

Why Issue Public Equity?

Cost & Benefits of IPOs

Why Is There Underpricing?

Hot Issues Markets

Why Issue Public Equity?

- 1. lower the cost of capital for the firm**
- 2. a "wealth constraint" prevents current owner-managers from financing the project**
- 3. provide liquidity for current stockholders**
- 4. shift monitoring costs from private lenders to the**
- 5. firm can learn from the information contained in stock price movements**

Why Issue Public Equity? (cont.)

1. Lower the cost of capital for the firm

- **one of the main lessons from portfolio theory is that risk reduction due to diversification lowers the risk (and required return) for stocks**
 - **this won't work if owner-manager has a large undiversified stake in the firm**
- **Amihud-Mendelson argument about lowering the cost of capital for the firm by reducing trading costs (increasing liquidity)**

Why Issue Public Equity? (cont.)

- ### **2. Firm has NPV > 0 project, but a "wealth constraint" (or lack of diversification) prevents current owner-managers from financing the project**

Why Issue Public Equity? (cont.)

- 3. To provide liquidity for current stockholders (for consumption or diversification)**
 - but if this were the only reason, the firm could register the securities and allow stockholders to sell some stock through a secondary offering
 - with a primary offering, more cash comes into the

- 4. Shift monitoring costs from private lenders to the**
 - if the costs of registration, filing, etc. are below the

Why Issue Public Equity? (cont.)

- 5. By creating a public market for the stock, the firm can learn from the information contained in stock price movements (useful for incentive compensation for employees, feedback on management decisions, etc.)**
 - also, subsequent (seasoned) equity offerings will be easier in the future because there will be a reliable secondary market price for the stock that potential buyers can

Why Issue Public Equity? (cont.)

- 5. By creating a public market for the stock, the firm can learn from the information contained in stock price movements (useful for incentive compensation for employees, feedback on management decisions, etc.)**
 - **creating a secondary trading market in the stock allows owner-managers to sell their stock in the future if they want consumption, liquidity, or diversification**
 - **usually have to wait 2 years after IPO -- Rule 144**

Costs of Initial Public Equity Offering

- 1. Disclosure of proprietary information**
 - **may be helpful to competitors, other contracting parties**
- 2. Jensen-Meckling agency costs of outside equity (shirking/incentive**
 - **plush carpets in the CEO's office**
- 3. Costs of reporting/filing with the S.E.C.**
 - **largely fixed**

Costs of an IPO (cont.)

4. Costs of corporate control

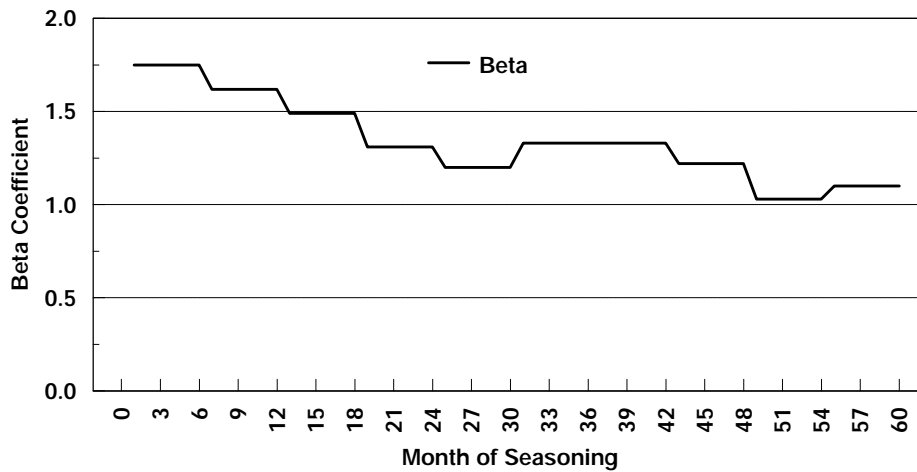
- outside stockholders can impose costs on managers if they feel that the firm isn't being managed in the stockholders' interests, even if they only represent a minority position
 - e.g., Hugh Hefner, the majority stockholder of Playboy, was sued for having too many perquisites by outside minority shareholders

Costs of an IPO (cont.)

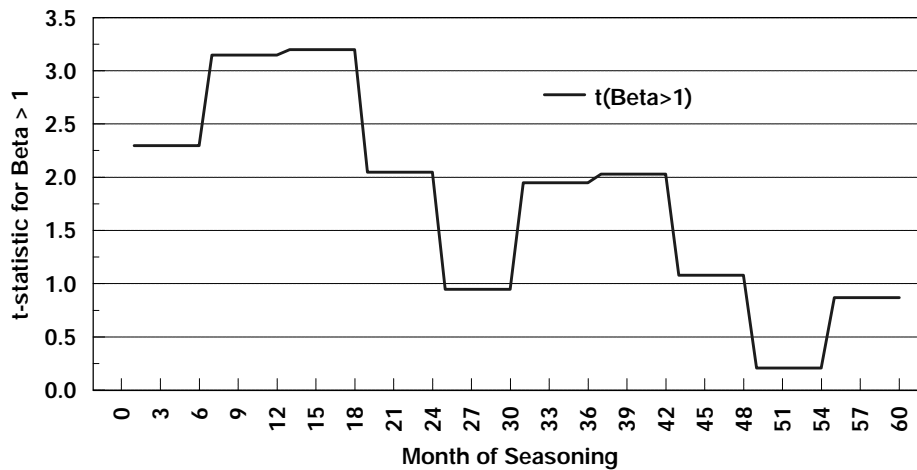
5. Underpricing

- Ibbotson (1975, JFE) found average abnormal returns in the first month after the IPO (starting at the IPO price) of 11.4 %
- he also found that the beta for IPO stocks falls from about 2.0 in the first month after the IPO to a little over 1.0 five years after the
- JBus) found average underpricing of 18.8% in first month after issue (5000 offerings 1960-82)

Ibbotson (JFE, 1975): Risk of IPO's as They Season



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Ibbotson (JFE, 1975): Abnormal Returns to IPO's (cont.)

(1) Risk is high for early months of

- falls to average levels after 4-5 years

(2) Abnormal returns are large in first

- much smaller (maybe negative?) after that

Why Is There Underpricing?

- 1. Compensation for underwriters**
- 2. Compensation for investors**
- 3. Selection bias**
- 4. Litigation Insurance**
- 5. Hot Issues Markets**

Why Is There Underpricing?

1. Compensation for underwriters

Underwriters with 'firm commitment'

- **guarantee a minimum price and number of shares sold to the issuing firm**
 - **underwriter bears risk that the IPO will not sell out at the offering price**

Underwriters feel an obligation to act as a market-maker for the stock after the IPO

- **don't want to be in the position of holding inventory of the stock if the prices falls after**

Compensation for underwriters

Frequently told story:

- **underwriters provide some unmeasurable service to IPO firm (e.g., cheap consulting)**
- **get underpricing in return**
- **give IPO profits to retail customers (institutional investors who are included in restricted allocations of underpriced stock)**
- **then receive different unmeasurable favors in return from these investors**
 - **(e.g., they agree to participate in offerings that are not underpriced)**

Compensation for underwriters

Muscarella and Vetsuypens, "A Simple Test of Baron's Model of IPO Underpricing,"

- **initial returns to stocks when major underwriters went public**
 - e.g., DLJ, Merrill Lynch, etc.
- **small sample, but no evidence that there is less underpricing when the issuing firm should be as smart as the underwriter setting the price**

Why Is There Underpricing? 2. Compensation for investors

Underwriters claim it is important to cultivate investors so that subsequent securities offerings will be successful

- **i.e., 'leave something on the table' so that buyers of the IPO will have an incentive to gamble on this unknown prospect**
- **Is there some model of marketing that predicts a higher long-run price as a function of "investor interest"?**

Compensation for investors (cont.)

How big would the beta of an average IPO have to be to explain a 10% one month

- Assume expected monthly market risk premium $E(R_m - R_f) = .7\%$
- the monthly risk-free rate is $.8\%$
- then to get $E(R_i) = 10\%$ requires $\beta = 13$

Why Is There Underpricing? 3. Selection bias

Excess returns are mismeasured

- in oversubscribed deals, the underwriter gets to allocate stock to whomever he wishes (not proportional to request by
- 'favored' customers get more of the best

Why Is There Underpricing?

3. Selection bias -- the Rock Model

Assume:

- (1) it is necessary to have some uninformed investors in the IPO market to raise enough capital to meet the supply needs
- (2) the uninformed investors can't tell which deals are hot, so they subscribe equally
- (3) investment bankers prorate oversubscribed deals
 - or worse, leave uninformed investors out of hot

3. the Rock Model (cont.)

For uninformed investors to earn a normal rate of return on their IPO investments (risk-adjusted), the informed investors must earn an abnormally high return

- so the average return across all investors looks abnormally high
- but uninformed investors can't realize these abnormal returns because of rationing

3. the Rock Model (cont.)

This raises the question of why underwriters give away the profits from underpricing to their 'informed'

Or why the 'informed' customers can recognize the hot deals better than the

3. the Rock Model (cont.)

It also raises the question of why the capital available to the 'informed' customers is not sufficient to supply the capital wants of corporations?

- **Why don't they raise investment pools to invest in IPOs and compete away the**

3. the Rock Model (cont.)

Finally, it takes the underpricing as given

- **Is the underwriter is making mistakes, and the informed investor can recognize the**
 - **Why don't they become underwriters?**
- **Do underwriters cross-subsidize corporate**
 - **Underprice some issues to attract investors into other issues that would be hard to sell**

3. the Rock Model (cont.)

Why would Microsoft, etc. agree to cross-subsidize some other firm's

It's hard to imagine that Goldman Sachs could provide enough cheap (unmeasured) services to Microsoft to make up for large amounts of

Why Is There Underpricing? 4. Litigation Insurance

Both the underwriter and the firm face liability if the stock price drops after the IPO

- **entrepreneurial law firms representing the class of IPO purchasers are highly likely to file suit claiming a failure to disclose some type of bad news in the IPO prospectus**
- **in essence, the IPO also contains a put option given to the purchasers of the stock**
 - **the firm has to buy back the shares if they fall too**
- **underpricing reduces the cost of the put option**

4. Litigation Insurance (cont.)

Tinic (J Fin, 1988) studies underpricing before and after the 1933 Securities Act

- **33 Act created federal filing requirements**
- **standardized the liability of underwriters and the issuing firms**
- **lowered the costs of subsequent litigation**
- **finds that underpricing is lower pre-1933**
 - **consistent with the litigation insurance**

Hot Issues Markets -- Underpricing Is a Bubble?

Jay Ritter looked at the "hot issue" market

Underpricing was greater if:

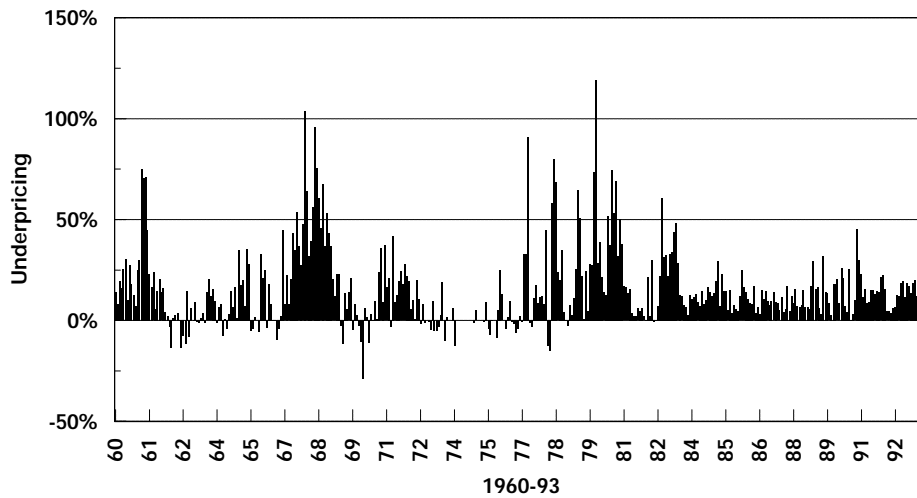
- (a) it is a startup company vs. one with past operating results (e.g., Indian Bingo)
- (b) the after-market standard deviation is
- (c) there was lots of underpricing in "penny stocks" in Denver in 1980
 - inexperienced underwriters were underpricing

Hot Issues Markets (cont.)

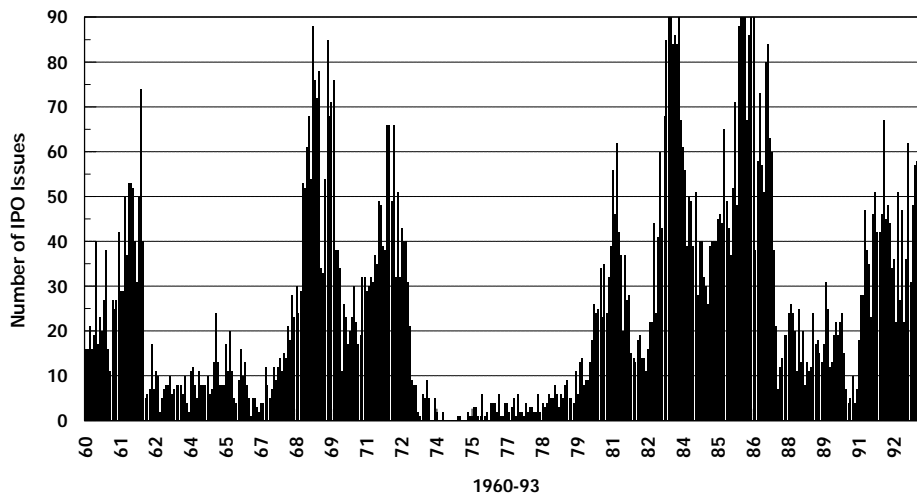
Ritter also found lots of variation in underpricing over time ('hot issues')

- see his figs. 1 & 2 showing percent average initial returns and number of offerings
- it looks like underpricing leads issues, then when underpricing disappears, after a few months the new issues markets dry up (no more new issues)

Ibbotson, Sindelar & Ritter (JACF, 1994) -- Hot Issues Markets



Ibbotson, Sindelar & Ritter (JACF, 1994) -- Hot Issues Markets



IPO Pricing: Summary

- risky investments (beta or std dev)

**Extent of underpricing varies through time
serial dependence -- "hot issues" markets**

Puzzle:

- insurance against litigation?

**After-market performance of IPO's is not great
[Ritter(JE, 1991)]**

IPO Pricing: Questions

- (1) If you were a CFO of a private company, how would you choose an investment**
- (2) How would you negotiate with your investment banker to try to minimize the mispricing problem with your IPO?**
- (3) As an investor, how might you take advantage of IPO underpricing?**