Capital adequacy and risk: issues and challenges in an emerging market context

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Motivation

- BIS/Basle Capital Accord (1988)- risk based capital
- Policy and academic discussion - Did BIS Capital Accord cause global economic slowdown in the early 1990's?
- India - Narasimhan committee-I (1991) recommends risk based capital - 4% by 1993 and 8% by 1996.
- 90's witnessed high investment to deposit ratio in India despite reduction in SLR

Year	Advances to deposits	Investments to deposits
1985	0.60	0.29
1986	0.59	0.31
1987	0.58	0.31
1989	0.61	0.31
1990	0.60	0.36
1991	0.61	0.36
1992	0.57	0.37
1993	0.57	0.37
1994	0.53	0.40
1995	0.56	0.37
1996	0.59	0.36
1997	0.55	0.35

Why regulate bank capital?

- Banks are providers of liquidity (Bryan(1980), Diamond and Dybvig (1983), Diamond and Rajan (1998))
- Liquidity service expose them to runs - high negative externality (Diamond and Dybvig (1983), Jacklin and Bhattacharya (1988))

Why regulate bank capital?

- Two popular solutions to prevent bank runs:
  - central bank acts as lender-of-last resort(LLR)
  - deposit insurance
- LLR and deposit insurance result in Moral Hazard
- Capital requirement reduces moral hazard (Furlong and Keeley (1990), Rochet (1992), Dewatripont and Tirole (1993)).

Empirical Literature review

- Shrieves and Dahl (1992), Nigro and Jacques (1997), Aggarwal and Jacques (1997), Rime (1998)
  - some evidence of banks substituting to low risk-weighted assets
- Burger and Udell (1994)
  - inconclusive evidence that capital standards resulted in the credit crunch in the US
- Peek and Rosengren (1997)
  - lending by Japanese bank branches reduced in US as their capital ratios declined.
- Gambacorta and Mistrulli(2004)
  - Using data on Italian banks, disaggregate impact of economic shocks and find evidence of the role of bank capital in monetary transmission.

Basle Capital Accord -1988

- Total capital = Tier I (mainly equity) + Tier II (mainly long term subordinated debt)
- Tier II capital < 0.5 (Total capital)
- Risk weight of assets (treasury (0% initially, now 2.5%, pvt. sector loans (100%))
- RWA $= \sum(RW_i \text{ X } Assets_i)$
- Capital adequacy ratio (CAR) = Total Capital/RWA
- Minimum CAR = 8%

Capital of Indian banks

- Most Indian banks meet capital requirements through mostly Tier I capial (equity capital).
- Why don’t Indian banks issue Tier II capital?
- Indian bond market, particularly corporate bond market is not well developed.

Capital of Indian banks

- Indian banks often get constrained by equity capital as retained earnings not enough to fund increase in capital requirements.
- Further government owned banks face another constraint - government objective of retaining 51% ownership
- Contributing further capital to banks difficult for government with high fiscal deficits.

Model: Results of the panel regression analysis: Dependent variable is loan growth rate

	Model 1: Cross section random effects	Model 2: Cross section fixed effects	Model 3: Cross section fixed effects
Deposit	**0.2132*** **	**0.2276*** **	**0.2239*** **
GDP	0.1378	0.2938	0.1492
X(-1)	**3.1397*** **	**1.9926** **	**11.68** **
RONW(-1)	0.0013	0.0017	0.0022
Total assets(-1)	-0.0013	-0.842E-06	-1.5564
SBI rate	-0.0127	-0.012	**-2.4490** **
X(-1)*GDP			27.7683
X(-1)*SBI rate			**-0.9905*** **
GrossNPA(-1)/TA(-1)			0.0057
Adjusted R-square	**0.67**	**0.69**	**0.69**

Conclusion

- Evidence from India suggesting that bank capital constraint can adversely impact the supply of loans.
- Bank capital constraint - an important factor in monetary policy transmission in India

Conclusion

- This could be because India is a capital constrained country: regulatory, ownership, capital market. Recent example of SBI.
- Regulators need to balance the need for safety (capital) with its effect on supply of loans.
- This needs to be kept in mind in designing and implementing Basle III.