

APPENDIX TO
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Table I
BALANCE TEST
HETEROGENEITY BY IPO CHARACTERISTICS

	IPO characteristics						
	Positve	Negative	Top Quartile	Bottom Quartile	Top Quartile	Bottom Quartile	Top Quartile
	Returns	Returns	Percent Returns	Returns variability	Returns Variability	IPO Value	IPO Value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Future IPO Participation <i>Time: (t-6) to (t-1)</i>	0.0004 (0.0012)	0.0004 (0.0017)	-0.0027*** (0.0004)	0.0006 (0.0012)	0.0015 (0.0018)	-0.0009 (0.0014)	0.0025* (0.0013)
2. Gross Transaction Value <i>Time: (t-6) to (t-1)</i>	0.0001 (0.0043)	-0.0146 (0.0112)	-0.0136*** (0.0059)	0.0088 (0.0122)	-0.0006 (0.0088)	-0.0164** (0.0076)	0.0090 (0.0044)
3. Disposition <i>Time: (t-1)</i>	-0.0004 (0.0004)	-0.0015 (0.0029)	0.0008 (0.0010)	-0.0019 (0.0016)	-0.0022 (0.0063)	-0.0010 (0.0012)	-0.0042 (0.0051)
4. Propensity to hold IPO sector stocks <i>Time: (t-6) to (t-1)</i>	0.0002 (0.0008)	-0.0031** (0.0017)	-0.0024** (0.0010)	0.0039 (0.0030)	0.0056 (0.0060)	0.0002 (0.0012)	0.0003 (0.0011)
5. Weight in IPO sector <i>Time: (t-6)</i>	0.0004 (0.0003)	-0.0010 (0.0006)	-0.0007*** (0.0002)	0.0014*** (0.0002)	-0.0001 (0.0003)	0.0000 (0.0004)	0.0004** (0.0002)
6. Repurchase of IPO security <i>Time: (t-6) to (t-1)</i>	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
7. No. of securities held <i>Time: (t-6)</i>	0.0043 (0.0030)	0.0033 (0.0124)	-0.0074*** (0.0028)	0.0112* (0.0068)	0.0045 (0.0054)	-0.0022 (0.0050)	0.0090*** (0.0020)
8. Portfolio value > 0 <i>Time: (t-6) to (t-1)</i>	-0.0004 (0.0005)	-0.0002 (0.0017)	-0.0002 (0.0012)	0.0010 (0.0010)	-0.0006 (0.0008)	-0.0012 (0.0013)	0.0000 (0.0007)
9. Portfolio value <i>Time: (t-6)</i>	0.0132 (0.0090)	0.0282 (0.0241)	-0.0149*** (0.0056)	0.0322* (0.0191)	0.0230** (0.0094)	0.0054 (0.1074)	0.0255*** (0.0073)
Observations	1,473,073	89,637	410,013	131,000	615,059	400,684	527,318

Significance: *** 0.01 ** 0.05, *0.10,(clustered robust std. errors), Units: basis points

Table II
BALANCE TEST
HETEROGENEITY BY INITIAL APPLICATION VALUE

	Application value quartiles			
	0-25	25-50	50-75	75-100
1. Future IPO Participation	0.0000	0.0014	-0.0018	0.0032
<i>Time: (t-6) to (t-1)</i>	(0.0023)	(0.0015)	(0.0013)	(0.0020)
2. Gross Transaction Value	0.0056	-0.0006	-0.0116**	0.0016
<i>Time: (t-6) to (t-1)</i>	(0.0127)	(0.0122)	(0.0056)	(0.0010)
3. Disposition	-0.1424	-0.1568*	-0.0370	0.1624
<i>Time: (t-1)</i>	(0.1210)	(0.0931)	(0.0440)	(0.1164)
4. Propensity to hold IPO sector stocks	0.0020	0.0017	-0.0024*	0.0020*
<i>Time: (t-6) to (t-1)</i>	(0.0024)	(0.0020)	(0.0013)	(0.0011)
5. Weight in IPO sector	0.0009	0.0006	-0.0005	0.0011*
<i>Time: (t-6)</i>	(0.0006)	(0.0007)	(0.0004)	(0.0005)
6. Repurchase of IPO security	0.0000	0.0000	0.0000	0.0000
<i>Time: (t-6) to (t-1)</i>	(0.0000)	(0.0000)	(0.0000)	(0.0000)
7. No. of securities held	0.0021	0.0072*	-0.0005	0.0107***
<i>Time: (t-6)</i>	(0.0076)	(0.0041)	(0.0036)	(0.0031)
8. Portfolio value > 0	0.0019	-0.0006	-0.0013	-0.0003
<i>Time: (t-6) to (t-1)</i>	(0.0014)	(0.0012)	(0.0008)	(0.0002)
9. Portfolio value	0.0188	0.0157	0.0018	0.0317
<i>Time: (t-6)</i>	(0.0210)	(0.0132)	(0.0119)	(0.0270)
Observations	377,937	359,706	385,609	349,821
Mean Application Value (\$)	245.61	912.67	2173.979	2842.458
No. of Experiments	98	126	76	23
Mean Probability of Treatment	0.1437	0.2421	0.3812	0.4134

Significance: *** 0.01 ** 0.05, *0.10,(clustered robust std. errors), Units: basis points

Table III
BALANCE TEST
HETEROGENEITY BY PORTFOLIO SIZE

	Portfolio Value (t-1) Percentile Range								
	0-23	23-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
1. Future IPO Participation	-0.0001	0.0072***	0.0002	-0.0008	-0.0013	-0.0009	0.0007	-0.0013	0.0042*
<i>Time: (t-6) to (t-1)</i>	(0.0012)	(0.0026)	(0.0023)	(0.0018)	(0.0019)	(0.0016)	(0.0036)	(0.0022)	(0.0023)
2. Gross Transaction Value	-0.0050	0.0222	0.0220	0.0025	-0.0174*	-0.0015	-0.0194**	-0.0018	0.0047
<i>Time: (t-6) to (t-1)</i>	(0.1144)	(0.0180)	(0.0162)	(0.0140)	(0.0099)	(0.0115)	(0.0078)	(0.0072)	(0.0060)
3. Disposition	0.0002	-0.0008	-0.0009	-0.0003	0.0002	0.0046**	-0.0017	-0.0006	-0.0001
<i>Time: (t-1)</i>	(0.0008)	(0.0021)	(0.0036)	(0.0015)	(0.0023)	(0.0021)	(0.0017)	(0.0012)	(0.0009)
4. Propensity to hold IPO sector stocks	-0.0010*	-0.0018	0.0014	-0.0044	-0.0024	0.0014	0.0020	-0.0002	0.0024
<i>Time: (t-6) to (t-1)</i>	(0.0058)	(0.0026)	(0.0035)	(0.0029)	(0.0024)	(0.0025)	(0.0025)	(0.0018)	(0.0014)
5. Weight in IPO sector	0.0000	0.0000	-0.0007	-0.0003	-0.0044	-0.0006	0.0002	0.0009	0.0001
<i>Time: (t-6)</i>	(0.0002)	(0.0014)	(0.0017)	(0.0009)	(0.0029)	(0.0007)	(0.0007)	(0.0007)	(0.0005)
6. Repurchase of IPO security	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>Time: (t-6) to (t-1)</i>	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
7. No. of securities held	-0.0017	-0.0084	0.0052	-0.0046	0.0084	-0.0008	0.0145***	0.0006	0.0166***
<i>Time: (t-6)</i>	(0.0031)	(0.0070)	(0.0042)	(0.0073)	(0.0061)	(0.0032)	(0.0044)	(0.0089)	(0.0.0050)
8. Portfolio value > 0	-0.0015	0.0008	0.0018	0.0017	-0.0011	0.0016	0.0002	0.0006	0.0013***
<i>Time: (t-6) to (t-2)</i>	(0.0012)	(0.0022)	(0.0019)	(0.0022)	(0.0009)	(0.0066)	(0.0007)	(0.0004)	(0.0004)
9. Portfolio value	-0.0006	-0.0271	0.0139	-0.1170	0.0322**	0.0024	0.0541**	0.0085	0.0358**
<i>Time: (t-6)</i>	(0.0097)	(0.0240)	(0.0133)	(0.0198)	(0.0154)	(0.0075)	(0.0151)	(0.0190)	(0.0158)
Observations	338,584	103,372	147,281	147,319	147,285	147,307	147,307	147,310	147,308
Mean Portfolio Value (t-1) in Sample (\$)	0	129	411	841	1545	2672	4720	9360	83294

Significance: *** 0.01 ** 0.05, *0.10,(clustered robust std. errors), Units: basis points

Table IV
BALANCE TEST
HETEROGENEITY BY ACCOUNT AGE

	Account age percentile range									
	0–11	11–22	22–32	32–41	41–51	51–60	60–70	71–81	81–91	91–100
1. Future IPO Participation	0.0002	-0.0002	0.0001	0.0014	0.0001	0.0009	-0.0009	0.0037**	0.0016	-0.0007
<i>Time: (t-6) to (t-1)</i>	(0.0011)	(0.0028)	(0.0020)	(0.0023)	(0.0024)	(0.0025)	(0.0023)	(0.0015)	(0.0018)	(0.0031)
2. Gross Transaction Value	0.0073	0.0014	-0.0386**	-0.0087	0.0175	-0.0068	-0.0080	0.0168	0.0347***	-0.0171
<i>Time: (t-6) to (t-1)</i>	(0.0104)	(0.0133)	(0.0151)	(0.0141)	(0.0150)	(0.0125)	(0.0123)	(0.0144)	(0.0086)	(0.0125)
3. Disposition	0.0000	0.0000	0.0008	-0.0029	0.0000	0.0020	-0.0005	-0.0029	-0.0009	-0.0003
<i>Time: (t-1)</i>	(0.0000)	(0.0000)	(0.0006)	(0.0032)	(0.0025)	(0.0016)	(0.0024)	(0.0021)	(0.0013)	(0.0014)
4. Propensity to hold IPO sector stocks	-0.0006	0.0038***	-0.0067***	-0.0012	0.0013	-0.0019	-0.0036	0.0026	0.0032	0.0007
<i>Time: (t-6) to (t-1)</i>	(0.0005)	(0.0009)	(0.0021)	(0.0031)	(0.0028)	(0.0023)	(0.0032)	(0.0021)	(0.0026)	(0.0020)
5. Weight in IPO sector	0.0000	0.0000	-0.0007	0.0012	0.0008	-0.0002	0.0011	0.0007	-0.0012	0.0010
<i>Time: (t-6)</i>	(0.0000)	(0.0000)	(0.0011)	(0.0009)	(0.0011)	(0.0007)	(0.0010)	(0.0006)	(0.0013)	(0.0008)
6. Repurchase of IPO security	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>Time: (t-6) to (t-1)</i>	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
7. No. of securities held	0.0000	0.0000	0.0018	0.0020	-0.0052	-0.0114	-0.0060	-0.0031	0.0159***	0.0068
<i>Time: (t-6)</i>	(0.0000)	(0.0000)	(0.0028)	(0.0055)	(0.0132)	(0.0075)	(0.0062)	(0.0075)	(0.0057)	(0.0070)
8. Portfolio value > 0	-0.0021**	0.0004	-0.0029	-0.0004	0.0067	-0.0010	-0.0007	0.0011**	-0.0003	0.0009
<i>Time: (t-6) to (t-1)</i>	(0.0010)	(0.0020)	(0.0022)	(0.0017)	(0.0015)	(0.0014)	(0.0010)	(0.0005)	(0.0010)	(0.0008)
9. Portfolio value	0.0000	0.0000	0.0046	0.0209	0.0061	-0.0339*	-0.0035	-0.0011	0.0259	0.0212*
<i>Time: (t-6)</i>	(0.0000)	(0.0000)	(0.0139)	(0.0279)	(0.0368)	(0.0203)	(0.0140)	(0.0133)	(0.0125)	(0.0124)
Observations	164,040	157,243	146,158	128,922	161,233	126,731	147,894	158,499	142,463	139,890
Mean Account Age(t-1) in Sample (Months)	0	1.4	4	7.3	12.4	18.6	25.8	34.5	44.1	67.5

Significance: *** 0.01 ** 0.05, *0.10,(clustered robust std. errors), Units: basis points

Table V
EXPERIENCE EFFECTS ON INVESTOR BEHAVIOUR
WITH IPO SECURITY

	Event-time												
	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
2. Gross transaction value	0.0084 (0.0070) [0.1860]	0.0070 (0.0070) [0.2436]	0.0085 (0.0091) [0.2983]	0.0057 (0.0059) [0.4496]	0.0000 (0.0077) [0.9908]	0.0034 (0.0058) [1.6807]	1.7935*** (0.2504) [1.9319]	0.4487*** (0.0906) [2.5606]	0.0979*** (0.0129) [1.2669]	0.0656*** (0.0150) [0.4021]	0.0530*** (0.0095) [0.2833]	0.0401*** (0.0100) [0.5894]	0.0376*** (0.0076) [0.3299]
3. Disposition	-0.0002 (0.0005) [0.0523]	-0.0003 (0.0006) [0.0440]	0.0006 (0.0004) [0.0523]	-0.0005 (0.0006) [0.0651]	-0.0003 (0.0004) [0.0647]	-0.0004 (0.0004) [0.0983]	0.0214 (0.0135) [0.0682]	0.0410*** (0.0089) [0.1008]	0.0015 (0.0013) [0.0334]	0.0019** (0.0009) [0.0488]	0.0025*** (0.0007) [0.0598]	0.0013** (0.0006) [0.0577]	0.0017*** (0.0005) [0.0451]
4. Propensity to hold IPO sector stocks	0.0009 (0.0011) [0.2502]	0.0003 (0.0010) [0.2649]	0.0011 (0.0011) [0.2764]	0.0013 (0.0007) [0.2731]	0.0005 (0.0008) [0.3478]	0.0005 (0.0009) [0.3170]	0.4840*** (0.0679) [0.3635]	0.3006*** (0.0435) [0.3648]	0.2581*** (0.0322) [0.3945]	0.2434*** (0.0334) [0.3924]	0.2322*** (0.0353) [0.4008]	0.2197*** (0.0368) [0.4073]	0.2150*** (0.0372) [0.4029]
5. Weight in IPO sector	0.0004 (0.0003) [0.0529]	0.0002 (0.0003) [0.0571]	0.0003 (0.0004) [0.0534]	0.0004 (0.0003) [0.0499]	0.0005 (0.0004) [0.1042]	0.0001 (0.0002) [0.0629]	0.2162*** (0.0393) [0.0755]	0.0960*** (0.0147) [0.0698]	0.0734*** (0.0088) [0.0802]	0.0654*** (0.0088) [0.0786]	0.0630*** (0.0089) [0.0800]	0.0563*** (0.0080) [0.0810]	0.0525*** (0.0080) [0.0770]
7. No. of securities held	0.0021 (0.0026) [3.6157]	0.0016 (0.0026) [3.8247]	0.0020 (0.0025) [4.0955]	0.0018 (0.0024) [4.3544]	0.0007 (0.0026) [4.8554]	0.0003 (0.0022) [5.4630]	0.2714*** (0.0272) [8.7010]	0.2078*** (0.0255) [10.0193]	0.1248*** (0.0159) [10.6504]	0.1139*** (0.0165) [10.4027]	0.1076*** (0.0170) [10.2965]	0.1025*** (0.0179) [10.2786]	0.1002*** (0.0178) [10.2939]
8. Portfolio value >0	0.0013 (0.0009) [0.5959]	0.0009 (0.0009) [0.6137]	0.0007 (0.0012) [0.6550]	0.0010 (0.0009) [0.6809]	0.0002 (0.0010) [0.7342]	-0.0003 (0.0007) [0.7787]	0.1411*** (0.0367) [0.8173]	0.0420*** (0.0105) [0.8781]	0.0263*** (0.0071) [0.8925]	0.0231*** (0.0066) [0.8944]	0.0223*** (0.0064) [0.8812]	0.0203*** (0.0061) [0.8822]	0.0195*** (0.0060) [0.8806]
9. Portfolio value	0.0132 (0.0090) [0.9585]	0.0118 (0.0084) [1.1207]	0.0113 (0.0105) [1.5212]	0.0114 (0.0067) [1.9287]	0.0054 (0.0092) [3.1209]	0.0018 (0.0078) [4.1797]	0.9149*** (0.2186) [9.3068]	0.3271*** (0.0654) [13.3149]	0.2264*** (0.0399) [14.6692]	0.1963*** (0.0391) [15.3756]	0.1911*** (0.0383) [13.6046]	0.1703*** (0.0367) [12.6794]	0.1596*** (0.0365) [12.6561]

Significance: *** 0.01 ** 0.05, *0.10,(clustered robust std. errors), [Mean Dep. Variable - Control group], Observations: 1,473,073

Units: Rows 1,2,3,7,8,9 in basis points. Means for rows 4,6 in 100s of US Dollars and Row 5 in No. of securities.

Regulation governing IPO framework in India

The Securities Exchange Board of India (SEBI) Disclosure and Investor Protection Guidelines (till 2009), henceforth “DIP guidelines”, SEBI Issue of Capital and Disclosure Requirements Regulation (since 2009), henceforth “ICDR regulations”, and Section (19) (b) (2) of the Securities Contract Regulation Rules (“SCRR”) made under the Securities Contract Regulation Act, 1956, alongside the Companies Act, 1956 govern the IPO process in India.

Eligibility criteria

An unlisted company may make an initial public offering (IPO) of equity shares if it meets the following conditions alongside at least 1000 investors participate in the IPO process (Rule-set 1):¹

1. The company has net tangible assets of at least Rs. 3 crores in each of the preceding three full years (calendar years), of which not more than 50% is held in monetary assets. If more than 50% is held in monetary assets, the company has firm commitments to deploy excess monetary assets in its business.
2. The company has a track record of distributable profits (as defined in the Companies Act, 1956), for at least three years out of the immediately preceding five years.
3. The company has a net worth of at least Rs. 1 crore in each of the preceding three full years (calendar years).

¹See Page 15-16, Section 2.2.1 of DIP guidelines, which is similar to Chapter II of the ICDR regulations, accessed on 20 April 2015. They can be accessed at <http://www.sebi.gov.in/guide/sebiidcrreg.pdf> and <http://www.sebi.gov.in/guide/DipGuidelines2009.pdf>

4. The aggregate of the proposed issue and all previous issues in the same financial year in terms of size does not exceed five times its pre-issue networth as per the audited balance sheet of the last financial year.

When a company does not fulfill these requirements, it can still undertake an IPO provided the following conditions are fulfilled (Rule-set 2):²

1. The issue is made through the book-building process, with *at least 50% of net offer to public* is allotted to Qualified Institutional Buyers (QIBs), failing which all subscription amount will have to be refunded.³
2. The minimum post-issue face value of capital will be Rs. 10 crores.

²See Page 18, Section 2.2.2 (i) - (iv) of the DIP guidelines, identical to the conditions in ICDR regulations, accessed on 20 April 2015 at <http://www.sebi.gov.in/guide/sebiidcrreg.pdf> and <http://www.sebi.gov.in/guide/DipGuidelines2009.pdf>

³QIBs are defined under Chapter I, definition (zd) of the ICDR regulations (Page 6). This includes mutual funds, venture capital funds (domestic and foreign), a public financial institution, banks, insurance companies and so on.

Allocation procedure

All 54 IPOs in our sample are book-built IPOs, where the net offer to public is allocated according to the same procedure.⁴ All book-built IPOs need to mandatorily achieve a minimum of 90% of the initial intended issue.⁵ When a company undertakes a 100% book-built issue, the following percentage of issue will have to be initially set aside for the following investor categories:⁶

1. *Not less than 35%* of the net offer to public will be made available to *retail investors*
2. *Not less than 15%* of the net offer to public will be made available to *non-institutional investors*
3. *Not more than 50%* of the net offer to the public shall be made available for allocation to QIBs.

⁴See Section 11.3.5 (i) of DIP guidelines accessed on 20 April 2015.

⁵See ICDR (2009), Chapter I (14) (1), page 13

⁶The Indian regulator, SEBI, introduced the definition of a retail investor on August 14, 2003 and capped the amount that retail investors could invest at 50,000 rupees per brokerage account per IPO. This limit was increase to 100,000 rupees on March 29, 2005, and again increased to 200,000 rupees on November 12, 2010. See Section 11.3.5 (i), footnotes 480,481,482,483 on Page 216 of the DIP guidelines. “Non-institutional buyers” are all those who are not QIBs and Retail Investors - see Chapter I, definition (w) on Page 5 of ICDR regulations.

When the company does not fulfill the criteria set in Rule-set 1, then condition (3) above is *mandatory*. Further, when the company undertakes an IPO under the SCRR, the percentage requirements become 30% (retail investors), 10% (non-institutional investors) and a *mandatory* 60% to QIBs. Any shares set-aside for employees of the company is also considered to be under the “retail investor” category.⁷

Once the bidding is complete, if any of the investor categories are under-subscribed (subject to the allocation rule above), then, with full disclosure and in conjunction with the stock exchange, a company can reallocate the shares to the other investor categories.⁸ However, the QIB category cannot be under-subscribed if the IPO is undertaken under Rule-set 2 or Section (19) (2) (b) of the SCRR.

While the regulation provides for alternative in the event of under-subscription, in reality, this occurs more frequently with non-institutional investors. Data from our sample of 54 IPOs show that non-institutional buyers are almost always under-subscribed. Retail investors are therefore very important to achieve the minimum of 90% of the initial intended issue, without which the IPO will fail.

In our sample of 54 IPOs, firms issue under both the SCRR and the DIP/ICRR paths. Further, the *ex-post* percentage of total final public issue to retail investors can be higher than the aforementioned values. This will have to be explicitly disclosed at the time of allotment of an issue. In our sample, nearly one-third of the total (final) issue size is always allotted to retail investors. Figure 1 plots the percent of issue to retail investors who are *not* employees of the company.⁹

⁷Note that this has been inferred from Section 11.3.5 (i), read with footnotes 480-483 on Page 216 of the DIP guidelines.

⁸See DIP guidelines (2009), Section 11.3.2 (v) read with 11.3.5 (i) and 11.3.5 (iv) (Pages 217-219).

⁹For IPOs with values less than 30% of issue, the remainder of the share comes from employees of the firm.

Figure A
PERCENTAGE OF TOTAL ISSUE ALLOCATED
TO RETAIL INVESTORS (EXCL. EMPLOYEES)

