Upfront Transfer, Investor Sentiment, and Stock Performance

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First Version: *December 2004*
This draft: *January 2004*

Abstract: The upfront transfer refers to the difference between the funds raised in financial markets and the funds actually invested in real economy. We provide a simple framework for analyzing a firm's upfront financing decisions. We argue that only the irrational investors always have an increasing utility function in the upfront transfer. They irrationally invest too much in the firms that, (1). demonstrate superior pre-issue stock performance and (2). acquire large amount of capital. As a result, the irrational investors dominate in the firms with highly positive upfront transfer. On the other hand, the firms with slightly positive upfront transfer provide good financial flexibility for firms' investment. Moreover, the firms with negative upfront transfer tend to signal strong earning power or ample internal funds. The framework thus predicts a negative relationship between the upfront transfer and the post-issue long-term stock performance.

Using 2066 firms conducting primary seasoned equity offering (primary SEO firms) and 802 firms conducting seasoned debt offering (SDO firms) between 1985 and 1996, we find strong evidence supporting the above predictions. Our extensive robustness checks further confirm our findings. One of the most important policy implications is that securities exchange authorities should limit such exploiting strategies that could hurt both firm values and investor values.

JEL classification: G14, G31, G32, E44
Key words: upfront transfer, corporate investment, financing decisions, investor sentiment, and stock performance

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1. Introduction

Recently, there is a new line of literature documenting the evidence of investor sentiment (e.g. Baker and Stein (2003), Li (2004a), Polk and Sapienza (2003)). It suggests that some investors make irrational decisions in financial markets. However, it is still not clear if managers really want to take advantage of these irrational investors, even though they are given the opportunities. Further, does the financial market penalize the firms if managers want to take advantage of irrational investors? Or, does the financial market reward the firms if managers do not want to take advantage of irrational investors? So far there is no clear evidence to the above questions.

This article makes an attempt to answer these questions. We use seasoned offering data to show that a firm's long-term stock performance not only depends on the investor sentiment (e.g. Ritter (2004), Li (2004b)), but also depends on managers' upfront financing decisions. If managers decide to take advantage of irrational investors, then they demonstrate superior pre-issue stock performance and acquire far more than required funds. On the other hand, if managers do not want to take advantage of irrational investors, they raise just enough funds, which are sometimes even lower than what a project requires, because managers can rely on earnings and other internal funds. Thus, presumably, acquiring lower than required funds also serves as a good signal to the marketplace.

We use upfront transfer as our measure for the difference between the raised funds and what a firm actually needs, namely, the amount of the money raised in financial markets minus the amount of the money actually invested in a firm's projects.[1] Since we calculate upfront transfer by subtracting what is actually invested in a firm's projects from the amount of the money raised in financial markets, it could be either positive or negative. Accordingly, a positive upfront transfer suggests that a firm acquires more than what it needs, while a negative upfront transfer suggests that a firm acquires less than what it needs.

We start with analyzing three major views about upfront transfer in the current literature. First, a very high upfront transfer implies that a firm acquires considerably more than what an investment requires, or a firm acquires a lot of funds but actually does very little investment afterward. Perhaps, it is because managers tend to take advantage of those irrational investors, thus they usually demonstrate superior pre-issue stock performance and acquire large amount of funds, especially when the whole market is hot (e.g. Myers and Majluf (1984), Baker and Stein (2003), Ritter (2004)). This view predicts that the firms with high upfront transfer will have superior pre-issue stock performance and a high level of investor sentiment prior to the offerings, and then, as financial market corrects, the investor sentiment leads to a bad long-term performance (e.g. Li (2004b)).

[1] Originally, the upfront transfer refers to the investment transfer as that a firm borrows more than the cost of investment at the first date, or that a firm puts in less than its initial wealth into the project (e.g. Hart and Moore (1989)).

Arguably, however, a suitable positive upfront transfer gives a firm good financial flexibility, reduces the likelihood of default and the degree of liquidation in the event that default occurs, and makes it easier for a firm to repurchase assets from the creditors (e.g. Hart and Moore (1989)). This view suggests that managers only obtain slightly more than what an investment requires to ensure it carries out smoothly. In the long run, this leads to a good performance on the long-term returns.

On the other hand, a negative upfront transfer, or a firm acquiring less than the required funds, implies that the firm is confident in its earnings or other internal funds (e.g. Miller and Rock (1985), Smith (1988), Stulz (1990), Stein (1997)). After all, external financing is costly (e.g. Stein (2001), Ritter (2004)). Interestingly, this implies the existence of a signaling game, in which a firm uses negative upfront transfer to signal its earning power or solid internal funds to the marketplace (e.g. Spence (1974), Healy and Palepu (1988), Dann (1980), John and Lang (1991), Leland and Pyle (1977)). This view predicts an even better post-issue performance on the firm's long-term returns. Overall, it is thus natural to conjecture a negative relationship between the upfront transfer and a firm's long-term stock performance.

We introduce a framework for modeling a firm's upfront financing decisions. The framework uses the definitions of first-degree stochastic dominance (FDSD) and the monotone likelihood ratio property (MLRP) (e.g. Milgrom (1981), Milgrom and Roberts (1982)). The basic idea is, intuitively, the investors with an increasing utility function in upfront transfer will prefer the better pre-issue stock performance associated with the upfront transfer, because they believe the better pre-issue stock performance reflects better future potential. We argue that only irrational investors always have an increasing utility function in the upfront transfer, and they irrationally invest too much in the firms that they believe have better pre-issue stock performance.[2] Thus, if the managers want to take advantage of investor sentiment, they tend to demonstrate superior stock performance before the issuing and raise large amount of funds in financial markets. As a result, the irrational investors dominate in the firms with high upfront transfer.

Using 2066 firms conducting primary seasoned equity offering (primary SEO firms) between 1985 and 1996, we find that the upfront transfer is significantly and negatively correlated with the firm's long-term post-issue stock performance. Our results show that, among the issuers, the firms with negative upfront transfer have the best and positive long-term stock performance in next five years. This is in favor of a signaling view that these firms signal good earning power and ample internal funds. The firms with slightly positive upfront transfer also have positive long-term stock performance in next five years. The evidence is consistent with Hart and Moore (1984). However, the firms with highly positive upfront transfer have significantly negative long-term stock performance in next five years, although they usually enjoy

[2] The argument is based on the fact that investors give more money to "believed" better firms. Thus, the hottest firms attract the most money from those who believe they have the best stock-picking abilities and always correct, regardless of the expensive price. Unfortunately, those people are labeled as irrational investors. More detailed discussion is given in next section.

a better pre-issue stock performance and larger liquidity run-up before offering. The oft-told story of investor sentiment is clearly supported by our analysis (e.g. Baker and Stein (2003), Li (2004a)). Even after we control for the same level of investor sentiment, we still find the firms with negative upfront transfer have the best and positive long-term stock performance in next five years. This confirms that these firms send a good signal to the financial market by obtaining less than required funds. Our framework for the upfront financing decision is supported by the data.

Further to the findings for primary SEOs, using 802 firms conducting seasoned debt offering (SDO firms) between 1985 and 1996, we find similar pattern: the upfront transfer is significantly and negatively correlated with the long-term post-issue stock performance. This again confirms our argument that firms with low upfront transfer outperform the firms with high upfront transfer. Using S&P bond rating data, we find the evidence that the firms with low upfront transfer are more likely the better firms with high bond ratings.

Overall, although our results are preliminary, they are highly suggestive. The evidence shows that, for the firms with negative upfront transfer, managers tend to use the low upfront transfer as a signal to show good earning power or ample internal funds, and investors appreciate that firms use their own money instead of relying heavily on outside financing. For the firms with slightly positive upfront transfer, the good financial flexibility guarantees the completion of the projects. For the firms with highly positive upfront transfer, investor sentiment dominates and hence hurts the value. Our extensive robustness checks further confirm the above findings.

There are some related works in the literature. Asquith and Mullins (1986) show the price reduction for SEO firms is positively related to the offering size. They do not consider a firm's investment while our article considers both the firm's offering size and its investment. In addition, our article offers a broader picture as we also study the link between the upfront transfer and a firm's stock performance for seasoned debt offering firms. Lee (1997), and Kang, Kim, and Stulz (1999) use managerial over-optimism hypothesis to explain the link between post-issue investment and long-term underperformance. Our evidence reports, however, the firms with low upfront transfer significantly outperform their high upfront transfer peers. This implies that, at least, not all managers are crazy about the prospects of their firms and overinvest. Also using SEOs and SDOs, Li (2004b) documents that firms with large liquidity run-up usually significantly underperform their stylized matches due to the impact of investor sentiment.[3] Nevertheless, Li does not investigate and explain the difference among the issuers.

The rest of the article is organized as follows. Section 2 introduces the framework for modeling the investors' upfront financing decisions. Section 3 describes the data and major finds are presented in Section 4. Section 5 concludes.

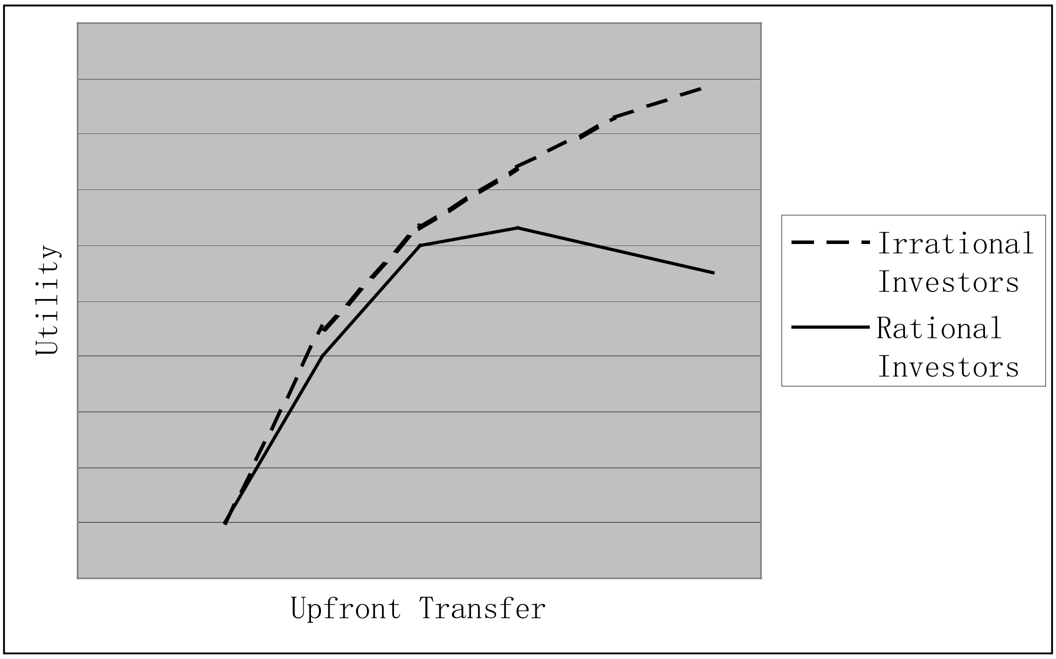
[3] Stylized match means matching by industry, size, issuing window, and book-to-market ratio. Li (2004b) also tries other matching techniques, but the results do not qualitatively change. Li (2004b) suggests two impacts of investor sentiment. First, the financial market has to correct misvaluation. Second, managers start worrying about the economic conditions and reducing their investment growth.

2. Framework

We provide a framework to analyze a firm's upfront transfer decisions. As we mentioned earlier, basically, a firm can acquire less than (negative upfront transfer), equal to (zero upfront transfer), or more than (positive upfront transfer) the required amount. We focus on the positive upfront transfer when managers tend to take advantage of the irrational investors. After all, most of firms choose to raise new funds when their stock performance is good and the market is hot.

The analysis of the positive upfront transfer is based on the following two observations in financial markets. First, the irrational investors are often too confident about their stock picking ability (e.g. Odean (1998b), Alpert and Raiffa (1982), Glaser and Weber (2003), Statman, Thorley, and Vorkink (2004)) and too optimistic about the firms' performance (e.g. Barber and Thaler (2004), Weinstein (1980), Buehler, Griffin and Ross (1994)). Second, the irrational investors invest too much in those "hot and good" firms even if the price is too high, because they believe they choose the right firms and the superior stock performance would continue (e.g. Barber and Thaler (2004), Baker and Stein (2003), Odean (1999), Roll (1986)). Therefore, when the firms have superior pre-issue stock performance and raise large amount of funds in financial markets, the irrational investors would invest far more money than those rational investors do in these firms (e.g. Ritter (2004)). As a result, the irrational investors dominate in the firms with high upfront transfer, and hence exhibit an increasing utility function in upfront transfer.

On the other hand, the rational investors do not always have an increasing utility function in the upfront transfer because they believe the payoff no longer increases once the upfront transfer exceeds a certain level. That is, they do not invest a lot of money in overvalued firms. Furthermore, when the managers have too much free cash flow, they tend to invest in many different industries to diversify their operations, but diversification discount reduces the firm's value (e.g. Jensen (1986), Berger and Ofek (1995), Rajan, Zingales, and Servaes (1998), Fluck and Lynch (2000)). In a less innocuous example, some managers tend to build their own "empire" by investing in some projects with negative NPV (e.g. Shleifer and Vishny (1989), Fluck (1999)). Therefore, for the rational investors, the utility function is rather a hump shape in upfront transfer. See the following graph for an illustration.



The definition of the first-degree stochastic dominance (FDSD) tells us that, the irrational investors with an increasing utility function in upfront transfer, t_i, prefer strategy $F(t_i \mid r_2^B)$ to $F(t_i \mid r_1^B)$, where, r_2^B represents the pre-issue stock performance, and $r_2^B > r_1^B$. In other words, the irrational investors with an increasing utility function in upfront transfer always prefer the better pre-issue stock performance, which is more likely to be associated with the higher upfront transfer. This is because that the irrational investors believe the pre-issue stock performance reflects post-issue stock performance, and they want to invest more money into these firms.[4] That is, for the irrational investors, we have

$$F(t_i \mid r_2^B) < F(t_i \mid r_1^B),$$

Since the irrational investors have an increasing utility in upfront transfer, they have

$$\int U(t_i) dF(t_i \mid r_2^B) > \int U(t_i) dF(t_i \mid r_1^B).$$

Therefore, we have the following propositions.

Proposition 1: For irrational investors, for every $r_2^B > r_1^B$, the higher upfront transfer is more favorable ($t_2 > t_1$) if and only if $\dfrac{f(t_2 \mid r_2^B)}{f(t_2 \mid r_1^B)} > \dfrac{f(t_1 \mid r_2^B)}{f(t_1 \mid r_1^B)}$.

Proof:

Following the above discussion, if for every $t_2 > t_1$, the strategy associated with r_2^B

4 The irrational investors invest too much because they are too confident about the post-issue stock performance. This is also the reason why the firms with high investor sentiment are more likely to end up with high upfront transfer.

is more favorable than the strategy associated with r_1^B ($r_2^B > r_1^B$), then, according to the proposition 1 in Milgrom (1981) (or the definition of the monotone likelihood property (MLRP)), we have,

$$\frac{f(r_2^B \mid t_2)}{f(r_2^B \mid t_1)} > \frac{f(r_1^B \mid t_2)}{f(r_1^B \mid t_1)}$$

This is equivalent to

$$\frac{f(r_2^B) f(t_2 \mid r_2^B)}{f(r_2^B) f(t_1 \mid r_2^B)} > \frac{f(r_1^B) f(t_2 \mid r_1^B)}{f(r_1^B) f(t_1 \mid r_1^B)}$$

Then, it follows that

$$\frac{f(t_2 \mid r_2^B)}{f(t_2 \mid r_1^B)} > \frac{f(t_1 \mid r_2^B)}{f(t_1 \mid r_1^B)}.$$

For sufficiency, following the proposition 1 in Milgrom (1981), we have, for $r_2^B > r_*^B$,

$$\frac{\int_{r_2^B > r_*^B} f(t_2 \mid r_2^B) dG(r_2^B)}{f(t_2 \mid r_1^B)} > \frac{\int_{r_2^B > r_*^B} f(t_1 \mid r_2^B) dG(r_2^B)}{f(t_1 \mid r_1^B)}$$

Rewriting yields

$$\frac{f(t_2 \mid r_1^B)}{\int_{r_2^B > r_*^B} f(t_2 \mid r_2^B) dG(r_2^B)} < \frac{f(t_1 \mid r_1^B)}{\int_{r_2^B > r_*^B} f(t_1 \mid r_2^B) dG(r_2^B)}$$

For $r_1^B \le r_*^B$, integrating generates

$$\frac{\int_{r_1^B \le r_*^B} f(t_2 \mid r_1^B) dG(r_1^B)}{\int_{r_2^B > r_*^B} f(t_2 \mid r_2^B) dG(r_2^B)} < \frac{\int_{r_1^B \le r_*^B} f(t_1 \mid r_1^B) dG(r_1^B)}{\int_{r_2^B > r_*^B} f(t_1 \mid r_2^B) dG(r_2^B)}$$

This is equivalent to

$$\frac{G(r_*^B \mid t_2)}{1 - G(r_*^B \mid t_2)} < \frac{G(r_*^B \mid t_1)}{1 - G(r_*^B \mid t_1)}$$

Then, we obtain

$$G(r_*^B \mid t_2) < G(r_*^B \mid t_1)$$

This implies that the higher upfront transfer is more favorable.

Proposition 2: For the rational investors, even if $r_2^B > r_1^B$, the higher upfront transfer is not necessarily more favorable.

Proof: recall that the rational investors' utility is not always increasing in upfront transfer. Thus, the first-degree stochastic dominance (FDSD) does not hold. Namely, the rational investors will not always have $\int U(t_i) dF(t_i \mid r_2^B) > \int U(t_i) dF(t_i \mid r_1^B)$, or the rational investors will not always prefer $F(t_i \mid r_2^B)$ to $F(t_i \mid r_1^B)$. This implies that the strategy associated with r_2^B is not necessarily more favorable than the strategy associated with r_1^B in the sense of FDSD. Hence, we cannot obtain $\frac{f(r_2^B \mid t_2)}{f(r_2^B \mid t_1)} > \frac{f(r_1^B \mid t_2)}{f(r_1^B \mid t_1)}$. This means we do not have $\frac{f(t_2 \mid r_2^B)}{f(t_2 \mid r_1^B)} > \frac{f(t_1 \mid r_2^B)}{f(t_1 \mid r_1^B)}$, even if $r_2^B > r_1^B$. Therefore, the higher upfront transfer is not necessarily more favorable, according to the definition of the monotone likelihood ratio property (MLRP).

Combining the proposition 1 with proposition 2, one can conclude that the irrational investors dominate in the firms with high upfront transfer. If a firm wants to take advantage of the investor sentiment, then it can demonstrate superior pre-issue performance and raise large amount of funds. The propositions generate the following testable implications. First, for the irrational investors, the higher the pre-issue stock performance, the higher the upfront transfer. A regression analysis should be able to capture a positive link between the upfront transfer and the pre-issue stock performance in the firms with high investor sentiment. Second, for the rational investors, the higher pre-issue stock performance does not necessarily lead to the higher upfront transfer. Third, in the long run, the financial market will correct the effect of the investor sentiment, thus the higher upfront transfer should result in worse long-term post-issue stock performance.

On the other hand, do the firms with low upfront transfer (even negative upfront transfer) necessarily have a better long-term post-issue stock performance? We conjecture this is the case. In particular, when a firm has a negative upfront transfer, it signals that the managers do not want to take advantage of the investor sentiment, and it also sends out a positive signal about the firm's future earning power or solid internal funds to the marketplace. To this extent, the low upfront transfer should be associated with a good long-term post-issue stock performance. Overall, one would find a negative relationship between the upfront transfer and the long-term post-issue stock performance.

3. Data

3.1. Data

Our data are selected from three different sources. The data about stock prices, stock returns, trading volume, capitalization, value-weighted market returns, equal-weighted market returns, and shares outstanding are drawn from CRSP.[5] The financial accounting data are collected from COMPUSTAT. The seasoned equity offering firms, seasoned debt offering firms, and the information about the use of proceeds are all selected from SDC Platinum database.

We choose all firms that have valid financial and accounting numbers. We ignore those firms with negative accounting numbers for book assets, capital, or investment. We also drop firms with assets less than 5 million, and other extreme observations. Because assets in utilities, financial institutions, investment funds, and REITs have different trading characteristics from ordinary equities, we exclude all of them from the sample by deleting observations with SIC code between 4911 and 4941 (utilities), between 6000 and 6081 (financial institutions), and 6722, 6726, 6792 (investment funds and REITs).

It is also possible that some firms have multiple offerings in five years, so we may have the problem of overlapping returns (this is usually called the problem of cross-sectional dependence). To deal with this problem, we strict our analysis to the firms that do not repeat offerings in a five-year post-issue window. Above procedures yield 2066 primary seasoned equity offering firms, 181 secondary seasoned offering firms, and 802 seasoned debt offering firms between 1985 and 1996.

3.2. Fiscal Year-End Month and Calendar Year-End Month

[5] The value-weighted market returns and the equal-weighted market returns are used to replicate the evidence of the underperformance in equity returns to make sure our data are comparable to other studies.

Since many firms do not issue new equity or debt in the same month that fiscal year ends, it is usually difficult to determine the correct amount of investment around offering dates. For example, if the fiscal year-end month is February and the issuing month is February, then the data about investment (capital expenditure) from COMPUSTAT will not have any problem. We can simply treat the year before February (this year) as "-1" year --- the year before offering, and the next fiscal year as "+1" year --- the year after offering. However, if the issuing month is February and the fiscal year-end month is December of the same year, then we should not treat next fiscal year as "+1" year because most of the investment has been made in this year. Instead, we should treat "this year" as "+1" year --- the year after offering, and the last year as "-1" year --- the year before offering. Clearly, distinguishing between the fiscal year-end month and the issuing month is crucial for measuring correct amount of investment.

To deal with the above problem, we use the following procedures.

I. If the fiscal year-end month is after the issuing month, and if there are less than six months between fiscal year-end month and issuing month, then we treat this year as "the year before offering" and next year as "the year after offering".

II. If the fiscal year-end month is after the issuing month, and if there are more than six months between fiscal year-end month and issuing month, then we treat last year as "the year before offering" and this year as "the year after offering".

III. If the fiscal year-end month is before the issuing month, and if there are less than six months between fiscal year-end month and issuing month, then we treat this year as "the year before offering" and next year as "the year after offering".

IV. If the fiscal year-end month is before the issuing month, and if there are more than six months between fiscal year-end month and issuing month, then we treat next year as "the year before offering" and the year after next year as "the year after offering".

Table 0: Year Selection Procedures

Fiscal vs. Issuing	Difference	Year Selection
Fiscal > Issuing	≥ 6 months	-1 YR: last year
		+1 YR: this year
	< 6 months	-1 YR: this year
		+1 YR: next year
Fiscal < Issuing	≥ 6 months	-1 YR: next year
		+1 YR: the year after next year
	< 6 months	-1 YR: this year
		+1 YR: next year
Fiscal = Issuing	---	-1 YR: this year
		+1 YR: next year

Notes: 1. "Fiscal" is the fiscal year-end month, and "Issuing" is the issuing month.
2. "Fiscal > Issuing" means the fiscal year-end month is before the issuing month. "Fiscal < Issuing" means the fiscal year-end month is after the issuing month.
3. "-1 YR" means the year before offering, and "+1 YR" means the year after offering.
4. "last year" means last fiscal year, and "this year" means this fiscal year.

The above table illustrates how we distinguish between the fiscal year-end month and the issuing month.

3.3. Sample Characteristics

Table 1 shows the number of primary SEOs and SDOs for each issuing year. For the primary SEOs (Panel A), 71.4 percent of the sample is after 1991, corresponding to the heavy issuing activities associated with the hot market that commenced in 1992. Similar to the SEOs, the SDOs (Panel B) also experienced heavy issuing activities around 1986 and 1992. The distribution of the issuing activities confirms that firms usually wait for an issuing window when market situations become favorable. Interestingly, the investor sentiment is also most likely to be developed in hot market rather than in cold market.

In addition, Table 1 reports the industry classification using two-digit Standard Industrial Classification codes for the sample. The evidence suggests that most of the seasoned offering firms are from the manufacturing industry (firms with SIC between 20 and 39) and the services industry (firms with SIC between 70 and 89). For the primary SEOs (Panel A), manufacturing industry and services industry are the two major industries that have relatively more primary SEOs (41.38 percent and 17.47 percent, respectively). 41.65 percent of SDOs (Panel B) cluster in the manufacturing industry, and 8.60 percent is in the services industry.

It is always difficult to determine how much a project actually needs, and how long it takes to finance a project. Because a project hardly takes more than 5 years for a typical issuing firm,[6] we consider three different types of the upfront transfer in this article, according to the funds invested by a firm in 2 years, 3 years, or 5 years after

[6] A typical issuing firm is usually a small and growth firm (e.g. Ritter (2004)).

the issuing. For example, the variable *ut_2* (*ut_3*, *ut_5*) represents the total raised funds minus the invested funds made in the first two (three, five) years after issuing. For each variable, we equally sort the sample into 4 portfolios by upfront transfer. Table 2 shows the distribution of the upfront transfer for the primary SEOs and SDOs. Notice that *ut_3* and *ut_5* have smaller upfront transfer because we include more investment.

4. Methodologies and Results

4.1. The Calculation of Buy-and-Hold Returns (BHRs)

The buy-and-hold returns (BHRs) for different post-issuing periods are calculated to value long-term performance in equity returns. Barber and Lyon (1997a), and Kothari and Warner (1997) both indicate BHRs are attractive in comparison to cumulative abnormal returns (CARs), which implicitly assumes frequent rebalancing and thus ignore the potentially high transaction costs. Blume and Stambaugh (1983), Roll (1983), and Conard and Kaul (1993) offer empirical evidence that frequent rebalancing can lead to upward bias due to bid-ask bounce.[7]

4.2. Replicating BHRs

To make sure our sample is comparable to the samples used in others, we first replicate the well-known long-term underperformance in equity returns found by

[7] Detailed information about the calculation of buy-and-hold return can be found in Appendix.

other authors. Panel A of Table 3 shows our results. Using 2247 SEO firms,[8] we find equally weighted average 5-year buy-and-hold return is 31.3 percent, compared to their stylized matches' 49.9 percent. The annualized difference is around –3.2 percent, which is similar to –3.9 percent found by Brav, Geczy and Gompers (2000). Cai and Loughran (1998) use Japanese data and find an annualized difference of –3.5 percent. Notice that the annualized difference in Eckbo, Masulis and Norli (2000) is higher (–4.8 percent). This is due to the different sample period and different number of years used to calculate annualized returns.

We also find long-term underperformance of equity returns for SDO firms. See Panel B of Table 3. On average, the annualized return difference is –2.6 percent for 5 years (-2.4 percent for 3 years) after the debt offerings. Eckbo, Masulis and Norli (2000)'s paper is the other one considering debt issues. They find firms issuing convertible debt have an annualized difference of –3.3 percent, while firms issuing straight debt have an annualized difference of –2.3 percent. Our result is a little different because we do not distinguish between convertible debt and straight debt. Overall, our results on the long-term underperformance are very similar to other authors' findings. This indicates a very comparable sample in this article.

4.3. Main results

4.3.1 The relationship between the pre-issue stock performance and the upfront transfer

[8] There are 2066 primary SEOs and 181 secondary SEOs.

It is useful to define some variables first. We use three upfront transfer measures. The variable *ut_2* is the total raised capital minus the sum of the firm's capital expenditure (COMPUSTAT data 128) and research and development (R&D) expense (data 46) for the two years after the offering, and then divided by issuing year's year beginning total assets (lagged data 6)). The variable *ut_3* and *ut_5* are defined similarly.

The proxy for the investor sentiment is the percentage change of the stock liquidity in three years before issuing (e.g. Baker and Stein (2003), Li (2004a)). We consider two stock liquidity measures: stock turnover and dollar liquidity. Daily stock turnover is the ratio of the number of shares being traded per day to total shares outstanding on that day. Annual stock turnover is calculated by averaging all ratios for each year and each firm.

$$TO_i = \frac{1}{T} \sum_{t=1}^{T} \frac{ShareVolume_{it}}{Outstanding_{it}}$$

Controversies abound over what variables can best proxy for stock liquidity. We use dollar liquidity as another measure of the stock liquidity (e.g. Amihud (2001)). It is obtained by applying following procedures: we first find ratio of daily volume (dollar volume) to daily absolute return, and then average all ratios for each year and each firm.

$$DLIQ_i = \frac{1}{T} \sum_{t=1}^{T} \frac{DollarVolume_{it}}{|r_{it}|}$$

Dollar liquidity (*DLIQ*) represents how many dollars are needed if stock return is driven up or down by 1 percent. Since dollar liquidity is usually very huge, we take natural logarithm in regression analysis.

Following the literature, we consider two more explanatory variables: Tobin's *Q* and cash flow (*CF*). Brainard and Tobin (1968), and Tobin (1969) argue that a firm should invest when *Q* value is equal to or above 1, where *Q* ratio is defined as the ratio between the value of firm's assets in capital market and their replacement cost.[9] A firm's investment decision can also be sensitive to firm's cash flow. Cash flow should thus be controlled for. We define *Q* as the market value of equity plus assets minus book value of equity over assets, that is, market value of equity plus assets (data 6) minus the sum of common equity (data 60) and deferred taxes (data 74) over assets (data 6). Firm's cash flow (*CF*) equals the sum of earnings before extraordinary items (data 18) and depreciation (data 14) over year beginning assets (lagged data6). Moreover, firm's internal cash availability should have an effect on investment. For those firms that have high financial slack, they probably can invest more. The *CASH* is the ratio of cash and short-term investments (data 1) and lagged assets (data 6), and it measures a firm's financial slack.

As noted before, some authors have already documented a link between financial market and corporate investment through financial constraint (e.g. Baker, Stein and Wurgler (2003), Polk and Sapienza (2002)). Thus, we also control for financial constraint in this article. Our proxy for financial constraint is KZ index based on

[9] Some authors use *Q* as a measure of growth opportunity. For example, see recent works by Bae, Kang, and Lim (2001) and Graham (2000).

Kaplan and Zingales (1997).[10] The firms with high KZ index are more likely to be financially constrained. Also see Lamont et al. (2001), or Almeida, Campello and Weisbach (2002) for a similar approach.

We first investigate the relationship between the pre-issue stock performance and the upfront transfer. We focus on the primary SEO firms because the primary issues generate new cash to the issuing firms while secondary issues generate cash to the large shareholders except issuing firms. According to our propositions, we should observe a significant positive link between the pre-issue stock performance and the upfront transfer for the firms with high investor sentiment, but an insignificant link for the firms with low investor sentiment.

As we mentioned earlier, the variables that can affect a firm's financing or investment decisions should be included in the model, according to the definition of upfront transfer. We consider stock performance (proxied by pre-issue one-year buy-and-hold return), Tobin's Q, cash flow, cash or cash equivalent, leverage, financial constraint, liquidation, the change of the stock turnover, and the number of years after IPO. Among these variables, Tobin's Q, cash flow, financial constraint, and the change of the stock turnover are supposed to have impacts on the investment decisions (e.g., Tobin (1969), Cochrane (1996), Hubbard (1998), Li (2004a)), while the rest may have

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[10] The KZ index model and coefficients are as follows,

$$\begin{aligned} KZ = & -1.002 \times CashFlow + 0.2826 \times Q + 3.14 \times Leverage \\ & - 39.37 \times Dividends - 1.315 \times CashBalance \end{aligned}$$

impact on the financing decisions (Ritter (2004)). The event date is the day that a firm conducts seasoned equity offering. The regression specification is,

$$ut_i = a_0 + a_1 bhb_i + \sum_{n=1}^{3} b_n Q_{it-n} + \sum_{m=1}^{3} c_m CF_{it-m} +$$
$$c_4 cash_i + c_5 lev_i + c_6 KZ_i + c_7 lqdt_i + c_8 liqc_i + c_9 IPOyr_i + e_i$$

Where, ut_i represents the upfront transfer. It can be *ut_2*, *ut_3*, or *ut_5*. bhb_i is the one-year pre-issue buy-and-hold return. We include three *Q* variables and three cash flow variables. Variable $lqdt_i$ represents the cash from the liquidation (data 8 divided by lagged data 6). Variable $liqc_i$ is the percentage change in liquidity, which can be either stock turnover or dollar liquidity. Finally, the variable $IPOyr_i$ represents the number of years after initial public offering.

We split the whole sample into two subsamples: the one with the top 50 percent liquidity change (high investor sentiment), and the one with the bottom 50 percent liquidity change (low investor sentiment). The results are shown in Table 4. The panel A shows the results when the change of stock turnover as a proxy for the investor sentiment. For the firms with high investor sentiment (top 50 percent liquidity change), there is a significant positive link between the upfront transfer and the one-year pre-issue buy-and-hold return. For the firms with low investor sentiment (bottom 50 percent liquidity change), the link is rather very weak. For example, for the firms with top 50 percent liquidity change, when we consider the upfront transfer associated with the total investment made in three years after offering (*ut_3*), the coefficient of the pre-issue stock performance is 0.052, and it is statistically significant at 2% level. While for the firms with bottom 50 percent liquidity change, the link is insignificant. This is also the case when we use *ut_2* as a proxy for the upfront transfer.

We also consider the change of dollar liquidity as a proxy for the investor sentiment. See the Panel B in Table 4. Again, for the firms with top 50 percent liquidity change, the coefficient of the one-year pre-issue buy-and-hold return is 0.045, and it is statistically significant at 4% level. While for the firms with bottom 50 percent liquidity change, the link is insignificant. The same conclusion also holds for the upfront transfer associated with the total investment made in two years after offering (*ut_2*).

Notice that, for the upfront transfer associated with the total investment made in five years after offering (*ut_5*), the coefficient for the one-year pre-issue buy-and-hold return is always insignificant. This suggests that *ut_5* may not be a good proxy for the upfront transfer because we may include too much investment. The evidence confirms our propositions that, when firms demonstrate a superior pre-issue stock performance and raise large amount of funds, the irrational investors dominate in the firms with high upfront transfer.

4.3.2 The relationship between the upfront transfer and the post-issue stock performance

We now turn to study the relationship between the upfront transfer and the post-issue long-term stock performance. We use two different approaches to make sure our results are robust: a portfolio approach and a regression analysis. We start with the portfolio approach. The firms are grouped into 4 portfolios by the upfront transfer. For example, for *ut_2*, we form 4 portfolios, with the portfolio 1 has the lowest upfront transfer and the portfolio 4 has the highest upfront transfer. Then the buy-and-hold returns are calculated for 1, 2, 3, 4, 5 years after offering. For example, the variable *BH3* suggests the buy-and-hold return for a three-year period after offering.

The results are presented in Table 5. It is clear that the higher the upfront transfer, the worse the post-issue long-term stock performance. Using *ut_2* as a proxy for the upfront transfer, the average upfront transfer for the portfolio 1 is –0.113, while the portfolio 4 has an average of 0.882. However, the average 3-year buy-and-hold return for the portfolio 1 is 0.179, while the average 3-year buy-and-hold return for the portfolio 4 is –0.086. The average 5-year buy-and-hold return for the portfolio 4 is a little better, compared to its 3-year buy-and-hold return, but still far worse than the one for the portfolio 1 (0.039 compared to 0.459). Looking at the portfolio 2, we can find that the firms with slightly positive upfront transfer have positive performance too. The portfolio 3 also has positive 5-year buy-and-hold return, although its 3-year buy-and-hold return is negative. Identical conclusion yields when we use *ut_3* or *ut_5* as proxies for the upfront transfer.

Also in Table 5, interestingly, the firms with the highest upfront transfer always have the highest liquidity change, regardless of what liquidity proxy we use. This confirms that the firms with the highest upfront transfer have the strongest investor sentiment. For example, using the change of stock turnover as a proxy for investor sentiment, we find that, for *ut_2*, the firms with the lowest upfront transfer have 0.597 of average liquidity run-up before issuing, but the firms with the highest upfront transfer have 1.015 of average liquidity run-up. This pattern does not change if we use either *ut_3* or *ut_5* as the upfront transfer measure.

Graph 1 shows the relation between the upfront transfer and long-term stock performance for all three upfront transfer variables. Obviously, the portfolio with the lowest upfront transfer always outperforms the other portfolios.

It is possible that the outperformance of the portfolio with the lower upfront transfer is due to its higher average investment. From the results, the portfolio with the lowest upfront transfer usually has the most investment. Let's use *ut_3* as an example, the average investment made in three years for the portfolio with the lowest upfront transfer is 0.612, but the average investment made in three years for the portfolio with the highest upfront transfer is only 0.347. To deal with this concern, we reduce the portfolio 1's average investment to the similar levels as in other portfolios by deleting those firms with the highest total investment in the portfolio 1. Again, we use *ut_3* as an example here. The new portfolio (we name it portfolio 1A in Table 5) has an average of 0.305 investment, which is very comparable to the investment (0.328, 0.280, 0.347) in the other three portfolios. However, the new portfolio still outperforms the others in terms of long-term stock performance. See Table 5 for the results. This suggests that the outperformance of the portfolio with the lower upfront transfer is not simply due to its higher average investment

How do we know if the firms with negative upfront transfer signal good earning power to the marketplace? It may be just because they are not affected by the investor sentiment, or it may be just because they do not want to take advantage of irrational investors. We argue that, first, the firms with negative upfront transfer also have significant liquidity run-up before issuing. For *ut_3*, the portfolio with negative average upfront transfer has an average of 0.743 liquidity change (measured by stock turnover), which is comparable to, or even higher than the portfolios with the higher average upfront transfer. For example, the portfolio with 0.253 upfront transfer has an average of 0.663 liquidity run-up. Thus, the outperformance should not be all due to the less investor sentiment. Second, if the firms do not want to take advantage of irrational investors, then they would have the stock performance similar to the firms with slightly positive upfront transfer. However, what we have observed is that they significantly outperform the firms with slightly positive upfront transfer in stock performance. Thus, one would conclude that they have done something other firms have not done. According to our analysis, a negative upfront transfer means a firm raises less than required funds in financial markets. A simple explanation is that the firm is confident in its earning power, and thus is able to finance the investment from internal sources. Therefore, a negative upfront transfer signals a good earning ability or ample internal funds.

The above results show that, among the primary SEOs, the firms with the highest upfront transfer have the worst post-issue long-term stock performance, but the firms with the lowest upfront transfer have the best post-issue long-term stock performance. The evidence is consistent with our propositions: the irrational investors dominate in the firms with the highest upfront transfer, and then these firms underperform in the long run. However, for the firms with slightly positive upfront transfer, the financial flexibility provides good protection for corporate investment. Thus, the market reacts positively in the long run. This is consistent with Hart and Moore (1989). Finally, for the firms with lowest or negative upfront transfer, they tend to send a signal to the marketplace that the managers do not want to take advantage of the investor sentiment and they are confident in the earning power or ample internal funds. The market thus reacts positively in the long run. More importantly, our results give strong support to the view that, in the long run, the financial market penalizes the firms if managers want to take advantage of irrational investors, but reward the firms if managers do not want to take advantage of irrational investors.

To further confirm our results, we consider the link between the upfront transfer and long-term stock performance for seasoned debt offering firms (SDOs). Apparently, if a firm wants to take advantage of irrational investors by issuing debt, then its long-term stock performance will, more or less, reflect market's reaction to the firm. On the other hand, a negative upfront transfer may signal a good earning power or ample internal funds, just like the primary SEOs with negative upfront transfer do. The results are shown in Table 6. It is clear that the negative relationship between the upfront transfer and the long-term stock performance still holds. The portfolio with the highest upfront transfer exhibits the strongest investor sentiment, while the portfolios with the lowest upfront transfer exhibits the best post-issue long-term stock performance. For example, using *ut_3* as a proxy for upfront transfer, we find the portfolio 1's average 3-year buy-and-hold return is 0.404, but the portfolio 4's average 3-year buy-and-hold return is 0.162. However, the portfolio 4's average liquidity run-up, measured by stock turnover, is 0.329, compared to the portfolio 1's 0.170.

In Table 7, we show the relationship between the S&P bond ratings and the upfront transfer. We find that, the portfolio 1, or the firms with the lowest upfront transfer always have the most A-rating bonds, while the portfolio 4, or the firms with the highest upfront transfer always have the most C-rating bonds. This implies that firms with the lowest upfront transfer are also classified as firms with better quality in financial markets. This is consistent with our previous analysis that they have better earning power or ample internal funds. Graph 2 shows the relation between the upfront transfer and post-issue long-term stock performance for SDOs. Obviously, the portfolio with the lowest upfront transfer always outperforms other portfolios. This evidence confirms our previous results.

5. Conclusions

In this article, we provide a framework to show that irrational investors dominate in the firms with high upfront transfer during a period of high investor sentiment. As a result, the firms with high upfront transfer exhibit bad post-issue long-term stock performance. On the other hand, the firms with suitable upfront transfer provide good financial flexibility for the firms' investment, thus they exhibit a good post-issue long-term stock performance. Since the firms with low or even negative upfront transfer also have good pre-issue stock performance, they tend to signal strong earning ability or ample internal funds. This then leads to an even better post-issue long-term stock performance. Our empirical results and robustness checks confirm the framework and our conjectures.

More importantly, our evidence implies that not every manager wants to take advantage of irrational investors. The firms that want to take advantage of investor sentiment will have significantly worse stock performance than the firms that do not want to take advantage of investor sentiment in the long run. Therefore, one of the most important policy implications is that securities exchange authorities should limit such exploiting strategies that could hurt both firm values and investor values.

Finally, also noteworthy is that, although we do not intend to explain the famous "New Issues Puzzle" (e.g. Loughran and Ritter (1995)) in this article, some of our evidence confirms that the investor sentiment is the dominant factor for the post-issue long-term underperformance of the SEO firms and the SDO firms. To this extent, our results precisely underlie the empirical findings in Li (2004b), which reports significant evidence supported by investor sentiment hypothesis for the SEO firms and the SDO firms.

Appendix: The calculation of buy-and-hold return

We calculate the BHRs by compounding daily returns over either 1250 trading days (5 years) or the number of trading days from the offering date until the delisting date, whichever is smaller. The following formula is used to calculate BHRs.

$$BHR_i = \prod_{t=1}^{T} (1 + r_{it}) - 1$$

The same holding periods are used to calculate the BHRs of matching firms. If a matching firm is delisted before the end of the three-year/five-year anniversary or the issuing firm's delisting day, whichever is earlier, either CRSP value-weighted returns or CRSP equal-weighted returns are inserted into the calculation of the BHRs from the removal date.

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Table 1: Number of seasoned offerings by year and industry

The sample includes all available firms that conduct seasoned offerings between 1985 and 1996. We exclude firms that issue twice in five years. We choose all firms that have valid financial and accounting numbers. The firms with negative accounting numbers for book assets, capital, or investments are ignored. We also exclude firms with assets less than 5 million, and extreme observations. We delete observations with SIC code between 4911 and 4941 (utilities), between 6000 and 6081 (financial institutions), and 6722, 6726, 6792 (investment funds and REITs). The two-digit Standard Industry Classification codes (SIC code) are used.

Panel A: Number of primary SEOs by year and industry

Number of Primary SEOs by Calendar Year

Year	Number of Primary SEOs	Percentage of Sample
1985	95	4.60%
1986	153	7.41%
1987	124	6.00%
1988	55	2.66%
1989	91	4.40%
1990	73	3.53%
1991	220	10.65%
1992	186	9.00%
1993	251	12.15%
1994	179	8.66%
1995	286	13.84%
1996	353	17.09%
Total	2066	100.00%

Number of Primary SEOs by Industrial Classification

Industry	SIC code	Number of Primary SEOs	Percentage
Chemicals, pharmaceuticals, and biotech	28	242	11.71%
Office and computer equipment	35	194	9.39%
Communication and electronic equipment	36	235	11.37%
Transportation equipment	37	40	1.94%
Measuring, analyzing, and controlling instruments	38	144	6.97%
Wholesale trade durable goods	50	99	4.79%
Eating and drinking places	58	58	2.81%
Miscellaneous retail	59	66	3.19%
Computer and data processing services	73	216	10.45%
Health services	80	101	4.89%
Engineering, accounting, research, and others	87	44	2.13%
Other	-	627	30.35%
Total	-	2066	100.00%

Table 1: Number of seasoned offerings by year and industry (Continued)

Panel B: Number of SDOs by year and industry

Number of SDOs by Calendar Year		
Year	Number of Secondary SDOs	Percentage of Sample
1985	97	12.09%
1986	136	16.96%
1987	75	9.35%
1988	30	3.74%
1989	50	6.23%
1990	34	4.24%
1991	47	5.86%
1992	78	9.73%
1993	81	10.10%
1994	37	4.61%
1995	54	6.73%
1996	83	10.35%
Total	802	100.00%

Number of SDOs by Industrial Classification			
Industry	SIC code	Number of SDOs	Percentage
Oil and gas	13	55	6.86%
Food and kindred products	20	38	4.74%
Paper and allied products	26	36	4.49%
Chemicals, pharmaceuticals, and biotech	28	74	9.23%
Office and computer equipment	35	66	8.23%
Communication and electronic equipment	36	42	5.24%
Transportation equipment	37	39	4.86%
Measuring, analyzing, and controlling instruments	38	39	4.86%
Computer and data processing services	73	35	4.36%
Health services	80	34	4.24%
Other	-	344	42.89%
Total	-	802	100.00%

Table 2: The distribution of the upfront transfer

The table contains the distributions of the upfront transfer for the primary SEO and SDO firms. For each upfront transfer variable, we sort the sample into 4 portfolios. The upfront transfer variables, *ut_2*, *ut_3*, *ut_5*, are calculated by subtracting the invested funds made in the two, three, five years after the issuing from the raised funds, respectively.

Panel A: The distribution of the upfront transfer for the primary SEO firms

	ut_2		
Portfolios	Mean	Confidence Interval	Number of Observations
1	-0.113	(-0.121, -0.105)	336
2	0.082	(0.076, 0.087)	329
3	0.326	(0.316, 0.336)	366
4	0.882	(0.854, 0.909)	361

	ut_3		
Portfolios	Mean	Confidence Interval	Number of Observations
1	-0.269	(-0.280, -0.257)	358
2	0.005	(-0.002, 0.012)	327
3	0.253	(0.244, 0.263)	359
4	0.832	(0.802, 0.862)	368

	ut_5		
Portfolios	Mean	Confidence Interval	Number of Observations
1	-0.558	(-0.580, -0.537)	367
2	-0.117	(-0.125, -0.109)	319
3	0.158	(0.149, 0.167)	372
4	0.752	(0.719, 0.784)	370

Table 2: The distribution of the upfront transfer

Panel B: The distribution of the upfront transfer for the primary SDO firms

	ut_2		
Portfolios	Mean	Confidence Interval	Number of Observations
1	-0.105	(-0.116, -0.095)	105
2	-0.001	(-0.005, 0.004)	98
3	0.111	(0.102, 0.121)	114
4	0.481	(0.433, 0.528)	113

	ut_3		
Portfolios	Mean	Confidence Interval	Number of Observations
1	-0.265	(-0.283, -0.247)	104
2	-0.089	(-0.095, -0.082)	105
3	0.055	(0.046, 0.063)	109
4	0.423	(0.375, 0.471)	114

	ut_5		
Portfolios	Mean	Confidence Interval	Number of Observations
1	-0.588	(-0.630, -0.546)	102
2	-0.238	(-0.250, -0.226)	104
3	-0.039	(-0.050, -0.028)	106
4	0.359	(0.310, 0.408)	120

Table 3: Replicate the evidence on the underperformance in stock returns for seasoned offering firms

There are 2247 SEO firms in our sample. 2066 firms are primary SEOs and 181 firms are secondary SEOs. There are 802 SDO firms. The buy-and-hold returns are calculated by using $BHR_i = \prod_{t=1}^{T}(1+r_{it})-1$. The annualized difference in stock returns is defined as $[(BHR_i)^{1/T} - (BHR_m)^{1/T}]\times 100\%$. Where T is the holding period length, BHR_i is the average buy-and-hold return for the issuing firms, and BHR_m is the average buy-and-hold return for the matching firms. The matches are selected based on year, industry, size and BE/ME ratios.

Panel A: The evidence on the underperformance of SEOs

				Buy-and-hold Return		
Study	Holding Period	Sample size	Period	SEOs	Matches	Annualized Difference
Eckbo, Masulis and Norli	5 years	3315	1964-1995	44.30%	67.50%	-4.80%
Jedadeesh	5 years	2992	1970-1993	59.40%	93.60%	-4.90%
Brav, Geczy and Gompers	5 years	3775	1975-1992	57.60%	83.90%	-3.90%
Cai, Loughran (Japanese data)	5 years	1389	1971-1992	74.10%	103.20%	-3.50%
This work (Primary)	5 years	2066	1985-1996	30.72%	51.31%	-3.51%
This work (Primary)	3 years	2066	1985-1996	7.30%	30.31%	-6.85%
This work (Secondary)	5 years	181	1985-1996	100.39%	67.75%	4.52%
This work (Secondary)	3 years	181	1985-1996	39.27%	36.92%	0.63%
This work(Primary and Secondary)	5 years	2247	1985-1996	31.30%	49.90%	-3.20%
This work(Primary and Secondary)	3 years	2247	1985-1996	6.90%	28.40%	-6.40%

Panel B: The evidence on the underperformance of SDOs

				Buy-and-hold Return		
Study	Holding Period	Sample size	Period	SDOs	Matches	Annualized Difference
Eckbo, Masulis and Norli (straight debt)	5 years	1125	1964-1995	51.70%	62.90%	-2.30%
Eckbo, Masulis and Norli (convertible debt)	5 years	1125	1964-1995	51.70%	67.70%	-3.30%
This work	5 years	802	1985-1996	35.90%	51.60%	-2.60%
This work	3 years	802	1985-1996	21.30%	29.60%	-2.40%

Table 4: The link between pre-issue income performance and upfront transfer

The event date is the day when a firm issues new equity. The regression specification is,

$$ut_i = a_0 + a_1 bhb_i + \sum_{n=0}^{2} b_n Q_{it-n} + \sum_{m=0}^{2} c_m CF_{it-m} + c_4 cash_i + c_5 lev_i + c_6 KZ_i + c_7 lqdt_i + c_8 liqc_i + c_9 IPOyr_i + e_i$$

Where, ut_i represents the upfront transfer. It can be *ut_2*, *ut_3*, or *ut_5*. Variable bhb_i is the 1-year pre-issue buy-and-hold return. We include three *Q* variables and three cash flow variables. *, **, and *** represent the significance level at 10%, 5%, and 1%, respectively.

Panel A: The change of stock turnover as a proxy for the investor sentiment

	Top 50% Liquidity Change			Bottom 50% Liquidity Change		
	ut_2	*ut_3*	*ut_5*	*ut_2*	*ut_3*	*ut_5*
bhb	0.051***	0.052**	0.029	0.045	0.050	0.033
	(0.01)	(0.02)	(0.27)	(0.11)	(0.13)	(0.33)
q	0.028	0.014	-0.008	-0.091*	-0.093	-0.107
	(0.16)	(0.51)	(0.72)	(0.06)	(0.18)	(0.22)
qlag	-0.023**	-0.020	-0.004	0.099***	0.095*	0.076
	(0.05)	(0.20)	(0.82)	(0.01)	(0.09)	(0.27)
q2lags	0.020***	0.022***	0.020***	-0.003	-0.001	-0.002
	(0.00)	(0.00)	(0.01)	(0.81)	(0.94)	(0.93)
cf	-0.038	-0.009	0.052	0.068	0.092	-0.025
	(0.63)	(0.91)	(0.64)	(0.75)	(0.68)	(0.94)
cflag	-0.054	-0.136	0.127	0.032	-0.244*	-0.096
	(0.68)	(0.38)	(0.51)	(0.83)	(0.10)	(0.65)
cf2lags	0.008	0.074**	-0.396***	-0.151	-0.145	-0.146
	(0.81)	(0.02)	(0.00)	(0.12)	(0.27)	(0.38)
cash	0.139***	0.144**	0.026	0.073	-0.046	-0.031
	(0.01)	(0.02)	(0.71)	(0.45)	(0.71)	(0.80)
lev	-0.163***	-0.125**	-0.093	0.122***	0.111**	0.179***
	(0.01)	(0.03)	(0.24)	(0.00)	(0.02)	(0.01)
KZ	-0.001	-0.000	-0.002	-0.007***	-0.008***	-0.012***
	(0.58)	(0.95)	(0.42)	(0.01)	(0.01)	(0.00)
lqdt	0.116	-0.021	-0.042	0.107*	0.118	0.122
	(0.26)	(0.87)	(0.77)	(0.07)	(0.13)	(0.26)
liqc	0.001	-0.001	0.008	-0.134**	-0.107	-0.099
	(0.87)	(0.92)	(0.49)	(0.03)	(0.17)	(0.30)
IPOyr	-0.004	-0.007*	-0.008*	0.004	0.002	0.003
	(0.21)	(0.06)	(0.10)	(0.19)	(0.46)	(0.39)
Constant	0.070	-0.005	-0.119*	-0.082	-0.097*	-0.201***
	(0.15)	(0.93)	(0.08)	(0.13)	(0.06)	(0.01)
R_squared	26%	22%	16%	32%	22%	18%
Obs	377	379	383	335	341	350

Table 4: The link between pre-issue income performance and upfront transfer (Continued)

Panel B: The change of dollar liquidity as a proxy for the investor sentiment

	Top 50% Liquidity Change			Bottom 50% Liquidity Change		
	ut_2	*ut_3*	*ut_5*	*ut_2*	*ut_3*	*ut_5*
bhb	0.045**	0.045**	0.029	0.051	0.045	0.053
	(0.02)	(0.04)	(0.23)	(0.12)	(0.24)	(0.22)
q	0.032	0.014	-0.005	-0.000	-0.008	-0.038
	(0.15)	(0.58)	(0.87)	(0.99)	(0.80)	(0.33)
qlag	-0.021*	-0.018	-0.002	0.011	0.011	0.022
	(0.10)	(0.31)	(0.94)	(0.64)	(0.64)	(0.47)
q2lags	0.020***	0.023***	0.020**	0.000	0.001	0.002
	(0.00)	(0.00)	(0.02)	(0.99)	(0.94)	(0.92)
cf	0.090	0.017	0.022	-0.014	0.128	0.102
	(0.47)	(0.87)	(0.86)	(0.85)	(0.16)	(0.59)
cflag	-0.152	-0.183	0.112	0.125	-0.194	0.054
	(0.23)	(0.23)	(0.59)	(0.17)	(0.18)	(0.74)
cf2lags	0.033	0.010	-0.267**	-0.069	-0.014	-0.286*
	(0.74)	(0.93)	(0.02)	(0.15)	(0.82)	(0.06)
cash	0.157***	0.112*	0.029	0.229**	0.190*	0.072
	(0.00)	(0.08)	(0.69)	(0.02)	(0.08)	(0.50)
lev	-0.104*	-0.072	0.010	0.032	0.051	0.116**
	(0.09)	(0.29)	(0.92)	(0.46)	(0.26)	(0.04)
KZ	-0.001	-0.000	-0.002	-0.006**	-0.006**	-0.013***
	(0.65)	(0.99)	(0.45)	(0.04)	(0.03)	(0.00)
lqdt	0.198***	0.183**	0.166	0.160	0.053	-0.053
	(0.00)	(0.02)	(0.12)	(0.20)	(0.72)	(0.77)
liqc	-0.001	-0.001	0.000	-0.042	-0.034	-0.055
	(0.38)	(0.47)	(0.70)	(0.18)	(0.36)	(0.23)
IPOyr	-0.004	-0.006*	-0.008*	0.004	0.001	0.002
	(0.14)	(0.08)	(0.08)	(0.22)	(0.71)	(0.60)
Constant	0.061	0.005	-0.151**	-0.026	-0.080**	-0.190***
	(0.22)	(0.92)	(0.04)	(0.48)	(0.05)	(0.00)
R_squared	26%	21%	13%	25%	16%	21%
Obs	373	377	385	339	344	349

Table 5: The upfront transfer and the long-term stock performance (Primary SEOs)

ut_2, *ut_3*, and *ut_5* represent the upfront transfer variables with the total investment made in 2, 3, and 5 years, respectively. For each upfront transfer variable, we form four portfolios. The variable *inv_sum2*, *inv_sum3*, and *inv_sum5* suggest the total investment made in 2, 3, and 5 years. The buy-and-hold returns *BH1*, *BH2*, *BH3*, *BH4*, and *BH5* are calculated for 1, 2, 3, 4, 5 years after offering. The variables *tobc31* and *dliqbc31* are both percentage changes in stock liquidity, with the stock turnover and the dollar liquidity as the proxies for stock liquidity, respectively.

						Buy-and-Hold Returns				
Portfolio	*ut_2*	*inv2_sum2*	*bhb*	*tobc31*	*dliqbc31*	*bh1*	*bh2*	*bh3*	*bh4*	*bh5*
1	−0.113	0.378	0.583	0.597	6.104	0.123	0.172	0.179	0.280	0.459
2	0.082	0.245	0.644	0.724	5.192	0.000	0.066	0.102	0.162	0.337
3	0.326	0.238	0.735	0.793	7.595	−0.018	−0.044	−0.069	0.030	0.061
4	0.882	0.277	0.991	1.015	10.829	−0.030	−0.037	−0.086	−0.024	0.039
1A	−0.099	0.238	0.461	0.488	3.925	0.159	0.249	0.310	0.329	0.523
Portfolio	*ut_3*	*inv2_sum3*	*bhb*	*tobc31*	*dliqbc31*	*bh1*	*bh2*	*bh3*	*bh4*	*bh5*
1	−0.269	0.612	0.629	0.743	7.211	0.114	0.161	0.176	0.255	0.441
2	0.005	0.328	0.612	0.668	4.880	0.024	0.083	0.082	0.148	0.385
3	0.253	0.280	0.738	0.663	5.711	−0.024	−0.020	−0.006	0.104	0.102
4	0.832	0.347	0.953	1.077	12.378	−0.030	−0.073	−0.137	−0.100	−0.076
1A	−0.191	0.305	0.453	0.500	4.037	0.167	0.260	0.318	0.355	0.562
Portfolio	*ut_5*	*inv2_sum5*	*bhb*	*tobc31*	*dliqbc31*	*bh1*	*bh2*	*bh3*	*bh4*	*bh5*
1	−0.558	0.966	0.677	0.716	6.373	0.095	0.167	0.188	0.321	0.521
2	−0.117	0.494	0.659	0.659	5.652	0.060	0.083	0.090	0.169	0.356
3	0.158	0.343	0.701	0.644	4.976	−0.020	0.024	0.003	0.047	0.073
4	0.751	0.370	0.918	1.099	12.228	−0.014	−0.073	−0.131	−0.094	−0.030
1A	−0.304	0.393	0.452	−0.061	0.745	0.158	0.212	0.412	0.199	0.365

Table 6: The upfront transfer and the long-term stock performance (SDOs)

ut_2, *ut_3*, and *ut_5* represent the upfront transfer variables with the total investment made in 2, 3, and 5 years, respectively. For each upfront transfer variable, we form four portfolios. The variable *inv_sum2*, *inv_sum3*, and *inv_sum5* suggest the total investment made in 2, 3, and 5 years. The buy-and-hold returns *BH1*, *BH2*, *BH3*, *BH4*, and *BH5* are calculated for 1, 2, 3, 4, 5 years after offering. The variables *tobc31* and *dliqbc31* are both percentage changes in stock liquidity, with the stock turnover and the dollar liquidity as the proxies for stock liquidity, respectively.

						Buy-and-Hold Returns				
Portfolio	*ut_2*	*inv2_sum2*	*bhb*	*tobc31*	*dliqbc31*	*bh1*	*bh2*	*bh3*	*bh4*	*bh5*
1	−0.106	0.163	0.346	0.028	0.544	0.131	0.204	0.262	0.443	0.485
2	−0.001	0.088	0.595	0.213	1.094	0.102	0.214	0.279	0.379	0.421
3	0.111	0.068	0.582	0.322	1.736	0.061	0.124	0.220	0.257	0.371
4	0.475	0.074	0.873	0.386	2.778	0.067	0.136	0.165	0.183	0.232
1A	−0.047	0.065	0.019	−0.094	0.212	0.021	0.163	0.347	0.502	0.604
						Buy-and-Hold Returns				
Portfolio	*ut_3*	*inv2_sum3*	*bhb*	*tobc31*	*dliqbc31*	*bh1*	*bh2*	*bh3*	*bh4*	*bh5*
1	−0.267	0.359	0.483	0.170	0.992	0.147	0.295	0.404	0.600	0.647
2	−0.089	0.175	0.556	0.095	0.613	0.124	0.210	0.295	0.399	0.502
3	0.054	0.125	0.590	0.338	2.253	0.055	0.088	0.181	0.213	0.288
4	0.416	0.110	0.631	0.329	2.183	0.067	0.108	0.162	0.192	0.246
1A	−0.162	0.170	0.586	0.242	0.958	0.175	0.298	0.488	0.730	0.804
						Buy-and-Hold Returns				
Portfolio	*ut_5*	*inv2_sum5*	*bhb*	*tobc31*	*dliqbc31*	*bh1*	*bh2*	*bh3*	*bh4*	*bh5*
1	−0.588	0.705	0.531	0.134	0.922	0.169	0.291	0.372	0.589	0.641
2	−0.238	0.362	0.588	0.218	0.843	0.101	0.142	0.189	0.277	0.336
3	−0.040	0.213	0.601	0.249	2.114	0.025	0.109	0.177	0.224	0.304
4	0.355	0.137	0.629	0.301	2.078	0.060	0.140	0.169	0.177	0.237
1A	−0.351	0.385	0.011	−0.626	−0.399	−0.029	0.026	0.094	0.229	0.394

Table 7: The S&P bond ratings and the upfront transfer for SDOs

The bond rating refers to the issuing firm's new bond rating made by S&P. *ut_2*, *ut_3*, and *ut_5* represent the upfront transfer variables with the total investment made in 2, 3, and 5 years, respectively. For each upfront transfer variable, we form four portfolios. For each portfolio, we find the number of A-rating bonds, the number of B-rating bonds, and the number of C-rating bonds in the first year after issuing. According to the S&P bond rating rules, the A-rating bonds contain the following ratings: A, A+, A-, AA, AA+, AA-, and AAA. The B-rating and C-ratings bonds are defined similarly.

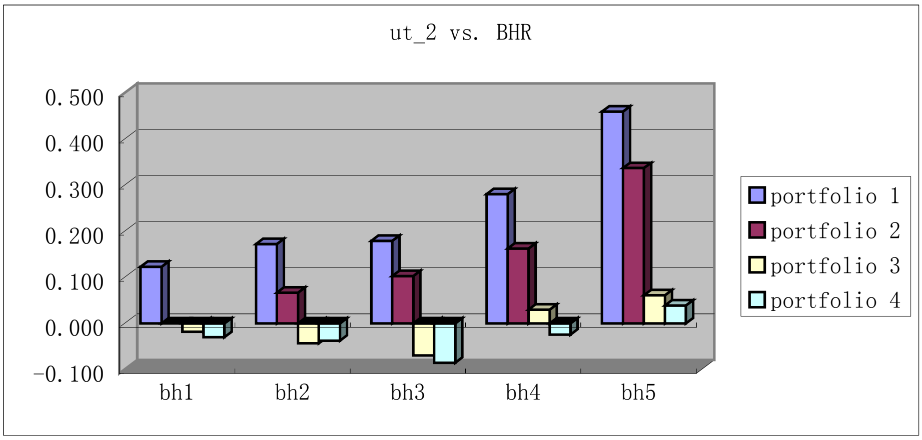
	ut_2		
Portfolio	The Number of A-rating	The Number of B-rating	The Number of C-rating
1	62	39	1
2	44	51	0
3	21	77	4
4	1	87	6

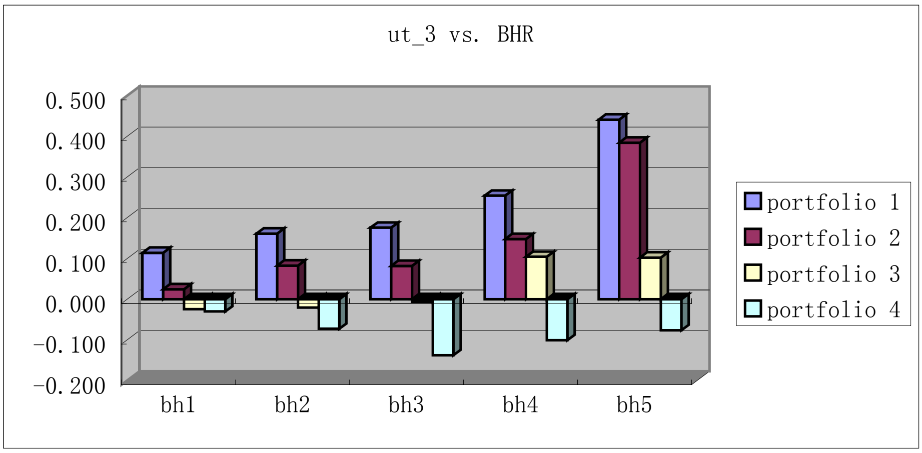
	ut_3		
Portfolio	The Number of A-rating	The Number of B-rating	The Number of C-rating
1	53	48	1
2	49	51	1
3	24	73	1
4	1	87	8

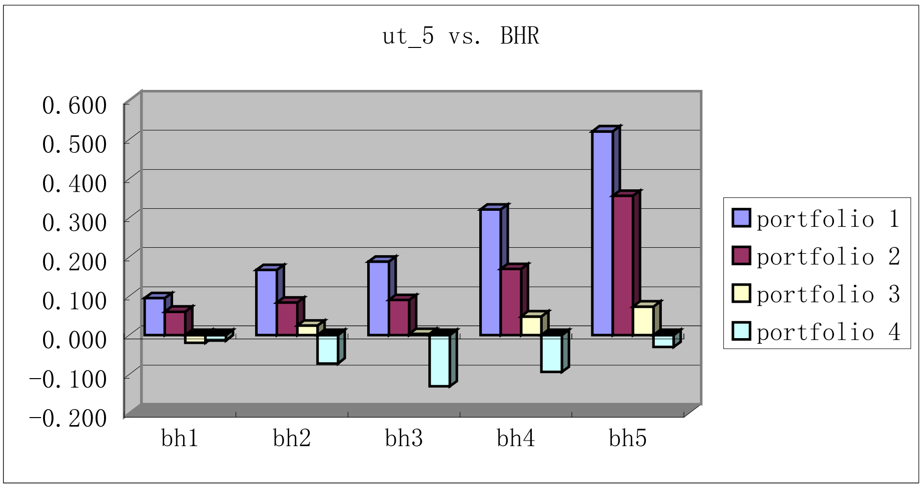
	ut_5		
Portfolio	The Number of A-rating	The Number of B-rating	The Number of C-rating
1	50	48	1
2	47	50	2
3	28	69	1
4	2	89	7

Graph 1: The upfront transfer and buy-and-hold returns (Primary SEOs)

ut_2, *ut_3*, and *ut_5* represent the upfront transfers with the total investment made in 2, 3, and 5 years, respectively. For each upfront transfer, we form four portfolios according to upfront transfer. The buy-and-hold returns *BH1*, *BH2*, *BH3*, *BH4*, and *BH5* are calculated for 1, 2, 3, 4, 5 years after offering, respectively.







Graph 2: The upfront transfer and buy-and-hold returns (SDOs)

ut_2, *ut_3*, and *ut_5* represent the upfront transfers with the total investment made in 2, 3, and 5 years, respectively. For each upfront transfer, we form four portfolios according to upfront transfer. The buy-and-hold returns *BH1*, *BH2*, *BH3*, *BH4*, and *BH5* are calculated for 1, 2, 3, 4, 5 years after offering, respectively.