

Private Placements and Wealth Constraints of Owner-Managers

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Private placements of Equity to Owner-Managers: U.S.

Private placements of equity to owner-managers are infrequent in the US. Why?

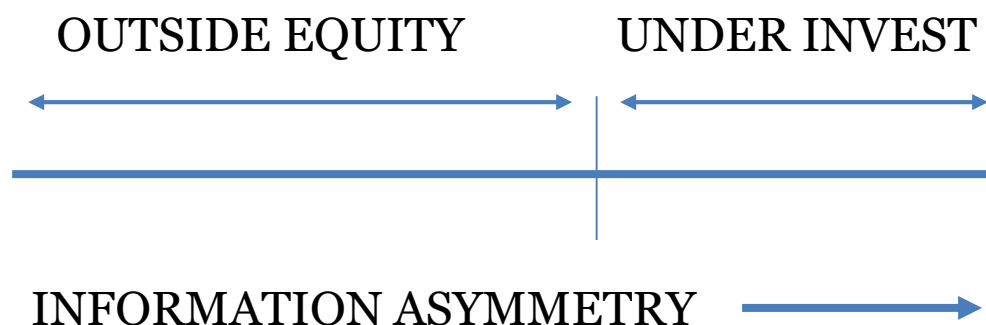
- Managerial Risk Aversion → Diversification → aversion to own company shares
- Wealth constraints → infeasible to own significant amount of company shares

→ Managers as a source of financing are virtually ruled out.

→ Motivation for Myers-Majluf.

Myers Majluf Model

UNDERINVESTMENT IS caused by
ASYMMETRIC INFORMATION



Elsewhere...

Private placements of equity to managers are quite common outside of the US, particularly in Asia. Why?

- Significant fraction of economy is driven by family businesses
 - Stand-alone companies
 - Group companies

➔ Owner-managers are an important source of financing in many economies.

Key Concern: Managerial Self-Dealing

1. Timing

- Asymmetric information helps managers

2. Manipulation

- Possible expropriation of shareholders

→ Managerial Self Dealing

- Regulation:
- 1) Insiders are prohibited or
 - 2) Issue price restrictions

Securities and Exchange Board of India (SEBI) Issue Price Regulations:

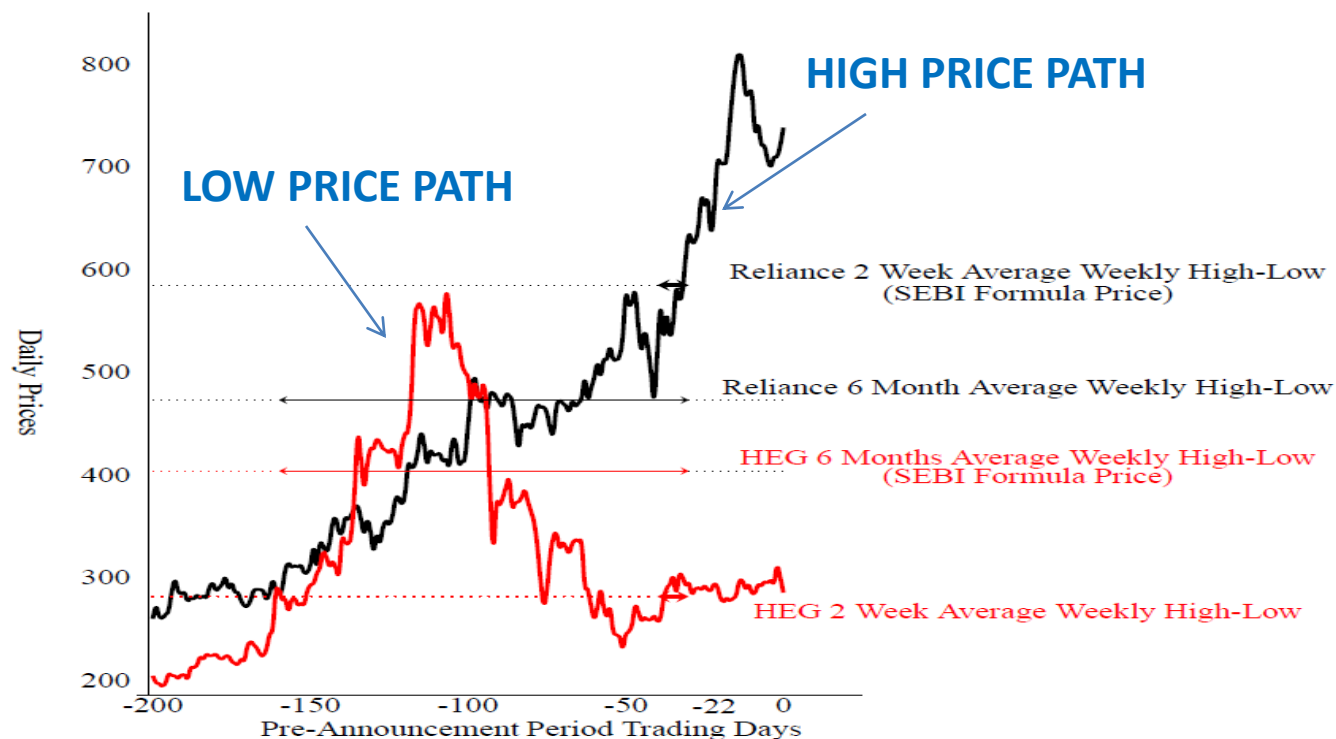


Figure 2: SEBI Formula Pricing Mechanism

The above figure depicts an example of the preferential allotments of two firms, namely Reliance Infra Limited and HEG Limited. The figure has number of trading days before the announcement date on the X-axis and the corresponding daily prices for those days on the Y-axis. As per the SEBI Formula price, the price should be the *higher* of either the two week average of the weekly High-Low prices or the six months average of the weekly High-Low prices (prior to 22 days before the announcement date). Hence for Reliance Infra the two weeks average weekly High-Low price is the formula price, whereas, for HEG, the six months average weekly High-Low price is the formula price.

Securities and Exchange Board of India (SEBI) Regulations Lower Bound on Issue Price in Preferential Allotments

Not less than the higher of

(i) the average of the High and Low closing prices during **six months** before the relevant date

(ii) the average of the High and the Low closing prices during **2 weeks** before the relevant date

Post Aug 2004, closing prices are replaced with daily VWAP



OUR CONTRIBUTION

- We develop a theoretical model, by extending Myers and Majluf (1984), to show that **underinvestment can be mitigated, if not eliminated, by issuing equity through private placements to owner managers.**
- We extend the literature by addressing **corporate financing choices unique to emerging markets** and quite different from theories proposed by keeping developed markets in the context.
- We provide **empirical evidence supporting** the Undervaluation Hypothesis of the **asymmetric information model** using 1064 private placements issued in India during years 2001-2018.
- **Our results support Undervaluation Hypothesis even after controlling for alternative explanations** based on Monitoring, Certification, and Entrenchment hypotheses, and also the Business Group Hypothesis and the Manipulation Revelation Hypothesis.



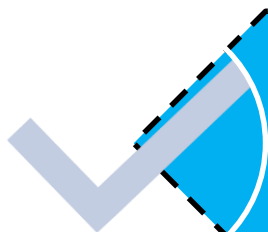
Asset Value



Assets in place (s)



NPV of project
(NPV)



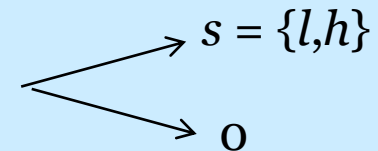
Hidden Value (t)

Model Description (1)

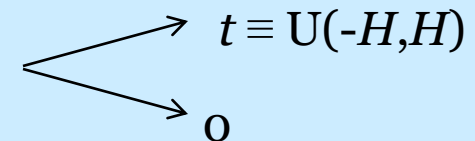
An Asymmetric Information Model of Private Placement of Equity to Owner-managers:

Firm Value:

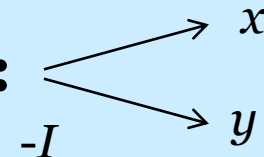
Value due to Assets-in-place (*AIP*)



Hidden Value (*HV*):
managers privately observe t



NPV of an investment opportunity (*IO*):

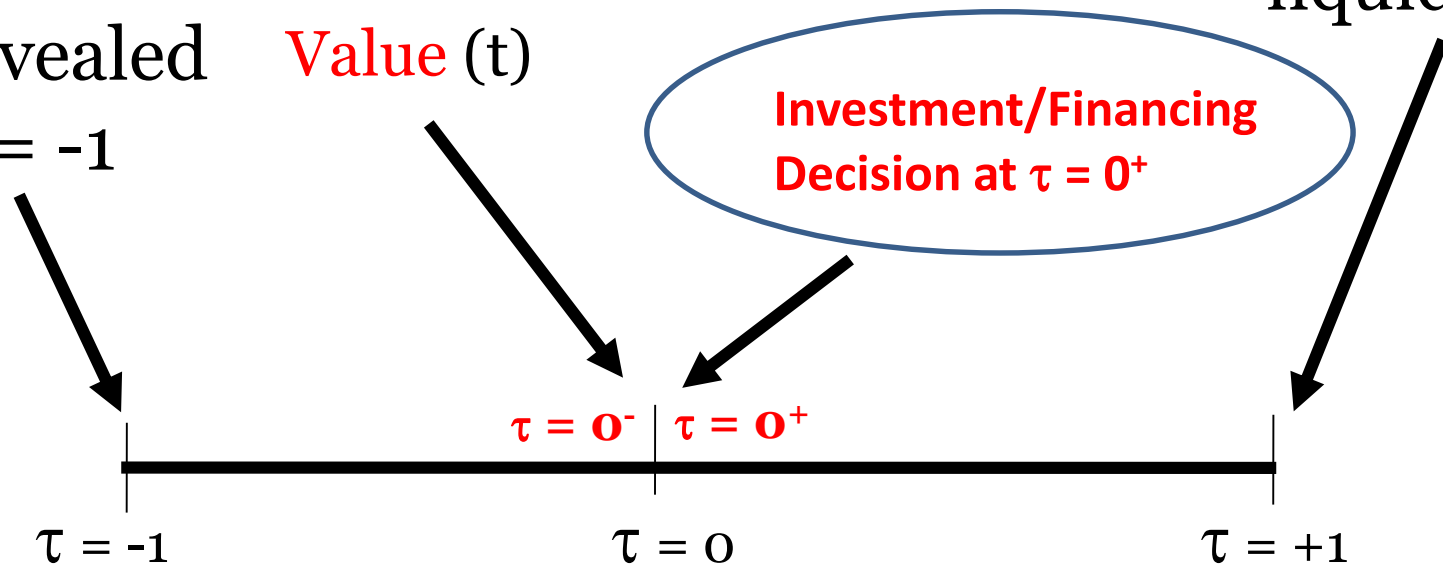


Model Description (2)

AIP:
 $s = h$ or l
 is revealed
 at $\tau = -1$

A **positive NPV**
 project arises;
 Owner-managers
 “sees” **Hidden**
Value (t)

All payoffs
 realized
 and firms
 liquidated



Three Date Model

Caveats

- Information asymmetry about Hidden Value only
- Assets-in-place, Hidden Value, and NPV can be modeled in a simpler manner than as a binary value (s,o).
 - just ensures that complete resolution of uncertainty occurs on terminal date
- Deterministic component of assets-in-place ensures non-negative asset values.
- Zero risk free rate and risk neutral investors.

Managerial Decision at Date $\tau = 0$

- Owner-manager owns a fraction α of the firm
- Owner-manager has a wealth constraint
 $\gamma = R/I < 1$; R is wealth, I is investment
- Owner-managers observes signal (t) of Hidden Value (HV), which takes the form $\{t, o\}$.
- Owner-manager's investment-financing decision:
 1. Whether to invest in the project or not (UI)
 2. If the decision is to invest, then whether to finance it with Outside Equity (OE), Rights Offering (RO), Preferential Allotment (PA) – fully owner-manager or joint with institutional investor if wealth constraints are there

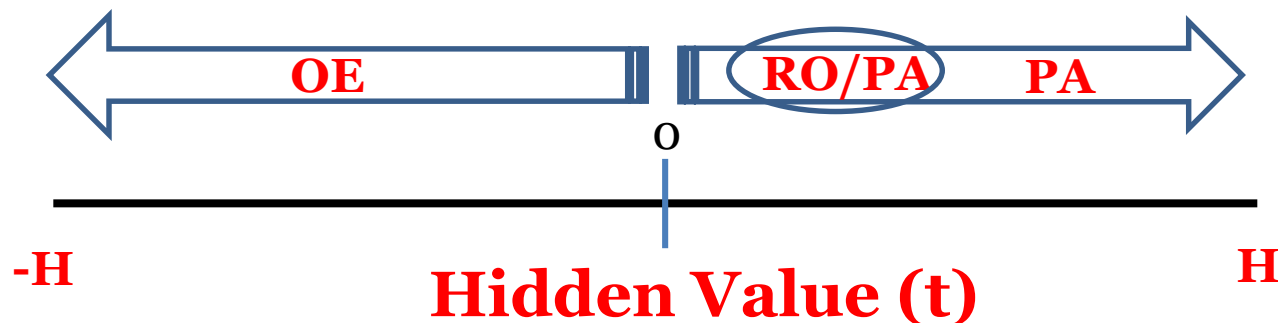
KEY TRADEOFFS IN THE MODEL

- Dilution effect $t < 0$
- Reverse dilution effect if $t > 0$
- Additional financing costs due to SEBI rule
- Wealth Constraint $\gamma < \alpha$ vs. $\gamma \geq \alpha$
- Individual rationality constraint of institutional investors in a joint preferential allotment

MAIN PROPOSITION (i): $\gamma \geq \alpha$

MILD WEALTH CONSTRAINTS

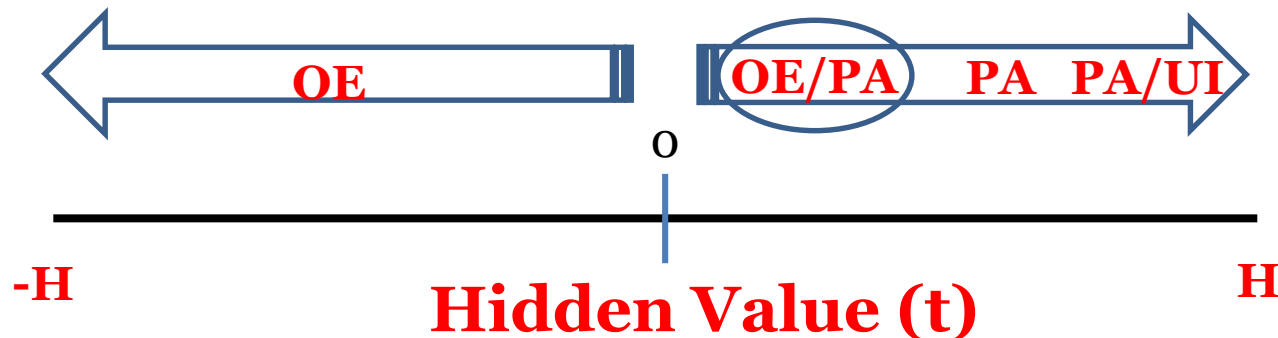
(i) Under mild wealth constraints, i.e., $\alpha \leq \gamma \leq 1$, there is no underinvestment in this economy, i.e., all positive NPV projects will be taken up. The owner-managers' investment-financing decision can be summarized by a threshold cutoff, $\hat{t}(s) = \frac{h-s}{4}$. For all $t < 0$, the owner-manager chooses the outside equity alternative (OE), for all $t : 0 < t \leq \hat{t}(s)$, the owner-manager prefers the rights offering alternative (RO), and for all $t \geq \hat{t}(s)$, the owner-manager chooses the preferential allotment alternative (PA).



MAIN PROPOSITION (ii): $\gamma < \alpha$

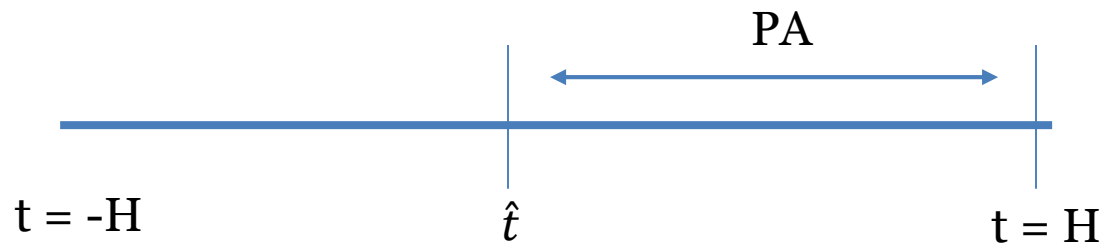
SEVERE WEALTH CONSTRAINTS

(ii) Under severe wealth constraints, i.e., $0 \leq \gamma < \alpha$, underinvestment may arise in the economy. The owner-managers' investment-financing decision can be summarized by two threshold cutoffs, $\hat{t}(s) = \frac{h-s}{4}$ and $\bar{t}(s) = \left[\frac{h-s}{4} + 2 \left(\frac{NPV}{I} \right) \left(\frac{1}{1-\frac{\gamma}{\alpha}} \right) \left(\frac{h+3s}{8} + \frac{x+y}{2} \right) \right]$. For all $t < \hat{t}(s)$, the owner-manager chooses the outside equity alternative (OE), for all $t : \hat{t}(s) \leq t \leq \bar{t}(s)$, the owner-manager chooses the preferential allotment (PA), and for all $t > \bar{t}(s)$, the owner-manager underinvests.

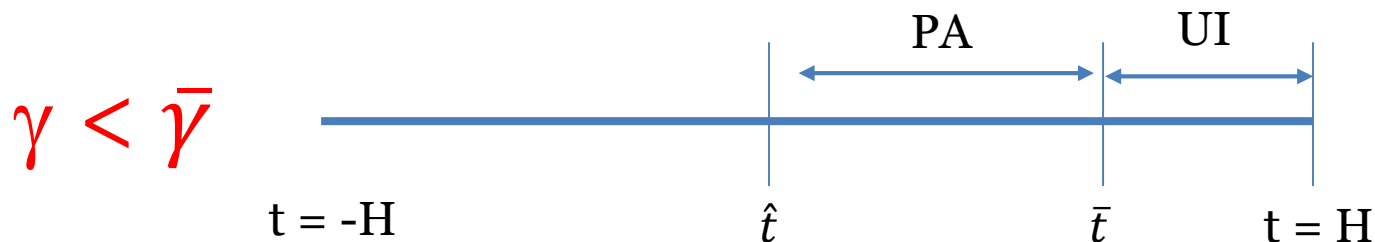


Impact of Wealth Constraints

- Mild wealth constraints [PA: $(\hat{t}, H)$]

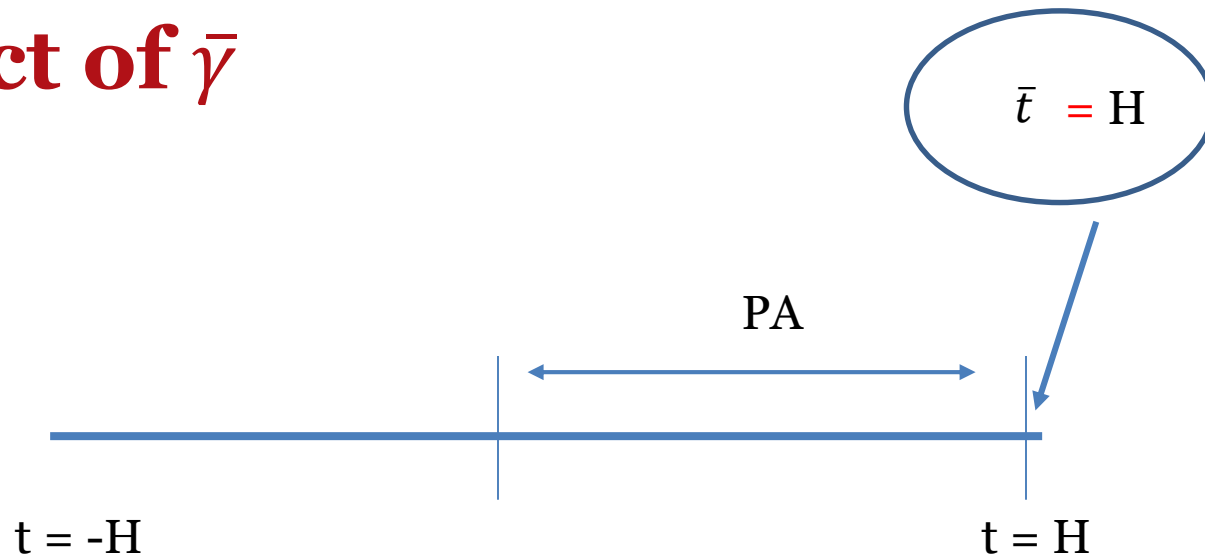


- Severe Wealth Constraints [PA: $(\hat{t}, \bar{t})$]

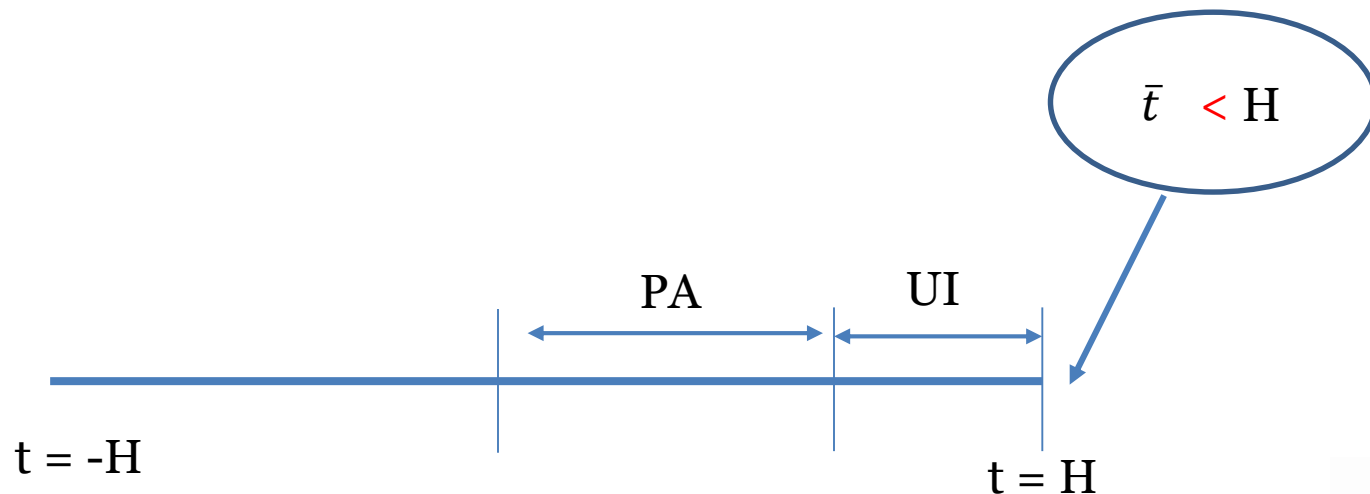


Severe Wealth Constraints: Impact of $\bar{\gamma}$

- $\gamma > \bar{\gamma}$

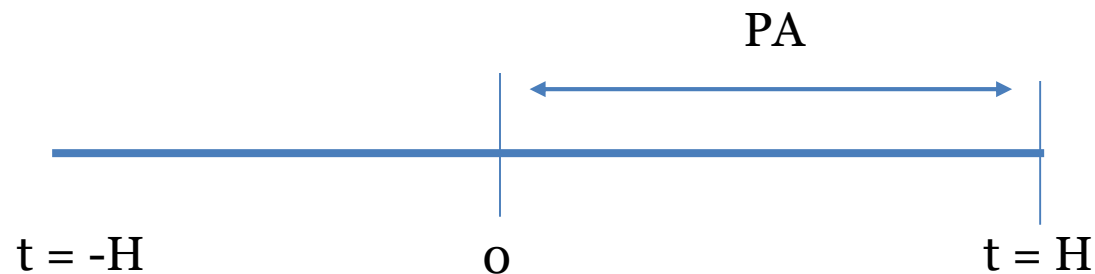


- $\gamma < \bar{\gamma}$

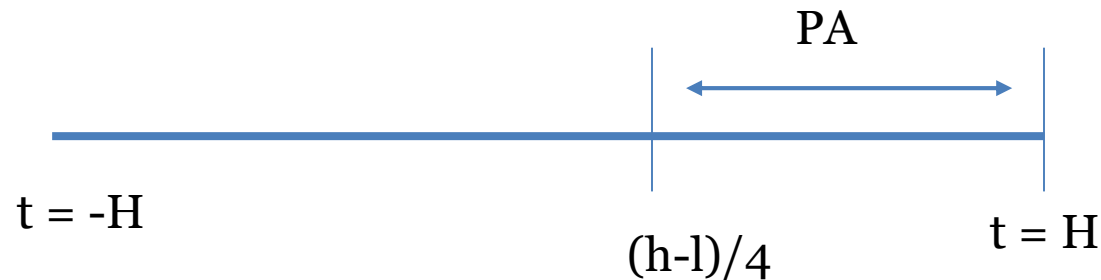


Impact of SEBI Pricing Restrictions

- High Price Path



- Low Price Path



EMPIRICAL IMPLICATIONS

Announcement Period Reaction should be positive

$$\Delta P(s)|_{\gamma \geq \alpha} = \frac{1}{16}(h-s) + \frac{H}{4} > 0, s = l, h \quad (1)$$

$$\Delta P(s)|_{\gamma < \alpha} = \frac{h-s}{8} + \left(\frac{1}{1-\frac{\gamma}{\alpha}} \right) \frac{NPV}{2I} \left(\frac{h+3s}{8} + \frac{x+y}{2} \right) > 0, s = l, h \quad (2)$$

Announcement Period Reaction should be higher for preferential allotments for owner-managers facing mild wealth constraints

$$\Delta P|_{\gamma < \alpha} \leq \Delta P|_{\gamma \geq \alpha} \quad (3)$$

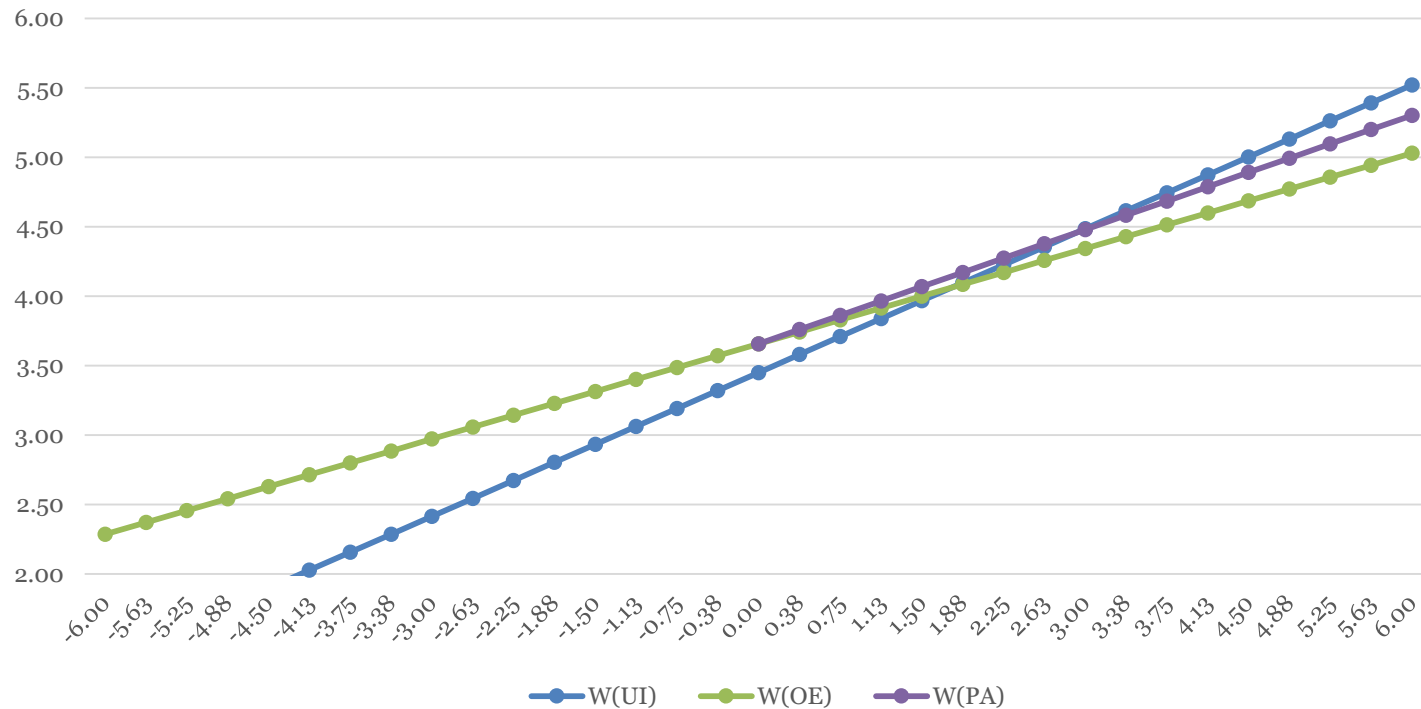
The above inequality is strict if

$$\gamma < \gamma = \alpha \left[1 - \frac{2 \frac{NPV}{I} \left(\frac{h+3s}{8} + \frac{x+y}{2} \right)}{H - \frac{h-s}{4}} \right]. \quad (4)$$

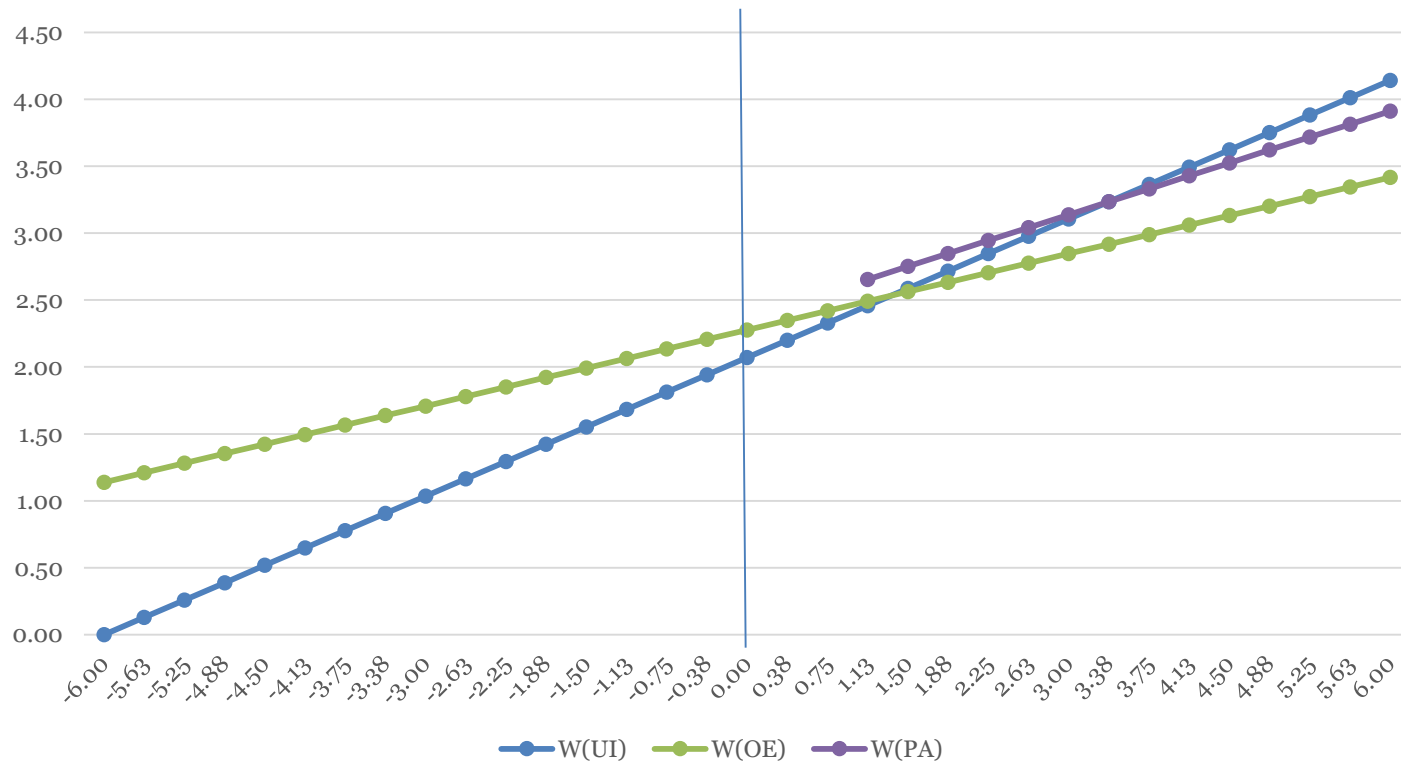
Announcement Period Reaction between high price path and low price path preferential allotments should be greater under severe wealth constraints

$$[\Delta P(s = h) - \Delta P(s = l)]|_{\gamma < \alpha} \geq [\Delta P(s = h) - \Delta P(s = l)]|_{\gamma \geq \alpha} \quad (5)$$

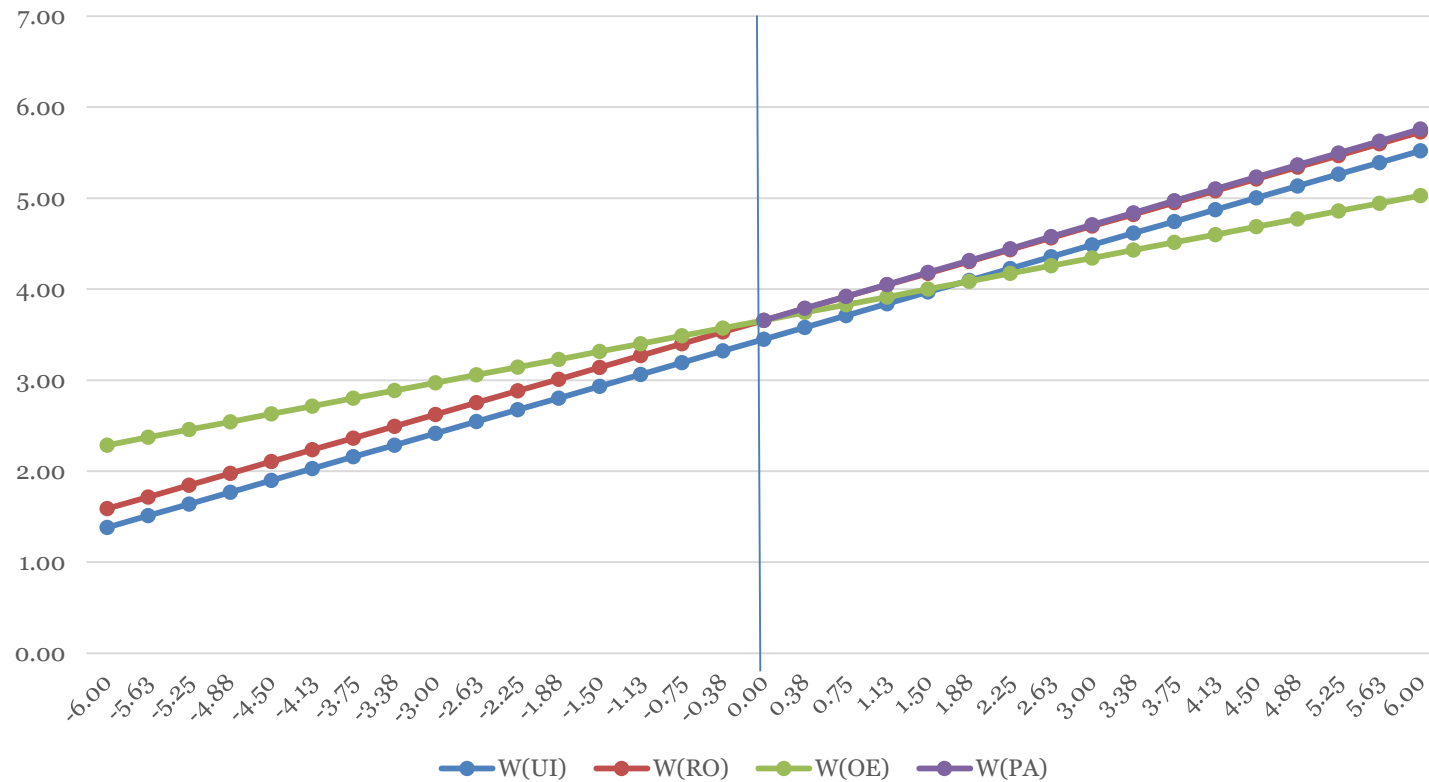
$$s = h, \quad 0 < \gamma < \alpha, \quad \bar{\gamma} = 0.485556$$



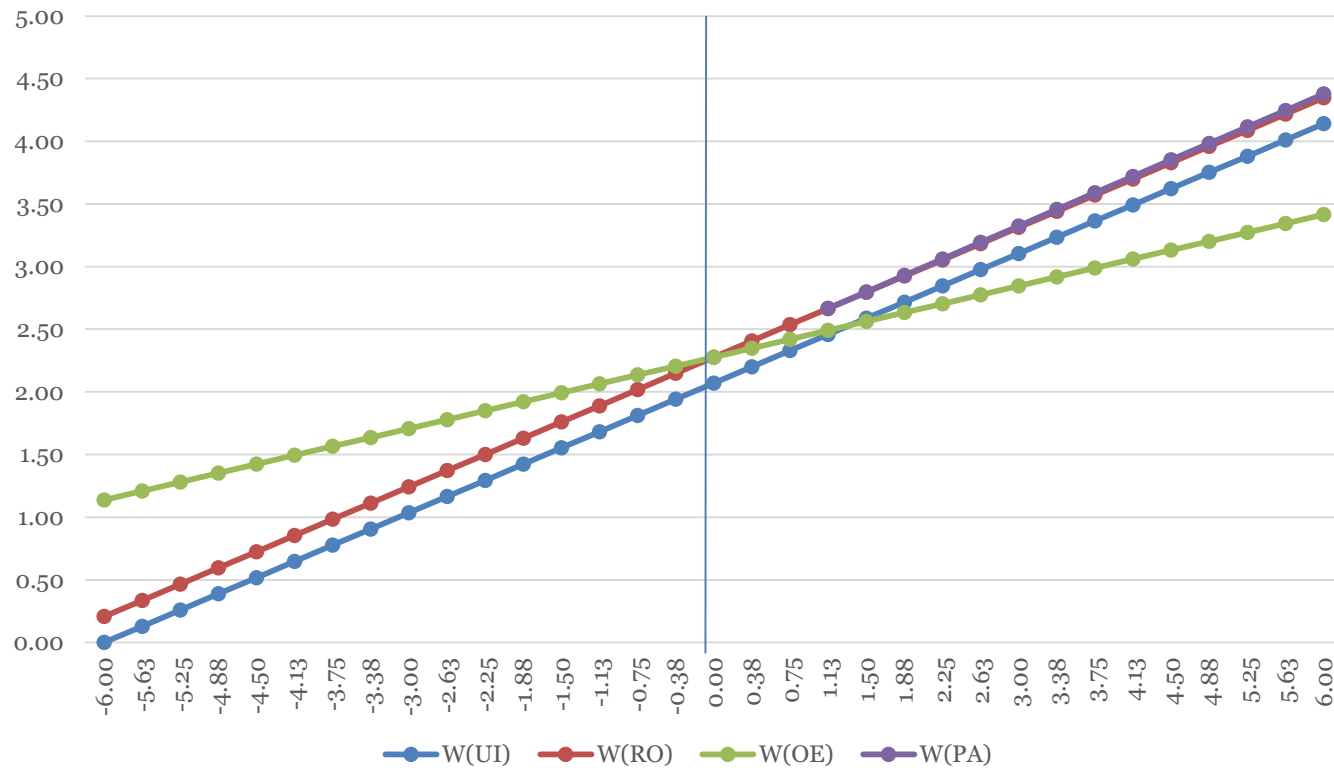
$$s = 1, 0 < \gamma < \alpha, \bar{\gamma} = 0.168667$$



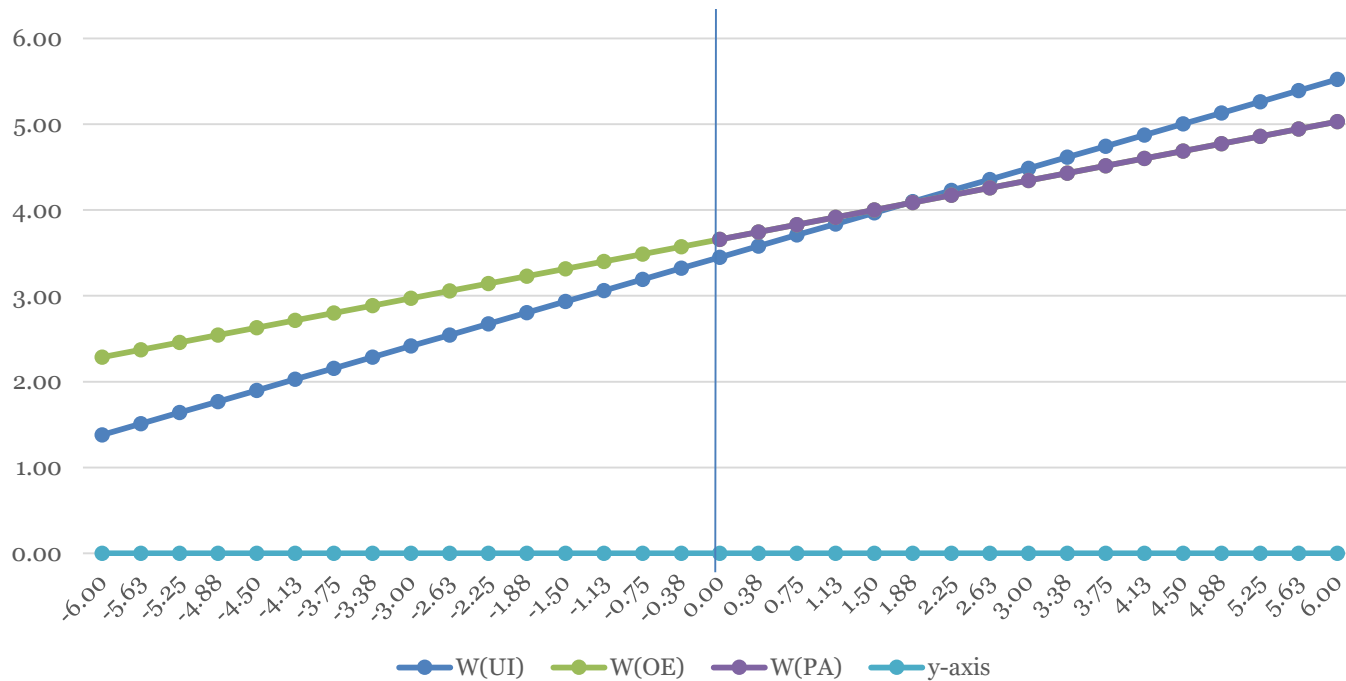
$$s = h, \alpha \leq \gamma < 1$$



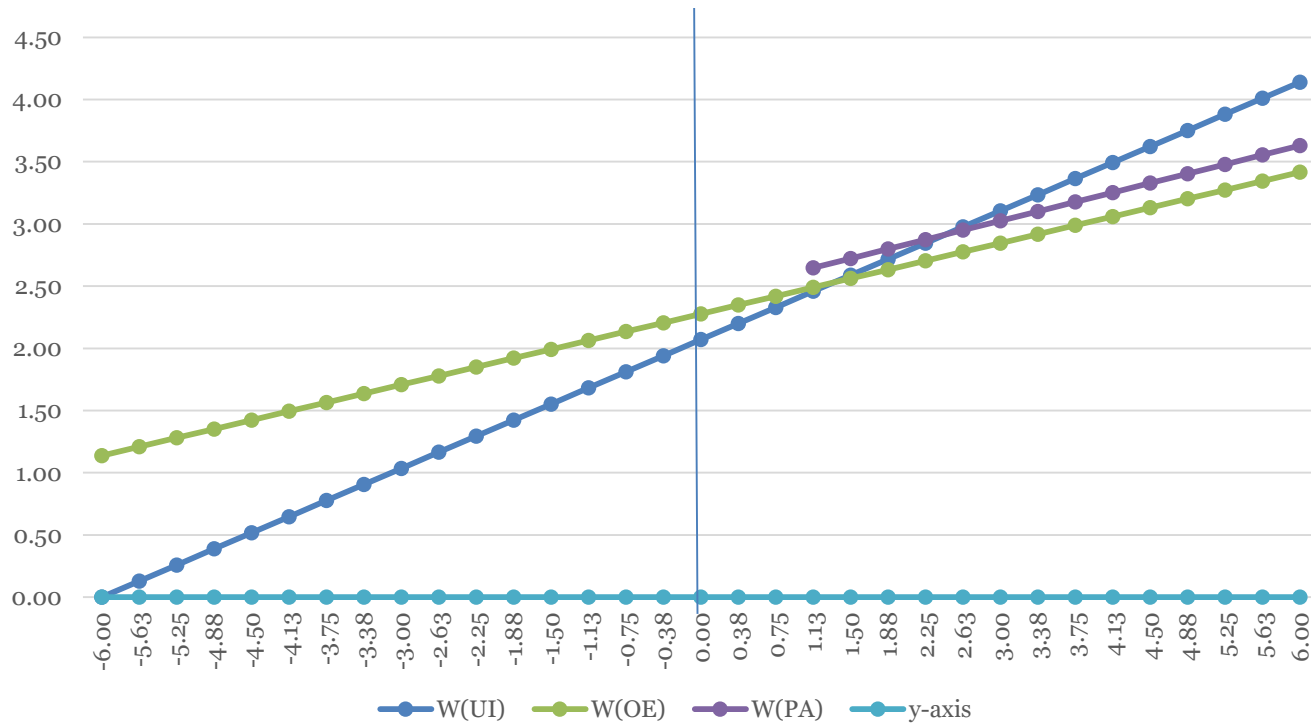
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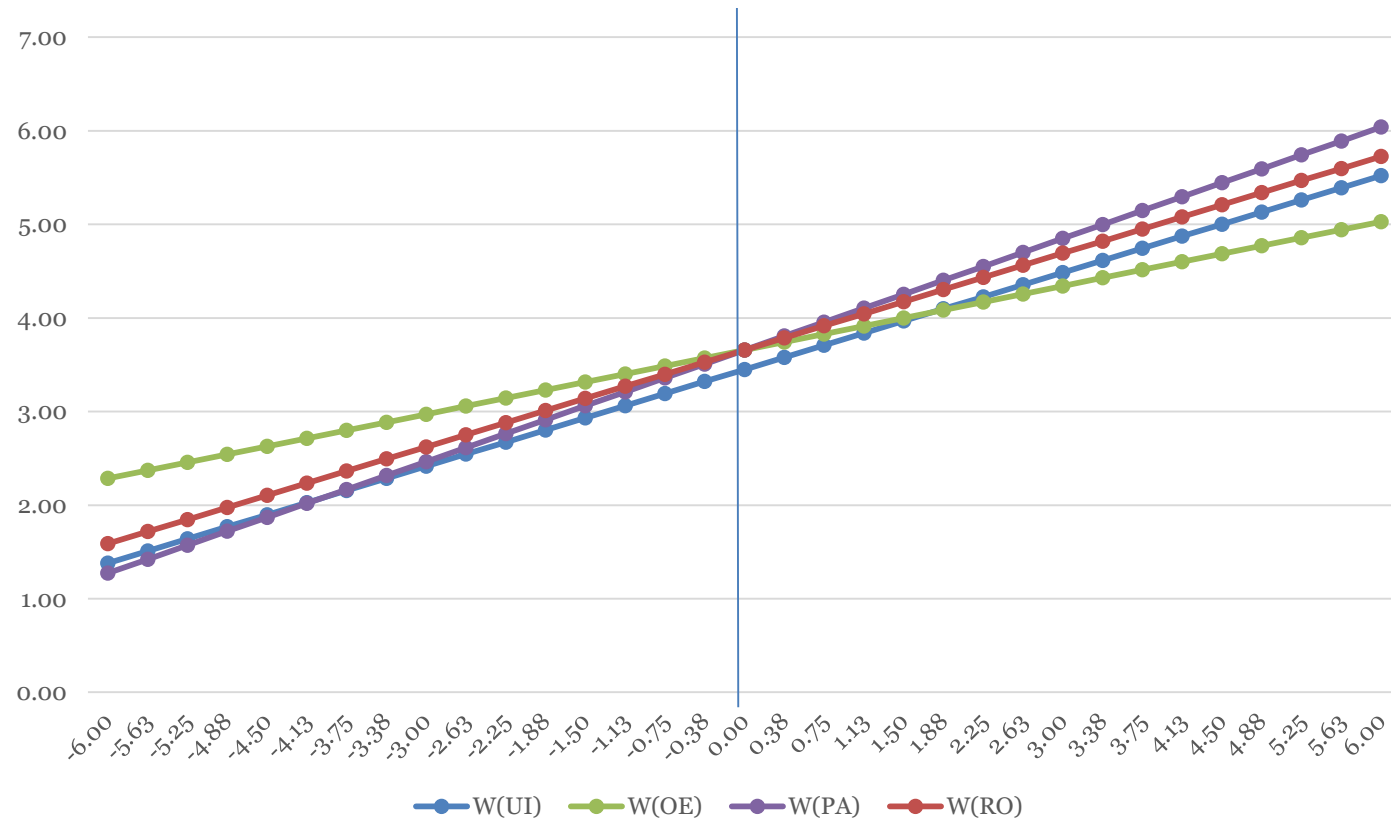
$$s = h, \gamma = 0, \bar{\gamma} = 0.485556$$



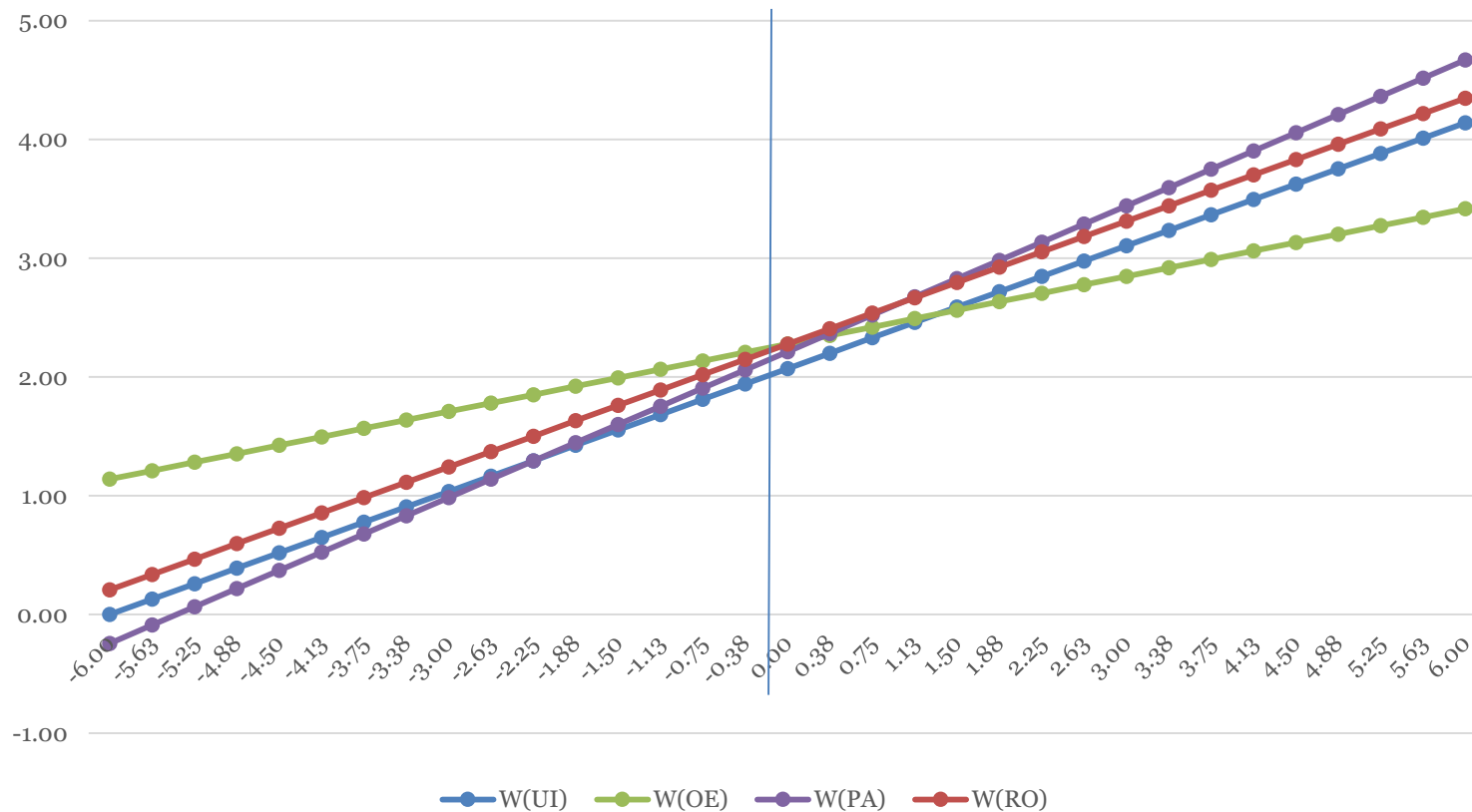
$$s = 1, \gamma = 0, \bar{\gamma} = 0.168667$$



$$s = h, \gamma = 1$$



$$s = 1, \gamma = 1$$



UNDERVALUATION HYPOTHESES (1)

P1. The announcement period price reaction to preferential allotments should be positive.

P2. The announcement price reaction of pure institutional investor preferential allotments ($\gamma = 0$) should be lower than that of pure owner-manager preferential allotments ($\gamma = 1$).

UNDERVALUATION HYPOTHESES (2)

P3. The announcement period reaction to preferential allotments should be (a) negatively related to the market capitalization of the firm, (b) positively related to volatility of returns, if it proxies for information asymmetry, (c) negatively related to the volatility of returns, if it proxies for the uncertainty in the private information of owner-managers of the firm, and (d) unrelated to the owner-managers' pre-announcement shareholdings.

P4. The difference in announcement period reaction to preferential allotments under a high price path and a low price path should be greater for pure institutional investor preferential allotments ($\gamma = 0$) than for pure owner-manager preferential allotments ($\gamma = 1$).

UNDERVALUATION HYPOTHESES

- P1. The announcement period price reaction to preferential allotments should be positive.*
- P2. The announcement price reaction of pure institutional investor preferential allotments ($\gamma = 0$) should be lower than that of pure owner-manager preferential allotments ($\gamma = 1$).*
- P3. The announcement period reaction to preferential allotments should be (a) negatively related to the market capitalization of the firm, (b) positively related to volatility of returns, if it proxies for information asymmetry, (c) negatively related to the volatility of returns, if it proxies for the uncertainty in the private information of owner-managers of the firm, and (d) unrelated to the owner-managers' pre-announcement shareholdings.*
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UNDERVALUATION HYPOTHESES

- P1. The announcement period price reaction to preferential allotments should be positive.*
- P2. The announcement price reaction of pure institutional investor preferential allotments ($\gamma = 0$) should be lower than that of pure owner-manager preferential allotments ($\gamma = 1$).*
- P3. The announcement period reaction to preferential allotments should be (a) negatively related to the market capitalization of the firm, (b) positively related to volatility of returns (if it proxies for information asymmetry), (c) negatively related to the volatility of returns (if it proxies for the uncertainty in the private information of owner-managers of the firm), and (d) unrelated to the owner-managers' pre-announcement shareholdings.*
- P4. The difference in announcement period reaction to preferential allotments under a high price path and a low price path should be greater for pure institutional investor preferential allotments ($\gamma = 0$) than for pure owner-manager preferential allotments ($\gamma = 1$).*

Barclay (2007) on Private Placements

- Positive announcement effects

CAR

Owner-managers Slightly negative

Active Positive

Passive Slightly positive

Overall	Positive
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➔ **Passive placements (most frequent) drive the results.**

Extant Literature (Private Placements)

Monitoring Hypothesis

- Wruck (1989)
- Private equity investors ensure better monitoring
- → better resource allocation of corporate resources
- → Positive announcement effect

Certification Hypothesis

- Hertzels & Smith (1993)
- Private equity investors certify hidden value prospects in the firm in a credible manner
- → Positive announcement effect

Entrenchment Hypothesis

- Dann and De Angelo (1978)
- Passive investors give incumbent managers a free reign
- → Negative announcement effect
- → Managerial self-dealing (discounts)

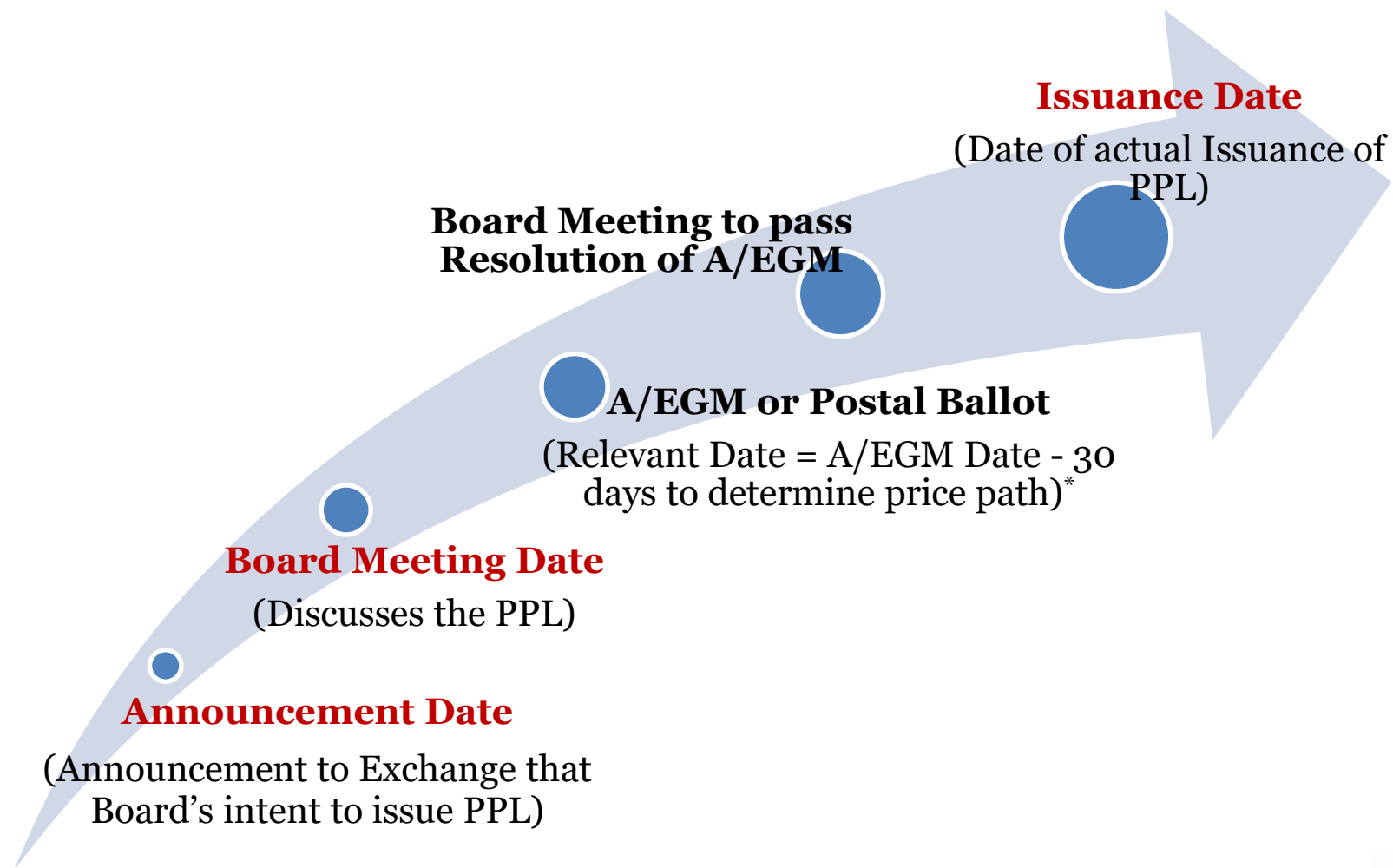
Summary of Empirical Evidence: Barclay (2007)

- Positive announcement effect
- While the evidence in some placements is consistent with the Monitoring and Certification Hypothesis, for most of the sample:
 - Little evidence of post-placement monitoring
 - Purchasers tend to be passive shareholders
 - Managerial self-dealing (discounts are larger when owner-managers are involved)

COMPETING HYPOTHESES

- CERTIFICATION HYPOTHESIS
- MONITORING HYPOTHESIS
- ENTRENCHMENT HYPOTHESIS
- BUSINESS GROUP HYPOTHESIS
- MANIPULATION REVELATION HYPOTHESIS

PPL ALLOTMENT PROCESS



PPL ALLOTMENT PROCESS

- **Announcement Date:** The firm informs the exchange that
 - It ***intends*** to issue PPL
 - Will be discussed by the Board.
 - We call this date the **Announcement Date**

- **Board Meeting Date:** Board of Directors meet to discuss the PPL issuance.
 - We call this date as “**Board Meeting Date**” in our sample.
 - SEBI mandates that
 - The notification of the carry through motion has to happen within 30 minutes of the completion of the meeting
 - Should the resolution carry, it is put to vote through an Annual/Extraordinary General Body Meeting (A/EGM) or Postal Ballot.*

PPL ALLOTMENT PROCESS

- **A/EGM or Postal Ballot:**
 - An A/EGM or take the postal ballot route is taken to put the matter to vote if the board approves
 - This information is not captured in the Prowess Database.
- **Relevant Date:**
 - The result of the A/EGM or postal ballot vote is notified to the exchange either on the date of A/EGM or when the ballot counting is done as the case may be.
 - This data is not available in Prowess
 - This is the date from which the **relevant date** (=AGM date – 30 days) for the SEBI-mandated price band computation is determined.

PPL ALLOTMENT PROCESS

- **Call of Board Meeting post A/EGM or Postal Ballot:**
 - If the resolution carries in the A/EGM, the firm next informs the exchange of a call for Board Meeting to allot the PPL
- **Board Meeting:**
 - The board affirms the resolution of the A/EGM and allots the PPL to the said parties
- **Issue Date:**
 - This is when the PPL is officially registered and included in exchanges information (ex-date for PPL)
 - Available in the Prowess Database.
 - In a number of cases, it happens to be the same day as last board meeting above.
 - We call this the “**Issue Date**” in our sample

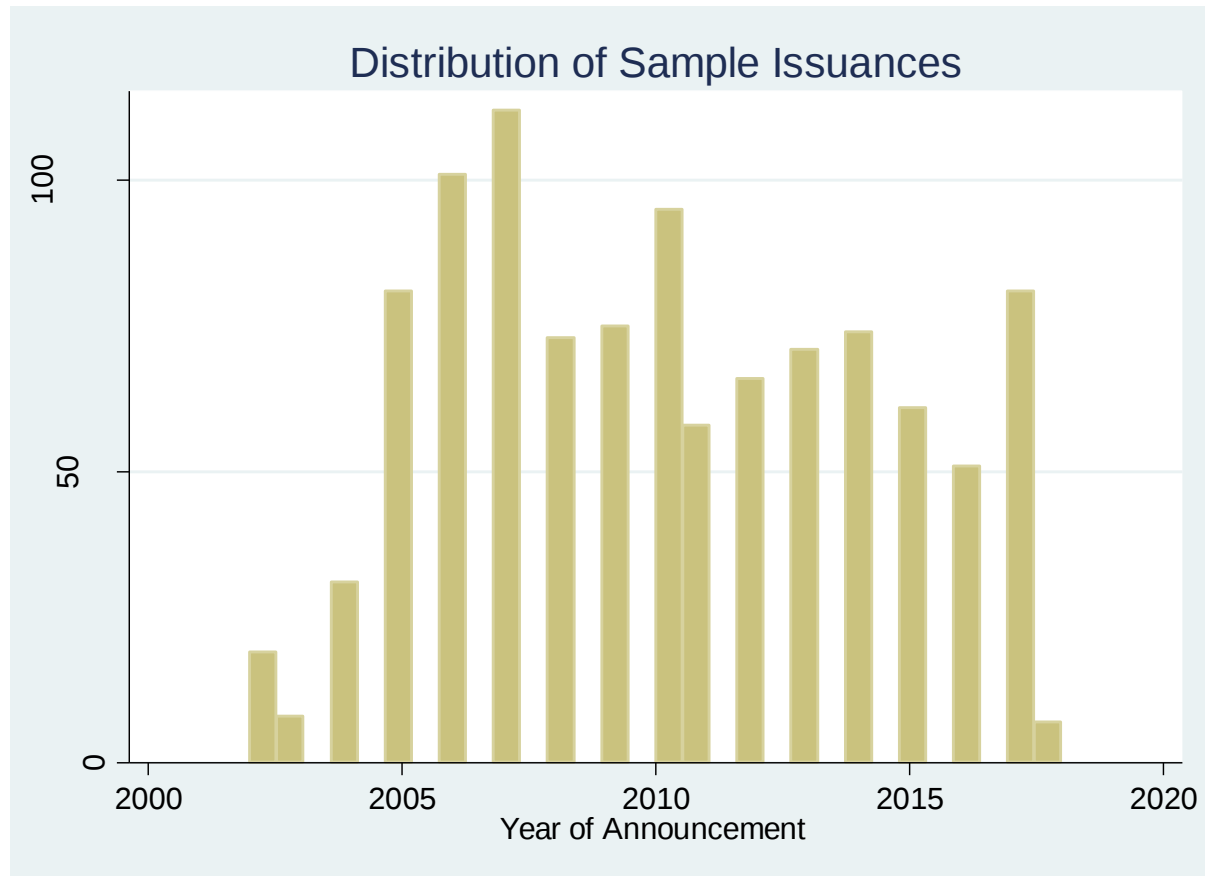
DATA DESCRIPTION

- 2,972 PRIVATE PLACEMENTS 2001-2009
 - 2,315 for which we have relevant board meeting information
 - 1,968 issuances with clean announcement dates
 - 347 issuances with assumed announcement dates
- 1,282 issuances with firm-level financial and trading data
- **1,064 issuances with mostly fresh issue of shares**
 - Excludes redistribution of shares among owners
 - >1% of existing shares outstanding
 - Forms our sample universe

DATA DESCRIPTION – UNIVERSE

- 1,057 Issuances involving only one type (PPL/PPL-QIP+) on issue day
- 7 Issuances involving more than one type on issue day
- 93 Issuance to qualified institutional investors
- 971 Issuance to other investors
- 385 Issuances by business group firms
- **679** Issuances by stand-alone firms
- **823** Issuances to others
- **356** Issuances by low price path firms
- **708** Issuances by high price path firms

ISSUANCES BY YEAR



DESCRIPTIVE STATISTICS

	Mean	Median	Std	Min	Max
Market Cap in Rs M (6-monthly Average)	4,120.11	598.67	11,626.65	19.37	85,457.46
Close Price (6-monthly Average)	97.70	37.81	168.80	1.08	1,098.57
Monthly Return (12-monthly Average) in %	6.57%	4.95%	24.54%	(-69.73%)	88.88%
Annualized Volatility (scaled using daily volatility over past year) in %	64.88%	62.21%	19.74%	29.03%	152.06%
Annualized Garman-Klass Volatility in %	17.69%	16.21%	8.83%	2.03%	53.66%
Variance Ratio (monthly variance over scaled daily variance)	14.70	4.33	26.93	0.00	153.7
EBITDA as percent of Income	16.61	12.05	29.47	-126.67	89.77
PAT as percent of Income	-7.86	2.83	72.76	-600.00	65.17
Total Assets in Rs M	8,178.84	1,396.30	23,505.67	18.50	185619.80
Net Fixed Assets in Rs M	2,034.73	338.50	5,831.38	0.10	44,730.40
Debt Equity Ratio in multiples	1.85	0.84	3.92	0.00	32.19
Average Daily Value Traded in Rs. M	22.72	1.32	76.35	0.00	581.91
Amihud Illiquidity Ratio over previous month	6.02	0.04	19.54	0.00	130.85
Shares held by Owner-Managers in %	45.56	47.51	18.11	0.32	80.35
Shares Pledged by Owner-Managers in %	10.92	0.00	24.93	0.00	100.00
Price Path Ratio	1.16	1.09	0.36	0.38	2.38
Preferential Allotment as % of Shares Outstanding (prev qtr)	26.59	14.05	38.24	1.37	249.44
Preferential Allotment as % of Owner-Manager Shares (prev qtr)	124.96	29.89	399.74	2.68	3080.80
Preferential Allotment to All Owner-Managers in %	37.13	3.66	43.85	-2.68	100.91
Preferential Allotment to All Institutional Investors in %	18.02	0.00	38.00	-50.58	131.83
Days from Announcement to First Board Meeting	2.41	2.00	1.55	1.00	11.00
Days from Announcement to Issue	26.93	31.00	46.34	1.00	286.00

ANNOUNCEMENT EFFECTS (CARS)

Overall Sample		
	Mean	t-stat
CAR between -1d and +1d	0.61%	2.29
CAR between -5d and +5d	1.16%	2.16
CAR between -10d and +10d	1.58%	2.17
CAR between -21d and +21d	1.47%	1.38

By Prior Shareholding of Owner-Managers			
	Below Median Mean	Above Median Mean	Difference
CAR between -1d and +1d	0.34%	0.85%**	(0.50%)
CAR between -5d and +5d	0.54%	1.73%**	(1.19%)
CAR between -10d and +10d	1.16%	1.98%**	(0.82%)
CAR between -21d and +21d	1.72%	1.18%	0.54%

By Market Capitalization			
	Below Median Mean	Above Median Mean	Difference
CAR between -1d and +1d	1.16%***	0.00%	1.16%**
CAR between -5d and +5d	2.23%***	(0.01%)	2.24%**
CAR between -10d and +10d	2.77%**	0.28%	2.49%*
CAR between -21d and +21d	2.95%*	(0.20%)	3.15%

ANNOUNCEMENT EFFECTS (CARS)

By Stock Volatility			
	Below Median	Above Median	Difference
	Mean	Mean	
CAR between -1d and +1d	0.65%**	0.57%	0.08%
CAR between -5d and +5d	1.55%**	0.77%	0.78%
CAR between -10d and +10d	2.26%***	0.90%	1.36%
CAR between -21d and +21d	3.21%***	(0.34%)	3.55%*

By Debt-Equity Ratio			
	Below Median	Above Median	Difference
	Mean	Mean	
CAR between -1d and +1d	0.87%**	0.34%	0.53%
CAR between -5d and +5d	0.95%	1.37%*	(0.42%)
CAR between -10d and +10d	1.60%	1.57%*	0.04%
CAR between -21d and +21d	0.83%	2.07%	(1.24%)

ANNOUNCEMENT EFFECTS (CARS)

By Investor Type				By Group Affiliation			
	Owner- Managers	Others	Difference		Group Firms	Stand- Alone Firms	Difference
	Mean	Mean			Mean	Mean	
CAR between -1d and +1d	1.15%**	0.45%	0.70%	CAR between -1d and +1d	0.89%**	0.45%	0.44%
CAR between -5d and +5d	2.11%**	0.88%	1.22%	CAR between -5d and +5d	1.39%	1.03%	0.37%
CAR between -10d and +10d	2.19%*	1.41%	0.78%	CAR between -10d and +10d	1.74%	1.49%	0.25%
CAR between -21d and +21d	3.10%*	0.96%	2.14%	CAR between -21d and +21d	1.67%	1.32%	0.35%

By Price Path			
	Low Price Path	High Price Path	Difference
	Mean	Mean	
CAR between -1d and +1d	(1.07%)**	1.45%***	(2.52%)***
CAR between -5d and +5d	(3.95%)***	3.73%***	(7.69%)***
CAR between -10d and +10d	(6.86%)***	5.83%***	(12.69%)***
CAR between -21d and +21d	(8.63%)***	6.51%***	(15.13%)***

ANNOUNCEMENT EFFECTS (CARS)

Dependent Variable	CAR [-1,+1]	CAR [-5,+5]	CAR [-10,+10]	CAR [-21,+21]
Intercept	0.039757 (1)	0.012528 (0.18)	0.07244 (0.78)	0.305706 (2.24)
Firm Characteristics				
Age (in years)	-0.00013 (-0.79)	0.000125 (0.35)	0.000275 (0.62)	0.000634 (1.02)
Log Market Capitalization	-0.00974*** (-3.03)	-0.01568*** (-2.74)	-0.02581*** (-3.39)	-0.04359*** (-3.83)
EBITDA (%)	0.000307** (2.63)	0.000618*** (2.76)	0.000721** (2.19)	0.001281*** (2.87)
Debt-Equity (Multiple)	-0.00063 (-0.84)	-0.00064 (-0.62)	-0.00194 (-1.37)	-0.00196 (-0.92)
Annualized volatility (%)	-0.03391 (-1.54)	-0.07909** (-2.01)	-0.11655** (-2.02)	-0.27794*** (-3.38)
Owner-Managers Equity (%)	0.00025 (1.44)	0.000403 (1.14)	0.00077 (1.6)	0.000789 (1.17)
Institutional Equity (%)	-0.00003 (-0.08)	0.000127 (0.19)	0.001872** (1.98)	0.003091*** (2.69)
Owner-Managers Pledging of Equity (%)	0.00043** (2.5)	0.0000201 (0.06)	0.000292 (0.76)	0.000848* (1.68)
Group Affiliation Dummy	0.013118** (2.02)	0.023569* (1.89)	0.019033 (1.21)	0.030683 (1.45)

ANNOUNCEMENT EFFECTS (CARS)

Dependent Variable	CAR [-1,+1]	CAR [-5,+5]	CAR [-10,+10]	CAR [-21,+21]
Prior Period CARs (-252, -30)	0.00064 (0.06)	0.0803*** (3.89)	0.200959*** (7.24)	0.476746*** (11.62)
Allotment Size as % of Total Equity	-0.000094 (-0.88)	-0.00022 (-1.14)	-0.00022 (-0.87)	-0.00042 (-0.95)
Qualified Institutional Placement Dummy	-0.00554 (-0.62)	0.007815 (0.55)	0.007692 (0.38)	-0.03483 (-1.32)
Owner-Manager Issuance Dummy	0.031045** (2.58)	0.083643*** (3.73)	0.077728** (2.42)	0.089859** (2.09)
Institution Issuance Dummy	0.011304 (0.89)	0.052556 (1.65)	0.046814 (1.27)	0.052293 (1.14)
Price Path Dummy (=1 if high price path)	0.006745 (0.25)	0.081392* (1.78)	0.112858* (1.79)	0.058398 (0.62)
Price Path Dummy* Owner-Manager Issuance Dummy	-0.02902* (-1.83)	-0.05987** (-2.1)	-0.04096 (-1.06)	-0.01822 (-0.35)
Price Path Dummy* Institutional Issuance Dummy	-0.02019 (-1.35)	-0.04934 (-1.42)	-0.02165 (-0.52)	-0.01472 (-0.28)
Price Path Dummy* Log Market Capitalization	0.005275 (1.59)	0.002315 (0.4)	0.001564 (0.21)	0.004777 (0.42)
Owner Manager Issuance Dummy* Pledging Percent by Owner-Managers	-0.00053*** (-2.23)	-0.00048 (-1.08)	-0.00015 (-0.28)	-0.00073 (-1.07)
Year Dummies	YES	YES	YES	YES
R-square	0.0764	0.1443	0.2194	0.3676
Number of Observation	813	813	813	813

ANNOUNCEMENT EFFECTS (CARS) – CONTROLLED FOR MANIPULATION

Dependent Variable	CAR [-1,+1]	CAR [-5,+5]	CAR [-10,+10]	CAR [-21,+21]
Intercept	0.054183 (1.4)	0.005001 (0.07)	0.05237 (0.55)	0.266532 (1.94)
Firm Characteristics				
Age (in years)	-0.00015 (-0.93)	0.000105 (0.29)	0.000304 (0.69)	0.000698 (1.12)
Log Market Capitalization	-0.00908*** (-2.71)	-0.0144** (-2.37)	-0.02522*** (-3.21)	-0.04088*** (-3.55)
EBITDA (%)	0.000273** (2.36)	0.00059** (2.61)	0.000719** (2.14)	0.001294*** (2.87)
Debt-Equity (Multiple)	-0.00066 (-0.86)	-0.00056 (-0.55)	-0.0018 (-1.23)	-0.00199 (-0.89)
Annualized volatility (%)	-0.02528 (-1.09)	-0.0857** (-2.09)	-0.12848** (-2.15)	-0.28632*** (-3.34)
Prior Period CARs (-252, -30)	0.002314 (0.2)	0.080611*** (3.82)	0.202974*** (7.21)	0.481738*** (11.73)
Owner-Managers Equity (%)	0.000221 (1.28)	0.000338 (0.93)	0.00069 (1.41)	0.000688 (1.01)
Institutional Equity (%)	-0.00011 (-0.27)	0.000117 (0.17)	0.002019** (2.16)	0.003252** (2.87)
Owner-Managers Pledging of Equity (%)	0.000422** (2.51)	-1.5E-05 (-0.05)	0.000194 (0.54)	0.000747 (1.51)
Group Affiliation Dummy	0.012744** (1.98)	0.023046 (1.84)	0.017887 (1.13)	0.029211 (1.38)
Allotment Size as % of Total Equity	-0.00012 (-1.13)	-0.00025 (-1.27)	-0.00024 (-0.9)	-0.00041 (-0.89)

ANNOUNCEMENT EFFECTS (CARS) – CONTROLLED FOR MANIPULATION

Dependent Variable	CAR [-1,+1]	CAR [-5,+5]	CAR [-10,+10]	CAR [-21,+21]
Qualified Institutional Placement Dummy	-0.00504 (-0.55)	0.009973 (0.7)	0.016701 (0.8)	-0.02094 (-0.79)
Owner-Manager Issuance Dummy	0.027985** (2.46)	0.083571*** (3.81)	0.080916** (2.51)	0.097461** (2.25)
Institution Issuance Dummy	0.009388 (0.75)	0.054001* (1.68)	0.050711 (1.37)	0.056302 (1.22)
Price Path Dummy (=1 if high price path)	0.007929 (0.3)	0.083031* (1.76)	0.103625 (1.56)	0.052021 (0.53)
Price Path Dummy* Owner-Manager Issuance Dummy	-0.02642* (-1.72)	-0.06093** (-2.2)	-0.04736 (-1.23)	-0.02939 (-0.57)
Price Path Dummy* Institutional Issuance Dummy	-0.01871 (-1.27)	-0.05198 (-1.49)	-0.02876 (-0.69)	-0.02267 (-0.43)
Price Path Dummy* Log Market Capitalization	0.004735 (-1.27)	0.002117 (-1.49)	0.003526 (-0.69)	0.007034 (-0.43)
Owner Manager Issuance Dummy*Pledging % by Owner-Managers	-0.00045** (-2.03)	-0.00037 (0.35)	-1.7E-05 (0.46)	-0.00063 (0.6)
Annualized Garman-Klass Volatility	-0.08381 (-1.62)	0.018504 (-0.89)	0.084202 (-0.03)	0.082989 (-0.96)
Amihud Illiquidity Ratio over previous month	0.000183 (-1.62)	0.000396 (0.19)	0.000329 (0.66)	0.000673 (0.52)
Variance Ratio	0.000181 (0.76)	0.000658** (2.11)	0.000934 (0.54)	0.000672 (0.8)
Prior Period CAVs (-252, -30)	1.6E-06 (1.37)	2.18E-06 (0.55)	-5.9E-06 (-1.09)	-1.6E-05*** (-2.70)
Year Dummies	YES	YES	YES	YES
R-square	0.08	0.15	0.23	0.37
Number of Observation	813	813	813	813

COMPETING HYPOTHESES

Empirical Test	Undervaluation Hypothesis		Certification Hypothesis		Monitoring Hypothesis		Entrenchment Hypothesis	
	Pred.*	Conf.*	Pred.	Conf.	Pred.	Conf.	Pred.	Conf.
P1. Ann. Period Returns	+ve	✓	+ve	✓	+ve	✓	-ve	X
P2. Ann. Ret: ($\gamma = 0$ vs. $\gamma = 1$)**	lower	✓	higher	X	higher	X	higher	X
P3a. Ann. Period Ret vs. Mkt-cap	-ve	✓	—	—	—	—	—	—
P3b/3c. Ann. Period Ret vs. Volatility	+ve/-ve	✓ (-ve)	-ve	✓	-ve	✓	—	X
P3d. Ann. Period Ret vs. Ownership	none	✓	-ve	X	-ve	X	-ve	X
P4. Ann. Period Ret vs. Price path interaction with owner-issuance	-ve	✓	—	—	—	—	—	—

OTHER HYPOTHESES

Panel B: Business Group Related Hypotheses

Empirical Test of Announcement Period Returns	Pred.	Conf.
P5a. Group vs. Stand-Alone (Tunneling Hypothesis)	-ve	X
P5b. Group vs. Stand-Alone (Efficient Internal Capital Markets Hypothesis)	+ve	✓ , X

Panel C: Manipulation Revelation Hypothesis

Empirical Test	Predicted	Confirmed
P6a. Ann. Period Returns vs. Illiquidity	+ve	X
P6b. Ann. Period Returns vs. Variance Ratio	-ve	X
P6c. Ann. Period Returns vs. CAV(-250, 50)	+ve	X

CONCLUSIONS

- Theoretical model that shows that private placements of equity to owner-managers *mitigates* the Myers-Majluf underinvestment problem.
 - ➔ Private placements to owner-managers are critical for capital formation and the growth of the economy.
- Empirical Evidence based on Indian capital market data confirms that *asymmetric information* is a key driver of private placements of equity to owner-managers.