Economics for Managers

Session 28-30| 29-Sep-2019

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Today's Agenda

- Class Test 1 hour
- Monetary Policy & the Financial System 1 hour
- Wrap-up/ Summary/ Guidance for final exam 1 hour

The Money Multiplier

Fractional reserves system of banking

1. Shyam places a time deposit of Rs 100 in his bank account
2. His bank has several customers like Shyam
3. The bank knows that only 10% of people will come to withdraw their deposits, rest will likely roll-over
4. RBI requires Shyam's bank to place this Rs 10 with it in safe custody
5. That means the bank can lend 90% of Shyam's deposit to Vijay who wants to buy a house

This is how 'fractional reserves' system of banking works and banks create several rounds of deposits on the initial deposit of Rs 100 by Shyam. These deposits are in turn used to create new rounds of lending.

Mathematical expression of Deposit Multiplier

1. Original deposit = 100
2. First round of lending = (1- r) x 100
3. Second round of lending = (1- r)^2 x 100
4. Third round of lending = (1- r)^3 x 100

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Total Deposits = [1 + (1 – r) + (1-r)^2 + (1-r)^3 + …] x 100

= (1/r) x 100 = 1000

From Deposit Multiplier to Money Multiplier

The deposit multiplier effect is affected:

1. Negatively if Vijay's builder decides not to deposit the entire Rs 90 into his bank account (cash-deposit ratio "cr")
2. Negatively if the RBI thinks that the 10% assumption is too low & increases the safe custody requirement to 12% (higher reserve requirement "r")
3. Negatively if the banks are averse to lending the entire 90% (excess reserves "er")

Money Multiplier = $(1 + cr) / (cr + r + er) <$ Deposit Multiplier = $(1/r)$

Money Multiplier- India

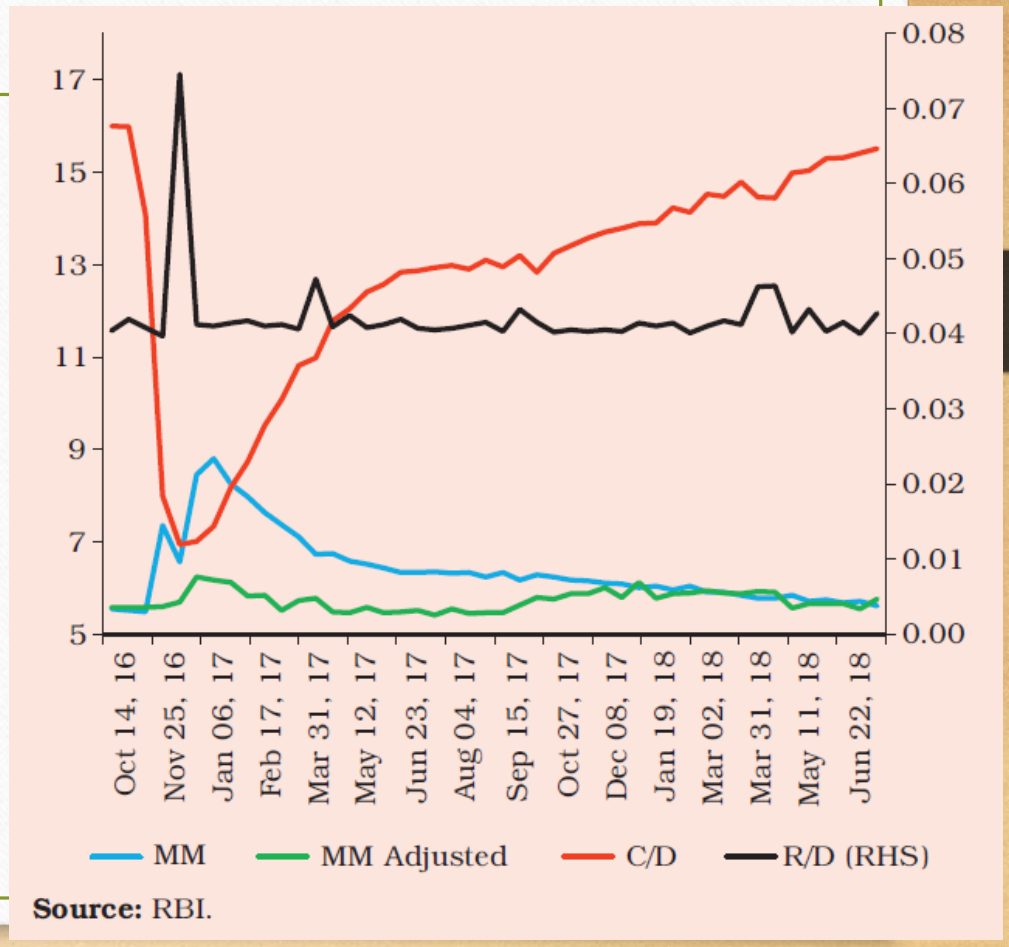
Money Multiplier = M3/ Reserve Money = 5.7x

Currency-deposit (cr) = 0.15

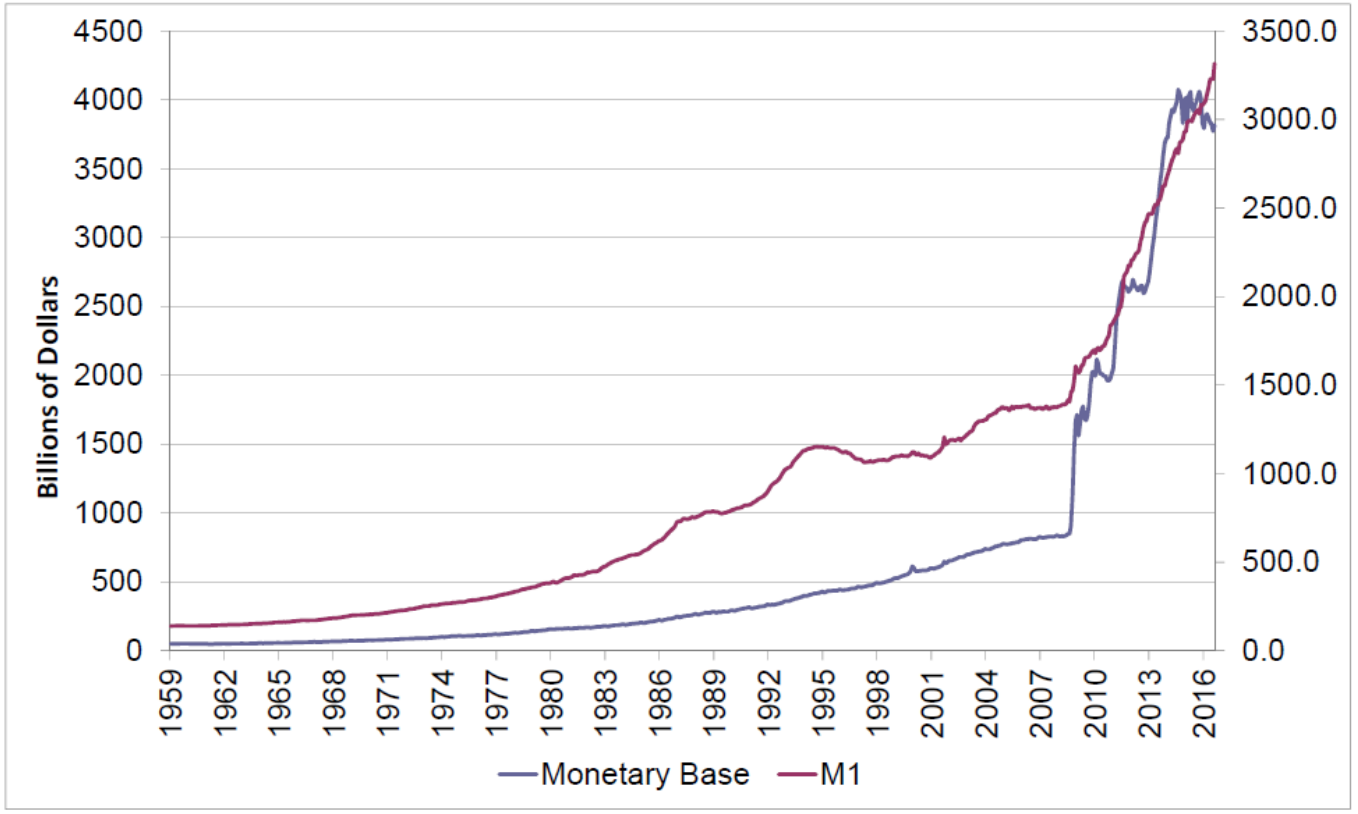
Reserves ratio (r) = 0.045 (CRR)

Excess reserves (er) = ~ 0

$$\text{Money Multiplier} = \frac{(1 + 0.15)}{(0.15 + 0.045)}$$



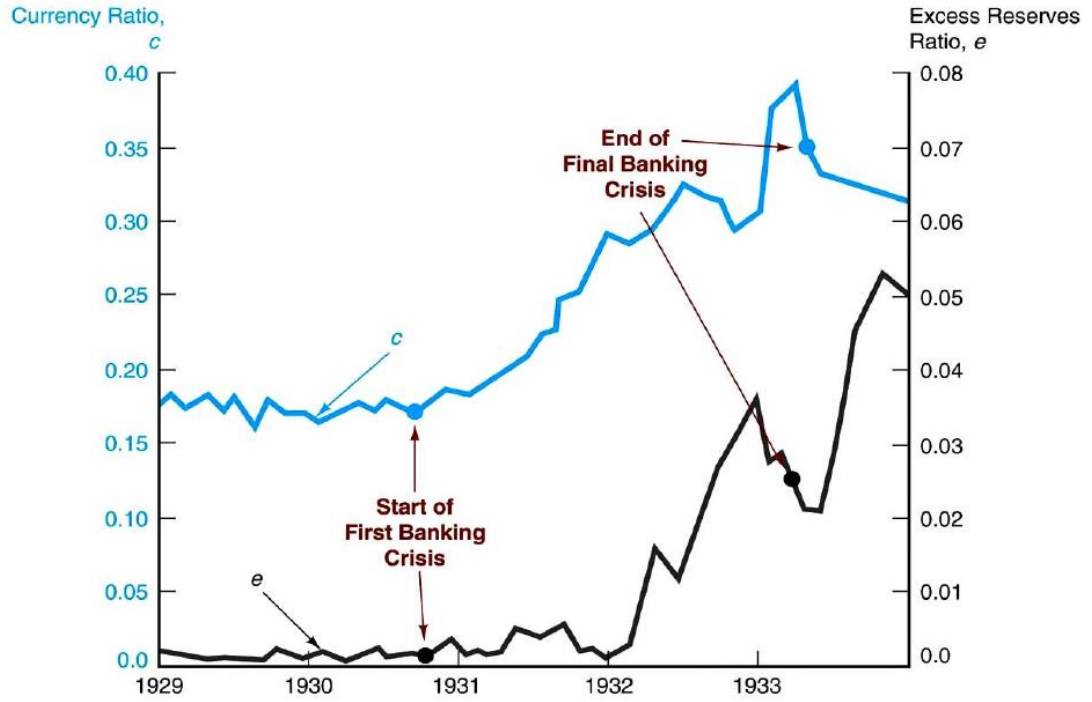
Multiplier- USA during GFC



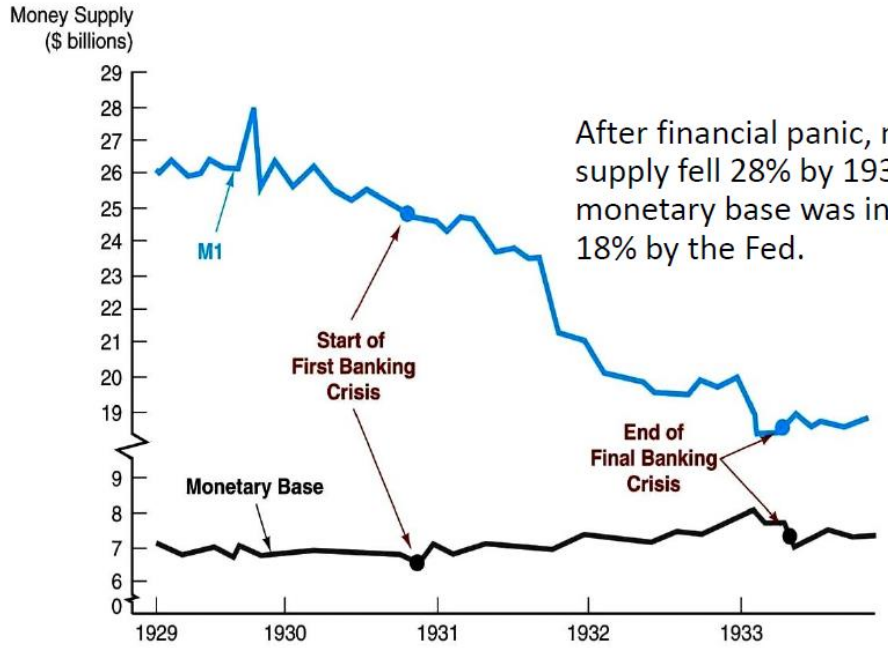
Multiplier- USA during Great Depression

Bank Failures and Great Depression (1929-1933)

Excess Reserve Ratio and Currency Ratio



M1 and the Monetary Base, 1929-1933



After financial panic, money supply fell 28% by 1933 although monetary base was increased by 18% by the Fed.

RBI – Monetary Policy

Building blocks we studied

1. Money Multiplier ~ 5.7x
   - Reserve Money ~ Rs. 27 lakh crores (only RBI can create)
   - M3 ~ Rs. 154 lakh crores (deposit multiplier at play)

2. Balance-sheet of a Bank

Assets		**Liabilities**	
(SLR) Investments	21	Deposits	90
Loans	73	Borrowings	5
		Equity	5
(CRR) Cash Reserves with RBI	5		
Total	**100**	**Total**	**100**

- Single bank: withdrawal of deposits > repayments of loans ~ borrow in the Inter-bank call money market from surplus banks
- Many banks/ Banking system: withdrawal of deposits > repayments of loans ~ borrowing rates shoot up

Does it mean the banks are left to manage on their own?

Monetary Policy in India

1. What is the goal?

   Maintain price stability while keeping in mind the objective of growth

2. Who sets the inflation target?

   GoI in consultation with RBI, every 5 years

3. What is the inflation target?

   4% CPI (+/- 2%)

4. What is the policy instrument used by RBI?

   Repo/ Reverse Repo rate (under Liquidity Adjustment Facility)

5. What is the operating target?

   Weighted-average Call Rate (WACR)

Monetary Policy in India

5. How does it all work?

RBI **sets the Repo Rate** based on assessment of **current & evolving** macroeconomic situation (output gap, inflation outlook, global eco conditions)

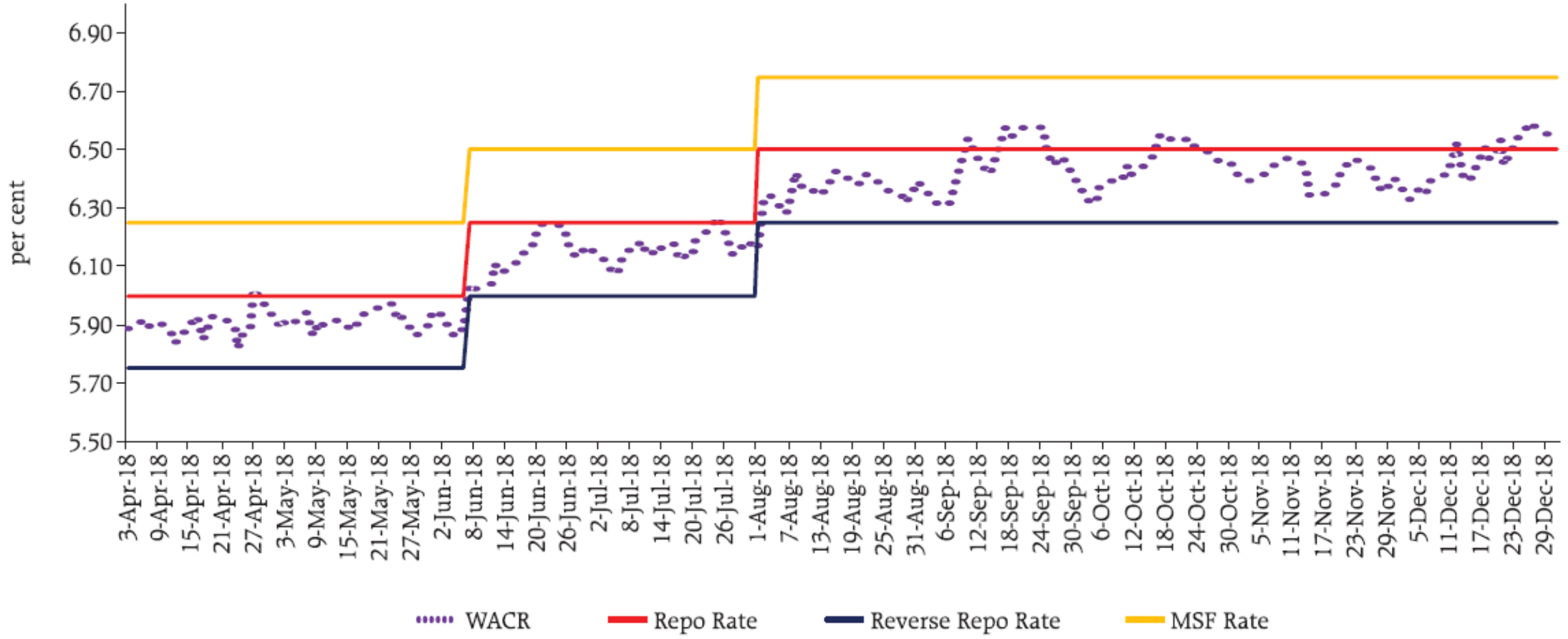
Modulates liquidity conditions to anchor money market rates around Repo

Short-term rates are expected to influence **long-term rates** as well

Interest rates directly influence **Aggregate Demand** (Consumption, Investment)

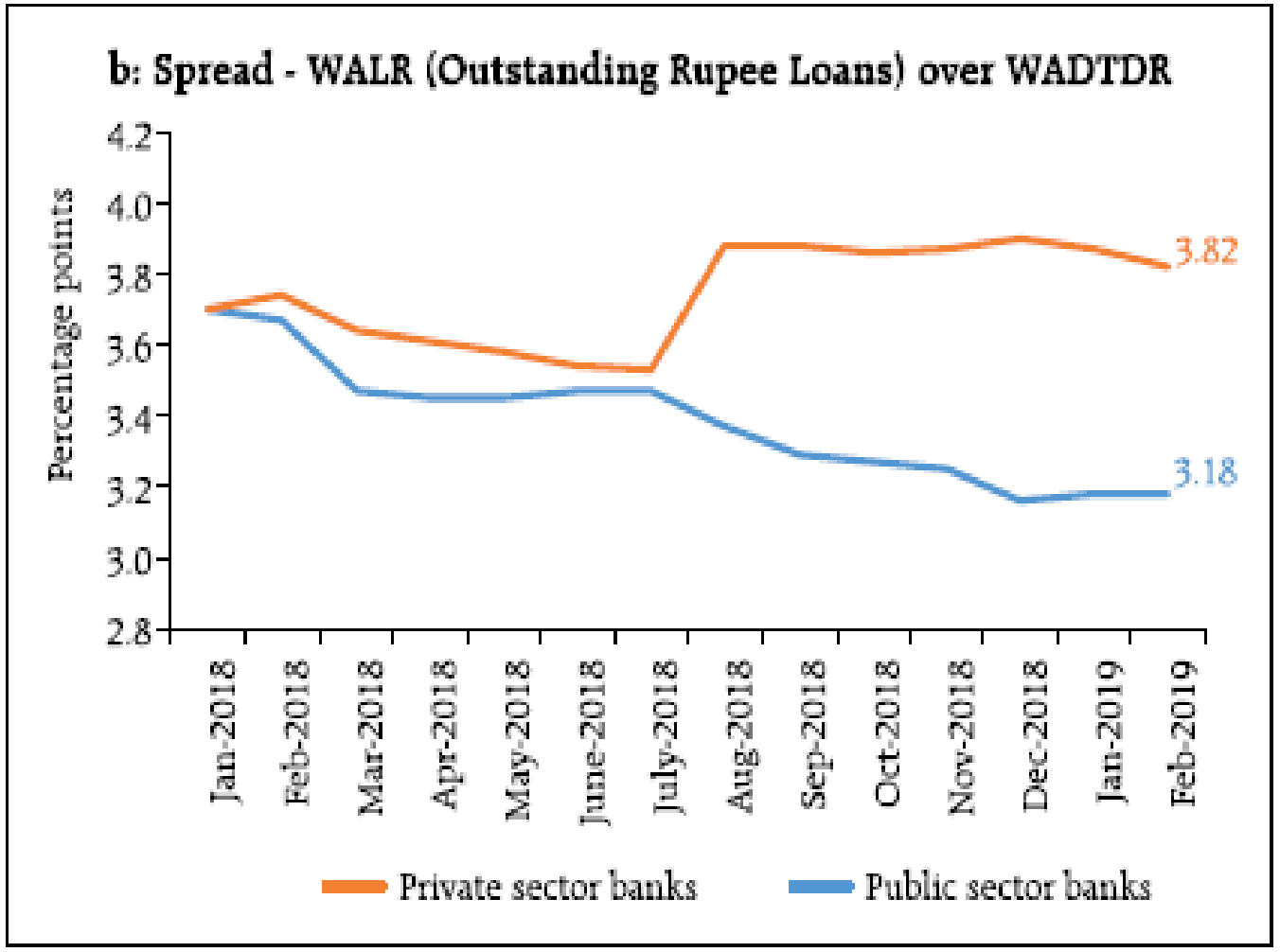
WACR

Chart 5: Policy Corridor and WACR



Source: RBI.

Lending rates/ Spreads



Time to summarize the course

Summary of the course- MICRO

- **Basic tools**
  - Law of demand & law of supply
  - Why trade is good for everyone: consumer & producer surplus
  - What happens when government distorts the functioning of markets?
  - Elasticity (and its applications)
  - *Case studies:*
    - *Demand & supply of Oil*
    - *Shocks to demand & supply and their impact on prices*
    - *Estimating consumer surplus from the introduction of cell phones*
    - *Rent Control and its impact on demand/ supply*

Summary of the course- MICRO

- **Demand/ How Consumers Behave**
  - How economists think about consumers preferences
  - What happens when prices change/ income changes?
  - How taxes and subsidies lead you to under or over consume
  - Inputs to utility maximising behaviour
  - *Case studies:*
    - *Elasticity of a brand vs elasticity of a category of products*
    - *Elasticity determined by nature of product (prices of food vs prices of computer chips and their impact on industry revenue)*
    - *Product positioning (introducing a new brand of Breakfast Cereals)*

Summary of the course- MICRO

- **Supply / How Producers Behave**
  - Types of costs
  - Short-run vs long-run/ variable vs fixed inputs
  - Returns to a factor vs returns to a scale
  - Break-even
- **Organization of "Markets" / Industry structure**
  - Producer behaviour depends on type of market structure
  - Estimating the degree of competition
  - Distortionary effects of a monopoly
  - *Case studies: NY Taxi permits, Indian Aviation, US Meat Industry*

Summary of the course- MICRO

- **Market Failures**
  - Market mechanism fails in the presence of externalities/ public goods

Application Exercise

- Understanding a real-life situation through the lens of microeconomics tools
  - Autos drivers' preference to sit idle
  - Farmers destroy their own surplus crops to ensure price doesn't drop
  - Surge pricing in Ola/ Uber
  - High real estate inventory, yet no drop in prices
  - Dynamic pricing in Airline Industry

Summary of the course- MACRO

- **Understanding the macroeconomy**
  - Slowdown/ recessions tougher than competitors
  - Strategically manage business over the cycle and take advantage
  - Develop an appreciation for leading indicators to guide decisions
- **Key issues in macroeconomics**
  - Unemployment
  - Inflation
  - Economic Growth
  - Trade Imbalances
  - Budget Deficits

Summary of the course- MACRO

- **Key tools in macroeconomics**
  - Monetary Policy
  - Fiscal/ Tax Policy
  - Regulatory Reforms
  - Trade & Exchange Rate Policies
- **Key questions for business managers**
  - Are we heading into an economic expansion or a slowdown?
  - Will interest rates go up or down?
  - Will commodity prices go up or down?
  - Will there be restrictions to free trade?
  - Which way are exchange rates heading?

Summary of the course- MACRO

- ***Case studies***
  - *David's business expansion & impact of exchange rate fluctuations*
  - *Rita's decision to buy a dream home with a floating rate loan*
  - *Spending more on advertisements to overcome a slump*
- **Measuring GDP/ key components**
  - Consumption, Investment, Government Expenditure, Net Exports
  - Actual vs potential GDP
  - Nominal vs Real
  - Crowding out effect of government borrowing

Summary of the course- MACRO

- **International Business Environment**
  - Risks/ Key considerations/ Why countries trade
  - *Case study: Brexit & How Japanese Companies Are Navigating Its Uncertainties*

Application Exercise

- GDP & its components/ trends for India
- Inflation: Core, Headline, WPI, CPI
- Trade partners, major goods & services; absolute & comparative advantage
- Bank credit and its relation with components of GDP
- Leading indicators

Assessments

5 Internal Assessments | 90 marks

- Evaluation of first 4 – done
- Today's test: will be sent (I hope!) before next weekend
- 55 out of 90 based on group work

Final Exam- 60 marks

- 10 subjective questions divided in 2 sections
- Section 1: Microeconomics | 5 questions
- Section 2: Macroeconomics | 5 questions
- Note: there is no choice

Please note

- Self-study readings on
  - Behavioural economics
  - Macroeconomics
  - Case studies on the shared drive (& discussed in class)!
  - Topics covered in group presentations (assignments 3 & 4)- won't ask data but concepts are important.

Hope you enjoyed the course- Good Luck!

Happy to stay in touch: LinkedIn/twitter/ email.

Request feedback: a quick survey

Appendix

Typical Balance-Sheet of a non-financial firm

Assets		**Liabilities**	
Item	Amount	Item	Amount
Receivables from buyers	30	Payables to Suppliers	20
Machinery/ Building etc	50	Short-term Borrowing	20
		Long-term Borrowing	20
Cash/ Near-cash	20	Owner's Capital + Reserves	40
Total	**100**	**Total**	**100**

Typical Balance-Sheet of a Bank

Assets		**Liabilities**	
Item	Amount	Item	Amount
Loans	73	Deposits	90
Investments	21		
		Short-term Borrowing	2
Building	2	Long-term Borrowing	3
Cash/ Near-cash	4	Owner's Capital + Reserves	5
Total	**100**	**Total**	**100**

Banking is a risky business

1. Owner's contribution very low
2. Timing mismatch between assets & liabilities
3. Liabilities have to repaid whether or not loans are paid back
4. Erosion of confidence can cause a bank to collapse