The Rights Offer Paradox

Professor B. Espen Eckbo

FIN501
2010

Key Issues

- What are frequently used flotation methods and their costs?
- Why do rights offer disappear?
- How do underwriters add value?
- What is the optimal flotation method for seasoned equity offerings under adverse selection?

SEO flotation methods

- Private Placements
- Bought Deal
- Rights Offerings
  - uninsured
  - with standby underwriting

- Public Sale via Underwriter
  - best effort contract
  - firm commitment
  - over-allotment option
  - book-building

Flotation Method Trends, US

- 1930s, primarily rights offers
- By 1980, rights had virtually disappeared on NYSE and Amex (still some on Nasdaq)
- Dividend reinvestment plans (DRIPs) and Employee stock option plans (ESOPs) have to some extent replaced rights issues
- Firm commitment underwriting contracts dominate best effort contracts (SEO, IPO)

Flotation Method Trends, In'tl

- Domestic issues in the Canadian, European and most pacific Rim countries are predominantly sold through rights
- There is a trend towards using firm commitment underwriting in these markets as well
- In Japan, the majority of SEOs are now issued using firm commitment underwriting

SEO Flotation costs

- Higher for SEOs than debt offerings
- Higher for convertibles than for non-convertible debt
- Higher for industrial issuers than for regulated utilities

- Uninsured rights: 1.5-2%
- Standby rights: 3.5-4%
- Firm commitments: 5-6%
- Shelf registration reduces costs

Flotation Costs

- Exhibit scale economies
- Increase with firm-specific risk
- Decline with shareholder concentration
- Rights have lowest direct cost also after controlling for above

- **Issue Underpricing:**
  15% for IPOs
  0% for SEOs (!)
- **Overallotment option:**
  Most common in IPOs
  Average value small
- **Failure Risk**:
  Highest for IPOs

SEO: The rights offer paradox

- Rights offers have the lowest direct flotation costs
- You avoid failure risk by setting a sufficiently low subscription price
- Shareholders capture the value of the right in the secondary market

⇨ So why do firms avoid rights?

Additional costs of rights

- Capital gains taxes
- Reduced liquidity
- Selling costs
- arbitrage activity increases failure risk
- anti-dilution clauses in convertibles induce wealth transfers

- However, these costs are too small to explain the preference for firms commitment underwriting
- *So, why do firms avoid rights?*

  - adverse selection story

The flotation method choice

- **Basic Premise 1:** Adverse selection
- **Basic premise 2:** Imperfect underwriter
- **Basic premise 3:** The fraction k of the issue purchased by current shareholders depend on factors beyond issuer's control (e.g., personal wealth constraints, demand for diversification, etc.). $k \in [0,1]$

Imperfect underwriter

- "Imperfect" in this context means that the underwriter, even after having examined the firm, cannot establish with certainty the true value of the issuer
- The underwriter probably can establish what the issuer will do with the offering proceeds (such as verifying the existence of an investment project). This is in of itself an important function

Underwriter effectiveness

- Overpriced firms will not pay for an *effective* underwriter which with a high probability will reveal the overvaluation to the market
- Underpriced firms will not pay for an *ineffective* underwriter which with only a low probability will reveal the undervaluation to the market

- Consequently, if the market believes that underwriters are effective, then the decision to hire an underwriter and issue equity signals that the issuer is above a certain minimum quality
- Moreover, since firms were priced according to the average firm quality before the issue announcement, this decision will cause an upward revision in the issuer's stock price
- The evidence of negative reaction to firm commitment SEOs means underwriters are not viewed as effective in the above sense
- That is, the pool of firms selecting firm commitment offerings contains some overpriced firms, while some underpriced firms decide not to issue and invest

Determinants of underwriter effectiveness

- The amount of resources spent investigating the issuer
- The transparency of the issuer
- The incentives of the underwriter to truthfully reveal negative information
- Underwriter reputation, prior commitment to aftermarket price support, and legal liability rules all affect these incentives

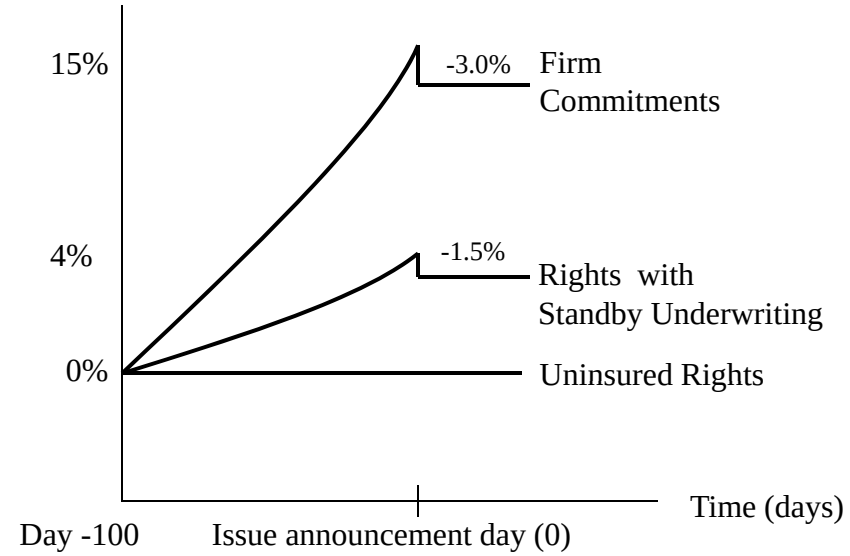
Rights vs Underwritten Offerings

- Let *k* be the proportion of the issue that is taken up by current shareholders
- If *k=1*, outside investors do not participate
- If outside investors do not participate, there is no potential for wealth transfers between current shareholders and outside investors

the firm will issue and invest regardless of whether it is undervalued or overvalued

- When k=1, firms will sell new shares to current shareholders regardless of whether or not these are correctly priced since the degree of mispricing is irrelevant.
- If you owned 10% of the firm's shares before the issue, and you buy your pro rata share, you own 10% of the shares after the issue as well
- Since, when k=1, no firm will prefer not to issue, there is no adverse selection
- Since there is no adverse selection, there also is no negative market reaction to the issue announcement

SEO price drop by flotation method

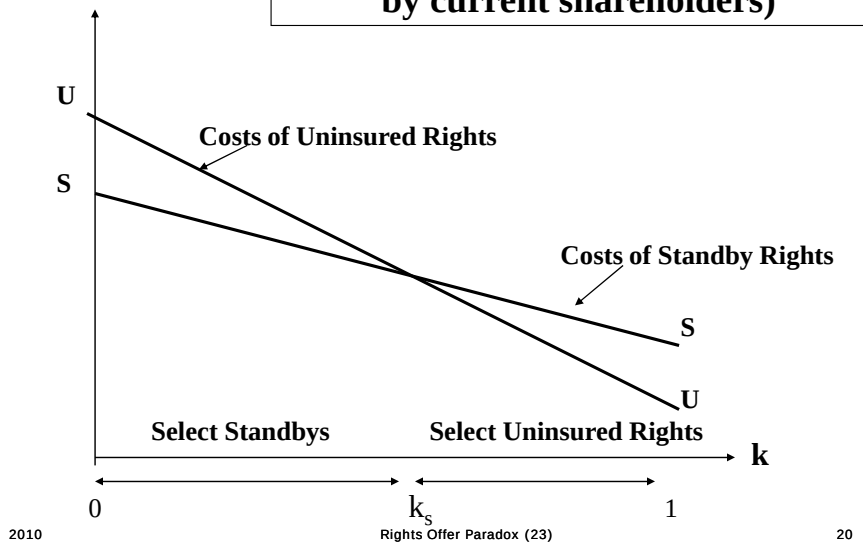


k-value: *(observable)* / ***Quality*** *(unobservable)*	**High k-value**	**Low k-value** (EU=*Effective underwriter* IU=*Ineffective u.*)	
High Quality (undervalued)	***Use Uninsured Rights***	(i) EU: ***Use Standby rights***	(ii) IU: ***Don't issue***
Low Quality (overvalued)	***Use Uninsured Rights***	(i) EU: ***Don't issue***	(ii) IU: ***Use Standby Rights***
Market Inferences/ Ann.effect (AR)	No Adverse selection (AS) / AR = 0	(i) EU: *Positive* selection AR>0	(ii) IU: High AS AR<0

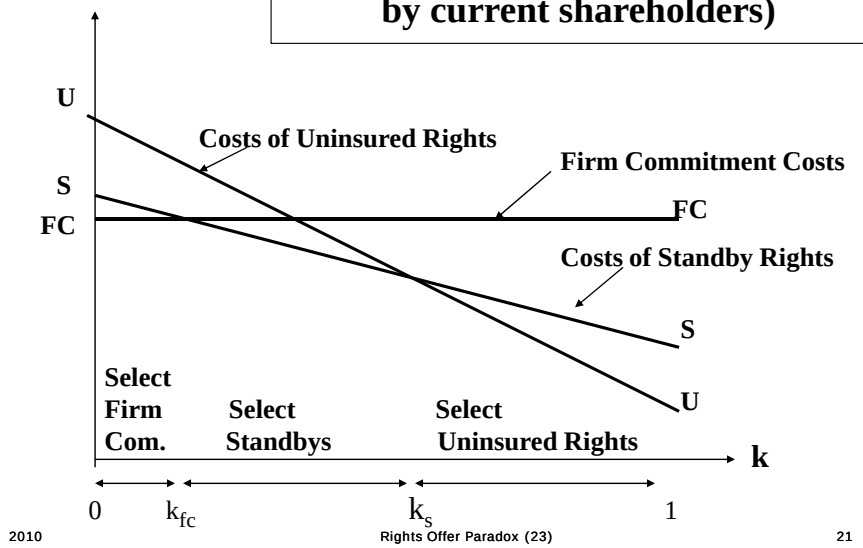
Flotation costs and *k*

- The lower *k*, the greater the adverse selection costs of the issue
- The lower *k*, the greater the incentive to hire an underwriter
- The lower *k*, the greater the adverse selection facing the *underwriter*, and the greater the underwriter fee
- For a given *k*, the effect of underwriter certification is to reduce the negative market reaction to the issue

When to Underwrite a Rights Offer?
(k = percent of issue purchased by current shareholders)



Rights versus Underwriting
(k = percent of issue purchased by current shareholders)



Optimal flotation method

From the figure, the decision rule is:

- For $k \in [0, k_{fc}]$: Select Firm Commitment U.
- For $k \in [k_{fc}, k_s]$: Select Standby Rights
- For $k \in [k_s, 1]$: Select Uninsured Rights

- Note that a Private Placement, if feasible, likely dominates all of the above methods

Predictive Power of AS model

The adverse selection (AS) model helps explain:

- Why firms switch to underwriting as growth increases ownership dispersion
- Why rights offers are still used in foreign markets (with smaller firms)
- Why utilities use rights more often than industrials
- Why the market reaction to underwritten offerings is negative, while it's zero for uninsured rights
- Why the market reaction to SPOs is more negative the greater the security's return variance
- Why the prior stock-price runup is greatest for firm commitments

Figure 1
The sequential game between equity issuers and investors

Issuers select the flotation method which maximizes the net issue benefit for current shareholders. The menu of flotation methods include uninsured rights offering, rights offering with standby underwriting, and private placement. In a private placement and a standby underwritten offering, the issuer undergoes a noisy but informative quality inspection, followed by "offerprice bargaining". The result of the inspection is private information, but the underwriter/private placement investor know whether they inspect first or second. If an inspection falsely concludes the issuer is of the low type, no offer price is acceptable to both the issuer and the investor, and offerprice bargaing fails. The issuer then moves on to the next subgame. The issue game ends if offerprice bargaining succeeds, or if either the "no issue" or the "uninsured rights" nodes are chosen.

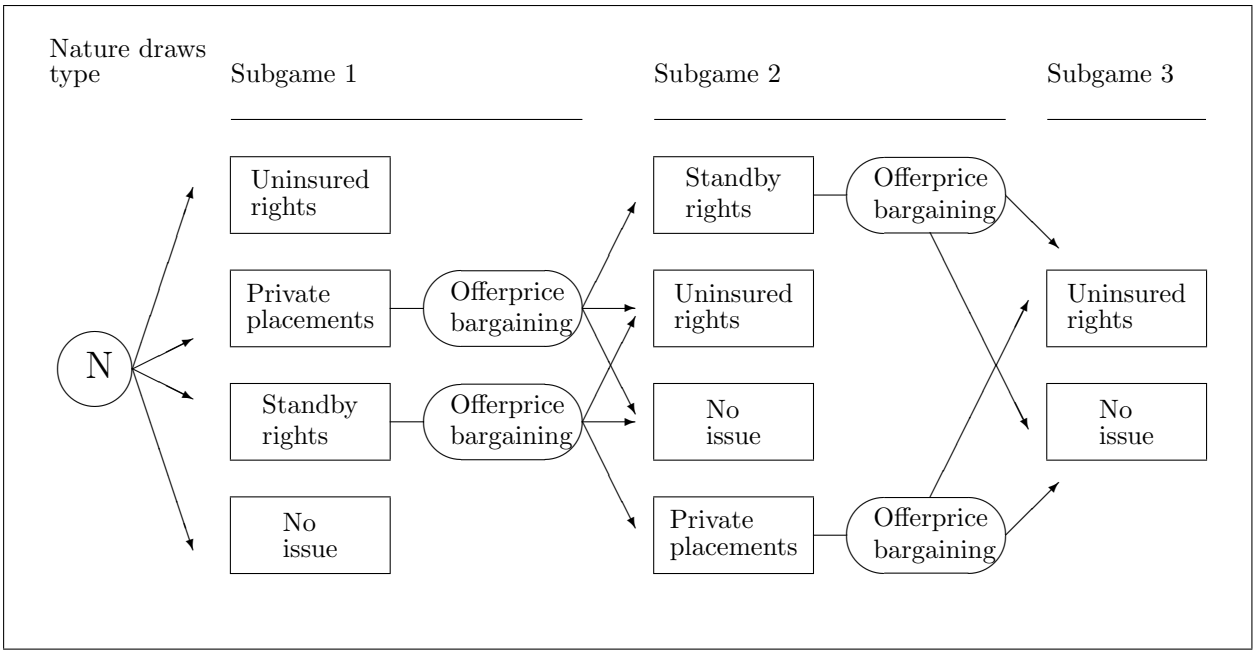


Figure 2
Illustration of Pareto dominating equilibria.

This figure uses a numerical example. The horizontal axis plots shareholder takeup k. The vertical axis plots total expected issue cost $C(k)$ for each of three alternative issue strategies. $C(k)$—which is linear in k—incorporates the issuer's participation constraint. The steepest line is $C(k)$ for the "move straight to uninsured rights and issue" strategy $\{ur\}$. The middle line is $C(k)$ for the strategy "start with standby rights, and if rejected try private placements, and if rejected again issue using uninsured rights" $\{sr,\ pp,\ ur\}$. The third and most horizontal line is $C(k)$ for the "start with private placement, and if rejected try standby rights, and if rejected again issue using uninsured rights" strategy $\{pp,\ sr,\ ur\}$.

The critical values of k are denoted k_{pp} and k_{sr}. The optimal issue strategy is one that minimizes $C(k)$ conditional on k, i.e., the inner envelope of the three separate cost curves. Thus, it is an equilibrium for all issuers with shareholder takeup less than the critical value of $k_{pp} = 0.51$ to attempt a private placement first. When k is between $k_{pp} = 0.51$ and $k_{sr} = 0.62$, the equilibrium strategy is to attempt a standby rights offering first, while all issuers with k greater than $k_{sr} = 0.62$ go directly to the uninsured rights offer.