of IPOs in initial aftermarket ( $R_{ia}$ ) and long-term aftermarket ( $R_{Long}$ ). The regression results of two models; Model A ( $R_{ia}$ ) and Model B ( $R_{Long}$ ) are presented in Table 3. In order to ensure the cleanness of data and reliable results, this study first conducted several diagnostic tests which consist of Jarque-Bera test for normality, white test for heterocedasticity, VIF test for multicollinearity issue, durbin watson for autocorrelation and Ramsey RESET test for model specifications.

As showed in Table 3, Model A and Model B reported an adjusted  $R^2$  of 26.26 percent and 3.10 percent respectively. The adjusted  $R^2$  reported in Model A and Model B indicates

that 26.26 percent and only 3.10 percent of variations in  $R_{ia}$  and  $R_{Long}$  are explained by variables used in this study. The remaining 73.74 percent in Model A and 96.90 percent in Model B are explained by other independent variables which are omitted from the regression models. The F-statistic of 24.86 and 3.14 for Model A and Model B, respectively indicates that the models are fit as the F-statistic are significant at 1 percent level. Both models are also free from autocorrelation, multicollinearity and misspecification issue. However, there is a heterocedasticity issue in Model A which has been corrected by Huber-white test.

TABLE 3. OLS REGRESSION RESULTS

VARIABLES	EXP. SIGN	MODEL A: $R_{ia}$		Model B: $R_{Long}$	
		COEFFICIENT	T-STATS	COEFFICIENT	T-STATS
<i>MAIN INDEPENDENT VARIABLE</i>					
<i>GOPP</i>	+ve	0.1089	1.8898*	0.2002	1.73137*
<i>OTHER INDEPENDENT VARIABLES</i>					
<i>DEMAND</i>	+ve	0.3886	7.5020***	-0.1145	-1.5456
<i>OFFSIZE</i>	-ve	-10.2047	-3.7619***	3.2199	0.7029
<i>UNDRANK</i>	+ve	0.3403	2.1949**	-0.4448	-1.6020
<i>COSIZE</i>	-ve	8.2785	2.6692***	4.3391	0.9248
<i>MKTRETURN</i>	+ve	0.3743	3.6193***	1.1633	2.364109**
R <sup>2</sup>		0.2736		0.0454	
Adjusted R <sup>2</sup>		0.2626		0.0310	
F-statistic		24.8638		3.1399	
p-value (F-stats)		0.0000		0.0051	
Durbin Watson		1.3935		1.8924	
<i>RAMSEY TEST</i>					
F-Test Statistic		1.5363		0.5270	
p-value		0.2165		0.4683	

Note: Sample size (N) = 403. \*\*\*, \*\* and \* indicate significant at 1%, 5% and 10% level, respectively.

As posited in earlier chapter of this study, the percentage of IPO proceeds allocated to growth and investment activities will attract investors to subscribe for the shares of the issuing firm. This study hypothesizes that *GOPP* should positively influence  $R_{ia}$  and  $R_{Long}$ . Abdul-Rahim & Che-Embi (2013) posits that a higher amount of IPO proceeds allocated to growth and investment activities should lead to higher aftermarket returns. This is due to a favourable reaction of investors who demanded enough for the shares issued by firms that concentrate their IPO proceeds to growth and investment activities (Table 3).

Based on the results presented in Table 3, it shows that *GOPP* is significantly and positively influence the  $R_{ia}$  and  $R_{Long}$  at 10 percent level. Although both models are significant at 10 percent level, Model B shows that the t-statistics of *GOPP* is slightly higher which supports the proposition of this study that *GOPP* is more influential over the long-term as the influence of higher proceeds allocation during IPOs can be noticed and realized usually in the long-term period. From the investors' point of view, when the firms allocate higher percentage of proceeds mainly to growth and investment activities, it portrays a clear mission of a firm to continuously grow in the future. Higher growth opportunities will help the firm to sustain longer in the aftermarket, hence attract

investors, especially those with long-term investment objective, to subscribe and demand for the firm's shares.

The findings of this study are also consistent to the theories used in this study (i.e., agency theory and signaling theory). This study proposed that the agency conflict between manager and shareholder can be minimized if the firms allocate higher percentage of proceeds to growth and investment activities. The finding in Table 3 supports the proposition forwarded in agency theory in which the investors will be actively participated in the trading of an IPO when the firm used most of its proceeds for growth purposes as higher proceeds allocation to growth and investment activities are expected to fulfill the investor's goal that is profit maximization hence, leads to positive significant relationship between *GOPP* and  $R_{ia}$  and  $R_{Long}$ . Further, the results of this study are also consistent to the explanation built in signalling theory whereby the information in the "use of proceeds" section of a firm's prospectus, specifically on the growth and investment activities transmit a good signal to potential investors i.e., on a potential favourable future performance of IPO firms. This signal seems to attract investors to demand for an IPO which cause higher  $R_{ia}$  and  $R_{Long}$ . The finding of this study on a positive significant relationship between *GOPP* and  $R_{ia}$  and  $R_{Long}$  proves that the effective use of *GOPP* as a signaling tool.

Apart from the the main explanatory variable that influence performance of IPOs, other explanatory variables used in this study also give significant influence on performance of IPOs. Model A shows that *DEMAND* and *MKTRETURN* are significant at 1 percent level. A bullish market will attract high number of optimistic investors to actively demand for IPOs. Meanwhile, *UNDRANK* and *COSIZE* which supposedly to have an inverse relationship produce a contradictory result. The result proves that *UNDRANK* and *COSIZE* are significantly positively influencing the  $R_{ia}$  at 1 percent and 5 percent level, respectively. The positive significant influence of *UNDRANK* and *COSIZE* suggest that firms which engage to reputable underwriter are able to convince investors to leave their money in the firms because the investors perceived the engagement as a good signal of quality of the firms. For *COSIZE*, investors are attracted to invest in IPO firms which have higher total asset due to their expectation that large firms are able to secure their performance even during tough times (e.g; economic downturn). Meanwhile, *OFFSIZE* is negatively and significantly related to  $R_{ia}$  that is consistent to its expectation. The result is also consistent to demand and supply theory forwarded in Abdul-Rahim & Che-Embi (2013) that larger *OFFSIZE* can easily fulfill the investors' order on a firm's shares during balloting stage. As for Model B, only *MKTRETURN* is significant in influencing  $R_{Long}$ . The result indicates that the investors entered IPO market when the market is bullish.

## 5. Conclusion and recommendations

This study examines the influence of growth opportunities of firms on initial aftermarket and long-term aftermarket performance. Using a sample of 403 IPOs listed on Main Market and ACE Market of Bursa Malaysia from the period of January 2000 to December 2014, this study proves a significant influence of *GOPP* on  $R_{ia}$  and  $R_{Long}$ . Meaning that, growth opportunity of issuing firms does matter in determining the initial and long-term aftermarket performance. In other words, the investors rely on information on the "use of proceeds" before they make decision to leave their money in IPO firms.

The investigation on initial aftermarket return also shows that *DEMAND*, *UNDRANK*, *COSIZE* and *MKTRETURN* are the other significant determinants that influence  $R_{ia}$ , positively. *OFFSIZE* is the only determinant that influences  $R_{ia}$  negatively. Meanwhile, the examination on long-term aftermarket return reveals that only *MKTRETURN* significantly influences  $R_{Long}$ , positively. The results suggest that the investors will first observe the market whether it is a suitable time for them to enter the market and demand for IPOs.

Despite the empirical evidence provided in this study mainly on *GOPP*, future studies are still needed to explore other possible factors which may increase the explanatory ability of this study (referring to lower adjusted  $R^2$  produced in this study), especially in long-term aftermarket. Furthermore, this study defined *GOPP* as growth prospects which are based on the allocation of IPO proceeds to only growth and investment activities. Based on the information in the "use of proceeds" section, there are other possible activities which may also increase growth opportunities of firms as such marketing activities. Future studies may include all activities which can positively influence the capability of IPO firms to grow over the long-term.

Last but not least, the findings of this study are expected to help investors to make a thorough decision before investing their money in any IPO firm so that they could secure good returns, regardless of their investment horizon. Similarly, by allocating most if its proceeds to growth and investment activities, an IPO firm will be able to produce favourable performance in both initial and long-term aftermarkets. Meanwhile, regulatory bodies (e.g., Bursa Malaysia) may consider a minimum percentage of proceeds allocated to growth and investment activities as a new requirement for firms seeking for public listing. The possible imposition of the requirement should not only benefit the firms as it may attract a larger number of investors to demand for the shares but equally to the investors as they can expect desirable returns from their investment in IPO market.

## References

- Abdul-Rahim, R., Che-Yahya, N., & Mohd-Rashid, R. (2015). *A two-dimensional approach in examining IPO behaviour in the immediate aftermarket: Malaysian Evidence* (August 19, 2015). Available at SSRN: <https://ssrn.com/abstract=2647168>
- Abdul-Rahim, R., & Yong, O. (2010). Initial returns of Malaysian IPOs and Shari'a-compliant status. *Journal of Islamic Accounting and Business Research*, 1(1), 60-74.
- Abdul-Rahim, R., & Che-Embi, N. A. (2013). Initial returns of Shariah versus Non-Shariah IPOs: Are there any differences? *Jurnal Pengurusan*, 39, 37-50.
- Abraham, R., Harris, J., & Auerbach, J. (2016). IPO performance at announcement and in the aftermarket, *Journal of Economic Studies*, 43(4), 574-586.
- Aggarwal, R., Leal, R., & Hernandez, L. (1993). The aftermarket performance of initial public offerings in Latin America. *Financial management*, 2(1). 42-53.
- Amor, S. B., & Kooli, M. (2017). Intended use of proceeds and post-IPO performance. *The Quarterly Review of Economics and Finance*, 65, 168-181.
- Anderloni, L., & Tanda, A. (2017). Green energy companies: Stock performance and IPO returns. *Research in International Business and Finance*, 39(Part A), 546-552.
- Andriansyah, A., & Messinis, G. (2016). Intended use of IPO proceeds and firm performance: A quantile regression approach. *Pacific-Basin Finance Journal*, 36, 14-30.

- Asteriou, D., & Hall, S. G. (2015). *Applied Econometrics*: Palgrave Macmillan.
- Autore, D. M., Bray, D. E., & Peterson, D. R. (2009). Intended use of proceeds and the long-run performance of seasoned equity issuers. *Journal of Corporate Finance*, 15(3), 358-367.
- Banerjee, S., Dai, L., & Shrestha, K. (2011). Cross-country IPOs: What explains differences in underpricing? *Journal of Corporate Finance*, 17(5), 1289-1305.
- Che-Yahya, N., & Abdul-Rahim, R. (2014). IPO voluntary lockups and flipping activity of Malaysian IPOs. *Journal of Finance and Financial Services*, 1, 133-147.
- Che-Yahya, N., Abdul-Rahim, R., & Mohd Rashid, R. (2018). The influence of "offer for sale" by existing shareholders on investors' reaction in the IPO immediate aftermarket. *Business and Economic Horizons*, 14(4), 818-828.
- Che-Yahya, N., Abdul-Rahim, R., & Yong, O. (2013). Influence of lockup provision on flipping activity of Malaysian IPOs. *Economics and Finance Review*, 3(4), 11-24.
- Che-Yahya, N., Mohd Rashid, A. H., A. Rahman, I., & Mohd Rashid, S. N. (2017). The impact of "offer for sale" by existing shareholders in an IPO on initial aftermarket performance. *Asian Journal of Finance and Accounting*, 9(2), 254-269.
- Chong, F., & Pua, C.-H. (2009). The Malaysian IPO market: Volume, initial returns and economic conditions. *International Review of Business Research Papers*, 5(5), 182-192.
- Chou, D.-W., Gombola, M., & Liu, F.-Y. (2009). Long-run underperformance following private equity placements: The role of growth opportunities. *The Quarterly Review of Economics and Finance*, 49(3), 1113-1128.
- Chung, K. H., Li, M., & Yu, L. (2005). Assets in place, growth opportunities, and IPO returns. *Financial Management (Wiley-Blackwell)*, 34(3), 65-88.
- Corhay, A., Teo, S., & Tourani Rad, A. (2002). The long run performance of Malaysian initial public offerings (IPO): Value and growth effects. *Managerial Finance*, 28(2), 52-65.
- Dawson, S. M. (1987). Secondary stock market performance of initial public offers, Hong Kong, Singapore and Malaysia: 1978-1984. *Journal of Business Finance and Accounting*, 14(1), 65-76.
- Espenlaub, S., Khurshed, A., & Mohamed, A. (2012). IPO survival in a reputational market. *Journal of Business Finance and Accounting*, 39(3-4), 427-463.
- Goergen, M., Khurshed, A., & Mudambi, R. (2007). The long-run performance of UK IPOs: can it be predicted? *Managerial Finance*, 33(6), 401-419.
- Gross, J., & Groß, J. (2003). *Linear regression*: Springer Berlin Heidelberg.
- Jeanneret, P. (2005). Use of the proceeds and long-term performance of French SEO firms. *European Financial Management*, 11(1), 99-122.
- Leone, A. J., Rock, S., & Vasvari, F. P. (2007). Disclosure of intended use of proceeds and underpricing in initial public offerings. *Journal of Accounting Research*, 45(1), 111-153.
- Leong, K., Vos, E., & Tourani-Rad, A. (1999). *Malaysia IPOs performance pre-and post Asian Crisis*. Paper presented at the AMB AMRO International Conference on Initial Public Offerings, Amsterdam, 2-4 July.
- Levis, M. (1993). The long-run performance of initial public offerings - The UK experience 1980-1988. *Financial management*, 22(1), 28-41.
- Mohamad, S., Nassir, A. M., & Ariff, M. (1994). Analysis of underpricing in the Malaysian new issues market during 1975-1990: Are new issues excessively underpriced. *Capital Markets Review*, 2(2), 17-27.

- Mohd Rashid, R., Abdul-Rahim, R., & Yong, O. (2014). The influence of lock-up provisions on IPO initial returns: Evidence from an emerging market. *Economic Systems*, 38(4), 487-501.
- Mousa, F.-T. (2009). *When do slack resources impact new venture success?* (3382116 Ph.D.), Washington State University, Ann Arbor. Retrieved April 12, 2019, from <http://search.proquest.com>
- Rath, S. (2008). *The survival of initial public offerings in Australia*. Paper presented at the Oxford Business & Economics Conference Program, UK.
- Reuer, J. J., & Tong, T. W. (2010). Discovering valuable growth opportunities: An analysis of equity alliances with IPO firms. *Organization Science*, 21(1), 202-215.
- Ritter, J. R. (1991). The long-run performance of initial public offerings. *The Journal of Finance*, 46(1), 3-27.
- Ross, S. A. (1977). The determination of financial structure: the incentive-signalling approach. *The Bell Journal of Economics*, 8(1), 23-40.
- Sheela, S., Sanjay, G., & Fairuz Ahmad, Z. (2017). Impact of investors' protection, transparency level and legal origin on initial public offering (IPO) initial returns. *Managerial Finance*, 43(7), 738-760.
- Song, S., Tan, J., & Yi, Y. (2014). IPO initial returns in China: Underpricing or overvaluation? *China Journal of Accounting Research*, 7(1), 31-49.
- Subrahmanyam, A., & Titman, S. (1999). The going-public decision and the development of financial markets. *The Journal of Finance*, 54(3), 1045-1082.
- Tajuddin, A. H., Abdullah, N. A. H., & Taufil-Mohd, K. N. (2016). Does growth opportunity matter in explaining the oversubscription phenomena of Malaysian IPO? *Procedia - Social and Behavioral Sciences*, 219(Supplement C), 748-754.
- Walker, M. D., & Yost, K. (2008). Seasoned equity offerings: What firms say, do, and how the market reacts. *Journal of Corporate Finance*, 14(4), 376-386.
- Wan Hussin, W. N. (2005). The effects of owners' participation and lockup on IPO underpricing in Malaysia. *Asian Academy of Management Journal*, 1(10), 19-36.
- Yong, O. (2016). Cheap IPO: Does it matter? *The Journal of Developing Areas*, 50(5), 453-460.
- Yong, O., Yatim, P., & Sapian, R. Z. Z. (2011). Initial and long-run performance of new issues on the Malaysian stock market. *Corporate Finance Review*, 5(6), 28-41.
- Zarafat, H., & Vejzagic, M. (2014). The long-term performance of initial public offerings: Evidence from Bursa Malaysia. *Journal of Applied Economics and Business Research*, 4(1), 43-51

## Appendix

TABLE A1. RESULT OF THE HAUSMAN TEST, MODEL 1

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
<i>migr</i>	0.0732	0.0563	0.0169	0.0318
<i>hhsz</i>	-0.0865	-0.0607	-0.0257	0.0129
<i>rdepend</i>	-0.0001	-0.0008	0.0008	0.0003
<i>rfemale</i>	-0.0619	-0.2741	0.2122	0.1153
<i>gen_head</i>	-0.0645	-0.0852	0.0207	0.0889
<i>edu_head</i>	0.0289	0.0706	-0.0417	0.0077
<i>age_head</i>	0.0184	0.0507	-0.0323	0.0132
<i>age_head2</i>	-0.0001	-0.0004	0.0003	0.0001

b = consistent under Ho and Ha; obtained from xtreg  
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg  
 Test: Ho: difference in coefficients not systematic  
 $\chi^2(8) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 53.11$   
 Prob> $\chi^2 = 0.0000$

TABLE A2. RESULT OF THE HAUSMAN TEST, MODEL 2'

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
<i>ln(remit2*)</i>	0.0443	0.0609	-0.0166	0.0072
<i>ln(remit1*)</i>	0.2519	0.2766	-0.0247	0.0299
<i>I[remit2 = 0]</i>	0.2459	0.3234	-0.0775	0.0607
<i>I[remit1 = 0]</i>	2.0847	2.3035	-0.2188	0.2844
<i>hhsz</i>	-0.0793	-0.0536	-0.0257	0.0121
<i>rdepend</i>	-0.0003	-0.0012	0.0009	0.0003
<i>rfemale</i>	-0.0865	-0.2809	0.1944	0.1127
<i>gen_head</i>	-0.0503	-0.0753	0.0250	0.0869
<i>edu_head</i>	0.0306	0.0666	-0.0360	0.0075
<i>age_head</i>	0.0244	0.0450	-0.0207	0.0129
<i>age_head2</i>	-0.0002	-0.0003	0.0002	0.0001

b = consistent under Ho and Ha; obtained from xtreg  
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg  
 Test: Ho: difference in coefficients not systematic  
 $\chi^2(10) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 48.26$   
 Prob> $\chi^2 = 0.0000$



TABLE A3. RESULT OF THE HAUSMAN TEST, MODEL 3'

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
<i>migr</i>	-0.2584	-0.6453	0.3869	0.4460
<i>hhsiz</i>	0.6861	0.5888	0.0973	0.1793
<i>rdepend</i>	-0.0007	0.0045	-0.0053	0.0040
<i>rfemale</i>	0.5987	0.3385	0.2602	1.5053
<i>gen_head</i>	-0.3745	0.0800	-0.4544	1.0158
<i>edu_head</i>	-0.2126	-0.4279	0.2153	0.0829
<i>age_head</i>	-0.9772	-0.2806	-0.6967	0.2940
<i>age_head2</i>	0.0076	0.0020	0.0056	0.0027

b = consistent under Ho and Ha; obtained from xtlogit  
 B = inconsistent under Ha, efficient under Ho; obtained from xtlogit  
 Test: Ho: difference in coefficients not systematic  
 $\chi^2(8) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 22.68$   
 Prob> $\chi^2 = 0.0038$

TABLE A4. RESULT OF THE HAUSMAN TEST, MODEL 4'

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
<i>ln(remit2*)</i>	-0.3832	-0.5904	0.2072	0.1172
<i>ln(remit1*)</i>	1.8288	-0.5009	2.3297	540.6508
<i>I[remit2 = 0]</i>	-2.3266	-3.6305	1.3039	0.8321
<i>hhsiz</i>	0.6501	0.5437	0.1064	0.1860
<i>rdepend</i>	0.0003	0.0065	-0.0062	0.0041
<i>rfemale</i>	0.6046	0.3203	0.2844	1.5654
<i>gen_head</i>	0.0563	-0.0302	0.0865	1.0594
<i>edu_head</i>	-0.1963	-0.3827	0.1864	0.0826
<i>age_head</i>	-0.9100	-0.2395	-0.6705	0.2894
<i>age_head2</i>	0.0070	0.0018	0.0053	0.0026

b = consistent under Ho and Ha; obtained from xtlogit  
 B = inconsistent under Ha, efficient under Ho; obtained from xtlogit  
 Test: Ho: difference in coefficients not systematic  
 $\chi^2(8) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 18.20$   
 Prob> $\chi^2 = 0.0198$