

MGT6154

Emerging Market Finance

Lectures 2 & 3

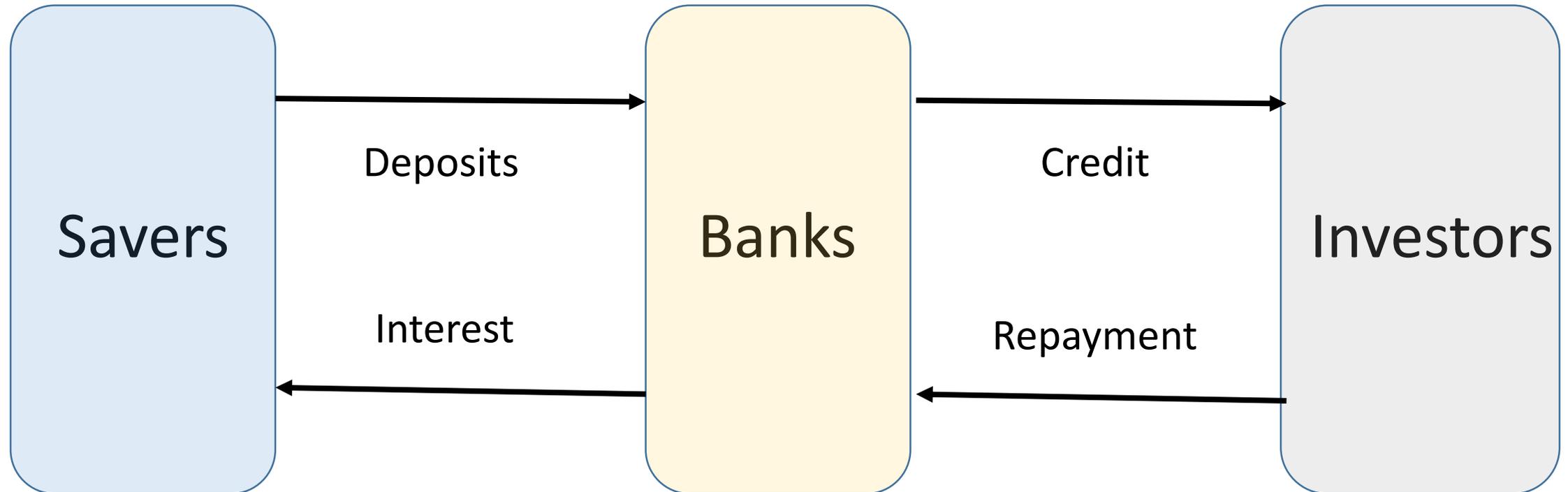
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Why are banks important?

Importance of banks

Stylised view



Importance of banks

Data

	Currency and deposits			Shares and other equity, except mutual fund shares			Mutual fund shares		
	1995	2000	2004	1995	2000	2004	1995	2000	2004
Czech Republic	52.6	60.0	57.3	28.5	21.5	12.4	7.0	1.9	9.2
Germany	42.4	34.2	33.9	11.0	16.1	12.9	7.2	11.3	11.6
Japan	49.6	53.6	50.1	11.4	8.5	14.6	2.3	2.4	3.6
Mexico	28.0	22.9	13.0	56.0	34.6	28.1	3.8	4.0	4.5
South Korea	n.a.	54.4	47.3	n.a.	14.0	18.7	n.a.	0.4	4.5
UK	23.7	20.3	26.0	16.1	18.2	10.2	3.7	4.9	4.4

Source: Ynesta, Isabelle (2008). Households' wealth composition across OECD countries and risks borne by households, Table 1, OECD (<http://www.oecd.org/finance/financial-markets/42143434.pdf>)

Importance of banks

Questions

- Why do banks exist?
- Why do they have to intermediate between savers and investors?
- What is the source of their comparative advantage?

Digression

Asymmetric information

- Characteristic of credit markets
 - Asymmetric information
- Problems
 - Hidden information and adverse selection
 - Hidden action and moral hazard
- Requirement for market making
 - Mechanisms to reduce informational asymmetry (collateral, relationship etc)
 - Monitoring

Importance of banks

Delegated monitoring – I

- Model
 - Cost of monitoring by a single lender = K
 - Number of lenders per borrower (where there are multiple lenders) = m
 - Direct cost of monitoring a borrower (with multiple lenders) = $m \times K$
 - Savings from monitoring (monitoring can lead to improved contracts) = S
 - Delegation cost (whether monitoring has been undertaken is private information) = D
- Outcome
 - Cost of using an intermediary or delegated monitoring = $K + D$
 - Cost of not monitoring = S
 - Cost of direct monitoring
 - Delegated monitoring is better when $K + D \leq \min[S, m \times K]$

Importance of banks

Delegated monitoring – II

- Contracts under informational asymmetry
 - If outcomes are difficult to monitor and there are *equity contracts*, it would always be optimal for the borrower to declare very low profits such that payment to equity holder is low, i.e., equity contract is infeasible
 - If outcomes are difficult to monitor and there are *debt contracts*, lenders can impose penalty of liquidation on borrowers for non-payment of the loan plus interest and this simple contract makes it optimal for the borrower to try to repay the debt whenever possible
 - If there is credible threat of ex post monitoring, a borrower will default only as the last option, and lenders can opt to not liquidate when the borrower is faced with a genuinely bad outcome
- Delegated monitoring
 - Overcomes the problem of cost of monitoring for small lenders (i.e., borrowers)
 - If the intermediary to whom monitoring is delegated is liquidated if depositors cannot be paid back, it will always be in their interest to try to avoid liquidation
 - The intermediary will require a portfolio of projects and it will have the incentive to monitor if it earns a sufficiently high return

Importance of banks

Delegated monitoring – III

- Transformational aspect of delegated monitoring
 - Size transformation
- Policy implications
 - Banks can increase their value by removing risks (e.g., interest rate risks) that have nothing to do with monitoring itself
 - Diversification of loan portfolio is essential for functioning of the contract between banks and depositors and regulations such as restrictions on interstate banking in the US can be counterproductive
 - The demand for deposit insurance may have risen out of the greater risk associated with relatively undiversified bank loan portfolios
 - Bank managers require higher returns to have the incentive to monitor the borrowers (where risks are concentrated the probability of liquidation of banks is higher)

Importance of banks

Risk transformation – I

- Banks borrow short term from depositors and transform these short term liabilities into longer term assets
 - Rollover risk (of bank deposits)
 - Liquidity risk (of bank assets)
- Role of deposit insurance in facilitating risk transformation
 - Borrowers may default
 - Debt contracts (or covenants) would then lead to liquidation of the borrowers' assets
 - Liquidity risk would trigger a bank run, i.e., liquidity risk would be transformed into rollover risk
 - Provision of deposit insurance dominates the alternative of suspending convertibility of demand deposits
 - Only governments can provide unconditional guarantees on a large scale

Importance of banks

Risk transformation – II

- Implications for banks' business models
 - Banks that are reliant on short term wholesale markets for funding face heightened rollover risk and hence they reduce the maturity of their assets in order to ensure greater congruence between maturity of their assets and liabilities
 - Alternative possibilities:
 - Banks that are subjected to monitoring, in turn, intensify the monitoring of their own borrowers
 - If borrowers want to borrow long term from the bond market they may use short term bank borrowing only as a signal for the bond market investors
 - Evidence suggests that reliance on repo and wholesale funding reduces a bank's average loan maturity and the effective maturity of its portfolio of loans
- Significant implications for the real economy

Importance of banks

Transmission of monetary policy – I

- Interest rate or money channel
 - Focus on the liability side of a bank's balance sheet
 - When central banks undertake open market operations and sell (buy) securities, banks experience a decline (increase) in reserves
 - In a fractional reserve system, this forces banks to reduce (increase) the deposits on their balance sheets and this is achieved through an increase (decrease) in the interest rate on assets that are alternatives to bank deposits
 - This narrative requires that banks do not maintain excess reserves
- Broad credit channel
 - When monetary policy increases interest rates, firms suffer loss of profits in part because interest cost increases and in part because the increase in interest rates slows down the economy
 - The combination of lower cash flows and higher interest rates also results in a decline in the net worth of firms
 - Firms therefore face a higher cost of external funds and hence borrow less

Importance of banks

Transmission of monetary policy – II

- Bank lending channel
 - Focus on the asset side of a bank's balance sheet
 - When monetary policy tightens (eases) the reduction (increase) in the deposits on the liability side of the balance sheet has to result in a commensurate decrease (increase) in the asset side of the balance sheet
 - Any increase (decrease) in interest rates is therefore reinforced by a decrease (increase) in the amount of credit disbursed by banks
 - An implicit assumption is that for some/many firms alternative bank assets such as bonds are imperfect substitutes for bank credit
- Questions
 - Is the observed impact on credit disbursement influenced more by demand for credit or supply of credit?
 - If the main constraint for bank lending is a binding capital constraint, do banks transmit monetary policy?
 - If a bank's operations are global, is its behaviour affected by monetary policy in a single country?

Digression

Primer on regression models

- Model:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon$$

(It is also possible to control for impact of time invariant but unobserved firm-specific characteristics and time effects)

- Output:

- Estimates of β_0 , β_1 and β_2
- Estimates of standard errors

- Statistical significance:

- The ratio of a β and its corresponding standard error (t-statistic) should be high (roughly, > 2)

Importance of banks

Transmission of monetary policy – III

Impact of monetary policy on disbursement of short and medium term credit.

	Dependent variable: log change in short-term advances			Dependent variable: log change in medium term advances		
	All banks (1)	State-owned (2)	Private sector (3)	All banks (4)	State-owned (5)	Private sector (6)
<i>Tight money regime</i>						
Change in interest rate × public sector banks	-0.297 ^{***} (0.107)	-0.212 [*] (0.108)		-0.264 [*] (0.140)	-0.05 (0.124)	
Change in interest rate × old private sector banks	-0.226 ^{***} (0.112)		-0.313 ^{***} (0.128)	-0.157 (0.188)		-0.263 (0.240)
Change in interest rate × new private sector banks	-0.003 (0.315)		-0.002 (0.326)	-0.353 (0.436)		-0.448 (0.467)
Change in interest rate × foreign banks	-0.408 ^{***} (0.141)		-0.595 ^{***} (0.168)	-0.98 ^{***} (0.333)		-1.054 ^{***} (0.326)
<i>Easy regime</i>						
Change in interest rate × public sector banks	0.205 ^{***} (0.096)	0.251 [*] (0.14)		0.35 ^{**} (0.156)	0.099 (0.193)	
Change in interest rate × old private sector banks	0.309 ^{***} (0.164)		0.431 ^{***} (0.175)	0.268 (0.335)		0.40 (0.367)
Change in interest rate × new private sector banks	-0.04 (0.38)		-0.007 (0.31)	0.604 (0.522)		0.934 (0.473)
Change in interest rate × foreign banks	-0.138 (0.442)		-0.113 (0.5)	0.55 (0.735)		0.715 (0.787)

Source: Bhaumik, Sumon K., Dang, Vinh and Kutan, Ali (2011). Implications of bank ownership for the credit channel of monetary policy transmission: Evidence from India, *Journal of Banking and Finance*, 35, 2418-2428 (Table 4)

What is the role of the government?

Market failure

Sources – I

- Monitoring as a public good
 - There is always undersupply of public goods, in this case resulting in greater risk taking by borrowers and (in the absence of credible deposit insurance) less resource available to the banking system
- Externalities of monitoring, selection and lending
 - When one bank lends to a borrower then there is a positive externality for the second bank and, by the same token, if this second bank lends to the borrower as well then it imposes a negative externality on the first bank
 - When one bank fails, in the presence of imperfect information it can trigger a run on other banks
 - If a credit market is characterised by a large number of bad borrowers, in the presence of imperfect information good borrowers may find it difficult to borrow
 - Private returns of banks can differ from social returns of lending, resulting in over lending or under lending

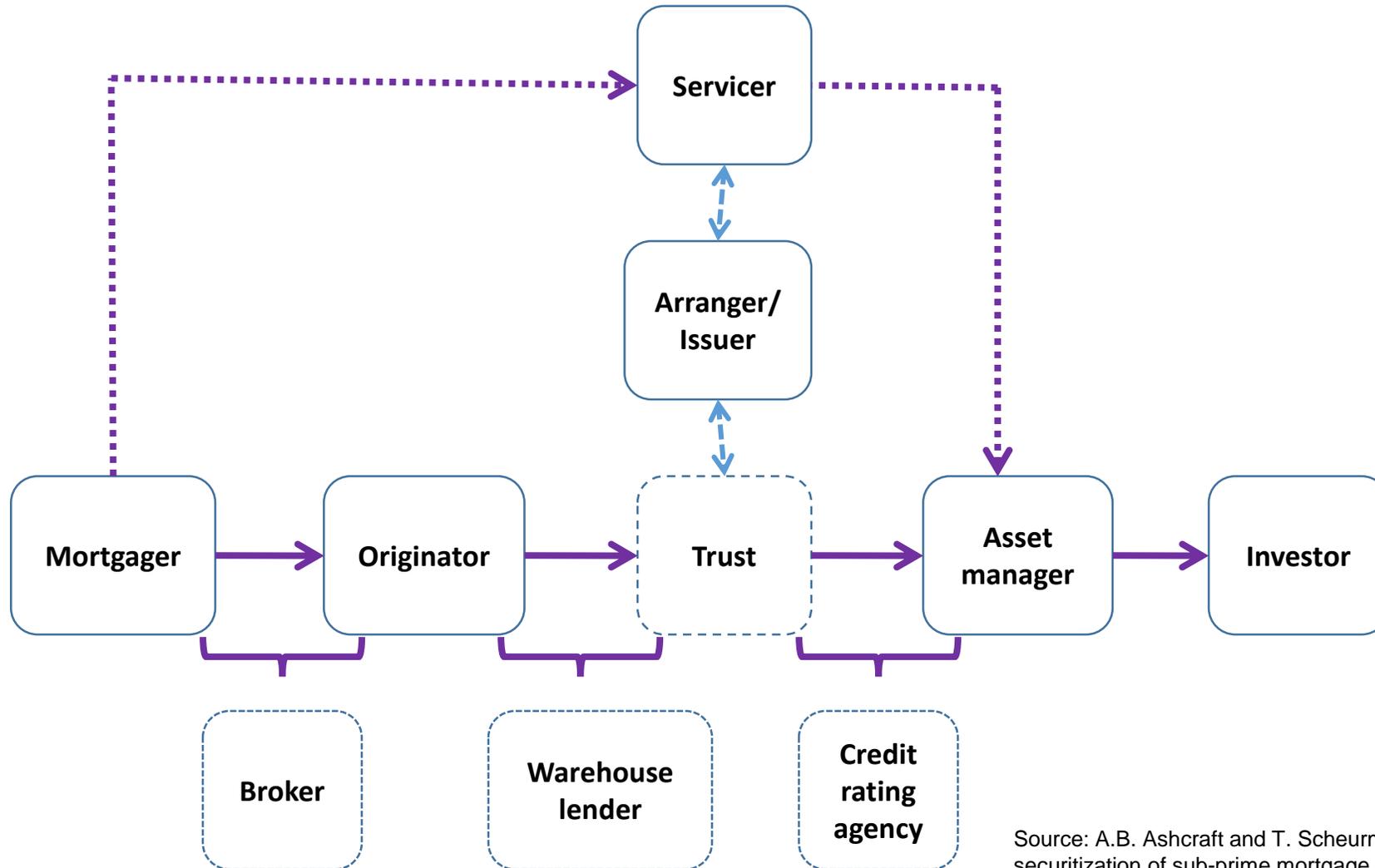
Market failure

Sources – II

- Externalities of financial disruption
 - In the event of a financial crisis, the overall cost to the economy far exceeds the bankruptcy cost of a single bank
- Missing and incomplete markets
 - Neither borrowers nor banks can insure themselves against all possible risks
 - Even if insurance markets exist, there might be adverse selection such that insurance contracts are disproportionately taken out by borrowers and banks who take on greater risk
 - Also, even when insurance markets exist, they may find it difficult to insure borrowers and banks against shocks that affect all the insured borrowers and banks in the same way
- Imperfect competition
 - Given the nature of informational asymmetry between borrowers and lenders, competition in credit markets can be imperfect (e.g., while relationship banking may help borrowers, the bank is the monopolist in the relationship)

Market failure

Subprime crisis in the USA



Source: A.B. Ashcraft and T. Scheurmann (2008). Understanding the securitization of sub-prime mortgage credit. Staff report no. 318, Federal Reserve Bank of New York

Role of the government

Summary

- Addressing market failure
 - Reduction in informational asymmetry and contract resolution through regulations
 - Credit registers
 - Low cost debt recovery mechanisms
 - Reduction or elimination of some types of externalities
 - Deposit to insurance to prevent bank runs
 - Affect overall lending or allocation of lending through regulations (e.g., priority sector lending in India) and or ownership of banks
 - Making insurance markets and reducing adverse selection
 - Deposit insurance for banks in which all banks irrespective of financial health and risk profile are required to participate
- Problem of government ownership
 - Political economy of government ownership
 - Moral hazard

Role of government Debt recovery tribunals in India

TABLE 6—EFFECT OF DRT ESTABLISHMENT ON THE PROBABILITY OF TIMELY REPAYMENT FOR LOANS ORIGINATED BEFORE JUNE 24, 1993: LEVELS

	(1)	(2)	(3)	(4)	(5)
After state DRT	0.005 (0.045)	0.004 (0.045)	-0.060** (0.029)	0.000 (0.000)	0.000 (0.000)
Overdues	-0.016 (0.035)	-0.017 (0.035)	-0.054 (0.042)	0.025 (0.037)	0.011 (0.046)
After state DRT × overdues	-0.013 (0.033)	-0.010 (0.033)	0.035 (0.041)	-0.053* (0.032)	-0.030 (0.038)
Group 2 × after state DRT	-0.018 (0.051)	-0.015 (0.051)	0.077** (0.031)	0.000 (0.000)	0.000 (0.000)
Group 2 × overdues	-0.083* (0.043)	-0.082* (0.043)	-0.031 (0.041)	-0.120** (0.050)	-0.121** (0.051)
Group 2 × after state DRT × overdues	0.143*** (0.043)	0.142*** (0.043)	0.136*** (0.048)	0.190*** (0.042)	0.210*** (0.051)
Borrower's cash flow	No	Yes	Yes	Yes	Yes
State dummies × quarter dummies	No	No	No	Yes	Yes
Overdues × quarter dummies	No	No	Yes	No	Yes
Observations	14,244	14,244	14,244	14,244	14,244
R ²	0.188	0.191	0.163	0.257	0.261

“.... The establishment of DRTs had no effect on loans with zero overdues, either in group 1 or group 2 states, DRTs cause loans with higher overdues to improve repayment. The effect is small and insignificant in group 1 states, possibly because the debate over the legal validity of DRTs made them ineffective here. However, in group 2 states there is a 13 percentage point (or roughly 20 percent increase, which is significant at the 1 percent level. There is no evidence that DRTs changed the average loan size.”

Digression

Types of financial crises

- Macroeconomic policy induced
 - Monetisation of budget deficit leads to expansion of domestic credit
 - If exchange rate is pegged, foreign exchange reserve declines gently until the central bank becomes vulnerable to a run on the currency
- Moral hazard
 - In the presence of explicit or implicit guarantees on deposits, banks can take excessive risks
- Bubble collapse and financial panic
 - Unexpected (but not necessarily unforeseen) decline in asset prices can make banks and borrowers vulnerable to default
 - Bank run when banks are deemed vulnerable and there is no credible lender of last resort
- Disorderly workout
 - Banks may force liquidation of borrowers' assets in fire sales that benefit neither borrowers nor the banks themselves

Anatomy of a crisis

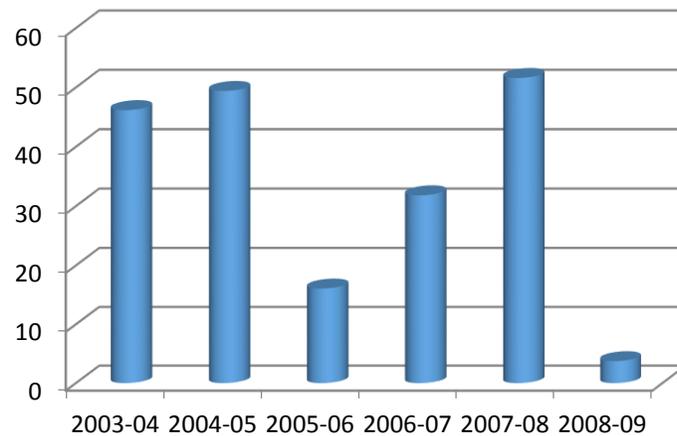
East Asian crisis of 1997-98

- Backdrop
 - Continuing and high level of growth resulted in underestimation of macroeconomic risk
 - Pegged exchange rates resulted in underestimation of exchange rate risk
 - Financial deregulation resulted in significant overseas borrowing by banks and non-bank companies, and thereby led to sharp increases in capital inflows:
 - Capital inflow adversely affects exports
 - Capital inflow can lead to excessive risk taking by both banks and non-bank companies, and the problem of banks can be exacerbated in the presence of deposit insurance
- Triggers
 - Bank failures (Thailand)
 - Corporate failure (South Korea)
 - Political uncertainty (Philippines, South Korea, Thailand)
 - Contagion (spread from Thailand to other South East Asian countries)
 - IMF support (necessary but also signalled distress and resulted in accelerated outflow of foreign capital)

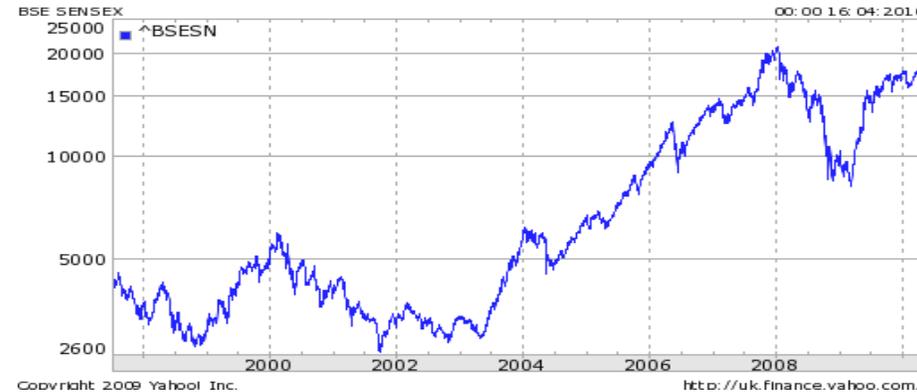
Anatomy of a crisis

The Indian exception – monetary policy

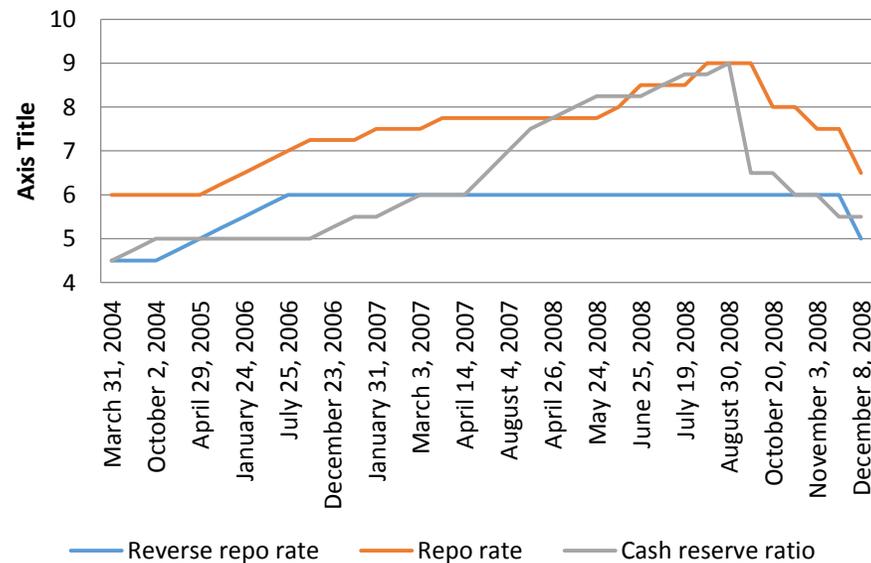
Contribution of forex inflow to M3 growth



.... decidedly hawkish monetary policy stance up until the Lehman crisis in September 2008, but with only partial capital account convertibility

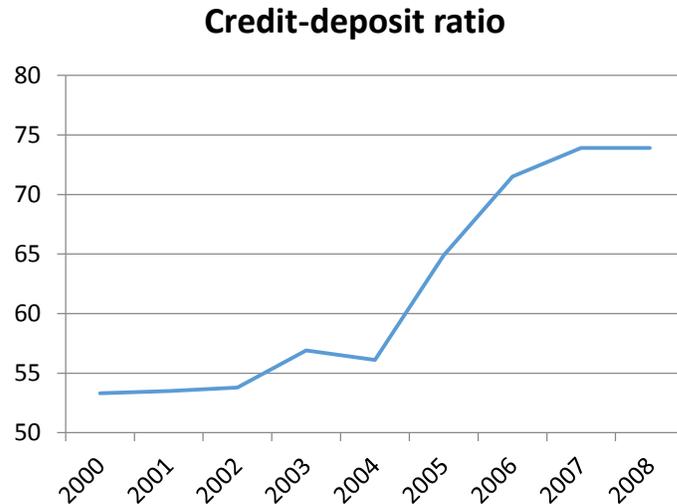


Monetary policy



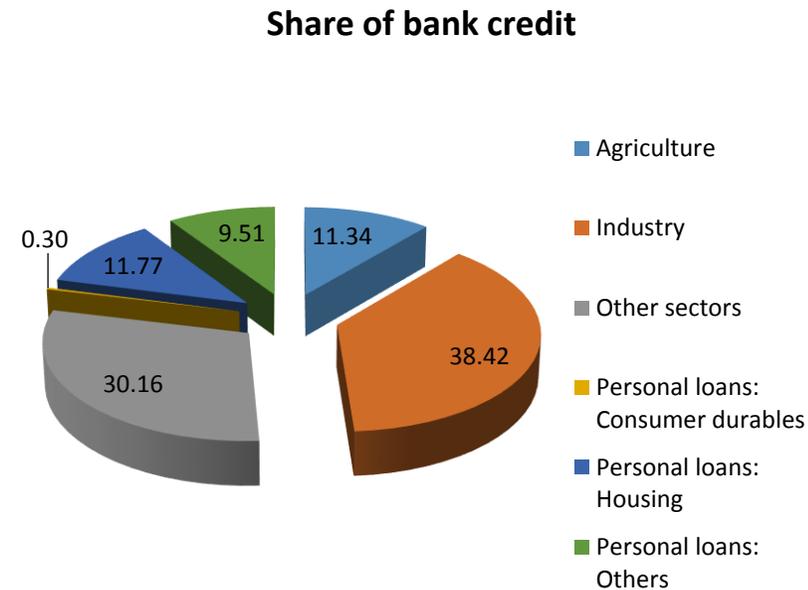
Anatomy of a crisis

The Indian exception – credit expansion



.... credit expansion limited by deposits, without recourse to the money market and overseas capital

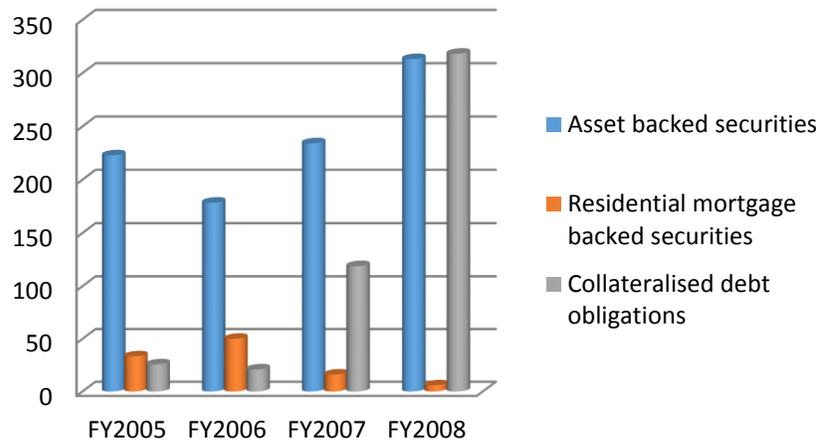
.... mortgages account for a relatively small fraction of the balance sheet and very little subprime activity, indicating lower risk taking



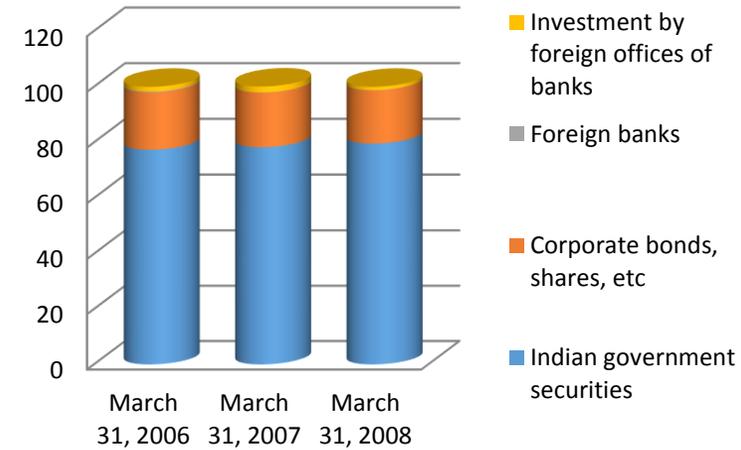
Anatomy of a crisis

The Indian exception – securitisation

Structured finance issuance (Rs. billion)



Investment portfolio of banks



.... very little securitisation relative to overall size of banks' balance sheets – even less so for mortgages – and very little of the asset backed securities on banks' books

TICK, TICK...

The securitised portfolios of select mutual funds.

Schemes	Total fund size (Rs crore)	Securitized Portfolio (%)	Securitized corpus (Rs crore)
Reliance Liquid Fund	11,583	29	3,359
ICICI Prudential Liquid	12,610	14	1,765
UTI Liquid Fund	4,626	17	786
Templeton India Bond	2,151	26	560
SBI Premier Liquid	2,457	17	414
ING Liquid Plus	2,043	22	418
Birla Sun Life Liquid Plus	6,760	12	811

Note: Figures are as of September 30, 2008 Source: BT Research

Sources: http://businesstoday.intoday.in/index.php?option=com_content&task=view&id=8128

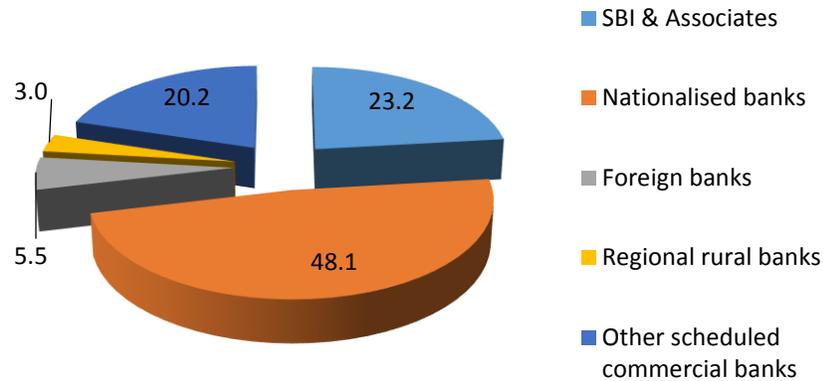
ICRA Limited (2009): *Update on Indian Structured Finance Market*

Reserve Bank of India

Anatomy of a crisis

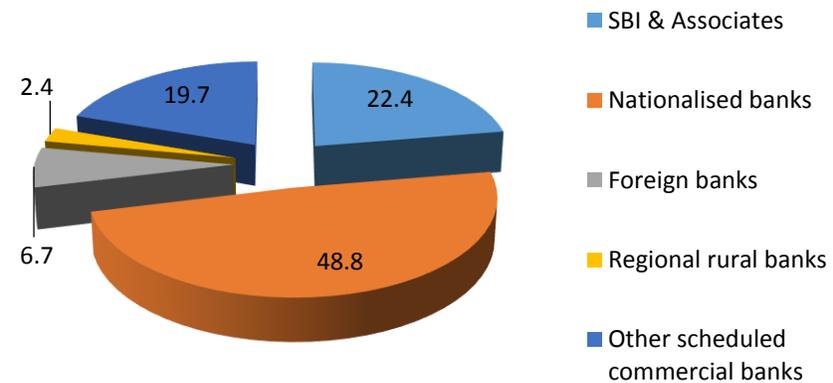
The Indian exception – state ownership of banks

Deposits



.... reduced likelihood of bank runs

Credit



.... minimal counterparty risk for a large proportion of lending in the inter-bank market

Anatomy of a crisis

The Indian exception – health of banks

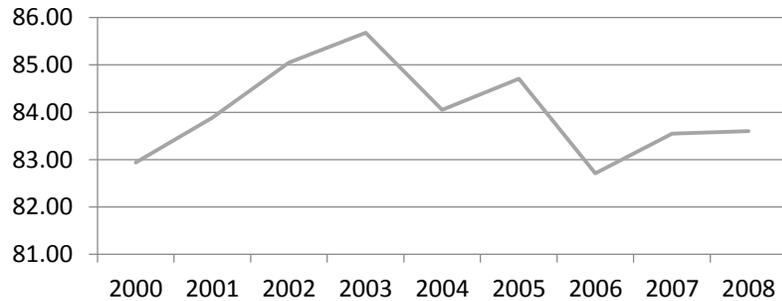
	Indian Bank		United Bank of India	
	2008	2009	2008	2009
Cash-deposit ratio	10.54	8.56	11.18	8.31
Ratio of secured advances to total advances	85.37	88.15	83.61	87.07
Ratio of net-interest margin to total assets	3.24	3.37	1.87	2.00
Return on assets	1.64	1.62	0.68	0.34
Return on equity	22.41	20.26	12.57	6.44
Capital adequacy ratio - Tier I	11.29	11.88	6.37	7.56
Capital adequacy ratio - Tier II	1.45	2.10	4.87	5.72
Ratio of net NPA to net advances	0.24	0.18	1.10	1.48

.... in addition, to satisfy the regulation regarding *statutory liquidity ratio*, 25 percent of deposits invested in (largely) government bonds

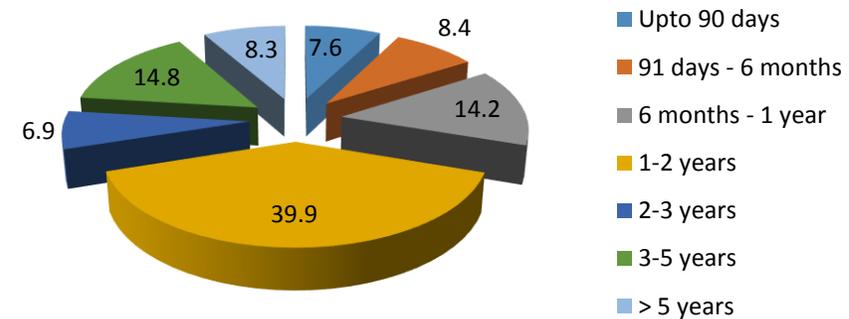
Anatomy of a crisis

The Indian exception – maturity of deposits

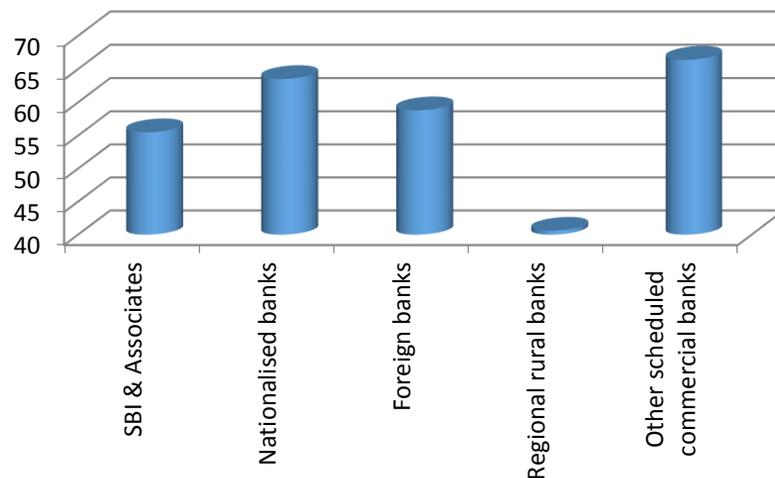
Time deposits as percentage of total deposits



Maturity distribution of time deposits



.... across bank groups



.... further reduction in the likelihood of bank runs
 maturity structure of deficits may itself be an outcome of implicit or explicit government guarantees on bank deposits

Is government ownership of banks good or bad?

State ownership of banks

Profitability vis-à-vis privately owned banks

Table 3
The impact of capital market discipline on domestic banks

	(1)	(2)
Constant	0.0262 (0.0316)	0.0262 (0.0361)
Log of assets	-0.0074 (0.0063)	-0.0074 (0.0070)
Log of assets square	0.0004 (0.0003)	0.0004 (0.0003)
Priority sector advances as % of total advances	0.0002** (0.00009)	0.0002*** (0.0001)
Government securities as % of total investment	-0.00009 (0.00006)	-0.00009 (0.00009)
Non-interest income as % of total income	0.0004* (0.0001)	0.0004* (0.0001)
Non-urban branches as % of total branches	-0.00003 (0.00005)	-0.00003 (0.00006)
Old private-sector bank (dummy)	0.0122* (0.0036)	0.0122* (0.0041)
New private-sector bank (dummy)	0.0190* (0.0073)	0.0190** (0.0035)
Listed bank (dummy)	0.0025 (0.0034)	0.0025 (0.0041)
Time (trend)	0.0009 (0.0008)	0.0009 (0.0006)
Time × Old private bank	-0.0023* (0.0007)	-0.0023* (0.0007)
Time × New private bank	-0.0028** (0.0011)	-0.0028** (0.0012)
Time × Listed bank	-0.0003 (0.0007)	-0.0003 (0.0007)

“.... private-sector and foreign banks were better performing, and hence more efficient, than public-sector banks initially. However, competition forced public-sector banks to eliminate this performance gap by the financial year 1998–1999. After 1998–1999, neither ownership nor competition per se affect bank performance significantly. Furthermore, capital market discipline has no influence on the performance of the banks during the entire time period, which makes the rationale for privatizing public sector banks in India questionable.”

State ownership of banks

Lending behaviour

- Question: is there under-lending by state owned banks?
 - If a firm is not financially constrained then it will use a new loan to pay down its current debt, but if it is financially constrained then it will invest with the new loan
- Data on loan portfolios from a single profitable Indian state owned bank
- Results
 - Real value of loans decreased over two consecutive years in majority of cases
 - In 73% of these cases, the firms had experienced an increase in sales
 - Past value of loans is a powerful predictor of the current value of loans
 - Past interest rates are the only significant determinants of current interest rates
- Conclusion
 - Banks are reluctant to make fresh lending decisions and loan mechanisms are unrelated to profits (and perhaps also growth potential)
 - Bank management have perverse incentives: not much reward if credit growth increases profitability but punishment if there is increase in non performing assets

State ownership of banks

Political economy – Case (Mexico) – I

- **1810**: popular independence movement brutally suppressed by the elite
- **1821**: declaration of independence by the same elite
- **1821-1876**: series of coups and civil war (78 presidents)
- **1863**: issue of first bank charter to Bank of London, Mexico and South America (BLM)
- **1876-1911**: rule of president Porfirio Diaz, in collaboration with the elites
- **1884**: only eight banks in the country, 5 of which were small operations in Chihuahua
- Trigger for creation of banking sector: need for political order and centralisation, which required revenue, which required growth, which required investment, which required a banking sector

State ownership of banks

Political economy – Case (Mexico) – II

- **1884:** creation of Bank Nacional de Mexico (Banamex) through a charter
 - Bank extended a significant credit line to the government at below market interest rates
 - In return, it was protected from competition
 - A 5% tax on all bank notes issued by banks with an exemption for Banamex
 - Removal of authority of state governments to issue bank charters
 - Very high capital requirement for new banks; five times the requirement in the USA
- **1897:** extension of similar privileges to BLM and division of the market into segmented monopolies
- **1897-1911:** mortgage banks accounted for only 6% of banking assets while industry banks accounted for another 10%

State ownership of banks

Political economy – Case (Mexico) – III

- Liabilities and assets
 - Deposits accounted for a tiny proportion of the banks' liabilities (2%), with issue of bank notes accounting for the rest of the liabilities
 - Vast majority of the loans were made to insiders who were board members of these banks and also major industrialists in the country, largely for fear of adverse selection in the case of arms length lending
- Corporate governance: the banks paid dividend regularly to minority shareholders
 - regional monopolies generated rent
 - minority shareholders were bankers and industrialists themselves
- **1910**: Mexican revolution backed by elites who were not insiders of the political regime, namely, farmers, ranchers and miners

State ownership of banks

Political economy – Case (Mexico) – IV

- **1913:** expropriation of bank deposits and seizure of bank reserves by new government and the political opposition alike
 - plausible reason for no new coalition of politicians, bankers and industrialists is the inability of all parties to make credible promises in the midst of the chaos of the revolution
- **1924:** the new government attempted to revive the Diaz era arrangement
 - older banks were grandfathered in
 - incumbent bankers were nominated to a national banking commission that could block entry
 - minimum capital requirements were set high
 - obtaining a bank charter required permission of the treasury minister and the president
- **1929:** formation of the Partido Nacional Revolucionario (PNR) – which later became the Partido Revolucionario Institucional (PRI) that held onto power continuously until the late 1990s

State ownership of banks

Political economy – Case (Mexico) – V

- Patronage system during PNR regime (example)
 - land rights were not vested in individual farmers, giving rise to cooperatives that were members of the National Peasants' Confederation which, in turn, was a formal part of PRI
 - whereby neither the corporate entity nor the farmers could sell or rent land and hence they found it impossible to obtain credit from anyone except the government owned development banks
 - efficient cooperatives could not expand and inefficient ones could not sell out (if individual farmers left, they lost the right to cultivate the land), but voting for the PRI ensured access to benefits such as subsidised purchases of cooperative output
- **1936:** Bank of Mexico (Banxico) converted to a central bank and banks required to maintain reserves with it, i.e., the government expropriated part of their deposit base
 - credit-to-GDP ratio declined from 7% in 1933 to 3% by 1939, and peak combined commercial and investment banking lending was 17% of GDP in 1972
 - government response was to permit the mushrooming of government owned development banks, especially during the 1930s and 1940s

What are the characteristics of banking sector reforms?

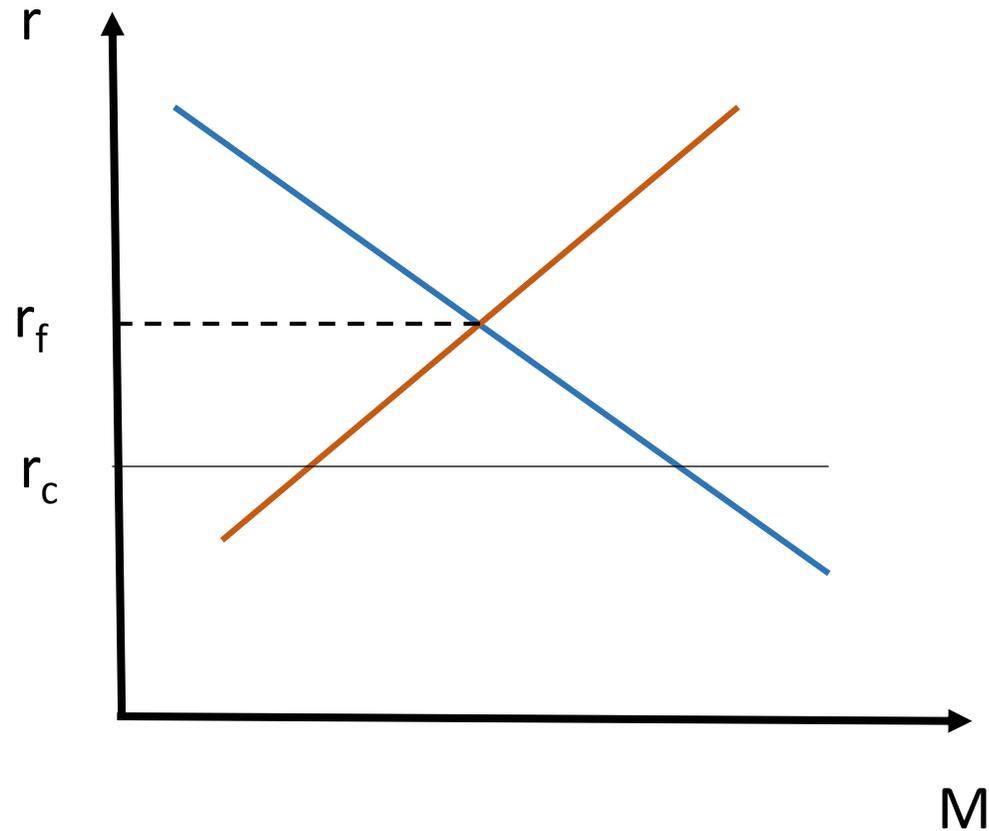
Banking sector reform

Trade off

- Greater freedom
 - To set interest rates on deposits and loans
 - To set compensations for employees that provide appropriate incentives
 - To make decisions about loans based on borrower characteristics rather than on the basis of government or central bank directives
 - (Independence of the central banks)
- Greater onus to perform and manage risks
 - Competition
 - Prudential regulations
 - Capital requirement
 - Recognition of impaired assets
 - (“Living will” for banks that are too big to fail)
 - Risk based premium for deposit insurance

Banking sector reform

Interest rate liberalisation – rationale



- If interest rate is held artificially low then there would be excess demand for funds
- In the presence of excess demand, funds would have to be rationed and hence there can be misallocation of resources
- Conjecture 1
 - In most cases, liberalisation of interest rate would be followed by an increase in real interest rate

Banking sector reform

Interest rate liberalisation – Case (USA) – I

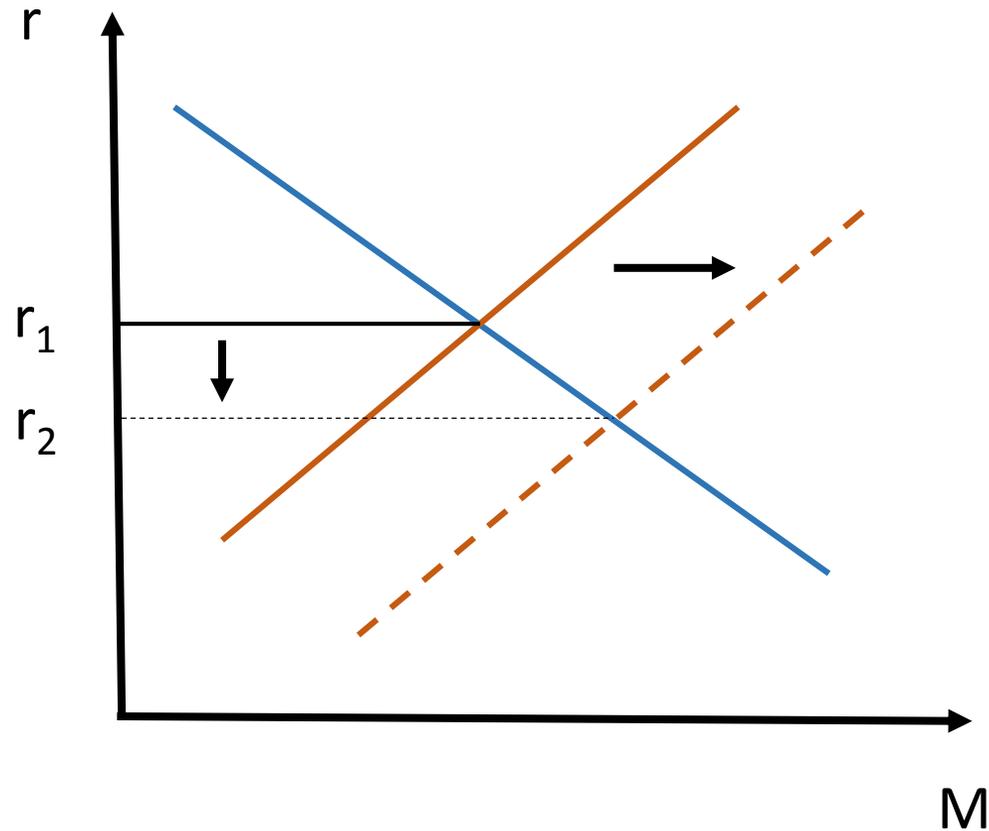
- Liberalisation of interest rates
 - Apropos *Marquette National Bank v. First of Omaha Service Corp* the Supreme Court effectively allowed national banks to export the maximum interest rate ceiling to which they were subjected in any one state to their nationwide operations
 - Regulation Q of the Banking Act of 1933, which capped interest on savings deposits at 5.25% and interest on time deposits to 5.75-7.75%, was repealed in the 1980s, as inflation rate accelerated from 4-5% to 10-11%
- Complementary factor
 - Deregulation of the thrift industry under the Garn-St Germain Act of 1982 which reduced net worth requirement and permitted investment in new asset classes
 - Competition among states to reduce regulatory constraints to growth, to prevent S&Ls' move from state to federal charter
 - Lower monitoring capability of regulator

Source: Sherman, Matthew (2009). A short history of financial deregulation in the United States, Centre for Economic Policy Research, Washington, D.C. (<http://www.cepr.net/documents/publications/dereg-timeline-2009-07.pdf>). [2]

Source: Lim, Alvin K. (1998). The S&L crisis revisited: Exporting an American model to resolve Thailand's banking problems, *Duke Journal of Comparative and International Law*, 9, 343-382 (http://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1258&context=djcil&sei-redir=1&referer=http%3A%2F%2Fscholar.google.co.uk%2Fscholar%3Fhl%3Den%26q%3Ds%2526l%2Bcrisis%26btnG%3D%26as_sdt%3D1%252C5#search=%22s%26l%20crisis%22)

Banking sector reform

Interest rate liberalisation – Case (USA) – II



- Conjecture 2

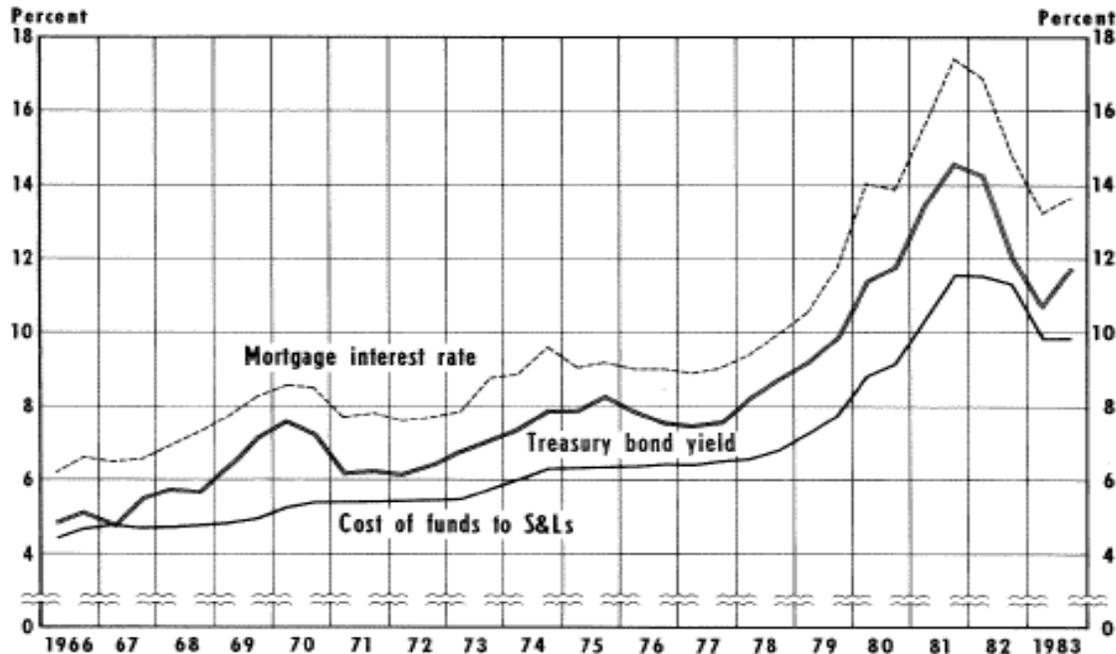
- If interest rate increases, there would be an increase in the supply of savings and correspondingly a decline in interest rate on financial products like mortgages

- Question

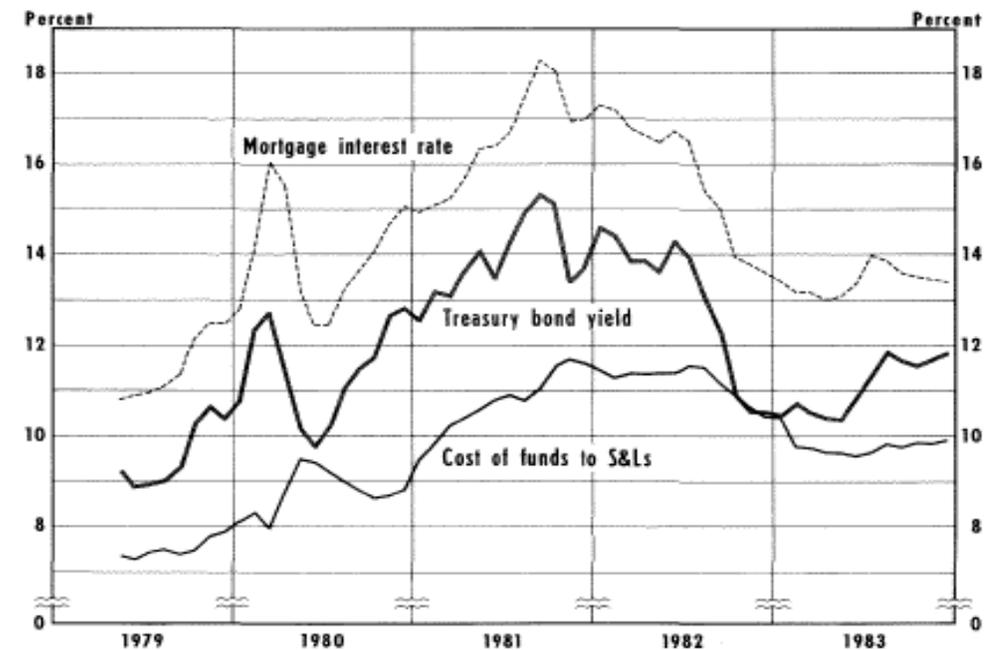
- What is the evidence about the impact of interest rate deregulation in the USA on mortgage rates?

Banking sector reform

Interest rate liberalisation – Case (USA) – III



Sharp increase in interest rates following the start of the phasing out of Regulation Q



Sharp increase in spread between mortgage rates and cost of funds from 2.0-3.5% before 1980 to 3.25-6.0% after 1980, driven by prepayment risk and default risk

Banking sector reform

Competition from foreign banks – I

Table V: Effect of Foreign Bank Penetration on Enterprises' Access to Financing

	(1)	(2)	(3)	(4)
	Tobit	Ordered Probit	Ordered Probit	Ordered Probit
Obstacle (High values indicate greater obstacle)	% of Investment Financed through Bank Loans	High Interest Rates	Access to Long-Term Loans	Access to Non-Bank Financing
Number of Observations	2221	2948	2116	2231
Regional Dummies ^a	Yes	Yes	Yes	Yes
Sector of Operations ^b	Yes	Yes	Yes	Yes
Foreign Banks				
Assets of Foreign Banks (% of total in 1999)	0.2683* (1.89)	-0.0060*** (-3.63)	-0.0153*** (-5.97)	-0.0024 (-1.42)
Banking Sector				
Assets of 5 Largest Banks (% of total in 1999)	-0.3002** (-1.99)	0.0024 (1.04)	0.0160*** (5.53)	0.0039 (1.52)
Assets of State-Owned Banks (% of total in 1999)	0.0840 (0.62)	-0.0010 (-0.56)	0.0008 (0.34)	-0.0007 (-0.39)

“... the empirical results strongly support the assertion that foreign bank penetration improved firms' access to credit. Cross-country evidence suggests that increased foreign bank entry is associated with lower interest margins and overhead costs.”

Banking sector reform

Competition from foreign banks - II

“During crisis periods domestic banks contracted their credit base, whereas greenfield foreign banks did not. Also, home country conditions matter for foreign bank growth, as there is a significant negative relationship between home country economic growth and host country credit by greenfields.”

Table 1
Credit growth

	Full sample I	Full sample II	Domestic banks	Foreign banks I	Foreign banks II
TAKE-OVER	-11.58 (1.26)	-5.65 (0.29)			
GREENFIELD	14.99 (1.29)	29.59 (1.55)		12.39 (0.88)	8.11 (0.65)
CRISIS	-19.79*** (4.30)	-14.42*** (2.93)	-19.36*** (3.43)	0.31 (0.03)	-4.13 (0.33)
HOST - HOME Δ GDP	8.08*** (4.18)			8.86*** (4.11)	
HOST Δ GDP		6.68*** (7.39)	6.74*** (6.98)		8.64*** (2.93)
HOME Δ GDP		-6.04* (1.89)			-8.62*** (2.78)
HOST - HOME LENDING RATE	1.12** (1.97)			0.85 (0.88)	
HOST LENDING RATE		0.28 (1.08)	0.34 (1.36)		1.50 (1.11)
HOME LENDING RATE		2.97*** (4.03)			1.11 (1.15)
HOST INFLATION	-0.01 (0.37)	0.03 (1.01)	0.03 (0.12)	0.08 (0.61)	0.07 (0.44)
WEAKNESS PARENT BANK	-0.19*** (4.37)	-0.16*** (3.04)		-0.23*** (7.00)	-0.19*** (4.27)

Banking sector reform

Prudential regulations – I

- **Basel I (1988)**: Each bank to maintain capital no less than 8% of its risk weighted assets. Part of this capital had to be Tier I (e.g., common stock, retained earnings) and the rest could be Tier 2 (e.g., subordinated debt). The problem was that the prescribed risk weights did not always correspond to the risk measures used by investors (e.g., short term commercial debt vs long term government bonds)
- **Basel II (2004)**: Capital requirements related to credit risk, market risk and operational risk. There is greater use of VaR based on historical data. Risk analysis therefore is not forward looking and it does not take into account the possibility that not all risk is exogenous but could arise from the behaviour of banks themselves. The internal-ratings based approach may have reflected in part regulatory capture.
- Problems:
 - Confusion over the role of regulations
 - Misunderstanding the role of mathematical models in finance

Banking sector reform

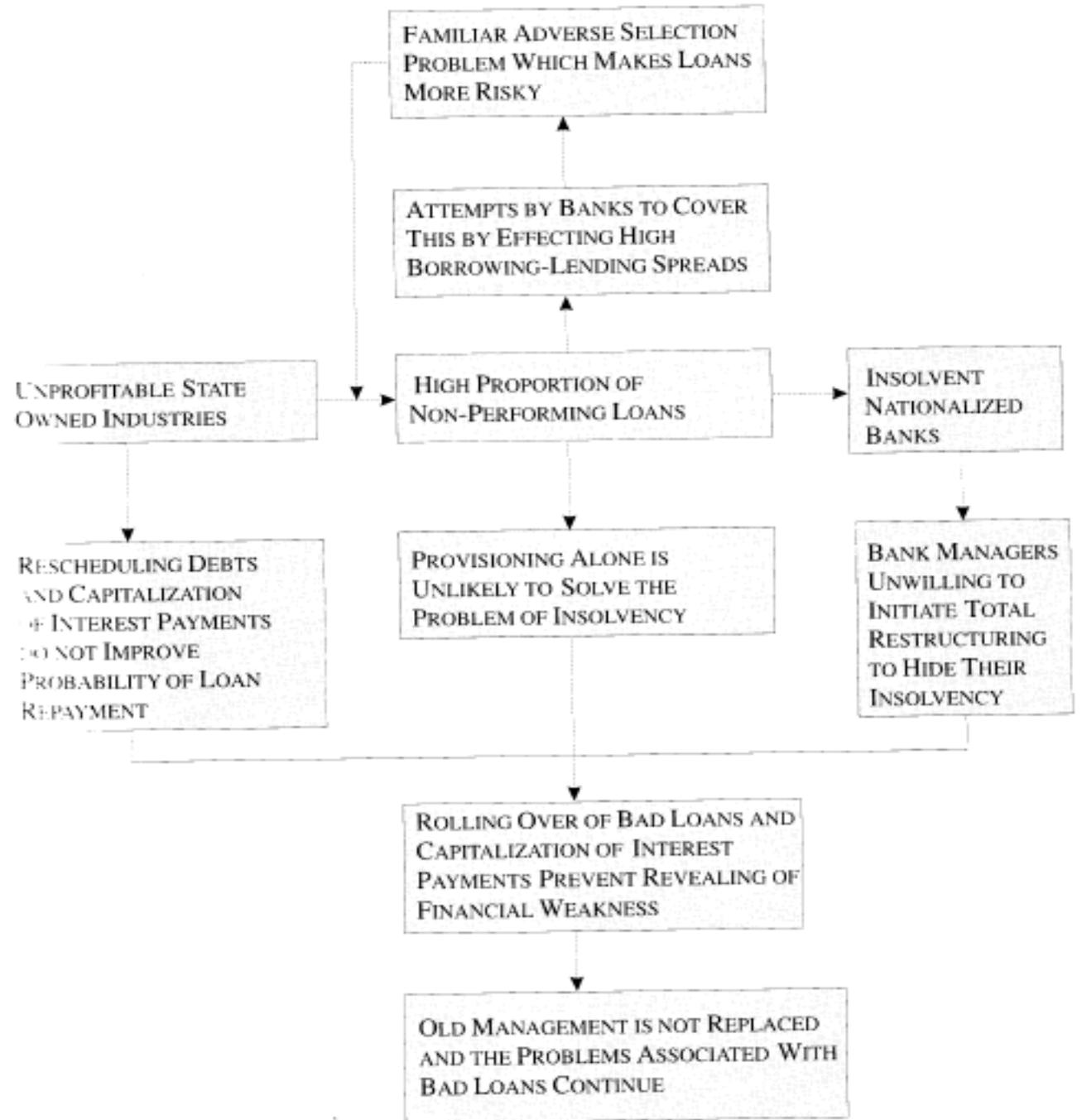
Prudential regulations – II

- Credit growth is greater for well capitalised banks
- If there is a contractionary monetary policy shock, the adverse impact on lending is smaller for banks that are well capitalised
 - Interaction between bank capital and monetary policy shock is stronger for banks that are more dependent on non-deposit sources to fund credit expansion
- The relationship between credit growth and business cycle is weaker for well capitalised banks
 - Could it mean that well capitalised banks are self selected and risk averse such that their expected loss on account of borrower default is not affected by the phase of the business cycle?

Banking sector reform Doing it all at once – Central & East Europe

“The problems facing the former socialist/planned .countries clearly have their roots in the fact that there has been no incentive for resource allocation based on risk-return evaluation. The only feasible solution is perhaps to start with a clean slate, implying that bad loans of the banks, as well as losses of the government owned enterprises, would have to be written off. the privatisation of banks should be the final step”

Source: Bhaumik, Sumon K. (1996). Liberalization vs regulations: Some lessons for financial restructuring, Journal of Transforming Economies and Societies, 3, 2-14 (http://www.sumonbhaumik.net/EMERGO_1996.pdf)



What questions should emerging market policy makers ask?

Banking sector reforms

Questions

- What is the nature of the political economy? Who are the coalition partners of the government? What is the nature of this coalition?
- How should the government balance the social and economic need for credit disbursement and the need for autonomy of banks to decide on credit allocation?
- How should the government balance the need for autonomy – in general, private ownership – of banks and the need for regulation? What, specifically, would be the objectives of regulation?
- How much competition can the banking sector handle? Can there be “too much competition” in the markets for deposits and/or banking assets?
- What are the necessary institutions (e.g., independent central bank, deposit insurance) to support banking sector reforms? What other policy initiatives (e.g., corporate governance reform, capital account convertibility) might have to accompany banking sector reforms? Is there an optimal sequencing of institution building and policy initiatives?