

# Independent Directors and Firm Value: Evidence from a Natural Experiment

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# Introduction

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- CG reforms in recent years have stressed the role of independent directors
  - Sarbannes-Oaxley; NYSE listing norms; Best Practices across countries; Clause 49 in India
- Existing literature in financial economics offers ambivalent evidence
  - Weisbach (1988), Bhagat and Black (1999, 2002) and Yermack (1996)



# Introduction

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- Findings unlikely to apply to Emerging Markets
- The context matters:
  - The basic CG conflict is different:
    - “management vs. shareholders” in developed countries
    - “controlling vs. minority shareholders” in Ems
  - Poorer legal protection
  - Relationships matter more than contracts
- Practically no study in the Emerging Market context



# Introduction

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- Identification problem:
  - Board structure and firm performance are often co-determined
  - Effect of ID departures may help
  - Confounded once again by endogeneity
- A solution:
  - If ID exits could be ascribed to an external event
  - The impact of such exits on firm performance could then be studied
  - A CG scandal at India's Satyam Computers Ltd. provides such a setting



# The story in brief

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- We argue that the Satyam scam was an **external event** that unnerved IDs across board leading to more than usual exits in January 2009
- We look at announcement effects of these exits
- We use a **diff-in-diff identification strategy** to look at change in longer-term valuation.
- We find:
  - A drop in value on announcement and in longer-term for these firms to conclude that the **IDs added value**
  - Exits of directors with **greater monitoring role and ability have greater impact;**
  - **Muted impact in family controlled firms**

# A quick look at Boards in India

## Distribution Summary by Number of Directors

- There are a total of 18,958 directorship position on these 2,568 companies, giving an average of 7.4 directors per company.
- The maximum number of directors in any company is 19 (Bharat Heavy Electricals Ltd. and Larsen & Toubro Ltd.).

No. of Directors	No. of Companies	%
< 5	334	13
5 – 10	1,885	73
11 – 15	327	13
>15	22	1
<b>Total</b>	<b>2,568</b>	<b>100</b>

Based on 2,568 BSE-listed companies who have filed Information as on 30 April 2010

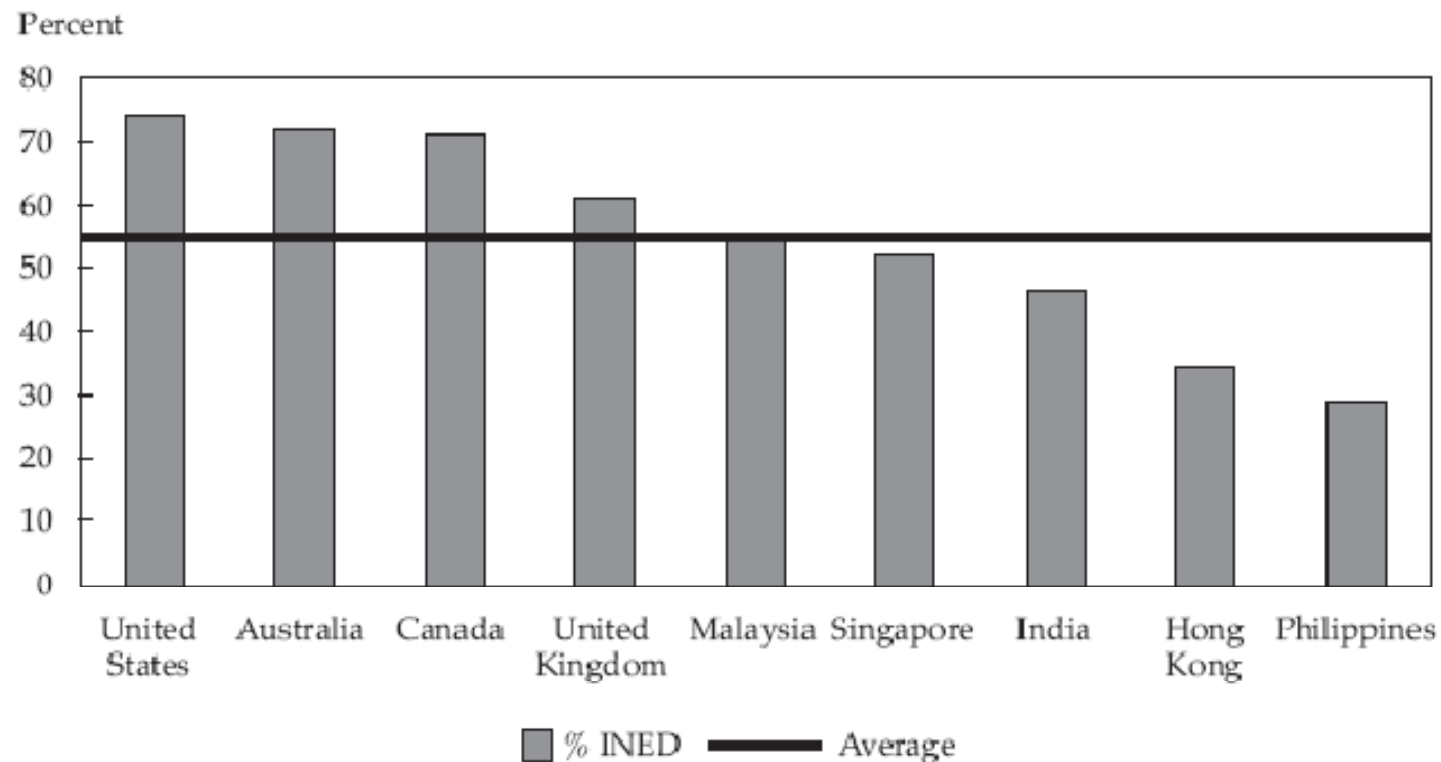
## Distribution Summary by Age

- The average age of the directors is 55 years.
- The youngest director is aged 18 years (Mr.Dnyanaraj Sudhir Moravekar) and the oldest is 100 years (Mr.Munishwar Nath Sardana). 69 individuals are below the age of 25 years and 2,192 individuals are above 70 years.

Age	No. of Directors	%
25 & below	69	0
26 – 35	748	5
36 – 45	2,181	14
46 – 60	5,918	39
61 – 69	2,872	19
<b>70 – 80</b>	<b>1,838</b>	<b>12</b>
<b>81 – 90</b>	<b>339</b>	<b>2</b>
> 90	15	0
Not Known	1,356	9
<b>Total</b>	<b>15,336</b>	<b>100</b>

# % of IDs compared

Average Percentage of Independent Directors on Corporate Boards in Selected Countries



*Note:* The average percentage of independent directors in the Philippines is based on a sample size of only four companies covered by GovernanceMetrics International (GMI).

*Source:* Based on GMI (June 2009).

# A quick look at IDs in India

## Distribution Summary by Number of Directors

- There are a total of 9,475 independent directorship position on these 2,506 companies, giving an average of 3.8 independent directors per company.
- The maximum number of independent directors in any company is 12 (Bank of Rajasthan Ltd.,The).

No. of Independent Directors	No. of Companies	%
< 3	509	20
3 – 5	1,639	65
6 – 10	355	14
> 10	3	0
<b>Total</b>	<b>2,506</b>	<b>100</b>

Based on 2,568 BSE-listed companies who have filed Information as on 30 April 2010

## Distribution Summary by Age of Independent Directors

- The average age of the directors is 59 years.
- The youngest director is aged 22 years (Mr.Venkata Ramana Gopala Krishna Kavuri) and the oldest is 99 years (Mr.Nathmal Himatsingka). 8 individuals are below the age of 25 years and 1,568 individuals are above 70 years.

Age	No. of Individuals	No. of ID Positions Held	%
25 & below	8	8	0
26 – 35	250	250	3
36 – 45	854	932	12
46 – 60	2,577	3,093	35
61 – 69	1,821	2,515	25
70 – 80	1,325	2,043	18
81 – 90	234	327	3
> 90	9	10	0
Not Known	297	297	4
<b>Total</b>	<b>7,375</b>	<b>9,475</b>	<b>100</b>



# A quick look at IDs in India -- II

## Distribution Summary by Tenure of Independent Directors

- Tenure of 6,955 (74%) Independent Directorship Positions is more than 3 years; 4,082 more than 6 years; 2,400 more than 9 years and 1,725 more than 12 years. Maximum tenure is 54 years.

Tenure	No. of Directors	%
< 1 Year	808	9
>1 - <3 Years	1,712	18
>3 - <6 Years	2,873	30
>6 - <9 Years	1,682	18
>9 - <12 Years	675	7
> 12 Years	1,676	18
Not Known	49	1
<b>Total</b>	<b>9,475</b>	<b>100</b>

Based on 2,568 BSE-listed companies who have filed Information as on 30 April 2010

## Education of Independent Directors

- 63% of ID positions are held by post-graduates (and above). Conversely, 37% of ID positions are held by general graduates or below.
- 1,003 are Management Graduates (of which 120 are IIM graduates)
- 1,115 are Chartered Accountants, 273 are Company Secretaries and 162 are Cost Accountants
- 948 are Lawyers
- 124 are Medical Doctors
- 1,354 are Engineers

Highest Level of Education	No. of Individuals	%	No. of ID Positions Held	%
DOCTORATES	525	7	734	8
POST GRADUATES	3,757	51	5,181	55
TECHNICAL GRADUATES (B.E., B.TECH., M.B.B.S., LL.B.)	908	12	1,173	12
GENERAL GRADUATES (B.A., B.COM. ETC.)	1,558	21	1,735	18
UNDER GRADUATES	56	1	66	1
SCHOOLING	181	2	196	2
NOT KNOWN	390	5	390	4
<b>Total</b>	<b>7,375</b>	<b>100</b>	<b>9,475</b>	<b>100</b>



# The Corporate Scandal at Satyam

- ❑ 4<sup>th</sup> largest software exporter in India
- ❑ Market capitalization of 3.98 billion US dollars at the end of November 2008. It was also a zero-debt company with over \$ 1.2 billion in cash reserves.
- ❑ ADR listed at NYSE
- ❑ Decorated for Corporate Governance Practices
- ❑ Stellar board including Vinod Dham and Krishna Palepu



# The Corporate Scandal at Satyam

## □ Dec 16, 2008

- board approved the acquisition of two real-estate companies held and/or controlled by sons of Satyam founder & chairman Ramalinga Raju
- Rescinded within 8 hours on major ADR sell-off. Major sell-off in Indian bourses on Sep 17
  - Satyam shares fell by 30.66%
  - Major Indian indices fell by 2.62 % (Sensex) and 2.87 % (Nifty).

## ■ Jan 7, 2009

- Raju discloses long-lived accounting fraud
- The cash was fictitious.
  - Satyam shares fell by 77.47 % on that day
  - Major Indian indices fell by 7.25 % (Sensex) and 6.18 % (Nifty).
- Raju and other top executives put behind bars
- Board superseded by government appointed board; multiple enquiries

# Fall-out for Independent

## Directors

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- US lawsuits
- CBI (eqv of FBI) enquiry
- Resigned/evicted from other boards/committees
- Media condemnation/ridicule
- Prithvi Haldea, a CG activist writes:

*"...Many (independent directors) are worried that their life's reputation can be ruined overnight and they in fact not only become persona non-grata, but also invite media ridicule and government prosecution. Is the fee they earn enough for them to expose themselves to such risks, is a question many are asking."*

# Effect of Satyam scandal on independent director exits

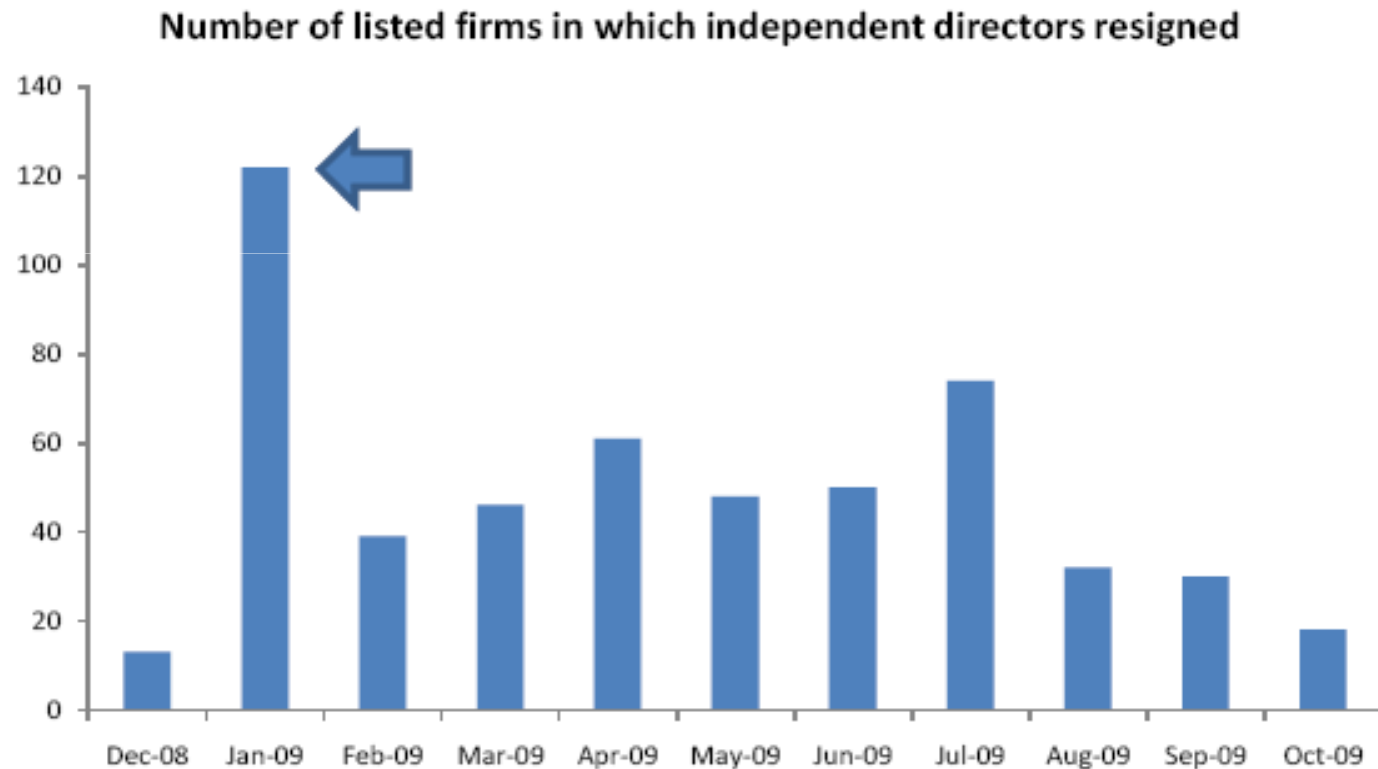


Figure 1: Exodus of independent directors from Indian listed firms in January 2009



# Hypotheses

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- *1:* Listed Indian firms in which independent directors resigned in Jan '09 experience negative abnormal stock returns following the director resignation.
- *1a:* These experience a comparative decline in performance in the three quarters of 2009.
- *2:* Abnormal stock returns following independent director resignations would be disproportionately *more* negative in listed Indian firms where the independent director had
  - a monitoring role on the board.
  - business/ accounting expertise
  - both



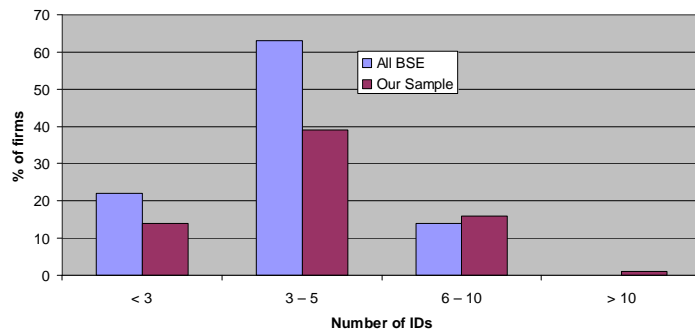
# Data

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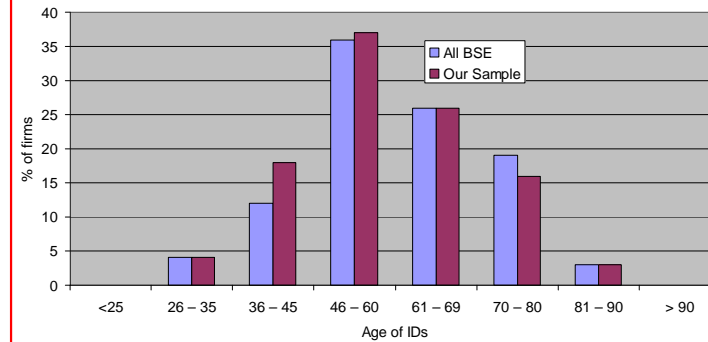
- Individual director exits from firms listed in the Bombay Stock Exchange (BSE) since 2006 as well as firm characteristics and performance data.
- The director exits data is from a publicly available online database, [Directors' Database](#) maintained by Prime Database of India.
- The database covers individual information on the directors that left the boards, including the reason for their cessation as well as individual director-level information including other directorships in public and private firms, education background etc. for all directors in most BSE-listed firms.
- The data on firm characteristics and market

# Representative-ness

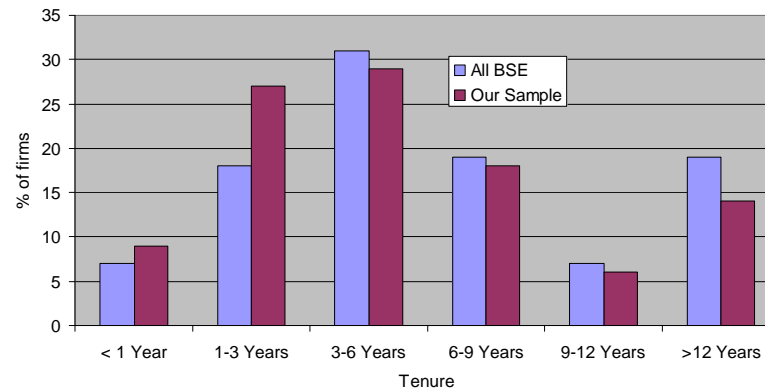
Number of IDs on Board



Age distributuoin of IDs



Tenure distribution of IDs





# Abnormal Returns surrounding ID Resignations

Event Day	Obns.	Mean	t-statistic	Positive	Negative	Median	Sign rank test
Panel A: Daily abnormal returns							
-5	94	0.02%	0.07	51	43	0.24%	0.01
-4	94	-0.27%	-0.81	50	44	0.31%	-0.80
-3	94	-0.23%	-0.58	38	56	-0.96%	-0.72
-2	94	-0.41%	-1.03	45	49	-0.87%	-1.41
-1	94	-0.57%	-1.50	47	47	-0.02%	-1.35
0	94	-0.21%	-0.50	35	59	-0.87%	-1.23
1	94	-0.61%	-1.82*	40	54	-0.53%	-1.79*
2	94	0.03%	0.07	43	51	-0.32%	-0.70
3	94	-0.10%	-0.27	48	46	0.17%	-0.40
4	94	0.40%	1.30	52	42	0.45%	1.37
5	94	0.51%	1.85*	57	37	0.45%	1.85*

Panel B: Cumulative abnormal returns							
(-1,0)	94	-0.78%	-1.35	36	58	-0.80%	-2.18**
(-1,+1)	94	-1.39%	-2.04**	32	62	-1.98%	-2.89***
(-1,+2)	94	-1.37%	-1.83*	32	62	-1.87%	-2.61***





The  
effect *is*  
indeed  
negative

Dependent variable:	Cumulative abnormal return (-1,+2) in %					
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-1.37* (-1.83)	-3.32* (-1.79)	-2.77** (-2.62)	-4.86* (-1.78)	-6.20* (-1.89)	-6.44** (-2.31)
Industry Return			99.09*** (2.96)			
Board Size				0.72* (1.67)		
No. of IDs				-0.67 (-1.09)		
No. of Promoter directors				-0.55 (-1.65)		
Median tenure on board					0.09 (0.57)	
Median board age					0.10 (0.94)	
Median tenure of IDs on board					-0.08 (-0.56)	
Median ID age					-0.04 (-0.46)	
Director's tenure						-0.18 (-1.22)
Director's age						0.08 (1.53)
Market Capitalization		0.67 (0.72)	0.71 (1.63)	0.56 (1.22)	0.64 (1.48)	0.58 (1.42)
Trading volume		-3.67 (-0.41)	-0.33 (-0.05)	-2.47 (-0.34)	-2.23 (-0.27)	-1.18 (-0.16)
Book to market		0.20 (0.48)	0.25 (0.72)	0.36 (1.18)	0.29 (0.80)	0.43 (1.35)
Stock return in Dec08		4.33 (0.68)	5.91 (1.21)	3.59 (0.72)	3.42 (0.68)	4.18 (0.98)
Trading volume * Stock Return in Dec08		24.62 (0.45)	9.71 (0.28)	20.76 (0.55)	13.06 (0.33)	11.80 (0.32)
Industry Fixed Effects	No	Yes	No	No	No	No
Observations	94	94	94	94	94	94
R-squared	0.00	0.30	0.20	0.14	0.09	0.10

# January effect and ID effect

Dependent variable:	Cumulative Abnormal Return (-1,2) in %				
	(1)	(2)	(3)	(4)	(5)
Jan '09 dummy * Independent					-1.78** (-2.56)
Jan '09 dummy	-6.26** (-2.34)	-6.32** (-2.35)	-6.26** (-2.34)	-6.26** (-2.34)	-5.56*** (-3.12)
Independent					0.80 (1.13)
Director's tenure		1.08** (2.47)			
Director's age		-0.67** (-2.62)			
Director's financial expertise			-1.44 (-0.26)		
Director is a Ph. D.				11.33** (2.13)	
Constant	1.62 (0.31)	44.31** (2.59)	1.62 (0.31)	-9.76*** (-6.69)	
Sample	Independent Director resignations from Jan 1 <sup>st</sup> 2006 to Dec 31 <sup>st</sup> 2009				All director resignations from Jan 1 <sup>st</sup> 2009 to Dec 31 <sup>st</sup> 2009
Firm FE	Yes	Yes	Yes	Yes	Yes
Observations	228	228	228	228	655
R-squared	0.43	0.43	0.43	0.43	0.32



# Effects on firms

Dependent variable:	Cumulative abnormal return (-1,2) in %			
	(1)	(2)	(3)	(4)
Dummy for firm from which the independent director quit	-3.74** (-2.46)	-3.81** (-2.37)	-2.97* (-1.81)	-3.53* (-1.87)
Market Capitalization		307.04 (0.86)		89.81 (0.28)
Trading volume		-67.49 (-0.47)		19.92 (0.10)
Book to market		-17.65 (-0.33)		-24.51 (-0.37)
Stock return in Dec08		11.40** (1.99)		18.17** (2.18)
Trading volume * Stock Return in Dec08		-879.81 (-0.56)		-841.28 (-0.37)
Constant	2.51** (2.42)	3.86** (2.43)	2.25** (2.14)	4.68** (2.47)
Director Fixed Effects	No	No	Yes	Yes
Observations	100	100	100	100
R-squared	0.05	0.11	0.31	0.40



## Results

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- The daily abnormal returns are significantly negative for the day following the resignation announcement.
- There is no significance on any other days suggesting that the exits are **not expected** by the market.
- The lack of significance on the event day maybe explained by the fact that the exit announcement is often made after market closure, so its impact is observed on the next day's price.
- The 4-day CAR is -1.37% and statistically significant and economically substantial.

# Difference-in-difference of Firm Performance

Dependent variable:	Quarterly Tobin's Q			
	(1)	(2)	(3)	(4)
Dummy for $t \geq \text{Jan '09}$ * Dummy for director resigned from firm in Jan '09	-0.136* (-1.86)	-0.276*** (-2.66)	-0.326*** (-3.23)	-0.472*** (-3.14)
Dummy for $t \geq \text{Jan '09}$	-0.445*** (-7.78)	0.274** (2.09)		
Dummy for director resigned from firm in Jan '09	-0.055 (-0.58)	0.039 (0.26)		
Stock Return in months (-2,-3)		0.925* (1.73)		1.722*** (3.53)
Stock Return in months (-4,-6)		0.996 (1.63)		1.746*** (4.67)
Stock Return in months (-7,-12)		1.459*** (8.05)		0.888*** (5.67)
Book to Market Ratio		-0.003 (-0.51)		0.003 (1.43)
Log of Sales		0.229*** (3.47)		1.003*** (4.75)
Log of Trading Volume		0.066*** (3.29)		-0.023 (-0.70)
Firm Fixed Effects	No	No	Yes	Yes
Industry Fixed Effects	Yes	Yes	No	No
Year*Qtr Fixed Effects	Yes	Yes	Yes	Yes
Standard Errors clustered by firm	Yes	Yes	No	No
Observations	46597	46597	39691	39691
R-squared	0.21	0.22	0.38	0.40

# IDs as Effective Monitors

Dependent variable:	Cumulative Abnormal Return (-1,+2) in %					
	(1)	(2)	(3)	(4)	(5)	(6)
Audit committee	-3.72** (-2.39)		-1.37 (-0.65)			
Director's business expertise		-1.49** (-2.37)	1.89 (0.94)			-1.69** (-2.53)
Audit committee * Director's business expertise			-5.78* (-1.85)			
Finance committee				-2.01 (-1.13)		
Director's Remuneration					-0.38* (-1.90)	-0.48** (-2.39)
Market Capitalization	0.65 (1.36)	0.43 (1.11)	0.49 (1.20)	0.50 (1.25)	0.69 (1.50)	0.40 (0.99)
Trading volume	0.62 (0.08)	-2.77 (-0.40)	-1.10 (-0.16)	-2.23 (-0.31)	-0.64 (-0.08)	-2.97 (-0.42)
Book to market	0.48 (1.53)	0.54* (1.72)	0.53* (1.76)	0.46 (1.40)	0.29 (0.92)	0.48 (1.55)
Stock return in Dec08	1.70 (0.36)	2.63 (0.52)	1.21 (0.27)	2.99 (0.58)	2.22 (0.42)	0.18 (0.03)
Trading volume * Stock Return in Dec08	5.57 (0.14)	25.45 (0.72)	19.86 (0.56)	20.44 (0.56)	7.53 (0.20)	26.58 (0.74)
Constant	-1.26 (-1.13)	-2.10* (-1.78)	-1.69 (-1.47)	-2.22* (-1.77)	-2.15 (-1.52)	-1.07 (-0.75)
Observations	94	94	94	94	94	94
R-squared	0.14	0.11	0.19	0.09	0.09	0.14

# Independent Directors as Monitors



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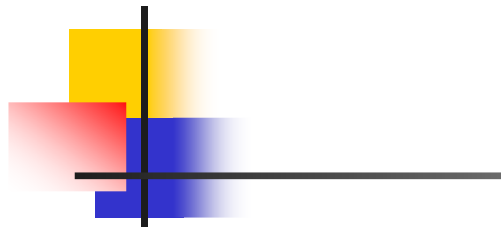
- We find that the exit of these special directors from boards lead to a larger drop in market returns in the announcement period as well as in firm valuation in the longer run.
- This provides further evidence that the independent variables do, indeed, add value and that their monitoring role contribute significantly to the value they bring to the firms they serve.



# Ownership matters...

Dependent variable is:	Cumulative Abnormal Return (-1,+2) in %							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family owned	4.87*** (3.17)		4.90*** (3.18)					5.78*** (3.36)
Promoter's share		1.25 (0.45)	1.76 (0.64)					2.41 (0.86)
Institutional ownership				0.12 (0.02)			37.73 (1.45)	45.61* (1.70)
FII ownership					-2.04 (-0.27)		-42.33 (-1.53)	-62.80** (-2.14)
Bank/ Financial institution ownership						-3.47 (-0.18)	-50.20 (-1.22)	-56.09 (-1.45)
Market Capitalization	0.66* (1.89)	0.68 (1.55)	0.65* (1.85)	0.68 (1.57)	0.68 (1.58)	0.69 (1.59)	0.78* (1.76)	0.74** (2.21)
Trading volume	-3.58 (-0.53)	-0.88 (-0.12)	-3.87 (-0.57)	-0.69 (-0.09)	-0.69 (-0.09)	-0.76 (-0.10)	1.02 (0.13)	-2.29 (-0.35)
Book to market	0.06 (0.21)	0.37 (1.17)	0.07 (0.25)	0.35 (1.09)	0.37 (1.12)	0.36 (1.14)	0.39 (1.18)	0.17 (0.55)
Stock return in Dec08	2.57 (0.52)	3.72 (0.73)	2.17 (0.44)	4.00 (0.80)	4.08 (0.80)	3.91 (0.79)	4.97 (0.96)	3.51 (0.71)
Trading volume * Stock Return in Dec08	13.30 (0.39)	9.71 (0.26)	15.15 (0.45)	8.41 (0.22)	8.06 (0.21)	8.32 (0.22)	-1.01 (-0.03)	3.41 (0.10)
Constant	-4.38*** (-4.19)	-3.45** (-2.09)	-5.20*** (-3.01)	-2.89** (-2.01)	-2.77** (-2.26)	-2.72* (-1.92)	-3.18** (-2.05)	-5.77*** (-2.78)
Observations	94	94	94	94	94	94	94	94
R-squared	0.19	0.07	0.19	0.07	0.07	0.07	0.09	0.25

# ...as does Size



Dependent variable:	Cumulative Abnormal Return (-1,+2) in %				
	(1)	(2)	(3)	(4)	(5)
Audit Committee *Small		-3.74** (-2.06)			
Audit Committee *Large		-3.42 (-1.63)			
Director's finance expertise*Small			-0.96 (-1.50)		
Director's finance expertise *Large			-2.14** (-2.00)		
Director's Remuneration *Small				-0.27 (-1.30)	
Director's Remuneration *Large				-0.71 ( 1.51)	
Family owned*Small					3.04 (1.49)
Family owned*Large					6.50*** (3.58)
Small	3.65*** (-3.25)	1.91** (-2.11)	3.19** (-2.45)	3.17** (-2.22)	4.37*** (-4.08)
Large	-1.06 (-0.90)	0.30 (0.21)	-0.22 (-0.16)	-0.24 (-0.18)	-3.85*** (-3.28)
Market Capitalization	0.40 (0.96)	0.38 (0.85)	0.08 (0.23)	0.43 (0.93)	0.44 (1.39)
Trading volume	-4.38 (-0.62)	-2.96 (-0.43)	-6.22 (-0.94)	-3.22 (-0.41)	-6.74 (-1.09)
Book to market	0.29 (1.00)	0.41 (1.42)	0.47* (1.73)	0.25 (0.84)	0.01 (0.03)
Stock return in Dec08	2.45 (0.50)	0.31 (0.07)	1.64 (0.33)	1.37 (0.25)	2.20 (0.46)
Trading volume * Stock Return in Dec08	24.59 (0.69)	21.18 (0.58)	43.23 (1.30)	17.38 (0.42)	24.21 (0.76)
Observations	94	94	94	94	94
R-squared	0.14	0.20	0.18	0.16	0.26



# Conclusion

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- Using a natural experiment that provides exogenous changes in independent directors together with unique data on all director resignations, we find that independent directors do seem to add value to a firm.
- Using the extraordinarily large number of such resignations in January 2009, we find the four-day cumulative abnormal return surrounding director resignations to be -1.3%.



# Conclusion

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- We show that compared to firms that did not experience any resignations in January 2009, the decline in Tobin's Q in 2009 is significantly greater for firms that experienced director resignations.
- We also find that resignations by independent directors that sit on audit committee and possess business-related degrees are associated with a sizably larger impact both in the short and longer run.
- Also the effect is less in family-owned firms and more in smaller firms



Thank You

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