



# TASTHANA



## Deposits – A Game of Numbers

## Preamble

One of the important functions of the Bank is to accept deposits from the public for the purpose of lending. In fact, depositors are the major stakeholders of the Banking System. The depositors and their interests form the key area of the regulatory framework for banking in India and this has been enshrined in the Banking Regulation Act, 1949. The Reserve Bank of India is empowered to issue directives/advice on Interest Rates.

**Banks are now free to formulate deposit products within the broad guidelines issued by RBI.**

## Why Deposits are Crucial?

As written by **Sanderson Abel, Business Correspondent in The Herald**, the banking system in an economy is analogous to the heart in the human body structure and the capital it provides can be likened to blood that circulates in it. As long as blood remains in circulation, all the organs in the body will remain sound and healthy. If blood is not adequately supplied to any organ or part of the body, then that part will be starved of nutrients and oxygen and will become useless.

Similarly, if finance is not provided to any economic sector, it will suffer, and that sector will eventually fail. However, the ability to provide the relevant financing is dependent on the ability of the banks to mobilise adequate amount of deposits in the economy and other foreign sources of funding.

Banks accept deposits and make loans and derive a profit from the difference in the interest rates paid and charged to depositors and borrowers respectively. The process performed by banks of taking in funds from a depositor and then lending them out to a borrower is known as financial intermediation.

Through the process of financial intermediation, certain assets are transformed into different assets or liabilities. As such, financial intermediaries channel funds from people who have extra money or surplus savings (savers) to those who do not have enough money to carry out a desired activity (borrowers).

Banking thrive on the financial intermediation abilities of financial institutions that allow them to lend out money and receiving money on deposit. The bank is the most important financial intermediary in the economy as it connects surplus and deficit economic agents.

When you deposit your money in the bank, your money goes into a big pool along with everyone else's, and your account is credited with the amount of your deposit. The role of the bank is to provide a safe place to keep your money and sometimes the opportunity to earn interest on your deposits.

Services like current and savings accounts provide convenient ways for you to pay your bills without the hustle of using cash. At the same time, when you run short of liquidity, the bank is able to give you some advance to cover up for your shortfall through other depositor's funds.

In the absence of banks; where would you go to borrow money? What would you do with your savings? Would you be able to borrow (save) as much as you need, when you need it, in a form that would be convenient for you? What risks might you face as a saver (borrower)?

Because of the power of financial intermediation of the banks, these puzzles are resolved through the banking system hence they cease to be your problem but the banks problem.

Banks are vital institutions in any society as they significantly contribute to the development of an economy through facilitation of business. Banks also facilitate the development of saving plans and are instruments of the government's monetary strategy among others.

Bank deposits are a common occurrence in which customers deposit funds into their accounts. The bank must provide cash to the customer whenever funds are withdrawn; if not withdrawn, however, banks will typically use the funds as investments or loans to other customers until the depositor makes a withdrawal. This process is significant in regard to money supply and has several ramifications.

### Historically

Historically, economists had trouble deciding how bank deposits fit into the money supply. After all, different banking systems chose different ways to represent deposits either through actual assets, such as silver and gold or through only records. These systems changed over time with the creation with more accurate methods of accounting. This led to some differences in economic theory on how to treat bank deposits, especially in the beginning. By the 1900s, however, most economists agreed that deposits and bank notes alike had to be considered part of the money supply.

### **Savings and Investment Methods**

Deposits are not only a part of the money supply, they also affect it in important ways. Governments create and spread money throughout the economy in response to key movers like investment. Investment is largely possible because people can move large sums of money by saving, transferring and withdrawing funds from bank accounts. Bank deposits are a primary tool for investment, and without them businesses would not be able to access funds from individuals at all.

### **Money Creation Through Demand Deposits**

Businesses and individuals can also receive funds through the bank itself. Banks can affect the money supply through demand deposits, or loans that the bank funds through cash deposits it receives. By using interest rates to create their own profit, banks are also creating money to increasing the money supply in the economy. Banks cannot use all their reserves for loans, however -- the government requires them to keep a certain amount to satisfy withdrawals.

### **Credit Provision**

Credit fuels economic activity by allowing businesses to invest beyond their cash on hand, households to purchase homes without saving the entire cost in advance, and governments to smooth out their spending by mitigating the cyclical pattern of tax revenues and to invest in infrastructure projects.

### **Liquidity Provision**

Businesses and households need to have protection against unexpected needs for cash. Banks are the main direct providers of liquidity, both through offering demand deposits that can be withdrawn any time and by offering lines of credit. Further, banks and their affiliates are at the core of the financial markets, offering to buy and sell securities and related products at need, in large volumes, with relatively modest transaction costs.

### **Risk management Services**

Banks allow businesses and households to pool their risks from exposures to financial and commodity markets.

Much of this is provided by banks through derivatives instruments transactions. Banks also enable individuals and businesses to take part in the global foreign exchange and commodity markets indirectly. It would be very difficult for example for a small company needing only a few million Japanese yen to import a vehicle from Japan to get onto the global currency markets without the aid of a bank.

### **Remittance of Money**

Cash can be transferred easily from one place to another and from one country to another by the help of a bank. It has facilitated transactions in distant places. This, in turn, has expanded the internal and external trade and market. The men have become free of the risks of carrying cash, gold, silver etc. The credit instruments issued by banks such as cheque, draft, Real time gross settlement, credit cards have facilitated the transfer of money.

### **Rapid Economic Development**

The banks make available loans of different periods to agriculture, industry and trade. They make direct investments in industrial sectors. They provide industrial, agricultural and commercial consultancy hence facilitating the process of economic development.

### **Promotion of Entrepreneurship**

The role of private sector is crucial in accelerating the pace of economic growth. The banks increase the participation of the private sector in economic development by making available the loans easily on reasonable rate of interest. The expansion of financial sector encourages entrepreneurs to make investments by promoting entrepreneurship.

### **Money – A Financial Asset**

Money is a financial asset. Money facilitates trade and commerce in economies that are characterized by specialization and exchange. In such economies, money performs 4 functions:

Medium of Exchange

Unit of Value

Standard of Deferred Payment

Store of Value

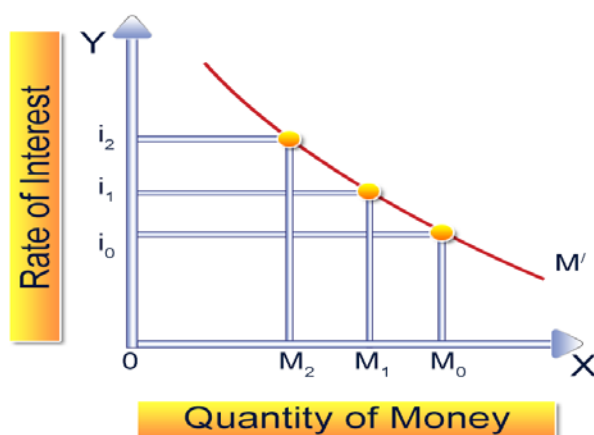
By performing these functions, money allows people to specialize according to their comparative advantage and exchange goods with others.

It is important to note that money is different from income or wealth. In macroeconomics demand for money has a narrower meaning. Demand for money is a part of wealth of the people which they want to hold in the form of money rather than other assets. What part of their wealth people want to hold in the form of money determines the demand for money to hold.

The quantity of money people hold to pay for transactions and to satisfy precautionary and speculative demand is likely to vary with the interest rates they can earn from alternative assets such as bonds. When interest rates rise relative to the rates that can be earned on money deposits, people hold less money. When interest rates fall, people hold more money. The logic of these conclusions about the money people hold and interest rates depends on the people's motives for holding money.

## The Demand Curve for Money

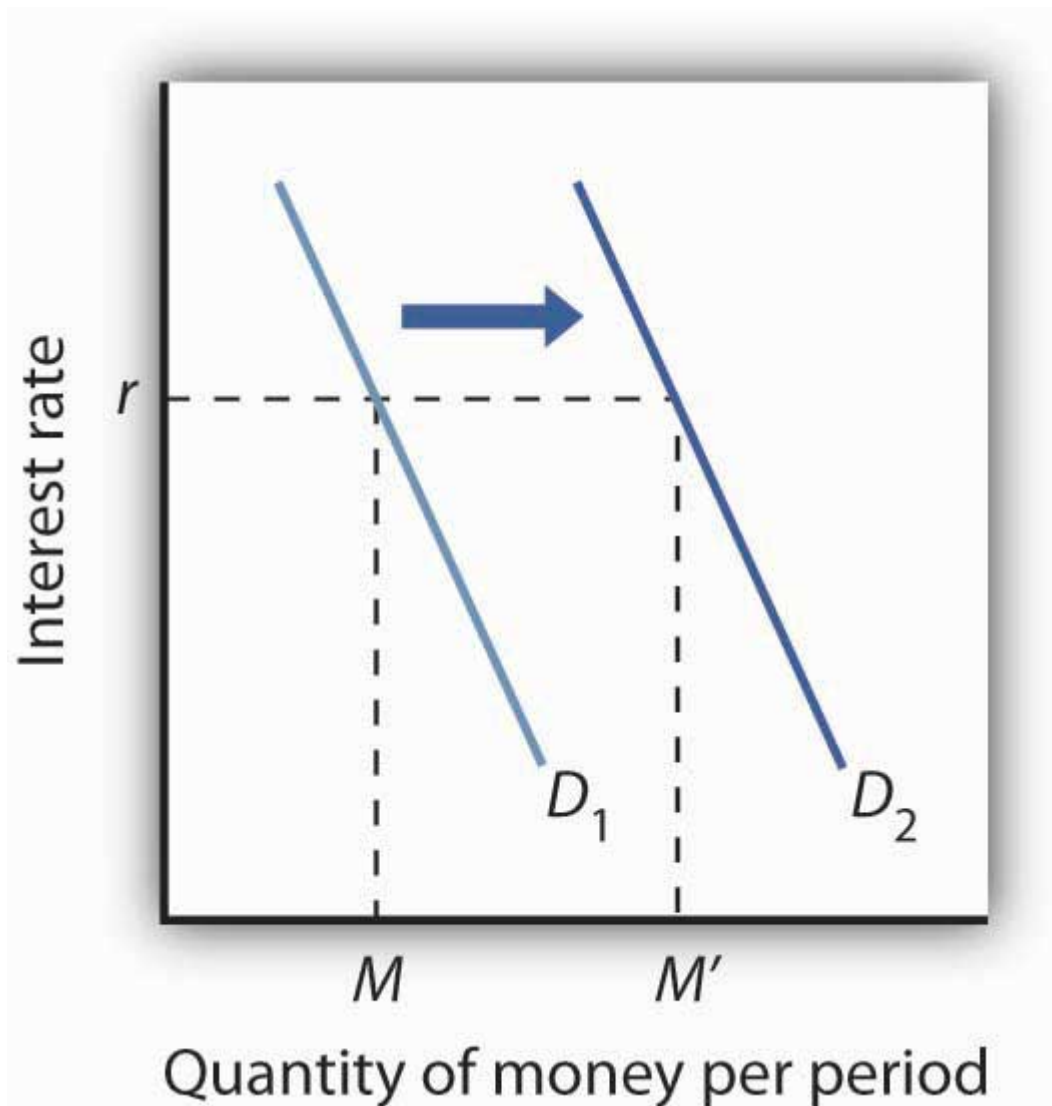
The demand curve for money shows the quantity of money demanded at each interest rate, all other things unchanged. Such a curve is shown below. An increase in the interest rate reduces the quantity of money demanded. A reduction in the interest rate increases the quantity of money demanded.



*The demand curve for money shows the quantity of money demanded at each interest rate. Its downward slope expresses the negative relationship between the quantity of money demanded and the interest rate.*

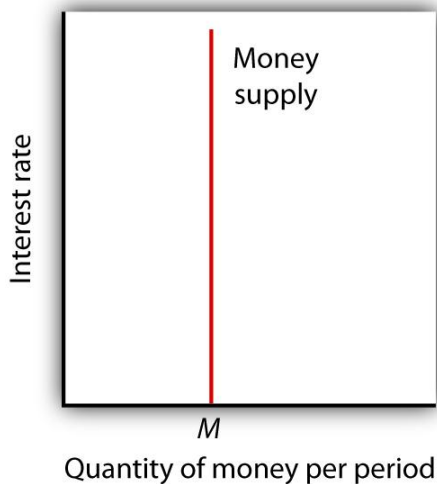
## Demand for Money and Rate of Interest

### An Increase in Money Demand



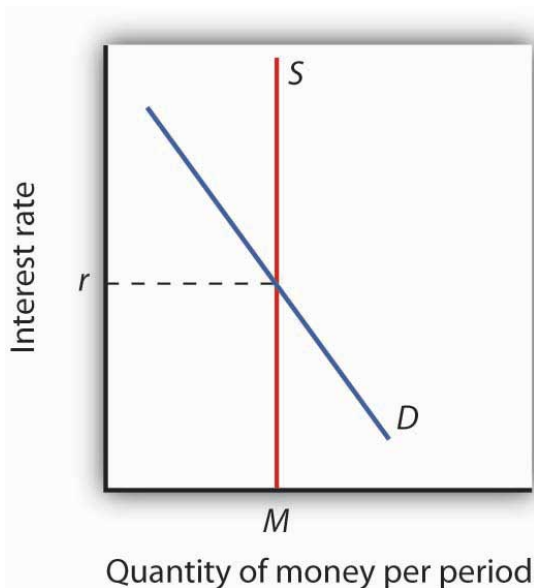
An increase in real GDP, the price level, or transfer costs, for example, will increase the quantity of money demanded at any interest rate  $r$ , increasing the demand for money from  $D_1$  to  $D_2$ . The quantity of money demanded at interest rate  $r$  rises from  $M$  to  $M'$ . The reverse of any such events would reduce the quantity of money demanded at every interest rate, shifting the demand curve to the left.

### The Supply Curve of Money



*We assume that the quantity of money supplied in the economy is determined as a fixed multiple of the quantity of bank reserves, which is determined by the Fed. The supply curve of money is a vertical line at that quantity.*

### Money Market Equilibrium



*The market for money is in equilibrium if the quantity of money demanded is equal to the quantity of money supplied. Here, equilibrium occurs at interest rate  $r$ .*

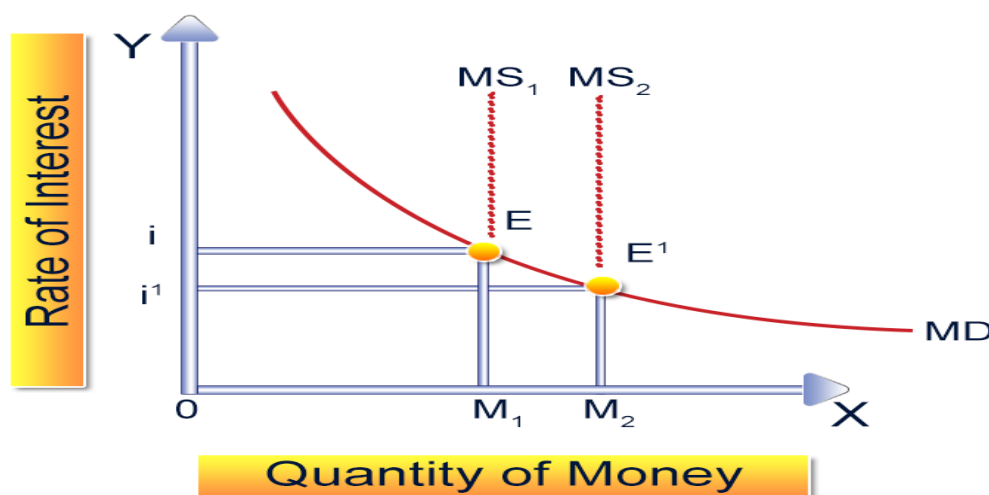
### Effect of an Increase in the Money Supply

Let us now examine the effect of increase in money supply on the rate of interest. In Fig. below, MD is the demand for money for satisfying various motives. To begin with,  $OM_1$  is the quantity of money available. Rate of interest will be determined where the demand for money is in balance or equal to the fixed supply of money  $OM_1$ . It is clear from the Figure that demand for money is equal to  $OM_1$  quantity of money at  $i$  rate of interest.



Hence  $i$  is the equilibrium rate of interest. Assuming no change in expectations and nominal income, an increase in the quantity of money (through buying securities by the Central Bank of the country from the open market) will lower the rate of interest.

In the Figure, when the quantity of money increases from  $OM_1$  to  $OM_2$  the rate of interest falls from  $i$  to  $i'$  because the new quantity of money  $OM_2$  is in balance with the demand for money at  $i'$  rate of interest. In this case we move down on the curve. Thus, given the money demand curve or curve of liquidity preference, an increase in the supply of money brings down the rate of interest.



### *Effect of Increase in Money Supply on the Rate of Interest*

Let us see how increase in money supply leads to the fall in the rate of interest. With initial equilibrium at  $i$ , when the money supply is expanded from  $M_1$  to  $M_2$ , there emerges excess supply of money at the initial  $i$  rate of interest. The people would react to this excess quantity of money supplied by buying bonds.

As a result, the bond prices will go up which implies that the rate of interest will decline. This is how the increase in money supply leads to the fall in rate of interest. The interest rate is the opportunity cost (Price) of holding money. Therefore, the quantity of money demanded would be expected to vary inversely with the interest rate.

The relationship between interest rates and the quantity of money demanded is an application of the law of demand. If we think of the alternative to holding money as holding bonds, then the interest rate—or the differential between the interest rate in the bond market and the interest paid on money deposits—represents the price of holding money. As is the case with all goods and services, an increase in price reduces the quantity demanded.

## Computation of Deposit Mathematically

A Deposit is an investment made in time where its principal elements are the Principal, Tenure and the Rate of Interest.

Let  $P$  be an initial sum of money. Let  $r$  represent an interest rate. We can model the growth of an initial deposit in time  $t$  with respect to the interest rate  $r$  with differential equations.

If  $t$  represents time, then the rate of change of the initial deposit is  $\frac{dP}{dt}$  and assuming that the initial deposit is compounded continuously, then we have that:

$$\frac{dP}{dt} \propto rP \quad \text{or} \quad \frac{dP}{dt} = k rP$$

where the rate of change in the output  $\frac{dP}{dt}$  is proportional to the output ( $P$ ) and  $k$  is the constant of proportionality

We can further set up an initial value problem to this differential equation. Suppose that the initial deposit is  $P_0$ . Then  $P(0) = P_0$ . The solution to the initial value problem with the differential equation and initial condition above will give us a function  $P$  which gives us the amount in the individuals account at time  $t$ . Solving we get

$$\frac{dP}{dt} = k rP$$

$$\frac{dP}{P} = k r dt$$

$$\int \frac{dP}{P} = \int k r dt$$

$$\text{Log } P = krt + C$$

$$P = e^{krt+C}$$

$$P = C e^{krt}$$

Using the initial condition that  $P(0) = P_0$  where  $P > 0$ , and  $C = P_0$ . Therefore, we get:

$$P(t) = P_0 e^{krt}$$

## Permutations and Combinations

A Deposit comprises of three (3) components. They are Principal, Tenure and Rate of Interest. Thus, for a given principal, for a given tenure, there is an interest rate as set by the bank. Thus, we have:

|         |           |
|---------|-----------|
| Deposit | Principal |
|         | Tenure    |
|         | Interest  |

If there is a top-up, withdrawal, same tenure, increased tenure, reduced tenure with static interest, rising interest and declining interest gives us combinations as shown below:

|         |                |
|---------|----------------|
| Deposit | Principal - 27 |
|         | Tenure - 27    |
|         | Interest - 27  |

Therefore, the Total Combinations for all permutations are  $27 \times 27 \times 27 = 19683$

In other words, for Tasthana we can have 19683 combinations

## Fractional Reserve Requirement

The deposit is created in the banking system under the law of fractional reserve requirement. That mean only part of deposit is kept as cash reserve. The rest is loaned out in the form of checkable account deposit. It is a form of money supply or M1. The trick here is the assumption that the money never leaves the bank. Assume the bank starts with the ₹ 100 deposit and gives a loan for ₹ 80. The assumption is that whatever that loan is used for, the receiver of that money will put it back in the bank. This is not a terrible assumption, as they will probably put it back in \*some\* bank that is in the same banking system. So, after the loan, our bank has ₹ 180 in deposits (the original ₹ 100 and the loan receivers deposit) backed by 100 in reserves (the cash in the vault). They can loan out ₹ 64 in cash, leaving ₹ 36 to back the ₹ 180 in deposits. The cycle repeats, such that ₹ 64 is deposited back and our bank's total deposits are now ₹ 244, backed by ₹ 100 cash. Each time the new loan is smaller as the amount needed to cover the growing deposits is higher. The limit of this cycle is when deposits hit ₹ 500 (₹ 400 in redeposited loans plus the original 100 deposit). At that point, no new loans will be possible because the bank will need all ₹ 100 cash to cover the deposits.

\*Note: a critical simplifying assumption in this process is that if a depositor showed up at the bank or an ATM and took cash out, a new depositor would put the same amount back in. We assume this to show the money creation story as clearly as possible, without muddying the waters with fluctuation levels of cash.

Banks are required by law to hold a percentage of all deposits with the Central Bank to be able to return the deposits. Consider the following below:

- R = reserves: deposits
- RR = required reserves: reserves held by the FED
- rr = reserve-deposit ratio: percentage determined by the FED ( $rr = R/D$ )
- ER = excess reserves: reserves used by banks to lend or investment

Therefore, we get:

$$R = RR + ER$$

$$RR = rr \cdot R$$

$$ER = (1 - rr)R$$

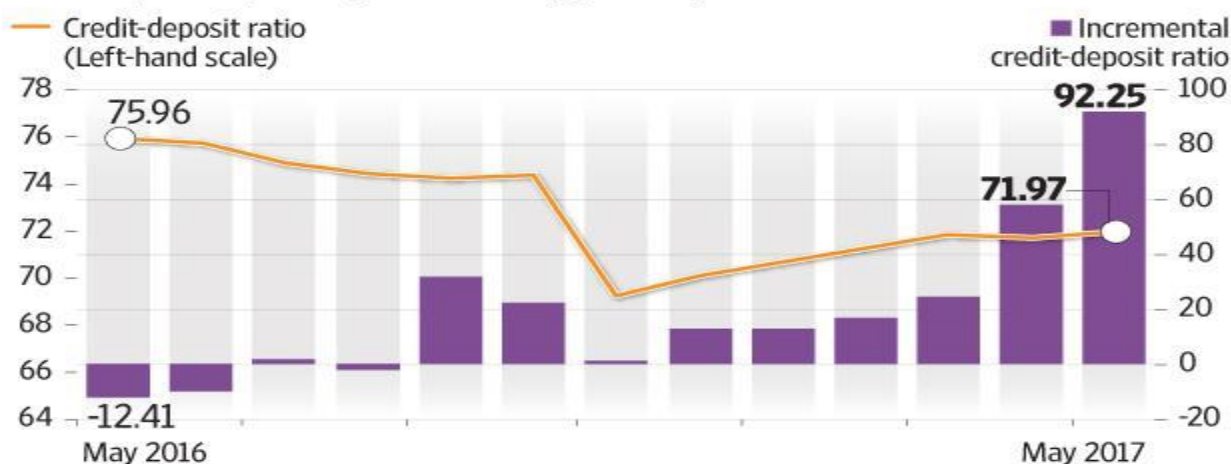
This banks' lending and investing ER will create money through a multiplier effect

### Where does a Rs100 bank deposit go?

Around Rs14 out of every Rs72 lent is now labelled as stressed, which means it either does not generate any income for banks or the borrowers are delaying payments to lenders.

### A DIME TO LEND

The incremental credit-deposit ratio has been low since demonetization but has picked up in May as bankers aggressively market retail loans.



Source: Centre for Monitoring Indian Economy

Data from the Reserve Bank of India shows that the credit-deposit ratio as of end-May was 72%, which means that out of a Rs100 deposit, Rs72 went towards lending and the rest was used to purchase government bonds. Graphic by Subrata Jana/Mint

In all the noise about rising bad loans, a deposit deluge in the aftermath of demonetisation and the collapse of credit growth, it's time to take stock of where public funds are lying right now in the economy.

Data from the Reserve Bank of India shows that the credit-deposit ratio as of end-May was 72%, which means that out of a Rs100 deposit, Rs72 went towards lending and the rest was used to purchase government bonds. Exactly a year ago, banks had lent Rs76 out of every Rs100 deposit and had parked the rest in bonds. This is as per the stock of deposits on the last day of the month.

It gets interesting when we look at the incremental credit-deposit ratio, which shows how much of the new flow of deposits is getting deployed into credit. And this truly reflects the collapse in credit growth in 2016-17. As of March end, the incremental credit-deposit ratio was 42%, showing that more than half of the deposits that came in were deployed into government bonds. These are low-yielding and safe assets. Again, this is explained by the fact that the deposit deluge following the demonetisation of high-value currency notes left banks with little choice but to buy government bonds as loan demand was low. During the months of demonetisation, this ratio was even lower. For instance, in November, it was 1%, which rose to 13% in December.

Coming back to the 72% credit-deposit ratio as of last month, the biggest share of this is still parked with industry through loans followed by credit to services and individuals. Out of every Rs72 lent, roughly Rs17 went to services and personal loans each, while a little more than Rs28 went to building and running factories. Only Rs10 out of every Rs100 was lent to agriculture. The share of personal loans has risen to around 25% of total non-food credit from 21% a year ago. That of industry has fallen to 38% from 41% while farming retained its share of around 14%. Essentially, around Rs25 of every Rs100 deposited with a bank finds its way back to us in the form of home loans, car loans and other personal credit.

What about the toxic pile of loans that banks are saddled with? Around Rs14 out of every Rs72 lent is now labelled as stressed, which means it either does not generate any income for banks or the borrowers are delaying payments to lenders.

### Interest Deregulation

The process of deregulation of domestic deposit rates began when banks were allowed to set interest rates for maturities between 15 days and up to 1-year subject to a ceiling of 8 per cent effective April 1985. However, this freedom was withdrawn by end-May 1985 in the face of an ensuing price war. The process of deregulation was resumed in April 1992 by replacing the existing maturity-wise prescriptions by a single ceiling rate of 13 per cent for all deposits above 46 days. The ceiling rate was brought down to 10 per cent in November 1994 but was raised to 12 per cent in April 1995. Banks were allowed to fix the interest rates on deposits with maturity of over 2 years in October 1995 which was further relaxed to maturity of over one year in July 1996. The ceiling rate for deposits of '30 days up to 1 year' was linked to the Bank Rate less 200 basis points in April 1997. In October 1997, the deposit rates were fully deregulated by removing the linkage to the Bank Rate. Consequently, the Reserve Bank gave the freedom to commercial banks to fix their own interest rates on domestic term deposits of various maturities with the prior approval of their respective Boards of Directors/Asset Liability Management Committee (ALCO). Banks were permitted to determine their own penal interest rates for premature withdrawal of domestic term deposits and the restrictions on banks that they must offer the same rate on deposits of the same maturity irrespective of the size of deposits was removed in respect of deposits of Rs.15 lakh and above in April 1998 with the bank board's laying down policy in this regard. Banks were encouraged to put a flexible interest rate system on deposits (with a fixed rate option) in practice as early as possible in April 2002. Now banks have complete freedom in fixing their domestic deposit rates, except interest rate on savings deposits, which continues to be regulated and is currently stipulated at 3.5 per cent.

### Asset Liability Mismatch

Bad debts and non-performing loans are not the only issues that Indian banks are grappling with at the moment. Many banks are also struggling with asset-liability mismatches. It was in 2010 that the Reserve Bank of India had first flagged its concern over the asset-liability mismatch in the banking system. It had identified lending to infrastructure projects as the source of the mismatch and suggested that banks should sit together and pinpoint the challenges and find solutions to them.

To put it in simple terms, mismatch occurs when the tenure of maturing loans (which are on the assets side of the balance sheet of a bank) do not match the tenure of the sources of funds on the liabilities side. The liabilities side of the balance sheet of a bank includes sources of funds and for a bank one of the main sources of funds are the deposits.

While infrastructure projects are taking longer to gestation, pegging interest on deposits to market-determined rates has resulted in a fall in the rates and deposits are now of shorter tenure. With the de-regulation of interest rates, most depositors are not looking beyond one or two years. Earlier higher interest rates on deposits with longer maturities ensured that banks had recourse to long-term funds.

Take this example: if as much as 90 percent of the assets of a bank are maturing in 10 to 15 years but about 50 percent of its liabilities are maturing in one or two years, the bank will face a severe crunch in terms of matching its outflows with its inflows in the short and medium term. If a bank tries to fund its long-term loans from short-term funds, it is setting itself up for serious problems in its profitability and margins.

Most infrastructure projects have a payback period of more than 10 years, at the least. Another category of loans, which are of long duration, is home loans, which have actually become longer with banks looking at 30-year mortgage periods.

### Causes of Asset-Liability Mismatch

In the aftermath of the global financial crisis of 2007/08 and the slowdown in decision-making that gripped the country from 2010 onwards, banks were looking at a scenario where they had sanctioned infrastructure loans to projects, which were yet to take off. When the economy revived, disbursements took place to all these projects (core sector projects pertaining to power, roads, etc.) majority of which had duration of between 10 and 15 years. However, deposit tenures were getting shorter and this huge disparity in tenures between assets and liabilities is creating the instability in banks' balance sheets.

According to estimates within bank circles, close to 70 percent of incremental deposits received by banks after 2009, have been of short duration. Another type of instability occurs when a bank tries to pay down maturing short-term liabilities by raising high cost funds.

### Repercussions of asset liability mismatch in the banking system

The impact of asset-liability mismatches that persist for a long time in a bank are many. It poses interest rate risk; liquidity risk; exchange rate risk and credit rate risk.

The interest rate risk arises from the fact that the bank will have to re-price their deposits frequently, which have a faster turnover compared to the long-maturing loans. Banks are constrained by the fact that the deposit rates have to be in sync with the market rates.

If the market rates were lower, it would become difficult to attract depositors, which means that sources of funds may well dry up.



This poses liquidity risk as well because they must repay the depositors faster, but their funds are caught up in long-term assets. So, though the bank might be asset-rich it does not have the necessarily liquidity, on the one hand, to repay its depositors and on the other hand even to lend for projects. Exchange rate risks and credit rate risks are natural corollaries of this process. The liabilities in a particular currency must be matched by its assets in that currency, especially when exchange rates are volatile as they are currently, with the global economy still coming to terms with Britain's exit from the EU and signals are mixed regarding changes in US interest rates.

According to various media reports, State Bank of India has a high level of asset liability mismatches as a significant proportion of its loans have been given on floating rates basis while its cash and savings accounts are all on fixed basis and they form a large chunk of its liabilities.

The ultimate impact of all this will be on the net interest margins of a bank. Banks with lower asset liability mismatches will have more room to manoeuvre with respect to their pricing of loans and deposits, while those with a high level of mismatches will find it difficult to reset their interest rates frequently and will have to face narrowing of margins.

### Managing Asset-Liability Mismatches

Banks must put in place a robust asset liability management (ALM) system. The objective of an ALM is to safeguard the net interest margins, its short-term profits, long-term earnings and the sustained profitability of the bank. This can be achieved through:

- Managing the volume and mix of assets
- Managing the maturities on both the asset and liabilities side
- Managing quality and liquidity of assets

ALM is an integrated approach to managing the financials of a bank, as it has to focus on not just the tenure of loans and liabilities but also their quality. Assets that do not mature according to their predetermined schedule can throw a bank's operations into disarray. The focus must be on liquidity as banks need ready funds not only to meet their liabilities but also for advances.



Minimising liquidity and credit risk is important in this for the reasons discussed above and therefore it is very important for a bank to understand the market in which it operates. While evaluating loans it has to evaluate the market risk and create a risk-reward matrix for each loan segment.

The question of managing liquidity risk also brings us to the investment portfolio of banks that provides a good degree of liquid funds to banks. Constant monitoring and periodic evaluation of its investment portfolio is important for a bank as many of its short-term liabilities are met through this resource. Again, the investment portfolio, which forms part of the assets side of the balance sheet, has to harmonize with the liabilities of the bank.

### **An example How Tasthana mitigates ALM mismatch.**

Let us consider the example given below where Tasthana by its innovative offerings helps gets 10% more deposits. When we compare it with various tenures we get an increase of 14% in the bank's earnings with a mismatch of 7%.

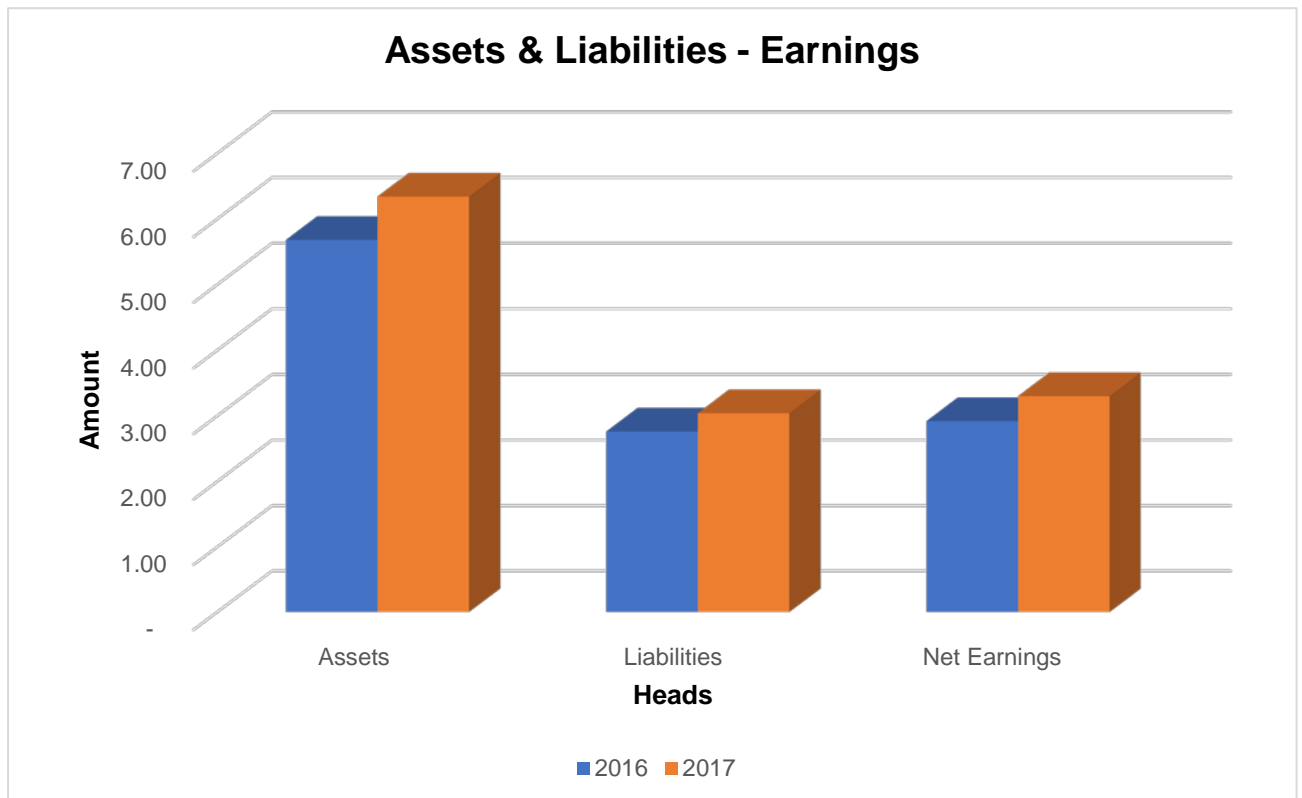
Let the original deposit be ₹ 100 for 1 year and all calculations are based on 1 year. The NPA for Agriculture is 91% and for others it is 1%. For the 10% increase in Deposits all parameters are same except that NPAs have become 2% for all others but for Agriculture it is 91%.

## Deposits – A Game of Numbers

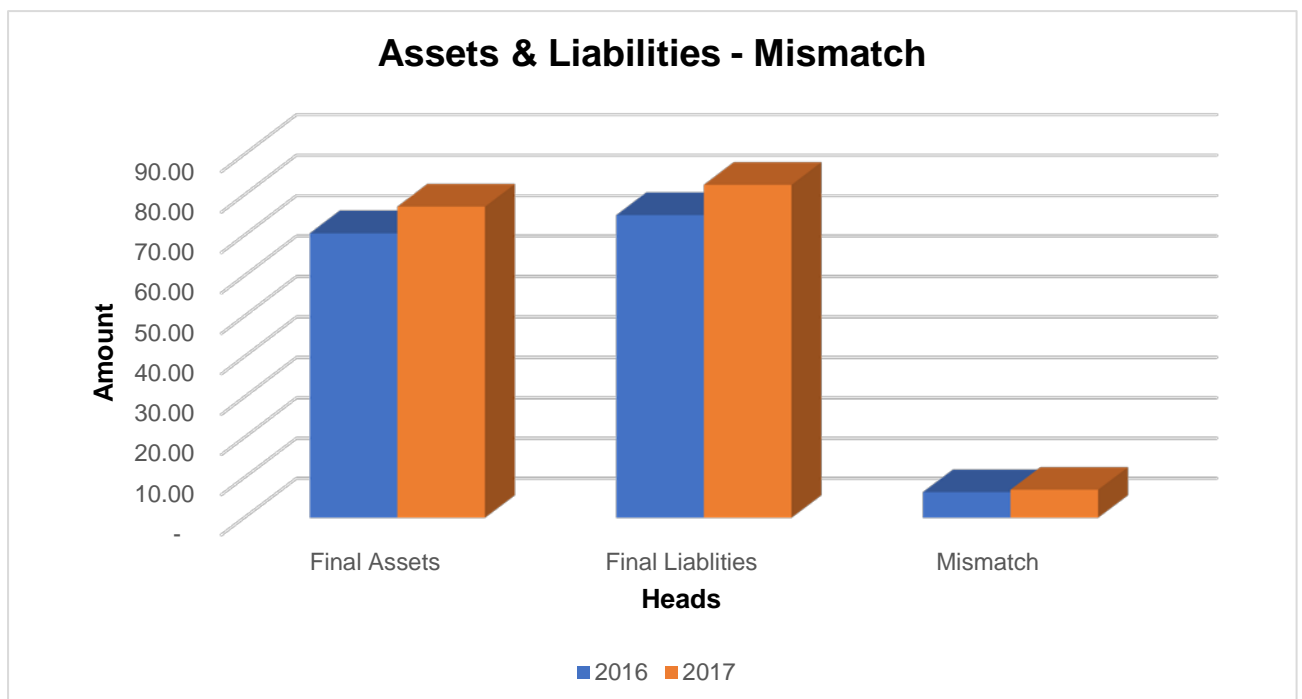
| Deposit         | Volatile % | Amount        | Core %      | Amount         | SLR/CRR | Amount | Assets | Net Assets      |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|-----------------|------------|---------------|-------------|----------------|---------|--------|--------|-----------------|------------|--------------|-------------------|--------------|---------------|--------|------|--------------|--------|------------|----------|---------|--------|--------------|--|
| 100.00          | 25.00      | 25.00         | 75.00       | 75.00          | 30.00   | 30.00  | 70.00  | 45.00           |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             | Total Payments |         |        |        | Yearly Payments |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 | Amount     | ROI - Lending | Tenure      | On Time        | Delayed | NPA    | Total  | On Time         | Delayed    |              | Percentage %      | Total Amount | Usable Amount | Tenure | Rate | Withdrawal % | Amount | Net Amount | Interest | Penalty | Amount | Net Interest |  |
| Agriculture     | 4.50       | 8.00          | 1           | 0.06           | 0.35    | 4.10   | 4.50   | 0.00            | 0.06       | Very Short   | 50.00             | 70.00        | 35.00         | 1      | 7.00 | 10.00        | 3.50   | 31.50      | 2.21     | 0.50    | 0.01   | 2.19         |  |
| Line of Credit  | 7.00       | 36.00         | 1           | 6.86           | 0.07    | 0.07   | 7.00   | 2.47            | 0.00       | Short        | 25.00             | 70.00        | 17.50         | 3      | 6.00 | 10.00        | 1.75   | 15.75      | 0.32     | 0.50    | 0.00   | 0.31         |  |
| Short           | 7.50       | 14.00         | 3           | 7.35           | 0.08    | 0.08   | 7.50   | 0.34            | 0.00       | Medium       | 15.00             | 70.00        | 10.50         | 5      | 6.50 | 5.00         | 0.53   | 9.98       | 0.13     | 0.50    | 0.00   | 0.13         |  |
| Medium          | 8.00       | 16.00         | 5           | 7.84           | 0.08    | 0.08   | 8.00   | 0.25            | 0.00       | Long         | 10.00             | 70.00        | 7.00          | 10     | 6.50 | 3.00         | 0.21   | 6.79       | 0.04     | 0.50    | 0.00   | 0.04         |  |
| Long            | 9.00       | 13.00         | 10          | 8.82           | 0.09    | 0.09   | 9.00   | 0.11            | 0.00       |              | 100.00            |              | 70.00         |        |      |              | 5.99   | 64.02      | 2.69     |         | 0.01   | 2.68         |  |
| Very Long       | 9.00       | 9.00          | 20          | 8.82           | 0.09    | 0.09   | 9.00   | 0.04            | 0.00       |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 | 45.00      |               |             | 39.75          | 0.76    | 4.50   | 45.00  | 3.22            | 0.06       |              | 25.00             | 100.00       | 25.00         | 30     | 4.00 | 100.00       | 25.00  | 25.00      | 0.08     | 0.50    | 0.00   | 0.08         |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
| Govt Securities | 30.00      | 8.00          | 1.00        |                |         |        |        | 2.40            |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 | Assets     | Liabilities   | Net Earning |                |         |        |        |                 |            | Final Assets | Final Liabilities | Mismatch %   |               |        |      |              |        |            |          |         |        |              |  |
|                 | 5.68       | 2.76          | 2.92        |                |         |        |        |                 |            | 70.50        | 75.00             | 6.38         |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
| Deposit         | Volatile % | Amount        | Core %      | Amount         | SLR/CRR | Amount | Assets | Net Assets      | Increase % |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
| 110.00          | 25.00      | 27.50         | 75.00       | 82.50          | 30.00   | 33.00  | 77.00  | 49.50           | 10.00      |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             | Total Payments |         |        |        | Yearly Payments |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 | Amount     | ROI - Lending | Tenure      | On Time        | Delayed | NPA    | Total  | On Time         | Delayed    |              | Percentage %      | Total Amount | Usable Amount | Tenure | Rate | Withdrawal % | Amount | Net Amount | Interest | Penalty | Amount | Net Interest |  |
| Agriculture     | 4.95       | 8.00          | 1           | 0.04           | 0.41    | 4.50   | 4.95   | 0.00            | 0.10       | Very Short   | 50.00             | 77.00        | 38.50         | 1      | 7.00 | 10.00        | 3.85   | 34.65      | 2.43     | 0.50    | 0.01   | 2.41         |  |
| Line of Credit  | 8.00       | 36.00         | 1           | 7.76           | 0.08    | 0.16   | 8.00   | 2.79            | 0.00       | Short        | 25.00             | 77.00        | 19.25         | 3      | 6.00 | 10.00        | 1.93   | 17.33      | 0.35     | 0.50    | 0.00   | 0.34         |  |
| Short           | 8.05       | 14.00         | 3           | 7.81           | 0.08    | 0.16   | 8.05   | 0.36            | 0.00       | Medium       | 15.00             | 77.00        | 11.55         | 5      | 6.50 | 5.00         | 0.58   | 10.97      | 0.14     | 0.50    | 0.00   | 0.14         |  |
| Medium          | 8.50       | 16.00         | 5           | 8.25           | 0.09    | 0.17   | 8.50   | 0.26            | 0.00       | Long         | 10.00             | 77.00        | 7.70          | 10     | 6.50 | 3.00         | 0.23   | 7.47       | 0.05     | 0.50    | 0.00   | 0.05         |  |
| Long            | 9.50       | 13.00         | 10          | 9.22           | 0.10    | 0.19   | 9.50   | 0.12            | 0.00       |              | 25.00             | 110.00       | 77.00         |        |      |              | 6.58   | 70.42      | 2.96     |         |        | 2.95         |  |
| Very Long       | 10.50      | 9.00          | 20          | 10.19          | 0.11    | 0.21   | 10.50  | 0.05            | 0.00       |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 | 49.50      |               |             | 43.25          | 0.86    | 5.40   | 49.50  | 3.59            | 0.11       |              | 25.00             | 110.00       | 27.50         | 30     | 4.00 | 100.00       | 27.50  | 27.50      | 0.09     | 0.50    | 0.00   | 0.09         |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
| Govt Securities | 33.00      | 8.00          | 1.00        |                |         |        |        | 2.64            |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 | Assets     | Liabilities   | Net Earning | Increase %     |         |        |        |                 |            | Final Assets | Final Liabilities | Mismatch %   |               |        |      |              |        |            |          |         |        |              |  |
|                 | 6.34       | 3.04          | 3.30        | 12.97          |         |        |        |                 |            | 77.10        | 82.50             | 7.00         |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          |         |        |              |  |
|                 |            |               |             |                |         |        |        |                 |            |              |                   |              |               |        |      |              |        |            |          | </      |        |              |  |

## Deposits – A Game of Numbers

If we plot a graph for the two deposits on Earnings there is an increase of ₹ 3.30. The percentage increase in the Earnings are 12.97%



If we plot the Mismatch between both the deposits we get a mismatch of 6.38% and 7% which incidentally is well within the boundary of 20%



A point to note is that though the deposit amount may be ₹ 100 or ₹ 110, the usable net assets are ₹ 45 or ₹ 49.50. In other words a liability of ₹ 100 gives an asset of ₹ 45 or 45% and a liability of ₹ 110 gives an asset of ₹ 49.50 or 45%.

It becomes a huge challenge to lend and if any loans become bad it adds to the burden of the existing loans to service the liability thus shrinking the profits further. Also, each year a fresh set of deposits need to be arranged each year putting a strain on the bank given the stiff competition making the interest rates change as per market requirements.

With Tasthana deposits will not be closed and with Top-ups it mitigates to a considerable extent the issues of new deposits as the already opened ones would continue or would be reissued.

Thus, it helps the Asset Liability Committee of a bank.

### Conclusion

A study by Deloitte on Banking Outlook for 2018 has said that, Deposit pricing pressures, as now seen in wealthier customers' accounts, could restrict the growth in net interest margins (NIMs),<sup>26</sup> a headwind that would prove challenging even if the yield curve in the United States steepens later in the rising interest-rate cycle. However, **strong retail deposit bases—linked to solid digital offerings and the ability to acquire new deposits—will likely drive better ability to sustain margins. The resulting flexibility in credit selection and pricing should support better asset quality and capital positions through the credit cycle.**

State Bank of India (SBI) on Wednesday increased rates on term deposits by 10-75 basis points (bps), which had a cascading effect on the interest rates of various banks which saw them trying to match the rates.

The country's largest lender increased the interest rate on fixed deposits (FD) for a two- to three-year maturity to 6.50% from 6% a year. One basis point is one-hundredth of a percentage point.

Bankers and analysts attributed the reason for the increase in deposit rates to tight banking system liquidity conditions. The Bloomberg Banking Liquidity Conditions Index showed a liquidity deficit of Rs34,000 crore as on Tuesday. In the past three months, SBI had twice raised rates on bulk deposits. However, this is the first time after demonetisation that the bank has raised term deposit rate on amounts below Rs1 crore.

“It is to do with the demand and supply of money. In the past few months, liquidity has been tightening in the system. If you just look at the commercial paper and certificate of deposit rate, you have seen a movement of 100 bps. Thanks to the liquidity getting tight, market borrowing has become tighter, too.

Typically, in the last quarter of the year, demand increases. SBI, in fact, post-demonetisation had dropped their rates. Most banks are aligning themselves to market rates and to demand and supply of money,” said Shanti Ekambaram, president-consumer banking, Kotak Mahindra Bank Ltd.

When SBI increases FD rates across tenure, it means the change is here to stay for a longer period, and that other banks are likely to follow.

“I think liquidity is getting tighter for SBI and other banks, too. The room for other banks to increase deposit rates is also there. Some small banks may not increase rate. However, other majors may follow the trend and increase deposit rates, but it will also depend on their liquidity situation,” said Pritesh Bumb, an analyst at Prabhudas Lilladher Pvt. Ltd.

When banks raise deposit rates, it indicates lending rates will also tighten. “It is a function of tightening liquidity which has happened due to both monetary and fiscal measures. As a result of that, banks require to raise deposit rates. When deposit rates were going down, MCLR (marginal cost of funds-based lending rates) fell. Now when deposit rates rise, MCLR is bound to go up,” said Rajiv Anand, executive director of retail banking at Axis Bank Ltd.

The rise in SBI deposit rates, and subsequently lending rates also signals the turning of the interest rate cycle despite the Reserve Bank of India (RBI) not making any rate changes in its last two monetary policy reviews.

Indeed, one member of RBI’s monetary policy committee (MPC) said a series of rate hikes may be warranted because of rising risks to inflation, while others hinted at a change in policy stance if those risks materialize, show minutes of the February meeting released on Wednesday.

“The trend indicates hardening of interest rate on both sides of the balance sheet—deposits as well as loans. As far as lending rates are concerned, there is gradual recognition that external conditions such as inflation from oil and possibly from food till the monsoons may push the interest rates up,” said Ashvin Parekh, managing partner, Ashvin Parekh Advisory Services Llp.

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