State-Owned versus Private Banks in South Asia:

Financial Resilience and Real Costs of Distress

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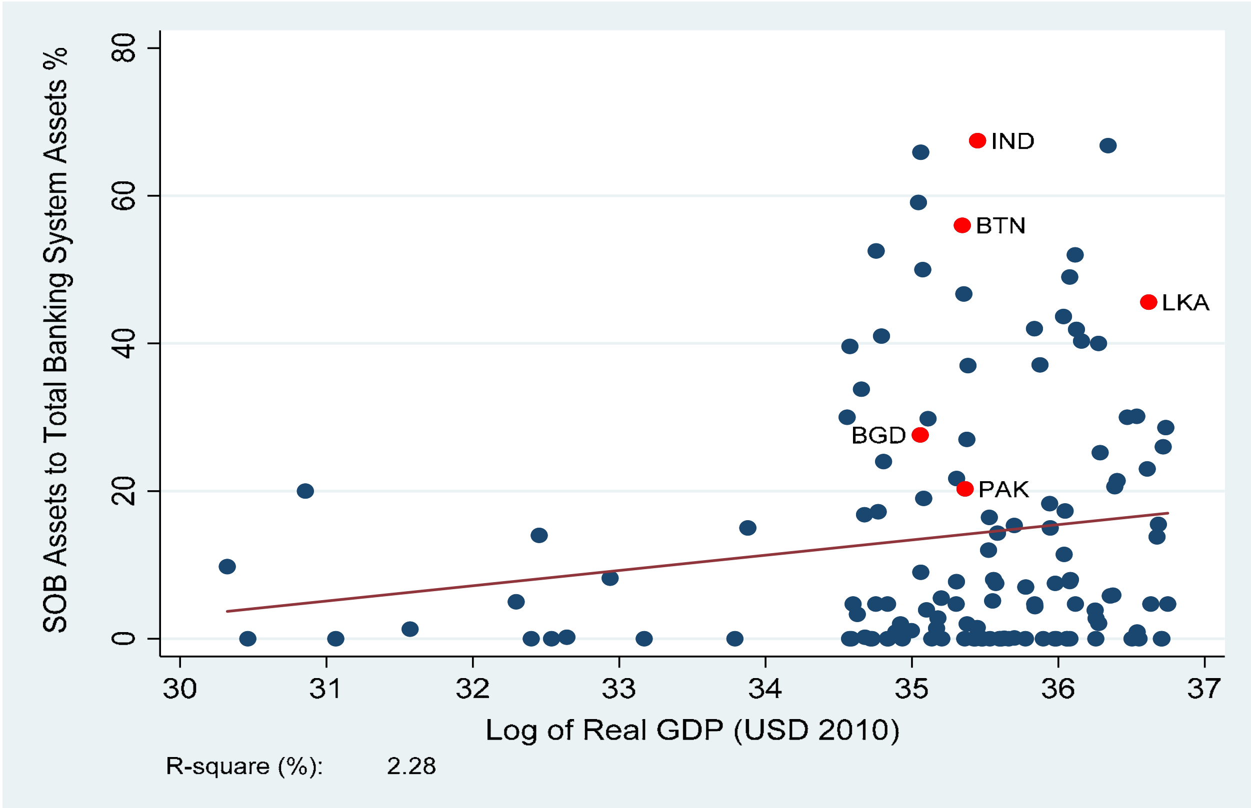
Motivation

- Economists keep debating the pros and cons of state banking.
- This paper studies bank distresses, the factors of bank distress, and bank adjustments in distress by contrasting state and private ownership of banks.
- Matching firms with banks, it further assesses how firm links with the banks impact firms' financing and investments—notably in times of bank distress.



Main Messages

- In India, state-owned banks are more prone to distress. But, when private banks get into distress, they reduce lending much more than state banks in distress.
- Softer budget constraint and conditions of government recapitalization help state banks in distress sustain lending to clients and own investments.
- For SMEs, a distress at the bank they work with impairs access to financing. If the distressed bank is a state-owned bank, however, the effect of distress shock is neutralized.
- Distress at banks lowers firm investment. State ownership can help sustain firm investment in times of bank distress.

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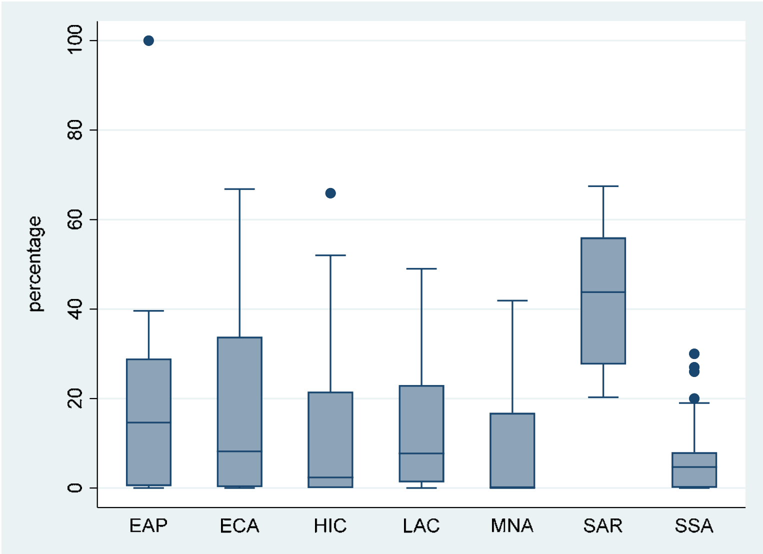
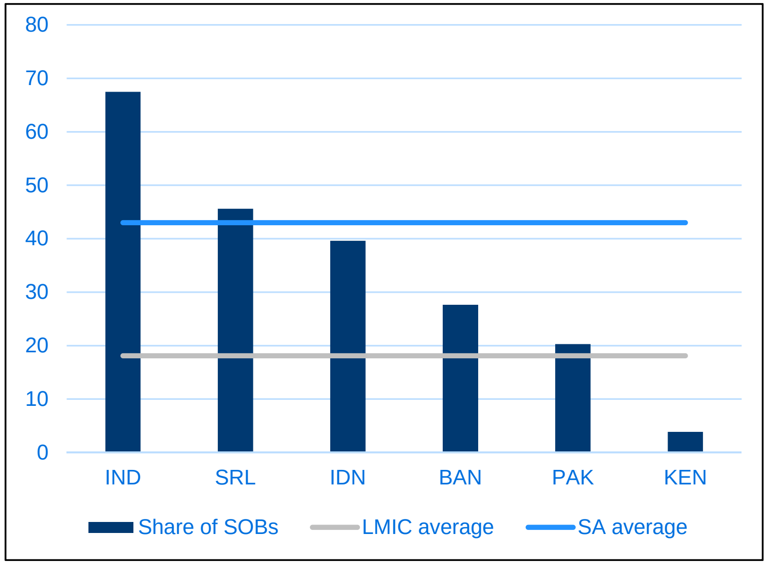
State Owned Commercial Banks in South Asia

SOCB share of Total Banking Assets (%) by region



SOCB share of Total Banking Assets (%) by country



- SCOBs in South Asia account for the highest share of total banking assets across all world's regions.

- They have a large impact on banking sector performance, efficiency, and soundness, as well as economic opportunities.

Lit Review: the Upside of SOCBs

An upside of using commercial/hybrid SOBs to leverage public capital for development

- State effort to address market failures and create positive externalities (Atkinson and Stiglitz, 1980; Stiglitz, 1993; Cull, Martinez Peria, and Verrier, 2017).

Addressing market failures by:

- Promoting competition and service delivery in the financial sector (Cull, Martinez Peria, and Verrier, 2017; Ferrari, Mare, Skamnelos, 2017)
- Helping resolve coordination failures (de la Torre, Gozzi, and Schmukler, 2017),
- Playing countercyclical and safe-haven roles in crises after the markets had failed to internalize individual contributions to systemic risk (Bertay, Demirgüç-Kunt, Huizinga, 2015).

Creating positive externalities by:

- Financing projects with high social returns that have negative net present value (Levy-Yeyati, Micco, and Panizza, 2004),
- Promoting strategically important industries, jump starting economic development, helping create new markets and national champions (Gerschenkron, 1962; Ferrari, et al. 2017).

Lit Review: the Downside of SOCBs

State ownership can lead to resource misallocation and inefficiencies due to agency problems and misuse by political interests (Cull, et al. 2017):

- ***Agency problems***: the conflict between state's interest in maximizing social welfare and the bureaucrats/technocrats interest in maximizing own moneymaking: more red tape, operational inefficiencies, and misallocation (Banerjee, 1997; Hart et al., 1997).

- ***Political misuse***: through state banks, politicians can pursue their interests of reelection, personal profit, financing of supporters or highest bribe-payers. The result is resource misallocation and economic inefficiency (Shleifer and Vishny, 1994; Shleifer, 1998). Perotti and Vorage (2010): politicians are more likely to favor state ownership when public accountability and judicial independence are low.

Because of these inefficiencies, the empirical evidence on the countercyclical role of banks is mixed (Luna-Martinez and Vicente, 2012; Cull and Martinez Peria, 2013; (Bertay, et al., 2015; Coleman and Feler, 2015).

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Lit Review: Best practices

Best practices have been proposed to reap benefits and mitigate inefficiency costs.

- Several studies reviewed and proposed some good practices to improve SOCBs in practice. (Gutierrez, Rudolph, Homa & Beneit, 2011; de la Torre, Gozzi and Schmukler, 2017).

- Most of the prominent OECD guidelines on corporate governance could be implied to SOCBs, but they are not really tailored to the risk managing business of commercial/hybrid banks.

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SOCBs in South Asia

- SAR's SOCBs perform poorly compared with private banks--which are better capitalized, have better asset quality, profitability, and efficiency measures.
- Pakistan's SOCB could perform best in SAR. While SOCBs in Bangladesh show the weakest performance.
- India's SOCBs show mixed performance: good capital adequacy; NPL at worrying 17 percent; and, despite the lowest cost to income ratio, strongly negative profitability .

State Owned Commercial Banks

	Bangladesh: State-owned Commercial Banks	India: State-owned Commercial Banks	Pakistan: State-owned Commercial Banks	*Bangladesh: Specialized Development Banks*	*Pakistan: Specialized Banks*
Capital to RWA	2.0	11.0	15.5	*-31.9*	*25.5*
Gross NPL Ratio	28.2	17.2	12.7	*21.7*	*32.9*
Return on assets	-0.7	-1.3	1.2	*-1.6*	*-1.3*
Return on equity	-12.3	-22.5	17.9	*-8.4*	*-5.6*
Net Interest Margin	2.1	2.0	2.4	*0.9*	*4.7*
Cost to Income	82.0	53.7	58.5	*150.0*	*92.1*

Privately Owned Commercial Banks

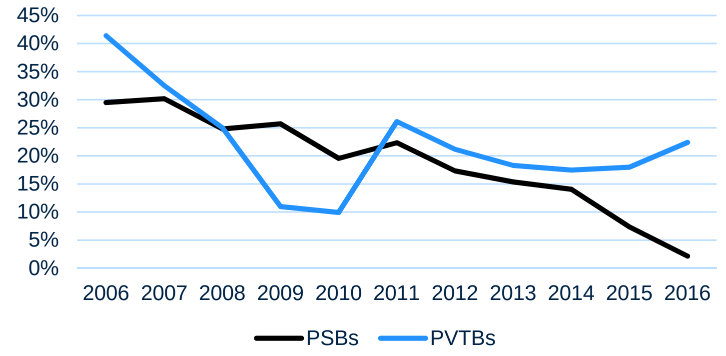
	Bangladesh: Domestic Banks	Bangladesh: Foreign Banks	India: Domestic Banks	India: Foreign Banks	India: Small Finance Banks	Pakistan: Domestic Banks	Pakistan: Foreign Banks
Capital to RWA	12.2	23.0	14.9	28.9	19.7	15.7	25.5
Gross NPL Ratio	6.0	6.7	3.6	2.6	2.4	6.2	3.8
Return on assets	0.6	8.2	0.7	1.1	0.4	1.3	2.6
Return on equity	2.8	13.7	6.7	3.3	1.7	18.1	32.4
Net Interest Margin	3.5	4.6	2.9	2.9	6.7	2.8	3.2
Cost to Income	74.0	46.0	47.3	49.2	70.7	60.8	28.9

Sources: Bangladesh Bank (BB), Reserve Bank of India (RBI), and State Bank of Pakistan

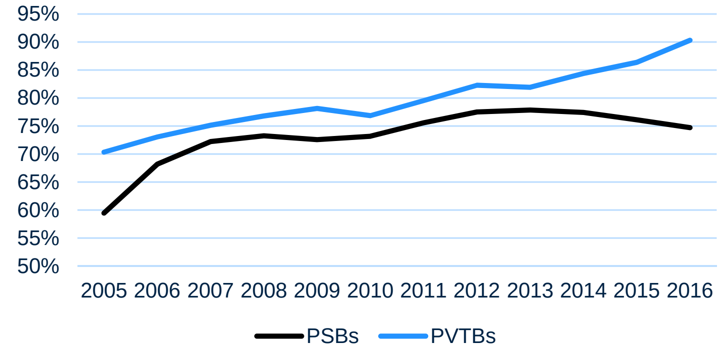
SOCBs versus PVTBs: Focus on India

- **India's financial sector is dominated by Public Sector Banks (PSBs).**
  - Scheduled Commercial Banks (SCBs) account for about 2/3 of total financial assets.
  - Out of 92 SCBs, 21 are PSBs. PSBs account for 70 percent of the total assets of SCBs.
  - PSBs have the largest outreach, with 95,549 branches across India - 3 times bigger than branch networks of all the rest of SCBs combined.
- **The largest five PSBs control 43% of all SCB assets.**
  - State Bank of India (SBI): accounts for 23% of SCB assets; largest branch network (over 22,500 branches); strong rural presence
- **Domestic private banks (PVTBs) outperformed recently PSBs: slowly increasing their market share.**
- **Declining PSB lending slows down the economy.**

Annual Growth in Advances per Type of Bank



Loans-to-Deposits Ratio



Source: RBI

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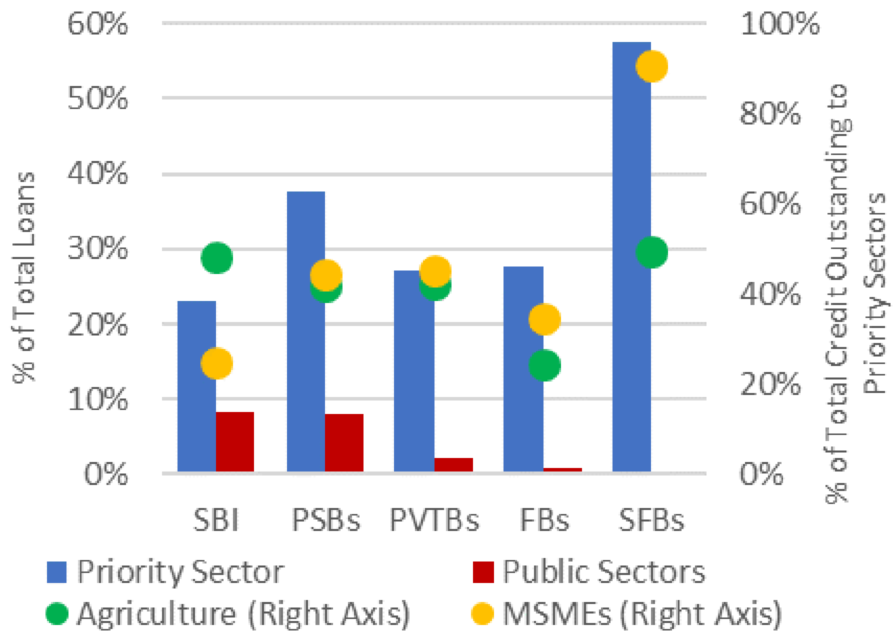
PSBs Lack Clear Mandates

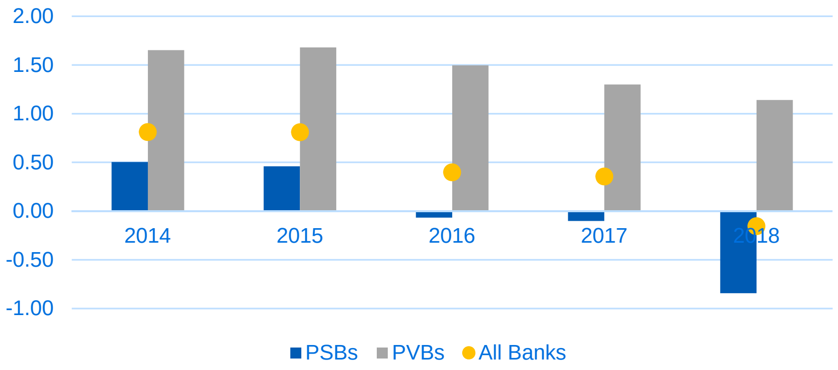
- **Worldwide, SOCBs lack explicitly defined roles:** market failures to address or positive externalities to create (Ferrari, Mare, Skamnelos, 2017).

- **SOCBs lack concrete mandates also in India:** PSBs in India have a very general development mandate if any, and do not reflect their mandate in actual lending behaviors:
    - Despite the largest branch network and deposit collection in rural areas, PSBs intermediate relatively less than PVBs in rural areas.
    - PSBs do not outperform PVBs on lending allocations to MSMEs and Agriculture.

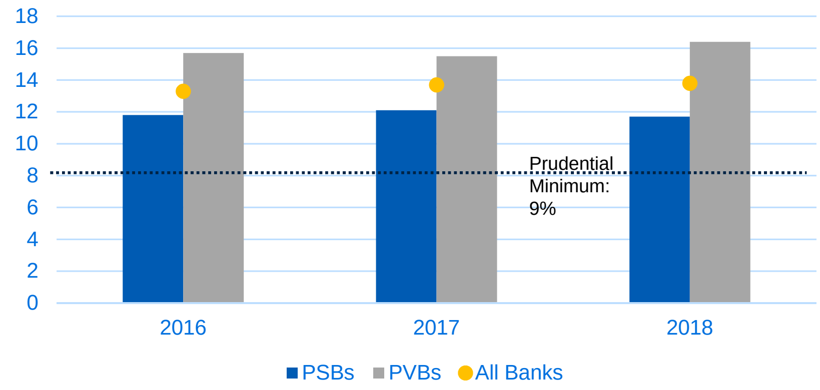


SOCBs Show Weak Financial Performance

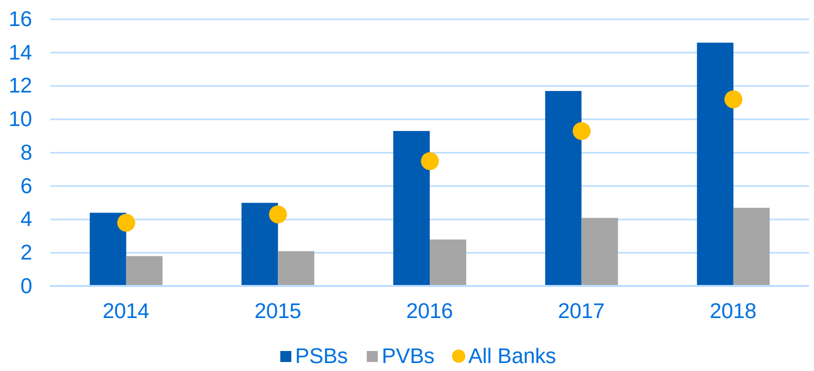
PSBs have lower profitability than private peers
(ROA, %)



PSBs have lower capital levels compared with private peers
(capital to risk weighted assets (%))



PSBs have higher NPLs than private peers
(gross NPL ratio, %)



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Regression analysis using micro data

Key questions:

a) Are PSBs more vulnerable to distress? Which are the main factors explaining bank distress?

b) How do banks adjust in distress? Do PSBs adjust differently from PVBs?

c) Does bank distress affect the access to financing and investment of firms? Does ownership type matter for the effect?

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Data

- Bank level panel data from Prowess Database (2009 – 2018)
- Firm level panel data linked to bank data from Prowess Database (2009 – 2018)
- Work in progress: Replicating bank analyses using FitchConnect data for Bangladesh, Pakistan, and Sri Lanka.

Can ownership type be a factor of bank distress?

Dependent Variable - Probability of Distress for Banks: ICR < 1
Panel Logit Regression with Robust Standard Errors

	(1)	(2)	(3)
PSB - dummy	2.103***	2.107***	
	(5.25)	(5.27)	
SBI - dummy		1.620	
		(1.57)	
Govt Shareholding >=50% and <70%			1.678***
			(3.73)
Govt Shareholding >70%			2.184***
			(5.37)
Bank Size (Log Total Assets)	-0.333***	-0.324***	-0.302***
	(-3.98)	(-3.77)	(-3.62)
Age (Years)	-0.00253	-0.00279	-0.00141
	(-0.60)	(-0.65)	(-0.33)
Loan to Deposit ratio (Log)	0.515*	0.515*	0.521*
	(2.16)	(2.14)	(2.15)
FX Exposures (Log ratio: FX Liabilities to Total	-0.129	-0.124	-0.114
	(-1.37)	(-1.30)	(-1.19)
Constant	-0.308	-0.375	-0.578
	(-0.26)	(-0.31)	(-0.48)
Observations	554	554	554
R-squared	0.251	0.252	0.250
Year Time Dummies	Yes	Yes	Yes

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

- **Ownership type is a factor**:
(a) Being a PSB, significantly increases likelihood of distress.
(b) More state ownership equals higher bank vulnerability.
(c) SBI does not drive the result.

- **Size matters**: Smaller banks are more likely to be in distress—less diversified.

- **Loan funding from own deposits helps**: Banks with higher loan to deposit ratios are at higher risk of distress.

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How do banks adjust in distress? Do PSBs differ?

	Total Capital		Debt	
	(3)	(4)	(3)	(4)
Distress: ICR < 1	-0.0210	-0.0290	-0.231	-0.247
	(-0.64)	(-0.82)	(-1.92)	(-1.70)
Distress: ICR < 1 (L1)		0.0427		0.0492
		(0.72)		(0.24)
Distress*PSB	0.255**	0.251**	0.182	0.256
	(4.77)	(5.13)	(1.30)	(1.53)
Distress*PSB (L1)		-0.00198		-0.255
		(-0.02)		(-1.11)
Constant	0.0648*	0.0645*	0.470***	0.470***
	(2.36)	(2.36)	(4.64)	(4.63)
Observations	643	642	662	661
R-squared	0.0384	0.0394	0.133	0.138
Year Time Dummies	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	Yes
Sample	All	All	All	All Banks

t statistics in parentheses

1. Compared with distressed PVTBs, the **PSBs adjust to distress by increasing capital.** This could reflect the prompt recapitalization effort of the government in case of, at least, systemically important public banks.

2. Distressed banks reduce their debt in general. **PSB in distress enjoy softer budget constraints and increase borrowing in distress.**

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How do banks adjust in distress? Do PSBs differ?

	Fixed Assets		Lending	
	(3)	(4)	(3)	(4)
Distress: ICR < 1	-0.0236	-0.0215	-0.0661	-0.123***
	(-0.57)	(-0.54)	(-1.03)	(-3.93)
Distress: ICR < 1 - Lagged		-0.0435		0.00796
		(-1.14)		(0.21)
Distress*PSB	0.0929	0.119*	-0.0175	0.0446
	(1.91)	(2.43)	(-0.27)	(1.19)
Distress*PSB – Lagged		-0.0547		-0.0345
		(-1.14)		(-0.83)
Constant	0.133***	0.135***	0.197**	0.199***
	(4.90)	(4.94)	(6.91)	(7.11)
Observations	662	661	662	661
R-squared	0.0204	0.0327	0.133	0.138
Year Time Dummies	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	Yes
Sample	All	All	All	All Banks

t statistics in parentheses

3. **Private banks reduce lending in distress. PSB do not** and could be increasing lending in distress—perhaps an effort to outgrow NPLs?

4. **PSBs increase fix assets (invest) in distress** or at least their plans to accumulate fixed assets are not negatively affected. Government recapitalizations come with conditions such as “stimulate economic growth.” If PSBs cannot stimulate growth through lending (reg breach), it can use its investments to do so and meet the conditions of recapitalization.

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Bank distress and firm financing: Ownership type matters?

Explanatory Variables	Growth Rate of Debt		
	(1)	(2)	(3)
Bank distress=1	-0.0405	-0.0368	-0.152
	(-0.88)	(-0.80)	(-1.36)
Avg govt shareholding in PSB 51-70%=1	-0.0120	-0.0153	-0.000321
	(-0.57)	(-0.73)	(-0.01)
Bank distress=1 # Avg govt shareholding in PSB 51-70%=1	0.0311	0.0295	0.179
	(0.65)	(0.62)	(1.47)
Avg govt shareholding in PSB >70%=1	0.00286	-0.000953	0.0286
	(0.11)	(-0.04)	(0.42)
Bank distress=1 # Avg govt shareholding in PSB >70%=1	0.0216	0.0185	0.152
	(0.42)	(0.36)	(1.20)
Firm Size (Log Total Assets)	0.145***	0.146***	0.171***
	(10.94)	(11.20)	(6.20)
Firm Fixed Effects	Yes	Yes	Yes
Sector-Year Fixed Effects	Yes	Yes	Yes
Firm Ownership	**All**	**Private**	**SME**
Observations	36440	35594	10037
R-squared	0.300	0.302	0.406

t statistics in parentheses

* p<0.05 ** p<0.01 *** p<0.001

1. Bank distress may not affect firm borrowing from banks in general.
2. **SMEs linked to banks in distress see their access to financing worsening**. SMEs have fewer financing alternatives compared with larger firms—such as access to capital markets.
3. **If the distressed bank** of an SME is a **state bank**, the **negative effect** of bank distress on the SME access to finance **becomes insignificant**.

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Bank distress, ownership, and firm investment

Explanatory Variables	Growth Rate of Gross Fixed Assets		
	(1)	(2)	(3)
Bank distress=1	-0.0305	-0.0286	-0.0268
	(-1.85)	(-1.72)	(-0.73)
Avg govt shareholding in PSB 51-70%=1	-0.0117	-0.0119	-0.0118
	(-1.35)	(-1.36)	(-0.64)
Bank distress=1 # Avg govt shareholding in PSB 51-70%=1	0.0260	0.0236	0.0520
	(1.48)	(1.34)	(1.28)
Avg govt shareholding in PSB >70%=1	-0.0107	-0.00987	0.0176
	(-0.94)	(-0.86)	(0.72)
Bank distress=1 # Avg govt shareholding in PSB >70%=1	0.0278	0.0231	0.0294
	(1.45)	(1.19)	(0.68)
Firm Size(Log Total Assets)	0.0734***	0.0740***	0.0371***
	(11.75)	(11.68)	(3.32)
Firm Fixed Effects	Yes	Yes	Yes
Sector-Year Fixed Effects	Yes	Yes	Yes
Firm Ownership	**All**	**Private**	**SMEs**
Observations	40842	39694	13162
R-squared	0.385	0.388	0.500

t statistics in parentheses

* p<0.05 ** p<0.01 *** p<0.001

1. **Distress at banks hinders firm investment.** SMEs are less affected because they finance investments from retained earnings and rely on external sources to finance working capital.
2. **Firms linked with state banks show lower investment.** This negative effect of firm links with state banks grows with state ownership in the bank.
3. **State ownership of distressed bank helps sustain firm investment**. (least significant for SMEs).
4. **This sustaining effect fades as the state ownership of distress bank increases.**

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Conclusion

- **State-owned banks, smaller banks, and banks financing their loans less from own deposits are more prone to distress.** The higher vulnerability of state-owned banks to distress increases with the share of state ownership.
- **SOCBs adjust in distress differently from private banks.** Although weaker state banks experience distress more often than private banks, when private banks get into distress, they reduce lending much more than state banks in distress.
- **State banks enjoy softer budget constraints**—readily gaining state equity and debt support. The softer budget constraint and conditions of government recapitalization help state banks sustain own investments in distress and lending to clients.
- Bank distress may not affect in general the access to financing of client firms. **But for SMEs, a distress at their banks impairs access to financing.** If the distressed bank is a state-owned bank, the negative effect of banks distress on the SME access to finance becomes insignificant.

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Conclusion

- **Firms linked to state owned banks have on average lower investments** than firms linked to private domestic banks.
- **Distress at banks lowers firm investment.** SMEs could be less affected because they finance investments mostly from retained earnings.
- **State ownership can help sustain firm investment in times of bank distress.** This sustaining effect declines with higher state ownership of the distress bank.

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Policy implications

- SOCBs have a large footprint in South Asia and, even more so, in India. Their ability to reach out and mobilize deposits is not matched by their ability to efficiently credit the economy.
- However, **state ownership in banks can help shield firms—including SMEs—from shocks** that the negative effects of occasional distress at banks bring.
- Historically, this **positive role of state ownership came at the cost of more frequent distresses at weaker state-owned banks and substantial**—over time increasing—**fiscal outlays** on bank recapitalization.
- **Even with substantial consolidation, further reforms of state banks may be needed.** One question is whether state-owned banks shall remain retail lenders or intermediate the deposits they mobilize through wholesale funding of private banks and adequately regulated and supervised nonbank credit institutions.

Thank you!

Key Questions

1. Are state-owned banks more prone to distress because of their inefficient operations and weak governance? **YES**

2. When confronting distress, do state-owned banks enjoy budget constraints softer than private banks? **YES**

3. Do firms linked with state-owned banks borrow and invest less than similar firms linked with private banks? **NO and YES for large firms**

4. In bank distress, do firms linked with state-owned banks experience similar or greater decline in access to financing and investments? **NO, SMEs experience a smaller decline in borrowing, and Large firms experience smaller decline in invetsment than similar firms linked to private banks.**

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