A DISCUSSION ON MONETARY POLICY

BY 89TH FC OFFICER TRAINEES

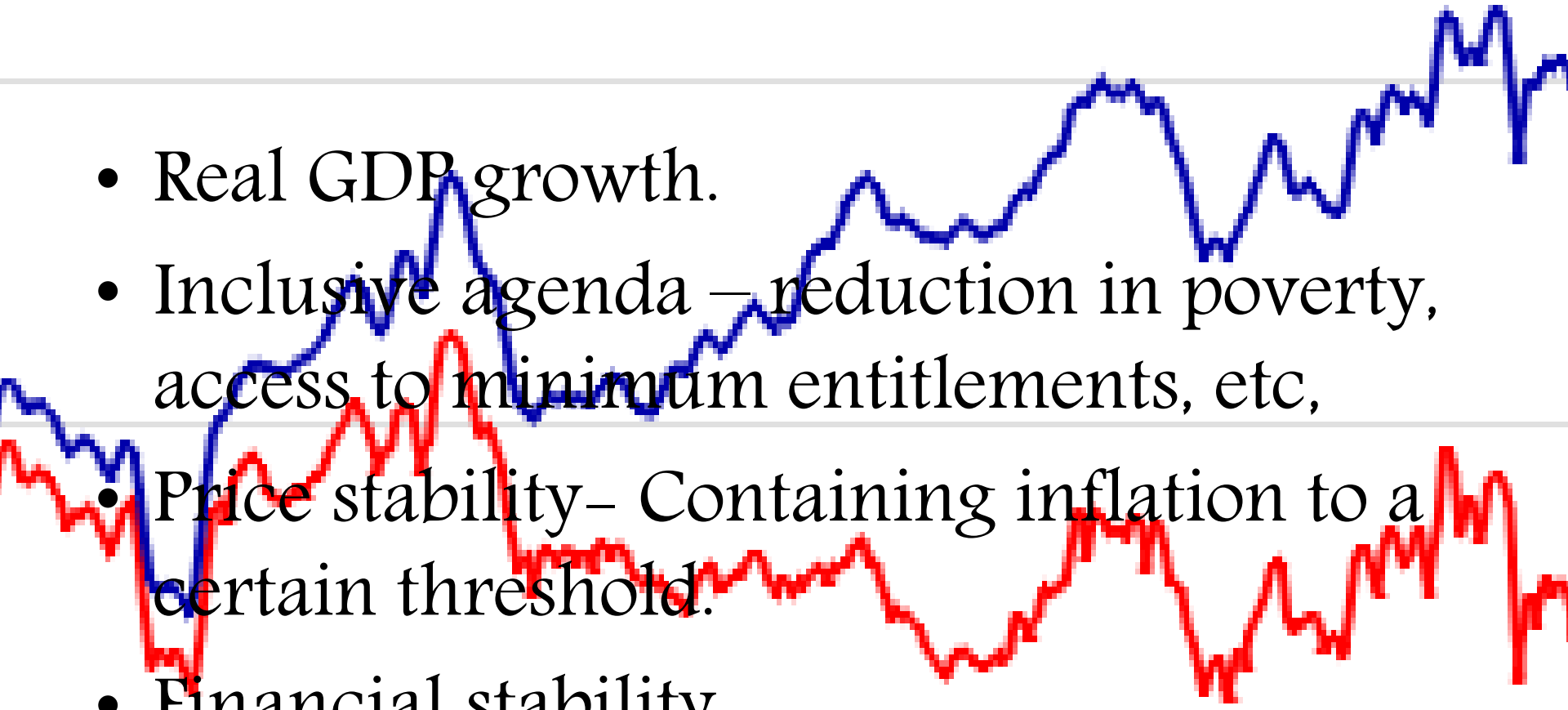
MACROECONOMIC POLICIES

- Fiscal policy
- Monetary policy
- Exchange rate policy

Four Major Concerns of Macroeconomic Management

- Inflation
- GDP
- Employment
- Balance of payments

Macroeconomic objectives of the economy



- Real GDP growth.
- Inclusive agenda – reduction in poverty, access to minimum entitlements, etc,
- Price stability– Containing inflation to a certain threshold.
- Financial stability.

MACROECONOMIC FRAMEWORK

- An integrated system of 4 macroeconomic accounts involving dynamic inter-relationships covering:
  - GDP-national accounts (SNA)
  - Balance of payments (BoP)
  - Public finances (Budget +)
  - Monetary aggregates (Money)

MONEY

- An officially-issued legal tender generally consisting of currency and coin. Money is the circulating medium of exchange as defined by a government. Money is often synonymous with cash, including negotiable instruments such as checks.
- Money is something that is used as a medium of exchange, a store of value and a unit of account.

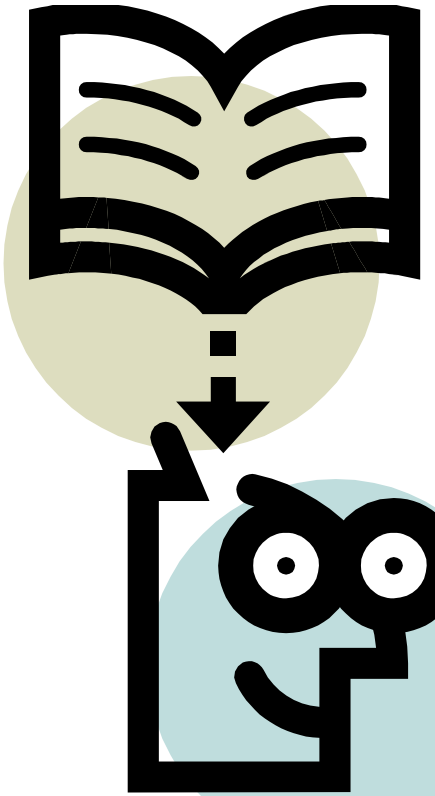
Money Demand and Supply

- What is money supply?
- How is the demand for money determined?
- How does the central bank change the interest rate?

THEORY OF DEMAND FOR MONEY

- Classical Quantity Theory of Money
- Keynes' Liquidity Preference Theory
- Friedman's Modern Quantity Theory of Money

Quantity Theory of Money Demand



- When market for money is in equilibrium, we have $M^D = M^S$

$$M^D V = PY$$

- M^D is proportional to nominal income (V–constant)

- Velocity of money average number of times per year that a rupee is spent in purchasing goods and services
- Interest rates have no effect on demand for money
- Underlying the theory is the belief that people hold money only for transactions purposes

KEYNES' LIQUIDITY PREFERENCE THEORY

- Rejects the notion that velocity is constant
- Emphasizes three reasons for why people hold money
  - Transactions demand for money is proportionate to income
  - Precautionary demand for unexpected reasons
  - Speculative demand for money depends on interest rates (holding money as a store of wealth)

CONT…

- Liquidity preference function $\frac{M^D}{P} = f(Y, i)$
- Relationship between liquidity preference and velocity:

$$V = \frac{PY}{M^S} = \frac{Y}{f(Y, i)}$$

- Thus, when interest rates go up, velocity go up –Keynes's theory predicts fluctuation in velocity.
- Theory can also explain why velocity is somewhat pro-cyclical.

Friedman's Restatement of the Quantity Theory

- Premise– demand for money is affected by same factors as demand for any other asset
  - wealth (permanent income)
  - relative returns on assets (which incorporate risk)
- Individuals hold their wealth as: money, bonds, equity and real assets (e.g. housing, cars, etc).

$$\frac{M^D}{P} = f(Y_p, r_b - r_m, r_e - r_m, \pi^e - r_m)$$

MEASURE OF MONEY STOCK

- M0/Reserve Money
- Four measures of money stock
  - M1, M2, M3 and M4

M0 = Currency in circulation + bank's and others deposits with RBI

The monetary base (M0), also known base money or high powered money is the money that is directly created by the central bank.

CONT...

M1 = Currency with public + Demand Deposits + others deposits with RBI

M2 = M1+Post office savings

M3 = M1+ time deposits with banks

M4 = M3+ Total post office deposit

MONEY CREATION

- Money is created when the central bank either lends or adds to its kitty of foreign exchange reserves.

Monetary Policy - Overview

- Objectives
- Transmission mechanism
- Operating procedure

MONETARY POLICY- MEANING

- ✓ The part of the economic policy which regulates the level of money in the economy in order to achieve certain objectives.

or

- ✓ Monetary policy is a process by which monetary authority controls the supply of money in the economy in order to maintain price stability and higher economic growth

GROWTH INFLATION TRADE-OFF

- Inflation is both boon and bane
- Threshold ± desired band of inflation assists economic growth
- Higher or lower may be bane to economic growth and development
- It is a critical decision to choose and target one when both are in concerned zone

OBJECTIVES OF MONETARY POLICY

- Growth and price stability
- Exchange rate and financial stability
- Trade-offs are involved in the objectives as there are multiplicity of objectives (often inherently conflicting) and fewer instruments.
- Impossible trinity – a term that states that an open capital account, fixed exchange rates and monetary policy independence are inherently difficult to achieve simultaneously.

IMPORTANCE OF MONETARY POLICY

Gross Domestic Product (GDP) =

$$C + I + G + (X - M)$$

Where:

C = Private Consumption expenditure

I = Private Investment Expenditure

G = Government Expenditure

X–M = Net Exports

C, I, X–M can be influenced by the monetary policy.

MONETARY TRANSMISSION

- Monetary policy transmission is a process through which monetary policy decisions affect the economy in general and the price level in particular.

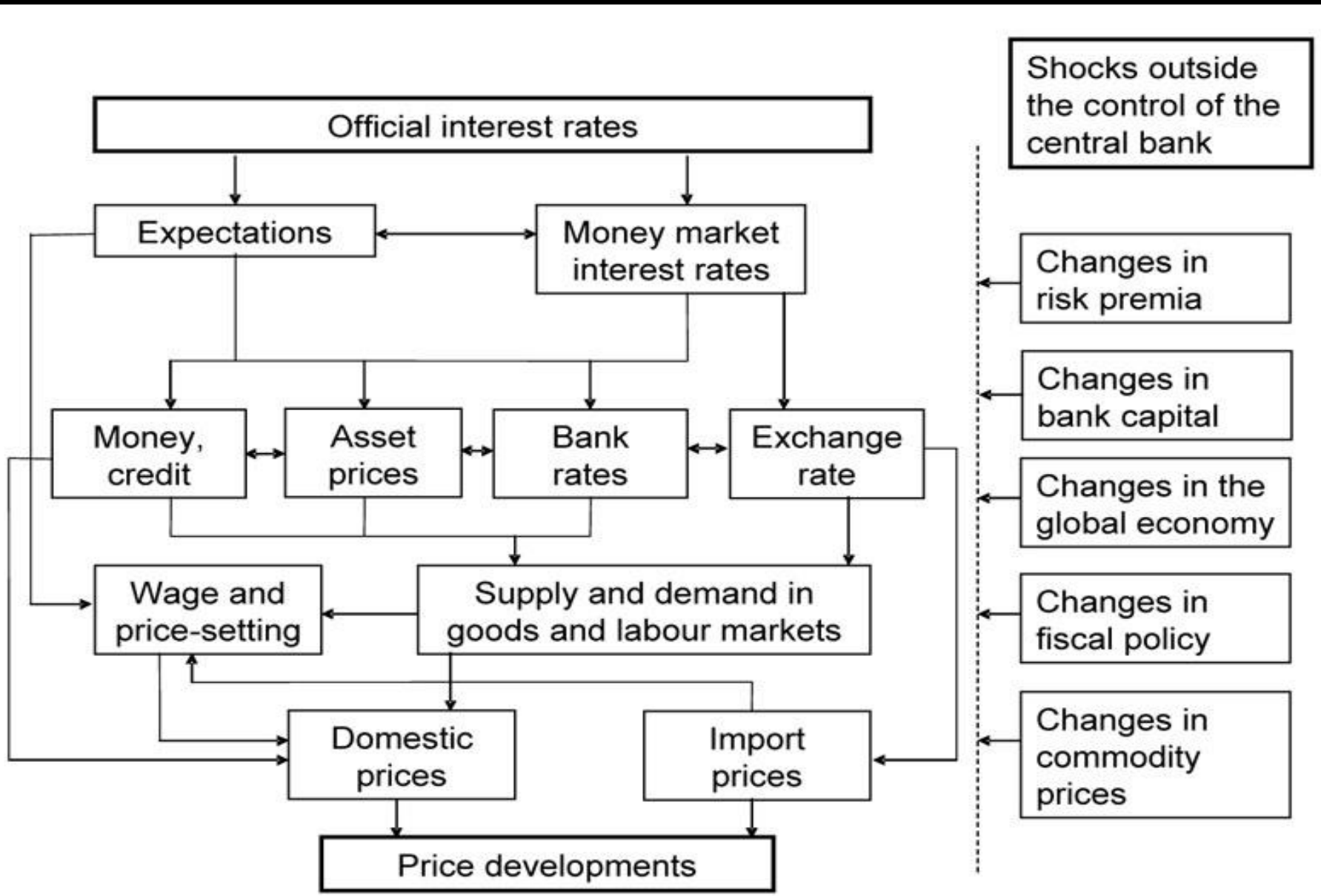
- Described as “Black Box” (Bernanke et.)
  - There is little consensus on how it works
  - many channels can simultaneously work to achieve the final policy objectives. Therefore, understanding the transmission mechanism of monetary policy to real activity has always been a subject of contemporary interest for researchers.

MONETARY TRANSMISSION

- The process of monetary policy transmission begins with the transmission of policy actions to market interest rates and from there onwards, transmission may proceed to real sector through any of the several channels.

TRANSMISSION MECHANISM

- The quantum channel– Monetary aggregates like money supply and credit
- The interest rate channel
- The Exchange rate channel
- The asset price channel
- The RBI follows a multiple indicator approach for monetary policy calibration


Official interest rates
Expectations
Money market interest rates
Money, credit
Asset prices
Bank rates
Exchange rate
Wage and price-setting
Supply and demand in goods and labour markets
Domestic prices
Import prices
Price developments
Shocks outside the control of the central bank
Changes in risk premia
Changes in bank capital
Changes in the global economy
Changes in fiscal policy
Changes in commodity prices

ASSET PRICE CHANNEL

- Apart from bond prices, there are two other categories of asset prices through which monetary policy can transmits
- Stock market prices which can impact macro variables through wealth effect as well as Tobin's *q*
- It can favourably impact equity prices –raises market value of firms as compared to the replacement cost of capital (Tobin's *q*) & induce household consuption as they perceive value of their wealth to be higher
- When Tobin's *q* is high – firms will be encouraged to undertake investment by issuing equity which will accelerate economic activity

TOBIN'S Q RATIO

- Devised by James Tobin
- hypothesized that the combined market value of all the companies on the stock market should be about equal to their replacement costs
- Q ratio is calculated as – market value of a company divided by the replacement value of the firm's assets

Q=market value of firm/total assets value

How does monetary policy achieve its goals?

- Monetary policy impacts demand in the economy through affecting interest rates
- Traditionally this was done through changing money supply
- Now it is done by directly changing interest rates.

MONETARY POLICY IN INDIA

- RBI formulates the monetary policy
- It used to be announced twice a year, through which RBI, regulate the price stability for the economy

1.slack season policy	**April-September**
2.Busy season policy	**October-March**

- Now the policy is reviewed every quarter and there is also the provision of mid quarter review

IMPLEMENTATION OF MONETARY POLICY

- Qualitative Measures
  - Rationing of credit
  - Moral Suasion
  - Direct Action
- Quantitative Measures
  - Repo/ reverse repo / MSF
  - Bank rate
  - Open market operations
  - Cash reserve ratio (CRR)
  - Statutory liquidity ratio (SLR)
  - Market Stabilization Scheme (MSS)

- **Cash Reserve Ratio(CRR)** – portion of deposits (as cash) which banks have to keep/maintain with the RBI
- **Statutory Liquidity Ratio (SLR)** – banks are required to invest a portion of their deposits in government securities as a part of their requirements
- What SLR does is again restrict the bank's leverage in pumping more money into the economy.

- **Bank Rate**– rate at which RBI lends money to other banks (or financial institutions)

- Signals the central bank's long-term outlook on interest rates

- If the bank rate moves up, long-term interest rates also tend to move up, and vice-versa

Repo (Repurchase) Rate– rate at which banks borrow funds from the RBI to meet the gap between the demand they are facing for money (loans) and how much they have on hand to lend

- Increases the repo rate – expensive for the banks to borrow money

- Reduces the repo rate – cheaper for banks to borrow money

Reverse Repo Rate– Exact opposite of repo rate

- Rate at which RBI borrows money – from the banks is termed the reverse repo rate
- If reverse repo rate is increased – it means the RBI will borrow money from the bank and offer them a lucrative rate of interest
- Banks would prefer to keep their money with the RBI (which is absolutely risk free) instead of lending it out (this option comes with a certain amount of risk)

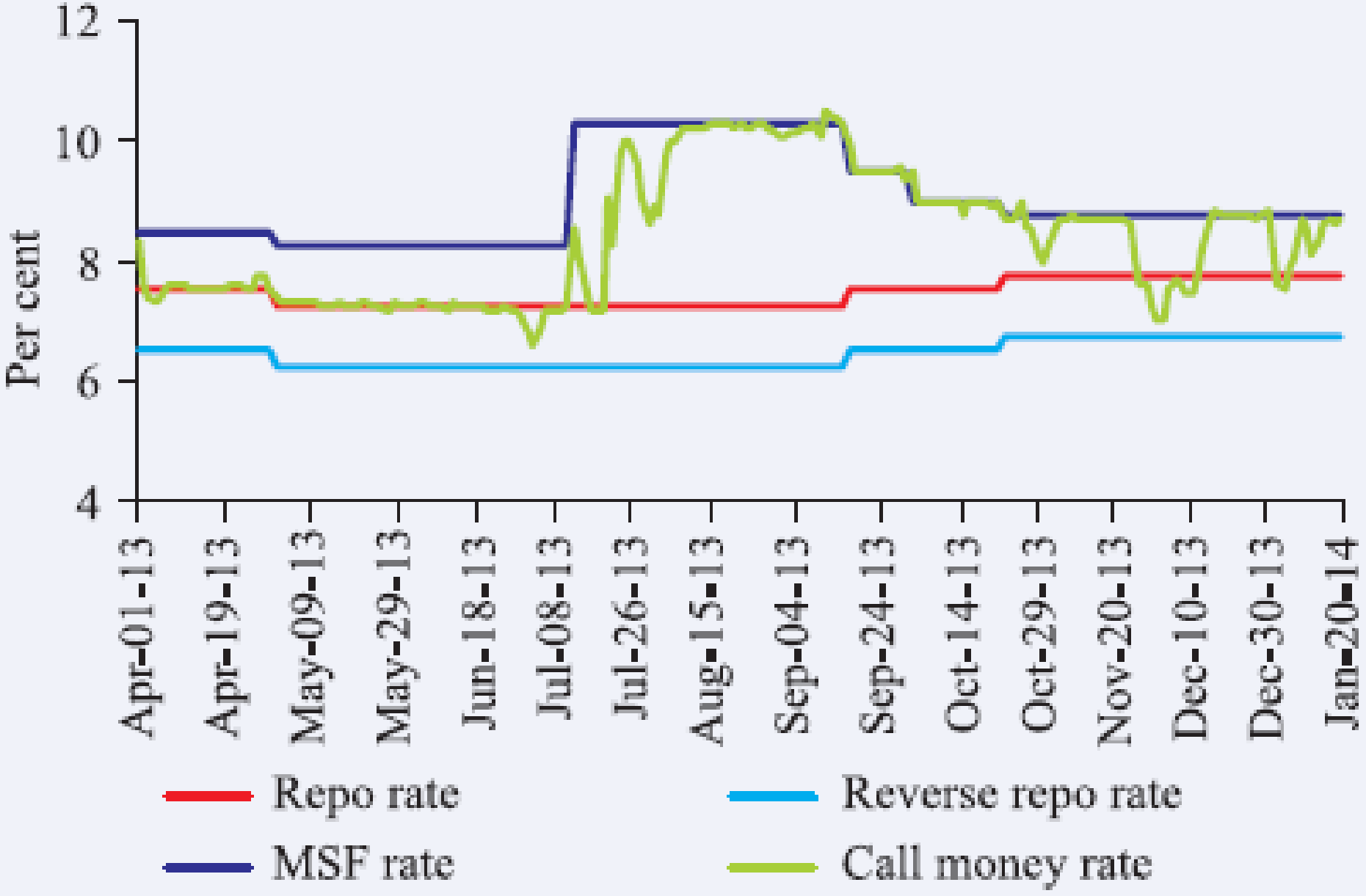
Reverse repo rate signifies the rate at which the central bank absorbs liquidity from the banks, while repo signifies the rate at which liquidity is injected

Can reverse repo be greater than repo rate???

Call Rate– interest rate paid by the banks for lending and borrowing for daily fund requirement

Since banks need funds on a daily basis, they lend to and borrow from other banks according to their daily or short-term requirements on a regular basis

Movements in policy and call money rate in 2013-14



THE OPERATING PROCEDURE

- Prior to 1998 the focus was on demand and supply w.r.to credit needs, bank rate, reserve requirements and OMOs
- In 1999 LAF was introduced which signaled interest rates as the key variable of policy; but was hindered by multiplicity of rates
- In 2011, the LAF framework was modified with a fixed corridor and a single variable rate– namely the repo rate

IMPOSSIBLE TRINITY

1. Open capital account
2. Pegged currency regime
3. Independent monetary policy

CONT...

- In a inflationary situation – so want a contractionary monetary policy; raise interest rates
- Since the capital account is open, capital flows in from abroad in response to the higher interest rates; puts a pressure on exchange rate
- RBI buys up the dollars to prevent rupee appreciation. This leads to an expansion in M3; will lower interest rates
- RBI cannot raise rates, and keep the exchange rate pegged at the same time

Thank you… ☺

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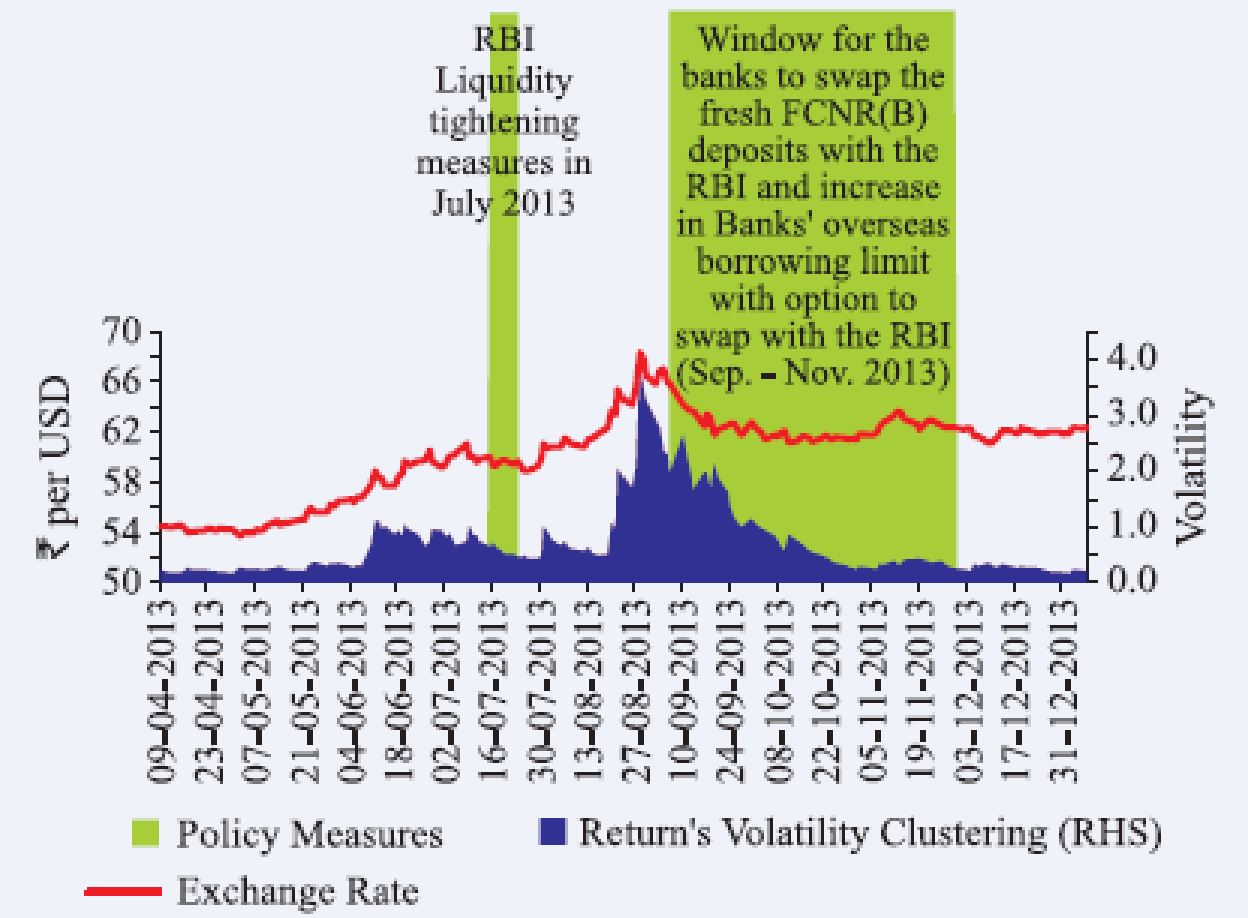
Contractionary monetary policy

- A rise in interest rates
  - Individual loans more expensive
  - Assets lose value. The wealth effect reduces spending
  - Firms can hold less inventories
  - Borrowing for investment is more expensive
- Reduction in aggregate expenditure.

- **The Base Rate is the minimum interest rate of a Bank below which it cannot lend, except in cases allowed by RBI.**
- **The Base Rate calculations include all those cost elements which can be clearly identified and are common across borrowers. The constituents of the Base Rate includes (i) the card interest rate on retail deposit (deposits below Rs. 15 lakh) with one year maturity (adjusted for CASA deposits); (ii) adjustment for the negative carry in respect of CRR and SLR; (iii) unallocatable overhead cost for banks which would comprise a minimum set of overhead cost elements; and (iv) average return on net After factoring in costs incurred while sanctioning a loan**



Note: Returns volatility plot captures GARCH (1,1) variance of exchange rate returns.