

# Bank Ownership and the Effects of Financial Liberalization: Evidence from India

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# Background

- Financial liberalization started in early 1990s.
- Entry of new private and foreign banks.
- Interest rates liberalized
- State's pre-emption of bank assets through reserve and statutory liquidity requirements reduced (which together stood at over 50 percent of assets in 1992)

# Issues

- How has the liberalization affected the efficiency of banks.
- How have the banks responded to reductions in SLR, CRR. Did the banks lower cash reserves and investment in govt securities (and increased the credit to private sector) commensurate with the decline in the CRR and SLR?
- Has the response of public banks differed from that of private banks?

# These Issue are Important for India

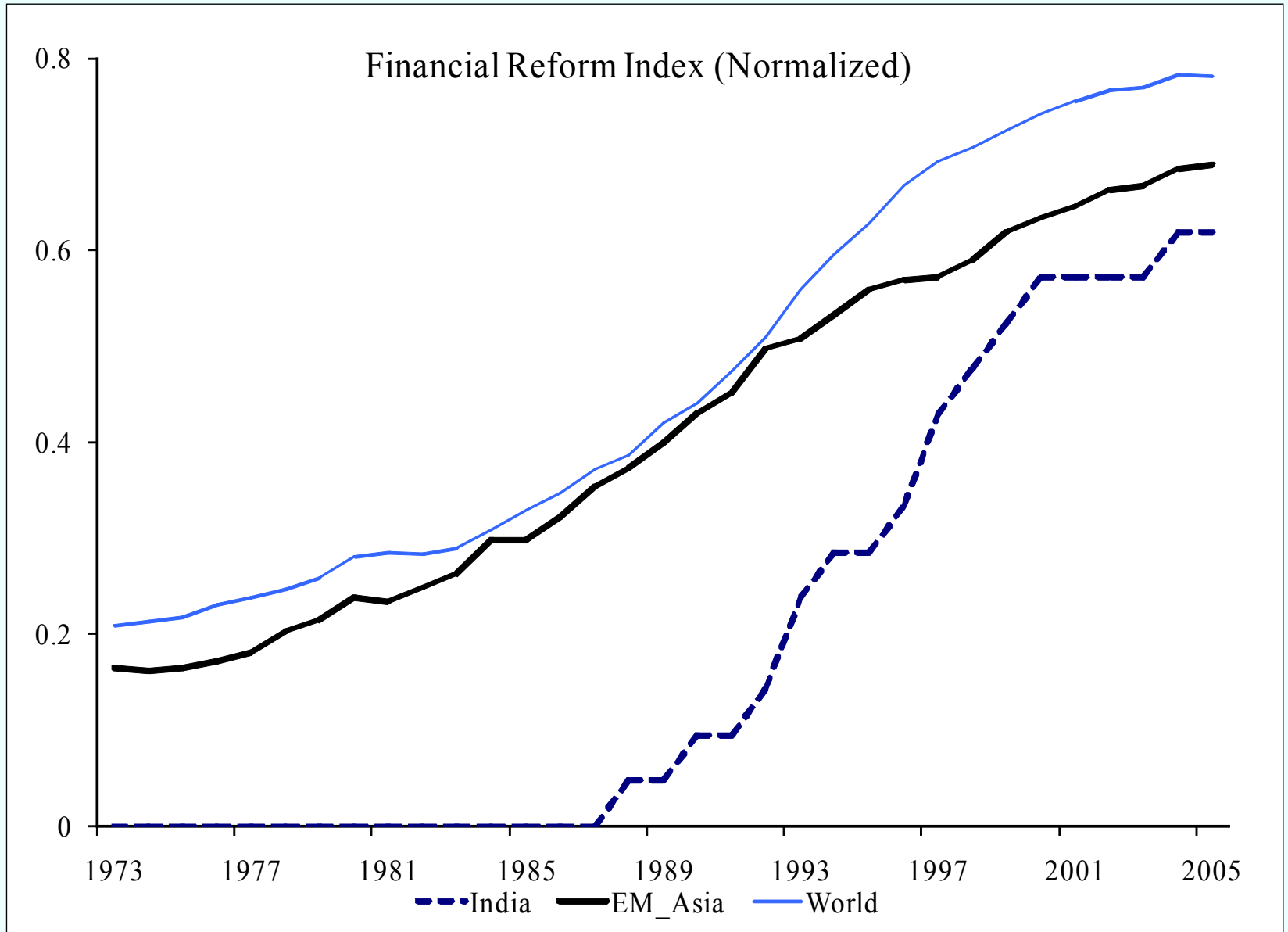
- India's banking system has remained predominantly state-owned.
- Fiscal deficit and government debt has remained high.
- Lack of finance is consistently cited as a constraint to growth

# The Issue Relates to the Literature on

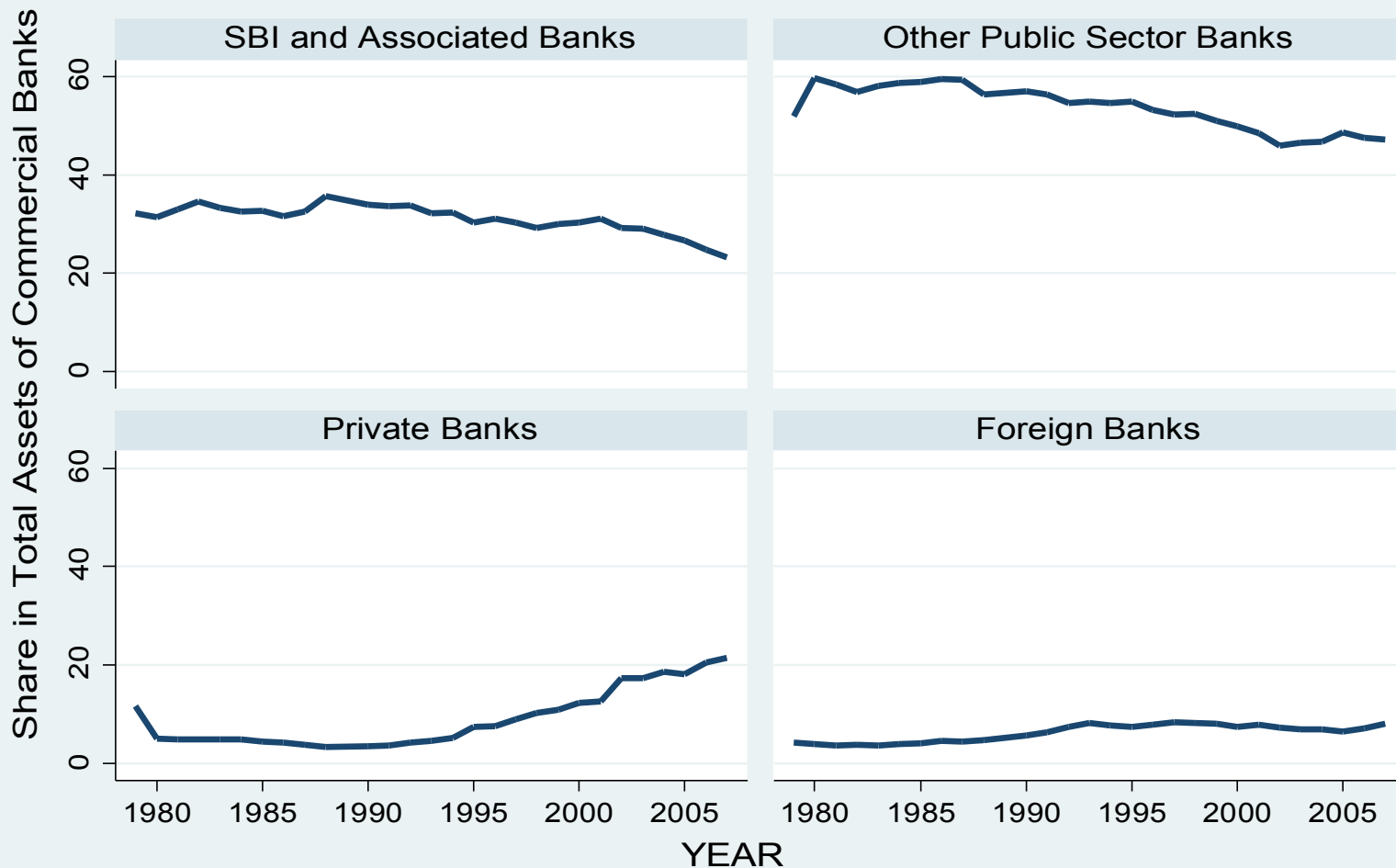
- The effects of financial liberalization (e.g. Tressel and Detragaiache 2008, IMF WP)
- Role of government banks (LaPorta et al 2002, Journal of Finance)
- Credit constraint and ownership issues in India (Banerjee et al 2004, India Policy Forum)

# Financial Liberalization in India

# Financial Liberalization Has Been Rapid

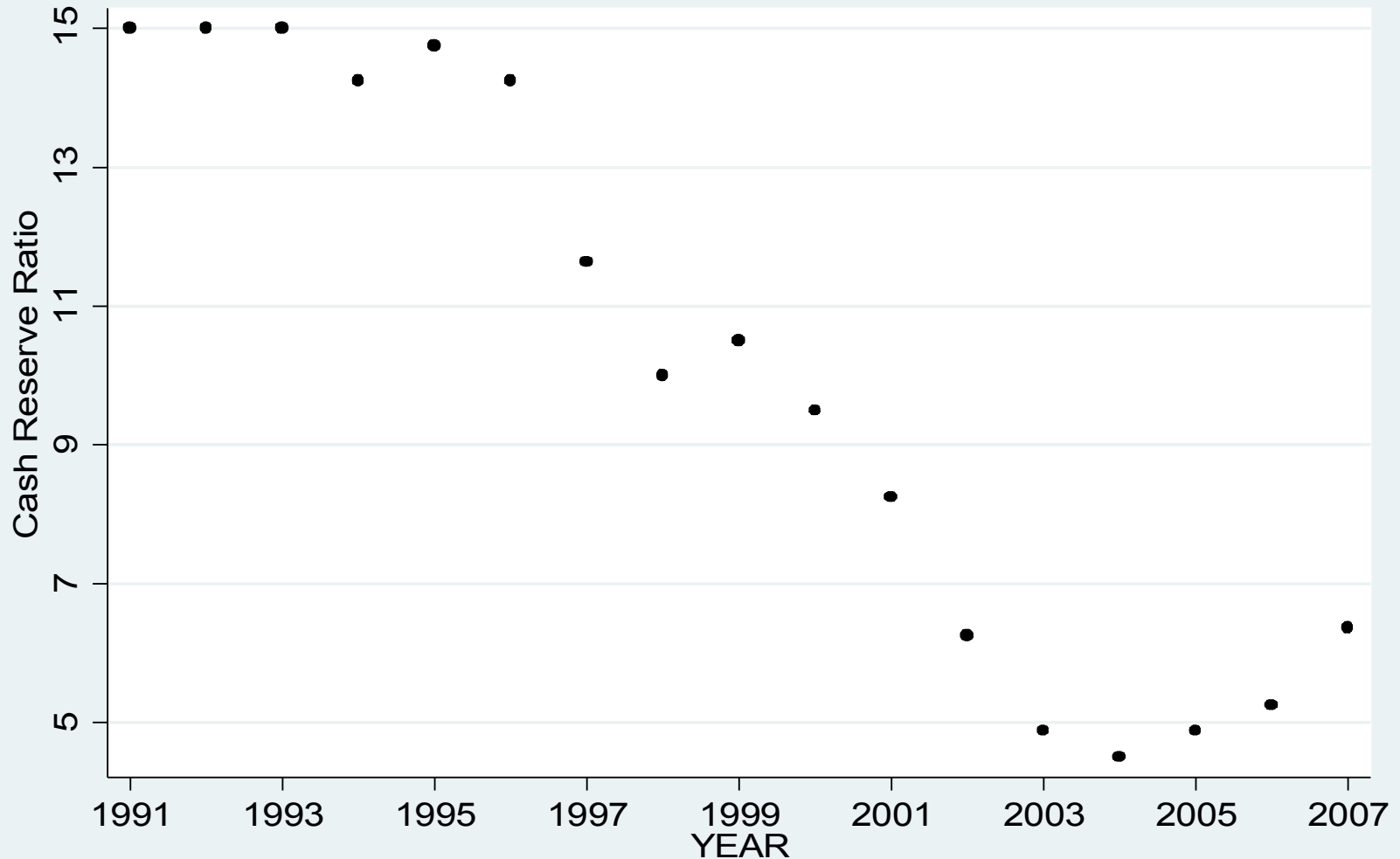


# Share of Public Banks has Increased, but 70 Percent of Sector is still Government Owned

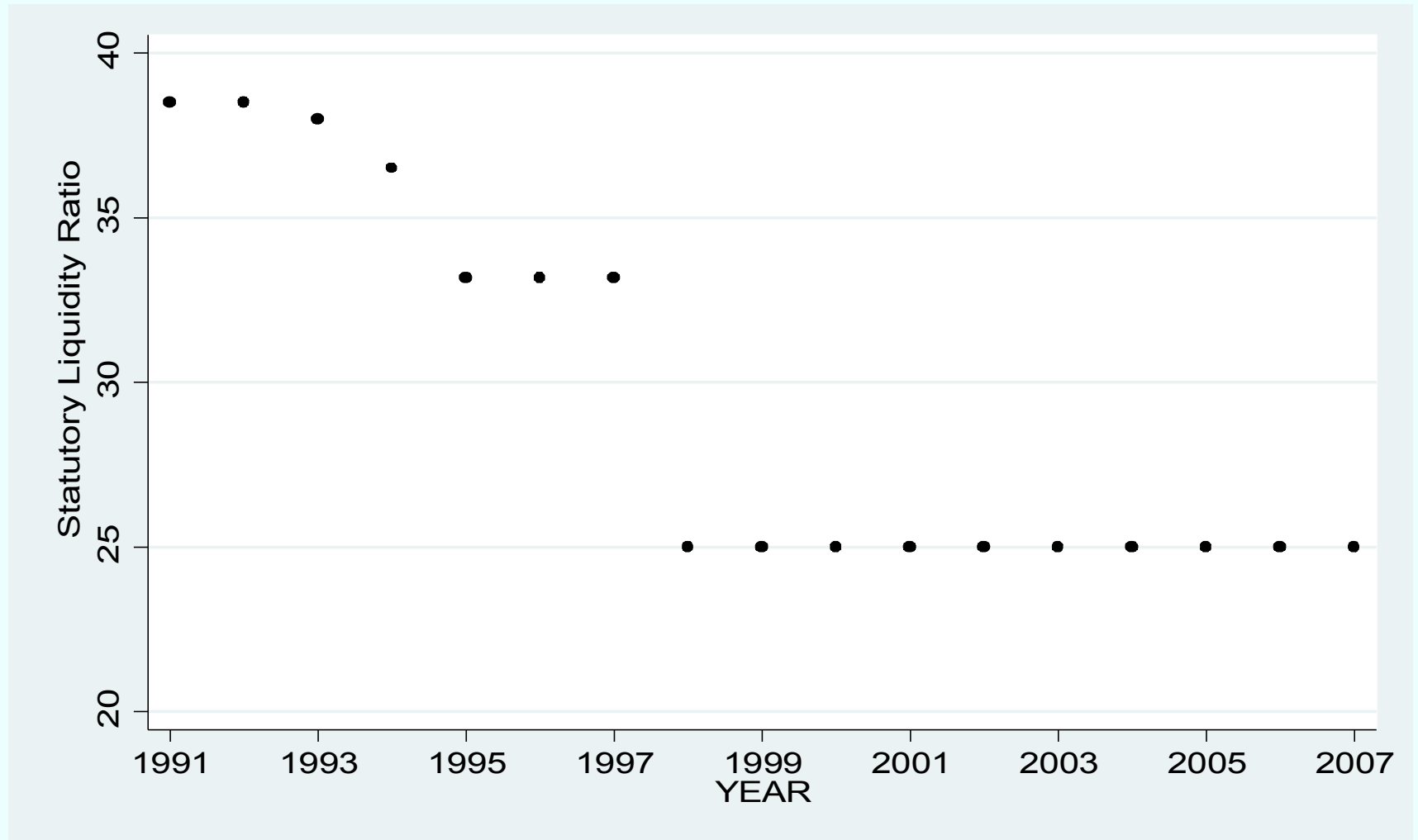




# Cash Reserve Requirement (CRR) has Declined Sharply

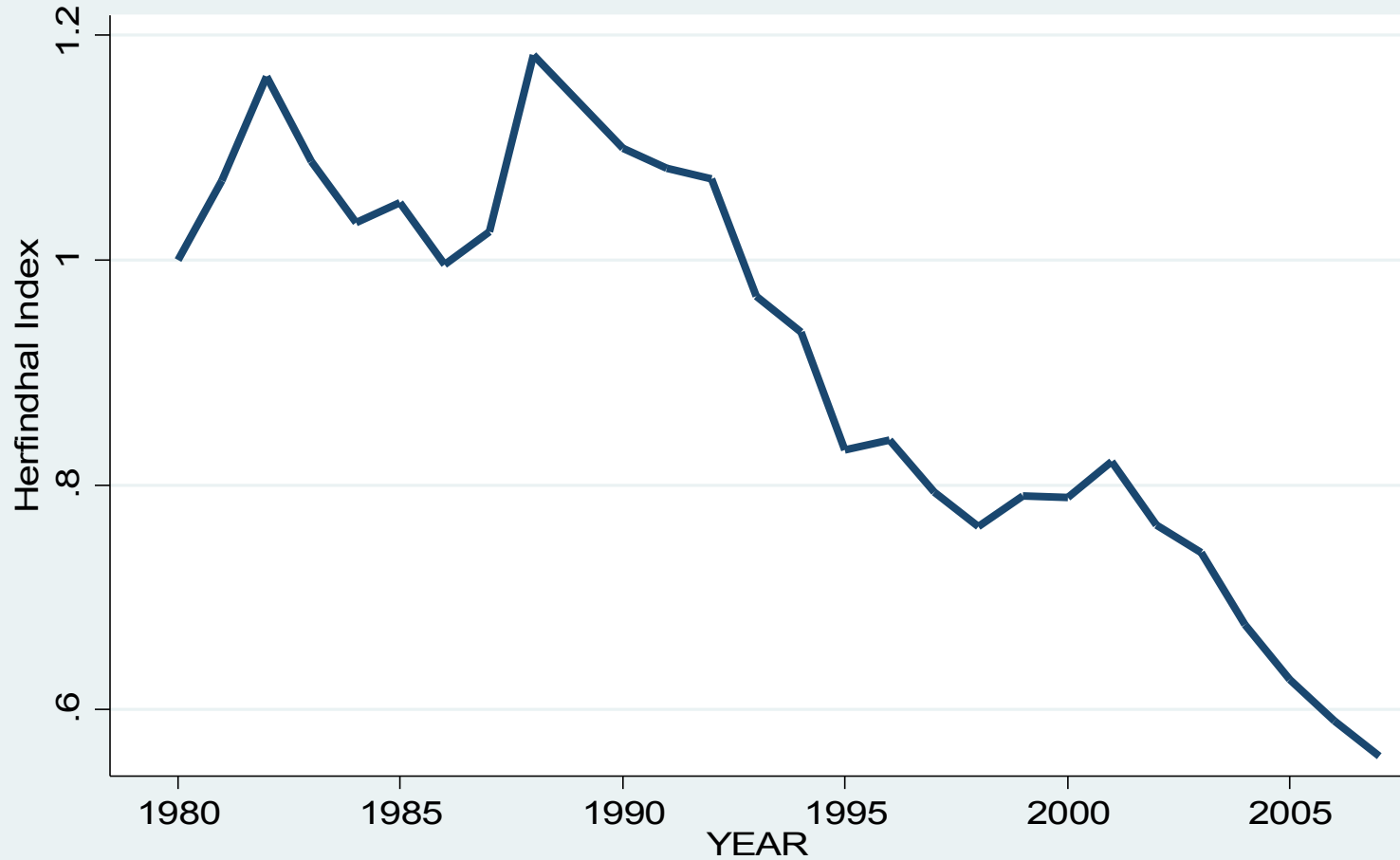


# Statutory Liquidity Requirement Has Declined as well

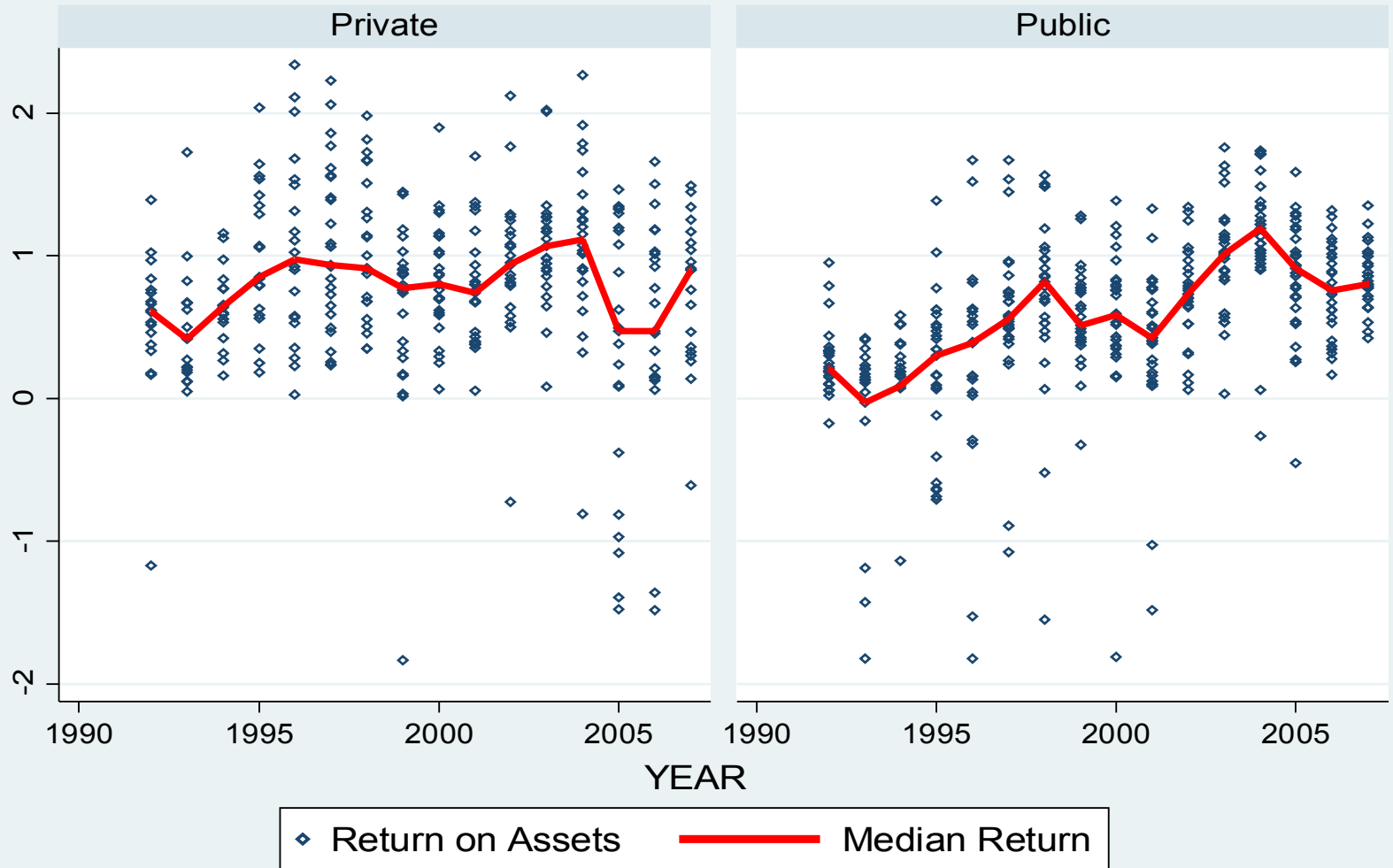


# Effects of the Liberalization

# Competition has Increased



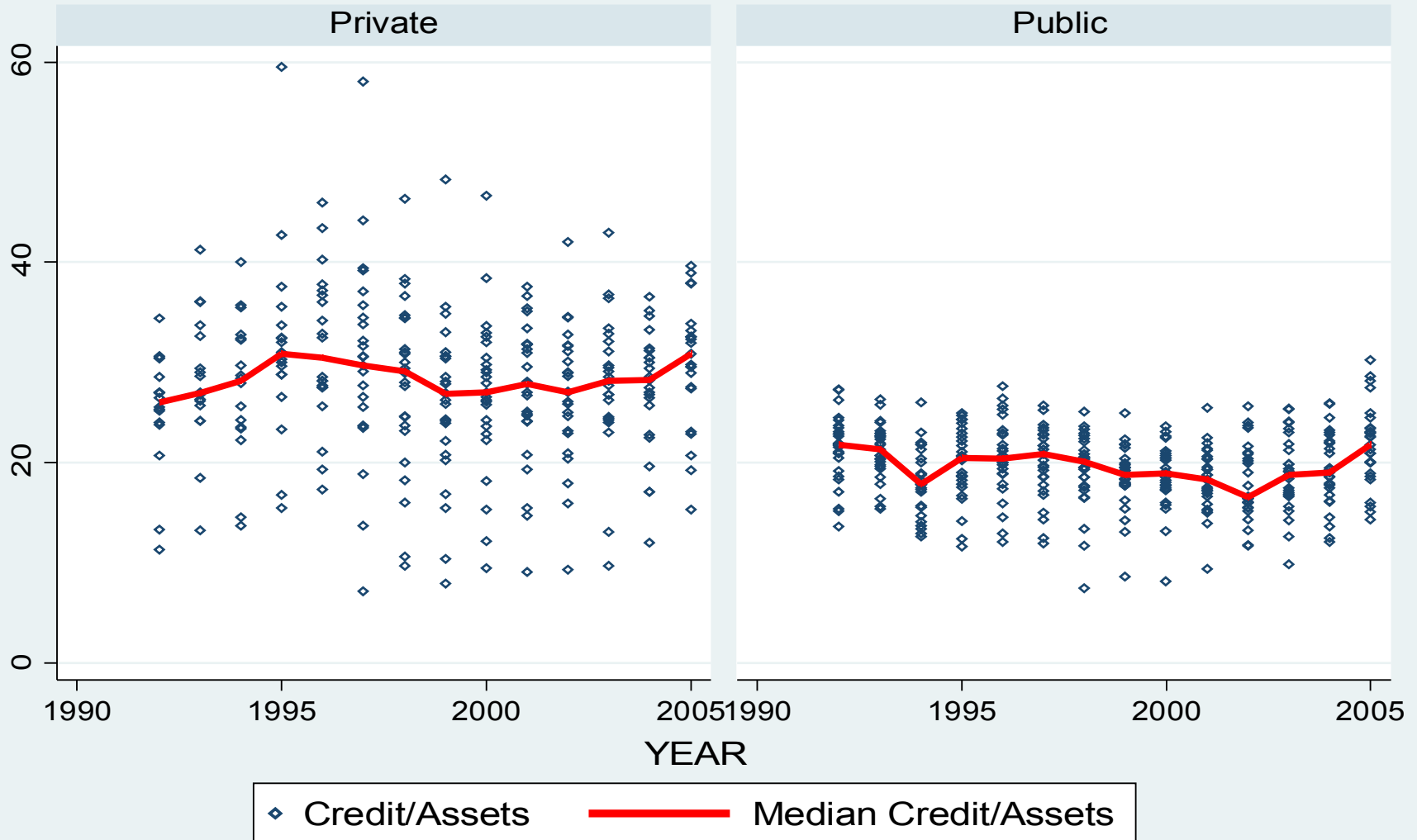
# Profitability and Efficiency has Improved



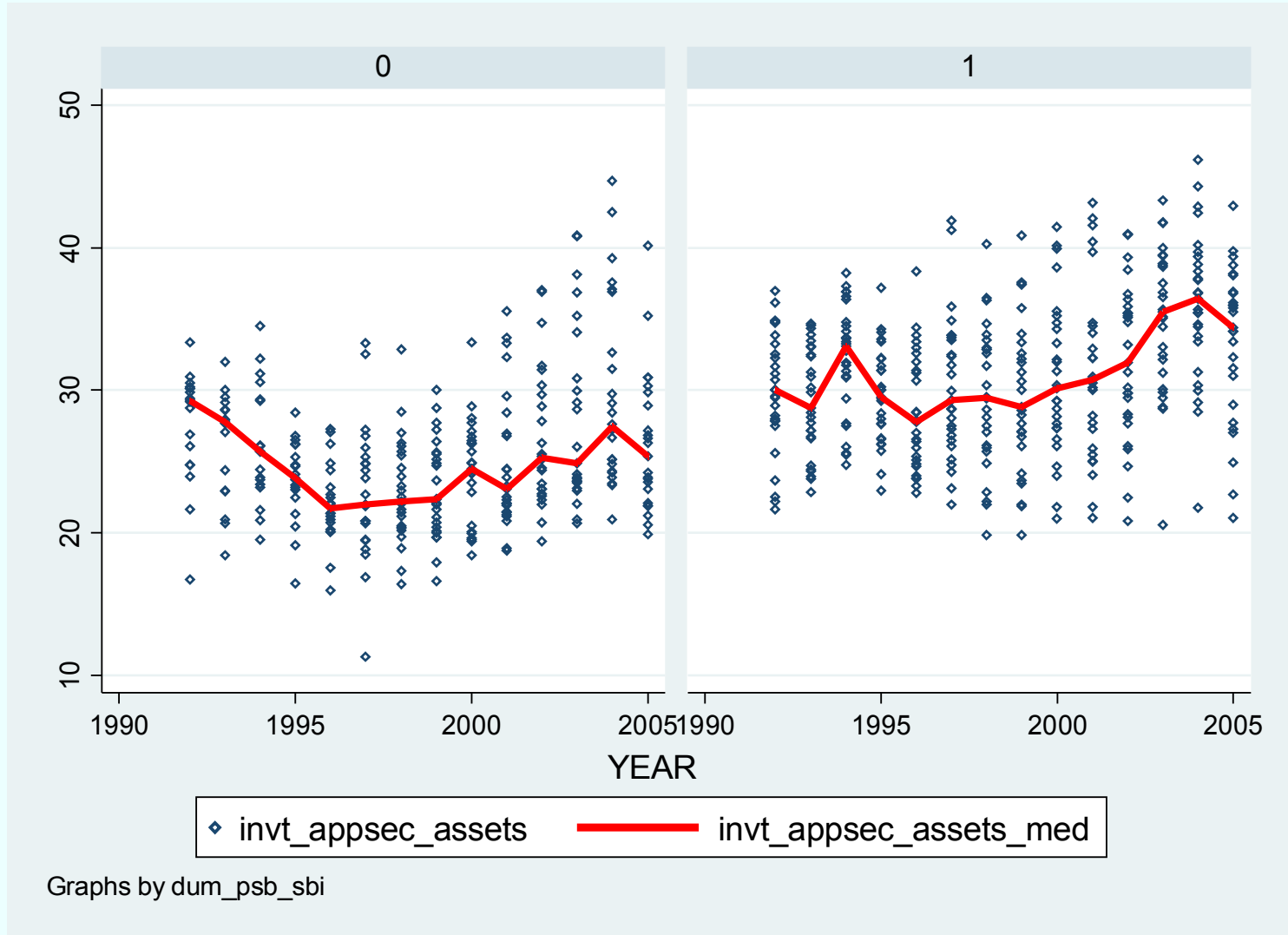
# Convergence in Private and Public Banks

	1993		2000		2007	
	Public	Private	Public	Private	Public	Private
Profitability						
Operating Profits	.44***	1.32	1.51*	1.88	1.78	1.72
Return on Assets	-1.48***	0.49	0.54**	0.88	0.84	0.75
Expenses						
Wages	2.02	2.08	1.90***	1.28	1.13	1.08
Non Wage Operating Expenses	0.87	0.92	0.70***	0.89	0.65***	1.08
Interest Paid	7.3***	6.53	6.08	7	4.24	4.49
Provisions	2.01***	0.83	0.97	1	0.94	0.98

However, Credit to Private Sector (as % of assets) has not Increased; and Public Banks continue to Allocate a Smaller Share of Assets to Private Sector



# Investment in Government Securities has not Declined, and Public Banks Hold a Larger share of Assets In Government Securities





How have the banks allocated their assets in response to decline in CRR and SLR

# Empirical Framework for Cash Holdings and the Cash Reserve Requirements

$$\begin{aligned}(\text{Cash/Assets})_{it} = & \gamma_i \text{Bank Dummies}_i + \alpha \text{CRR}_t + \delta \text{GDP Growth}_t \\ & + \beta \text{CRR}_t * \text{Dummy for PSBs Banks}_i \\ & + \delta \text{GDP Growth}_t \\ & + \lambda (\text{Bank Characteristics: Size}_{it}, \text{Return on Assets}_{it}) \\ & + \varepsilon_{it}\end{aligned}$$

# Data

- Annual data for 1991-2007
- Data for domestic banks: Private and Public (at least 51 percent ownership with government)
- Account for mergers, and name changes to build a panel
- RBI's database on banking statistics, CSO

## Results: Cash Holdings of Banks and Cash Reserve Requirement

	I	II	III	V
Lagged, GDP Growth	-0.02		-0.21***	-0.02
	[0.38]		[2.83]	[0.37]
Size (share in assets)	-0.10	-0.14	-0.05	0.18*
	[1.15]	[1.54]	[0.49]	[1.69]
Return on Assets				-0.56*
				[1.81]
Cash Reserve Requirement	0.94***		0.90***	0.90***
	[23.07]		[22.76]	[21.00]
CRR *Public Banks	-0.26***	-0.27***	-0.20***	-0.20***
	[4.88]	[4.99]	[3.84]	[3.32]
CRR * Size				-0.01***
				[2.78]
CRR * Return on Assets				0.06**
				[2.43]
GDP Growth Lag*Public Banks			0.35***	
			[3.53]	
Observations	787	787	787	787
R-squared	0.66	0.68	0.66	0.66
Number of Banks	52	52	52	52

## Cash Holdings of Banks and CRR-an Alternative Approach

	I	II	III
Lagged, GDP Growth	-0.06	-0.06	-0.08
	[0.56]	[0.57]	[0.77]
Size (share in assets)	0.47	0.18	0.60
	[0.85]	[0.25]	[0.83]
Return on Assets (ROA)			0.32*
			[1.93]
CRR dummy	-4.36***	-4.32***	-3.99***
	[9.20]	[9.13]	[-.03]
CRR dummy*Public Banks	1.94***	2.06***	1.51*
	[3.05]	[3.01]	[1.93]
CRR dummy* Size		-0.06	-0.02
		[1.06]	[0.26]
CRR dummy* ROA			-0.42
			[1.18]
Observations	294	294	294
R-squared	0.54	0.54	0.55
Number of Banks	52	52	52

- Cash ratio of the public as well as private banks responds to the official CRR.
- But the response varies in magnitude between different ownership types: 0.90-0.95 for private banks (these coefficients are found to be statistically close to 1) but only about 0.70 (which we find to be significantly smaller than 1) for public sector banks.

# Empirical Framework for Investment in Government Securities and Statutory Liquidity Requirement

$$\begin{aligned} (\text{Investment in Govt Sec/Assets})_{it} = & \gamma_i \text{ Bank Dummies}_i + \alpha \text{ SLR}_t \\ & + \beta \text{ SLR}_t * \text{Dummy for PSBs Banks}_i \\ & + \delta \text{ GDP Growth}_t + \lambda \text{ Size}_{it} + \theta \text{ Fiscal Deficit}_t \\ & + \eta \text{ Fiscal Deficit}_t * \text{Dummy for PSBs Banks}_i + \varepsilon_{it} \end{aligned}$$

## Results: Investment in Government Securities and Statutory Liquidity Requirement

	I	II	III	VI
Lagged, GDP Growth	-0.44***	0.06	0.01	0.06
	[-5.65]	[0.65]	[0.10]	[0.65]
Return on Assets				
Size (share in assets)	-0.21	-0.32	-0.31	-0.32
	[-0.74]	[-1.33]	[-1.30]	[-1.34]
SLR	-0.10**	0.08	0.07	0.08
	[-2.27]	[1.65]	[1.34]	[1.61]
SLR*Public Banks	-0.03	0.03	0.05	0.05
	[-0.59]	[0.55]	[0.74]	[0.79]
Fiscal Deficit		1.02***	0.98***	1.01***
		[5.64]	[4.82]	[5.57]
Fiscal Deficit* Public Banks		0.60***	0.68**	0.63***
		[2.65]	[2.45]	[2.76]
GDP Growth Lag*Public Banks			0.08	
			[0.43]	
Capital Injection				0.19
				[1.22]
Observations	787	787	787	787
R-squared	0.51	0.56	0.57	0.57
Number of Banks	52	52	52	52



## Results: Financial Liberalization and Credit to the Private Sector

	I	IV	V
Size (share in assets)	1.56*	1.67	1.59
	[1.72]	[1.36]	[1.29]
Lagged, GDP Growth	0.06	0.06	0.06
	[0.49]	[0.51]	[0.47]
SLR	0.02		-0.11
	[0.19]		[0.85]
SLR*Public Banks	-0.14		0.14
	[1.60]		[1.00]
Fiscal Deficit	-1.08***	-1.03***	-1.11***
	[4.12]	[4.05]	[4.19]
Fiscal Deficit* Public Banks	-0.69**	-0.71***	-0.62**
	[2.46]	[2.68]	[2.22]
CRR		0.10	0.20
		[0.66]	[1.12]
CRR*Public Banks		-0.28***	-0.43***
		[2.94]	[2.72]
Observations	787	787	787
R-squared	0.64	0.65	0.65
Number of Banks	52	52	52

# How Can one Explain the Response of the Public Banks

- Incentives Structure for PSBs: Ahluwalia (2002), Mohan (2004), Banerjee et al (2004)
- Interest rate decline and trading profits: Mohan (2004), Patnaik and Shah (2004)
- Low demand for private credit: Mohan (2004)
- Securities have lower operational costs, and lower risk weight
- Moral Suasion (especially when fiscal deficit is high)

# Summary

- Efficiency and profitability of public banks has improved post liberalization.
- But credit allocation by public banks remains in favor of the government sector, especially when the fiscal deficit is high.
- Inference: in developing countries, where alternative channels of financing may be limited, government ownership of banks, combined with high fiscal deficits, may limit the gains from financial liberalization.

Thank You