IJABF
Research Initiates Changes

International Journal of Accounting & Business Finance

Vol.2 Issue-1 January - June - 2016 ISSN 2448-9867

Contents

Faculty of Management Studies and Commerce
University of Jaffna, Sri Lanka
2016

CONTENTS

Why does underperformance of IPOs in the long-run become debatable? A theoretical review

Wasantha Perera[1] and Nada Kulendran[2]

[1]Department of Finance, University of Sri Jayewardenepura, Colombo, Sri Lanka
[2]College of Business, Victoria University, Melbourne, Australia

Abstract

Prior studies have examined initial public offering (IPO) market performance in two different periods—short run and long run—in terms of two phenomena: the underpricing or short-run market phenomenon and the underperformance or long-run market phenomenon. To find out the possible theoretical reasons for the underperformance phenomenon, this study reviews the past literature on the long-run market performance of IPOs. The evidence on long-run underperformance of IPOs is not as widespread as that of short-run underpricing of IPOs. The previous researchers have explained long-run performance using behavioural theories, methodological issues and short-run underpricing theories. Some researchers have found that IPOs underperform marginally or have no abnormal performance in the long run; thus, they do not reject the market efficiency hypothesis in the long run. Others have reported that IPOs overperform or do not underperform in the long-run market. Still others have argued that underperformance disappears when different performance measures or methodologies are used. The rest have found that IPOs underperform considerably in the long-run IPO market. However, the long-run underperformance of IPOs is a debatable issue among financial researchers because of their studies' conflicting results and controversial findings.

Keywords: Behavioural theories, Efficiency Market hypothesis, IPO, Under performance

1. Introduction

Underperformance of IPOs is generally accepted as typical of long-run market performance, but it is not as widespread as short-run under-pricing of IPOs. Long-run underperformance indicates that the subsequent share prices are often lower than the first trading day prices, which provides negative abnormal returns for investors in the long run. Long-run market performance is a debatable issue among financial researchers as shown by the conflicting results and controversial findings they have obtained. Some researchers have found that IPOs underperform marginally or have no abnormal performance in the long run, which implies that the market is efficient because the results do not reject the market efficiency hypothesis in the long run

(Gompers & Lerner, 2003; Ibbotson, 1975; Jenkinson & Ljungqvist, 2001). Others have reported that IPOs overperform or do not underperform in the long-run market (Bird & Yeung, 2010; Da Silva Rosa, Velayuthen & Walter, 2003; Thomadakis, Nounis & Gounopoulos, 2012). Some have argued that underperformance disappears when different measures of performance or methodology are used (Abukari & Vijay, 2011; Ahmad-Zaluki, Campbell & Goodacre,; Gompers & Lerner, 2003; Kooli & Suret,(2004). The remaining researchers have found that IPOs underperform considerably in the long-run IPO market (How, 2000; Lee, Taylor & Walter,(1996) Ritter,(1991). These contradicting outcomes regarding long-run market performance were the motivations for the current study.

This research paper seeks to review the empirical evidence and theoretical explanation for the long-run under performance phenomenon. The remainder of this article is organized as follows. Section 2 reviews the empirical evidence on the long-run under performance phenomenon. Section 3 covers theoretical explanation for the under performance phenomenon, and Section 4 concludes the major findings.

2. Evidence on long-run underperformance phenomenon

This section reviews the empirical evidence on the long-run under performance phenomenon.

Ritter (1991) documented the long-run performance of US IPOs appearing to be overpriced (underperformed) as the third anomaly in the pricing of IPOs of common stock. He summarised the average holding period return for a sample of 1,526 IPOs of common stock in 1975–1984 as 34.47% in the three years after going public. Further, Omran (2005) found mixed results in the long-run performance of Egyptian IPOs between 1994 and 1998. He clearly noted that investors can earn positive aftermarket abnormal returns (average return 41%) over a one-year period and negative aftermarket abnormal return over a three- and five-year horizon. The aftermarket performance of internet firms is initially favourable but weakens over time, according to . Further, they documented that the long-term performance of internet firms in the United States declined over time, and the market was underperformed by the end of one year.

Boabang (2005) analysed the opening, short-term, medium-term and long-term performance of Canadian unit trust IPOs using a sample of 83 IPOs listed on the Toronto Stock Exchange over the period 1990–2000. The study concluded that, in the long run, Canadian IPOs were fairly priced but underperformed the Canadian market. Further, he indicated that the Canadian unit trust IPO market appeared to be inefficient in the short and long term, but over the medium term, the market appeared to be efficient.

Cai, Liu and Mase (2008) examined the three-year post-IPO performance of firms listedon the Shanghai A-share stock market between 1997 and 2001. According to this study, the IPO market underperformed by 30% over the long run. Ajlouni and Abu-Ein (2009) reported that Jordanian IPOs significantly underperformed in the long run similarly to advanced economies. In addition, they concluded that IPOs of service companies performed better than industrial companies. However, both companies underperformed in the market. In the long run, Chinese A-share IPOs slightly underperformed the matched portfolios and B-shares outperformed the benchmark

portfolios (Chan,Wang & Wei 2004). Álvarez and González (2005) revealed negative long-run abnormal stock returns in relation to Spanish IPOs. Kooli and Suret (2004) examined the aftermarket performance of Canadian IPOs with a sample of 445 IPOs from 1991 to 1998. Their sample indicated that Canadian IPOs were also underperforming in the long run. These performance results depend on the methodology used and on the weighting schemes. Moshirian, Ng and Wu (2010) provided further evidence to support this argument, revealing that the existence of long-run underperformance for Asian IPOs depends resoundingly on the methodology used for assessment. In contrast to the under performance argument, Ahmad-Zaluki, Campbell and Goodacre (2007) documented significant over performance in the long run in equally weighted (EW) event-time cumulative abnormal returns (CARs) and buy and hold abnormal returns(BHARs). They investigated the long-run share price performance of 454 Malaysian IPOs during the period 1999–2000. Further, they explained that the long-run performance of the Malaysia (n IPOs was in line with the under performance phenomenon when return was calculated on value weighted (VW) or a matched company benchmark. However, this study is consistent with the argument that long-run performance depends on the methodology and benchmarks used for assessment.

In the Australian literature, Finn and Higham(1988) and Lee, Taylor and Walter (1996) found that industrial IPOs under performed by 6.52% and 51.58% based on long-run returns. How (2000) found that mining IPOs underperformed by 7.6%, whereas Dimovski and Brooks (2004) reported that industrial and resource IPOs underperformed by 4.6%. However, Da Silva Rosa, Velayuthen and Walter (2003) found that Australian IPOs did not underperform in the post-market. Bird and Yeung (2010) found that Australian IPOs over performed by 12%.

The review of the above studies attempts to shed some light on the IPO market performance in the long run. Table 1 also presents some Australian and international evidence on long-run IPO performance. The table clearly indicates that long-run market performance has been reported as under performance or over performance in Australia as well as in other countries. In particular, long-run over performance can be observed in Korea (+2%), Malaysia (+17.9%), Sweden (+1.2%), China (+16.6%) and the United States (+11.7%) based on average long-run returns. However, long-run underperformance has been reported in more parts of the world when compared with

Table 1: Evidence on long-run market performance phenomenon

Country	Average long-run return (%)	Sample size	Sample period	Author(s)
Australian				
Australia	–6.52	93	1966–1978	Finn &Higham
Australia	–25.38	120	1974–1984	Allen & Patrick
Australia	–51.58	266	1976–1989	Lee, Taylor & Walter
Australia	–7.6	130	1979–1990	How
Australia	+13.12	333	1991–1999	Da Silva Rosa, Velayuthen & Walter
Australia	–4.6	251	1994–1999	Dimovski & rooks
Australia	–25.27	419	1995–2000	Bayley , Lee & Walter

Australia	+12	68	1995–2004	Bird & Yeung
Non-Australian				
Austria	–27.3	57	1965–1993	Aussenegg
Brazil	–47.0	62	1980–1990	Aggarwal, Leal & Hernandez
Canada	–17.9	216	1972–1993	Jog &Srivistava
Chile	–23.7	28	1982–1990	Aggarwal, Leal & Hernandez
China	–30	335	1997–2001	Cai,Liu&Mase
China	+16.6	897	1996–2002	Chi, Wang & Young
Egypt	–27.0	53	1994–1998	Omran
Finland	–21.1	79	1984–1989	Keloharju
Germany	–12.1	145	1970–1990	Ljungqvist
Greece	–31.43	254	1994–2002	Thomadakis, Nounis&Gounopoulos
Japan	–27.0	172	1971–1990	Cai& Wei
Jordan	–1.5	24	1990–2006	Ajlouni
Korea	+2.0	99	1985–1988	Kim, Krinsky& Lee
Malaysia	+17.9	454	1990–2000	Ahmad-Zaluki, Campbell &Goodacre
Singapore	–9.2	45	1976–1984	Hin&Mahmood
Spanish	–28.0	52	1987–1997	Álvarez& González
Sweden	+1.2	162	1980–1990	Loughran, Ritter &Rydqvist
UK	–8.1	712	1980–1988	Levis
US	–20.0	4753	1970–1990	Loughran& Ritter
US	+11.7	2829	1988–2005	Abukari&Vijay

Source: The figures were taken from the article 'Initial Public Offerings' (Ritter 1998) and the rest of the figures were based on papers published by the authors listed in the table.

Note: A negative (–) sign indicates underperformance and a positive (+) sign indicates overperformance in the long run.

overperformance. The following section discusses the main reasons for the long-run underperformance phenomenon.

3. Theoretical explanation for long-run underperformance

This section explains the theoretical background pertaining to long-run under performance and provides a number of reasons why IPOs underperform in the long run.

Theoretical explanations for the long-run under performance of IPOs are less abundant than those for the underpricing phenomenon (Kooli and Sutet (2004) . Jakobsen and Sorensen (2001) also noted that no convincing theory exists that explains IPO long-run market performance. Studies on long-run performance have reported controversial and conflicting findings (Thomadakis, Nounis & Gounopoulos 2012). Therefore, much attention has been paid to theoretical explanations for long-run performance of IPOs in the recent IPO literature. The following behavioural theories have been proposed to explain the phenomenon of long-run under performance of IPOs (Ritter 1998):

* the divergence of opinion hypothesis
* the impresario hypothesis (fads hypothesis)
* the window of opportunity hypothesis.

In addition to these behavioural theories of long-run market performance, some theories on short-run underpricing (e.g. signalling theory, agency cost theory, prospect theory and uncertainty theory) and methodological issues including measurement problems can be used to

portfolios (Chan,Wang & Wei 2004). Álvarez and González (2005) revealed negative long-run abnormal stock returns in relation to Spanish IPOs. Kooli and Suret (2004) examined the aftermarket performance of Canadian IPOs with a sample of 445 IPOs from 1991 to 1998. Their sample indicated that Canadian IPOs were also underperforming in the long run. These performance results depend on the methodology used and on the weighting schemes. Moshirian, Ng and Wu (2010) provided further evidence to support this argument, revealing that the existence of long-run underperformance for Asian IPOs depends resoundingly on the methodology used for assessment. In contrast to the under performance argument, Ahmad-Zaluki, Campbell and Goodacre (2007) documented significant over performance in the long run in equally weighted (EW) event-time cumulative abnormal returns (CARs) and buy and hold abnormal returns(BHARs). They investigated the long-run share price performance of 454 Malaysian IPOs during the period 1999–2000. Further, they explained that the long-run performance of the Malaysia (n IPOs was in line with the under performance phenomenon when return was calculated on value weighted (VW) or a matched company benchmark. However, this study is consistent with the argument that long-run performance depends on the methodology and benchmarks used for assessment.

In the Australian literature, Finn and Higham(1988) and Lee, Taylor and Walter (1996) found that industrial IPOs under performed by 6.52% and 51.58% based on long-run returns. How (2000) found that mining IPOs underperformed by 7.6%, whereas Dimovski and Brooks (2004) reported that industrial and resource IPOs underperformed by 4.6%. However, Da Silva Rosa, Velayuthen and Walter (2003) found that Australian IPOs did not underperform in the post-market. Bird and Yeung (2010) found that Australian IPOs over performed by 12%.

The review of the above studies attempts to shed some light on the IPO market performance in the long run. Table 1 also presents some Australian and international evidence on long-run IPO performance. The table clearly indicates that long-run market performance has been reported as under performance or over performance in Australia as well as in other countries. In particular, long-run over performance can be observed in Korea (+2%), Malaysia (+17.9%), Sweden (+1.2%), China (+16.6%) and the United States (+11.7%) based on average long-run returns. However, long-run underperformance has been reported in more parts of the world when compared with

Table 1: Evidence on long-run market performance phenomenon

Country	Average long-run return (%)	Sample size	Sample period	Author(s)
Australian				
Australia	–6.52	93	1966–1978	Finn &Higham
Australia	–25.38	120	1974–1984	Allen & Patrick
Australia	–51.58	266	1976–1989	Lee, Taylor & Walter
Australia	–7.6	130	1979–1990	How
Australia	+13.12	333	1991–1999	Da Silva Rosa, Velayuthen & Walter
Australia	–4.6	251	1994–1999	Dimovski & rooks
Australia	–25.27	419	1995–2000	Bayley , Lee & Walter

Australia	+12	68	1995–2004	Bird & Yeung
Non-Australian				
Austria	–27.3	57	1965–1993	Aussenegg
Brazil	–47.0	62	1980–1990	Aggarwal, Leal & Hernandez
Canada	–17.9	216	1972–1993	Jog &Srivistava
Chile	–23.7	28	1982–1990	Aggarwal, Leal & Hernandez
China	–30	335	1997–2001	Cai,Liu&Mase
China	+16.6	897	1996–2002	Chi, Wang & Young
Egypt	–27.0	53	1994–1998	Omran
Finland	–21.1	79	1984–1989	Keloharju
Germany	–12.1	145	1970–1990	Ljungqvist
Greece	–31.43	254	1994–2002	Thomadakis, Nounis&Gounopoulos
Japan	–27.0	172	1971–1990	Cai& Wei
Jordan	–1.5	24	1990–2006	Ajlouni
Korea	+2.0	99	1985–1988	Kim, Krinsky& Lee
Malaysia	+17.9	454	1990–2000	Ahmad-Zaluki, Campbell &Goodacre
Singapore	–9.2	45	1976–1984	Hin&Mahmood
Spanish	–28.0	52	1987–1997	Álvarez& González
Sweden	+1.2	162	1980–1990	Loughran, Ritter &Rydqvist
UK	–8.1	712	1980–1988	Levis
US	–20.0	4753	1970–1990	Loughran& Ritter
US	+11.7	2829	1988–2005	Abukari&Vijay

Source: The figures were taken from the article 'Initial Public Offerings' (Ritter 1998) and the rest of the figures were based on papers published by the authors listed in the table.

Note: A negative (–) sign indicates underperformance and a positive (+) sign indicates overperformance in the long run.

overperformance. The following section discusses the main reasons for the long-run underperformance phenomenon.

3. Theoretical explanation for long-run underperformance

This section explains the theoretical background pertaining to long-run under performance and provides a number of reasons why IPOs underperform in the long run.

Theoretical explanations for the long-run under performance of IPOs are less abundant than those for the underpricing phenomenon (Kooli and Sutet (2004) . Jakobsen and Sorensen (2001) also noted that no convincing theory exists that explains IPO long-run market performance. Studies on long-run performance have reported controversial and conflicting findings (Thomadakis, Nounis & Gounopoulos 2012). Therefore, much attention has been paid to theoretical explanations for long-run performance of IPOs in the recent IPO literature. The following behavioural theories have been proposed to explain the phenomenon of long-run under performance of IPOs (Ritter 1998):

* the divergence of opinion hypothesis
* the impresario hypothesis (fads hypothesis)
* the window of opportunity hypothesis.

In addition to these behavioural theories of long-run market performance, some theories on short-run underpricing (e.g. signalling theory, agency cost theory, prospect theory and uncertainty theory) and methodological issues including measurement problems can be used to

explain long-run under performance. Accordingly, the theories on long-run under performance are categorised as (1) behavioural theories of long-run underperformance, (2) methodological problems and (3) theories of short-run underpricing. Figure 1 shows the long-run underperformance theories that are discussed in the following section.

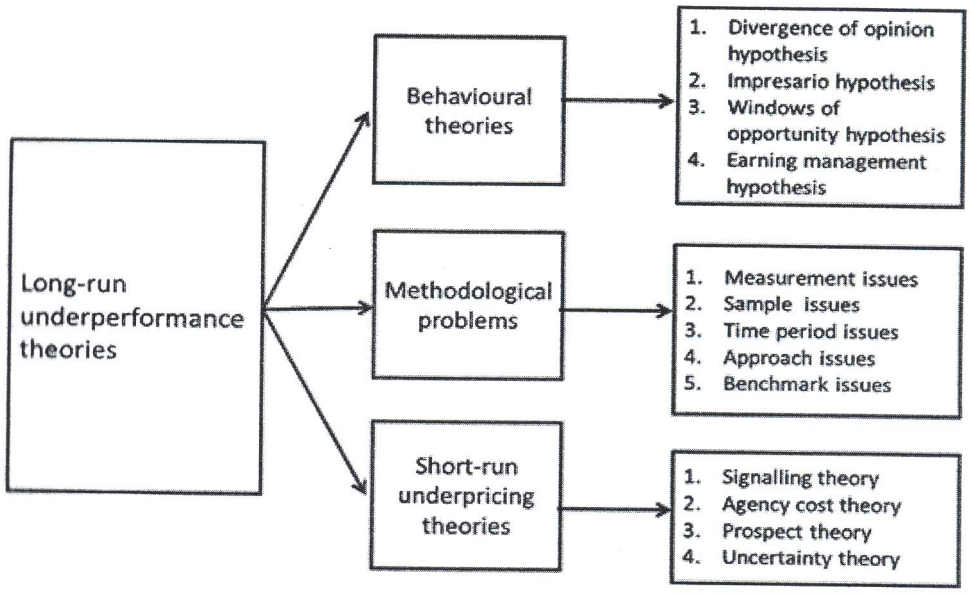

Figure 1 Long-Run Under performance Theories

3.1 Behavioural theories

The divergence of opinions hypothesis

The divergence of opinions hypothesis on long-run stock market performance was presented by Miller (1977). This hypothesis explains that investors who are most optimistic regarding the future cash flows and growth potential of IPOs will be the buyers. Their valuation determines the initial trading day's price. The valuations of an optimistic investor will be higher than those of the pessimistic investor when there is uncertainty about the value of an IPO. As time goes on, more information becomes available in the market. The divergence of opinion between optimistic and pessimistic investors will narrow because of the availability of information. Therefore, this will lead to a reduction of the market price, resulting in long-run underperformance.

The impresario hypothesis (fads hypothesis)

The impresario hypothesis was introduced by Aggarwal and Rivoli (1990) following Miller's (1977) divergence of opinions explanation. This hypothesis indicates that companies with high initial returns should have low aftermarket returns. The theory argues that the market for IPOs is subject to fads and that IPOs are underpriced by investment bankers to create the appearance of excess demand (Ritter 1998). Conversely, many firms go public near industry-specific 'fad' or 'hot' periods (Álvarez & González, 2005). Consequently, a negative relationship between long-run performance and

initial returns can be expected. This hypothesis is also similar to the investor overoptimism or overreaction hypothesis (De Bondt 1985; Thaler 1987) because investors become overly optimistic about a firm's value during fad or hot periods.

The window of opportunity hypothesis

The window of opportunity hypothesis was introduced by Ritter (1991) and considered a further extension of the fads hypothesis introduced by Aggarwal and Rivoli (1990). This hypothesis suggests that, once investors become overoptimistic about a firm's value, the firm's share price rises higher than a fair price. Issuers can take this as an opportunity to sell shares at a higher price, thus seizing the 'window of opportunity'. The window of opportunity hypothesis forecasts that firms going public in high-volume periods ('hot' periods) are more likely to be overvalued than other IPOs.

Earnings management hypothesis

The earnings management hypothesis is also considered a behavioural theory of long-run performance. Normally, companies manage earnings for the following purpose: to window-dress financial statements prior to IPO, to increase managers' compensation and job security, to avoid violating lending contracts, to reduce regulatory costs or to increase regulatory benefits. Beneish (2001) has argued that much of the evidence of earnings management depends on the company's performance, which suggests that earnings management is likely to be present when a company's performance is either unusually good or unusually bad. However, some IPO companies manipulate their financial statements with a view to attracting investors and this 'window-dressing' technique is not useful in the long run because, once investors know the true value of the firm, prices fall (Teoh, Welch & Wong 1998).

Empirical evidence on behavioural theories for long-run underperformance

The above theories have been examined in the IPO literature by many academic researchers. Among them, Ritter (1991) has made a significant contribution to the debate about long-run performance of IPOs. The long-run underperformance phenomenon was first documented by Ritter (1991). He used a large sample of 1,526 US IPOs from 1975 to 1984 and documented that the IPOs appeared to be overpriced in the long run. This is considered a third anomaly in the IPO literature. This study found that, in the three years after going public, the sample firms significantly underperformed in comparison with a set of comparable firms matched by size and industry. Further, this study explained that there was substantial variation in the underperformance from year to year and across industries, and younger companies going public in heavy volume years performed even worse than average.

Ritter's (1991) study made an attempt to shed some light on the reasons for this underperformance phenomenon. The possible reasons included (1) risk mismeasurement, (2) bad luck and (3) fads or overoptimism. In particular, this study investigated whether the sample companies underperformed merely due to bad luck or whether the market systematically overestimated the growth opportunities of the IPOs. The evidence is consistent with the notion that many firms go public near the peak of industry-specific fads. The investors in this sample were overoptimistic about the firms'

prospects and issuers took advantage of the 'window of opportunity'. These patterns are consistent with an IPO market in which (1) investors are periodically overoptimistic about the earnings potential of young companies, and (2) firms take advantage of these windows of opportunity. This indicates that the study's findings are in line with the impresario or fads hypothesis and window of opportunity hypothesis. In addition, the study analysed cross-sectional and time-series patterns in the post-market performance of IPOs with a view to identifying possible explanations for the long-run underperformance of IPOs. Aftermarket performance was categorised using initial returns, issue size, industry, age of the issuing firm and year of issuance.

Finally, Ritter (1991) argued that there were three unresolved issues in relation to long-run underperformance: (1) the generality of the findings, (2) the relationship of the long-run underperformance to the short-run underpricing phenomenon and (3) the tendency for underperformance in the long run.

Kooli and Suret(2004) examined the aftermarket performance of IPOs in Canada for up to five years using a sample of 445 IPOs during the period 1991–1998. The cross-sectional patterns were also analysed to identify plausible reasons for the underperformance of IPOs in Canada. They found that overpriced stocks performed better than underpriced stocks. This study confirms the international evidence on long-term performance and it indicates that underpriced stocks show a more negative long-term performance. The study's findings mildly support the overreaction or fads hypothesis. In addition, the study segmented the sample period into two sections: the hot period and the cold period. At 36 months, the aftermarket return was –18.06% for the hot period and –10.41% for the cold period. At 60 months, the aftermarket returns for hot and cold issues were –39.08% and –4.6% respectively. The difference in these returns is statistically significant at the 1% level. This study's findings are also consistent with the evidence that firms choose to go public when investors are willing to pay a high price-earnings ratio (P/E) or market-to-book, reflecting the optimistic assessments of the net present value of growth opportunities. They mentioned that, according to Ritter's interpretation, this may be consistent with the window of opportunity hypothesis. They concluded that their findings on the long-run performance of large Canadian IPOs explain the investors' overreaction hypothesis, not the divergence of opinions hypothesis.

Dimovski and Brooks (2004) analysed the financial and non-financial characteristics of Australian IPOs to explain their long-term underperformance. The overall results of their study support the long-run underperformance hypothesis on IPOs. During the period of 1994–1998, Australian IPOs were overpriced in the long run by 4% and the median market-adjusted return for the long run was –25%. Excess MR was the main explanatory variable of the long-run market performance in Australia. This study indicated a negative coefficient (–0.051) for the one-year excess return variable. This supports the overoptimism hypothesis, which explains the long-run underperformance. However, the authors argued that their study supports the overoptimism hypothesis based on the positive coefficient (1.069) on one-month excess returns. Further, similar interpretations can be made about the coefficient with the partitioned data. However, the MS variable indicates an unexpected positive coefficient. This finding is not in line with the overoptimism hypothesis and window of opportunity

hypothesis explanations for long-run under performance.

In addition, Omran (2005) documented mixed findings on the long-run performance of 53 share issue privatisations (SIPs) in the Egyptian stock market between 1994 and 1998. Positive abnormal returns were reported for a one-year period and negative abnormal returns were reported for three- and five-year horizons. However, over three- and five-year periods, abnormal returns were significantly affected by initial excess returns and the P/E. Their empirical findings are consistent with the overoptimism hypothesis.

Cai, Liu and Mase(2008) reported a comparable level of under performance on the long-run performance of IPOs in China. They found that initial overoptimism and the size of the offer were important explanatory variables for this under performance. This indicates that the findings are in line with the overoptimism hypothesis and divergence of opinions hypothesis. In addition, Chinese economic reforms affected government shareholding, and this supports a signal argument in relation to continuing government support. Therefore, this study provides an interesting outcome on how the regulatory environment and economic transition have influenced the long-run performance of IPOs in China.

Álvarez and González (2005) analysed the long-run performance of Spanish IPOs during the period 1987–1997, examining the influence of underpricing as a signalling mechanism in the aftermarket performance of Spanish IPOs. Their findings are consistent with the international evidence on long-run underperformance of IPOs. They confirmed that there was a positive relation between the level of underpricing of IPOs and the long-run performance of IPOs. This result confirms the signalling hypothesis for explaining the initial underpricing and long-run underperformance of IPOs in the Spanish capital market.

Kooli and Suret (2004) have argued that investor sentiment towards an IPO is an important factor in the long-run underper formance of IPOs. Gao (2010) studied the IPO price and long-term performance in China after the adaptation of the book building pricing mechanism. The study found that positive pre-market returns did not affect higher underpricing and it reduced underpricing. This indicates that the issuer and underwriter seize the window of opportunity opened by IPO issuance to maximise the offer price when investor sentiment is high. However, positive MS strongly increases overpricing in the long run. Other variables related to investor sentiment, individual-investor demand and trading volume, also have a positive effect on IPO overpricing. In addition, IPO initial returns can be used to predict IPO long-term performance. Finally, the study argues that rational theories have little power in explaining the IPO return in the Chinese market.

IPO investors are very concerned about obtaining prospectus information before buying shares, and managers have a strong motivation to report their managed earnings to increase the offer proceeds (Bhabra &Pettway 2003; Chaney & Lewis 1995; Rangan 1998; Teoh, Welch & Wong 1998). Loughran and Ritter (1997) have argued that, if an IPO company boosts its current earnings before issuing shares, this may lead to a decline in stock returns in the post issues because investors may overvalue new issues due to misinterpretation of the reported high earnings. However, investors may be disappointed because of the decline in post-operating performance (earnings) and this may negatively affect the long-run IPO performance.

3.2 Methodological problems

The issue of methodology is another important factor that researchers have emphasised in the current literature as far as the long-run under performance phenomenon is concerned. Ahmad-Zaluki, Campbell and Goodacre (2007) documented mixed findings on the long-run price performance of Malaysian IPOs. A significant overperformance was reported in EW event CARs and BHARs using market benchmarks. However, this finding disappeared when the VW method was used to measure both returns and matched companies were employed as a benchmark. In addition, the significant over performance disappeared when the Fama – French three-factor model was used to measure the long-run performance. This indicates that the even-time approach provides a more positive return in the long run relative to the calendar-time approach. Therefore, the findings vary according to the methodology used for analysis. Gompers and Lerner (2003) and Abukari and Vijay (2011) also found that whether IPOs underperform or over perform in the long run is determined by the method of performance measurement. Moreover, Ajlouni and Abu-Ein (2009) have argued that, overall, the suggested metho dologies may create a positive return in the short run, but in the long run, they are dangerous to the investors' wealth. Therefore, they recommend the use of different methodologies and benchmarks in future analysis. Kooli and Suret(2004) documented that the long-run under performance of Canadian IPOs depended on the methodology used and on the weighting schemes. Finally, Moshirian, Ng and Wu (2010) used alternative methodologies to examine the robustness of IPO performance in the Asian region. Their results clearly revealed that conflicting findings were obtained when different benchmarks were adopted. Further, the amount of abnormal returns depended on the methodology used and on the benchmark used for the return adjustment on IPOs. They concluded that the long-run performance of IPOs is a methodological issue and depends on the approach used in estimating the long-run abnormal returns.

3.3 Short-run underpricing theories

The main theories of short-run underpricing that may explain the long-run performance are signalling theory, agency cost theory, prospect theory and uncertainty theory.

Signalling theory

As discussed in Section 2.4.1.6, short-run underpricing can be used as tool to signal the quality of issuers to the market. Allen and Faulhaber (1989), Welch (1989) and Grinblatt and Hwang (1989) explained short-run underpricing as a signal of high-quality issuers.

Normally, to recover any opportunity losses at the time of the IPO, high-quality issuers conduct secondary equity offerings when the market price is established after quality is discovered by investors. Grinblatt and Hwang (1989) found that high-quality issuers initially issue a low proportion of their equity capital at the time of the IPO at a low PRICE and then sell their remaining equity capital at a high price in the secondary market. This signals that companies earning high short-run returns with a low fraction of their equity capital tend to have better long-run performance.

Álvarez and González (2005) analysed the long-run performance of Spanish IPOs during the period 1987–1997 and examined the influence of underpricing as a signalling mechanism in the aftermarket performance of Spanish IPOs. They found a positive relation

between the level of underpricing of IPOs and the long-run performance of IPOs. This result confirms the signalling hypothesis as an explanation for the long-run under performance of IPOs in the Spanish capital market.

Using Australian and UK IPOs, Lee, Taylor and Walter (1996) and Belghitar and Dixon (2012) found a positive relationship between long-run market performance and the first-day return. They confirmed the signalling theory as an explanation of long-run market performance.

Agency cost theory

When a company is converted to an IPO, the ownership and control are conducted by two different parties. This is known as separation of ownership and control. This leads to an increase in agency costs, particularly because there is a reduction in owner managers or management owners. This principle was discussed in Section 2.4.2.2.

The agency cost theory may explain declines in long-run market performance due to the low ownership retained by owner managers at the time of the IPO. In other words, if the owner managers have high ownership after the IPO, the company may perform better in the long run. However, Jenkinson and Ljungqvist (2001) found that long-run market performance cannot be explained by agency cost in a semi-strong efficient market.

Prospect theory

Ma and Shen (2003) explained long-run IPO performance using prospect theory as an alternative to the existing theories. They argued that IPO under performance is not a puzzle because of investor rationality. According to this theory, it is assumed that investors have utility functions that overweigh low probability events and underweight medium and high probability events. IPOs have more extreme returns under the prospect theory than the expected utility theory. Therefore, if the average returns in the long run are lower, the investors will still invest in IPOs because of these extreme returns under the prospect theory.

Uncertainty theory

Thomadakis, Nounis and Gounopoulos (2012) used the ownership retention ratio as a proxy to measure the uncertainty of the quality of the firm and argued that a high retention ratio will indicate low uncertainty about the quality of the firm and expectations of better long-run performance. Goergen and Renneboog (2007) supported this argument. Some researchers have used variables to test the uncertainty theory to explain long-run market performance. These variables are the age of the issuing firm, size of the issue, size of the firm, offer price, LISD and MV. How (2000) used the delay variable to explain long-run per formance. Offer size was used to explain long-run performance by Cai, Liu and Mase (2008) and Thomadakis, Nounis and Gounopoulos (2012). Omran (2005) used MV as an explanatory variable of long-run performance.

4. Conclusions

This section summarises the above mentioned literature relating to the long-run market performance of IPOs.

The evidence on long-run under performance of IPOs is not as widespread as that of short-run underpricing of IPOs. However, the long-run underperformance of IPOs is a debatable phenomenon because long-run performance is the most controversial area in

IPO research. Jakobsen and Sorensen (2001) supported this argument, reporting that there is no convincing theory that explains IPO long-run market performance. In addition, Thomadakis, Nounis and Gounopoulos (2012) mentioned that long-run performance studies have reported controversial and conflicting findings. Some researchers have found that IPOs underperform marginally or have no abnormal performance in the long run; thus, they do not reject the market efficiency hypothesis in the long run (Gompers & Lerner 2003; Ibbotson 1975; Jenkinson & Ljungqvist, 2001). Others have reported that IPOs overperform or do not underperform in the long-run market (Bird & Yeung 2010; Da Silva Rosa, Velayuthen & Walter, 2003; Thomadakis, Nounis & Gounopoulos, 2012). Still others have argued that underperformance disappears when different performance measures or metho dologies are used (Abukari & Vijay, 2011; Ahmad-Zaluki, Campbell & Goodacre,(2007) Gompers & Lerner, 2003; Kooli & Suret,(2004). The rest have found that IPOs underperform considerably in the long-run IPO market (How 2000; Lee, Taylor & Walter,(1996) Ritter (1991). However, previous researchers have explained long-run performance using be havioural theories, methodological issues and short-run underpricing theories. Some IPO researchers are in line with an efficient market point of view and others are in line with a behavioural point of view.

References

Abukari, K & Vijay, J.(2011). Long term performance and predictabilty of initial public offerings (IPOs), *FMA Annual Meeting Program*, Ottawa, viewed 20 August 2012, <www.fma.org/ Denver/ DenverProgram.htm>.

Aggarwal, R & Rivoli, P.(1990). Fads in the initial public offering market?.*Financial Management*, 19 (4), 45–57.

Ahmad & Zaluki, N. A., Campbell, K., & Goodacre, A. (2007). The long run share price performance of Malaysian initial public offerings (IPOs). Journal of Business Finance & Accounting, 34(12), 78-110.

Ajlouni, M & Abu-Ein, O.(2009). Long-run performance of initial public offerings in an emerging market: the case of Amman stock exchange', *Journal of International Finance and Economics*, 9, (1), 25–44.

Allen, D & Patrick, M (1996). Some further Australian evidence on the long-run performance of initial public offerings: 1974–1984, in T Bos & T Fetherstone (eds.), *Advances in Pacific Basin financial markets*, Emerald Group, 2A, 133–155.

Allen, F & Faulhaber, G.(1989). Signalling by underpricing in the IPO market', *Journal of Financial Economics*, 23(2), 303–323.

Álvarez, S & González, V (2005). Signalling and the long-run performance of Spanish initial public offerings (IPOs)', *Journal of Business Finance & Accounting*, 32, (1–2), 325–350.

Belghitar, Y & Dixon, R.(2012).Do venture capitalists reduce underpricing and underperformance of IPOs?', *Applied Financial Economics*, . 22, (1), 33–44.

Beneish, MD. (2001). Earnings management: a perspective, *Managerial Finance*, 27, (12), 3–17.

Bhabra, H & Pettway, R.(2003). IPO prospectus information and subsequent performance', *The Financial Review*, 38, (3),. 369–397.

Bird, R & Yeung, D 2010, *Institutional ownership and IPO performance: Australian evidence*, Working paper series 6, Paul Woolley Centre for Capital Market

Dysfunctionality, University of Technology Sydney, NSW, viewed 4 December 2012,<http://business.uts.edu.au/qfrc/pwc/research/workingpapers/2010/wp6.pdf>.

Boabang, F.(2005). The opening, short, medium and long term performance of Canadian unit trust initial public offerings (IPOs).*Journal of Business Finance & Accounting*, 32, (7–8), 1519–1536.

Cai, X, Liu, G & Mase, B.(2008). The long-run performance of initial public offerings and its determinants: the case of China.*Review of Quantitative Finance and Accounting*, 30(4), 419–432.

Chan, K, Wang, J & Wei, K,(2004). Underpricing and long-term performance of IPOs in China', *Journal of Corporate Finance*, 10(3), 409–430.

Chaney, PK & Lewis, CM. (1995). Earnings management and firm valuation under asymmetric information', *Journal of Corporate Finance*, 1(3), 319–345.

Da Silva Rosa, R, Velayuthen, G & Walter, T. (2003). The sharemarket performance of Australian venture capital-backed and non-venture capital-backed IPOs, *Pacific-Basin Finance Journal*, 11,(2), 197–218.

De Bondt, W & Thaler, R. (1987). Further evidence on investor overreaction and stock market seasonality', *Journal of Finance*, 42(3), 557–581.

Dimovski, W & Brooks, R. (2004). Initial public offerings in Australia 1994 to 1999, recent evidence of underpricing and under performance', *Review of Quantitative Finance and Accounting*, 22(3), 179–198.

Finn, F & Higham, R. (1988). The performance of unseasoned new equity issues-cum-stock exchange listing in Australia', *Journal of Banking & Finance*, 12, 333–351.

Gao, Y. (2010) What comprises IPO initial returns: evidence from the Chinese market', *Pacific-Basin Finance Journal*, 18, 77–89.

Goergen, M & Renneboog, L. (2007). Does ownership matter? A study of German and UK IPOs', *Managerial Finance*, 33(6), 368–387.

Gompers, PA & Lerner, J. (2003). The really long-run performance of initial public offerings: the pre-Nasdaq evidence', *The Journal of Finance*, 58(4), 1355–1392.

Grinblatt, M & Hwang, CY. (1989). Signalling and the pricing of new issues.*The Journal of Finance*, 44(2), 393–420.

How, J. (2000). Initial and long-run performance of mining IPOs in Australia', *Australian Journal of Management*, 25(1), 95–118.

Ibbotson, R. (1975). Price performance of common stock new issues', *Journal of Financial Economics*, 2(3), 235–272.

Jakobsen, J & Sorensen, O,(2001). Decomposing and testing long-term returns: an application on Danish IPOs', *European Financial Management*, 7(3), 393–417.

Jenkinson, T & Ljungqvist, A. (2001). *Going public: the theory and evidence on how companies raise equity finance*, Oxford University Press, Oxford, UK.

Johnston, J & Madura, J 2002, 'The performance of internet firms following their initial public offering', *The Financial Review*, vol. 37, pp. 525–550.

Kooli, M & Suret, J 2004, 'The aftermarket performance of initial public offerings in Canada', *Journal of Multinational Financial Management*, vol. 14, no. 1, pp. 47–66.

Lee, PJ, Taylor, SL & Walter, TS 1996, 'Australian IPO pricing in the short and

long run', *Journal of Banking & Finance*, 20(7), 1189–1210.

Ma, T & Shen, Y 2003, 'Prospect theory and the long-run performance of IPO stocks', *14th Annual Conference on Financial Economics and Accounting (FEA)*, <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.194.7253&rep=rep1&type=pdf>.

Loughran, T & Ritter, J (1997). The operating performance of firms conducting seasoned equity offerings. *The Journal of Finance*,52,(5),1823–1850.

Miller, EM (1977). Risk, uncertainty, and divergence of opinion. *The Journal of Finance*, 32,(4), 1151–1168.

Moshirian, F, Ng, D & Wu, E (2010). Model specification and IPO performance: new insights from Asia, *Research in International Business and Finance*, vol. 24(1),62–74.

Omran, M (2005). Underpricing and long-run performance of share issue privatization in the Egyptian Stock market. *The Journal of Financial Research*, 28,(2), 215–234.

Rangan, S (1998). Earnings management and the performance of seasoned equity offerings. *Journal of Financial Economics*, 50, (1), 101–122.

Ritter, J (1991). The long-run performance of initial public offerings, *The Journal of Finance*, 46,(1), 3–27.

Ritter, J (1998). Initial public offerings, *Contemporary Finance Digest*, 2, (1), 5–30.

Teoh, SH, Welch, I & Wong, TJ (1998).Earnings management and the long-run market performance of initial public offerings', *The Journal of Finance*, 53,(6), 1935–1974.

Thomadakis, S, Nounis, C & Gounopoulos, D (2012), Long-term performance of Greek IPOs. *European Financial Management*, 18,(1),117–141.

Welch, I (1989). Seasoned offerings, imitation costs, and the underpricing of initial public offerings, *Journal of Finance*, 44, (2), 421–449.