

Why Do Banks Hide Losses?

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Truthful Reporting of Risk

Necessary components for a healthy banking sector:

- Capital regulation
- Deposit insurance
- Assessing costs and probabilities of bank failures/bailouts
- Understanding systemic risk

Market discipline

- Reign in risk taking

Reporting of risk is a common input to these decisions

- Regulators and investors require correct information

Examples of untruthful disclosure

- Wells Fargo
 - hid \$1.2B of bad loans before the housing crash – misrepresented them to qualify for FHA insurance.
 - after default, government paid the price.
- Region's Bank:
 - In 2009, misclassified \$168M of NPL – caught by SEC in 2014
- Bank of the Commonwealth:
 - understated loan losses by 25% during financial crisis - caught by SEC in 2013
- **Too many scattered instances of hiding, still no systematic study on economic drivers of this behavior.**
 - We simply do not observe what banks are hiding.

Economic Motivations for Hiding

Capital Requirements

- Manipulate risk models to lower regulatory capital requirement.
 - Begley, Purnanandam, and Zheng (2017), Plosser and Santos (2018), Behn, Haselmann, Vig (2018)

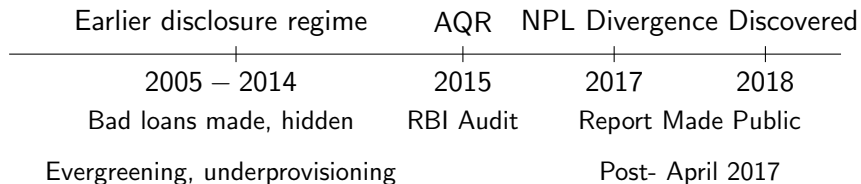
Managerial Agency Issues

- Myopia: Misreport NPL \Rightarrow Lower Provisions \Rightarrow Higher Profits \Rightarrow Higher Comp. [Narayanan (1985), Stein (1989), and Von Thadden (1995)]
- Rajan (1994): Banks opaque \Rightarrow easier to manipulate earnings

Our Paper

- Exploit an unexpected regulation change in India that forced *all* banks in the country to report the extent of hiding.
- Understand the role of shareholder monitoring and managerial incentives, as suggested by the theoretical literature, on this behavior.

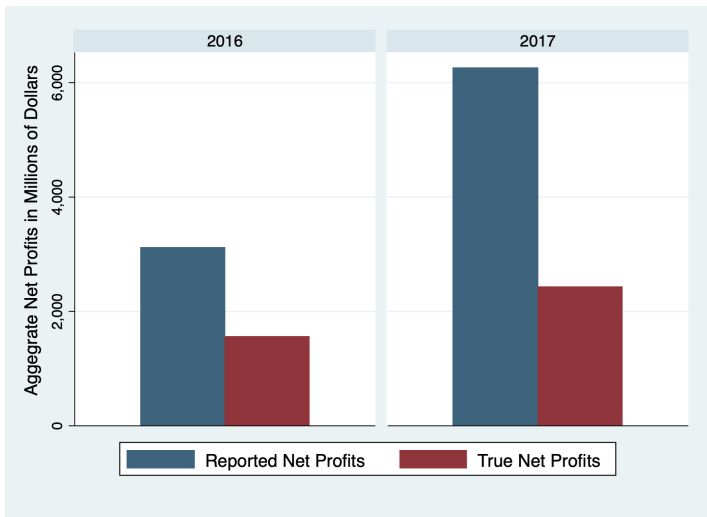
Reserve Bank of India (RBI) Policy Shock



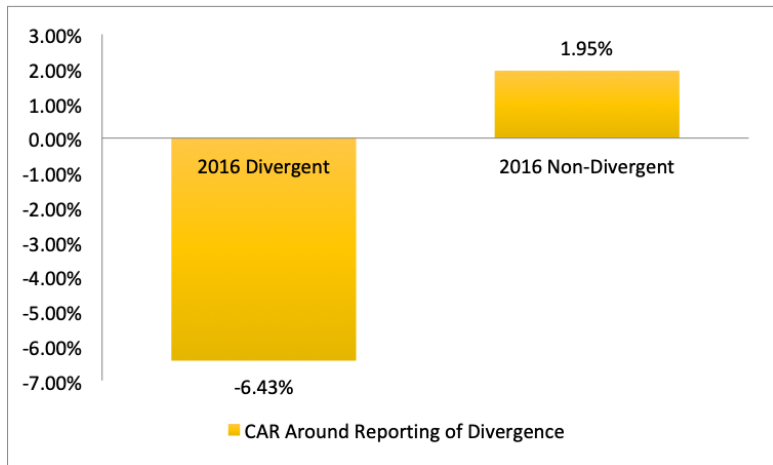
Key Features of the Policy Shock

- Loans made before the disclosure regime change.
- Misreporting decisions undertaken before the policy change.
- Consistent Methodology: RBI looked at list of 120-150 accounts – all banks must deem NPA – same set of loans for everyone.
- Economic Importance: Uncovered very large losses across banks.

Economically Large Underreporting



Market's Response



Empirical Proxy of Monitoring

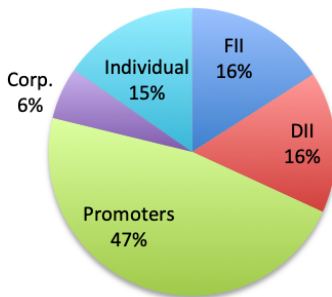
The source of this managerial agency problem is information asymmetry between managers and shareholders.

- Sources of Monitoring: Shareholders and the board
- Fundamental trade off in monitoring: proximity versus objectivity (Boot and Macey, 2003).

Exploit a unique feature of shareholding pattern in Indian banks: distant shareholders, namely Foreign Institutional Investors (FIIs).

Typical Shareholding Structure

% Shareholding (Average Bank)



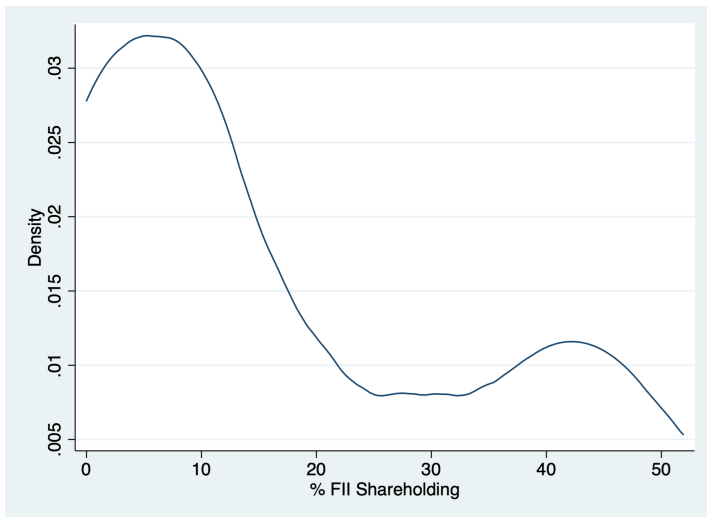
Distant Shareholders as (In)effective Monitors

- Physical distance as a proxy for information asymmetry. Stein (2002) and Petersen and Rajan (2002)
- Foreign Institutional Investors: less local knowledge → less ability to see underreporting.
- Often motivated to invest in emerging market for diversification benefits (MSCI inclusion).
- On the flip side, FIIs may be more effective as an objective monitor.
- Aggarwal, Erel, Ferreira, and Matos (2011): FII's improve governance. Bena et al (2017): FII's boost investment

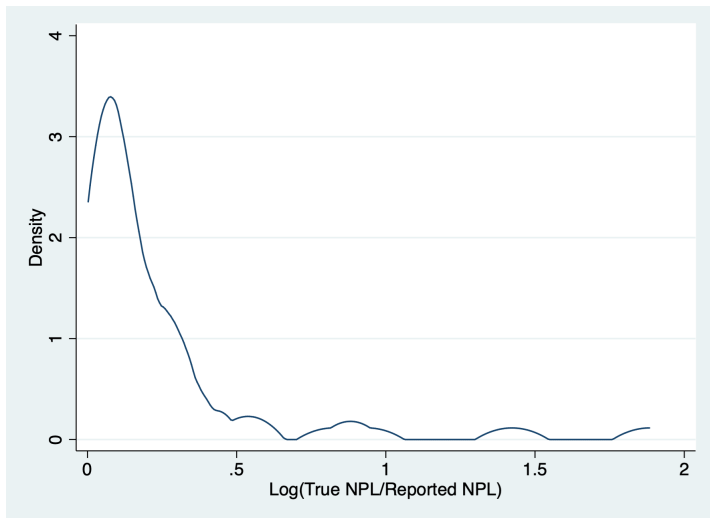
Our Sample

- Sample: entire banking sector of India.
- Two parts of investigation:
 - Cross-sectional drivers of hiding using 73 bank-year observations from 2016-17.
 - Pre-policy shock analysis using 2005-15 bank-year data (250-400 observations depending on tests).
- Underreporting data from the RBI-mandated disclosure:
 - Banks required to disclose NPLs if it exceeded some threshold (15% of incremental NPL).

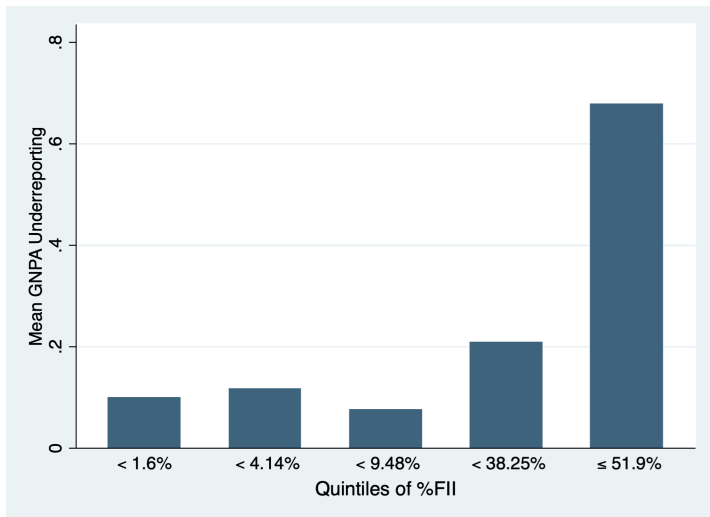
We have Rich Heterogeneity in FII Shareholding



We have Rich Heterogeneity in Underreporting



Underreporting increases in %FII



Underreporting increases in %*FII*

Dependent variable: $\log(\text{Actual NPL}/\text{Reported NPL})$.

	OLS		Tobit	
	(1)	(2)	(3)	(4)
% <i>FII</i>	0.215** (2.14)	0.211** (2.32)	0.216* (1.73)	0.217* (1.79)
% <i>DII</i>		0.093 (1.20)		-0.006 (-0.06)
<i>Capital</i>	-0.051 (-0.81)	-0.043 (-0.75)	-0.096 (-1.04)	-0.097 (-1.06)
<i>Log(Assets)</i>	-0.003 (-0.07)	-0.050 (-0.84)	-0.007 (-0.13)	-0.004 (-0.06)
Year FE	Yes	Yes	Yes	Yes
Observations	53	53	73	73
R^2	0.424	0.459		
Pseudo R^2			0.137	0.137

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Role of The Board

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Board Size</i>	-0.069 (-1.03)	-0.034 (-0.67)	-0.064 (-1.02)	-0.072 (-1.12)	-0.074 (-1.11)	-0.042 (-0.75)	-0.069 (-1.14)
<i>RBI Mem.</i>		-0.326* (-1.97)				-0.275* (-2.02)	-0.154** (-2.61)
<i>CEO Chair</i>			-0.083 (-1.26)			-0.005 (-0.09)	0.040 (0.70)
<i>%Outsiders</i>				0.161 (1.46)		0.170 (0.92)	0.209 (1.29)
<i>%Audit Board Outsiders</i>					0.120 (1.53)	-0.096 (-0.70)	-0.272 (-1.56)
<i>%FII</i>							0.245** (2.21)
<i>Capital</i>	0.105* (1.72)	0.017 (0.29)	0.099 (1.66)	0.045 (0.79)	0.044 (0.74)	0.014 (0.22)	-0.067 (-1.00)
<i>Log(Assets)</i>	0.010 (0.26)	0.017 (0.41)	0.007 (0.19)	0.051 (0.99)	0.041 (0.84)	0.035 (0.71)	0.018 (0.45)
<i>Year FE</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Observations</i>	52	52	52	52	51	51	51
<i>R²</i>	0.152	0.276	0.162	0.241	0.211	0.301	0.531

t statistics in parentheses

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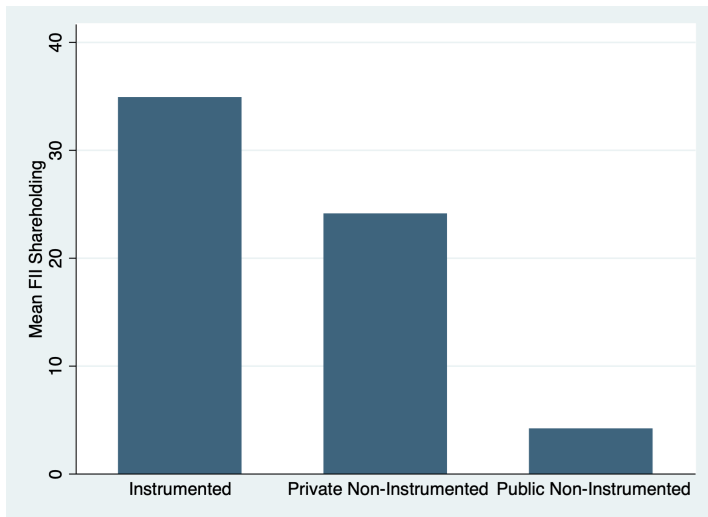
Identification Concerns

- Concern: omitted variable that correlates with both higher FII holding and underreporting.
- Results cannot be explained by:
 - Omitted variables that affect the *level* of bad loans.
 - Regulatory capital concerns: regression include capital position.
 - Institutional holding in general: no effect from DII.
 - Different proxies for board monitoring.
- Prior research: FII selects firms with better governance – bias against our results
- Remaining explanations:
 - FII correlated with poor accounting ability?
 - FII prefer banks that underreport?
- Check: Instrumental variable - MSCI inclusion.

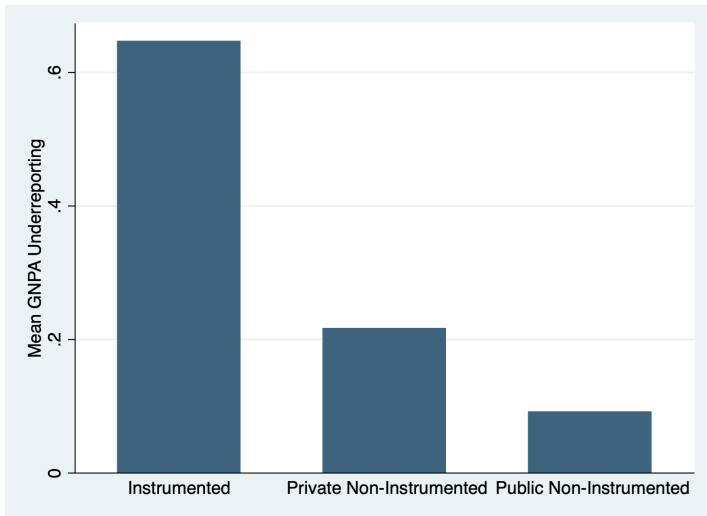
Typical Criteria for MSCI Inclusion

- Diversification benefit (country, sector, firm).
- Liquidity of the stock.
- Continuity.

MSCI Inclusion is Strong Instrument for FII



MSCI Inclusion Drives Underreporting



MSCI IV

	First Stage	Reduced Form	Second Stage
<i>MSCI</i>	1.828*** (4.84)	0.602** (2.46)	
<i>%FII</i>			0.329*** (2.88)
<i>Capital</i>	0.429*** (3.00)	0.003 (0.08)	-0.138 (-1.55)
<i>Log(Assets)</i>	-0.411** (-2.43)	-0.130* (-1.96)	0.005 (0.08)
Year FE	Yes	Yes	Yes
Observations	53	53	53
R^2	0.737	0.487	0.341
F First Stage	23.404		

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Managerial Incentives and Shareholder Incentives

- Shown that banks with greater FII under-report more
- Next up, examine the interaction of monitoring and managerial incentives

Effect is Predominately within Private Banks

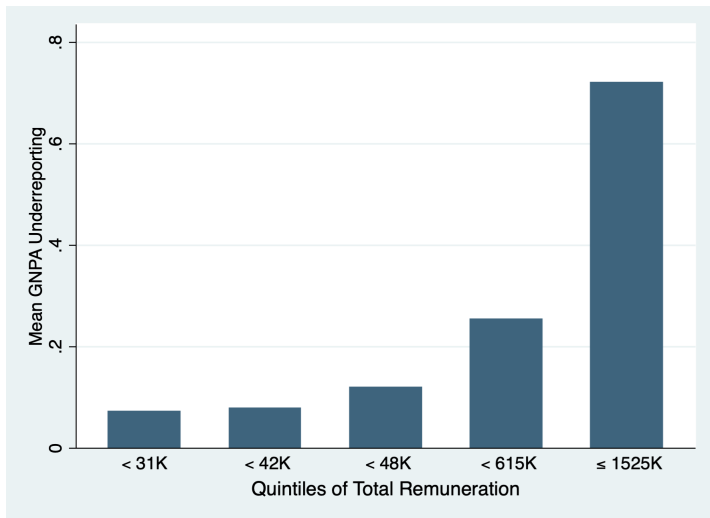
Dependent variable: $\log(\text{Actual NPL}/\text{Reported NPL})$.

	(1)	(2)	(3)	(4)
<i>%FII</i>	0.215** (2.14)		0.233 (1.41)	-0.038 (-0.40)
<i>Private</i>		0.511** (2.21)	-0.056 (-0.22)	0.144 (0.66)
<i>Private</i> × <i>%FII</i>				0.322** (2.40)
<i>Capital</i>	-0.051 (-0.81)	-0.033 (-0.63)	-0.048 (-0.85)	-0.046 (-0.84)
<i>Log(Assets)</i>	-0.003 (-0.07)	0.107 (1.68)	-0.016 (-0.19)	-0.007 (-0.08)
Year FE	Yes	Yes	Yes	Yes
Observations	53	53	53	53
R^2	0.424	0.337	0.425	0.470

t statistics in parentheses

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Underreporting increases in Remuneration



Compensation

Dependent variable: $\log(\text{Actual NPL}/\text{Reported NPL})$.

	OLS		Tobit	
	(1)	(2)	(3)	(4)
<i>Remun.</i>	0.219** (2.36)	0.116** (2.08)	0.202* (1.78)	0.071 (0.86)
<i>%FII</i>		-0.875* (-1.94)		-1.349* (-1.99)
<i>Remun. × %FII</i>		0.080** (2.11)		0.120** (2.04)
<i>Capital</i>	-0.089 (-1.27)	-0.062 (-1.15)	-0.134 (-1.35)	-0.093 (-1.12)
<i>Log(Assets)</i>	-0.036 (-0.71)	-0.077 (-1.27)	-0.025 (-0.35)	-0.116 (-1.38)
Year FE	Yes	Yes	Yes	Yes
Observations	47	47	61	61
R^2	0.482	0.553		
Pseudo R^2			0.144	0.229

t statistics in parentheses

Recap of Findings

- Banks with more uninformed FII shareholders underreport more
- Banks with highly compensated managers underreport more.
- Key driver: the interaction of these two.
- Interpretation of these results: Without informed shareholders' discipline, managerial compensation provides perverse incentives to underreport NPL.
- Roadmap: Go to historical sample - investigate how banks with FII differ in compensation practices.

FII's' reliance on reported, hard metrics

$$comp_{it} = \alpha_i + year_t + \beta \times X_{it} + \epsilon_{it}$$

	Full Sample	High FII	Low FII
<i>ROE</i>	0.017 (0.26)	0.055 (0.85)	-0.188 (-1.31)
<i>GNPARatio</i>	-7.424* (-1.93)	-7.644** (-2.37)	-1.554 (-0.15)
<i>Log(Assets)</i>	0.720** (2.19)	0.797** (2.42)	0.919 (1.22)
Bank FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
R^2	0.86	0.91	0.40
Within R^2	0.06	0.13	0.01
Observations	274	153	121

t statistics in parentheses

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Managerial response to increase FII Holdings

$$perf_{it} = \alpha_i + year_t + \beta \times FII_{it} + \epsilon_{it}$$

	GNPA	Net Profit	Advances
%FII	-0.686*** (-6.64)	0.178** (2.11)	0.156** (2.72)
Capital	-0.118 (-0.93)	0.142 (1.59)	0.038 (0.84)
Lev.	-0.368*** (-3.09)	-0.013 (-0.13)	0.129* (1.92)
TobinQ.	-0.232 (-1.53)	0.068 (0.91)	-0.044 (-0.77)
Year FE	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes
Observations	375	377	377
R ²	0.644	0.649	0.989

t statistics in parentheses

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Discussion/Conclusion

- First systematic study to look at why banks hide info from the market.
- Implications for U.S. investors investing in distant markets:
 - use caution in deploying high-powered compensation contracts linked to observable performance measures as a substitute for diluted monitoring.
 - instead of solving the agency problem, it can result in perverse misreporting incentives.
- Implications for banking regulators around the globe:
 - understand the proximity-objectivity trade-off of shareholder discipline.