ACRN Journal of Finance and Risk Perspectives
Vol. 2, Issue 1, Nov. 2013, p. 25 - 37
ISSN 2305-7394

PSEUDO MARKET TIMING OF PREMIUM AND STANDARD LISTING IPOS

Rama Prasad Kanungo[1]
1 Senior Lecturer in Business Finance, TME, University of Greenwich, Central Avenue, Maritime Chatham, Kent, ME4 4TB. Phone-01643-883473, Email: R.P.Kanungo@gre.ac.uk

Abstract. *Recently, the IPOs are classified into premium listings and standard listings under the new FSA (Financial Services Authority) issuance regime at the time of flotation. The pseudo market timing of 231 IPOs is examined over a window of April 2010 to September 2012 from a panel of UK Initial Public Offerings (IPOs). The study shows contrasting results for both the categories. The premium listing IPOs register on an average -12.03% return over 1-24 post calendar months, while the standard listings yield an average 0.04% excess return. The premium listing IPOs indicate underperformance of between -0.43% to -5.89% over one calendar year. Whereas, the standard listing registers marginal excess positive return over the same post calendar month period. The supplementary analysis suggests that underpricing is a significant character of the premium listing but does not feature in the standard listing offers. Therefore, the results support to some extent that the timing effects are observable and can be explained by the pseudo market hypothesis.*

Key Words: *Pseudo Market timing, Standard and Premium listing, IPO aftermarket performance*

Introduction

Going public by IPO issuance is an equity market phenomenon. In addition to inherently endogenous factors, firms tend to go public because of exogenous market influence; for example, anticipated excess market returns. Market timing typically indicates a proclivity of firms to issue IPOs before low market returns or at the peak of high market returns. Also firms prefer IPOs when comparable firms have high market-to-book ratios, in expectation that an upward looking market may yield better returns for their issuance. Mostly market timing is perceived as an exogenous cause. IPOs exhibit poor performance relative to matched stock indices, particularly while abnormal returns are estimated in event time. Schulz (2003) identifies this as a bias and refers as pseudo market timing. His simulation finds that with a 50% chance, there is a -18% CARs yield over five years following IPO issuance. However, Butler et al. (2005) find that aggregate pseudo market timing is an alternate understanding of the small-sample bias studied by Amihud and Hurvich (2004), Lewellen (2004), Polk, Thompson, and Vuolteenaho (2006) and Campbell and Yogo (2006). Nevertheless, Schulz (2003) emphasises that the pseudo market time is not a small sample bias, even if it uses only two sample periods. Typically, underperformance emerges when the investors perceive the true value of firms. Schulz (2003) rationalises the phenomenon on the basis that IPO activities peak with market price when the potential proceeds of IPO increase irrespective of unpredictable future market returns. Thus, IPO activities exhibit a directly proportional behaviour in line with the market movement.

In 2009, London Stock Exchange (LSE) under the FSA (Financial Services Authority) issuance regime has introduced amended categories of IPO flotation, i.e. premium listing and standard listing. This study evaluates the pseudo-market timing of UK IPOs issued under this new issuance regime. A simulation of post-2009 IPOs are conducted to reappraise the pseudo market timing documented by Schultz (2003). The study is supplement with a cross-sectional explanatory analysis examining the performance of IPOs.

The amended regime of two-tier segments under the premium listing stipulates more stringent standards than the prior listing and exceeds the EU directives (see Appendix I). For example, all listings under premium categories must adhere to the UK Corporate Governance code inclusive of overseas one. This arrangement is designed to facilitate investors' confidence and generate market liquidity. The standard listing follows minimum prescribed standards set out in the EU directives. Each of the listings is characterised by specific investment portfolios. Premium listing includes equity shares of commercial firms, investment funds for both the open-end and closed-end portfolios. The standard listing comprises of both equity and non-equity, debt, matched debt securities, securitised derivatives and miscellaneous securities. Prior to this regime change, overseas firms are only allowed to have secondary listing and UK firms require to satisfy premium listing criteria, if they cannot satisfy the conditions; they should consider flotation in the AIM (Alternate Investment Market). In addition, equity shares are only permitted under the premium listing. This equity shares include securities convertible. The changes further stipulate that all preferential shares and warrants are not admissible to standard listing. The premium listing IPOs mandatorily require last three years audited historical financial statements, whereas; the standard listing may with exception submit less than three years statements if they are not available. The focus of this amendment emphasises towards a deregulatory approach for the UK firms. In particular, to provide an attractive and robust alternative to the AIM; where UK issuers can well inform their investors for rational pricing choices. At the same time, investors will be vigilant regarding the status of their shares depending on the listing categories.

IPO Long-run Performance and Pseudo Market Timing

Managers attempt to identify a buoyant market for issuing IPOs. However, IPO clustering and market returns do not necessarily conclude that managers have identified a peak and deliberately time the market conditions. Ritter (1991) supposes managers do time the market issue in anticipation of higher return. The prospect of predicting future market returns of IPOs is inconsistent (For example, see Loughran, Ritter and Rydqvist, 1994). The market performance and evidence of returns could be a reflection of investors' behaviour, irrational choice and over optimism. The stock prices do vary fundamentally, and firms sell their equity in a higher price to the optimist investors during the period of issuance. However, the market does not maintain the price buoyancy and the issuing shares consequently underperform. This explanation is largely consistent with the behavioural timing of the market. Although Loughran et al. (1994) document a positive correlation between the numbers of IPO issuance with prospective market return. The investors' choice could be independent of market sentiment; therefore managers are not always in privy of timing. Schulz (2003) argues that,

> *"Pseudo market timing is completely different from these other explanations for the poor performance of equity issuing firms. Unlike explanations based on mis-measurement of risk or statistical significance, the pseudo market timing hypothesis says that, ex-post, the poor performance of equity issuers is real and significant. That is, IPOs have underperformed relative to their ex-ante expected return. Nevertheless, this is consistent with an efficient market. Even if the ex-ante expected abnormal return is zero following equity offerings, a positive covariance between abnormal returns and the number of future offerings*

means that the probability of observing negative abnormal returns in event-time following offerings may far exceed 50 percent."

Prior to pseudo-market timing, several other competing explanations such as, behavioural issue, econometric bias, insufficient risk adjustment are proposed by Ritter (1991), Baker and Wurgler (2000); Gompers and Lerner (2003); and Eckbo, Masulis, Norli (2000). Pastor and Veronesi (2005) find that underperformance occurs in IPOs cluster due to optimal exercise of real option to go for the public issuance. Viswanathan and Wei (2008) provide a fixed sample and asymptotic theory for event studies with endogenous events, i.e. with event-generating processes that depend on the past history of event returns. However, many variations to those explanations are also examined, for example; IPOs raising more cash have a poorer long-run performance (Zheng, 2008). Ljungqvist (2007) presents a comprehensive discussion surround the phenomenon of IPO underpricing.

Dahlquist et al. (2008) find that under stationarity, pseudo market timing is only a problem in small samples. Their study too finds that even in a moderate sample such biases apparently dissipate. In essence, their study disagrees with Schulz (2003). Gregory et al. (2010) examining a set of 2,499 UK IPOs launched between mid-1975 to the end of 2004, find that their results supports Loughran and Ritter (2000) behavioural timing hypothesis rather than the Schulz (2003) pseudo timing explanation. Two interesting findings of their study are, under-performance is concentrated in AIM/USM stocks and IPO underperformance is concentrated in smaller firms. Certain exogenous market effect such as, litigation in market could potentially affect underpricing, However, a study of IPOs by Hao (2011) over 1996-2005 suggest that there exists no dependable relationship between underpricing and litigation risk for U.S IPOs.

Typically the pseudo market timing is associated with peaked offering period, since such issuance during high period (peaked) most frequently results in underperformance (Schulz, 2003). The changes in IPO issuance regime duly influence the offering seasonality and do as well influence the pattern of offering. Another feature of pseudo market timing is the IPO clustering; therefore due to the regime change, IPO issuance under different classifications may generate clustering. Further, the investors expectation are supposed be influenced by the choice of categories. The rational pricing choice may be affected by the behavioural biases such as ‘conservatism’ or ‘over-confidence’. Shleifer (2000) finds that various asset pricing decisions are hard to reconcile, since investors do benchmark their choices against several priory available to them. In particular, if firms signal that higher issuance price indicates more investment opportunity and less earning dilution, then investors assume excess positive returns. However, the decision to go public is not dependent on the fact that the future returns are predictable, rather it is an exogenous response to the current price levels.

The study primarily attempts to answer a simple question. Do the pseudo market timing and related underperformance appear in the new regime change of IPO issuance categories? In addition, a supplementary analysis is undertaken to examine the explanatory characteristics of both the new regimes. The paper is organised into 5 sections. Section 2 reviews the literature underpinning the key aspects of the pseudo market timing and underperformance. Section 3 includes data and methodology adopted. Section 4 reports the results obtained from the market simulation and supplementary analysis. Section 5 concludes the paper.

Data and Methodology

Data

The initial dataset contains 892 IPOs offered in LSE (London Stock Exchange) main market during January 1998 to December 2011.The panel of data is collected from London Stock Database Price (LSPD) based on LSPD G8 code excluding AIM (alternate Investment Market), PSM (Professional Securities Market) and SMF (SEDOL Masterfile). PSM and SMF markets are not included since very few listings are registered during the sample period. The financial companies, investments trusts, banks and other investment entities were excluded resulting in a final data set of 431 IPOs. In addition, the dataset is matched with a comparable listings from Zephyr, *Bureau Van Dijk (BvD)* so that the financial measures required for supplementary analysis can be extracted from Zephyr or from the portfolio of BvD databases. Further, two sub-sets of data comprising of premium and standard listings are extracted from the final panel of data. The sub-set data for premium listings includes 57 issuances from April 2010 to September 2012. The second sub-set of standard listings includes 174 issues from April 2010 to September 2012. The FTSE All Share index is used to simulate the market timing from April 2010 to September 2012.

A change in listing procedure was introduced on 6th of October 2009 by the FSA listing regime. The previous primary listings became premium listings and secondary listings relabelled as standard listings. Prior to this change, only overseas companies are allowed for secondary listings. The UK companies are not considered eligible for secondary listings. If they cannot satisfy the eligibility for the primary listings, they seek admission to AIM. However, now these changes have allowed UK companies to get admission to secondary or standard market. Also only equity shares are eligible for the primary or premium listings. A summary of the key differences between the premium and standard listings is presented in Appendix I.

A cross-sectional supplementary analysis is used in addition to the market return simulation. For the supplementary analysis, a set of explanatory variables are utilised. The daily stock returns are extracted from the DataStream, while other measures are collectively obtained from DataStream, FAME as well as ORBIS and computed subsequently. The variable definition is presented in Table 1. Both FAME and ORBIS belong to *Bureau Van Dijk (BvD).* Since DataStream appeared to have limited availability of MARKET-TO-BOOK value, FAME and ORBIS are used to supplement the dataset. One additional measure, i.e. RISK is estimated from the standard market model under the GJR-GARCH specification. Explanatory variables such as, VOLUME RETURN, UNDER PRICING, AGE and OFFER PRICE are obtained from LSE New Issues and IPO summary statistics. Other variables; EBIT, ASSET GROWTH, CASH HOLDING and SIZE are collected and computed, where appropriate from ORBIS and FAME.

Table 1: Variable Definitions used in Supplementary analysis and Control samples

EBIT	a. The natural logarithm of the earnings before taxes divided by operating revenue. b. The same measure is used for the matched control sample.
VOLUME RETURN	a. Ratio of total number of share traded in during the issuance of IPO over the total number of shares issued. b. For the control sample VOLUME RETURN denotes the Ratio of total number of share traded in during the same year of IPO issuance over the total number of shares in the market.
MARKET-TO-	a. Ratio of the market value of shares plus book value of debt over the sum of book val-

BOOK	ue of IPOs plus book value of debt prior to the IPO issuance. b. For the control sample MARKET-TO-BOOK denotes Ratio of the market value of shares plus book value of debt over the sum of book value of shares during the same year of IPOs plus book value of debt prior to the same year of IPO issuance.
ASSET GROWTH	a. Percentage change of total assets in the year preceding IPO b. For the control sample ASSET GROWTH denotes Percentage change of total assets in the year preceding the same year of IPO issue.
CASH HOLDINGS	a. Percentage of cash plus tradable securities divided by the total assets. b. The same measure is used for the matched control sample.
RISK	a. Represents the systematic Risk (β) estimated using the market model under the GJR-GARCH specification. b. The same measure is used for the matched control sample.
SIZE	a. Size of firm is measured as the natural logarithm of total assets. b. The same measure is used for the matched control sample.
AGE	a. The natural logarithm of one plus age of the firm at the time of its IPO b. For the control sample AGE denotes the Natural logarithm of one plus age of the firm at the same of the IPO.
LEVERAGE	a. The total debt to total assets. b. The same measure is used for the matched control sample.
UNDERPRICING	a. First day return of IPO issuance. b. For the control sample UNDERPRICING denotes the First day return of the same year of IPO issue.
OFFER PRICE	a. The IPO price offered to public b. For the control sample OFFER PRICE denotes the share price of the firm matching with the date of the IPO issue.

a: IPO sample variable definitions
b: Control sample variable definitions

In addition, a matched comparison control sample is constructed based on three measures, i.e. industry classification benchmark (ICB), Market Value (MV) and MARKET-TO-BOOK value (MTBV). First, all IPO firms are categorised into 9 industry groups according to the FTSE/DJ Industry Classification Benchmark (ICB) and matched that with London Stock Database Price (LSPD) and LSE New Issues and IPO summary statistics. Second, an average is taken for MV and MTBV for all the firms within IPO firm's industry, which is within one year of the date of flotation. Next, the firms are combined into one group with average MV is in $\pm 30\%$ of issuance firm's average MV. When a match is not available, this range is expanded to $\pm 35\%$, $\pm 40\%$ etc. Finally, within the group of companies, a matched firm is identified that has the closest MTBV with IPO firm. Again, any matched firms that are on the FTALLSH list one year of the date before the IPO firm's announcement was excluded. All the delisted firms are also excluded.

Methodology

Simulation of Aftermarket Performance

The methodology adopted to simulate the marketing timing is identical to the one used by Schultz (2003). To capture the underperformance, the IPO index is compared with FTSE all share index over the time period of April 2010 to September 2012. An IPO index is created

using two sub-sets data, i.e. 57 issuance of premium listing IPOs and 174 issuance of standard listing IPOs. At the same time, a matched comparable index of FTSE All Share index is generated. Next, to simulate the number of offerings and abnormal return; the market returns are assumed to be normally distributed and ex-ante expected abnormal return is approximated to zero. The expected value of abnormal returns is calculated as follows:

The average long-run cumulative abnormal returns

$$\overline{CAR} = \sum_{e=1}^{E} \frac{\left| \sum_{j=1}^{N} \left(r_{j,e} - r_{m,e} \right) \right|}{N} \quad \text{.....Eq. (1)}$$

where number of offerings are exogenous and correlated with the excess returns

$$E(\overline{CAR}) = \left(\frac{1}{N} \right) E\left[\sum_{e=1}^{E} \sum_{j=1}^{N} \left(r_{j,e} - r_{m,e} \right) \right] + Cov\left(\left(\frac{1}{N} \right), \left[\sum_{e=1}^{E} \sum_{j=1}^{N} \left(r_{j,e} - r_{m,e} \right) \right] \right) \text{.....Eq. (2)}$$

The expected value of the average cumulative abnormal returns needs to negative, thus IPOs underperforming as in line with pseudo market timing.

Supplementary Analysis

A binary logistic model is constructed to examine the performance of IPOs for both the premium and standard listings. A set of unique explanatory variables are used to capture the performance indices of IPOs. The model is specified for all the variables in one run of the estimation. The logistic model is written as follows:

$$Y_{i,t}^{*}(\pi) = a_0 + a_1 \ln(EBIT_{i,t}) + a_2 VOLUMERETURN_{i,t} + a_3 MARKET - TO - BOOK_{i,t} +$$
$$a_4 ASSETGROWTH_{i,t} + a_5 CASHHOLDING_{i,t} + a_6 RISK_{i,t} + a_7 \ln(SIZE_{i,t}) + a_8 \ln(AGE_{i,t}) +$$
$$a_9 LEVERAGE_{i,t} + a_{10} UNDERPRICING_{i,t} + a_{11} OFFERPRICE_{i,t} + \varepsilon_{i,t} \text{.....Eq.3}$$

where $Y_{i,t}^{*}$ is a binary choice latent variable for firm *i* at year *t*. Here *t* represents the event year for firm *i*. However, what is observed is a 0-1 (firms that restructure/firms that did not restructure) dummy variable defined as $y_{i,t} = \begin{cases} 1 \, if \; Y_{i,t}^{*} \geq 0 \\ 0 \, if \; Y_{i,t}^{*} < 0 \end{cases}$. The logit transformation gives the log-odds $Ln(\frac{\pi}{1-\pi})$. A positive and significant value of any coefficient indicates sizable influence of that particular variable on likelihood of significant performance of IPO. Therefore, the particular variable is not affected by underperformance, and not in line with the pseudo market timing.

The beta, i.e. systematic risk is estimated under the GJR-GARCH specification. Since the OLS estimate suffers from the *ARCH* effects, especially when high frequency data is use, the GJR-GARCH specification is used to generate risk parameter.

Under the GJR-GARCH estimation the conditional variance of Eq. 4 can be written as:

$$\sigma_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \beta \sigma_{t-1}^2 + \gamma \varepsilon_{t-1}^2 I_{t-1}^{-1} \text{.....Eq.4}$$

where I_{t-1}^{-} = 1 if $\varepsilon_{t-1} < 0$ and 0 otherwise. In Eq. 4, last period's good news, $\varepsilon_{t-i} > 0$, and bad news $\varepsilon_{t-i} < 0$, have differential effects on the conditional variance, as well as good news have

an impact of α_i, while bad news have an impact of $\alpha_i + \gamma_i$. If, $\gamma_i > 0$, bad news increases volatility, and this condition is referred as leverage effect for *i-th* order. If $\gamma_i \neq 0$, the news impact is asymmetric. I^{-}_{t-1} is a zero/one dummy variable which is set to zero if ε_{t-i} is positive, otherwise 1. Typically, this specification assists to examine the asymmetry with respect to ε_{t-i}. The FTSE All Share stock index is employed as a benchmark while computing conditional variance (β) and asymmetry (γ).

Empirical Results

Simulation of Aftermarket Performance

The simulation process follows an identical approach adopted by Schulz (2003). The distribution of monthly return on the FTSE All Share index is estimated over April 2010 to September 2012. During this estimation period, the mean monthly return is 1.212 and the standard deviation was 5.873 percent. The slope coefficient for the premium listing IPO index is 1.455 and the residual standard deviation was 5.093 percent. The slope coefficient for the standard listing IPO index is 1.876 and the residual standard deviation was 6.235 percent. Unlike Schulz, a series of 500 simulations are run.

A series of return is generated from the normal distribution using the mean and standard deviation of the monthly return on the FTSE All Share index over April 2010 to September 2012. The return on the portfolio of premium IPOs is generated by multiplying the market return by the slope coefficient of 1.455 and adding a residual return that is generated from a normal distribution with a mean of zero and a standard deviation of 5.093 percent. In addition, the expected return is adjusted for the IPO portfolio and market return. The procedure of calculation for both the premium and standard listing is identical. The level of IPO index and market index are set to 100 counting from the beginning of the first month of simulated sample. The simulated level of the market and IPO portfolio is calculated by multiplying the previous month's level by one plus the previous month's simulated return.

Table 2 reports the simulation results. Panel A presents the simulation results for the premium listing IPOs and Panel B reports for the standard listing IPOs. Diagram 1 presents the mean calendar moth returns of both the premium and standard listing IPOs. For all 500 simulations, the CARs are estimated for 8 sub-periods over 2 years. Median value for -24, -1 months is 10.32% for the premium listing and for the standard listing IPOs, it is 14.41%. The standard listing IPOs seems to have better market return as compared to the premium listing in archival sense. Whereas, in calendar month 1, premium listing IPOs indicate underperformance than the standard listing IPOs, i.e. median and mean -0.43% and -0.48% respectively contrary to 0.18% and 0.15%. The excess return during 1-3 months is -1.31% and 0.10% for both the listing categories respectively with reported t-statistics -58.91 and 56.73. Most of the returns are positive for -1 to -24 months. The most interesting result Panel B reports is the continuation of positive return for the standard listing IPOs, whereas the premium listing IPOs underperforming over calendar months. The excess return for the premium listing have a -12.03% mean value for the post 24 months, while there is a 0.04% excess return for the standard listing. The findings suggest that the premium listing IPOs underperform and captures the pseudo-market timing, while the standard listing IPOs do not register any underperformance.

Table 2: Simulation of IPO excess returns

Panel A: Premium Listing IPOs

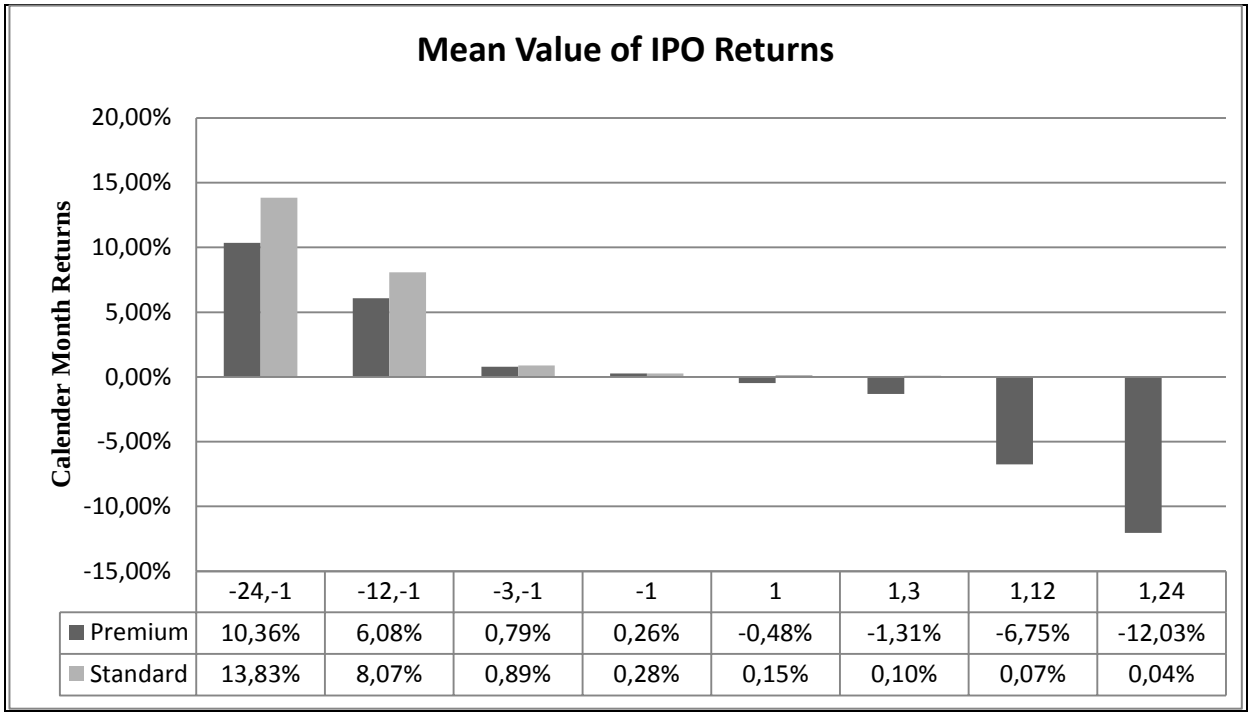
	Cumulative Abnormal Returns (CARs)							
Months	-24,-1	-12,-1	-3,-1	-1	1	1-3	1-12	1-24
Median	10.32%	6.71%	0.87%	0.22%	-0.43%	-1.23%	-5.89%	-11.28%
Mean	10.36%	6.08%	0.79%	0.26%	-0.48%	-1.31%	-6.75%	-12.03%
t-statistics	56.65	41.22	30.14	29.07	-55.61	-58.91	-50.21	48.98
Percentage<0	13.9	19.2	21.5	22.3	79.8	81.6	77.8	69.8

Panel B: Standard Listing IPOs

	Cumulative Abnormal Returns (CARs)							
Months	-24,-1	-12,-1	-3,-1	-1	1	1-3	1-12	1-24
Median	14.41%	7.80%	0.91%	0.32%	0.18%	0.11%	0.09%	0.06%
Mean	13.83%	8.07%	0.89%	0.28%	0.15%	0.10%	0.07%	0.04%
t-statistics	56.29	39.81	27.66	26.79	53.41	56.73	48.21	38.97
Percentage<0	14.6	20.1	22.5	24.3	80.1	84.2	69.8	59.7

Around 500 simulations of IPO returns are calculated over 2 years. The entire estimation procedure is identical to Schultz (2003). The mean event excess return for each IPO in each simulation for periods before and after the IPO is calculated. Estimates are based on actual data for April 2010 to September 2012.

Diagram 1: Mean calendar month returns of Premium and Standard listing IPO simulation



Summary Statistics of variables for Supplementary analysis

Table 3 reports the summary statistics for all the variables used in the logistic model. The difference in mean value of standard and premium listing IPOs is tested under a conventional t-test. The statistics indicate that the mean values of all the variables are significantly different. The variables, VOLUME RETURN, CASH HOLDING, and AGE denote a negative coefficient value. These variables are likely to be different as standard listing IPOs trade less volume, and have less tradable securities compared to the premium listing. A sizable mean value difference is observed amongst EBIT, VOLUME RETURN, ASSET GROWTH, CASH HOLDING, SIZE and AGE variables for standard and premium listings indicating the regime change has strongly influenced the issuance pattern of the offerings. The statistics for underpricing suggest that premium listing offers do suffer from under performance, i.e. -0.480, while standard listings do not register any underpricing effect, i.e. the mean score is 0.045.

Table 3: Supplementary Analysis Variable Summary Statistics

Variables	Mean		Std. Dev.		t-statistics for difference in mean premium & standard
	Standard (N=174)	Premium (N=57)	Standard (N=174)	Premium (N=57)	
EBIT	0.217	0.897	7.647	7.267	4.536[a]
VOLUME RETURN	8.357	0.873	-12.452	16.984	-3.166[a]
MARKET-TO-BOOK	2.230	3.919	4.403	2.746	2.187[a]
ASSET GROWTH	1.549	3.428	10.960	12.863	4.801[a]
CASH HOLDINGS	1.272	3.195	28.084	33.528	-2.879[a]
RISK	12.299	13.716	10.426	4.525	3.8716[b]
SIZE	8.351	11.620	9.857	7.456	7.647[a]
AGE	1.634	3.501	10.788	22.869	-5.452[a]
LEVERAGE	0.610	0.705	18.477	23.110	4.403[a]
UNDERPRICING	-0.874	-0.480	-10.465	-9.080	1.960[b]
OFFER PRICE	1.412	1.709	19.287	21.695	8.084[a]

N: Number of IPO issued.

a, b, c: Indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

Supplementary Analysis Results

Table 4 and 5 report the supplementary analysis results respectively. Both the premium and standard listing IPO portfolios are examined under a binary choice logistic specification. A set of unique variables are employed to capture the explanatory characteristics of IPOs performance over 2010-2012. Two matched comparison control samples are generated for both the listings as described in the methodology section.

Table 4 presents the results for the premium listings IPOs. Overall the model is parsimonious and robust. The Omnibus model test statistic is 238.765 and significant at 1% level. The Hosmer & Lemeshow test statistic suggests a goodness-of-fit for the model. Both the Cox and Snell, and Nagelkerke R^2 statistics explain variance around 28% and 36% respectively. In addition, the Ljubg-Box test up to lag 6 suggests independent distribution of variables that is free from auto-correlation biases. Most of the variables are significant at at least 10% with exception to OFFER PRICE. It appears the nominal IPOs price is below average market price. EBIT, VOLUME RETURN, MARKET-TO-BOOK, CASH HOLDING and UNDERPRICING denote significant negative coefficients. The results indicate that the IPO firms over moderate to long-run do underperform. The RISK is significant and positive with a reported odd ratio value of 1. 134, therefore the risk increases in ex-post market for the firms. In addition, the SIZE is significant and the reported odd ratio is 13.743, suggests that the asset growth is achieved, most likely due to issuance of offers.

Table 5 reports the results for the standard listing. Overall the model is robust and significant. Most of the variables are significant at at least 10% level excluding CASH HOLDING, LEVERAGE and UNDERPRICING. The variables EBIT, VOLUME RETURN, MARKET-TO-BOOK, ASSET GROWTH, SIZE and OFFER PRICE denote significant positive coefficient value. The Risk is significant and denotes a negative coefficient value. The findings indicate standard listing offers do perform comparable to the market and the effect of underpricing is not documented for this category. The finding is consistent with the market simulation results.

Table 4: Premium listing IPOs and Control Sample Logistic Results

Predictors	β	*Std. Err*	*Wald's* χ^2	e^{β} *(odds ratio)*
Constant	-1.438[a]	0.171	70.791	0.237
ln(EBIT)	-0.154[a]	0.053	8.464	0.857
VOLUME RETURN	-0.259[a]	0.038	47.785	0.771
MARKET-TO-BOOK	-3.121[a]	1.091	8.176	0.044
ASSET GROWTH	0.095	0.105	0.821	0.909
CASH HOLDINGS	-0.074	0.048	2.394	0.929
RISK	0.126[a]	0.046	7.447	1.134
ln(SIZE)	2.621[a]	1.080	5.886	13.743
ln(AGE)	1.071[a]	0.147	52.788	2.918
LEVERAGE	0.001[a]	0.001	4.871	1.001
UNDERPRICING	-0.516[a]	0.167	9.568	1.675
OFFER PRICE	-0.168	0.118	2.035	0.846
Goodness-of-fit test			χ^2	
Omnibus model Test			238.765[a]	
Hosmer &Lemeshow Test			37.811[d]	
Diagnostic tests				

Percentage correctly classified	81.4[a]
Cox and Snell R^2	0.276
Nagelkerke R^2 (Max rescaled R^2)	0.362
-2 Log likelihood	990.520
Kolgomorov-Smirnov	
Logit residuals	3.765[a]
Studentized residuals	3.651[a]
Standardised residuals	3.463[a]
Ljung-Box Q statistics	
$Q^2(2)$	0.367
$Q^2(6)$	0.531

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels , respectively

d. sig. = 0.403

$$Y^*_{i,t}(\pi) = a_0 + a_1 \ln(EBIT_{i,t}) + a_2 VOLUMERETURN_{i,t} + a_3 MARKET-TO-BOOK_{i,t} + a_4 ASSETGROWTH_{i,t} + a_5 CASHHOLDING_{i,t} + a_6 RISK_{i,t} + a_7 \ln(SIZE_{i,t}) + a_8 \ln(AGE_{i,t}) + a_9 LEVERAGE_{i,t} + a_{10} UNDERPRICING_{i,t} + a_{11} OFFERPRICE_{i,t} + \varepsilon_{i,t}$$

Table 5: Standard listing IPOs and Control Sample Logistic Results

Predictors	β	*Std. Err*	*Wald's* χ^2	e^{β} *(odds ratio)*
Constant	0.089[a]	0.073	1.488	0.915
ln(EBIT)	0.051[b]	0.027	3.522	1.052
VOLUME RETURN	0.162[a]	0.049	11.132	0.851
MARKET-TO-BOOK	0.110[b]	0.061	3.273	.896
ASSET GROWTH	0.682 [b]	0.169	2.407	1.299
CASH HOLDINGS	-0.001	0.003	0.182	0.999
RISK	-0.215[a]	0.081	7.024	0.807
ln(SIZE)	0.028[c]	0.016	2.988	1.029
ln(AGE)	0.149[a]	0.043	11.819	1.161
LEVERAGE	0.119	0.170	0.488	1.126
UNDERPRICING	0.002	0.000	0.294	1.000
OFFER PRICE	0.300[a]	0.115	6.836	0.741

Goodness-of-fit test	χ^2
Omnibus model Test	321.665[a]
Hosmer &Lemeshow Test	67.880[d]

Diagnostic tests

Percentage correctly classified	79.3[a]
Cox and Snell R^2	0.321
Nagelkerke R^2 (Max rescaled R^2)	0.346
-2 Log likelihood	789.992
Kolgomorov-Smirnov	
Logit residuals	4.009[a]
Studentized residuals	4.211[a]
Standardised residuals	3.877[a]
Ljung-Box Q statistics	
$Q^2(2)$	0.502
$Q^2(6)$	0.661

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels , respectively

d. sig. = 0.521

$$Y^*_{i,t}(\pi) = a_0 + a_1 \ln(EBIT_{i,t}) + a_2 VOLUMERETURN_{i,t} + a_3 MARKET-TO-BOOK_{i,t} + a_4 ASSETGROWTH_{i,t} + a_5 CASHHOLDING_{i,t} + a_6 RISK_{i,t} + a_7 \ln(SIZE_{i,t}) + a_8 \ln(AGE_{i,t}) + a_9 LEVERAGE_{i,t} + a_{10} UNDERPRICING_{i,t} + a_{11} OFFERPRICE_{i,t} + \varepsilon_{i,t}$$

Conclusion

The pseudo-market timing of the premium and standard listing IPOs is examined following Schulz. This new tow-tier regime of IPO issuance has recently been introduced in the London Stock Exchange by the FSA. Although pseudo market timing explanation of IPO underperformance is not a new development, but the regime change may have bearings. The study shows contrasting results for both the categories. The premium listing offers register an average -12.03% return over 1-24 post calendar months, while the standard listings yield an average 0.04% excess return. The premium listings indicate underperformance of between -0.43% to -5.89% over one calendar year. Whereas, the standard listing suggests marginal excess positive return over the same post calendar month period. The supplementary analysis suggests that underpricing is significant in the premium listing but is not registered in standard listing offers. However, the results support to some extent that the timing effects are observable and can be explained by the pseudo market timing hypothesis.

References

Amihud, Y., & Hurvich, C. (2004). Predictive regressions: A reduced-bias estimation method. *Journal of Financial & Quantitative Analysis* 39, 813-842.

Baker, M., & Wurgler, J. (2000). The equity share in new issues and aggregate stock returns. *Journal of Finance* 55, 2219-2257.

Butler, A, W., Grullon, G., & Weston, J. P. (2005). Can managers forecast aggregate market returns?. *Journal of Finance* 60, 963-986.

Campbell, J.Y., & Yogo, M. (2006). Efficient tests of stock return predictability. *Journal of Financial Economics* 81, 27-60.

Dahlquist, M., & Jong, F. d. (2008). Pseudo market timing: A reappraisal. *Journal of Financial & Quantitative Analysis* 43, 547-579.

Eckbo, B. E., Masulis, R., & Norli, O. (2000). Seasoned public offerings: Resolution of the 'new issues puzzle'. *Journal of Financial Economics* 56, 251-291.

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

Gregory, A., Guermat, C., & Al-Shawawreh, F. (2010). UK IPOs: Long run returns, behavioural timing and pseudo timing. *Journal of Business Finance & Accounting* 37, 612-647.

Hao, Q. (Grace). (2011). Securities litigation, withdrawal risk and Initial Public Offerings. *Journal of Corporate Finance* 17, 438-456.

Lewellen, J. (2004). Predicting returns with financial ratios. *Journal of Financial Economics* 74, 209-235.

Ljungqvist, A. (2007). IPO underpricing. Chapter 7 in B. Espen Eckbo (editor) Handbook of Corporate Finance: Empirical Corporate Finance Amsterdam: North- Holland.

Loughran, T., Ritter, J. R., & Rydqvist, K. (1994). Initial public offerings: International in-sights. *Pacific Basin Finance Journal* 2,165-199.

Pastor, L., & Veronesi, P. (2005). Rational IPO Waves. *Journal of Finance* 60, 1713 - 1757.

Polk, C., Thompson, S., & Vuolteenaho, T. (2006). Cross-sectional forecasts of the equity premium. *Journal of Financial Economics* 81, 101-141

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

Schultz, P. (2003). Pseudo market timing and the long-run underperformance of IPOs. *Journal of Finance* 58, 483-517.

Shleifer, A. (2000). Inefficient markets: An introduction to behavioral Finance, Oxford University Press.

Viswanathan, S., & Wei, B. (2008). Endogenous events and long-run returns. *Review of Financial Studies* 21, 855-888.

Zheng, S. X. (2007). Market underreaction to free cash flows from IPOs. *The Financial Review* 42, 75-97.

Appendix I

A summary of the key differences between premium and standard listings

Key Eligibility criteria	Premium-Equity shares	Standard-shares	Standard-Depository receipts
Free float	25%	25%	25%
Audited historic financial information	Three years	Three years or such shorter period	Three years or such shorter period
75 per cent of applicant's business supported by revenue earning record for the three-year period	Required	n/a	n/a
Control over majority of the assets for the three-year period	Required	n/a	n/a
Requirement for clean working capital statement	Required	n/a	n/a
Sponsor	Required	n/a	n/a
Key continuing obligations			
Free float	25%	25%	25%
Annual financial report	Required	Required	Required
Half-yearly financial report	Required	Required	n/a
Interim management statements	Required	Required	n/a
EU-IFRS or equivalent	Required	Required	Required
UK Corporate Governance Code	Comply or explain	n/a	n/a
Model Code	Applied	n/a	n/a
Pre-emption rights	Required	As required by relevant company law	n/a
Significant transaction ('Class tests')	Rules apply	n/a	n/a
Related-party transactions	Rules apply	n/a	n/a
Cancellation	75 % shareholder approval required	No shareholder approval required	No shareholder approval required

A guide to listing on the London Stock Exchange, November 2010, ISBN: 978-0-9565842-1-2 by White Page Ltd, 17 Bolton Street. London W1J 8BH, United Kingdom.
This list is not exhaustive and should be read in conjunction with the FSA Handbook (Listing Rules, Prospectus Rules and Disclosure & Transparency Rules).
This guide is written as a general guide only. It should not be relied upon as a substitute for specific legal or financial advice. Professional advice should always be sought before taking any action based on the information provided.