

# A New Order of Financing Investments: Evidence from Acquisitions by India's Listed Firms

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# Introduction

- Firms, as opposed to Modigliani & Miller (1958)'s capital structure irrelevance proposition, have peculiar choices for financing their investments.
- Considerations of corporate control influence how firms choose to finance investments.
  - Corporate insiders of a firm prefer to finance the investments with cash in a bid to retain the control with them (Amihud, Lev, & Travlos, 1990).
  - If an investment is financed with equity, the control of insiders will be diluted and at worst they might lose control in the firm (Harris & Raviv, 1988; Stulz, 1988).
  - This set of arguments is popularly dubbed as the **control hypothesis** in the literature (Martin, 1996).
- Later empirical evidence from several different countries also lends support to the control hypothesis (Yook, Gangopadhyay, & McCabe, 1999; Faccio & Masulis, 2005; Martynova & Renneboog, 2009; Gu & Reed, 2016)

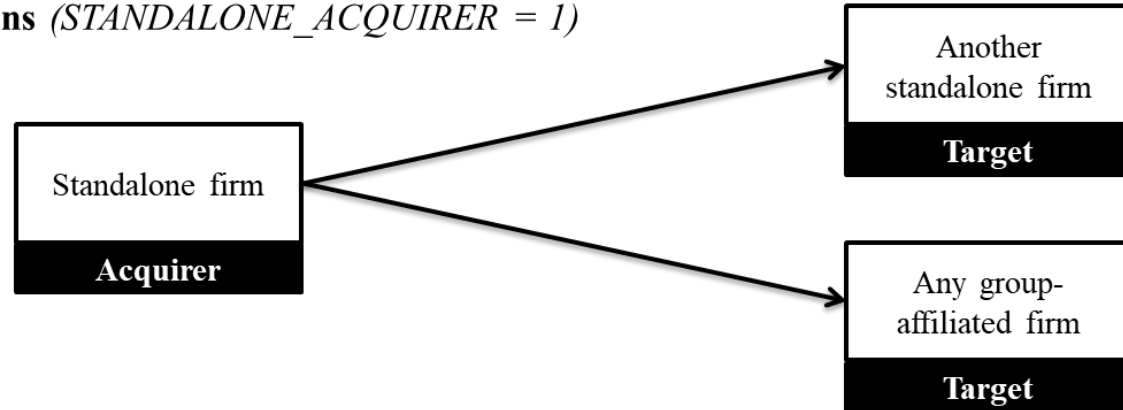
# Motivation

- Blind application of control hypothesis to countries with presence of BGs is likely to yield inconsistent / contrary results.
- All prior studies have been carried out in a context where the insiders of an acquirer and that of the target are different sets of individuals.
- In markets with BGs, there is a distinct possibility that both the acquirer and the target belong to the same BG in case of corporate acquisitions and hence share the same set of insiders.
- The way firms finance investments is motivated not only by the ownership of the insiders in the firm making an investment, but also how these insiders are related to insiders of the firm where the investment is being made.

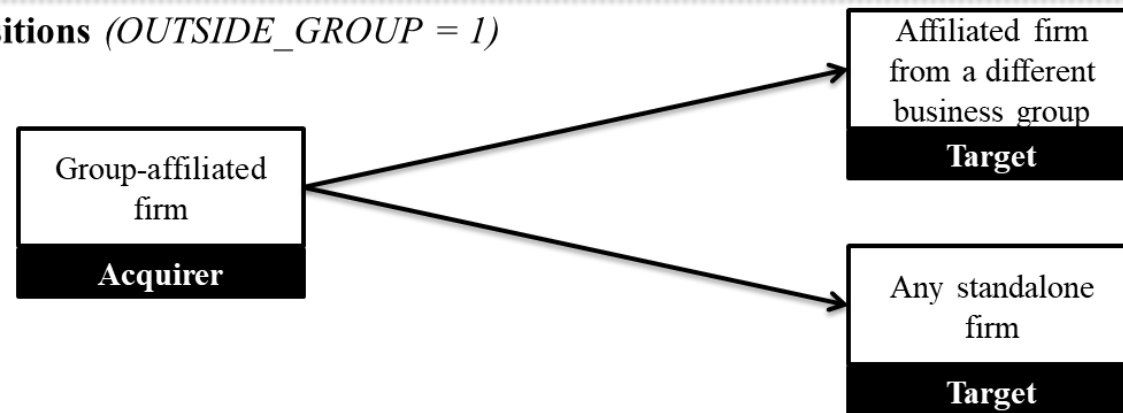
*We are first to test the implications of having common insiders at the investor (acquirer) as well as investee (target) side on the way of financing investments (acquisitions).*

# Classification of Acquisitions in Markets with BGs

## a) Standalone acquisitions ( $STANDALONE\_ACQUIRER = 1$ )



## b) Outside-group acquisitions ( $OUTSIDE\_GROUP = 1$ )



## c) Within-group acquisitions ( $WITHIN\_GROUP = 1$ )



# Major Considerations of Financing Investments in Markets with BGs

- Considerations of Corporate Control
- Financial Constraints

# Theoretical Considerations of Control

**Table 1: The impact of a stock-financed acquisition on insider holdings of an acquirer and a target**

	Acquirer	Target
<b>Before Acquisition</b>		
Number of shares outstanding	$N_{acq}$	$N_{tgt}$
Respective insider stake (%)	$X_{acq}$	$X_{tgt}$
Number of shares with respective insiders	$N_{acq} * X_{acq}$	$N_{tgt} * X_{tgt}$
<b>After Acquisition</b>		
Number of shares outstanding	$N_{acq} + \alpha * N_{tgt}$	—
Number of shares with acquirer's insiders	$N_{acq} * X_{acq}$	—
Number of shares with erstwhile target's insiders	$\alpha * N_{tgt} * X_{tgt}$	—
Stake of acquirer's insiders (%)	$\frac{N_{acq} * X_{acq}}{N_{acq} + \alpha * N_{tgt}}$	—
Stake of erstwhile target's insiders (%)	$\frac{\alpha * N_{tgt} * X_{tgt}}{N_{acq} + \alpha * N_{tgt}}$	—

**Table 2: The impact on the control of an acquirer's insiders in a stock-financed acquisition**

Case	Standalone acquisitions	Outside-group acquisitions	Within-group acquisitions
$N_{acq} * X_{acq} < \alpha * N_{tgt} * X_{tgt}$	Change of control	Change of control	Increase in control
$N_{acq} * X_{acq} = \alpha * N_{tgt} * X_{tgt}$	Sharing of control	Sharing of control	No change in control
$N_{acq} * X_{acq} > \alpha * N_{tgt} * X_{tgt}$	Dilution of control	Dilution of control	Less dilution of control
	<b>Considerations of control important</b>		<b>Considerations of control unimportant</b>

# Financial Constraints

- Compared to the standalone firms, the firms affiliated with business groups face lower financial constraints (Masulis, Pham, & Zein, 2011; Shin & Park, 1999) because of the following reasons:
  - Presence of internal capital markets
  - Greater access to external capital markets
- We argue that because of the lower financial constraints the affiliated firms might find it easy to fund their investments with cash or debt compared to the standalone firms.

# Differential Value of Control

- Insiders of group-affiliated firms may value control more than those of standalone firms. Control may be especially important to the insiders of group-affiliated firms to facilitate the redistribution of resources in the form of intragroup loans, transfer pricing etc. within their groups (George & Kabir, 2008) for several reasons:
  - smoothing liquidity across firms (Khanna & Yafeh, 2005)
  - providing support to financially weaker firms so as to avoid negative spillovers to rest of the group (Gopalan et al., 2007)
  - financing positive net present value projects within the group (Gopalan et al., 2014)
  - deriving private benefits of control
- The loss of control is likely to be more costly for the insiders of group-affiliated firms than those of standalone firms.



# Summary of Considerations of Financing Investments

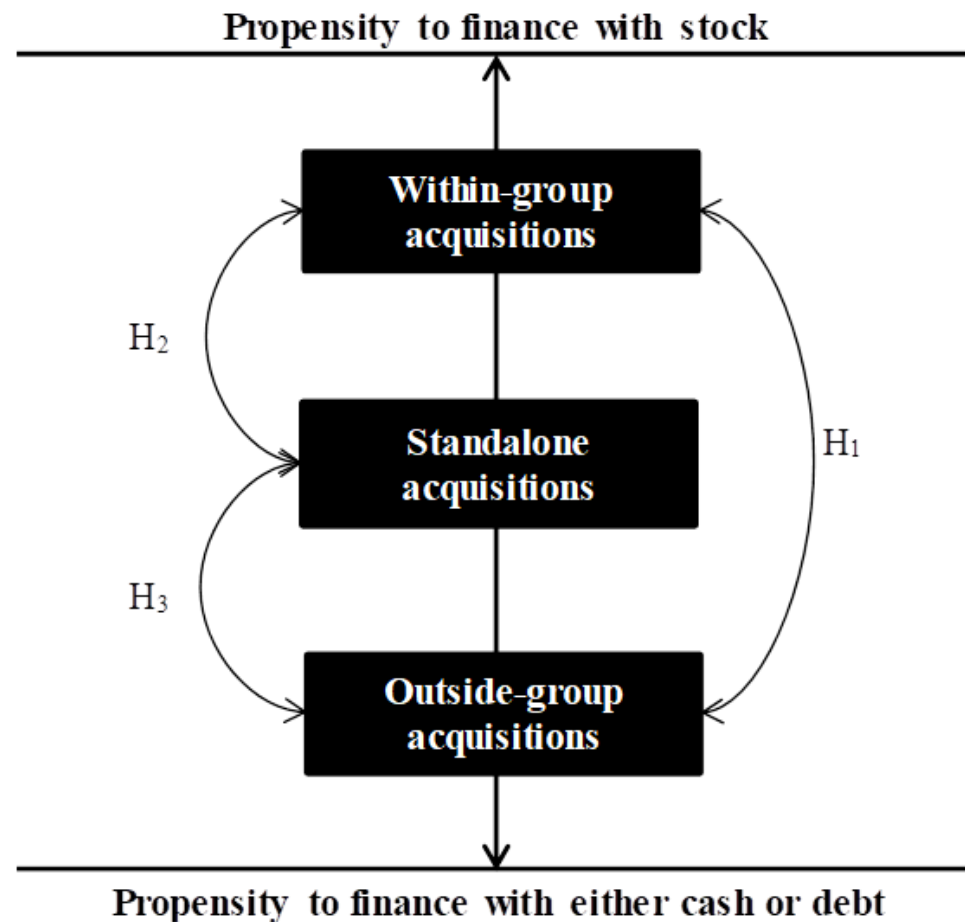
	<b>Within-group</b>	<b>Outside-group</b>	<b>Standalone</b>
<b>Control Considerations</b>	Unimportant	Important	Important
<b>Financial Constraints</b>	Unimportant	Less financial constraints	More financial constraints

# Hypotheses on New Order of Financing Investments

**H<sub>1</sub>:** Compared to outside-group acquisitions, group-affiliated acquirers have a higher propensity to finance within-group acquisitions with stock.

**H<sub>2</sub>:** Compared to acquisitions by standalone firms, group-affiliated acquirers have a higher propensity to finance within-group acquisitions with stock.

**H<sub>3</sub>:** Compared to acquisitions by standalone firms, group-affiliated acquirers have a higher propensity to finance outside-group acquisitions with either cash or debt



# Sample Selection

Sample period: 1997 - 2016

**Table 3: Sample selection**

Step	Count
Number of deals announced and successfully completed by Indian public acquirers between 1995 and 2016 with known transaction value	1,560
<i>Less:</i> deals with method of payment unknown or undisclosed or hybrid	(810)
<i>Less:</i> deals undertaken by acquirers which could not be found in CMIE Prowess	(13)
<i>Less:</i> deals undertaken by government acquirers	(19)
<i>Less:</i> deals undertaken by financial firms	(69)
<i>Less:</i> deals where acquirer and target are the same (that is, repurchase deals)	(68)
<i>Less:</i> deals where it cannot not be ascertained whether the deal is within a business group or outside the group	(177)
<i>Less:</i> reduction in number of observations due to clubbing of deals with same announcement dates, acquirers and targets	(19)
<i>Less:</i> deals where data on any of the explanatory variables is missing	(25)
Final Sample	360

# Descriptive Statistics

**Panel B: Descriptive statistics for various sub-groups**

Variables	Standalone acquisitions (A) N = 149		Within-group acquisitions (B) N = 93		Outside-group acquisitions (C) N = 118		Test of difference (B - A)		Test of difference (C - A)		Test of difference (B - C)	
	Mean	Median	Mean	Median	Mean	Median	Wilcoxon		Wilcoxon		Wilcoxon	
							t-test	z-test	t-test	z-test	t-test	z-test
FIN_EQUITY	0.19	0	0.59	1	0.14	0	0.40***	1***	-0.05	0	0.45***	1***
CROSS_BORDER	0.37	0	0.00	0	0.24	0	-0.37***	0***	-0.13**	0**	-0.24***	0***
REL_SIZE	0.37	0.11	0.37	0.05	0.36	0.04	0.00	-0.06**	-0.01	-0.07**	0.02	0.01
IND_REL	0.37	0	0.29	0	0.45	0	-0.08	0	0.08	0	-0.16**	0**
CASH_TO_ASSETS	0.12	0.06	0.05	0.03	0.06	0.02	-0.06***	-0.03***	-0.06***	-0.04***	0.00	0.01
DEBT_TO_ASSETS	0.17	0.14	0.24	0.22	0.23	0.23	0.07***	0.08***	0.06***	0.09***	0.01	-0.01
TOTAL_ASSETS	8.37	8.47	10.25	10.31	10.06	10.03	1.88***	1.84***	1.69***	1.56***	0.19	0.28
INSIDER_OWN	0.48	0.51	0.51	0.51	0.52	0.51	0.02	0	0.04	0	-0.01	0.00
INSIDER_OWN_SQ	0.28	0.26	0.28	0.26	0.30	0.26	0.00	0	0.02	0	-0.02	0.00
MARKET_TO_BOOK	2.65	1.78	1.86	1.18	6.15	1.61	-0.79*	-0.6*	3.50	-0.17	-4.28	-0.43*
TARGET_PUBLIC	0.18	0	0.65	1	0.43	0	0.46***	1***	0.25***	0***	0.21***	1***
CRISIS_2001	0.01	0	0.03	0	0.03	0	0.03	0	0.03	0	0.00	0
CRISIS_2007_2009	0.26	0	0.27	0	0.17	0	0.01	0	-0.09*	0*	0.10*	0*

# Considerations of Control

		Standalone acquisitions (N = 149)	Within-group acquisitions (N = 93)	Outside group acquisitions (N = 118)
<b>Potentially control diluting</b>	Obs	149	24	118
	Percentage	100%	26%	100%
<b>Potentially control threatening</b>	Obs	40	1	33
	Percentage	27%	1%	28%

*Differences in the financing of standalone and outside-group acquisitions cannot be attributed to the different degree of threat to control faced by acquirers in these two types of acquisitions.*

# Assessing the Degree of Financial Constraints


- Following Hadlock and Pierce (2010), we compute the degree of financial constraints as a function of firm size and age
  - $HP\ Index = -0.737 * Size - 0.043 * Size^2 - 0.040 * Age$
  - Higher values indicate higher degree of financial constraints

	HP (size-age) Index
Standalone acquirers (A)	-10.3
Within-group acquirers (B)	-13.9
Outside-group acquirers (C)	-13.3
A - B	3.6***
A - C	3.0***
B - C	-0.6

*Standalone acquirers are financially more constrained compared to group-affiliates undertaking within-group as well as outside-group acquisitions.*

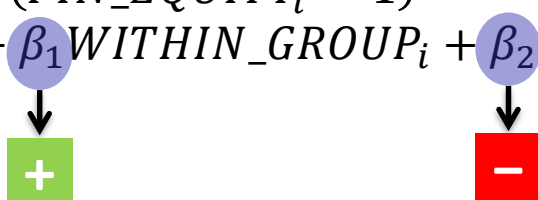
## **To test $H_1$ : Only acquisitions made by BG firms**

To examine how differently do BG firms finance their *within-group acquisitions* compared to *outside-group acquisitions*

$$PROB(FIN\_EQUITY_i = 1) = \alpha + \beta_1 WITHIN\_GROUP_i + \gamma' CONTROLS_i + \varepsilon_i$$


## **To test $H_2$ and $H_3$ : All sample acquisitions**

To examine how differently do group-affiliated firms finance their *within-group* and *outside-group acquisitions* compared to *standalone acquisitions*

$$PROB(FIN\_EQUITY_i = 1) = \alpha + \beta_1 WITHIN\_GROUP_i + \beta_2 OUTSIDE\_GROUP_i + \gamma' CONTROLS_i + \varepsilon_i$$


# Results (Average Marginal Effects): Hypothesis 1

	Expected Sign	FIN_EQUITY								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
WITHIN_GROUP	+	0.386*** (9.802)		0.275*** (6.718)		0.272*** (6.565)		0.223*** (5.332)		0.211*** (4.763)
CROSS_BORDER	-		-0.545*** (-2.965)	-0.367* (-1.893)	-0.535*** (-2.893)	-0.362* (-1.861)	-0.747*** (-2.649)	-0.606** (-2.570)	-0.755*** (-2.684)	-0.611** (-2.575)
REL_SIZE	+		0.395*** (5.857)	0.350*** (5.306)	0.387*** (5.852)	0.345*** (5.545)	0.374*** (4.604)	0.318*** (4.405)	0.354*** (4.657)	0.306*** (4.374)
IND_REL	+		-0.033 (-0.630)	0.025 (0.519)	-0.032 (-0.615)	0.027 (0.555)	-0.071 (-1.538)	-0.014 (-0.337)	-0.067 (-1.507)	-0.011 (-0.270)
CASH_TO_ASSETS	-		0.055 (0.160)	0.141 (0.513)	0.049 (0.143)	0.136 (0.491)	-0.011 (-0.032)	0.250 (0.823)	-0.057 (-0.177)	0.216 (0.725)
DEBT_TO_ASSETS	+		-0.014 (-0.082)	0.041 (0.265)	-0.033 (-0.190)	0.028 (0.180)	0.006 (0.037)	0.062 (0.446)	-0.017 (-0.109)	0.054 (0.379)
TOTAL_ASSETS	-		0.030* (1.666)	0.018 (0.965)	0.032* (1.801)	0.020 (1.093)	0.048*** (2.626)	0.025 (1.301)	0.053*** (3.187)	0.029 (1.584)
INSIDER_OWN	+/-		-0.005 (-0.032)	-0.043 (-0.321)	1.095 (1.528)	0.757 (1.072)	-0.009 (-0.073)	-0.035 (-0.310)	1.439** (2.192)	0.720 (1.078)
INSIDER_OWN_SQ	-/+				-1.064 (-1.610)	-0.776 (-1.201)			-1.393** (-2.374)	-0.729 (-1.224)
MARKET_TO_BOOK	+		-0.001 (-0.382)	0.000 (0.001)	-0.001 (-0.707)	0.000 (0.001)	0.000 (0.229)	0.001* (1.861)	0.000 (0.308)	0.001* (1.789)
TARGET_PUBLIC	+		0.196*** (3.152)	0.152*** (2.873)	0.199*** (3.217)	0.156*** (2.929)	0.174*** (2.922)	0.114** (2.390)	0.166*** (2.879)	0.113** (2.411)
CRISIS_2001	+		-0.131 (-0.773)	-0.142 (-1.083)	-0.131 (-0.815)	-0.144 (-1.145)	-0.092 (-0.436)	-0.075 (-0.414)	-0.086 (-0.412)	-0.076 (-0.416)
CRISIS_2007_2009	+		0.141** (2.470)	0.098* (1.802)	0.148** (2.568)	0.103* (1.853)	0.114 (0.958)	0.140 (1.462)	0.126 (1.168)	0.139 (1.517)
Acquirer industry dummies		No	No	No	No	No	Yes	Yes	Yes	Yes
Year dummies		No	No	No	No	No	Yes	Yes	Yes	Yes
Observations		211	211	211	211	211	205	205	205	205



# Results (Average Marginal Effects): Hypotheses 2 and 3

	Expected Sign	FIN_EQUITY								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
WITHIN_GROUP	+	0.315*** (6.900)		0.144*** (2.786)		0.140*** (2.708)		0.139*** (2.648)		0.141*** (2.624)
OUTSIDE_GROUP	-	-0.058 (-1.050)		-0.111** (-2.033)		-0.114** (-2.098)		-0.102** (-2.069)		-0.101** (-2.061)
CROSS_BORDER	-		-0.453*** (-4.183)	-0.360*** (-3.498)	-0.444*** (-4.139)	-0.357*** (-3.455)	-0.450*** (-4.392)	-0.370*** (-3.857)	-0.448*** (-4.395)	-0.371*** (-3.912)
REL_SIZE	+		0.220*** (5.856)	0.191*** (4.987)	0.222*** (5.830)	0.194*** (4.908)	0.230*** (6.040)	0.212*** (6.029)	0.230*** (6.054)	0.212*** (5.991)
IND_REL	+		0.034 (0.903)	0.067* (1.878)	0.030 (0.794)	0.064* (1.786)	0.008 (0.215)	0.038 (1.128)	0.007 (0.187)	0.039 (1.155)
CASH_TO_ASSETS	-		-0.122 (-0.588)	-0.058 (-0.302)	-0.121 (-0.585)	-0.060 (-0.316)	-0.034 (-0.193)	0.063 (0.385)	-0.036 (-0.202)	0.067 (0.405)
DEBT_TO_ASSETS	+		-0.061 (-0.497)	-0.018 (-0.156)	-0.069 (-0.564)	-0.023 (-0.198)	0.001 (0.009)	0.010 (0.092)	0.000 (0.001)	0.010 (0.091)
TOTAL_ASSETS	-		0.011 (1.016)	0.003 (0.241)	0.011 (1.003)	0.003 (0.275)	0.012 (1.089)	-0.001 (-0.039)	0.012 (1.127)	-0.001 (-0.078)
INSIDER_OWN	+/-		0.041 (0.387)	0.033 (0.320)	0.643 (1.243)	0.445 (0.884)	0.029 (0.314)	0.001 (0.011)	0.239 (0.514)	-0.150 (-0.328)
INSIDER_OWN_SQ	-/+				-0.593 (-1.211)	-0.407 (-0.858)			-0.206 (-0.458)	0.148 (0.341)
MARKET_TO_BOOK	+		-0.007 (-0.972)	-0.004 (-0.725)	-0.006 (-0.856)	-0.003 (-0.613)	-0.007 (-1.313)	-0.005 (-1.058)	-0.007 (-1.265)	-0.006 (-1.121)
TARGET_PUBLIC	+		0.172*** (4.146)	0.145*** (3.665)	0.172*** (4.139)	0.146*** (3.686)	0.150*** (3.543)	0.116*** (2.940)	0.150*** (3.543)	0.115*** (2.932)
CRISIS_2001	+		-0.178 (-1.265)	-0.185 (-1.602)	-0.182 (-1.316)	-0.187* (-1.652)	-0.351* (-1.802)	-0.296* (-1.771)	-0.353* (-1.810)	-0.294* (-1.774)
CRISIS_2007_2009	+		0.187*** (4.402)	0.155*** (3.792)	0.188*** (4.439)	0.156*** (3.809)	0.263*** (2.601)	0.264*** (2.922)	0.265*** (2.625)	0.264*** (2.926)
Acquirer industry dummies		No	No	No	No	No	Yes	Yes	Yes	Yes
Year dummies		No	No	No	No	No	Yes	Yes	Yes	Yes
Observations		360	360	360	360	360	358	358	358	358

# Results: Subsample Analysis Based on Absolute Control

**Table 9: Subsample analysis based on absolute control**

	INSIDER_OWN > 50%		INSIDER_OWN <= 50%	
	(1)	(2)	(3)	(4)
WITHIN_GROUP	0.278 (0.882)	0.004 (0.007)	1.533*** (2.994)	1.382** (2.103)
OUTSIDE_GROUP	-1.291*** (-3.053)	-2.267*** (-2.981)	0.143 (0.284)	0.103 (0.176)
CROSS_BORDER	-2.260** (-2.458)	-8.323*** (-4.185)	-1.702*** (-2.760)	-3.923*** (-3.139)
REL_SIZE	1.258*** (4.337)	3.525*** (4.231)	0.659* (1.919)	1.383*** (2.777)
IND_REL	0.621** (2.440)	0.278 (0.798)	-0.025 (-0.087)	-0.093 (-0.245)
CASH_TO_ASSETS	-1.183 (-1.303)	-0.522 (-0.344)	-0.594 (-0.282)	5.013* (1.725)
DEBT_TO_ASSETS	-0.774 (-1.084)	0.409 (0.382)	0.795 (0.762)	-0.377 (-0.215)
TOTAL_ASSETS	0.162* (1.753)	0.550*** (3.710)	-0.263** (-2.542)	-0.394*** (-2.605)
INSIDER_OWN	-0.456 (-0.415)	2.088 (1.207)	1.387 (0.957)	1.286 (0.590)
MARKET_TO_BOOK	-0.026 (-0.973)	0.002 (0.041)	0.147 (1.598)	0.137 (1.126)
TARGET_PUBLIC	0.223 (0.928)	0.106 (0.254)	1.224*** (3.073)	2.406*** (3.585)
CRISIS_2001	0.023 (0.034)	5.654*** (5.610)		
CRISIS_2007_2009	1.056*** (3.321)	9.241*** (3.688)	0.897*** (2.644)	0.316 (0.415)
Constant	-2.010 (-1.579)	-9.146*** (-3.714)	-0.401 (-0.438)	2.649 (1.386)
Acquirer industry dummies	No	Yes	No	Yes
Year dummies	No	Yes	No	Yes
Observations	192	190	163	142
Pseudo R <sup>2</sup>	0.414	0.645	0.448	0.603

The greater extent of stock-financing of within-group acquisitions (relative to standalone acquisitions) is driven by group-affiliated firms whose insiders do not enjoy the absolute control prior to the acquisition.

The lesser extent of stock-financing of outside-group acquisitions (relative to standalone acquisitions) is driven by group-affiliated firms whose insiders enjoy the absolute control prior to the acquisition.

*Insiders of group-affiliated acquirers value absolute control more than that of standalone acquirers and tend to finance acquisitions so as to preserve or possibly gain absolute control.*

# Alternative Explanation 1 – Propping Up

- Insiders of group-affiliated firms prop up/support the member firms in financial trouble for protecting their reputation and for tunneling them in the future (Bae, Cheon, & Kang, 2008; Friedman, Johnson, & Mitton, 2003; Gopalan et al., 2007).
- One of the ways to rescue the troubled firms from defaulting on their obligations is by making successful member firms acquire them (K. Bae et al., 2002).
- It is quite possible that the *within-group rescue acquisitions* are financed with stock for conserving cash that can subsequently be used to retire the debt of the troubled targets once the acquisition is complete.
- If rescue acquisitions are financed more with stock, it could be the case that the **rescue acquisitions at least partly drive the stock-financing of within-group acquisitions**, and it is not just due to control considerations becoming unimportant as we predict while formulating our hypotheses.

# Alternative Explanation 1 – Propping Up [contd.]

- Following Bae, Kang, and Kim (2002), we classify a target as financially troubled if either its net income or BVE immediately before its acquisition is negative.
  - Using this data for 77 within-group acquisitions (out of a total of 93 in the sample subject to data availability), we find that 24 (31%) targets are in financial trouble in the case of within-group acquisitions.
  - Out of these 24 rescue acquisitions, only 13 (54%) are financed with stock. The incidence of stock-financing of within-group rescue acquisitions is not significantly different from that of other within-group acquisitions which stands at 60%.
- We run our regression models after excluding the 24 within-group rescue acquisitions, and we continue to find in untabulated results that within-group acquisitions are financed significantly higher with stock compared to both outside-group as well as standalone acquisitions.

# Alternative Explanation 2 - Tunneling

- Another motive of a within-group acquisition could be to tunnel resources from one firm to another within the same group and benefit the controlling shareholders of the group firms at the expense of their minority shareholders (Bae et al., 2002).
- When the medium of financing is stock, acquirers can overpay (underpay) the target shareholders using their undervalued (overvalued) stock and thus increase the extent of tunneling than it is possible in a cash- or debt-financed acquisition.
- If business groups in India plan within-group acquisitions primarily to tunnel resources, it is possible that **much of the tunneling is happening through stock-financed acquisitions, and it could partly drive our results on the greater extent of stock-financing of within-group acquisitions.**

# Alternative Explanation 2 – Tunneling [contd.]

- Two possibilities of tunneling
  - From acquirer to the target
  - From target to the acquirer
- If within-group acquisitions are motivated by tunneling from an acquirer (target) to a target (acquirer), we should observe significantly lower (higher) abnormal returns for acquirers and higher (lower) abnormal returns for targets around the acquisition announcements in the case of within-group acquisitions compared to both standalone and outside-group acquisitions.

**Table 9: Stock market reactions (clubbed by sub-groups) for bidders around the acquisition announcement dates**

	Observations	Mean	Median
WITHIN_GROUP (A)	84	0.85%	0.37%
OUTSIDE_GROUP (B)	103	1.16%	1.07%
STANDALONE_ACQUIRER (C)	132	1.59%	0.80%
A - B (test of difference p-value)		-0.31% (0.78)	-0.70% (0.29)
A - C (test of difference p-value)		-0.73% (0.53)	-0.43% (0.29)

# Alternative Explanation 2 – Tunneling [contd.]

**Table 10: Multivariate analysis of market reactions to bidders' stocks for acquisition announcements for the entire sample**

	CAR (-2,+2)			
	(1)	(2)	(3)	(4)
WITHIN_GROUP	2.114 (1.566)	2.177 (1.613)	2.329 (1.548)	2.261 (1.516)
OUTSIDE_GROUP	1.347 (1.106)	1.441 (1.135)	1.312 (1.002)	1.330 (0.995)
CROSS_BORDER	2.791** (2.403)	2.830** (2.326)	2.896** (2.361)	2.898** (2.193)
REL_SIZE	1.271* (1.804)	1.193* (1.764)	1.250* (1.748)	1.177* (1.723)
IND_REL	0.684 (0.699)	0.596 (0.613)	1.038 (1.038)	0.950 (0.947)
CASH_TO_ASSETS	5.631 (1.320)	6.226 (1.419)	6.994 (1.536)	7.225 (1.550)
DEBT_TO_ASSETS	4.546 (1.364)	4.040 (1.270)	4.644 (1.343)	3.979 (1.211)
TOTAL_ASSETS	-0.504* (-1.686)	-0.378 (-1.219)	-0.603* (-1.701)	-0.423 (-1.178)
INSIDER_OWN	-22.105* (-1.786)	-17.600 (-1.419)	-16.851 (-1.350)	-12.672 (-1.012)
INSIDER_OWN_SQ	22.924* (1.869)	18.425 (1.517)	17.687 (1.398)	13.237 (1.047)
MARKET_TO_BOOK	-0.412*** (-3.019)	-0.431*** (-3.281)	-0.429*** (-3.280)	-0.435*** (-3.496)
TARGET_PUBLIC	-1.644 (-1.651)	-1.322 (-1.388)	-1.478 (-1.457)	-1.359 (-1.302)
Constant	8.352* (1.804)	3.244 (0.633)	7.760 (1.244)	2.194 (0.333)
Acquirer industry dummies	No	Yes	No	Yes
Year dummies	No	No	Yes	Yes
Observations	319	319	319	319
R <sup>2</sup>	0.101	0.124	0.134	0.158

We do not find evidence of tunneling in within-group acquisitions.

*Our results on greater stock-financing of within-group acquisitions are unlikely to have been driven by tunneling.*

- ***Method of payment versus method of financing***

- Martynova & Renneboog (2009) highlight that the method of payment in an acquisition deal may be different from the method of financing it.
- We do not find any acquiring firm in our sample raising money through either FPO or rights issue between the dates of announcement and completion of the deal.
- Therefore, we can rule out potential inaccuracies due to using method of payment and method of financing interchangeably for our sample acquisitions.

- ***Using alternative proxies for industrial relatedness***

- In our empirical analysis, we classify an acquisition into a related industry if acquiring and target firms share the same four-digit SIC code.
- We use three alternative definitions of industry relatedness based on the matching of one-, two-, and three-digit SIC codes.
- The results are robust to using alternative proxies of industrial relatedness as one of our control variables one by one.



# Robustness Checks - 2

- ***Hybrid deals***

- ❑ Restricting the sample to cash-only and stock-only modes of payment can be potentially costly if there are a large number of hybrid deals. In our sample, however, we have only 8 hybrid deals.
- ❑ Our results remain robust to clubbing the hybrid deals with either cash-only or stock-only deals depending on whether majority of the payment to the target shareholders has been made with cash or stock, respectively.

- ***Using alternative proxy for firm growth***

- ❑ In our estimation models, we use market-to-book as a proxy for an acquirer's growth opportunities.
- ❑ Our results remain robust to using an acquirer's sales growth (CAGR in sales over a three-year fiscal period immediately preceding the acquisition announcement) as an alternative proxy for its growth opportunities.

- ***Target industry fixed effects***

- ❑ Results remain robust to including target industry fixed effects.

- ***Insider ownership***

- Some studies find that the relation between insider ownership and mode of financing acquisitions is *non-linear* and that it may hold only over the intermediate range of insider holdings (Faccio & Masulis, 2005; Ghosh & Ruland, 1998; Martin, 1996).
- We have considered only the level and square terms of proportion of shareholding by insiders in acquiring firms in our main analysis.
- Following Faccio & Masulis (2005), we include the cube of insider ownership as well in our estimation models, and still find our main predictions to hold in untabulated results.
- Further, we replace insider ownership with marginal control, which takes the value 1 in case insider holdings lie in the range between 20% and 60% and 0 otherwise. The marginal control remains insignificant in our empirical results (untabulated), and our main results remain qualitatively unchanged.

# Limitations

- Small sample compared to that of developed countries primarily because of relatively low acquisition activity in India compared to these countries
- Number of acquisitions made by group-affiliated firms understated in sample due to excluding deals for which affiliation of the target firms cannot be ascertained
- The bankruptcy regime in India during the period of our study has been relatively weak and gave undue advantage to management over creditors (Gopalan et al., 2016, 2007; Narayanaswamy et al., 2012).
  - Since the private benefits of control are possibly higher for the insiders of group-affiliated firms than those of standalone firms, it is quite possible that the weaker bankruptcy law, as well as weakly enforced investor protection regulations in India, make the value of control even greater for group-affiliated firms than for standalone firms.
  - More research into investment financing patterns should be carried out in countries with stronger creditor rights and strongly enforced regulations.

Questions & Answers

**Thank You**