AN EMPIRICAL INVESTIGATION OF INITIAL PUBLIC OFFERINGS: EVIDENCE FROM *SHARIAH*-COMPLIANT COMPANIES AND NON *SHARIAH*-COMPLIANT COMPANIES LISTED ON THE MALAYSIAN STOCK EXCHANGE

By

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(12B3003)

A thesis submitted in partial fulfillment

of the requirements for the degree of

Doctor of Economics

in the Graduate School of

Oita University

Major in PhD in Economics

March 2015

Thesis Supervisor: Professor Kiyotaka Uzaki

DECLARATION

I, Nashirah Binti Abu Bakar, do solemnly declare that, expect for references to other people's work, which I have duly acknowledged, this study is a result of my own research initiative and that I have neither presented some nor whole part of it for another degree elsewhere.

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ACKNOWLEDGEMENT

I would like to offer my sincere gratitude and appreciation to many people who made this thesis possible. Special thanks to my supervisor, Professor Kiyotaka Uzaki for his advice, diligence, perseverance, and faithfulness in helping me through this PhD study. I am highly indebted to my vice supervisor, Professor Satoru Ogasawara and Professor Kim Jingyu, who provided the guidance and encouragement during the last stage of this thesis.

My husband Mohd. Sofian bin Mohammad Rosbi has been my research assistant throughout my PhD study. Without his support and understanding, this thesis would not be reality. Special thanks to my children Muhammad Umar Luqman, Nur Zulaikha Batrisyia, and Nur Damia Safiyah, who have shared all the laughs and tears during my PhD journey.

I dedicate this thesis for my late father, who could not see the end of my PhD study, but had set an example of hard work and been a wonderful and blessed inspiration for me. Thanks to my mother, for her prayers, and to my brothers and sisters for their encouragement and support.

I extend my sincere thanks to all staff at Graduate School of Economics, Faculty of Economics, Oita University for their kindly help.

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ABSTRACT

This dissertation investigates the performance of Initial Public Offerings (IPOs) for *shariah*-compliant and non *shariah*-compliant companies listed on the Malaysian Stock Exchange (MSE). Since the MSE established *shariah* board in 1997, no prior academic work has investigated the performance of IPOs for short- and long-term into *shariah*-complaint companies and non *shariah*-compliant companies. The main reason for the establishment of the *shariah* board is demand and awareness from Muslim investors to participant in Islamic investment. This study tries to fill this gap by examining short- and long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies in the Malaysian market.

This first study looks at the short-term performance of IPO for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE from 2000–2011. This study investigates the relationship between underpricing and determinant factors by looking at the 419 *shariah*-compliant companies and 51 non *shariah*-compliant companies. Underpricing refers to the initial return that investors earn from buying IPO shares at the offer price and then sell them at the end of the listing day (1-day trading) at market price. The determinant factors that were measured are as follows: offer price, offer size, company age, oversubscription, risk factor, underwriter reputation, market type, industry type, economic condition, return on equity, and shareholder analysis. First, the results show that the average degree of IPO underpricing for *shariah*-compliant companies was 28.94 % tend to be slightly higher than for non *shariah*-compliant companies at 27.18 %. Second, this study found that oversubscription, risk factors, and economic condition variables are statistically significant for the *shariah*-compliant companies. While, the results for non *shariah*-compliant companies show that oversubscription, underwriter reputation, market type, and technology industry variables are statistically significant. Finally, the results of the shareholder analysis

were found to be insignificant effect on the average degree of IPO underpricing for the *shariah*-compliant and non *shariah*-compliant companies.

The second study is looked at three-year performance (long-term) of 74 IPOs for *shariah*-compliant companies and 4 IPOs for non *shariah*-compliant companies from 2006–2010. Long-term performance in this dissertation is defined as the cumulative abnormal return (CAR) for investors who buy an IPO at day two (2) and hold their IPO shares up to the three-year listing anniversary. Evidence from most studies in different countries found that IPOs underperformed their benchmarks in the long-term. However, this study regards long-term performance of the IPO for *shariah*-compliant and non *shariah*-compliant companies as that of IPOs that have not underperformed their benchmarks. This study evaluates long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies by computing CAR. The returns of the IPO are adjusted by using *FTSE Bursa Malaysia Market Index*.

The main contribution of this dissertation is by looking into *shariah*-compliant and non *shariah*-compliant companies by providing new insights on the short- and long-term performance of IPO issues in the Malaysian market.

CHAPTER 1: INTRODUCTION TO THE STUDY

1.1 Introduction

From the beginning of Islamic banking in Malaysia in 1982[1], the concept of Islamic finance has been raised[2]. On May 2013, the market capitalization of *shariah*-compliant securities was valued at MYR[3] 1.017tln or 63% out of a total market capitalization of about MYR1.6tln[4]. Collectively, 89% of IPO companies are listed on the *shariah* board of Malaysian Stock Exchange (MSE). The growth of Islamic finance has obviously outperformed growth found in conventional banks.

IPOs for *shariah*-compliant companies are seen as a change for Muslim companies and investors to participant in Islamic investments. The high demand for *shariah*-compliant companies interacts with more IPO companies to list shares on the *shariah* board.

Many IPO studies have investigated the underpricing phenomenon. Underpricing is known as the initial performance of IPO shares or short-term performance of IPO. The definition of underpricing is the initial return that investors earn when buying IPO shares at the offer price and selling them at the end of the listing day at the market price (first day trading). Underpricing should be lower because it imposes a cost on the IPO companies. Previous studies show that IPOs in Malaysian have among the highest underpricing. The earliest studies on IPO underpricing is by Dowson (1987), who found the average degree of IPO underpricing is 166.7%, compared with Hong Kong at 13.8% and Singapore 39.4%. While the earliest study on IPO underpricing for *shariah*-compliant companies was by Abdul

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[1] Bank Islam Malaysia Berhad (BIMB) is the first Islamic Bank in Malaysia, established in 1982.
[2] Other developments of Islamic finance included: Takaful (Insurance) Islamic Capital Market, and Sukuk (bond), among others.
[3] MYR is Malaysian Currency
[4] Shariah Screening Methodology: Adopting Two-tier Quantitative Approach by Malaysian International Islamic Financial Centre (MIFC) 31 October 2013

Rahim and Yong (2010). They found that the average degree of IPO underpricing for *shariah*-compliant companies was 32.1%.

The long-term performance of an IPO for *shariah*-compliant and non *shariah*-compliant companies refers to the three-year performance of an IPO. Despite numerous empirical studies on the long-term performance of IPOs on the Malaysian market (Paudyal, et al., 1998; Ahmad Zaluki, et al., 2007; How et al., 2011) no prior academic work has documented the long-term performance of IPO for *shariah*-compliant companies. Most of the previous studies are combined the *shariah*-compliant and non *shariah*-compliant companies. This study tries to fill this gap by investigated either IPO for *shariah*-compliant and non *shariah*-compliant companies are overperformance or underperformance their benchmark.

This chapter introduces the background of the study, the definition of *shariah*, the research questions, and the research limitations.

1.2 Background of the study

The significant increase of IPO companies impacts the IPO market worldwide. Graph 1 shows IPO shares issue worldwide. The graph shows an increase in IPO shares issuing from 2009 (577 IPOs) to 2010 (1393 IPOs). Central and South America issues the lowest number of IPO shares.

Graph 1: IPO Companies worldwide
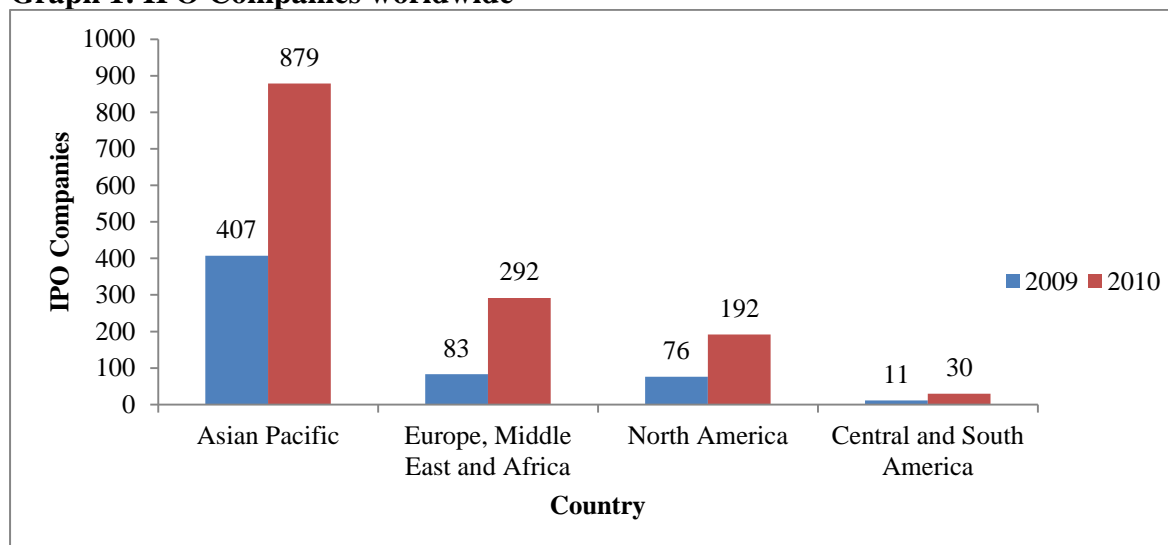
Sources: Global IPOs Trend 2011 Report

The following graph (Graph 2) shows the total number of *shariah*-compliant and non *shariah*-compliant companies listed on the MSE. The graph also shows that the highest number of *shariah*-companies issued in 2006 (886 companies). The following years show a decreasing number of *shariah*-compliant companies. The main reason for this phenomenon is that the sub-prime crisis happened from December 2007 to June 2009. Therefore, this crisis affects the growing up of *shariah*-compliant companies in Malaysian market.

Graph 2: Total Number of Companies Listed on the MSE
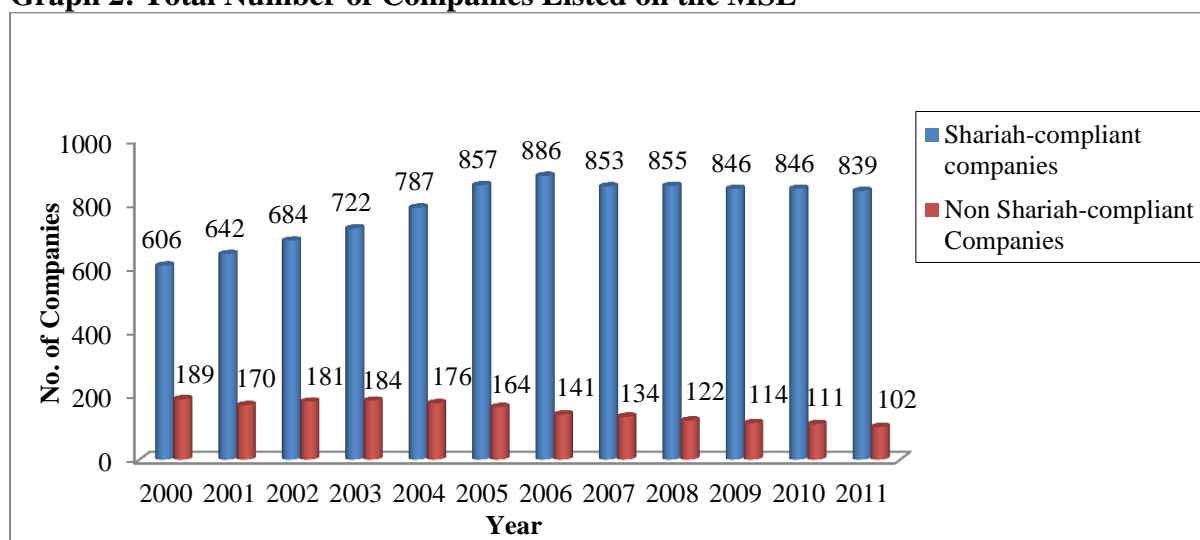
Sources: Malaysian Stock Exchange (MSE) and Securities Commission of Malaysia

Graph 3 shows the total number of IPO for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE from 2000 to 2011. The graph shows that the *shariah*-compliant companies are higher than non *shariah*-compliant companies. A total of 419 IPO companies are *shariah*-compliant companies and 51 IPO companies are non *shariah*-compliant companies. The financial industry is excluded from this study due to different regulations.

Graph 3: Total Number of IPO Companies Listed on MSE
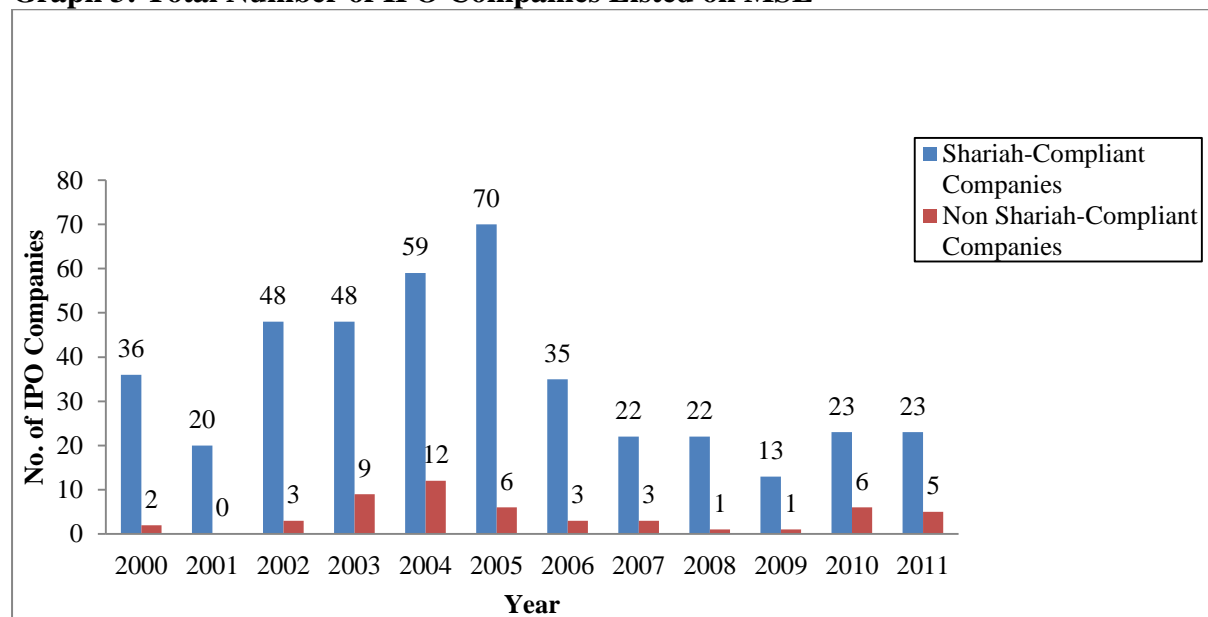
Sources: Malaysian Stock Exchange (MSE) and Securities Commission of Malaysia

The first anomaly discussed in this thesis is the high average degree of IPO underpricing phenomenon gave a worse impact on the IPO market in Malaysia, especially on the growth up of *shariah*-compliant companies. A common perception is that IPO underpricing is a contradiction to market efficiency and may worsen emerging companies trying to raise capital for business expansion (Islam et al. 2010). Underpricing has been observed in all countries with the average degree of IPO underpricing in the Malaysian market being among the highest[5].

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[5] See Loughran et al (1994)

Dowson (1987) was the first study of IPO underpricing in Malaysia. He found that the average degree of IPO underpricing was 166.7% are highest than for other countries such as Hong Kong (13.8%) and Singapore (39.4%) during the period of study from 1978 to 1984. Jelic, et al. (2001) found that the average degree of IPO underpricing was 99%, from 1980 to 1995. Yong and Isa (2003) found that the average degree of IPO underpricing was 94.91% from 1990 to 1998. Murugesu and Santhapparaj (2009) found that IPO shares were underpriced at 81% from 1999 to 2004.

Abdul Rahim and Yong (2010) was the first research regarding IPO shares for *shariah*-compliant companies in the Malaysian market. The study used data from 1999 to 2007 for 333 IPOs for *shariah*-compliant companies and found that the average degree of IPO underpricing for *shariah*-compliant companies was 32.1%.

Other countries also show the average degree of IPO underpricing was higher. For example, Islam, et al. (2010), in Bangladesh, found that the average degree of IPO underpricing was 480.72%. Table 1 summarizes other studies.

Table 1: Summary of IPO underpricing worldwide

Countries	Period of Study	IPO underpricing	Authors
Bangladesh	1995–2005	480.72%	Islam, Ali and Ahmad (2010)
Middle East and North Africa	2000–2007	184.1%	Chahine and Tohmé (2009)
China	1996–2000	129.16%	Chi and Padgett (2005)
South African	2006–2010	108.3%	Heerden and Alagidede (2012)
Japan	2001–2006	60.21%	Uzaki (2009)

Switzerland	1983–2000	34.97%	Drobetz, Kammermann and Walchli (2005)
Sri Lanka	1987–2008	34%	Samarakoon (2010)
Thailand	1990–2007	22.99%	Ekkayokkaya and Pengniti (2011)
India	2004–2006	22.62%	Pande and Vaidyanathan (2007)
Indonesia	2003–2011	22.2%	Darmadi and Gunawan (2012)
United States	1980-2001	18.8%	Ritter and Welch (2002)
Singapore	1993–2005	16.5%	Zhang, C. and King, T.H.D. (2008)
Mauritius	1989–2010	13.14%	Agathee, Sannasse and Brooks (2012)
Portugal	1988–2004	11.1%	Borges (2007)

The second anomaly is long-term performance of IPO companies. Ritter (1991) documented and found evidence on long-term performance of IPOs in the United States from 1975 to 1984. He found that the long-term performance of IPO is significantly underperforming their benchmark. However, studies that focused on long-term performance of IPO markets in Malaysia found different results. How, et al. (2007) found evidence that long-term performance of Malaysian IPOs performed better long-term. Ahmad-Zaluki et al. (2007) also found significant over performance for equally weighted event time cumulative abnormal returns and buy-and-hold returns using two market benchmarks. Table 2 summarizes others studies regarding long-term performance of IPOs.

Table 2: Summarizing of long-term performance of IPOs worldwide

Countries	Period of Study	Long-term performance of IPO	Authors
United States	1980-2001	Underperformed	Ritter and Welch (2002)
United Kingdom	1991–1995	Underperformed	Goergen, et al. (2007)
China	1993–1998	• A-shares: underperformed • B-Shares: outperformed	Chan, et al. (2004)
Japan	1998–2001	Underperformed	Kirkulak (2008)
Taiwan	1991–2002	Outperformed	Chen, et al. (2010)
Turkey	1990–1997	Outperformed	Durukan (2002)

There have many studies that explained the underpricing phenomenon and long-term performance of IPO companies that are reviewed in the Literature Review (Chapter 2) of this study.

Shariah-compliant companies have become more important within the global capital market. This phenomenon was due to awareness and demand from Muslims to participate in capital markets. Islamic investors make up approximately 60% of the total population, which underlines the high growth potential of the *shariah*-based market segment (Mcgowan and Muhammad, 2010). This awareness of the importance and necessity of Islamic finance may have caused the Malaysian government to establish an Islamic saving corporation (non-banking institution) in 1963, known as Muslim Pilgrim's Savings Corporation. The objective of this saving corporation is to help people save on a regular basis for their pilgrimage to

Mecca. Later in 1969, it evolved into the Pilgrim's Management and Fund Board (*Tabung Haji*).

In 1982, the first Islamic bank was established and known as the *Bank Islam Malaysia Berhad (BIMB)*. With the establishment of the first Islamic bank in Malaysia has generated and developed more Islamic financial instruments. Following the Islamic bank, the Islamic insurance was introduced in 1983 and known as *Takaful Malaysia Berhad*. Table 3 shows the development of Islamic finance and banking in Malaysia market. Table 4 shows the development of Islamic banking and finance worldwide.

Table 3: The Development of Islamic Finance and Banking in Malaysia

Year	Islamic Finance and Banking
1963	Muslim Pilgrim's Savings Corporation.
1982	*Bank Islam Malaysia Berhad (BIMB)* became the first Islamic Bank in Malaysia.
1983	*Takaful Malaysia Berhad* became the first Islamic insurance in Malaysia.
1990	Islamic debt securities market is introduced. Shell MDS Sdn. Bhd. issues the first Islamic Corporate Bond (*Sukuk*).
1992	*Muassasah Gadaian Islam Terengganu (MGIT)* became the first Islamic pawn broking (*Ar-Rahnu*) in Malaysia.
1993	Government of Malaysia establishes the Islamic Banking Scheme (IBS). IBS is a scheme where Islamic banking is operated in parallel with conventional banking.
1994	Islamic Interbank Money Market (IIMM) is introduced.
1997	Malaysian Stock Exchange (MSE) introduced *shariah*-Compliant Companies.
1999	*Bank Mualamalat Malaysia Berhad (BMMB)* became the second Islamic banking in Malaysia.

Table 4: The Development of Islamic Finance and Banking worldwide

Year	Islamic Finance and Banking
1963	Mit Ghamr Local Savings Bank, Egypt
1971	Nasser Social Bank, Egypt
1973	Philippine Amanah Bank, Philippine
1975	Islamic Development Bank, Jeddah Saudi Arabia
1975	Dubai Islamic Bank (UAE)
1996	Faisal Islamic Bank, Egypt
1977	Faisal Islamic Bank, Sudan
1978	Jordan Financial and Investment Bank
1978	Islamic Bank of Jordan, Jordan
1980	Abu Dhabi Islamic Bank
1980	International Islamic Bank of Investment and Development Luxembourg
1982	Qatar Islamic Bank
1983	Islamic Bank Bangladesh
1985	Iraq Islamic Bank
1985	Mauritania Islamic Bank
1985	Al Rajhi Bank (Saudi Arabia)
1986	Turki Islamic Bank
1989	AHZ Global Islamic Finance (United Kingdom)
1993	Islamic Bank of Brunei

1994	The Accounting and Auditing Organization for Islamic Financial Institution (Bahrain) (AAOIFI)

1.3 What is *Shariah*?

The regulation in Islamic finance and banking was derived from *shariah* law. *Shariah* is an Arabic word, which literally means "the way or path" (Abu Kasim, 2012). *Shariah* represent a body of Islamic teachings and system, which were revealed to Prophet Muhammad s.a.w through the revelation of the Holy Quran and later deduced from the Prophet *sunnah*. *Sunnah* represents a divinely guided lifestyle and whether reported about what the Prophet Muhammad s.a.w. said, did, or gave his tacit approval.

The sources in *shariah* law come from four main sources: 1. *Al-Quran*, 2. *Al-Sunnah*, 3. *Ijma'*, and 4. *Qiyas*. *Al-Quran* and *Al-Sunnah* are the primary sources for *shariah* law while the others are called secondary sources. *Al-Quran* and *Al-Sunnah* are considered the sources that originate from the text of revelation that is called textual sources (*al-nass*). Other sources based on the power of reasoning are called non-textual sources (*al-ra'y*). Table 5 explains the sources of *shariah* law.

Table 5: Sources in *Shariah* Law

Sources in *Shariah* Law	Explanations
Al-Quran	Al-Quran is the main source of *shariah* law. Literally, the word Quran is derived from the Arabic root word, *Qara'a* that means to read or to recite. Technically, the Quran has been defined as the speech of Allah S.W.T, sent down upon the last Prophet Muhammad s.a.w. in its precise meaning and precise wording, transmitted to us by numerous persons (*tawatur*), both verbally and in writing.

Al-Sunnah	The second source of *shariah* law is *Al-Sunnah*. *Al-Sunnah* literally means clear path or beaten track. It also refers to normative practice or an established course of conduct/behavior passed on from generation to generation. Technically, *sunnah* refers to all that is narrated from the Prophet Muhammad s.a.w., including his actions, sayings, and what he has tacitly approved. Functions of the *sunnah* in relation to the Quran are as follows: 1. The *sunnah* explains and further elaborates the meanings of the *Quran*. It provides explanations as to the exact meaning of *Quranic* text or explains (*tafsir*) the Quran. For example, the text in the Quran, which mentions the obligation to pray, is stated in brief. No detailed explanations were provided as to how many times to pray and how to conduct prayer. Therefore, the *sunnah* explains how to pray.
Ijma'	*Ijma'* is not derived from divine revelation. As principles and evidence of *shariah* law, *Ijma'* is rational evidence and binding proof. Literally, *ijma'* is the verbal noun of the Arabic word *ajma'a* that means "to determine and to agree upon something". *Ijma* is the unanimous agreement of the *mujtahidin* [6] of the Muslim community of any period following the demise of Prophet Muhammad s.a.w. on any matter. Scholars have put a standard for the process of *ijma'* by placing certain requirements in order for *ijma'* to be valid. These requirements are as follows: 1. There are a number of qualified scholars available at the time the issues are encountered. 2. The entire scholars, regardless of their locality, race, color, and school of affinity that must reach a consensus on a judicial opinion at the time an issue arises. 3. The agreement of the scholars must be demonstrated by their expressed opinions on a particular issue. The expression may be verbal or in writing.

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[6] *Mujtahidin* is a person who has capable of interpreting or explaining *shariah* law

Qiyas	*Qiyas* means measuring or ascertaining length, weight, or quality of something. Technically, it is defined as the extension of a *shariah* value from the original case (*asl*), to a new case, because the latter has the same effective cause (*illah*) as the former. The original case is ruled by the text either *Al-Quran* or *Al-Sunnah*. *Qiyas* aims to extend the same ruling to the new case based on the shared *illah*. As an extension of existing law, *qiyas* discovers and develops the existing law but does not create a new law. The pillars of *qiyas* are as follows: 1. The original cases (*asl*) is a case about which a ruling is given in the text (*Al-Quran and Al-Sunnah*) and analogy seeks to extend it to a new case. 2. The new case (*far'*) on which a ruling is needed. *Qiyas* is the extension of the same ruling that is applied in the original case. 3. The effective cause (*illah*). Although it is an attribute of the original case, it is found to be commonly shared between the original case and the new case. 4. The rule (*hukm*) governing the original case is to be extended to the new case.

Sources: Islamic Financial System: Principles and Operations (2012)

According to Ayob (2007):

> *Islam has constrained the freedom to engage in business and financial transactions on the basic of a number of prohibitions, ethics and norms. Besides some major prohibitions, Islamic law has prescribed a number of other norms and boundaries in order to avoid inequitable gains and injustice. As shariah compliance is to raison d'etre (the most important reason or purpose for someone or something's existence) of the Islamic financial system, concern for the shariah tenets should dominate all other concerns of Islamic financial institutions. It is only through the compliance of Islamic banking operations with the norms and the principles of the shariah that the system*

can develop on a sustainable basis and can ensure fairness for investors, the business community and institutions. (pp. 43)

To clear up any misconceptions about the legitimacy of business in Islam, Allah says in the Al-Quran:

Surah Al-Baqarah, (275):

Those who taken riba shall be raised like those who have been driven to madness by the touch of the Devil; this is because they say: 'Trade is just like interest' while God has permitted trade and forbidden interest. Hence those who have received the admonition from their Lord and desist may keep their previous gains, their case being entrusted to God; but those who revert, shall be the inhabitants of the fire and abide therein forever.

Surah Al-Baqarah, (276):

Allah deprives riba of all blessing but blesses charity; He loves not the ungrateful sinner.

Surah Al-Baqarah, (278):

O, believers, fears Allah, and give up what is still due to you from riba if you are true believers.

Surah Al-Baqarah, (279):

If you do not do so, then take notice of war from Allah and His Messenger. But if you repent, you can have your principal. Neither should you commit injustice nor should you be subjected to it.

Surah Al-Baqarah, (280):

And if the debtor is in misery, let him respite to it is easier, but if you forego it as charity, it is better for you if you realize.

Surah Al-Baqarah, (281):

And be fearful of the Day when you shall be returned to the Allah, then everybody shall be paid in full what he has earned and they shall not be wronged.

Surah Al-Rum, (39):

That which you give as riba to increase the people's wealth increases not with God; but that which you give in charity, seeking the goodwill of God, multiplies manifold.

Surah Al-Nisa, (161)

And for their taking riba although it was forbidden for them, and their wrongful appropriation of other people's property. We have prepared for those among them who reject faith a grievous punishment.

The above verses from Al-Quran indicate a clear explanation of the prohibited of *riba*.

i. **Screening Process for *Shariah*-Compliant Companies**

The shariah board is established to fulfill the needed of Islamic investors and companies in Malaysia and the rest of the world. The main feature of a *shariah*-compliant board is to provide an investment in line with Islamic law. A *shariah*-compliant board must represent an assertion of Islamic law where the market should be free from the prohibited element such as usury (*riba*), gambling (*maisir*), and uncertainties (*gharar*). Below is the definition of the main prohibited elements is Islamic law:

Prohibition of usury (*riba*)

Usury *(Riba)* a term that literally means "an excess" and interpreted as "any unjustifiable increase of capital whether in loans or sales" is the central tenet of the system (Iqbal, 1997).

Prohibition of gambling (*maysir*)

Gambling (*maysir*) is defined as any activity that involves betting. The winner will take the entire bet and the loser will lose his bet. It means games of pure chance where any party might gain at the expense of the loss of the other party.

Prohibition of uncertainties (*gharar*)

Uncertainties *(gharar)* literally implies risk, uncertainty, and hazard. Technically, *gharar* is sales in which the vendor is not in a position to hand over the subject matter to the buyer, whether the subject matter is in existence or not. A contemporary scholar, Sheikh Wahbah al-Zuhaily defined *gharar* as follows: "A contract which contains a risk to any one of the parties which could lead to his loss of properties". (Islamic Financial System: Principles & Operations, pp.181)

In 1995, the *Shariah* Advisory Council (SAC) of Securities Commission of Malaysia established the methods to undertake *shariah* screening process for companies to list on the MSE. The methods comprise quantitative and qualitative assessments. At the end of November 2013, the SAC revised the quantitative assessment that applied to the business activity benchmark and the newly introduced financial ratio benchmarks while at same time maintaining a qualitative assessment. The following diagram is of the quantitative and qualitative methods implement by SAC after revision:

Diagram 1: Overview of the Screening Process Implement by *Shariah* Advisory Council of Securities Commission of Malaysia

Stage 1

Quantitative Method

1. **Business Activity Benchmarks**

The 5% benchmark would be applicable to the following business activities:
- Conventional banking
- Conventional insurance
- Gambling
- Liquor and liquor-related activities
- Pork and pork-related activities
- Non-halal food and beverages
- *Shariah* non-compliant entertainment
- Interest income from conventional accounts and instruments
- Tobacco and tobacco-related activities
- Other activities deemed non-compliant according to *shariah*

The 20% benchmark would be applicable to the following activities:
- Hotel and resort operations
- Share trading
- Stockbroking business
- Rental received from *shariah* non-compliant activities
- Other activities deemed non-compliant according to *shariah*

2. **Financial Ratio Benchmarks**

The financial ratios applied are as follows:
  i. Cash over Total Assets
      Cash will only include cash placed in conventional accounts and instruments, whereas cash placed in Islamic accounts and instruments will be excluded from the calculation.
  ii. Debt over Total Assets
      Debt will only include interest-bearing debt whereas Islamic debt/financing or *sukuk* will be excluded from the calculation.

Both ratios that are intended to measure *riba* and *riba*-based elements within a company's balance sheet, must be lower than 33%

Not Comply → **Non *Shariah* Board**

Comply

↓

Stage 2

Qualitative Method

1. Public perception
2. Image of the company

Hence, if a security passed in the quantitative stage, it could be deemed as non *shariah*-compliant if it fails this stage. For example, negative public perception or image of the IPO companies.

Not Comply → **Non *Shariah* Board**

Comply

↓

Accept to list shares on the *Shariah* Board of the MSE

1.4 Overview of IPO process listed on the MSE

This section explains the IPO process for listed companies on the MSE. In Malaysia, the Securities Commission (SC) is a statutory body responsible for monitoring capital market.

i.   IPO Processes Listed on the MSE

Table 6 shows the IPO listing process on the MSE. The listing process starts with the appointment between IPO companies and the underwriter, who are obligated to make documents for listing shares on the MSE. These processes are eligible to both types of companies.

Table 6: IPO Listing Process

No.	Steps	Explanation
1	Appointment of an underwriter	The underwriters are responsible for making submissions of corporate prospectuses to SC and MSE.
2	Implementing organizational changes	The underwriters will assess IPO company positions in view of listing exercises such as corporate structure, composition of boards of directors, corporate governance, and internal control frameworks.
3	Appointing independent directors	All IPO companies are mandated to appoint independent directors so that at least two independent directors or one-third of the members of the board are independent, whichever is higher. An independent director is one who is independent of management and free from any business or other relationship that could interfere with the exercise of independent judgment or the ability to act in the best interests of a listed company. (Good Governance Guide, No. 5.1)
4	Method of listing and valuation	IPO companies and underwriters need to decide on a method for offering their IPO shares and make valuation of IPO companies based on past earnings in order to forecast the future earnings.
5	Preparing	IPO companies and underwriter must prepare a prospectus for

	documents for submission	submission to the MSE and SC of Malaysia.
6	Submission and review	The review of the application for listing begins after submission of the application document. The prospectus will go through a public exposure period on the SC website for a period 15 market days for public feedback.
7	Approval	After MSE and SC approve the application for listing, they will issue a letter of approval for IPO shares and a letter of approval-in-principle for the prospectus registration.
8	Registration of the prospectus	After receiving on approval letter, IPO companies must register on the MSE.
9	Investor briefings	The offer period begins when the prospectus is issued to the public. During this time, IPO companies need to start a briefing campaign to investors. The briefing campaign activities can include road shows and presentation to investors by the company's directors and promoters.
10	Balloting process	After investor briefings, the balloting of the applications will commence.
11	Listing	The IPO listing process end by a listing ceremony on the MSE and the trading of IPO shares will commerce on this day.

Source: Malaysian Stock Exchange

The timeline below (Figure 1) shows an estimation of the duration of the IPO listing process from the beginning until listing on the MSE.

Figure 1: Timeline of IPO listing

Pre-Approval Structuring IPO & Submission **T+11 weeks**	Finalization of IPO proposal Preparation of valuation report (if required) Drafting of submission document & Prospectus
Approval Processing the application **T+21 weeks**	Public exposure of Prospectus Addressing queries from regulators Visit by regulators to the company's business premises Evaluation & approval by regulators
Post-Approval Registration of Prospectus **T+25 weeks**	Updating of prospectus Registration & lodgement of Prospectus Pre-marketing commences
IPO Prospectus Launch **T+26 weeks**	Prospectus launch Roadshow & book building exercise
LISTING **T+28 weeks**	Allocation of shares Trading commences

Source: Malaysian Stock Exchange (Bursa Malaysia)

ii.   Statutory Bodies in Malaysia

i.   *Malaysia Stock Exchange (MSE)*

The Malaysian Stock Exchange (MSE) was incorporated on 14 December 1976. It has two types of markets: the main market and the ACE market. The main market was established for companies with a profitable record of accomplishment for 3–5 full financial years and the ACE market was established for high growth and technology companies to raise capital.

The MSE provides two (2) types of boards known as a *shariah* board, and *a* non *shariah* board. The *Shariah* board has two (2) indexes that are known as *FTSE Bursa Malaysia Emas Shariah Index* and *FTSE Bursa Malaysia Hijrah Shariah Index*.

FTSE Bursa Malaysia Emas Shariah Index was established for *shariah*-compliant companies. *Shariah* Advisory Council (SAC) conducts the screening process for companies who are interested in listing its shares on the *shariah* board. The criteria of the *FTSE Bursa Malaysia Emas Shariah Index* must not be involved in the following activities:

1. Financial service based on usury (*riba*);

2. Gaming and gambling;

3. Manufacture or sale of non-halal product or related products;

4. Conventional insurance;

5. Entertainment activities that are non-permissible according to *shariah;*

6. Manufacture or sale of tobacco-based products or related products;

7. Stock broking or share trading on *shariah* non-compliant securities; and/ or,

8. Other activities deemed non-permissible according to *shariah.*

FTSE Bursa Malaysia Hijrah Shariah Index introduced for international Islamic investors. Companies listed on this index are screened by SAC and a leading global *shariah* consultancy (Yasaar Ltd.). Companies in this index must not be involved in any of the following core activities:

1. Banking or any other interest-related activity, such as lender and brokerages;

2. Alcohol;

3. Gaming;

4. Arms manufacturing;

5. Life insurance; or,

6. Pork and non-halal production.

7. Packaging and processing or any other activity related to pork and non-halal food

   ii.   Securities Commissions (SC)

The Securities Commission (SC) of Malaysia was established on 1 March 1993. The SC is a self-funding statutory body with a focus on capital market regulation in Malaysia. The roles of the SC are to regulate, supervise, and systematically develop the capital market in Malaysia.

In January 1996, the SC liberalized a new method of IPO shares issuance that has a market-based pricing mechanism. The market-based pricing mechanism gave responsibilities to issuers and advisers for setting or making decisions regarding IPO prices. Final approval from the SC is required to ensure appropriateness (How et al., 2007; Abdul Rahim and Yong, 2010). The SC is also leading the development of the Malaysian Islamic capital market. The SC was established by SAC to monitor the Islamic capital market in Malaysia.

iii.   *Shariah Advisory Council (SAC)*

SC introduced SAC in 1996. SAC functions to provide greater consistency and clarity to issuers, intermediaries, and investors of the Malaysian Islamic capital market. SAC was empowered to ascertain the application of *shariah* principles on any matter pertaining to Islamic capital market business or transactions. SAC was also empowered to advise the SC on any *shariah* issues relating to Islamic capital market business and transactions. Ismail and Tohirin (2010) indicated that SAC has the authority to scrutinize and approve any documents used by Islamic banks. Although all transactions including products and services offered have to be first approved by SAC to ensure that they do not involve any element that is not approved by Islam, it is nevertheless open to any interested party to challenge such transactions as being contrary to Islamic law as there is nothing in the Islamic Banking Act that states that, once an operation has been approved by the bank's SAC that may not be called into question or reviewed by any court of justice.

1.5 Problem Statement

In almost every country, IPOs are underpriced. For instance, Bangladesh has been known to report overwhelmingly high IPO underpricing: 480.72% during 1995 to 2005 (Islam, et al., 2010). Chi and Padgett (2005) found that the average degree of IPO underpricing in China was 129.16% during 1996 to 2000. Heerden and Alagidede (2012) investigated short-run underpricing of South African IPOs and found that the average degree of IPO underpricing was 109.37% during 2006 to 2010. Although many empirical studies has been carried out to enhance knowledge regarding the IPO phenomenon, no prior academic work has investigated the underpricing phenomenon and long-term performance of IPOs by separating company type into *shariah*-compliant *and non shariah*-compliant companies. This study fills this gap.

This study broadens the understanding of the phenomenon of IPO underpricing and long-term performance by addressing several important issues. The first issue relates to the different regulatory guidelines for *shariah*-compliant and non-*shariah*-compliant companies. This study examines the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies.

The second issue is associated with the maturation of *shariah*-compliant companies in Malaysia.[7] Specifically, this study investigates the effect of determinant factors on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies by examining the following 10 explanatory variables: offer price, offer size, company age, risk, oversubscription, underwriter reputation, market type, industry type, economic conditions (sub-prime crisis December 2007 to June 2009), and return on equity (ROE).

Third, this study investigates the impact of shareholder analysis on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. Under the Malaysian government's economic policy (New Economic Policy (NEP)) that fixed 30% of new shares as reserved for *bumiputra* investors or *bumiputra* institutions such as *Amanah Saham Bumiputra (ASB)*. *Bumiputra* are Malays and other indigenous people on peninsular and in eastern Malaysia. This study examines the effect of shareholder analysis on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies by measuring the following 5 explanatory variables: *Bumiputra* control, corporate control, CEO shares, IPO companies' shares, and number of shareholders.

Finally, this study investigates 3-year performance of IPO for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE from 2006 to 2010. Long-term performance usually refers to a period of listed shares on stock exchange at least for one year.

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[7] 89% of the companies listed on the MSE are *shariah*-compliant companies.

Most of the studies looked at a period of three years. This study examined the performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies for three years. Cumulative abnormal returns are used to measure long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies by examining the following 12 explanatory variables: underpricing, information asymmetric, offer price, offer size, company age, risk, oversubscription, underwriter reputation, market type, industry type, economic condition (sub-prime crisis December 2007 to June 2009), and ROE. Multiple linear regression analysis for non *shariah*-compliant companies cannot be done because the number of IPOs is low. Only 4 IPOs for non *shariah*-compliant companies were available during the study period.

1.6 Study Purpose

This study looks at the unique features of the IPO market in Malaysia. The features are in the form of government regulations to introduce two types of companies known as *shariah*-compliant and non *shariah*-compliant companies. This study examines the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. This study also investigates the determinant factors that were influenced by the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. Then, this study investigates the three-year cumulative abnormal return (CAR) performance of IPO for *shariah*-compliant and non *shariah*-compliant companies. Finally, this study examines the determinant factors that influenced long-term performance of IPO for *shariah*-compliant companies using a multiple linear regression analysis.

1.7 Research Questions

This study examines the price performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE from 2000 to 2011. In the first stage (during the admission day) of listed IPOs on the MSE, the companies and the underwriter must

discuss setting the offer price. It is important to observe whether the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies are highest. It is also important to separate the *shariah*-compliant companies from the non *shariah*-compliant companies because of the different regulatory guidelines. This objective leads to the first research question**: is the average degree of IPO underpricing for non *shariah*-compliant companies higher than for *shariah*-compliant companies?**

This study investigates the possible factors that have contributed to the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies in Malaysia during the first trading day on the MSE. The factors examined are offer price, offer size, underwriter reputation, risk, company age, market type, industry type, time of oversubscription, economic condition, and ROE for *shariah*-compliant and non *shariah*-compliant companies. This argument leads to the second research question: **whether the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies are driven by offer price, offer size, oversubscription, underwriter reputation, risk, company age, market type, industry type, economic condition, and ROE?**

This study investigates the impact of shareholder analysis on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. This argument leads to the third research question: **whether the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies are driven by *Bumiputra* control, corporate control, CEO shares, IPO companies' shares, and number of shareholders?**

The prior study provides evidence of IPO underperformance in the long-term, which are also examined in this study. It is expected that high underpricing has affected the long-

term performance of IPOs. Long-term performance is defined as the cumulative abnormal return for the investors, who buy the IPO at day 2 and hold them up to a 3-year listing anniversary. This argument leads to the fourth research question: **whether the *shariah*-compliant and non *shariah*-compliant companies overperformed or underperformed their benchmarks for long-term performance?**

1.8 Study Limitations

This paper examines the profiles of IPO underpricing and long-term performance of the IPO for *shariah*-compliant and non *shariah*-compliant companies. Overall, this study uses 419 IPOs for *shariah*-compliant companies and 51 IPOs for non *shariah*-compliant companies issued during the study. Many researchers regarding IPO underpricing and long-term performance of IPOs in Malaysia, but no previous studies have looked at *shariah*-compliant and non *shariah*-compliant companies. Most researchers combine *shariah*-compliant and non *shariah*-compliant companies. This study tries to fill this gap by separating data into *shariah*-compliant and non *shariah*-compliant companies. The main reason is the different regulatory guidelines. *Shariah*-compliant companies must be screened by SAC while for non *shariah*-compliant companies is unnecessary for review by SAC.

The main source of data for this research is the MSE, Annual Report, company websites, and Yahoo finance. Therefore, the accomplishment of the research depends on the ability to obtain the data. With limited financial resources, the researcher manages to gather data from 2000 to 2011 (for IPO underpricing) and from 2006 to 2010 (for long-term performance of IPO). Moreover, analyzing the data is reasonably time consuming. Some missing data and deletions have caused a reduction in the amount of data.

1.9 Contribution and Conclusion

The main contribution of this study is the use of *shariah*-compliant companies, which is limited in the literature. Hence, this study fills the gap by providing underpricing (short-term) and long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies. This dissertation contributes to the IPO literature by showing the difference in performance for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE.

This dissertation also contributes to an understanding that some information is relevant for short-term performance and some information is relevant for long-term performance of IPO for *shariah*-compliant and non *shariah*-compliant companies. While many empirical studies present IPO underpricing in Malaysia, no prior academic work has investigated long-term performance of IPO underpricing for *shariah*-compliant companies and compared with non *shariah*-compliant companies. Further, this dissertation provides new insights into *shariah*-compliant companies. Lastly, this dissertation provides additional evidence for the factors affecting IPOs for *shariah*-compliant and non *shariah*-compliant companies.

Figure 2 presents a summary of the main hypothesis and the research method used in this study.

Figure 2: Summary of the hypothesis and research method

Determinant factor of an IPO:
$$UP_i = \alpha_i + \beta_1 (OP_i) + \beta_2 (OS_i)$$
$$+ \beta_3 (CA_i) + \beta_4 (OV_i)$$
$$+ \beta_5 (R_i) + \beta_6 (TI_i)$$
$$+ \beta_7 (TM_i) + \beta_8 (UR_i)$$
$$+ \beta_9 (EC_i) + \beta_{10} (ROE_i) + \varepsilon_i$$

Method:
$$\frac{closing\ price - offering\ price}{offering\ price}$$

Methods:
Cumulative Abnormal Return (CAR)

Initial Price

IPO underpricing (initial return)

Long-term performance of IPO

IPO companies and underwriter

Analysis shareholder:
$$UP_i = \alpha_i + \beta_1 (BC_i) + \beta_2 (CC_i)$$
$$+ \beta_3 (CEO_i) + \beta_4 (CS_i)$$
$$+ \beta_5 (SH_i) + \varepsilon_i$$

Shareholders

Investors who are still hold IPO shares

T_0

T_1

T_2

The admission day

The first day trading on the MSE

1st, 2nd, and 3rd year trading on the MSE

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The previous chapter (Chapter 1) provides a brief overview of the research area of the IPOs, in particular *shariah*-compliant companies, and non *shariah*-compliant companies. This chapter reviews the significant IPO literature. First, this study observes the IPO underpricing phenomenon worldwide and in the Malaysian market. This is followed by a discussion of the factors that have an impact on IPO underpricing. Finally, this study reviews other studies for the long-term performance of IPO companies.

2.2 IPO Underpricing

   i.   **Underpricing phenomenon worldwide**

Many studies have investigated IPO underpricing worldwide. Islam et al. (2010) found a high degree of IPO underpricing in Bangladesh (480.72%). Chahine and Tohme (2009) found that, regarding IPO underpricing in the Middle East and North Africa, IPOs were underpriced at 184.1%. Chi and Padgett (2005) found that IPOs are underpriced at 129.16% in China. Uzaki (2009) found that the degree of IPO underpricing in Japan was 60.21%. The degree of IPO underpricing in Sri Lanka was 34% (Samarakon, 2010).

Nguema and Sentis (2006) found that, in 33 countries worldwide, country risk is a determinant factor for IPO underpricing. Boulton, et al. (2012) found that the country-level institutions quality is positively correlated with the underpricing of IPO.

Darmadi and Gunawan (2012) examined the relationship among board structure, ownership, and IPO underpricing in Indonesia from 2003 to 2011. The data is comprised of 101 companies. This study found that board independence is significantly related to the level of underpricing. This study also provides evidence that the level of underpricing is negatively

associated with board size and institutions ownership. This factor indicates that governance plays an important role in mitigating information asymmetry between the issuers and the potential investors.

Boulton et al. (2011) examined the impact of country-level earnings quality on IPO underpricing for 10,783 IPO from 37 countries. They found that IPOs are underpriced less in countries where public firms produce higher quality earnings information.

Lipuma (2011) found that the relationship between internationalization and IPO performance using 184 privately held venture capital-backed US technology-based new ventures and found that solely domestic new ventures receive higher valuations at IPO than new ventures with a high proportion of foreign sales. This result informs investors have perceived agency risks as outweigh possible benefits of enhanced resource endowments from foreign activities.

Switzer and Bourdon (2011) examined the relationship between several aspects of the management team and firm performance for Canadian IPO companies that went public from 1997 to 2006. The results suggest that some differences in performance may be attributed to differences in the characteristics of the team management. The tenure of the management team, size of the top management team, and the presence of chartered accountants increased the operating performance of firms. On the other hand, the heterogeneity of tenure, CEO dominance, and MBAs has detrimental effect on performance. Operating performance is positively associated with the size and age of companies.

Sahoo and Rajib (2011) found that the risks and uncertainty surrounding IPOs have a significant impact on underpricing by using a sample of 171 IPOs issued in India from 2002 to 2007. The findings revealed that high price deflated to low price (H/L) has a superior estimation power for underprice, suggesting H/L as a better indicator for uncertainty

surrounding IPO rather than the other risk surrogates used in this study. In addition to H/L, it is investment bank prestige and inverse of offer proceeds, which proved to be statistically significant in explaining, underprice. Across sectors, H/L, investment bank prestige, and age of issue firm are found to be suitable risk proxies for IPOs from the manufacturing sector, while risks for the non-manufacturing sectors is better explained by H/L, investment bank prestige, inverse of offer proceeds, and ex ante uncertainty.

Mahmood, et al. (2011) examined IPO underpricing and aftermarket performance for two-time window of crises (Asian financial crisis and global financial crisis) in the Chinese stock market. Firstly, from the Asian financial crisis (1997–1999) and the second is the prevailing global economic crisis (2007–2009). A sample of 626 companies and market adjusted return model are used. The results indicated that in the recent global economic crisis IPO activity is on a shrinking trend and there is 10% increase in the average underpricing when compared to the previous Asian financial crisis. There is a fluctuating trend in aftermarket performance of IPO returns. A minimum return of 62% in 2009 was observed.

Islam, et al. (2010) analyzed the levels of IPO underpricing and determinants of Chittagong Stock Exchange (Bangladesh) from 1995 to 2005. The overall level of underpricing is 480.72%. The regression analysis shows that the age and size of company is positively related to the degree of underpricing. The industry type and offer size are found to be negatively related to the degree of underpricing. However, the timing of offer was found to have no significant influence on the degree of underpricing.

Moshirian, et al. (2010) found that the post-issue stock price performance of IPOs from advanced and the emerging Asian market from 1991 to 2004. The results show that existing initial underpricing in Asian IPOs.

Charruk and Worthington (2010) examined IPO pricing performance on the Stock Exchange of Thailand (SET) from 1997 to 2008. Underpricing is calculated using headline underpricing, underpricing issuer loss, underpricing loss by market value, and underpricing loss by issue price. The results show underpricing of 17.60%, 6.94%, 6.68%, and 16.10%.

Boulton, et al. (2010) showed how the differences at country-level governance affect the underpricing of IPOs. Examining 4,462 IPOs from 29 countries from 2000 to 2004, we found the surprising result that underpricing was higher in countries with corporate governance that strengthens the position of investor relative insiders.

Zhang and King (2008) found the underpricing ratio to be 0.873 for stocks listed on the Chinese stock exchange and 0.613 for stock cross-listed on the NASDAQ. Underpricing is less pronounced for firms cross-listed on the Singapore exchange, which is 0.165. For Hong Kong and the New York Stock Exchange (NYSE), the underpricing ratio is -0.053 and -0.138, which indicates overpricing.

Abdou and Dicle (2007) investigated whether all the risk factors were priced during the internet bubble period. They found that hi-tech dummies played a significant role from the bubble period. Moreover, not all risk factors were regarded as important with some of them not significant as predicted by the first hypothesis. The more striking observation is the negative economic significance of risk factors with no prior market for the traded stock. This reveals that traders are selective in valuing risks and may value some factors as opportunities and not as risk factors. In addition, the results reveal that risk factors do affect the deal attributes as predicted by the second hypothesis. The prices of these risk factors are not different between retail and hi-tech companies. Regarding the participants, it was found that venture capitalists and investment bankers have a significant statistical and economic effect on the number of risk factors reported in the prospectus.

Borges (2006) examined IPO underpricing phenomenon in Portugal. In the period, 1988–2004, found that IPOs were underpriced averaged at 11.1%.

Chi and Padgett (2005) found that on 668 new issues in the Shanghai and Shenzhen Stock Exchanges from 1 January 1996 to 31 December 2000, the average market-adjusted initial return on the 1st, 5th, 10th, and 20th trading days are 129.16%, 126.93%, 126.93% and 124.95%. Using cross-sectional analysis to explain the extraordinarily severe underpricing of Chinese IPOs, found that IPO underpricing is primarily explained by high demand caused by a quota system and the high proportion of uniformed individual investors. Estimation results show that the information asymmetry hypothesis explains underpricing in the Chinese IPO market well, while the signaling hypothesis does not.

Chan, et al. (2004) investigated that underpricing and long-term performance of 570 A-share IPOs issued in China between January 1993 and December 1998 and 39 B-share IPOs issued between January 1995 and December 1998. This study found that there is a huge underpricing of A-share IPO, as the average return of the A-share IPO on the first trading day is 178%. In contrast, the underpricing for B-share IPO is much smaller, with an average return of only 11.6% on the first trading day.

Kutsuna, et al. (2009) examined the pricing of 487 book-built JASDAQ IPO and found that price adjustments are limited by prior implicit agreement among the relevant parties to the offering: issuer, underwriter and investors

Lee et al. (1996) investigated IPOs for short- and long-term on the Australian market. They found that IPOs are underpriced at 16.4%. While the results for long-term show that Australian IPOs significantly underperformed market movements in the three-year period subsequent to the listing.

Suzuki (2008) investigated IPOs in Japan and found the ownership by board members was positively associated with the level of gross spread but was not associated with post-issues operating performance. The presence of a commercial bank in the ownership structure of IPO firms decreases the gross spread and increases post-issue operating performance of IPO firms. Issuers pay a lower underwriting fee as the ownership share of the lead underwriter-affiliated VC increases unlike other VCs.

Venture capital participants with IPO shares also play an important role for IPO companies. Hu et al. (2012) found that the effect of venture capital participation on accounting information quality. They found that venture capitalists had a significant effect on earnings management with reduced discretionary accruals before the expiration of the equity lock-up period. They also found that venture capital play a more important role in the earnings management of non-state-owned IPO companies than for state-owned companies.

ii. Underpricing phenomenon in Malaysia

Dowson (1987) found that on the average degree of IPO underpricing on the Malaysian market, IPOs were underpriced at 166.7% when compared with Hong Kong 13.8% and Singapore 39.4% from 1978 to 1984. Jelic et al. (2001) found that the average degree of IPO underpricing was 99%, from 1980 to 1995. Yong and Isa (2003) found that the average degree of IPO underpricing was 94.91% from 1990 to 1998. Murugesu and Santhapparaj (2009) found that IPOs were underpriced at 81% from 1999 to 2004. These models have been developed to explain the underpricing phenomenon.

Ahmad-Zaluki and Abidin (2011) investigate initial return for Malaysian Real Estate Investment Trust (REIT) and non REIT IPO from 2005 till 2007. They found that average value of initial return for REIT is significantly lower (i.e. 2.72%) than non REIT (i.e. 27.99%).

Ahmad-Zaluki and Kect (2012) examine the short-run and long-run investment performance of Malaysian IPO companies that are listed on the MESDAQ market from 2002 till 2005. The results show that the mean for short-run performance is 37.18%. While for long-run tend to be underperform; the Cumulative Average Abnormal Return (CAR) for 36 months post-IPO is -41.74%.

Paudyal, et al. (1998) examined initial premium and long-term performance of IPOs in the Malaysian market from January 1984 to September 1995. They found that on average Malaysian IPOs offer an initial excess return (premium) of about 62%. The results from regression analysis revealed that the initial premium of the IPO was driven by oversubscription, market volatility, proportion of shares sold, underwriter reputation, and ex ante risk. The result also shows that IPOs underwritten by reputed underwriters were significantly better long-term investments when compared to IPOs underwritten by less reputed underwriters.

Prasad, et al. (2006) found that the short- and long-run performances of Malaysian IPOs were highly underpriced when compared to IPOs in developing countries. The data consists of the IPOs of various firms that went public for the first time from 1968 to 1992. This study was investigating the impact of IPO policy that has been implemented since 1976 in Malaysia. The policy stated that at least 30 % of new shares for an IPO to be sold to the indigenous *bumiputera* population or to the mutual funds owned by them. The result shows that the average IPO underpricing was 61% in the period mentioned after the regulatory economic policy was instituted.

How, et al. (2007) analyzed share allocation on the Malaysian IPO market found that *bumiputera* investors and the Malaysian public received an almost equal allocation and made

similar profits per issue. IPOs with a higher share allocation to retail *bumiputera* investors performed best in the short- and long-term.

Uddin (2008) found that the average listing time lag for Malaysian IPOs was 115 day and the average intended underpricing in Malaysia was 68.81%. This study used data from 1990 to 2000. Ariff, et al. (2007) investigated IPO underpricing in the United Kingdom, Singapore, and Malaysia and found that IPO underpricing was strongly related with government-linked companies (GLC).

Abdul Rashid et al. (2012) indicated that 130 companies in technology and industrial product sectors that went public with an IPO between 2004 and 2008 found that board size, board independence, age, leverage, underwriter, and listing board significantly influenced the extent of IC disclosure in the IPO prospectus.

The first study regarding IPOs for *shariah*-compliant companies in Malaysia was Abdul Rahim and Yong (2010). Their study was concerned with the effect of *shariah*-compliant status on the patterns of initial IPO return. They found that IPOs was underpriced at 22.49% (main board), 31.83% (second board), and 41% (MESDAQ). The results also show that initial return of *shariah*-compliant IPO was driven by the size and type of offer.

2.3 Information Asymmetry

There are a number of theories that have been developed to explain the underpricing phenomenon. The most popular model is the information asymmetry model (Rock, 1986). This model assumes that information regarding IPO performance known by investors can be affected by the degree of IPO underpricing. Additionally, this model divided the investors into two groups regarding the information they know. The first group is informed investors, which are the investors who have more information about IPO companies. The second group

is uninformed investors, which are the investors who have less information about IPO companies.

Brau, et al. (2004) investigated share price reactions around the time of lockup agreement expiration. The results indicate statistically significant negative abnormal returns in the event window surrounding the expiration date. The results are consistent with informational asymmetry and decreasing incentive alignment between insiders and general shareholders.

Benerjee et al. (2010) examined the impact of country-level information asymmetry, i.e. home country investor bias, effectiveness of contract enforcement mechanisms, and accessibility of legal recourse on IPO underpricing in 36 countries, which found that all the variable had a significant impact on the degree of IPO underpricing.

Chowdhry and Sherman (1996) argued that when the offer price of an IPO is set many days before the issue closes for bidding by investors, then the relevant price information leaks and became public knowledge before investors have finished bidding for shares. Consequently, there are instances when all investors realize ex ante that the offer price is 'too low'. We observed a large oversubscription for shares as well as instances when the investors realized that the offer price was 'too high' and the issue fails. If failure is costly, then the offering is underpriced to reduce the likelihood that the issue will fail. This is an addition to underpricing, as suggested by Rock (1986); to composite the uninformed investors for the adverse selection problem they face in share allocation.

2.4 Underwriter

Several different models for underwriters have been discussed. As suggested by Rock (1986), information asymmetry known by investors has created an important role for the

underwriter to provide more information about the market. Premarket activities undertaken by the underwriter can signal to the public that there is significant demand for the IPOs shares.

Carter et al. (1998) suggested that the underperformance of IPO stocks relative to the market over a three-year holding period is less severe for IPOs handled by underwriters with a better or larger reputation. Kenourgios et al. (2007) showed that underwriter reputation and times of oversubscription significantly affects the average degree of IPO underpricing.

Kirkulak and Davis (2005) investigated underwriter reputation and IPO underpricing in Japanese IPO market using data from 1998 to 2002. They found the relationship between underwriter reputation and IPO underpricing depends on where the IPO is priced, which reflects the level of demand for the issue. When there is a high (low) demand then there is a positive (negative) and significant relationship between underwriter reputation and the level of underpricing.

Yip et al. (2009) found that investors could earn above market returns by investing in IPOs that are underwritten by leading investment banks and backed by venture capitalists and divest before the expiration of the lockup period. Vong and Trigueiros (2010) examined the first day returns of 480 IPO in Hong Kong from of 1994 to 2005. The results show that offers with a two or higher reputation of the underwriter tend to be less underpriced.

Jones and Swaleheen (2010) examined the relationship between underwriter reputation and IPO initial return over a 24-year period from 1980 to 2003. The study showed that underwriter reputation was statistically significant and negatively related to the initial return from 1980 to 1991; and statistically positively related to initial returns from 1992 to 2003, when reputation was taken as an exogenous variable. When considering the choice of the reputation of underwriter as endogenous to characteristics of the firm, the reputation of an

underwriter is significant and positively related to the IPO initial return for 1980 to 2003 and 1992 to 2003; and not significant for 1980 to 1991.

Su and Brookfield (2013) examined the experience of a near-population sample of Chinese IPOs from 1995 to 2007. They focused on underwriter reputation and, in this neglected area, discovered that reputational impact is important when reforms open the listing process to market solutions to increase market liquidity and depth. They demonstrate that the outcome has been successful, which has important policy implications for stock market reform generally and IPO system reform specifically.

Neupane and Thapa (2013) indicated that underwriter reputation and the underwriter-investor relationship for IPO markets in India found that high reputation and low reputation underwriters have strong relationships with different sets of investors. While large institutions investors participate early in IPOs managed by high reputation underwriters, high net worth investors appear to do the same in IPOs managed by low reputation underwriters. The varying nature of the relationships with investors also has important consequences for IPO pricing. The analysis of setting the offer price shows that reputation matters greatly for high reputation underwriters. Low reputation underwriters, on the other hand, appear to price aggressively and set high offer prices even when institutions participation is negligible. Therefore, underwriter reputations are important to determine the degree of IPO underpricing.

Hensel (2009) investigated IPOs in the USA and found that high volume traditional underwriters have statistically significant higher first day price surges than low volume traditional underwriters did. While, Walker, (2008) indicated the relationship between underwriter prestige, family control, and IPO underpricing. He found that underwriter prestige was positively related to underpricing on the USA IPO market.

2.5 Winner's curve

Winner's curve is a phenomenon that may occur with imperfect information. Rock (1986) developed the winner's curve model to explain IPO underpricing with information asymmetry between informed and uninformed investors. If IPO shares have an excess demand, then the shares will distribute to investors by rationing. Informed investors can differentiate the quality of issues from the beginning, while the uninformed will not. This condition is known as the winner's curve phenomenon. Beatty and Ritter (1986) argued that there is a positive relation between the ex-ante uncertainty about IPO value and its expected initial return. An implication of this finding is that, if the level of ex ante uncertainty is endogenous, then an issuing firm has an incentive to reduce uncertainty by voluntarily disclosing information.

Yong (2011) examines the winner's curve hypothesis and the bandwagon effect in Malaysia's IPO using a data from January 2001 to December 2009. The average initial return for the 160 Malaysian private placements IPO is 18.51% as opposed to the average initial return of 28.84% for the 210 non private placements IPO.

Lin, et al (2010) investigated 315 fixed-priced IPO issued in Taiwan from 1995 to 2003. IPO subscribers in Taiwan own the option to withdraw from the IPO allocations after learning the allocation rate. Investor options to withdraw will reduce the information asymmetry between informed investors and uninformed investors but will increase firm commitment to the underwriting risks. The study shows that under investor options to withdraw, the uninformed investors can improve performance by leaning the allocation rate and/or withdrawal rate. Consequently, firm-commitment underwriters will absorb more overpriced shares. Unless underwriters are compensated directly by issuers, the IPO should

be more underpriced to compensate underwriting activities under investor options to withdraw.

Kerins et al. (2007) documented discretionary underpricing and partial adjustment of the IPO price in the public offer tranche of the hybrid auction regime in Japan in which investor information difference are not important, without road shows, preferential allocations are negligible, institutions investing is low, and the public offer tranche cannot fail. The magnitude and variation of underpricing in their sample, which spans relatively hot and cold markets are similar to those reported for US IPOs. The evidence is most consistent with underpricing arising from an implicit contract to allocate risk related to initial mispricing where, in exchange for guaranteeing a minimum price, the underwriter participates indirectly in upside performance.

Kaneko and Pettway (2003) investigated the auctions and book building of Japanese IPOs. They found that, after controlling for ex ante uncertainty variables, other issues, and company variables, the initial returns of book building IPOs were significantly higher than for auctions especially from a hot market.

2.6 Signaling

Another model developed is signaling model. Welch (1989) assumed that companies know more about their values rather than investors or underwriters. Thus, it is important for companies to dispatch their information to the investors to reduce the levels of information asymmetry between companies and investors.

Hutagaol (2005) explained that companies could typically signal their quality with several variables such as firm choice of underwriters or auditors, quality of management, quality of bank loans, and other. Agathee et al. (2012) examined the evidence on the short-

run underpricing of IPOs listed on the Stock Exchange of Mauritius from 1989 to 2010. The average initial return is 13.14%. Using a regression approach found that aftermarket risk level and auditor reputations has a significant positive impact on the initial return of the IPO. Thus, it is important for companies to signal their value to attract demand for IPO shares.

Cao and Shi (2006) examined signal quality by underpricing or under-issuing new shares. By signaling quality on the IPO market, high-quality companies can benefit more from the publicity of the industry than low-quality companies can. This study shows that two-market equilibrium exists. In one equilibrium, large underpricing clusters, which are supported by self-fulfilling expectations that the industry's publicity will be high. In the other equilibrium, there is no underpricing, which is supported by self-fulfilling expectations that the industry's publicity will be low.

Thornton et al. (2009) showed that the first day price change and is related to the final offering price being set below, within, or above the initial price range. Based on six years from 2002 to 2007 of market data, which covers both bull and bear markets, it appears that investors might be able to realize higher percentage gains on the first day by investing in stocks that are priced above the range indicated in the "red herring". A company set that a price range in their "red herring" prospectus filed with the Securities Exchange Commission when they issued shares for the first time. Furthermore, the exchange on which the IPO is traded also plays a significant role on the first day price change. We find empirical support for the partial adjustment hypothesis of IPO underpricing. This finding is robust with respect to market regiments.

Ahmad Zaluki, et al (2011) indicated that earnings management in Malaysian IPOs from evidence of income-increasing earnings management in Malaysian IPOs that occurs primarily for IPOs from severe economic stress, i.e., the East Asian crisis. Within the high-

ownership concentration Malaysian market, post-IPO controls concerns also appear to constrain IPO earnings management because the owner seems willing to accept reduced IPO proceeds and signaling opportunities to increase the likelihood of retaining control of the company post-IPO.

Heerden and Alagidede (2012) examined underpricing on the Johannesburg Stock Exchange from 2006 to 2010. This study showed significant short-run underpricing of IPO with trading day 15 showing the highest initial return using the adjusted market and the market relative model to analyze short- and long-run performance of IPOs. A sector wise analysis indicated the financial sector delivered the highest return but this was mostly attributed to the 2007 bubble, as this sector subsequently went on to show negative returns in 2009 and 2010. They also found that the average IPO price increased dramatically from the financial crisis in 2008 even though the total proceeds have decreased. This was a signal that investment banks may be trying to protect their reputation in times of trouble and only opt for more well-known and established firms. A value analysis of the new issues also shows that investors tend to prefer well known and established firms.

2.7 Long-term IPO performance

There are many theories that explain the long-term performance of an IPO. In measuring the long-term performance of an IPO, IPOs are compared with benchmarks. Several benchmarks are used as follows: market index, portfolios of firms such as book-to-market ratio, size, or industry. In long-term performance of IPOs, there are two ways to measure return: cumulative abnormal return (CAR) and buy-and-hold return (BHAR). CAR is the total monthly abnormal return. Abnormal return is excess monthly returns between IPO companies and the benchmark. BHAR is excess return that investors earn if they hold IPO

shares for a certain period. Therefore, if investors hold the IPO shares for one year, BHAR is the excess return that investors receive from one year.

Various studies have investigated long-term performance of IPO markets found that IPOs underperformed their benchmarks. Ritter (1991) examined long-term performance of IPOs in the United States and found they significantly underperformed their benchmarks using CAR and BHAR methods. Carter et al. (1998) also found IPO stocks were underperformed relative to the market over a three-year holding period and less severe for IPOs handled by underwriters with more prestige. Chan, et al. (2004) has also reported the same results in China. They found IPOs in China also slightly underperformed. While, Lee, et al. (1996) reported that Australian IPOs significantly underperformed market movements in the three-year period subsequent to list. Drobetz et al. (2005) indicated that long-term performance of Swiss IPOs and found that IPOs underperformed their benchmarks.

Levis (1993) found the long-term performance of IPOs in the United Kingdom underperformed using the CAR method. The same result was also reported when BHAR was used. Cai and Wei (1997) measured IPO performance in Japan and found that IPOs underperformed their benchmarks. Kooli and Suret (2004) investigated long-term performance in Canada. Using a data from 1991 to 1998, they found that IPOs underperformed.

Drobetz, et al. (2005) found long run underperformance from IPO firms as they tended to be small firms that used a small capitalization index as the benchmark. This study investigated IPO companies in Switzerland using data from 1983 to 2000. Therefore, underperformed of long-term IPO were observed in various countries.

However, Kim, et al. (1995) found that long-term performance of IPOs was observed to be better in Korea with an excess return of IPOs that ranged from 80.63% to 91.59%.

Barber and Lyon (1997) argued that long-term abnormal return should be calculated as the long-term BHAR for two reasons. The first reason is that CAR is a biased predictor of BHAR. This problem at its worst can lead to incorrect inferences. For example, a sample of the firms that all have zero annual buy and hold abnormal returns calculated relative to a market benchmark have a corresponding 12-month mean cumulative abnormal return of +5% on average. In this sampling situation, researchers who restrict their analysis to cumulative abnormal returns ignore the analysis of buy and hold; abnormal returns could conceivably conclude that the sample in question earned long run abnormal returns when in fact it did not. In a random sample, researchers can draw different inferences using CAR in lieu of BHAR in roughly 4% of all sampling situations. The second reason is that even if the inference based on CAR is correct, the documented magnitude does not correspond to the value of investing in the average or median sample firm relative to an appropriate benchmark over the horizon of interest. Yet this is precisely the objective of long-term event studies of stock returns.

Gao and Jain (2011) found weak evidence of superior long-run investment performance on the part of founder CEOs who led IPO companies. The study also found that high technology IPO companies have consistent evidence to indicate that founder CEOs who lead companies provide significantly higher long-run return relative to no-founder CEO led companies.

How, et al. (2011) found robust results that companies, which initiated a dividend, perform significantly better up to five years after the initiation date in Australia. Bessler and Thies (2007) found that the subsequent financing activity on the equity market is the most important factor for determining the future performance of an IPO in Germany.

Su and Bangassa (2011) examined IPO underpricing and long-run IPO performance of Chinese IPOs. They found that a little influence of underwriter reputation on the level of IPO underpricing, but a significant positive relationship between underwriter reputation and the level of IPO long-run performance. Although the significantly negative three-year market-adjusted buy-and-hold abnormal return suggested a potential loss to investors who hold Chinese IPOs long-term, investing in IPOs managed by more prestigious underwriters helps mitigate losses.

Bancel, et al. (2009) examined several cross-listing theories that employ a sample of over 250 European ADRs representing 19 countries from the 1970 to 2002. They found that though Levels II and III listings underperform over 3 years subsequent to the US listing and the determinants of long-term performance are significantly different between non-IPO and IPO firms.

This study focuses on long-term performance of IPO markets in Malaysia and found evidence for long-term performance of IPOs performed better long-term (How, et al., 2007). Ahmad-Zaluki et al. (2007) found that significant over performance for equally weighted event time CARs and buy-and-hold returns using two market benchmarks, though not for value-weighted returns or using a matched company benchmarks. The significant abnormal performance also disappeared under the calendar-time approach using the Fama-French (1993) three-factor model. While the long run performance of main- and second-board IPO do not differ from the years of listing, issue proceeds, and initial returns were found to be performance-related.

Corhay, et al. (2002) found IPOs tend to outperform the market with a positive CAR of 41.7% over three years from the listing day. Jelic, et al. (2001) examined the financial performance of Malaysian IPOs from 1980 to 1995. The results suggest extremely high and

statistically significant initial premiums and positive and statistically significant long-term up to 3 years after listing. The findings for long-term returns contradict the consensus of the IPO literature that documents a significant negative long-term performance. This result indicates a negative association of upward bias in management earnings forecast with IPO performance from the first 12 months after the IPO.

While, Paudyal et al. (1998) found that IPOs underwritten by reputed underwriters are significantly better long-term investments when compared to IPOs underwritten by less reputed underwriters.

Ahmad Zaluki and Boon Kect (2012) provided evidence on short- and long run investment performance of Malaysian IPOs that are listed on the MESDAQ market. In line with post Malaysian studies, the results of the raw and market-adjusted initial return show that IPO companies are significantly underpriced in the short-run. However, in the long-run the CAR and BHAR methods reveal that these companies underperformed the market. This result concerns the long-run performance in contrast with the results observed by previous Malaysian studies using a sample of companies listed on the main-board and/or second-board. However, they are consistent with the results reported in other countries. This study found that companies in the technology sector issued during a hot issue period and underpriced IPO performed less well in the long-run, which supports the fad hypothesis of long-run underperformance. This study suggested that investors who purchase IPO shares on the MESDAQ market gain high positive returns in the short-run but do not fare well in the long-run. This study provides new information to investors when choosing IPOs listed on the MSE.

2.8 Conclusion

The IPO literature document several anomalies of IPOs on the market as follows: short-term performance (underpricing) and long-term performance (overpricing). There is no single consensus hypothesis that could explain the underpricing phenomenon. The current explanation of IPO underpricing is mostly based on the information asymmetry of IPO shares.

The evidence of the long-term performance of IPOs is less consistent than IPO underpricing. The current explanations are also related to investors, in certain information asymmetry of IPO shares, which, in turn, results in the low underpricing and overperformance of the long-term performance of IPO companies.

This study aims to fill the gap in the literature. First, this study examines *shariah*-compliant and non *shariah*-compliant companies. This study also explains the shareholder analysis of Malaysian IPOs. Finally, this is the first Malaysian study to examine long-term performance of IPOs for *shariah*-compliant companies and could provide new insights into the Malaysian IPO market.

CHAPTER 3: RESEARCH METHODOLOGY

This chapter explains the research methods and the data used to carry out the investigation of IPO underpricing and long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies. Previous literature regarding IPO underpricing and long-term performance have been discussed in Chapter 2. This chapter also describes and defines each research variable used in this study.

3.1 Sample

The data used in this study is comprised of 419 IPOs for *shariah*-compliant companies and 51 IPOs for non *shariah*-compliant companies issued from 2000 to 2011. Table 7 shows the total number of IPOs for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE.

Table 7: The total number of IPOs for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE

Year	*Shariah*-Compliant Companies	Non *Shariah*-Compliant Companies
2000	36	2
2001	20	0
2002	48	3
2003	48	9
2004	59	12
2005	70	6
2006	35	3
2007	22	3

2008	22	1
2009	13	1
2010	23	6
2011	23	5
Total	**419**	**51**

3.2 Data Analysis

i. Underpricing

To calculate the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies on the first day trading on the MSE, this study calculated underpricing using the following formula:

$$UP_i = \frac{P_1 - P_0}{P_0}$$

Where,

UP$_i$: The underpricing of company i on the first day of issuing IPO

P$_1$: The closing price of company i on the first day of issuing IPO

P$_0$: The offering price of company i on the first day of issuing IPO

ii. Determinant factors

To quantify the role of the explanatory variables on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies, this study performs a multiple linear regression, which is generally estimated by the following equation:

$$UP_i = \alpha_i + \beta_1 (OP_i) + \beta_2 (OS_i) + \beta_3 (CA_i) + \beta_4 (OS_i) + \beta_5 (R_i) + \beta_6 (UR_i)$$

$$+ \beta_7 (TM_i) + \beta_8 (TI_i) + \beta_8 (EC_i) + \beta_8 (ROE_i) + \varepsilon_i$$

Where,

UP_i : Underpricing of company i

OP_i: Offer price of company i

OS_i: Offer size of company i

CA_i: Company age of company i

OS_i: Oversubscription of company i

R_i: Risk of company i

UR_i: Underwriter reputation of company i

TM_i: Type of market of company i

TI_i: Type of industry of company i

EC: Economic condition of company i

ROE: Return on equity of company i

ε_i: Others factor of company i

Table 8 summarizes the definitions of explanatory variables.

Table 8: Definitions of Explanatory Variables

No.	Explanatory Variables	Definitions
1	Offer price (OP)	Offer price per share (retail) in Malaysian Dollar (RM)[8].
2	Offer size (OS)	The number of shares offered (unit) multiplied by par value (RM) per share.
3	Company age (CA)	Company age computed from the date (year) of incorporation to the date (year) of listing on the MSE.
4	Times of oversubscription (OS)	Demand for IPO shares exceeded than total number of IPO shares issued. For example, if an IPO offers two million shares but the applications are for 20 million shares, then the times of oversubscription rate is 10.
5	Risk (R)	Using from the method found in Rahim and Yong (2010), this study calculated risk as the reciprocal of the IPO offer price that is: $$\text{risk} = \frac{1}{OF_i}$$ where, OF_i = offering price for company i.
6	Underwriter reputation (UR)	1 if high underwriter reputation. High underwriter reputation is the first and second highest number of IPO managed by an underwriter from of study, 0 otherwise.
7	Types of market (TM)	1 if ACE[9] market, 0 main[10] market.

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[8] The Malaysian dollar (RM) is the Malaysian currency.
[9] ACE market is provided for the excellent growth companies.
[10] Main market is provided for the companies with sizable business.

8	Types of industry (TI):	
	1. Property (PR)	1 if property industry, 0 otherwise
	2. Technology (T)	1 if technology industry, 0 otherwise
	3. Plantation (PL)	1 if plantation, 0 otherwise
	4. Trading/Service (T_S)	1 if trading/service, 0 otherwise
	5. Consumer Product (CP)	1 if consumer product, 0 otherwise
	6. Industrial Product (IP)	1 if industrial product, 0 otherwise
	7. Infrastructure Project Cos.(IPC)	1 if infrastructure project cos., 0 otherwise
	8. Construction (C)	1 if construction, 0 otherwise
	9. Real Estate Investment Trusts (REITs)	1 if real estate investment trusts, 0 otherwise
9	Economic Condition (EC)	1 if the IPO companies issues share from the sub-prime crisis (happened on December 2007-June 2009), 0 otherwise.
10	Return on Equity (ROE)	ROE is cited from Bloomberg BusinessWeek. Cited in 2014.

iii. Analysis of Shareholdings

The focus of investigation in this study is whether shareholder analysis of IPO companies has an impact on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. A unique feature of the Malaysian IPO market is that the government fixed a 30% new shares as reserved for *bumiputra* investors or *bumiputra* institutions. This rule was established to protect indigenous people in Malaysia because in Malaysia there are a variety of races, ethnicities, and religions. While for companies to be

categorized as *Bumiputra* companies, the companies must have at least 51 % of *bumiputra* for the board of directors, managerial and professional staff, and supporting staff.

To quantify the role of shareholder analysis on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies, this study performs a multiple linear regression, which generally is estimated by the following equation:

$$UP_i \; = \; \alpha_i + \beta_1 \, (BC_i) + \beta_2 \, (CC_i) + \beta_3 \, (CEO_i) + \beta_4 \, (CS_i) + \beta_5 \, (SH_i) + \varepsilon_i$$

Table 9: Definitions of Shares Allocation Variables

No.	Explanatory Variables	Definitions
1	*Bumiputra* Capital (BC)	1, if 50 % shares are held by *bumiputra* investors (individual, corporate etc.), 0, otherwise
2	Corporate Capital (CC)	1, if 50 % shares held by corporate investors (*bumiputra* or non *bumiputra*), 0, otherwise
3	CEO Shares (CEO)	Shares (in percentage) held by CEO, founder, manager, or director of companies.
4	IPO Companies Shares (CS)	Shares (in percentage) held by IPO companies.
5	Shareholders (SH)	The number of shareholders holds IPO shares.

iv.   Long-term Performance of IPO

This study evaluates long-term performance of IPOs for *shariah*-compliant and *non shariah*-compliant companies by computing CAR for 1−36 months after listing exclusionary initial returns. To measure the long-term performance of IPOs for *shariah*-compliant and non shariah-compliant companies, this study uses the FTSE Bursa Malaysia Market Index as a benchmark. The daily IPO closing prices are taken from the Yahoo finance website. The total

IPO shares issued from 2006–2010 was 115 IPOs for *shariah*-compliant companies and 14 IPOs for non *shariah*-compliant companies. After deducting IPOs with imperfect information, this study used 74 IPOs for *shariah*-compliant companies and 4 IPOs for non *shariah*-compliant companies that meet the following criteria: (i) the companies are listed on the MSE for 3 year; (ii) for companies with imperfect information must be excluded from this study; and (iii) this study used closing pricing to calculate CAR.

Return is defined as the daily return on closing price listed on the MSE. A month is defined as following 20-trading-day periods. Thus, month 1 consists of event day 1–20. Month 2 consists of event 21–41 and, continuously, to month 36.

To get a three-year CAR, the abnormal returns for each month, for a 36-month period are calculated. Firstly, this study calculated return for IPOs for *shariah*-compliant and non *shariah*-compliant companies used the following formula:

$$R_{it} = \frac{C_{xi} - C_{xi-1}}{C_{xi-1}}$$

Where,

R_{it}: Return for company i from period t

C_{xi}: Today closing price for company i

C_{xi-1}: Yesterday closing price for company i

Secondly, this study calculated the return for market index used the following formula. This study used *FTSE Bursa Malaysia* market index as a benchmark.

$$R_{mt} = \frac{C_{mi} - C_{mi-1}}{C_{mi-1}}$$

Where,

R_{mt}: Return for *FTSE Bursa Malaysia* market index from period t

C_{mi}: Today closing price for *FTSE Bursa Malaysia* market index

C_{mi-1}: Yesterday closing price for *FTSE Bursa Malaysia* market index

Third, daily abnormal return (AR_{it}) is calculated using this formula:

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

Where,

AR_{it}: Abnormal return for company i from period t

R_{it}: Return for company i from period t

R_{mt}: Return for *FTSE Bursa Malaysia* market index (benchmark) from period t

Then, to get average abnormal return(R_t) in month, AR_{it} is averaged.

$$AR_{tm} = \frac{\sum_{t=1}^{20} AR_{it}}{N}$$

Where,

AR_{tm}: Average AR_{it} in month 1 to month 36

$\sum_{t=1}^{20} AR_{it}$: Sum of AR_{it} for day 1 to day 20

N: Number of trading days in one month

Therefore, to get average abnormal return (AR_{it}) is multiplied by the weight for the company i.

$$R_t = \sum_{t=1}^{n_t} w_i * AR_{it}$$

Where,

R_t: Average abnormal return from period t

AR_{it}: Abnormal return for company i from period t

w_i: Weight for company i

n_t: Number of companies from period t

Two types of weight are used in this study; equal-weight (EW) and value-weight (VW).

1. **EW=1/n_t**

n_t: Number of IPO companies for *shariah*-compliant companies (for non *shariah*-compliant companies: is the number of IPO companies for non *shariah*-compliant companies) issues from period t

2. **VW=$\frac{MV_i}{\sum_{i=1}^{n_t} MV_i}$**

Where,

MV_i: Market value of company i.

Therefore, to calculate three-year CAR from month 1 to months 36 R_t is summed from period 1 to 36 as follows:

$$CAR_{1,36} = \sum_{t=1}^{36} R_t$$

Where,

$CAR_{1,36}$: Cumulative abnormal return from month-1 to month-36

R_t: Average abnormal return

To quantify the role of the explanatory variables on the long-term performance of IPO for *shariah*-compliant companies[11], this study performs a multiple linear regression, which is generally estimated by the following equation (for equal-weight):

$$LT_{EW} = \alpha_i + \beta_1 (UP_i) + \beta_2 (OP_i) + \beta_3 (OS_i) + \beta_4 (CA_i) + \beta_5 (OS_i) + \beta_6 (R_i) +$$
$$\beta_7 (UR_i) + \beta_8 (TM_i) + \beta_9 (TI_i) + \beta_{10} (EC_i) + \beta_{11} (ROE_i) + \beta_{12} (IA_i) + \varepsilon_i$$

Where,

LT_{EW}: Cumulative abnormal return (CAR) equal-weight for *shariah*-compliant companies.

UP$_i$: Underpricing of company i

OP$_i$: Offer price of company i

OS$_i$: Offer size of company i

CA$_i$: Company age of company i

OS$_i$: Oversubscription of company i

R$_i$: Risk of company i

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[11] Multiple linear regression analysis cannot be done for non *shariah*-compliant companies because the number of IPO is low (only 4 IPO for non *shariah*-compliant companies)

UR_i: Underwriter reputation of company i

TM_i: Type of market of company i

TI_i: Type of industry of company i

EC: Economic condition of company i

ROE: Return on equity of company i

IA_i : Information Asymmetric (1, if the companies disseminate investment information (investors' relation) through internet (website). 0, otherwise.)

ε_i: Others factor of company i

The following equation is the multiple linear regression analysis for Cumulative Abnormal Return (CAR) for value-weight:

$$LT_{VW} = \alpha_i + \beta_1 (UP_i) + \beta_2 (OP_i) + \beta_3 (OS_i) + \beta_4 (CA_i) + \beta_5 (OS_i) + \beta_6 (R_i) +$$
$$\beta_7 (UR_i) + \beta_8 (TM_i) + \beta_9 (TI_i) + \beta_{10} (EC_i) + \beta_{11} (ROE_i) + \beta_{12} (IA_i) + \varepsilon_i$$

Where,

LT_{VW}: Cumulative abnormal return (CAR) value-weight for *shariah*-compliant companies.

UP_i : Underpricing of company i

OP_i: Offer price of company i

OS_i: Offer size of company i

CA_i: Company age of company i

OS_i: Oversubscription of company i

R$_i$: Risk of company i

UR$_i$: Underwriter reputation of company i

TM$_i$: Type of market of company i

TI$_i$: Type of industry of company i

EC: Economic condition of company i

ROE: Return on equity of company i

IA_i : Information Asymmetric (1, if the companies disseminate investment information (investors' relation) through internet (website). 0, otherwise.)

ε$_i$: Others factor of company i

Table 8 presents the definitions of explanatory variables.

3.3 Hypothesis

This section outlines the development of a testable hypothesis for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE. Based on the literature review, this study can be divided into four main hypotheses.

The first main hypothesis is that average degree of IPO underpricing for non *shariah*-compliant companies are higher than *shariah*-compliant companies. The different regulatory guidelines between *shariah* compliant-companies and non *shariah*-compliant companies may provide a different average degree of IPO underpricing on the Malaysian market.

The second main hypothesis is related to the impact of the determinant factors on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. It is expected that the different factors will influence the average degree of IPO

underpricing for *shariah*-compliant and non *shariah*-compliant companies because of different regulatory guidelines.

The third main hypothesis is related to the impact of shareholder analysis that is any impact of shareholder analysis on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies.

The final main hypothesis is related to the long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies, which have either overperformed or underperformed their benchmarks.

The four main hypotheses are explained in more detail in the next section.

i.   IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies.

The hypotheses regarding IPO underpricing are tested either by the average degree of IPO underpricing for non *shariah*-compliant companies as higher than for *shariah*-compliant companies. This leads to a formulation of the first hypotheses as follows:

H_1: *The average degree of IPO underpricing for non shariah-compliant companies are higher than for shariah-compliant companies.*

ii.   The impact of the determinant factors on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies.

Based on the discussion regarding the relationship between determinant factors and IPO underpricing for IPO companies in the prior section, this hypotheses are set out as follows. This study examined 419 *shariah*-compliant companies, 51 non *shariah*-compliant companies, and the determinant factors that influenced both types of companies.

Underwriter and IPO companies are responsible for the fixed offer price. Therefore, the hypotheses offer price may affect the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies.

H_2*: Offer price has a significant effect on the average degree of IPO underpricing for shariah-compliant companies.*

H_3*: Offer price has a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.*

Share size is important to measure in this study. It is important to understand either's share sizes have a significant impact on the average degree of IPO underpricing.

H_4*: Offer size has a significant effect on the average degree of IPO underpricing for shariah-compliant companies.*

H_5*: Offer size has a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.*

Age refers to how long a company has been incorporated before it goes public. Older firms are assumed to have more experience, which in turn reduce the average degree of IPO underpricing.

H_6*: Company age has a significant effect on the average degree of IPO underpricing for shariah-compliant companies.*

H_7*: Company age has a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.*

The high demand for IPO shares can increase the oversubscription rate. Investors play an important role in determining the subscription rate of IPO shares.

H_8: Oversubscription rate has a significant effect on the average degree of IPO underpricing for shariah-compliant companies.

H_9: Oversubscription rate has a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.

The average degree of IPO underpricing for company risk will involve a high average degree of underpricing. Therefore, the following hypothesis is established.

H_{10}: Risk has a significant effect on the average degree of IPO underpricing for shariah-compliant companies.

H_{11}: Risk has a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.

A prior study shows the important roles of underwriter in the promotion and advertising of IPO shares (e.g. Carter et al. (1998)). In this study, it is expected that underwriter reputation have an impact on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies.

H_{12}: Underwriter reputation has a significant effect on the average degree of IPO underpricing for shariah-compliant companies.

H_{13}: Underwriter reputation has a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.

Two market types are introduced in MSE. The ACE market was provided for growth companies while the main market for sizable companies. In this study, it is expected that market type have an impact on the average degree of IPO underpricing.

H_{14}: *Market type has a significant effect on the average degree of IPO underpricing for shariah-compliant companies.*

H_{15}: *Market type has a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.*

Prior studies have shown that the impact of the type of industry on the average degree of IPO underpricing (e.g. Islam, et al. (2010). In this study, it is expected that industry type have a significant impact on the average degree of IPO underpricing.

H_{16}: *Industry type has a significant effect on the average degree of IPO underpricing for shariah-compliant companies*

H_{17}: *Industry type has a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.*

The economic crisis that happened between 2008 and 2009 has had an impact on issuing IPOs on the Malaysian market. The following hypothesis was established to investigate the impact of the economic crisis on the average degree of IPO underpricing.

H_{18} : *Economic conditions have a significant effect on the average degree of IPO underpricing for shariah-compliant companies.*

H_{19} : *Economic conditions have a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.*

ROE is important to measure equity liquidity. It is important to study the impact of ROE on the average degree of IPO underpricing.

H_{20}: *ROE has a significant effect on the average degree of IPO underpricing for shariah-compliant companies.*

H_{21}: *ROE has a significant effect on the average degree of IPO underpricing for non shariah-compliant companies.*

iii. The impact of shareholder analysis on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies

In this section, we discuss the impact of shareholder analysis on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. The data used in this analysis was comprised of 352 IPOs for *shariah*-compliant companies and 24 for non *shariah*-compliant companies that issued shares from 2000 to 2011. The data was collected from the Annual Report 2011 for all companies. A total of 67 of *shariah*-compliant companies and 27 of non *shariah*-compliant companies were excluded from this analysis because of imperfect information. These hypotheses are set out as follows:

H_{22}: *Bumiputra control companies have a significant effect on the average degree of IPO underpricing for shariah-compliant and non shariah-compliant companies.*

H_{23}: *Corporate capital has a significant effect on the average degree of IPO underpricing for shariah-compliant and non shariah-compliant companies.*

H_{24}: *CEO shares have a significant effect on the average degree of IPO underpricing for shariah-compliant and non shariah-compliant companies.*

H_{25}: *IPO companies' shares have a significant effect on the average degree of IPO underpricing for shariah-compliant and non shariah-compliant companies.*

H_{26}: *Number of shareholders has a significant effect on the average degree of IPO underpricing for shariah-compliant and non shariah-compliant companies.*

iv. Long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies

In this section, we discuss either CAR for *shariah*-compliant and non *shariah*-compliant companies has overperformed or underperformed the benchmark. We also discuss the impact of the determinant factors on the long-term performance of IPOs for *shariah*-compliant companies. The data was comprised of 74 IPO companies for *shariah*-compliant companies and 4 IPO companies for non *shariah*-compliant companies that issue shares from 2006 to 2010.

H_{27} : The CAR (equal-weight and value-weight) for shariah-compliant companies are performed better than CAR (equal-weight and value-weight) for non shariah-compliant companies.

H_{28}: Underpricing has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.

H_{29}: Offer price has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.

H_{30}: Offer size has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.

H_{31}: Company' age has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.

H_{32}: Oversubscription has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.

H_{33}: *Risk has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.*

H_{34}: *Underwriter reputation has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.*

H_{35}: *Types of market have a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.*

H_{36}: *Types of industry have a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.*

H_{37}: *Economic condition has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.*

H_{38}: *Return on equity has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.*

H_{39}: *Information asymmetry has a significant effect on the long-term performance (equal-weight and value-weight) of IPO for shariah-compliant companies.*

3.4 Conclusion

This section explained the methodology applied in this study. Firstly, a theoretical explanation was provided to justify the variables and how they fit the objectives of this study.

The research is grouped as follows: average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies ; the impact of determinant factors on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies ; the impact of shareholder analysis on the average degree of IPO underpricing for

shariah-compliant and non *shariah*-compliant companies; and the long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies.

Finally, this chapter described the definitions of each research variable and the development of our working research hypotheses.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter begins by presenting descriptive statistics relating to IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. This is followed by a discussion of the results of the impact of determinant factors on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. Then, the next section is a discussion of the results on shareholder analysis for *shariah*-compliant and non *shariah*-compliant companies. The next section reports the results of long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies. This is followed by the discussion on the results of the impact of determinant factors on the long-term performance of IPOs for *shariah*-compliant companies. Finally, a brief summary of the results found in this study is provided.

4.2 Results

This section explains the results for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE. Based on analysis, this study can be divided as follows:

i. **IPO Underpricing for *shariah*-compliant and non *shariah*-compliant companies**

Table 10 shows the descriptive statistic results on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies on the Malaysian market. The average degree of IPO underpricing for *shariah*-compliant companies is 28.94% and tends to be slightly higher for non *shariah*-compliant companies at 27.18%. However, the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies in this study was lower than the average degree of IPO underpricing reported in

previous studies, such as Dawson (1987) that reported the average degree of IPO underpricing as 166.7%; Jelic et al. (2001) as 99%; Yong and Isa (2003) as 94.91%; and Murugesu and Santhanpparaj (2009) as 81%. The possible explanation was that the reduction of the average degree of IPO underpricing is related with the market-based pricing mechanism liberalized by the SC in 1996. This mechanism gave total responsibility to companies and the underwriter for setting or making decisions regarding IPO price. However, the final approval from the SC is still required to ensure its appropriateness (How et al., 2007; Abdul Rahim and Yong, 2010). This regulation offers an opportunity to the underwriter and the issuer to set an appropriate offer price with the market price. Therefore, it can reduce the average degree of IPO underpricing.

Additionally, the role of the Malaysian government also has an impact on the average degree of IPO underpricing. The government offers an opportunity for young companies to list shares on the MSE. The criterion for listing shares on the MSE is that companies must have at least a 5-year operating history. However, the companies that are controlled by *bumiputra* (i.e. more than 50% *bumiputra* equity) or involved in a key infrastructure projects are exempt from the minimum 5-year operating history requirement (How, et al., 2007).

Table 10: Average degree of IPO underpricing

Company	No. of Companies	Underpricing	Minimum	Maximum	Standard Deviation
Shariah-compliant companies	419	28.94%	-0.45	2.64	0.4555
Non *Shariah*-compliant companies	51	27.18%	-0.25	2.62	0.5803

The table regarding descriptive statistics for IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies in each year of study follows. Table 11 provides the results. The table shows that a high degree of IPO underpricing was reported in 2000 (62.79%) for *shariah*-compliant companies and in 2003 (58.82%) for non *shariah*-compliant companies. The results also show that IPOs for *shariah*-compliant companies were overpriced in 2008 and for non *shariah*-compliant companies in 2002, 2008, 2009, and 2011. It is important to emphasize that the sub-prime crisis occurred in 2008 and does not have a strong impact on the average degree of IPO underpricing. Overall, these results show that the degree of IPO underpricing for *shariah*-compliant companies became more efficient. The main reason for this is the role of important statutory bodies in Malaysia (e.g. SC, MSE, and MITI[12]) to become a good hub for Islamic investments.

Table 11: Average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies (2000–2011)

Year	*Shariah*-compliant companies		Non *shariah*-compliant companies	
	No. of Companies	Underpricing	No. of Companies	Underpricing
2000	36	62.79%	2	24.55%
2001	20	18.47%	0	-
2002	48	20.40%	3	-13.53%
2003	48	41.31%	9	58.82%
2004	59	38.73%	12	57.13%
2005	70	21.10%	6	23.47%
2006	35	26.97%	3	4.03%

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[12] MITI is Ministry of International, Trade and Industry, Malaysia

2007	22	37.06%	3	6.57%
2008	22	-3.40%	1	-12.50%
2009	13	26.02%	1	-5.00%
2010	23	9.34%	6	2.50%
2011	23	22.70%	5	-1.60%

Table 12 shows the average degree of IPO underpricing for *shariah*-compliant companies by market type. The degree of IPO underpricing in ACE market for both companies (*shariah*-compliant companies at 39.04% and non *shariah*-compliant companies at 55.06%) tend to be higher than main market (*shariah*-compliant companies at 24.09% and non *shariah*-compliant companies at 13.24%). The possible reasons for this phenomenon are due to the high risk companies listed on the ACE market. The technology industry is indicted as a high-risk industry and high average degree of IPO underpricing when compared with other industry types. This study found that for most technology companies that listed their shares on the ACE market showed a parallel result of high average degree of IPO underpricing for the ACE market and the technology industry. It can be concluded that technology companies that list shares on the ACE market tend to have a high average degree of IPO underpricing.

Table 12: Average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies by market type

Market	*Shariah*-compliant companies		Non *shariah*-compliant companies	
	No. of Companies	Underpricing	No. of Companies	Underpricing
ACE market	135	39.04%	17	55.06%

Main market	284	24.09%	34	13.24%

Table 13 shows the average degree of IPO underpricing by industry type. The results shows that IPOs are overpriced for infrastructure (-4.12%) for *shariah*-compliant companies. This result suggests that infrastructure industry is a good industry for investment. In contrast, property (7.00%), construction (-12%), and Special Purpose Allocation Company (-15%) industries are overpriced for non *shariah*-compliant companies. It also suggested that these industries are good industries for investment. Special Purpose Allocation Company show the highest overpricing, which indicates this industry can generate greater returns for investors. The technology industries (37.72%) tend to have a high average degree of IPO underpricing for *shariah*-compliant companies. These results show that the technology industry is riskier industries for investment due to high average degree of IPO underpricing. While, the trading and service industry (44.53%) tend to be high average degree of IPO underpricing for non *shariah*-compliant companies.

Table 13: Average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies by types of industry

Types of Industry	*Shariah*-compliant Companies		Non *shariah*-compliant Companies	
	No. of Companies	Average Degree of IPO Underpricing	No. of Companies	Average Degree of IPO Underpricing
Industry product	127	27.29%	7	34.43%
Trading/service	90	30.89%	15	44.53%
Technology	90	37.72%	10	44.10%

Consumer product	70	26.19%	3	4.33%
Property	17	12.18%	2	-7.00%
Construction	10	28.60%	1	-12.00%
Plantation	8	15.25%	1	27.00%
Infrastructure	4	-4.00%	-	-
Real estate investment trust (REITs)	3	17.00%	10	3.60%
Special Purpose Allocation Company (SPAC)	-	-	1	-15.00%
Close/Fund	-	-	1	1.00%

ii.   The impact of determinant factors on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies

Table 14 shows the average subscription rate [13] for *shariah*-compliant and non *shariah*-compliant companies from 2000 to 2011. The results show that the highest average subscription rate of 59.38 for *shariah*-compliant companies and 57.74 for non *shariah*-compliant companies was experienced in 2004. This indicated that the economic conditions in Malaysia were growth and development for that year. Companies and investors are interested to invest in either *shariah*-compliant companies or non *shariah*-compliant companies. During the sub-prime crisis in 2008, the average subscription rate was only 4.86 for *shariah*-compliant companies and 0 for non *shariah*-compliant companies, which indicates that the economic conditions for that year decreased. While, the results for non

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[13] Subscription rate refer to the number of times that an IPO is subscribed. E.g. if IPO offers 2 million shares but the applications are for 20 million shares, then the subscription rate is 10.

shariah-complaint companies in 2009 showed the subscription rate was -78.0, which means

that IPO companies have not received any applications from investors and indicates that IPO

shares are in excess supply. The reason for this is that investors are not confident to invest

during that time. Investors are sensitive to the economic crisis that happened in that year.

Table 14: Average subscription rates for *shariah*-compliant and non *shariah*-compliant companies

Year	*Shariah*-compliant companies		Non *shariah*-compliant companies	
	No. of Companies	Average rate	No. of Companies	Average Rate
2000	36	32.19	2	24.35
2001	20	3.43	0	0
2002	48	17.36	3	3.16
2003	48	29.57	9	28.12
2004	59	59.38	12	57.74
2005	70	27.61	6	32.29
2006	35	32.74	3	6.29
2007	22	47.05	3	6.90
2008	22	4.86	1	0
2009	13	18.08	1	-78.0
2010	23	9.92	6	6.32
2011	23	45.99	5	7.54

Table 15 shows the average degree of IPO underpricing for *shariah*-complaint

companies for high and low underwriter reputations. The results show that the *shariah-*

compliant companies led by high-reputation underwriters tend to be low underpriced (25.04%) compared with *shariah*-compliant companies led by low-reputation underwriters (31.86%). This finding suggests that IPOs for *shariah*-compliant companies managed by high underwriter reputations can decrease the average degree of IPO underpricing. It also suggests that the pre-market services provided by high underwriter reputation such as road show activities and offer price adjustment can affect the average degree of IPO underpricing. The results from non *shariah*-compliant companies are different then with *shariah*-compliant companies. The average degree of IPO underpricing for high underwriter reputation was 36.63% and tend to be higher than the average degree of IPO underpricing for low underwriter reputation that was 19.39%. This result shows that IPOs for non *shariah*-compliant companies managed by high or low underwriter reputation do not have any impact on the average degree of IPO underpricing.

Table 15: Average degree of IPO underpricing for high and low underwriter reputation

Company	Reputation	No of Companies	Underpricing
Shariah-compliant companies	High underwriter reputation	181	25.04%
	Low underwriter reputation	238	31.86%
Non *Shariah*-compliant companies	High underwriter reputation	23	36.63%
	Low underwriter reputation	28	19.39%

Table 16 provides the Pearson correlations for *shariah*-compliant companies among the variables and none of the correlations is higher than 0.8. The correlation coefficient of underpricing appears to be positive and statistically significant related to the oversubscription, risk factor, market type, technology industry, and tend to be negative and statistically

significant related to the economic conditions. This suggests that underpricing appears to be used to some extent by companies and investors as a determinant for return (profit).

The correlation coefficient of risk factors and market type (0.729) appear to be strongly significant. The possible reason for this result is that most of the high-risk industries list their shares on the ACE market. The technology industry is a high-risk industry[14]. High risk industries need more capital due to the fast growth and development. They need more capital for their operations. Therefore, the correlation between these two variables is important and strong.

Table 17 presents follows by *shariah*-compliant companies as the correlation for non *shariah*-compliant companies. The results are similar to *shariah*-compliant companies. The correlations among the variables are less than 0.8. The correlation coefficient of underpricing appears to be positive and significantly related to the oversubscription and market type. The correlations coefficient between underpricing and oversubscription tend to be strongly significant (0.745). This suggests that the investors play an important role in the investment of IPOs for non *shariah*-compliant companies.

Table 18 provides the results concerning explanatory variables on the average degree of IPO underpricing for *shariah*-compliant companies listed on the MSE from 2000 to 2011. It is important to emphasize that the times of oversubscription, risks, and economics condition variables are statistically significant. Table 19 shows the results from non *shariah*-compliant companies. It is important to highlight that the times of oversubscription, underwriter reputation, market type, and technology industry variables are all statistically significant.

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[14] 33% of technology industry are listed on the ACE market

There are different factors that are influenced by the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. A possible reason to explain this is the different regulation guidelines for *shariah*-compliant companies and for non *shariah*-compliant companies. *Shariah*-compliant companies must follow Islamic rules and be screened or reviewed by *SAC*. This statutory body is responsible to monitor and advice all companies that have listed their shares on the *shariah* board. However, non *shariah*-compliant companies are not required to follow Islamic rule and there is no requirement to be screened or reviewed by SAC.

Additionally, regulations by the Malaysian government state that at least 30 % of the shares must be held by indigenous investors or institutions (*Bumiputra*) also has an impact for choosing to list shares on either the *shariah* or non-*shariah* board. This regulation attracts interest for indigenous investors and institutions to participant in *shariah*-compliant companies because most indigenous people in Malaysia are Muslims.

Table(s) 20 and 21 present the R-square results for *shariah*-compliant and non *shariah*-compliant companies. The R square for *shariah*-compliant companies is 15%. This result shows that the times of oversubscription, risk factors, and economic conditions can explain the 15% variation of degree for IPO underpricing. This indicates there are other factors that may explain the 85% variation of the average degree of IPO underpricing for *shariah*-compliant companies. The Durbin-Watson result is 1.669 that is within an acceptable range.

Additionally, the R square for non *shariah*-compliant companies is 74.9%. This percentage shows that times of oversubscription, underwriter reputation, market type, and technology industry can explain the 74.9% variation of degree for IPO underpricing. This indicates there are other factors that may explain the 25.1% variation on the average degree

of IPO underpricing for non *shariah*-compliant companies. The Durbin-Watson result was 2.010 and was within the acceptable range.

Table 22 shows the ANOVA result for *shariah*-compliant companies. The F-value is 4.172 indicated that by the hypothesis as statistically significant at 1% level of significant between the dependent and independent variables. Table 23 shows the ANOVA result for non *shariah*-compliant companies. The F-value is 5.152 indicated that the hypothesis as statistically significant at 1% level of significant between the dependent and independents variable.

iii. The impact of shareholder analysis on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies

This section discussed the results regarding shareholder analysis for *shariah*-compliant and non *shariah*-compliant companies. Table 24 shows the results of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies regarding shareholder size. The results show that a smaller number of shareholders tends to lower the average degree of IPO underpricing (26.49%) when compared with a large number of shareholders, 29.13% (1,000 to 9,999 shareholders) and 34.88% (more than 10,000 shareholders), respectively. While the results from non *shariah*-compliant companies show that a large number of shareholders tend to be overpriced (-2.8%). These results are different with *shariah*-compliant companies. The result for the average degree of IPO underpricing for non *shariah*-compliant companies when the number of shareholders is between 1,000 to 9,999 as 8.41% and when the number of shareholder was less than 999 as 1.0%.

Table 24: Average degree of IPO underpricing for shareholder size in *shariah*-compliant and non *shariah*-compliant companies

Company	Number of shareholders	No. of Companies	Underpricing
Shariah-compliant companies	More than 10,000 shareholders	17	34.88%
	Between 1,000 to 9,999 shareholders	282	29.13%
	Less than 999 shareholders	53	26.49%
Non *shariah*-compliant companies	More than 10,000 shareholders	5	-2.8%
	Between 1,000 to 9,999 shareholders	17	8.41%
	Less than 999 shareholders	2	1%

Table 25 shows the results concerning the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies for corporate capital and non-corporate capital. The results show that corporate capital (24.68%) performed better than non-corporate capital (31.7%) for *shariah*-compliant companies. The results for non *shariah*-compliant companies showed that corporate capital was overpriced (-4.10%). The average degree of IPO underpricing for non-corporate capital was 12.29%.

Table 25: Average degree of IPO underpricing for corporate capital and non-corporate capital for *shariah*-compliant and non *shariah*-compliant companies

Company	Capital	No of Companies	Underpricing (%)
Shariah-compliant companies	Corporate capital	135	24.68
	Non-corporate capital	217	31.70
Non *Shariah*-compliant companies	Corporate capital	14	12.29
	Non-corporate capital	10	-4.10

The results concerning the correlation coefficient from among the variables follows. Table 26 presents the results. The correlation among the variables was less than 0.3. The correlation coefficient of underpricing appears to be insignificant. The correlation coefficient between corporate capital and CEO shares tends to be negative and statistically significant (-0.369). This suggests that corporate capital has a significant correlation between CEO shares for *shariah*-compliant companies. The correlation between corporate shares and shareholder number tends to be higher (0.287).

Table 27 presents the results for non *shariah*-compliant companies. This result parallels *shariah*-compliant companies. Corporate capital and CEO shares tend to have a negative correlation (-0.577).

Table 28 presents the results regarding multiple linear regression analysis for *shariah*-compliant companies. The results present the variable as having insignificant impact on the average degree of IPO underpricing for *shariah*-compliant companies. *Bumiputra* controlled companies; corporate capital, CEO shares, and corporate shares were found to have a

negative and insignificant impact on the average degree of IPO underpricing. While, the number of shareholders was found to be positive and have an insignificant impact on the average degree of IPO underpricing for *shariah*-compliant companies. Table 29 presents the results for multiple linear regression analysis for non *shariah*-compliant companies. The result parallels with *shariah*-compliant companies that have found all variables to have an insignificant impact on the average degree of IPO underpricing for non *shariah*-compliant companies. The *Bumiputra* controlled companies were excluded from the analysis because no companies were found to meet the criteria of this study[15].

Table(s) 30 and 31 (Model Summary) present the next set of results for *shariah*-compliant and non *shariah*-compliant companies. The R square values for *shariah*-compliant companies was 1.7% and for non *shariah*-compliant companies was 16%, which indicates a low impact for shareholder analysis on the average degree of IPO underpricing. This result suggests that shareholder analysis has a low impact on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. The other variables must be included to find out what factors influenced the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. Table 32 shows the ANOVA results for *shariah*-compliant companies. The F-value is 1.225 and indicates that this hypothesis was statistically insignificant between the dependent and independent variables. Table 33 shows the results for non *shariah*-compliant companies. The F-value was 0.906 and indicated that this hypothesis was statistically insignificant between the dependent and independent variables.

Table 32 shows the ANOVA results for *shariah*-compliant companies. The F-value was 1.225 and indicated that this hypothesis was statistically insignificant between the

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[15] The criterion was: 50% of the shares must be held by *Bumiputra* investors or institutions.

dependent and independent variables. Table 33 shows the ANOVA result for non *shariah*-compliant companies. The F-value is 0.906 indicated that this hypothesis was statistically insignificant between the dependent and independent variables. The results from *shariah*-compliant and non *shariah*-compliant companies were similar. This suggests that shareholder analysis is not a determinant factor on the average degree of IPO underpricing.

iv.　　Long-term Performance of IPO for *shariah*-compliant companies

This section presents the results for long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies over a three-year period. The results are presented in two parts. Part 1 presents the results for CAR and part 2 presents the results as concerns the Pearson correlation analysis and multiple linear regression analysis for long-term performance of IPOs.

1. Cumulative Abnormal Return (CAR)

Table 34 reports the results of the three-year CAR for *shariah*-compliant and non *shariah*-compliant companies. The result from 2006 to 2010 for CAR equal-weight for shariah-compliant companies was 16.81% and is statistically significant. However, the result for CAR value-weight was -0.07% and was found to be insignificant at a level of significance. The results show that the long-term performance for *shariah*-compliant companies have performed better (16.81%) than the benchmarks for CAR equal-weight. The results of the CAR value-weight were shown to slightly outperform the benchmarks (-0.07%). While the results for non *shariah*-compliant companies showed that the non *shariah*-compliant companies performed better. CAR equal-weight was 22.64% and CAR value-weight was 1.94%. The results of the CAR value-weight were found to be statistically significant at a level of significance.

Several theories have been built to explain the long-term performance such as the divergence of opinion theory and window of opportunities theory. Miller (1977) indicated that all investors were assumed to have identical estimates of expected returns and the probability distribution of returns from all securities. However, it is implausible to assume that although the future is very uncertain and forecasts are difficult to make, that somehow everyone makes identical estimates of the returns and risks from every security. Therefore, only investors with high estimation were willing to buy IPO shares.

Another theory to explain long-term performance was the window of opportunities. According to this theory, companies will go public when investors are able to buy an IPO share. For example from a "hot issue" market, companies are willing to go public because the demands from investors are high. Ritter (1984) found that from the "hot issue" market in 1980 in the US was driven by the natural resources industry boom. Therefore, investors were willing to buy IPO shares from this kind of market.

These findings show that the information regarding IPO prices provided evidence that the market was efficient and, therefore, IPO prices reflect the long-term performance of IPO companies. Thus, if an investor is aware that significant performance of an IPO will occur in future, they should adjust the current IPO price by discounting IPO offer price. Therefore, it seems that this adjustment can generate a positive return for long-term performance.

The results also show evidence from the sub-prime crisis in 2008–2009 that long-term IPO performance underperformed for *shariah*-compliant companies. Hence, non *shariah*-compliant companies were outperformed. It is indicated that the crisis had an impact on the long-term performance of *shariah*-compliant companies.

Table 34: Yearly Cumulative Abnormal Return (CAR)

Year	*Shariah*-Compliant Companies		Non *Shariah*-Compliant Companies	
	CAR equal-weight	CAR value-weight	CAR equal-weight	CAR value-weight
2006	14.58%*	4.11%	-	-
2007	3.33%	-1.34%	-	-
2008	3.84%	-3.43%	22.67%	0.40%
2009	-3.27%***	0.28%	1.30%***	0.66%***
2010	-1.67%**	0.31%	-1.34%	0.88%
2006-2010	16.81%**	-0.07%	22.64%	1.94%***

*Indicates statistical significant at the 1% level,
** Indicates statistical significant at the 5% level,
 *** Indicates statistical significant at the 10% level

Table 35 shows the results for CAR equal-weight by year. The results show that 2006, 2009, and 2010 were found be statistically significant at the level of significance. Table 36 presents the results for CAR value-weight. The results show that all periods of this study were found to be statistically insignificant at the level of significance.

Table 37 shows the results t-test for CAR equal-weight for non *shariah*-compliant companies. The results show that only year 2009 was statistically significant. The results for CAR value-weight (Table 38) were also same as CAR equal-weight was statistically significant.

Table 39 reveals the results regarding the t-test of CAR for equal- and value-weights. The results show that CAR equal-weight was statistically significant for the *shariah*-compliant companies. Table 40 explains the results regarding non *shariah*-compliant companies. The results were different from *shariah*-compliant companies, because CAR

equal-weight was statistically insignificant. CAR value-weight was found to be statistically significant at a level of significance.

Table 41 presents the results of mean CAR equal-weight and value-weight for long-term performance by looking at the three-year anniversary of IPOs for *shariah*-compliant and non *shariah*-compliant companies. For equal-weight, the lowest return was -0.8923% and marked on the 1 month of IPO share issuance. Different results were observed for equal- and value-weight. The lowest CAR value-weight was observed in month 14. Nevertheless, greater lower performance was shown by value-weight with the worst return reported from month 6 to month 14. The lower abnormal return indicated that large IPO companies did not perform as well as smaller IPO companies (Ahmad Zaluki, et al., 2007). The results for non *shariah*-compliant companies indicated that the lowest CAR equal-weight was 1.58% and CAR value-weight -0.11% happened at month 36. These findings are also consistent with the results reported by Ahmad-Zaluki et al. (2007) for the long-term performance of Malaysian IPOs. The choice of weight gives an impact in measured long-term performance of IPO for *shariah*-compliant and non *shariah*-compliant companies.

Table 42 reports the CAR equal-weight mean matching KLCI index for 36 months. It is important to emphasize that only month 2 was statistically significant for CAR equal-weight. Table 43 reports the CAR value-weight and the results show that months 4, 9, 11, and 23 were statistically significant at the level of significance.

The next table (Table 44) presents the results for non *shariah*-compliant companies. The results show that only month 31 was statistically significant for the CAR equal-weight. Table 45 shows the results of CAR value-weight. The results show that all months were insignificant at the level of significance.

2. Pearson Correlation and Multiple Linear Regression Results.

Table 46 provides the Pearson correlations for long-term performance of *shariah*-compliant companies for CAR equal-weight among the variables and none of the correlations was higher than 0.8. The correlation coefficient of CAR equal-weight appear to be statistically significant related to the offer price, oversubscription, risk, underwriter reputation, market type, technology industry, and consumer product industry. The correlation coefficient between risk factors and markets (0.713) appeared to be strongly significant. This result parallels the results for the correlation coefficient for IPO underpricing for *shariah*-compliant companies.

Table 47 presents the results for the correlation of CAR value-weight. The correlation coefficient of CAR value-weight appeared to be statistically significant as related to the offer price, offer size, risk factors, underwriter reputation, market type, technology industry, and REIT industry. The correlation coefficient between risk factor and market type (0.713) appeared to be strongly significant. These results parallel the results for CAR equal-weight and IPO underpricing for *shariah*-compliant companies. They also suggest that this variable played an important role in determining the performance of IPOs for *shariah*-compliant companies either for the short- or long-term performance.

Table 48 provides the Pearson correlations for long-term performance of non *shariah*-compliant companies for CAR equal-weight among the variables. The correlation coefficient of CAR equal-weight appears to be statistically significant related to the market type, trading and service industry, and economic conditions. Table 49 presents the results of the correlation of CAR value-weight. The correlation coefficient of CAR value-weight appeared to be statistically insignificant at the level of significance.

The next table (Table 50) shows the results for the explanatory variables on the CAR equal-weight for *shariah*-compliant companies listed on the MSE. It is important to highlight that underpricing, oversubscription, market type, consumer product industry, and ROE were statistically significant. The results for CAR value-weight (Table 51) indicate that underpricing, offer price, offer size, market type, trading/service industry, consumer product industry, property industry, and REIT industry were statistically significant.

Table 52 shows the R-square result for CAR equal-weight. The R-square was 59.4%. This percentage shows that underpricing, oversubscription; market type, consumer product, and ROE can explain the 59.4% variation for long-term performance of IPOs for *shariah*-compliant companies. The Durbin-Watson result was 1.751 and was within the acceptable range.

Table 53 presents the R-square for CAR value-weight. The R-square was 84.2%. This percentage shows that underpricing, offer price, offer size, market type, trading/service, consumer product, property industry, and REIT industry can explain the 84.2% variation of long-term performance of IPOs for *shariah*-compliant companies. The Durbin-Watson result was 1.884, which was within the acceptable range.

Table 54 and 55 present the F-value results for CAR equal-weight and CAR value-weight, respectively. The F-value for CAR equal-weight was 4.470 and CAR value-weight was 16.239, which indicated that there is statistical significant between the dependent and independent variables.

The result from multiple linear regression analysis for the non *shariah*-compliant companies cannot be determined because the number of non *shariah*-compliant companies was low and the fit was perfect. Only four companies met the criteria [16] of this research.

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[16] The IPO companies must list shares on the MSE for at least 36 months.

However, this study showed the results for non *shariah*-compliant companies. Tables 56 to 61 report these results.

4.2 Conclusion

This chapter has presented and discussed the performance of the research sample in the short-term (underpricing) and long-term (overpricing) of IPOs for *shariah*-compliant and non *shariah*-compliant companies. This descriptive statistics have demonstrated the persistence of the underpricing, which is reflected by the significant positive underpricing phenomenon. This result confirmed the findings from prior studies on the Malaysian market.

Mixed results were found on the relationship between the determinant factors and IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. The results of the IPO underpricing generated little evidence to support the working hypothesis for *shariah*-compliant companies. Hence, the results of the IPO underpricing for non *shariah*-compliant companies appear to be consistent with the hypothesis. Despite the other variables, they were found to be statistically insignificant. This study cannot confirm the findings from prior studies on the Malaysian market.

The descriptive statistics of CAR for *shariah*-compliant and non *shariah*-compliant companies demonstrated that the research sample was outperformed for the 3-year anniversary. However, when the research sample was broken down into yearly sub-samples, the IPO for *shariah*-compliant companies was estimated and uncovered evidence of the long-term underperformance in 2007–2008 and 2009–2010.

Mixed results also found the relationship between determinant factors and long-term performance of IPOs for *shariah*-compliant companies [17]. The results of long-term performance of IPOs generated little evidence to support the working hypothesis, CAR equal-

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[17] The results for non *shariah*-compliant companies cannot be done because only four IPOs for non *shariah*-compliant companies were available.

weight; underpricing, time of oversubscription, market type, consumer product industry, and ROE. Hence, the results of CAR value-weight appear to be consistent with the hypothesis. This study cannot confirm the findings from prior studies on the Malaysian market.

Mixed results were found on the relationship between determinant factors and IPO performance for *shariah*-compliant and non *shariah*-compliant companies (short- and long-term). In short periods, the impact of the determinant factors generated little evidence to support the working hypothesis. Nevertheless, the impact became more important in the long-term. As shown, the results for R-square in the short term are as follows: *shariah*-compliant companies at 15% and non *shariah*-compliant companies at 74.9%. While the results for R-square in the long-term for *shariah*-compliant companies; CAR equal-weight was 59.4% and CAR value-weight was 84.2%.

In summary, this chapter provided a number of explanations on the research questions presented in the introduction. The information gained by investors from the initial trading of IPOs indicates a significant impact on the long-term performance of IPOs on the Malaysian market.

CHAPTER 5: CONCLUSION

5.1 Introduction

This chapter summarizes the results from the research as presented in previous chapters. It also presents the conclusion, which addresses the main objective of this study: to investigate the impact of determinant factors on the average degree of IPO underpricing (short-term) and long-term performance of IPO for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE. This objective leads to the four empirical analysis objectives. The first objective was to examine the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. The second objective was to investigate the impact of determinant factors on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. The third objective was to study the impact of shareholder analysis on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. The final objective was to analyze the long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies.

The focus of this research was to investigate the average degree of IPO underpricing and long-term performance for *shariah*-compliant and non *shariah*-compliant companies listed on the MSE. The awareness of Muslims to participant in *shariah*-compliant companies was associated with the high demand from IPO companies to list shares on the *shariah* board. Therefore, it was interesting to investigate the performance of IPOs for *shariah*-compliant companies separately with non *shariah*-compliant companies.

The research was based on a sample of 419 IPOs for *shariah*-compliant companies and 51 for non *shariah*-compliant companies for short-term study that occurred from the 2000 to 2011. Long-term study used a sample from 2006 to 2010 for 3-year performance of 74 IPOs for *shariah*-compliant companies and 4 IPOs for non *shariah*-compliant companies.

This is a unique contribution in the study are, as to the researcher's knowledge no prior academic study separated data into *shariah*-compliant and non *shariah*-compliant companies. As such, limited information regarding IPOs for *shariah*-compliant companies made the investigation more difficult.

The structure of this chapter is as follows. The next section summarizes the results of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. It is followed by a section that reviews the results of the long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies. Then, there are a number of possible future research areas such as extended studies based on the findings of this research will be presented below. Finally, the conclusions of this thesis are presented.

1. IPO underpricing (short-term) for *shariah*-compliant and non *shariah*-compliant companies

In this section, the results of the average degree of IPO underpricing and the impact of determinant factors on the average degree of IPO underpricing are discussed.

The preliminary results show that the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies is 28.94% and 27.18%, respectively. Compared to the average degree of IPO underpricing of 166.7% (Dowson, 1987), 99% (Jelic et al., 2001), 94.91% (Yong and Isa, 2003), and 81% (Murugesu and Santhanpparaj, 2009), the average degree of IPO underpricing reported in this study was similar to those in mature markets. The possible reason for the decline in the percentage of IPO underpricing was due to the decision of SC regarding IPO pricing mechanisms. This finding was similar with the findings reported in Japan. Pettway and Kaneko (1996) found that removed price limits and introduced public auctions reduced the average degree of IPO underpricing significantly.

Secondly, this study found that the times of oversubscription, risks, and economic condition variables were statistically significant for *shariah*-compliant companies. The results from non *shariah*-compliant companies showed that the times of oversubscription, underwriter reputation, market type, and technology industry variables were statistically significant. It is important to highlight that the information asymmetry gains by the companies and investors from the initial trading on stock exchange impacted the performance of IPO underpricing on the Malaysia market. The information regarding the background of IPO companies from the initial process for listing IPO companies on the board can attract investors to buy IPO shares. Additionally, the roles of the underwriter to advertise IPO shares were affected by the demand for investors to subscribe to IPO shares. The results for shareholder analysis were found to be insignificant and the effect on the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies. It indicated that shareholder analysis was not an important factor in determining the average degree of IPO underpricing.

2. **Long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies**

The results concerning long-term performance of IPOs and the impact of determinant factors on the long-term performance of IPOs for *shariah*-compliant and non *shariah*-compliant companies is discussed.

First, using FTSE Bursa Malaysia Market Index as a benchmark, this study found that IPOs for *shariah*-compliant companies outperformed when CAR equal-weight was used to measure long-term performance of IPOs for *shariah*-compliant companies. This result parallels previous studies regarding long-term performance of IPOs on the Malaysian market (How, et al., 2007; Ahmad-Zaluki and Goodacre, 2007; Paudyal, et al., 1998). The results for

non *shariah*-compliant companies also outperformed CAR equal-weight and CAR value-weight. The results of this paper point out that the use of equal- or value-weight returns typically led to different conclusions. In addition, the result for CAR equal-weight was statistically significant while value-weight was insignificant.

Secondly, IPOs for *shariah*-compliant companies perform at least as good as their matches. It is important to highlight that underpricing, oversubscription, market type, consumer product industry, and ROE were statistically significant for CAR equal-weight. The results for CAR value-weight indicated that underpricing, offer price, offer size, market type, trading/service industry, consumer product industry, property industry, and REIT industry were statistically significant. The overconfidence of investors from the initial trading of IPOs has an impact on the long-term performance of IPOs for *shariah*-compliant companies. Therefore, investor loyalty for IPO companies is important in determining good performance of IPOs for earliest three-year trading on the stock exchange. The results for non *shariah*-compliant companies cannot be discussed because the numbers of non *shariah*-compliant companies are low. Only four IPOs for non *shariah*-complaint companies were available.

Finally, IPOs in Malaysia are associated with high underpricing from the initial trading on the stock exchange (i.e.: Dowson, 1987). However, this study found that high underpricing in the initial trading does not determined poor performance in the first 3 years after IPO shares were issued. The study found that IPOs for *shariah*-compliant companies are comparable to or possibly performed better than the benchmarks. The results also show that in 2008, when the sub-prime crisis happened, the long-term performance of IPOs did not differ from the performance of the benchmarks. Therefore, it seems that even the average degree of IPO underpricing was high and was not determined poor long-term performance of the IPO for *shariah*-compliant companies.

5.2 Further study

A number of interesting results in this empirical study led to several opportunities for future research. This study provides evidence of IPO underpricing for *shariah*-compliant companies. It also compared the average degree of IPO underpricing for *shariah*-compliant companies with an average degree of IPO underpricing for non *shariah*-compliant companies. This study confirms that the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies were the same. Based on the different regulatory guidelines between *shariah*-complaint and non *shariah*-compliant companies, the different determinant factors are seen as impacting the performance of IPO companies. Therefore, it would be interesting to analyze whether prospectus information could be affecting the average degree of IPO underpricing for *shariah*-compliant and non *shariah*-compliant companies.

This study also demonstrates the unique features of IPO issues in Malaysia, which is that at least 30% of new shares for an IPO must be sold to the indigenous *Bumiputera* population or to mutual funds owned by them. Therefore, it would be interesting to observe whether foreign companies can generate high/low average degrees of IPO underpricing.

This study shows the strong impact between the dependent and independent variables on the long-term performance of IPOs for *shariah*-compliant companies. Therefore, a study concerning the effect of earnings forecasting could be worthwhile for research.

5.3 Conclusion

This thesis contributed to the field study in a number of ways. The first way was to give empirical evidence for using IPOs for *shariah*-compliant companies. IPO companies were widely used in the IPO literature. This study fills this gap. Secondly, to some extent, the

short-term and long-term performances of IPOs for *shariah*-compliant companies are evaluated. It is important to predict the short-term returns as others are more appropriate for longer period returns.

While many IPO studies present multiple linear regression analysis of IPO underpricing, few have been done for the IPO underpricing for *shariah*-compliant companies and no prior academic work investigated the long-term performance of IPOs for *shariah*-compliant companies. Therefore, this study provides new explanations for the factors affecting the long-term performance of IPOs.

APPENDIX

Table 16: *Shariah*-compliant companies (Correlations)

		Underpricing	Offer price	Offer size	Company age	Oversubscription	Risk	Underwriter	Market	Industry product	Trading/service	Technology	Consumer product	Property	Construction	Plantation	IPC	REIT	Economic condition	ROE
underpricing	Pearson Correlation	1	-0.093	-0.076	-0.058	0.324**	0.187**	-0.074	0.162**	-0.024	0.022	0.101*	-0.027	-0.076	-0.001	-0.042	-0.071	-0.022	-0.170**	-0.034
	Sig. (2-tailed)		0.057	0.119	0.239	0.000	0.000	0.129	0.001	0.627	0.647	0.039	0.581	0.122	0.981	0.391	0.146	0.649	0.000	0.481
Offer price	Pearson Correlation		1	0.451**	0.167**	-0.210**	-0.692**	0.218**	-0.543**	0.045	0.114*	-0.371**	0.095	0.086	0.051	0.114*	0.098*	-0.004	0.019	-0.022
	Sig. (2-tailed)			0.000	0.001	0.000	0.000	0.000	0.000	0.360	.020	0.000	0.052	0.078	0.294	0.020	0.046	0.938	0.692	0.647
Offer size	Pearson Correlation			1	0.035	-0.073	-0.115*	0.106*	-0.102*	-0.044	0.091	-0.073	-0.039	0.090	0.000	0.024	0.079	-0.015	0.236**	0.002
	Sig. (2-tailed)				0.479	0.137	0.019	0.030	0.037	0.372	0.064	0.135	0.421	0.064	0.998	0.628	0.105	0.767	0.000	0.967
Company age	Pearson Correlation				1	-0.074	-0.163**	-0.027	-0.235**	0.024	0.064	-0.202**	0.107*	0.029	0.019	0.065	-0.045	-0.083	0.019	-0.087
	Sig. (2-tailed)					0.128	0.001	0.582	0.000	0.625	0.191	0.000	0.029	0.556	0.703	0.187	0.357	0.090	0.697	0.075

Oversub scription	Pearson Correlation						1	0.294**	-0.123*	0.305**	0.043	-0.049	0.141**	-0.064	-0.072	-0.040	-0.036	-0.052	-0.044	-0.121*	-0.006
	Sig. (2-tailed)							0.000	0.011	0.000	0.382	0.320	0.004	0.193	0.143	0.417	0.459	0.292	0.369	0.014	0.906
Risk	Pearson Correlation							1	-0.232**	0.729**	-0.075	-0.043	0.464**	-0.197**	-0.129**	-0.104*	-0.107*	-0.059	-0.042	0.021	0.012
	Sig. (2-tailed)								0.000	0.000	0.124	0.385	0.000	0.000	0.008	0.034	0.028	0.229	0.389	0.674	0.809
Underwriter	Pearson Correlation								1	-0.201**	0.075	0.013	-0.186**	-0.016	0.089	0.085	0.090	0.013	-0.017	-0.037	0.084
	Sig. (2-tailed)									.000	.126	.788	.000	.744	.068	.084	.067	.783	.730	.455	.088
Market	Pearson Correlation									1	-0.182**	-0.007	0.655**	-0.305**	-0.140**	-0.107*	-0.095	-0.067	-0.058	-0.020	-0.005
	Sig. (2-tailed)										0.000	0.885	0.000	0.000	0.004	0.029	0.052	0.171	0.237	0.679	0.922
Industry product	Pearson Correlation										1	-0.345**	-0.345**	-0.295**	-0.136**	-0.103*	-0.092	-0.065	-0.056	0.009	0.000
	Sig. (2-tailed)											0.000	0.000	0.000	0.005	0.035	0.060	0.186	0.253	0.850	0.993
Trading/ service	Pearson Correlation											1	-0.274**	-0.234**	-0.108*	-0.082	-0.073	-0.051	-0.044	0.138**	-0.077

													c1	c2	c3	c4	c5	c6	c7	c8	c9
	Sig. (2-tailed)												0.000	0.000	0.028	0.095	0.136	0.294	0.364	0.005	0.113
Technology	Pearson Correlation												1	-0.234**	-0.108*	-0.082	-0.073	-0.051	-0.044	-0.083	-0.015
	Sig. (2-tailed)													0.000	0.028	0.095	0.136	0.294	0.364	0.091	0.755
Consumer product	Pearson Correlation													1	-0.092	-0.070	-0.062	-0.044	-0.038	-0.032	0.085
	Sig. (2-tailed)														0.060	0.152	0.202	0.369	0.437	0.516	0.081
Property	Pearson Correlation														1	-0.032	-0.029	-0.020	-0.017	-0.001	0.020
	Sig. (2-tailed)															0.512	0.558	0.680	0.722	0.988	0.687
Construction	Pearson Correlation															1	-0.022	-0.015	-0.013	-0.039	0.007
	Sig. (2-tailed)																0.656	0.754	0.786	0.421	0.880
Plantation	Pearson Correlation																1	-0.014	-0.012	-0.035	0.006
	Sig. (2-tailed)																	0.780	0.809	0.473	0.905

IPC	Pearson Correlation																			1	-0.008	-0.025	0.005
	Sig. (2-tailed)																				0.865	0.614	0.918
REIT	Pearson Correlation																				1	-0.021	0.001
	Sig. (2-tailed)																					0.662	0.979
Economic condition	Pearson Correlation																					1	0.009
	Sig. (2-tailed)																						0.851
ROE	Pearson Correlation																						1
	Sig. (2-tailed)																						

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 17: Non *shariah*-compliant companies (Correlations)

		Underpricing	Offer price	Offer size	Company age	Oversubscription	Risk	Underwriter	Market	Industry product	Trading/ Service	Technology	Consumer product	Property	Construction	Plantation	REIT	SPAC	CF	Economic Condition	ROE
Underpricing	Pearson Correlation	1	-0.146	-0.139	0.083	0.745**	0.194	0.150	0.388**	0.050	0.195	0.145	-0.099	-0.120	-0.096	0.000	-0.203	-0.104	-0.064	-0.099	0.012
	Sig. (2-tailed)		0.306	0.330	0.561	0.000	0.173	0.293	0.005	0.726	0.170	0.308	0.488	0.401	0.501	0.998	0.154	0.468	0.653	0.490	0.936
Offer price	Pearson Correlation		1	0.092	0.059	-0.190	-0.674**	-0.055	-0.559**	0.096	0.133	-0.323*	0.032	-0.074	-0.008	0.135	0.070	-0.057	0.025	-0.124	0.000
	Sig. (2-tailed)			0.520	0.682	0.183	0.000	0.703	0.000	0.502	0.352	0.021	0.825	0.607	0.957	0.344	0.624	0.690	0.860	0.385	0.998
Offer size	Pearson Correlation			1	0.092	-0.336*	-0.122	0.135	-0.278*	-0.100	0.045	-0.193	-0.101	0.609**	0.063	0.197	-0.232	-0.055	0.431**	-0.058	0.206
	Sig. (2-tailed)				0.522	0.016	0.394	0.345	0.048	0.487	0.755	0.175	0.480	0.000	0.660	0.166	0.102	0.700	0.002	0.688	0.147
Company age	Pearson Correlation				1	0.051	0.099	0.061	0.079	0.278*	0.287*	-0.118	-0.039	-0.159	0.009	0.212	-0.466**	-0.065	0.175	0.046	0.098

	Sig. (2-tailed)		0.720	0.488	0.671	0.581	0.049	0.041	0.410	0.786	0.265	0.952	0.136	0.001	0.650	0.220	0.751	0.495
Oversubscription	Pearson Correlation	1	0.220	-0.162	0.437**	0.111	0.063	0.338*	-0.130	-0.309*	-0.048	0.058	-0.240	-0.073	-0.045	-0.087	-0.201
	Sig. (2-tailed)		0.120	0.257	0.001	0.437	0.661	0.015	0.363	0.027	0.737	0.688	0.090	0.611	0.751	0.546	0.158
Risk	Pearson Correlation		1	-0.050	0.741**	-0.130	0.161	0.382**	-0.109	-0.014	-0.064	-0.125	-0.283*	-0.013	-0.085	0.170	-0.048
	Sig. (2-tailed)			0.725	0.000	0.362	0.259	0.006	0.447	0.921	0.657	0.383	0.045	0.928	0.554	0.234	0.739
Underwriter	Pearson Correlation			1	-0.128	0.211	-0.153	-0.051	-0.059	0.223	-0.128	0.156	0.049	-0.128	-0.128	-0.128	0.183
	Sig. (2-tailed)				0.371	0.137	0.285	0.724	0.680	0.116	0.370	0.274	0.735	0.370	0.370	0.370	0.199
Market	Pearson Correlation				1	-0.189	0.215	0.641**	-0.193	-0.156	-0.109	-0.109	-0.381**	-0.109	-0.109	0.184	-0.088
	Sig. (2-tailed)					0.183	0.130	0.000	0.176	0.275	0.447	0.447	0.006	0.447	0.447	0.197	0.540

								1	2	3	4	5	6	7	8	9	10	11	12
Industry product	Pearson Correlation							1	-0.257	-0.197	-0.100	-0.081	-0.056	-0.056	-0.197	-0.056	-0.056	-0.056	-0.094
	Sig. (2-tailed)								0.068	0.166	0.486	0.574	0.694	0.694	0.166	0.694	0.694	0.694	0.513
Trading/ service	Pearson Correlation								1	-0.319*	-0.161	-0.130	-0.091	-0.091	-0.319*	-0.091	-0.091	0.219	0.255
	Sig. (2-tailed)									0.023	0.258	0.362	0.524	0.524	0.023	0.524	0.524	0.122	0.071
Technology	Pearson Correlation									1	-0.123	-0.100	-0.070	-0.070	-0.244	-0.070	-0.070	-0.070	-0.322*
	Sig. (2-tailed)										0.388	0.486	0.626	0.626	0.085	0.626	0.626	0.626	0.021
Consumer product	Pearson Correlation										1	-0.051	-0.035	-0.035	-0.123	-0.035	-0.035	-0.035	-0.214
	Sig. (2-tailed)											0.725	0.805	0.805	0.388	0.805	0.805	0.805	0.131
Property	Pearson Correlation											1	-0.029	-0.029	-0.100	-0.029	-0.029	-0.029	0.215

	Sig. (2-tailed)																0.842	0.842	0.486	0.842	0.842	0.842	0.130
Construction	Pearson Correlation																1	-0.020	-0.070	-0.020	-0.020	-0.020	-0.033
	Sig. (2-tailed)																	0.889	0.626	0.889	0.889	0.889	0.817
Plantation	Pearson Correlation																	1	-0.070	-0.020	-0.020	-0.020	-0.033
	Sig. (2-tailed)																		0.626	0.889	0.889	0.889	0.817
REIT	Pearson Correlation																		1	-0.070	-0.070	-0.070	0.179
	Sig. (2-tailed)																			0.626	0.626	0.626	0.209
SPAC	Pearson Correlation																			1	-0.020	-0.020	-0.033
	Sig. (2-tailed)																				0.889	0.889	0.817

CF	Pearson Correlation																				1	-0.020	-0.033
	Sig. (2-tailed)																					0.889	0.817
Economic condition	Pearson Correlation																					1	0.229
	Sig. (2-tailed)																						0.106
ROE	Pearson Correlation	1																					1
	Sig. (2-tailed)																						

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 18: Regression Analysis for *shariah*-compliant companies

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	0.095	0.106		0.900	0.369	-0.113	0.304
	op	0.066	0.041	0.125	1.637	0.102	-0.013	0.146
	os	-1.228E-010	0.000	-0.053	-0.946	0.345	0.000	0.000
	ca	-0.001	0.002	-0.035	-0.718	0.473	-0.005	0.002
	ov	0.003	0.000	0.275	5.540***	0.000	0.002	0.004
	r	0.072	0.031	0.188	2.295**	0.022	0.010	0.134
	uw	-0.018	0.045	-0.020	-0.410	0.682	-0.106	0.070
	m	-0.034	0.082	-0.034	-0.413	0.680	-0.194	0.127
	ip	-0.037	0.075	-0.037	-0.492	0.623	-0.185	0.111

Shariah Compliant companies (Coefficients) [a]

ts	0.032	0.075	0.029	0.422	0.673	-0.116	0.179
cp	-0.010	0.090	-0.009	-0.117	0.907	-0.187	0.166
p	-0.102	0.128	-0.044	-0.798	0.426	-0.353	0.149
c	0.033	0.154	0.011	0.211	0.833	-0.271	0.336
plant	-0.108	0.170	-0.033	-0.639	0.523	-0.442	0.225
ipc	-0.296	0.227	-0.063	-1.302	0.194	-0.743	0.151
reit	-0.072	0.259	-0.013	-0.278	0.781	-0.581	0.437
ec	-0.264	0.094	-0.138	-2.821***	0.005	-0.449	-0.080
roe	0.000	0.000	-0.028	-0.604	0.546	-0.001	0.000

a. Dependent Variable: up

Note: *** significant at1%; **significant at 5%; *significant at 10%

Table 19: Regression analysis for non *shariah*-compliant companies

Non *shariah*-compliant companies (Coefficients) [a]							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-0.598	0.347		-1.725	0.095	-1.306	0.109
	op	0.152	0.129	0.171	1.182	0.246	-0.111	0.416
	os	4.368E-009	0.000	0.302	1.638	0.112	0.000	0.000
	ca	0.005	0.009	0.068	0.537	0.595	-0.014	0.024
	ov	0.013	0.002	0.872	7.106***	0.000	0.009	0.016
	r	-0.054	0.080	-0.110	-0.669	0.508	-0.217	0.110
	uw	0.402	0.124	0.345	3.252***	0.003	0.150	0.655
	m	0.686	0.281	0.569	2.441**	0.021	0.113	1.259

ip	-0.081	0.207	-0.049	-0.392	0.698	-0.503	0.341
t	-0.418	0.197	-0.277	-2.117**	0.042	-0.820	-0.015
cp	0.337	0.296	0.138	1.136	0.265	-0.268	0.941
p	-0.040	0.405	-0.014	-0.099	0.921	-0.866	0.785
c	0.076	0.411	0.018	0.186	0.854	-0.761	0.914
plant	-0.659	0.433	-0.159	-1.521	0.138	-1.542	0.224
reit	0.273	0.262	0.189	1.042	0.306	-0.262	0.809
spac	0.356	0.441	0.086	0.808	0.425	-0.543	1.255
cf	-0.334	0.494	-0.081	-0.676	0.504	-1.342	0.674
ec	-0.166	0.416	-0.040	-0.398	0.693	-1.015	0.684
roe	0.001	0.012	0.005	0.042	0.967	-0.025	0.026

a. Dependent Variable: up

Note: *** significant at1%; **significant at 5%; *significant at 10%

Table 20: Regression Analysis (R-square) for non *shariah*-compliant companies

Shariah-compliant companies (Model Summary) [b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.388[a]	0.150	0.114	0.42864	1.669
a. Predictors: (Constant), roe, ip, ec, op, reit, ipc, c, plant, p, ca, ov, uw, cp, os, ts, r, m					
b. Dependent Variable: up					

Table 21: Regression Analysis (R-square) for non *shariah*-compliant companies

Non *shariah*-compliant companies (Model Summary) [b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.866[a]	0.749	0.604	0.36811	2.010
a. Predictors: (Constant), roe, op, c, cf, spac, plant, ip, p, cp, ec, reit, uw, ov, t, ca, r, os, m					
b. Dependent Variable: up					

Table 22: Regression Analysis (ANOVA) for *shariah*-compliant companies

	Model	Sum of Squares	df	Mean Square	F	Sig.

Shariah-compliant companies (ANOVA) [a]						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.032	17	0.767	4.172	0.000[b***]
	Residual	73.677	401	0.184		
	Total	86.709	418			

a. Dependent Variable: up

b. Predictors: (Constant), roe, ip, ec, op, reit, ipc, c, plant, p, ca, ov, uw, cp, os, ts, r, m

Note: *** significant at1%;

Table 23: Regression Analysis (ANOVA) for non *shariah*-compliant companies

Non *shariah*-compliant companies (ANOVA) [a]						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.567	18	0.698	5.152	0.000[b***]
	Residual	4.201	31	0.136		

	Total	16.767	49			

a. Dependent Variable: up

b. Predictors: (Constant), roe, op, c, cf, spac, plant, ip, p, cp, ec, reit, uw, ov, t, ca, r, os, m

Note: *** significant at1%

Table 26: *Shariah*-compliant companies (correlations)

***Shariah*-compliant companies**						
	Correlations ^c						
		up	bc	cc	ceo	cs	sh
up	Pearson Correlation	1	-0.027	-0.074	-0.024	-0.083	0.036
	Sig. (2-tailed)		0.618	0.167	0.648	0.122	0.501
bc	Pearson Correlation		1	0.085	-0.055	-0.033	0.014
	Sig. (2-tailed)			0.114	0.306	0.544	0.790

					1	-0.369**	0.245**	0.104
cc	Pearson Correlation				1	-0.369**	0.245**	0.104
	Sig. (2-tailed)					0.000	0.000	0.053
ceo	Pearson Correlation					1	-0.132*	-0.156**
	Sig. (2-tailed)						0.013	0.004
cs	Pearson Correlation						1	0.287**
	Sig. (2-tailed)							0.000
sh	Pearson Correlation							1
	Sig. (2-tailed)							
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								
c. List wise N=350								

Table 27: Non *shariah*-compliant companies (correlations)

		up	cc	ceo	cs	no
		Non *shariah*-compliant companies				
		Correlations [b]				
up	Pearson Correlation	1	.264	-.060	-.025	-.170
	Sig. (2-tailed)		.212	.779	.907	.427
cc	Pearson Correlation		1	-.577[**]	.346	.306
	Sig. (2-tailed)			.003	.097	.145
ceo	Pearson Correlation			1	-.166	-.110
	Sig. (2-tailed)				.437	.608
cs	Pearson Correlation				1	.376
	Sig. (2-tailed)					.070
no	Pearson Correlation					1
	Sig. (2-tailed)					

**. Correlation is significant at the 0.01 level (2-tailed).

b. List wise N=24

Table 28: *Shariah*-compliant Companies (Regression Analysis)

<td colspan="10" align="center">***Shariah*-Compliant Companies** **Coefficients** [a]</td>
<td colspan="2" align="center">Model</td>	<td colspan="2" align="center">Unstandardized Coefficients</td>	Standardized Coefficients	t	Sig.	<td colspan="2" align="center">95.0% Confidence Interval for B</td>
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	0.339	0.044		7.674	0.000	0.252	0.425
	bc	-0.053	0.106	-0.027	-0.505	0.614	-0.262	0.155
	cc	-0.072	0.056	-0.077	-1.303	0.193	-0.182	0.037
	ceo	-0.002	0.002	-0.057	-0.977	0.329	-0.006	0.002
	cs	-0.003	0.002	-0.090	-1.571	0.117	-0.006	0.001

	sh	4.891E-006	0.000	0.062	1.094	0.275	0.000	0.000

a. Dependent Variable: up

Table 29: Non shariah-compliant Companies (Regression Analysis)

Non *shariah*-compliant Companies								
Coefficients [a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-0.079	0.141		-0.560	0.582	-0.374	0.216
	cc	0.287	0.172	0.464	1.675	0.110	-0.072	0.647
	ceo	0.005	0.008	0.168	0.649	0.524	-0.011	0.021
	cs	-0.001	0.003	-0.055	-0.235	0.817	-0.008	0.006
	no	-8.112E-006	0.000	-0.273	-1.174	0.255	0.000	0.000

a. Dependent Variable: up

Table 30: Model Summary

Shariah-Compliant Companies					
Model Summary [b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.132[a]	0.017	0.003	0.45711	1.686
a. Predictors: (Constant), sh, bc, cc, cs, ceo					
b. Dependent Variable: up					

Table 31: Model Summary

Non Shariah-Compliant Companies					
Model Summary [b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.400[a]	0.160	-0.017	0.31474	2.117
a. Predictors: (Constant), no, ceo, cs, cc					

b. Dependent Variable: up

Table 32: ANOVA results

Shariah-Compliant companies

ANOVA [a]

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.280	5	0.256	1.225	0.297[b]
	Residual	71.879	344	0.209		
	Total	73.160	349			

a. Dependent Variable: up

b. Predictors: (Constant), sh, bc, cc, cs, ceo

Table 33: ANOVA results

Non *Shariah*-Compliant companies

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.359	4	0.090	0.906	0.480[b]
	Residual	1.882	19	0.099		
	Total	2.241	23			
a. Dependent Variable: up						
b. Predictors: (Constant), no, ceo, cs, cc						

Table 35: T-test CAR equal-weight for *shariah*-compliant companies

One-Sample Test (EW)						
			Test Value = 0			
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
2006	3.942	35	0.000	0.0040752	0.001976	0.006174
2007	0.952	35	0.348	0.0008560	-0.000969	0.002681

2008	1.613	35	0.116	0.0010608	-0.000274	0.002396
2009	-1.730	35	0.093	-0.0009071	-0.001972	0.000158
2010	-2.239	35	0.032	-0.0004651	-0.000887	-0.000043

Table 36: T-test CAR value-weight for *shariah*-compliant companies

One-Sample Test (VW)						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
2006	1.236	35	0.225	0.0011411	-0.000733	0.003015
2007	-0.813	35	0.422	-0.0003733	-0.001305	0.000559
2008	-1.183	35	0.245	-0.0009526	-0.002587	0.000682
2009	0.279	35	0.782	0.0000790	-0.000495	0.000653
2010	0.248	35	0.805	0.0000867	-0.000622	0.000795

Table 37: T-test CAR equal-weight for non *shariah*-compliant companies

			One-Sample Test (EW)			
			Test Value = 0			
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
2008	1.421	35	0.164	0.00629795	-0.0027002	0.0152961
2009	2.930	35	0.006	0.00036141	0.0001110	0.0006118
2010	-1.192	35	0.241	-0.00037086	-0.0010027	0.0002610

Table 38: T-test CAR value-weight for non *shariah*-compliant companies

			One-Sample Test (VW)			
			Test Value = 0			
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper

2008	1.421	35	0.164	0.00011153	-0.0000478	0.0002709
2009	2.928	35	0.006	0.00018388	0.0000564	0.0003114
2010	1.008	35	0.321	0.00024459	-0.0002481	0.0007373

Table 39: T-test CAR equal-weight and CAR value-weight for *shariah*-compliant companies

	One-Sample Test					
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
EW	2.386	35	0.023	0.00466867	0.0006964	0.0086409
VW	-0.013	35	0.989	-0.00001909	-0.0029157	0.0028775

Table 40: T-test CAR equal-weight and CAR value-weight for non *shariah*-compliant companies

	One-Sample Test					
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
EW	1.423	35	0.164	0.00628850	-0.0026858	0.0152628
VW	1.937	35	0.061	0.00054000	-0.0000260	0.0011060

Table 41: Mean Cumulative Abnormal Return for *shariah*-compliant compliant companies and non *shariah*-compliant companies

	Shariah-compliant Companies		Non *Shariah*-compliant Companies	
months	EW (%)	VW (%)	CAR EW (%)	CAR VW (%)
1	-0.8923	-0.3666	0.2616	0.0445
2	-0.1861	0.0096	0.1174	-0.0629

3	0.0044	0.0128	0.4705	0.0386
4	-0.0244	0.1981	0.4339	-0.0094
5	0.0128	0.0138	0.0606	0.0596
6	-0.2395	-0.1443	-0.0349	0.0038
7	0.0394	-0.0361	0.1884	0.0240
8	0.0624	-0.0917	0.0566	-0.0216
9	0.0508	-0.1298	-0.0245	0.0098
10	0.0487	-0.1995	-0.0190	0.0638
11	-0.0045	-0.1910	-0.0943	-0.0408
12	0.1620	-0.2058	0.1916	0.0206
13	0.0744	-0.0902	0.0676	0.0662
14	-0.1771	-0.5637	0.2353	0.0172
15	0.0318	0.0543	0.1629	0.1127

16	0.1305	0.1101	-0.0271	-0.0659
17	0.1190	-0.1209	0.5929	0.0804
18	0.1096	-0.1115	0.2732	0.0348
19	0.1702	0.0383	4.9589	0.1427
20	0.1067	-0.0030	0.0542	-0.0644
21	0.0695	0.0343	-0.0934	-0.0523
22	0.2117	0.0907	0.1265	0.0768
23	0.4410	0.3032	-0.0030	0.0124
24	0.1078	0.0204	0.0672	0.0574
25	0.2145	0.0597	0.0615	0.0713
26	0.0015	0.0557	-0.0476	-0.0293
27	0.2215	0.1763	0.0600	0.0266
28	0.2203	0.1455	0.0583	0.0689

29	0.1067	0.0621	0.0643	-0.0303
30	0.3421	0.0847	-0.0365	0.0125
31	0.0496	-0.0423	0.2252	0.0849
32	0.4789	0.2372	-0.0079	-0.0344
33	0.2825	0.1564	-0.2457	-0.0180
34	0.2489	0.1225	0.2594	0.0560
35	0.4101	0.1881	0.7165	0.0002
36	0.3562	0.1091	-1.5846	-0.1085

*Indicates statistical significant at the 1% level,
** Indicates statistical significant at the 5% level,
*** Indicates statistical significant at the 10% level

Table 42: Monthly Cumulative Abnormal Return for *shariah*-compliant companies

One-Sample Test (EW)				
	Test Value = 0			
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference

					Lower	Upper
M1	-2.021	4	0.113	-0.0089230	-0.021179	0.003333
M2	-2.776	4	0.050**	-0.0018612	-0.003722	0.000000
M3	0.054	4	0.959	0.0000439	-0.002191	0.002279
M4	-0.170	4	0.873	-0.0002438	-0.004233	0.003745
M5	0.151	4	0.887	0.0001285	-0.002227	0.002483
M6	-0.778	4	0.480	-0.0023947	-0.010944	0.006154
M7	0.226	4	0.832	0.0003942	-0.004442	0.005230
M8	0.984	4	0.381	0.0006241	-0.001136	0.002384
M9	0.673	4	0.538	0.0005083	-0.001590	0.002607
M10	0.495	4	0.646	0.0004870	-0.002242	0.003216
M11	-0.055	4	0.959	-0.0000455	-0.002329	0.002238
M12	0.949	4	0.396	0.0016198	-0.003118	0.006358

M13	0.835	4	0.451	0.0007438	-0.001730	0.003218
M14	-1.292	4	0.266	-0.0017714	-0.005579	0.002036
M15	0.379	4	0.724	0.0003180	-0.002012	0.002648
M16	1.071	4	0.345	0.0013046	-0.002078	0.004687
M17	0.608	4	0.576	0.0011899	-0.004246	0.006626
M18	1.959	4	0.122	0.0010961	-0.000457	0.002650
M19	1.760	4	0.153	0.0017024	-0.000984	0.004389
M20	1.063	4	0.348	0.0010671	-0.001721	0.003855
M21	0.640	4	0.557	0.0006950	-0.002318	0.003708
M22	1.138	4	0.319	0.0021172	-0.003049	0.007283
M23	1.313	4	0.260	0.0044095	-0.004918	0.013737
M24	0.944	4	0.399	0.0010777	-0.002093	0.004248
M25	1.772	4	0.151	0.0021453	-0.001217	0.005507

M26	0.010	4	0.992	0.0000146	-0.004027	0.004057
M27	1.531	4	0.201	0.0022148	-0.001802	0.006232
M28	0.905	4	0.417	0.0022026	-0.004556	0.008961
M29	0.654	4	0.549	0.0010667	-0.003462	0.005595
M30	1.261	4	0.276	0.0034214	-0.004110	0.010953
M31	0.327	4	0.760	0.0004958	-0.003715	0.004706
M32	1.025	4	0.363	0.0047889	-0.008188	0.017766
M33	0.871	4	0.433	0.0028248	-0.006183	0.011833
M34	1.595	4	0.186	0.0024890	-0.001845	0.006823
M35	1.396	4	0.235	0.0041010	-0.004056	0.012258
M36	1.398	4	0.235	0.0035621	-0.003513	0.010637

*Indicates statistical significant at the 1% level,
** Indicates statistical significant at the 5% level,
*** Indicates statistical significant at the 10% level

Table 43: Monthly Cumulative Abnormal Return for *shariah*-compliant companies

			One-Sample Test (VW)			
			Test Value = 0			
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
M1	-0.729	4	0.506	-0.0036660	-0.017625	0.010293
M2	0.183	4	0.864	0.0000961	-0.001360	0.001552
M3	0.099	4	0.926	0.0001280	-0.003448	0.003704
M4	4.732	4	0.009*	0.0019807	0.000819	0.003143
M5	0.114	4	0.915	0.0001384	-0.003226	0.003503
M6	-1.087	4	0.338	-0.0014426	-0.005128	0.002243
M7	-0.630	4	0.563	-0.0003611	-0.001952	0.001230
M8	-0.470	4	0.663	-0.0009172	-0.006334	0.004499
M9	-3.828	4	0.019**	-0.0012976	-0.002239	-0.000356

M10	-1.404	4	0.233	-0.0019947	-0.005938	0.001949
M11	-2.372	4	0.077***	-0.0019102	-0.004146	0.000326
M12	-0.874	4	0.432	-0.0020585	-0.008600	0.004483
M13	-0.788	4	0.475	-0.0009023	-0.004082	0.002277
M14	-1.110	4	0.329	-0.0056372	-0.019732	0.008458
M15	0.855	4	0.441	0.0005427	-0.001219	0.002304
M16	0.886	4	0.426	0.0011013	-0.002349	0.004551
M17	-0.533	4	0.622	-0.0012094	-0.007509	0.005090
M18	-1.701	4	0.164	-0.0011153	-0.002936	0.000705
M19	0.303	4	0.777	0.0003833	-0.003131	0.003897
M20	-0.057	4	0.957	-0.0000297	-0.001470	0.001411
M21	0.343	4	0.749	0.0003429	-0.002432	0.003118
M22	0.894	4	0.422	0.0009068	-0.001909	0.003723

M23	2.301	4	0.083***	0.0030317	-0.000627	0.006690
M24	0.184	4	0.863	0.0002035	-0.002868	0.003275
M25	0.627	4	0.565	0.0005966	-0.002047	0.003240
M26	0.697	4	0.524	0.0005569	-0.001662	0.002776
M27	1.785	4	0.149	0.0017628	-0.000980	0.004505
M28	1.916	4	0.128	0.0014546	-0.000654	0.003563
M29	0.849	4	0.444	0.0006208	-0.001410	0.002652
M30	0.755	4	0.492	0.0008474	-0.002267	0.003962
M31	-0.437	4	0.684	-0.0004228	-0.003106	0.002261
M32	1.356	4	0.247	0.0023718	-0.002485	0.007229
M33	1.184	4	0.302	0.0015638	-0.002104	0.005232
M34	1.589	4	0.187	0.0012252	-0.000915	0.003365
M35	1.369	4	0.243	0.0018808	-0.001933	0.005694

M36	0.904	4	0.417	0.0010908	-0.002261	0.004443

*Indicates statistical significant at the 1% level,
** Indicates statistical significant at the 5% level,
*** Indicates statistical significant at the 10% level

Table 44: Monthly Cumulative Abnormal Return Non *Shariah*-compliant Companies

	One-Sample Test (EW)					
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
M1	1.421	2	0.291	0.00261601	-0.0053043	0.0105363
M2	0.643	2	0.586	0.00117350	-0.0066739	0.0090210
M3	0.957	2	0.440	0.00470536	-0.0164591	0.0258699
M4	0.924	2	0.453	0.00433918	-0.0158576	0.0245359
M5	0.690	2	0.562	0.00060620	-0.0031747	0.0043872
M6	-0.646	2	0.584	-0.00034939	-0.0026756	0.0019768

M7	0.807	2	0.504	0.00188397	-0.0081599	0.0119278
M8	0.323	2	0.777	0.00056601	-0.0069784	0.0081104
M9	-0.523	2	0.653	-0.00024454	-0.0022579	0.0017688
M10	-0.368	2	0.748	-0.00019030	-0.0024182	0.0020376
M11	-0.666	2	0.574	-0.00094312	-0.0070324	0.0051461
M12	1.429	2	0.289	0.00191576	-0.0038542	0.0076857
M13	2.753	2	0.111	0.00067616	-0.0003807	0.0017330
M14	0.612	2	0.603	0.00235341	-0.0141991	0.0189059
M15	2.699	2	0.114	0.00162892	-0.0009678	0.0042257
M16	-0.230	2	0.839	-0.00027051	-0.0053280	0.0047870
M17	1.007	2	0.420	0.00592924	-0.0194151	0.0312736
M18	0.803	2	0.506	0.00273200	-0.0119055	0.0173695
M19	0.991	2	0.426	0.04958933	-0.1657736	0.2649523

M20	0.822	2	0.497	0.00054222	-0.0022950	0.0033794
M21	-0.582	2	0.619	-0.00093439	-0.0078434	0.0059746
M22	1.854	2	0.205	0.00126515	-0.0016711	0.0042014
M23	-0.052	2	0.963	-0.00002994	-0.0025184	0.0024585
M24	0.624	2	0.596	0.00067182	-0.0039610	0.0053046
M25	0.797	2	0.509	0.00061539	-0.0027077	0.0039385
M26	-0.607	2	0.606	-0.00047611	-0.0038513	0.0028991
M27	0.956	2	0.440	0.00060050	-0.0021023	0.0033033
M28	1.027	2	0.412	0.00058283	-0.0018595	0.0030251
M29	0.339	2	0.767	0.00064346	-0.0075311	0.0088180
M30	-1.405	2	0.295	-0.00036534	-0.0014842	0.0007535
M31	2.933	2	0.099***	0.00225235	-0.0010518	0.0055566
M32	-0.099	2	0.930	-0.00007855	-0.0035048	0.0033477

M33	-1.061	2	0.400	-0.00245716	-0.0124173	0.0075030
M34	1.624	2	0.246	0.00259389	-0.0042799	0.0094677
M35	0.993	2	0.425	0.00716480	-0.0238772	0.0382068
M36	-1.034	2	0.410	-0.01584611	-0.0817875	0.0500952

*Indicates statistical significant at the 1% level,
** Indicates statistical significant at the 5% level,
*** Indicates statistical significant at the 10% level

Table 45: Monthly Cumulative Abnormal Return for non *shariah*-compliant companies

	One-Sample Test (VW)					
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
M1	0.769	2	0.523	0.00044531	-0.0020478	0.0029384
M2	-0.740	2	0.536	-0.00062856	-0.0042809	0.0030238
M3	1.429	2	0.289	0.00038567	-0.0007757	0.0015471

M4	-0.236	2	0.835	-0.00009421	-0.0018087	0.0016203
M5	1.180	2	0.359	0.00059595	-0.0015776	0.0027695
M6	0.212	2	0.852	0.00003777	-0.0007276	0.0008031
M7	1.410	2	0.294	0.00024012	-0.0004926	0.0009728
M8	-0.666	2	0.574	-0.00021586	-0.0016107	0.0011790
M9	0.828	2	0.495	0.00009807	-0.0004113	0.0006074
M10	1.425	2	0.290	0.00063824	-0.0012891	0.0025656
M11	-1.084	2	0.392	-0.00040789	-0.0020265	0.0012108
M12	0.884	2	0.470	0.00020630	-0.0007983	0.0012109
M13	1.101	2	0.386	0.00066179	-0.0019238	0.0032474
M14	2.298	2	0.148	0.00017207	-0.0001501	0.0004943
M15	1.129	2	0.376	0.00112678	-0.0031690	0.0054226
M16	-0.670	2	0.572	-0.00065926	-0.0048918	0.0035732

M17	1.537	2	0.264	0.00080419	-0.0014476	0.0030560
M18	1.195	2	0.355	0.00034772	-0.0009046	0.0016000
M19	2.084	2	0.173	0.00142697	-0.0015193	0.0043732
M20	-0.687	2	0.563	-0.00064449	-0.0046791	0.0033901
M21	-1.030	2	0.411	-0.00052258	-0.0027057	0.0016605
M22	1.934	2	0.193	0.00076844	-0.0009416	0.0024785
M23	0.712	2	0.550	0.00012396	-0.0006248	0.0008727
M24	0.763	2	0.525	0.00057421	-0.0026629	0.0038114
M25	1.808	2	0.212	0.00071316	-0.0009842	0.0024105
M26	-1.247	2	0.339	-0.00029294	-0.0013040	0.0007181
M27	0.761	2	0.526	0.00026591	-0.0012371	0.0017689
M28	1.822	2	0.210	0.00068853	-0.0009372	0.0023142
M29	-1.435	2	0.288	-0.00030307	-0.0012120	0.0006059

M30	0.558	2	0.633	0.00012536	-0.0008410	0.0010917
M31	1.759	2	0.221	0.00084903	-0.0012274	0.0029254
M32	-0.502	2	0.666	-0.00034418	-0.0032949	0.0026065
M33	-0.731	2	0.541	-0.00017977	-0.0012378	0.0008782
M34	1.966	2	0.188	0.00056015	-0.0006655	0.0017858
M35	0.010	2	0.993	0.00000219	-0.0009398	0.0009441
M36	-1.577	2	0.256	-0.00108509	-0.0040458	0.0018756

*Indicates statistical significant at the 1% level,
** Indicates statistical significant at the 5% level,
*** Indicates statistical significant at the 10% level

Table 46: Long term of IPO for *Shariah*-compliant Companies (Correlations) – CAR (EW)

		CAR_EW	ia	up	op	os	ca	ov	r	uw	m	ip	ts	t	cp	property	const	plant	reit	ec	roe
									Correlations [c]												
CAR_EW	Pearson Correlation	1	-0.081	0.006	-0.259*	-0.086	0.027	0.571**	0.376**	-0.275*	0.502**	0.057	-0.186	0.477**	-0.347**	-0.025	0.032	-0.041	-0.103	0.020	0.052
	Sig. (2-tailed)		0.494	0.959	0.026	0.468	0.818	0.000	0.001	0.018	0.000	0.631	0.113	0.000	0.002	0.832	0.787	0.731	0.385	0.868	0.661
ia	Pearson Correlation		1	0.035	-0.201	-0.249*	-0.041	-0.117	0.017	-0.184	-0.144	0.169	-0.074	-0.167	-0.077	0.070	0.070	0.100	0.049	0.048	0.161
	Sig. (2-tailed)			0.770	0.086	0.032	0.729	0.320	0.889	0.116	0.222	0.151	0.531	0.154	0.515	0.555	0.555	0.397	0.679	0.687	0.172
up	Pearson Correlation			1	-0.132	-0.094	-0.001	0.247*	0.287*	-0.157	0.298**	-0.152	0.063	0.248*	-0.170	-0.003	-0.040	0.031	-0.046	-0.308**	0.068
	Sig. (2-tailed)				0.262	0.426	0.993	0.034	0.013	0.182	0.010	0.197	0.594	0.033	0.148	0.982	0.737	0.792	0.698	0.008	0.566

op	Pearson Correlation					1	0.635**	0.115	-0.207	-0.613**	0.360*	-0.414**	-0.061	0.300**	-0.281*	-0.044	-0.056	-0.010	0.143	-0.023	0.078	-0.068
	Sig. (2-tailed)						0.000	0.331	0.076	0.000	0.002	0.000	0.608	0.009	0.015	0.710	0.639	0.931	0.224	0.845	0.509	0.564
os	Pearson Correlation						1	0.049	-0.095	-0.184	0.202	-0.134	-0.082	0.165	-0.104	-0.066	0.193	-0.027	0.005	-0.025	0.263*	-0.060
	Sig. (2-tailed)							0.680	0.421	0.117	0.085	0.256	0.485	0.159	0.378	0.578	0.099	0.823	0.963	0.831	0.023	0.609
ca	Pearson Correlation							1	0.051	-0.040	-0.014	-0.164	0.212	0.020	-0.166	-0.081	-0.118	0.132	0.014	-0.133	-0.058	-0.012
	Sig. (2-tailed)								0.669	0.733	0.906	0.162	0.070	0.865	0.159	0.490	0.315	0.263	0.905	0.259	0.624	0.918
ov	Pearson Correlation							1	0.319**	-0.199	0.420**	-0.159	-0.133	0.513**	-0.148	-0.084	-0.039	-0.008	-0.051	-0.177	-0.162	
	Sig. (2-tailed)								0.006	0.090	0.000	0.177	0.257	0.000	0.209	0.476	0.744	0.946	0.667	0.131	0.167	

r	Pearson Correlation	1	0.447**	0.713**	-0.004	-0.111	0.398**	-0.112	-0.028	-0.099	-0.198	-0.055	-0.016	-0.042
	Sig. (2-tailed)		0.000	0.000	0.973	0.348	0.000	0.342	0.811	0.402	0.091	0.642	0.890	0.724
uw	Pearson Correlation		1	-0.253*	-0.208	0.195	-0.156	-0.065	0.196	0.027	0.160	0.138	0.057	-0.072
	Sig. (2-tailed)			0.030	0.075	0.097	0.186	0.585	0.094	0.817	0.172	0.242	0.628	0.540
m	Pearson Correlation			1	-0.263*	-0.016	0.702**	-0.242*	-0.108	-0.108	-0.155	-0.076	-0.074	-0.050
	Sig. (2-tailed)				0.024	0.893	0.000	0.038	0.358	0.358	0.186	0.519	0.530	0.675
ip	Pearson Correlation				1	-0.383**	-0.307**	-0.226	-0.101	-0.101	-0.145	-0.071	0.102	-0.023
	Sig. (2-tailed)					0.001	0.008	0.052	0.390	0.390	0.216	0.546	0.389	0.843

ts	Pearson Correlation														1	0.317**	-0.234*	-0.105	-0.105	-0.150	-0.074	0.155	0.002
	Sig. (2-tailed)															0.006	0.045	0.374	0.374	0.201	0.533	0.187	0.984
t	Pearson Correlation															1	-0.188	-0.084	-0.084	-0.121	-0.059	-0.195	0.012
	Sig. (2-tailed)																0.109	0.477	0.477	0.306	0.617	0.095	0.916
cp	Pearson Correlation																1	-0.062	-0.062	-0.089	-0.044	-0.007	-0.010
	Sig. (2-tailed)																	0.600	0.600	0.451	0.713	0.955	0.933
property	Pearson Correlation																	1	-0.028	-0.040	-0.020	0.107	-0.038
	Sig. (2-tailed)																		0.814	0.736	0.869	0.364	0.747

const	Pearson Correlation																		1	-0.040	-0.020	-0.091	-0.115
	Sig. (2-tailed)																			0.736	0.869	0.441	0.330
plant	Pearson Correlation																			1	-0.028	-0.131	0.002
	Sig. (2-tailed)																				0.813	0.268	0.985
reit	Pearson Correlation																				1	-0.064	-0.046
	Sig. (2-tailed)																					0.588	0.694
ec	Pearson Correlation																					1	0.004
	Sig. (2-tailed)																						0.970

																				roe
roe	Pearson Correlation																			1
	Sig. (2-tailed)																			

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

c. List wise N=74

Table 47: Long term of IPO for *Shariah*-compliant Companies (Correlations) – CAR (VW)

		CAR_VW	ia	up	op	os	ca	ov	r	uw	m	ip	ts	t	cp	property	const	plant	reit	ec	roe
CAR_VW	Pearson Correlation	1	0.156	-0.019	0.456**	-0.667**	0.035	0.199	0.251*	-0.230*	0.270*	0.165	-0.211	0.234*	-0.075	0.026	0.025	0.008	-0.500**	-0.180	0.069
	Sig. (2-tailed)		0.184	0.872	0.000	0.000	0.765	0.089	0.031	0.049	0.020	0.161	0.071	0.045	0.526	0.826	0.833	0.943	0.000	0.126	0.556

ia	Pearson Correlation			1	0.035	-0.201	-0.249*	-0.041	-0.117	0.017	-0.184	-0.144	0.169	-0.074	-0.167	-0.077	0.070	0.070	0.100	0.049	0.048	0.161
	Sig. (2-tailed)				0.770	0.086	0.032	0.729	0.320	0.889	0.116	0.222	0.151	0.531	0.154	0.515	0.555	0.555	0.397	0.679	0.687	0.172
up	Pearson Correlation				1	-0.132	-0.094	-0.001	0.247*	0.287*	-0.157	0.298**	-0.152	0.063	0.248*	-0.170	-0.003	-0.040	0.031	-0.046	-0.308**	0.068
	Sig. (2-tailed)					0.262	0.426	0.993	0.034	0.013	0.182	0.010	0.197	0.594	0.033	0.148	0.982	0.737	0.792	0.698	0.008	0.566
op	Pearson Correlation					1	0.635**	0.115	-0.207	-0.613**	0.360**	-0.414**	-0.061	0.300**	-0.281*	-0.044	-0.056	-0.010	0.143	-0.023	0.078	-0.068
	Sig. (2-tailed)						0.000	0.331	0.076	0.000	0.002	0.000	0.608	0.009	0.015	0.710	0.639	0.931	0.224	0.845	0.509	0.564
os	Pearson Correlation						1	0.049	-0.095	-0.184	0.202	-0.134	-0.082	0.165	-0.104	-0.066	0.193	-0.027	0.005	-0.025	0.263*	-0.060
	Sig. (2-tailed)							0.680	0.421	0.117	0.085	0.256	0.485	0.159	0.378	0.578	0.099	0.823	0.963	0.831	0.023	0.609

ca	Pearson Correlation							1	0.051	-0.040	-0.014	-0.164	0.212	0.020	-0.166	-0.081	-0.118	0.132	0.014	-0.133	-0.058	-0.012
	Sig. (2-tailed)								0.669	0.733	0.906	0.162	0.070	0.865	0.159	0.490	0.315	0.263	0.905	0.259	0.624	0.918
ov	Pearson Correlation								1	0.319**	-0.199	0.420**	-0.159	-0.133	0.513**	-0.148	-0.084	-0.039	-0.008	-0.051	-0.177	-0.162
	Sig. (2-tailed)									0.006	0.090	0.000	0.177	0.257	0.000	0.209	0.476	0.744	0.946	0.667	0.131	0.167
r	Pearson Correlation									1	-0.447**	0.713**	-0.004	-0.111	0.398**	-0.112	-0.028	-0.099	-0.198	-0.055	-0.016	-0.042
	Sig. (2-tailed)										0.000	0.000	0.973	0.348	0.000	0.342	0.811	0.402	0.091	0.642	0.890	0.724
uw	Pearson Correlation										1	-0.253*	-0.208	0.195	-0.156	-0.065	0.196	0.027	0.160	0.138	0.057	-0.072
	Sig. (2-tailed)											0.030	0.075	0.097	0.186	0.585	0.094	0.817	0.172	0.242	0.628	0.540

m	Pearson Correlation											1	-0.263[*]	-0.016	0.702[**]	-0.242[*]	0.108	-0.108	0.155	0.076	0.074	-0.050
	Sig. (2-tailed)												0.024	0.893	0.000	0.038	0.358	0.358	0.186	0.519	0.530	0.675
ip	Pearson Correlation												1	0.383[**]	-0.307[**]	-0.226	-0.101	-0.101	-0.145	-0.071	0.102	-0.023
	Sig. (2-tailed)													0.001	0.008	0.052	0.390	0.390	0.216	0.546	0.389	0.843
ts	Pearson Correlation													1	-0.317[**]	-0.234[*]	-0.105	-0.105	-0.150	-0.074	0.155	0.002
	Sig. (2-tailed)														0.006	0.045	0.374	0.374	0.201	0.533	0.187	0.984
t	Pearson Correlation														1	-0.188	0.084	-0.084	-0.121	-0.059	-0.195	0.012
	Sig. (2-tailed)															0.109	0.477	0.477	0.306	0.617	0.095	0.916

cp	Pearson Correlation																1	-0.062	-0.062	-0.089	-0.044	-0.007	-0.010
	Sig. (2-tailed)																	0.600	0.600	0.451	0.713	0.955	0.933
property	Pearson Correlation																	1	-0.028	-0.040	-0.020	0.107	-0.038
	Sig. (2-tailed)																		0.814	0.736	0.869	0.364	0.747
const	Pearson Correlation																		1	-0.040	-0.020	-0.091	0.115
	Sig. (2-tailed)																			0.736	0.869	0.441	0.330
plant	Pearson Correlation																			1	-0.028	-0.131	0.002
	Sig. (2-tailed)																				0.813	0.268	0.985

																								1	-0.064	-0.046
reit	Pearson Correlation																								1	-0.064	-0.046
	Sig. (2-tailed)																									0.588	0.694
ec	Pearson Correlation																									1	0.004
	Sig. (2-tailed)																										0.970
roe	Pearson Correlation																										1
	Sig. (2-tailed)																										

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. List wise N=74

Table 48: Long term of IPO for Non *Shariah*-compliant Companies (Correlations) – CAR (EW)

		UP	OP	OS	CA	OV	R	UW	M	TS	CP	P	REIT	EC	ROE	EW
								Correlations [b]								
UP	Pearson Correlation	1	0.501	-0.174	0.271	0.227	-0.694	-0.165	-0.750	-0.750	0.860	-0.165	0.055	-0.750	-0.868	-0.818
	Sig. (2-tailed)		0.499	0.826	0.729	0.773	0.306	0.835	0.250	0.250	0.140	0.835	0.945	0.250	0.132	0.182
OP	Pearson Correlation		1	-0.228	-0.513	0.228	-0.943	-0.220	-0.714	-0.714	0.055	-0.220	0.879	-0.714	-0.863	-0.712
	Sig. (2-tailed)			0.772	0.487	0.772	0.057	0.780	0.286	0.286	0.945	0.780	0.121	0.286	0.137	0.288
OS	Pearson Correlation			1	-0.512	-0.998[**]	0.029	1.000[**]	-0.324	-0.324	-0.338	1.000[**]	-0.338	-0.324	0.266	-0.245
	Sig. (2-tailed)				0.488	0.002	0.971	0.000	0.676	0.676	0.662	0.000	0.662	0.676	0.734	0.755
CA	Pearson Correlation				1	0.546	0.454	-0.514	0.411	0.411	0.720	-0.514	-0.617	0.411	0.114	0.316
	Sig. (2-tailed)					0.454	0.546	0.486	0.589	0.589	0.280	0.486	0.383	0.589	0.886	0.684
OV	Pearson Correlation					1	-0.046	-0.998[**]	0.292	0.292	0.396	-0.998[**]	0.309	0.292	-0.297	0.209

	Sig. (2-tailed)	0.954	0.002	0.708	0.708	0.604	0.002	0.691	0.708	0.703	0.791
R	Pearson Correlation	1	0.019	0.902	0.902	-0.243	0.019	-0.679	0.902	0.936	0.905
	Sig. (2-tailed)		0.981	0.098	0.098	0.757	0.981	0.321	0.098	0.064	0.095
UW	Pearson Correlation		1	-0.333	-0.333	-0.333	1.000**	-0.333	-0.333	0.256	-0.255
	Sig. (2-tailed)			0.667	0.667	0.667	0.000	0.667	0.667	0.744	0.745
M	Pearson Correlation			1	1.000**	-0.333	-0.333	-0.333	1.000**	0.826	0.994**
	Sig. (2-tailed)				0.000	0.667	0.667	0.667	0.000	0.174	0.006
TS	Pearson Correlation				1	-0.333	-0.333	-0.333	1.000**	0.826	0.994**
	Sig. (2-tailed)					0.667	0.667	0.667	0.000	0.174	0.006
CP	Pearson Correlation					1	-0.333	-0.333	-0.333	-0.541	-0.430
	Sig. (2-tailed)						0.667	0.667	0.667	0.459	0.570

P	Pearson Correlation													1	-0.333	-0.333	0.256	-0.255
	Sig. (2-tailed)														0.667	0.667	0.744	0.745
REIT	Pearson Correlation														1	-0.333	-0.541	-0.310
	Sig. (2-tailed)															0.667	0.459	0.690
EC	Pearson Correlation															1	0.826	0.994[**]
	Sig. (2-tailed)																0.174	0.006
ROE	Pearson Correlation																1	0.867
	Sig. (2-tailed)																	0.133
EW	Pearson Correlation																	1
	Sig. (2-tailed)																	

**. Correlation is significant at the 0.01 level (2-tailed).

b. List wise N=4

Table 49: Long term of IPO for Non *Shariah*-compliant Companies (Correlations) – CAR (VW)

		VW	UP	OP	OS	CA	OV	R	UW	M	TS	CP	P	REIT	EC	ROE
								Correlations [b]								
VW	Pearson Correlation	1	-0.490	0.478	0.191	-0.909	-0.242	-0.287	0.191	-0.092	-0.092	-0.851	0.191	0.751	-0.092	0.020
	Sig. (2-tailed)		0.510	0.522	0.809	0.091	0.758	0.713	0.809	0.908	0.908	0.149	0.809	0.249	0.908	0.980
UP	Pearson Correlation		1	0.501	-0.174	0.271	0.227	-0.694	-0.165	-0.750	-0.750	0.860	-0.165	0.055	-0.750	-0.868
	Sig. (2-tailed)			0.499	0.826	0.729	0.773	0.306	0.835	0.250	0.250	0.140	0.835	0.945	0.250	0.132
OP	Pearson Correlation			1	-0.228	-0.513	0.228	-0.943	-0.220	-0.714	-0.714	0.055	-0.220	0.879	-0.714	-0.863
	Sig. (2-tailed)				0.772	0.487	0.772	0.057	0.780	0.286	0.286	0.945	0.780	0.121	0.286	0.137
OS	Pearson Correlation				1	-0.512	-0.998[**]	0.029	1.000[**]	-0.324	-0.324	-0.338	1.000[**]	-0.338	-0.324	0.266

	Sig. (2-tailed)	0.488	0.002	0.971	0.000	0.676	0.676	0.662	0.000	0.662	0.676	0.734
CA	Pearson Correlation	1	0.546	0.454	-0.514	0.411	0.411	0.720	-0.514	-0.617	0.411	0.114
	Sig. (2-tailed)		0.454	0.546	0.486	0.589	0.589	0.280	0.486	0.383	0.589	0.886
OV	Pearson Correlation		1	-0.046	-0.998[**]	0.292	0.292	0.396	-0.998[**]	0.309	0.292	-0.297
	Sig. (2-tailed)			0.954	0.002	0.708	0.708	0.604	0.002	0.691	0.708	0.703
R	Pearson Correlation			1	0.019	0.902	0.902	-0.243	0.019	-0.679	0.902	0.936
	Sig. (2-tailed)				0.981	0.098	0.098	0.757	0.981	0.321	0.098	0.064
UW	Pearson Correlation				1	-0.333	-0.333	-0.333	1.000[**]	-0.333	-0.333	0.256
	Sig. (2-tailed)					0.667	0.667	0.667	0.000	0.667	0.667	0.744

M	Pearson Correlation										1	1.000**	-0.333	-0.333	-0.333	1.000**	0.826
	Sig. (2-tailed)											0.000	0.667	0.667	0.667	0.000	0.174
TS	Pearson Correlation											1	-0.333	-0.333	-0.333	1.000**	0.826
	Sig. (2-tailed)												0.667	0.667	0.667	0.000	0.174
CP	Pearson Correlation												1	-0.333	-0.333	-0.333	-0.541
	Sig. (2-tailed)													0.667	0.667	0.667	0.459
P	Pearson Correlation													1	-0.333	-0.333	0.256
	Sig. (2-tailed)														0.667	0.667	0.744
REIT	Pearson Correlation														1	-0.333	-0.541

	Sig. (2-tailed)															0.667	0.459
EC	Pearson Correlation															1	0.826
	Sig. (2-tailed)																0.174
ROE	Pearson Correlation																1
	Sig. (2-tailed)																
**. Correlation is significant at the 0.01 level (2-tailed).																	
b. List wise N=4																	

Table 50: Regression Analysis for long-term performance of IPO for *shariah*-compliant companies (CAR- EW)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	0.003	0.004		0.854	0.397	-0.004	0.010
	ia	-0.002	0.002	-0.082	-0.840	0.405	-0.006	0.002
	up	-0.005	0.002	-0.234	-2.355	0.022	-0.009	-0.001
	op	0.000	0.001	0.036	0.219	0.828	-0.002	0.002
	os	-9.499E-013	0.000	-0.057	-0.428	0.670	0.000	0.000
	ca	1.356E-005	0.000	0.023	0.249	0.804	0.000	0.000
	ov	8.068E-005	0.000	0.456	4.263	0.000	0.000	0.000
	r	0.000	0.001	-0.016	-0.099	0.921	-0.002	0.002
	uw	-0.002	0.002	-0.151	-1.405	0.166	-0.006	0.001
	m	0.005	0.003	0.329	1.825	0.073	-0.001	0.011

Coefficients [a]

ts	-0.003	0.002	-0.181	-1.515	0.135	-0.007	0.001
t	-0.001	0.003	-0.049	-0.302	0.764	-0.007	0.005
cp	-0.007	0.002	-0.305	-3.020	0.004	-0.012	-0.002
property	0.002	0.005	0.053	0.530	0.598	-0.007	0.012
const	0.001	0.004	0.029	0.315	0.754	-0.007	0.010
plant	-6.331E-005	0.003	-0.002	-0.019	0.985	-0.007	0.006
reit	-0.004	0.006	-0.054	-0.589	0.559	-0.015	0.008
ec	0.002	0.002	0.088	0.878	0.384	-0.002	0.005
roe	8.906E-005	0.000	0.153	1.673	0.100	0.000	0.000

a. Dependent Variable: CAR_EW

Table 51: Regression Analysis for long-term performance of IPO for *shariah*-compliant companies (CAR VW)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-5.296E-005	0.002		-0.030	0.976	-0.004	0.003
	ia	0.000	0.001	0.025	0.403	0.688	-0.002	0.002
	up	-0.004	0.001	-0.220	-3.548	0.001	-0.006	-0.002
	op	0.001	0.000	0.203	1.966	00.054	0.000	0.002
	os	-1.023E-011	0.000	-0.773	-9.261	0.000	0.000	0.000
	ca	7.510E-006	0.000	0.016	0.277	0.783	0.000	0.000
	ov	1.200E-005	0.000	0.085	1.273	0.208	0.000	0.000
	r	0.000	0.001	0.077	0.746	0.459	-0.001	0.001
	uw	0.000	0.001	-0.009	-0.135	0.893	-0.002	0.002
	m	0.003	0.001	0.211	1.872	0.067	0.000	0.006

Coefficients [a]

ts	-0.002	0.001	-0.176	-2.354	0.022	-0.004	0.000
t	-0.001	0.002	-0.072	-0.710	0.481	-0.004	0.002
cp	-0.003	0.001	-0.149	-2.368	0.021	-0.005	0.000
property	0.007	0.002	0.185	2.941	0.005	0.002	0.011
const	-0.001	0.002	-0.026	-0.453	0.652	-0.005	0.003
plant	-0.001	0.002	-0.029	-0.466	0.643	-0.004	0.002
reit	-0.027	0.003	-0.522	-9.134	0.000	-0.033	-0.021
ec	-0.001	0.001	-0.075	-1.195	0.237	-0.003	0.001
roe	2.819E-005	0.000	0.061	1.062	0.293	0.000	0.000

a. Dependent Variable: CAR_VW

Table 52: Regression Analysis (R-square) for long-term performance of IPO for *shariah*-compliant companies (CAR EW)

		Model Summary [b]			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.771[a]	0.594	0.461	0.00555	1.751

a. Predictors: (Constant), roe, plant, ca, up, os, reit, const, cp, property, ia, ov, ts, ec, uw, r, t, op, m

b. Dependent Variable: CAR_EW

Table 53: Regression Analysis (R-square) for long-term performance of IPO for *shariah*-compliant companies (CAR VW)

		Model Summary [b]			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.917[a]	0.842	0.790	0.00277	1.884

a. Predictors: (Constant), roe, plant, ca, up, os, reit, const, cp, property, ia, ov, ts, ec, uw, r, t, op, m

b. Dependent Variable: CAR_VW

Table 54: Regression Analysis (ANOVA) for long-term performance of IPO for *shariah*-compliant companies (CAR EW)

Model		Sum of Squares	df	Mean Square	F	Sig.
				ANOVA [a]		
1	Regression	0.002	18	0.000	4.470	0.000[b]
	Residual	0.002	55	0.000		
	Total	0.004	73			
a. Dependent Variable: CAR_EW						
b. Predictors: (Constant), roe, plant, ca, up, os, reit, const, cp, property, ia, ov, ts, ec, uw, r, t, op, m						

Table 55: Regression Analysis (ANOVA) for long-term performance of IPO *shariah*-compliant companies (CAR VW)

Model		Sum of Squares	df	Mean Square	F	Sig.
				ANOVA [a]		
1	Regression	0.002	18	0.000	16.239	0.000[b]
	Residual	0.000	55	0.000		

Total	0.003	73			

a. Dependent Variable: CAR_VW

b. Predictors: (Constant), roe, plant, ca, up, os, reit, const, cp, property, ia, ov, ts, ec, uw, r, t, op, m

Table 56: Regression Analysis for long-term performance of IPO for non *shariah*-compliant companies (CAR VW)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.004	.000		.	.	.004	.004
	CA	-.002	.000	-.090	.	.	-.002	-.002
	P	-.128	.000	-.562	.	.	-.128	-.128
	ROE	.024	.000	1.021	.	.	.024	.024

a. Dependent Variable: EW

Table 57: Regression Analysis for long-term performance of IPO for non *shariah*-compliant companies (CAR VW)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.012	.000		.	.	.012	.012
	CA	-.001	.000	-1.198	.	.	-.001	-.001
	P	-.006	.000	-.498	.	.	-.006	-.006
	ROE	.000	.000	.285	.	.	.000	.000
a. Dependent Variable: VW								

Coefficients [a]

Table 58: Regression Analysis (R-square) for long-term performance of IPO for non *shariah*-compliant companies (CAR EW)

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	1.000[a]	1.000	.	.	1.643

a. Predictors: (Constant), ROE, CA, P
b. Dependent Variable: EW

Table 59: Regression Analysis (R-square) for long-term performance of IPO for non *shariah*-compliant companies (CAR EW)

Model Summary [b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	1.000[a]	1.000	.	.	2.862
a. Predictors: (Constant), ROE, CA, P					
b. Dependent Variable: VW					

Table 60: Regression Analysis (ANOVA) for long-term performance of IPO for non *shariah*-compliant companies (CAR EW)

ANOVA [a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.039	3	.013	.	.[b]
	Residual	.000	0	.		

		Total	.039	3			

a. Dependent Variable: EW

b. Predictors: (Constant), ROE, CA, P

Table 61: Regression Analysis (ANOVA) for long-term performance of IPO for non *shariah*-compliant companies (CAR EW)

ANOVA [a]						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	3	.000	.	.[b]
	Residual	.000	0	.		
	Total	.000	3			

a. Dependent Variable: VW

b. Predictors: (Constant), ROE, CA, P

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