Study on the relationship between Word Preference and Stock Returns under the background of intelligent information

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Abstract. Based on intelligent informatics, this study examines whether corporate names with implications of luck and taboo have different effects on firm value using a sample of Chinese IPO firms. With the help of the green service system, it can provide investment decisions for the consumers. We find that after controlling for other influencing factors, P/E ratios are positively associated with lucky names but have a slightly negative relationship with taboo names. Similarly, CARs are positively correlated to lucky names but negatively with taboo names. The results also indicate that China's IPO firms with taboo names have higher first-day returns, but drop faster than do other firms, indicating that these firms experience lower pricing when getting listed. Our findings highlight the economically meaningful role of firms' names in the process of going public.

1 Introduction

A number of researchers investigate factors affecting investment behaviors through psychological theories such as cognitive bias. Tversky and Kahneman (1974), and Kahneman and Tversky (1979a, b) employ the prospect theory based on the psychological theories to offer new explanations to the behaviors that are used to be viewed as irrational or abnormal in the stock market. Thus, how psychological reasons affect stock returns have attracted wide attention in academics.

In capital market, the studies focus on the effect of name change on the stock returns. The financial press discusses whether corporate name changes result in permanent value creation for firms. Analysts claim that investors prefer certain types of names, and that the value of a company's name should be reflected in the stock price.

This study investigates whether the "good" and "bad" names creating the firm values. While past studies are devoted to the effect of name changes, they focus on less whether the good and bad names per se have the real effect on corporate values. We examine the performance about of price-to-earnings ratio (P/E ratio) and first-day to 12-month cumulative abnormal returns initial first of after initial public offering (IPO) firms with between lucky and taboo names firms. Using a sample of 866 domestic IPOs during December 1990 to December 2009, we find that firms' names play a statistically significant and economically meaningful role in the process of going public

2 Lucky and Taboo Names in Chinese Culture

This section classifies the Chinese companies' into two groups on the basis of their names, where one group has Lucky words in the names and the other has the Taboo words. The Lucky and Taboo words are based on the following criteria. If the firms' names contain "Gold", "Silver", "Fortune", "Smooth", "Prosperity", "Dragon" and "Phoenix", these firms are classified as the Lucky firms. On the other hand, if the firms' names contain "Four, West, Valley, Empty, Bear", they are classified as the Taboo firms.

3 Econometric Model

We investigate post-performance of Lucky and Taboo firms after their IPOs. We examine whether the post-performance will be the same or not across these two types of firms. Two post-performance measures are the average stock price/earnings ratio (P/E) and the abnormal returns (AR).

The average P/E ratio is based on the following formula:

$$(P/E)_t = \frac{1}{n} \sum_{i=1}^n P/E_{i,t} \quad (1)$$

where P is the stock price, E is the earnings in the year, n is the number of firms in the group. Next,

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$$AR_{i,t} = R_{i,t} - R_{M,t} \quad (2)$$

where subscripts i and t denote i th firm at time t , AR is the abnormal returns, R is the rate of return, and $R_{M,t}$ is the market return, which is proxied by the return of Shanghai stock index. The event date is the date of IPO. Our event window (0, 12) for each corporate is the 12 months after its IPO, where event window 0 is the first day after IPO (i.e., initial day return) and 1 to 12 are the months after IPOs.

Our regression model is

$$\begin{aligned} P/E_{i,t=s} = & \alpha_0 + \alpha_1 Lucky_{i,t=s} + \alpha_2 Taboo_{i,t=s} \\ & + \alpha_3 D_{State,i,t=s} + \alpha_4 Rate_{i,t=s} + \alpha_5 LnCap_{i,t=s} \\ & + \alpha_6 Trade_{i,t=s} + \alpha_7 Return_{i,t=s} + \alpha_8 D_{ind,i,t=s} \\ & + \alpha_9 D_{FirstDay} \times Return_{M,t=s} + \varepsilon_{k,i,t} \end{aligned} \quad (3)$$

$$\begin{aligned} AR_{i,t=s} = & \beta_0 + \beta_1 Lucky_{i,t=s} + \beta_2 Taboo_{i,t=s} \\ & + \beta_3 D_{State,i,t=s} + \beta_4 LnCap_{i,t=s} + \beta_5 Turnover_{i,t=s} \\ & + \beta_6 P/E_{i,t=s} + \beta_7 D_{ind,i,t=s} + \beta_8 D_{FirstDay} P_{0,i} \\ & + \beta_9 D_{FirstDay} Share_{i,t=s} + \varepsilon_{i,t=s} \end{aligned} \quad (4)$$

$s=0$ (first day), 1, 2, 3, ..., 12 (months)

where s subscripts i is the i th firm, N is the number of firms, and s denotes the number of periods after IPO. The 0 and 1~12 have the same meanings in event study, namely, when $s=0$, it is the first day after IPO (i.e., initial day return) and when $s=1, 2, \dots, 12$, it is the s th month after IPO. The cross sectional model is employed.

Lucky and Taboo are two dummy variables, which are equal to unities if the firms' names contain Lucky and Taboo words, respectively and 0 otherwise.

The selection of other explanatory variables for P/E is as follows.

Rate is the benchmark interest rate; $\ln$ is the logarithm of the firm's capital; Trade denotes the trading ratio, which is the percentage of shares that can be traded in the market; Return is the individual stock returns; Return $_M$ is the market stock return. DState is a dummy variable, which is equal to unity if the firms are state-owned and 0 otherwise; ind is the industry dummy variable,

which is equal to unity if the firm belongs to a strategic emerging industry and 0 otherwise.

The selection of explanatory variables for AR is as follows. Turnover is the turnover rate; P/E is the price-to-earnings ratio used to control for the higher stock returns as a result of higher P/E ratio given by investors; DFirstDay is the dummy variable, which is equal to unity if it is the first day after IPO and zero otherwise. P_0 is the offering price to control for the price effects (Ritter, 1991). $Share$ stands for the proportion of the largest shareholder.

4 Data and Empirical Results

4.1 Data Description

Our IPOs are collected from listed firms on Shanghai Stock Exchange excluding financial institutions. The total number of listed firms is 866. Among them, there are 66 and 34 Lucky and Taboo firms, respectively; whereas there are 800 and 832 of the non-Lucky and non-Taboo firms, respectively. The sample period covers 1990:12 to 2009:12.

4.2 Empirical Results

Table 1 and Table 2 present the regression results when P/E ratio is used as the dependent variable using the IPO sample on the first trading day ($t=0$) and the periods of 1, 2, ..., 12 months after IPO. The weighted least squares (WLS) regressions are carried out. When P/E is the dependent variable, coefficients of Lucky is significantly positive in 10 out of the 13 testing periods, suggesting that firms with lucky names tend to have higher P/E ratios immediately after IPO. By contrast, the coefficient of Taboo is significantly negative in the first three months, demonstrating that IPO firms with taboo words are more likely to have lower P/E ratios in the first several months after getting listed. Note that the disadvantage of Taboo name does not last for a long time since their P/E ratios are similar with others after the first two months. Hence, given the same earnings, investors pay higher price for firms with lucky names but lower price for firms with taboo names. Thus, corporate names are influential on investors' assessment on the valuation, and investors' preference for lucky names seems to be longer than that for taboo names.

Table 1. Regression Analysis of P/E Ratio(1)

Variable	Month						
	0	1	2	3	4	5	6
Constant	139.347*** (15.374)	166.128*** (20.701)	129.472*** (16.966)	125.039*** (15.938)	119.345*** (15.456)	122.31*** (19.12)	128.294*** (20.371)
Lucky	1.192 (0.763)	2.64 (1.516)	4.795** (2.328)	4.234** (2.258)	5.302*** (3.657)	4.458*** (2.79)	8.332*** (7.753)
Taboo	-8.694*** (-7.105)	-6.841** (-2.681)	-3.68*** (-3.257)	-0.453 (-0.282)	-1.952 (-1.279)	2.647 (1.437)	3.424* (1.724)

<i>DState</i>	-2.948***	-2.332**	-2.033*	-3.746***	-5.704***	-5.251***	-4.958***
	(-2.69)	(-2.395)	(-1.896)	(-3.435)	(-6.203)	(-5.069)	(-5.003)
<i>LnCap</i>	-4.653***	-5.307***	-3.782***	-3.536***	-3.171***	-3.465***	-3.832***
	(-10.637)	(-13.344)	(-10.278)	(-9.206)	(-8.17)	(-11.095)	(-12.722)
<i>DInd</i>	4.078***	1.211	1.468*	2.095**	3.46***	2.003*	3.49***
	(4.058)	(1.253)	(1.808)	(2.262)	(3.801)	(1.75)	(3.255)
<i>Trade</i>	0.072**	-0.451***	-0.234***	-0.195***	-0.187***	-0.106**	-0.062
	(2.463)	(-10.351)	(-5.436)	(-4.309)	(-4.2)	(-2.406)	(-1.623)
<i>Return</i>	0.018***	0.28***	0.284***	0.279***	0.185***	0.162***	0.045**
	(9.544)	(10.877)	(10.526)	(9.765)	(6.139)	(6.462)	(2.125)
<i>Rate</i>	-1.578***	-1.111***	-1.194***	-1.281***	-1.344***	-1.293***	-1.424***
	(-11.565)	(-8.675)	(-9.073)	(-10.055)	(-10.172)	(-9.204)	(-10.208)
<i>Return_M</i>	0.178						
	(0.992)						
<i>R</i> ²	0.89	0.90	0.99	0.87	0.93	0.86	0.92
Nobs	829	830	825	826	826	828	827

Note: Those tables present the weighted least squares (WLS) regression results of P/E ratio with the weight $w = \frac{1}{\text{standard error}}$, where the standard error is estimated using ordinal least squares (OLS) of each regression. Month 0 denotes the first trading day. For the definitions of each variable, see the text. t-values are provided in parentheses. *, ** and *** denote significance at 10%, 5% and 1% levels, respectively.

Table 2. Regression Analysis of P/E Ratio(2)

Variable	Month					
	7	8	9	10	11	12
Constant	138.828***	138.966***	144.143***	158.27***	150.984***	160.834***
	(27.245)	(28.36)	(22.308)	(25.917)	(24.492)	(26.946)
<i>Lucky</i>	7.116***	3.484***	3.79***	2	1.983	2.65**
	(6.203)	(4.171)	(3.126)	(1.249)	(1.436)	(1.998)
<i>Taboo</i>	-1.248	-0.481	-0.964	-1.299	1.043	0.879
	(-0.616)	(-0.38)	(-0.366)	(-0.479)	(0.548)	(0.664)
<i>DState</i>	-5.544***	-4.805***	-2.292**	-3.049***	-3.268***	-3.706***
	(-6.312)	(-5.581)	(-2.437)	(-3.265)	(-3.171)	(-3.455)
<i>LnCap</i>	-4.099***	-4.132***	-4.462***	-4.986***	-4.6***	-4.927***
	(-17.05)	(-16.709)	(-14.475)	(-16.686)	(-15.47)	(-17.485)
<i>DInd</i>	4.044***	3.303***	3.741***	2.551***	1.069	-0.29
	(3.89)	(4.244)	(5.706)	(3.43)	(1.326)	(-0.332)
<i>Trade</i>	-0.159***	-0.123***	-0.145***	-0.213***	-0.166***	-0.256***
	(-4.096)	(-3.57)	(-3.084)	(-5.895)	(-4.027)	(-5.97)
<i>Return</i>	0.228***	-0.012	0.134***	0.242***	0.051**	0.181***
	(12.401)	(-0.693)	(5.802)	(8.853)	(2.246)	(9.588)
<i>Rate</i>	-1.591***	-1.562***	-1.674***	-1.728***	-1.823***	-1.729***
	(-12.745)	(-15.803)	(-14.967)	(-16.324)	(-15.318)	(-15.185)
<i>Return_M</i>						
<i>R</i> ²	0.92	0.95	0.95	0.95	0.92	0.91
Nobs	825	821	821	821	820	824

Note: Those tables present the weighted least squares (WLS) regression results of P/E ratio with the weight $w = \frac{1}{\text{standard error}}$, where the standard error is estimated using ordinal least squares (OLS) of each regression. Month 0 denotes the first trading day. For the definitions of each variable, see the text. t-values are provided in parentheses. *, ** and *** denote significance at 10%, 5% and 1% levels, respectively.

Table 3 and Table 4 using CAR as the dependent variable. The coefficients of Lucky is significantly positive in five out of the 13 testing periods, suggesting that lucky-named firms exhibit moderately higher stock returns after their IPO. The coefficients of Taboo are significantly positive in our first two CAR regressions; however, it is significantly negative in five out of the

other 11 testing periods. Thus, IPO firms with taboo names have slightly lower CARs except for the first month. Investors prefer lucky to non-lucky names for several months immediately after the IPO, and do not like Taboo names relative to non-Taboo names after the “honey-moon” month. Accordingly, investors are attracted by lucky names.

Table 3. Regression Analysis of CAR(1)

Variable	Month						
	0	1	2	3	4	5	6
Constant	22.544***	-42.259***	-34.288***	-8.696***	3.798***	-7.018***	-0.607
	(44.481)	(-11.386)	(-14.074)	(-6.625)	(4.449)	(-3.228)	(-0.402)
Lucky	0.161	3.844***	2.548***	-0.281	0.146	0.900***	1.045***
	(1.377)	(6.241)	(3.481)	(-0.654)	(0.285)	(2.786)	(2.609)
Taboo	0.564**	9.682***	-2.120***	-0.543	-3.115***	-0.679	-2.411***
	(2.3)	(14.494)	(-3.538)	(-0.868)	(-5.319)	(-1.265)	(-6.779)
D _{State}	0.277***	1.784***	-0.988***	0.900***	-0.224	-0.487*	0.117
	(5.408)	(3.817)	(-2.772)	(3.245)	(-0.694)	(-1.667)	(0.483)
LnCap	-1.027***	1.733***	1.344***	0.046	-0.433***	0.202*	-0.086
	(-39.789)	(9.091)	(10.877)	(0.732)	(-10.444)	(1.826)	(-1.145)
D _{Ind}	-0.173***	-0.671	0.843***	1.909***	-0.173	-0.360	0.782***
	(-3.501)	(-1.356)	(2.593)	(9.452)	(-0.566)	(-1.575)	(4.103)
Turnover	-0.021***	0.024***	0.057***	0.080***	0.056***	0.032***	0.033***
	(-17.301)	(10.205)	(21.714)	(28.774)	(38.422)	(11.016)	(18.139)
P/E	0.025***	0.050***	0.063***	0.041***	0.026***	0.042***	0.012***
	(27.799)	(10.061)	(10.307)	(11.722)	(8.082)	(11.961)	(3.533)
D _{FirstDayP0}	-0.097***						
	(-22.831)						
D _{FirstDayShare}	-0.391***						
	(-6.11)						
R ²	0.89	0.40	0.49	0.56	0.70	0.29	0.37
Nobs	829	830	825	826	826	828	827

Note: Those tables present the weighted least squares (WLS) regression results of P/E ratio with the weight $w = \frac{1}{\text{error}}$, where the standard error is estimated using ordinal least squares (OLS) of each regression. Month 0 denotes the first trading day. For the definitions of each variable, see the text. t-values are provided in parentheses. *, ** and *** denote significance at 10%, 5% and 1% levels, respectively.

Table4. Regression Analysis of CAR(2)

Variable	Month					
	7	8	9	10	11	12
Constant	-2.807	-12.921***	-2.732*	-11.463***	-5.531***	3.033
	(-1.397)	(-7.22)	(-1.799)	(-7.053)	(-2.851)	(1.587)
Lucky	-1.500***	-1.823***	-0.574	-0.824**	0.983***	0.310
	(-3.271)	(-3.429)	(-1.173)	(-2.068)	(2.202)	(0.668)
Taboo	-0.821	0.666	2.594***	-3.809***	-0.798***	0.251
	(-1.455)	(1.149)	(3.785)	(-6.436)	(-4.727)	(0.406)
D _{State}	-1.456***	-0.565**	0.785***	-0.130	-0.523***	1.844***

	(-5.87)	(-2.043)	(3.684)	(-0.592)	(-2.575)	(7.212)
<i>LnCap</i>	0.083	0.504***	-0.039	0.378***	0.122	-0.430***
	(0.819)	(5.37)	(-0.521)	(4.525)	(1.242)	(-4.279)
<i>D_{Ind}</i>	1.030***	0.306	-0.610**	-0.317	0.259	-1.129***
	(3.661)	(1.213)	(-2.338)	(-1.348)	(1.077)	(-4.775)
<i>Turnover</i>	0.030***	0.027***	0.023***	0.038***	0.059***	0.071***
	(9.674)	(16.427)	(8.78)	(11.4)	(16.456)	(20.273)
<i>P/E</i>	0.021***	0.042***	0.031***	0.065***	0.026***	0.038***
	(8.732)	(13.506)	(8.198)	(19.716)	(6.348)	(10.008)
<i>D_{FirstDay}P₀</i>						
<i>D_{FirstDay}Share</i>						
<i>R²</i>	0.28	0.68	0.21	0.41	0.44	0.41
<i>Nobs</i>	825	821	821	821	820	824

Note: Those tables present the weighted least squares (WLS) regression results of P/E ratio with the weight $w = \frac{1}{\text{standard error}}$, where the standard error is estimated using ordinal least squares (OLS) of each regression. Month 0 denotes the first trading day. For the definitions of each variable, see the text. t-values are provided in parentheses. *, ** and *** denote significance at 10%, 5% and 1% levels, respectively.

5 Conclusion

This paper investigates whether corporate names with implications of luck and taboo have different effects on firm value. We address this issue by studying the P/E ratios and CARs of China's IPO firms during the period of 1990-2009. The results show that IPO firms with lucky names exhibit slightly higher post-IPO P/E ratios over the 12 months and higher initial returns on the first trading day, whereas those with taboo names have significantly lower P/E ratios. After controlling for other influencing factors, P/E ratios are positively associated with lucky names but have a slightly negative relationship with taboo names. Similarly, CARs are positively correlated to lucky names but negatively with taboo names. The results also indicate that China's IPO firms with taboo names have higher first-day returns, but drop faster than do other firms, indicating that these firms experience lower pricing when getting listed.

Acknowledgments

This work was Supported by Scientific and Technological Research Program of Chongqing Municipal Education Commission (KJ1601131) and Social Science Fund of Chongqing (2018QNGL36).

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