



**K2 Analytics**  
Building Skills, Building Individuals

## **Introduction to Banking**

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# Content

- Understanding Finance Concepts
- What is Banking?
- Bank Vs. NBFC Vs. Money Lenders
- Types of Bank
- Classification of Banking Business
- Retail Banking Products & Services
- Banking Liability Products
- Banking Asset Products

# Finance Concepts

- Cashflow
- Present Value
- Future Value
- Discount Rate
- NPV
- IRR

# Cashflow

- Cashflow – simply put it is flow of money

Assume the below table is a cashflow for your SIP (Systematic Investment Plan)

Date	Cashflow	Date	Cashflow
1-Oct-2016	-10,000	1-Apr-2017	-10,000
1-Nov-2016	-10,000	1-May-2017	-10,000
1-Dec-2016	-10,000	1-Jun-2017	-10,000
1-Jan-2017	-10,000	1-Jul-2017	-10,000
1-Feb-2017	-10,000	1-Aug-2017	-10,000
1-Mar-2017	-10,000	1-Sep-2017	-10,000
		1-Oct-2017	+1,30,000

- Outflow – The money flowing out of your pocket
- Inflow – The money flowing into your pocket

# Present Value

- Present Value – The present value of money which you are like to get in Future

*Suppose you are likely to get Rs. 100,000/- on 1-Oct-2017.*

*Is the value of this Rs. 100,000 as on 1-Oct-2017 same as Today, say 1-Oct-2016?*

**NO**

*Why?*

***Because of Inflation...with time generally the purchasing power of money reduces.***

# Future Value

- Future Value: The value of money you invest today, sometime in future is called Future Value

*Suppose you invest a sum of Rs. 100,000/- on 1-Oct-2016 in Fixed Deposit with a bank and you have Rs. 20,000/- in Saving Account. If Interest Rate on Fixed Deposit is 10% p.a. and Interest Rate on Saving Account is 6% p.a. then what will be the Future Value 1.5 years later*

$$\text{Future Value} = \text{Present Value} * (1 + \text{Rate}) ^ (N)$$

$$\text{FV} = 100000 * (1 + 10\%) ^ 1.5 + 20000 * (1 + 6\%) ^ 1.5$$

$$\text{FV} = 115368.97 + 21826.74$$

$$\text{FV} = 137195.71$$

# Discount Rate

$$\text{Future Value} = \text{Present Value} * (1 + \text{Rate}) ^ (N)$$

In above equation the right terminology for '*Rate*' will be '*Interest Rate*' or '*Compounding Rate*'

We can rearrange the above equation as

$$\text{Present Value} = \text{Future Value} / (1 + \text{Rate}) ^ (N)$$

In above equation the right terminology for '*Rate*' is '*Discount Rate*'

- Discount Rate - The rate (interest rate) used to discount the Cashflow or the Future Value

# Small Mathematical Problem

*Suppose you are likely to get Rs. 100,000/- one year later and Discount Rate is 10% p.a. then what is the Present Value?*

$$\text{Present Value} = \text{Future Value} / (1 + \text{Discounting Rate}) ^ (N)$$

N = 1 Year in this example;

$$PV = 100000 / (1 + 10\%) ^ 1 = 90909.09$$

*Suppose you are likely to get Rs. 100,000/- one year later and the Present Value for same is Rs. 95,000/- then what is the Discounting Rate?*

$$\text{Present Value} = \text{Future Value} / (1 + \text{Discounting Rate}) ^ (N)$$

N = 1 Year in this example; Rearranging the terms and solving it

$$\text{Discount Rate} = (100000 / 95000) ^ (1/N) - 1 = 5.26\%$$

(Note N = 1 in above calculation)



# Net Present Value

- Net Present Value is the Present Value of the Cash inflows minus the Present Value of Cash outflows

*Suppose you invest Rs. 10000/- and 2 years down the line you get Rs. 12500/-. Your expectation was to get a 10% annual return.*

Note: Rs. 10000 is cash outflow; Rs. 12500 is cash inflow

$$\begin{aligned}\text{NPV} &= \text{PV of Cash Inflow minus PV of Cash Outflow} \\ &= 12500 / (1 + 10\%)^2 \text{ minus } 10000 / (1 + 10\%)^0 \\ &= 10330.6 - 10000 \\ &= 330.6\end{aligned}$$

I hope you can understand that if 10% is expected annual return and Rs. 10000/- is what you invest.... Then end of the one year, your Rs. 10000/- will become Rs. 11000 and at end of second year it will become Rs. 12100/-. There is a difference of Rs. 400/- (12500 – 12100). If you discount Rs. 400 by 10% the PV will be Rs. 330.6

# Application of NPV Concept

- Project Feasibility or Viability
- Make wise Investment Decisions

*Suppose you are asked to make Rs. 50,000 investment at begin of each year for 5 consecutive years and at end of the 5<sup>th</sup> year you will be given a sum of Rs. 3,50,000/- . You are expecting a return on investment of atleast 12%. Is this investment option suiting your requirement*

Year	Cashflow	Discounting Period	Discounting Rate	Present Value
Begin of Year 1	-50000	0	12%	-50,000.00
Begin of Year 2	-50000	1	12%	-44,642.86
Begin of Year 3	-50000	2	12%	-39,859.69
Begin of Year 4	-50000	3	12%	-35,589.01
Begin of Year 5	-50000	4	12%	-31,775.90
End of 5th Year	350000	5	12%	198,599.40
			<b>NPV</b>	<b>-3,268.07</b>

# IRR – Internal Rate of Return

- Internal Rate of Return – IRR is the Discount Rate that makes the Net Present Value of all Cash flows equal to Zero

Let us go back to our SIP (Systematic Investment Plan). We have to find the Discount Rate by which the Net Present Value of the below Cash Flow become Zero as on 1-Oct-2016 and this rate will be its IRR.

Date	Cashflow	Date	Cashflow
1-Oct-2014	-10,000	1-Apr-2015	-10,000
1-Nov-2014	-10,000	1-May-2015	-10,000
1-Dec-2014	-10,000	1-Jun-2015	-10,000
1-Jan-2015	-10,000	1-Jul-2015	-10,000
1-Feb-2015	-10,000	1-Aug-2015	-10,000
1-Mar-2015	-10,000	1-Sep-2015	-10,000
		1-Oct-2015	+1,30,000

# IRR.... contd

- Let X p.a. be the IRR

Date	Cashflow	Discount Period (in years)	PV (assume X = 12%)	PV (assume X = 12%)	PV (assume X = 16%)
1-Oct-2014	-10000	0/12	$= -10000 / (1 + 12\%) ^ (0/12)$	-10,000.0	-10,000.0
1-Nov-2014	-10000	1/12	$= -10000 / (1 + 12\%) ^ (1/12)$	-9,906.0	-9,877.1
1-Dec-2014	-10000	2/12	$= -10000 / (1 + 12\%) ^ (2/12)$	-9,812.9	-9,755.7
1-Jan-2015	-10000	3/12	$= -10000 / (1 + 12\%) ^ (3/12)$	-9,720.7	-9,635.7
1-Feb-2015	-10000	4/12	$= -10000 / (1 + 12\%) ^ (4/12)$	-9,629.3	-9,517.3
1-Mar-2015	-10000	5/12	$= -10000 / (1 + 12\%) ^ (5/12)$	-9,538.8	-9,400.3
1-Apr-2015	-10000	6/12	$= -10000 / (1 + 12\%) ^ (6/12)$	-9,449.1	-9,284.8
1-May-2015	-10000	7/12	$= -10000 / (1 + 12\%) ^ (7/12)$	-9,360.3	-9,170.6
1-Jun-2015	-10000	8/12	$= -10000 / (1 + 12\%) ^ (8/12)$	-9,272.3	-9,057.9
1-Jul-2015	-10000	9/12	$= -10000 / (1 + 12\%) ^ (9/12)$	-9,185.2	-8,946.6
1-Aug-2015	-10000	10/12	$= -10000 / (1 + 12\%) ^ (10/12)$	-9,098.8	-8,836.6
1-Sep-2015	-10000	11/12	$= -10000 / (1 + 12\%) ^ (11/12)$	-9,013.3	-8,728.0
1-Oct-2015	+130000	12/12	$= +130000 / (1 + 12\%) ^ (12/12)$	1,16,071.4	1,12,069.0
Net Present Value				2084.8	-141.6

By doing Goal Seek or iteration we can arrive at the exact rate where NPV will be 0; The IRR for above is 15.74%



## What is Banking?

# What is Banking?

- Banking is a system of trading / engaging in monetary transaction which involve safeguarding the money of depositors and making it available to borrowers
- Three key entities involved in Banking

## Depositor

- Person / Entity who deposits
- Depositors deposit their money with bank for various reasons:
  - Safety of deposits
  - Flexibility to withdraw on need basis
  - Engage in monetary transaction with someone
  - Interest income
  - Make use of variety of services provided by bank

## Bank

- Entity that facilitates banking activities
- Various services provided by Bank:
  - Accepts deposits
  - Lends money
  - Ensures safety & availability of funds to depositors
  - Facilitates transaction between buyer & seller
  - Other services like bill-pay

## Borrower

- Person / Entity who borrows
- Characteristics of Borrower
  - Borrows money from Bank at certain rate of interest
  - Commits to repay Principle, Interest, and Dues on borrowed money
  - Borrows money for personal, business, or investment purpose
  - May have to provide collateral against borrowed money

# Competition to Banks

## Bank Vs. NBFC Vs. Money Lenders

	Bank	NBFC	Money Lenders
<b>Entity</b>	Legal & Organized Institutions	Legal & Organized Institutions	Individuals. Generally they do not have any legal sanctity
<b>Activities</b>	Accepts deposits and Lends Money. Provide Payment & Settlement Services	Only Lends Money. Cannot accept deposits or provide Payment & Settlement Services	Generally Lends Money. May also Accept Funds but depositors may not be assured of safety of their funds
<b>Clients</b>	Provides deposits service to all, however their lending services generally do not reach out to needy and poor because of their prudent lending norms	Generally their target segment is across all income group including low income group who do not easily get loans from banks	Their target segment is poor, illiterate, farmers and artisans who are not aware of avenues to get loans
<b>Client Risk Profile</b>	Low Risk	High Risk	High Risk + Financially Illiterate
<b>Type of loans</b>	Provide both secured and unsecured loans based on organization specific policy guidelines plus guidelines laid out by RBI	Provide both secured and unsecured loans based on organization specific policy guidelines. Oflate regulatory guidelines are coming in place	Provide both secured and unsecured loans based on their discretion. However, they generally provide loans against some security like Gold, Land, etc
<b>Recovery of dues</b>	Governed and regulated by RBI norms and Fair Practice Code (FPC)	Governed and regulated by RBI norms and Fair Practice Code (FPC)	No governance. Recovery process is generally strict and in-human
<b>Lending Rate</b>	Governed by RBI and competition in market. Generally it is lower than NBFC or MoneyLender	Gradually regulations have begin to come in place. Rate of interest is higher typically because of the segment that they cater to	Rate of Interest is very high primarily because their customers are financially illiterate

# Types of Bank

- Central Bank – Bank entrusted with function of providing regulatory framework for the banking system in the country. RBI in India.
- Commercial Bank – Banks that involve in business of accepting deposits and lending short term / long term loans to individuals and companies
- Development Bank – Banks that engage primarily in business of providing capital for business set-up, purchase of machinery, technology, etc.
  - IDBI and ICICI were once Development Banks
  - Industrial Finance Corporation of India (IFCI) and (State Financial Corporation) SFC are examples of Development Banks
  - In India with easing of banking regulations the difference between Development Banks and Commercial Banks is slowly getting merged
- Co-operative Bank – Banks that are run by co-operative societies formed by people coming together to serve their common interest
- Specialized Bank – Banks that are setup for special purpose like NABARD (National Bank for Agriculture and Rural Development), SIDBI (Small Industries Development Bank of India), EXIM (Export – Import)



**Our focus will be on Commercial Banks**



# Classification of Banking Business

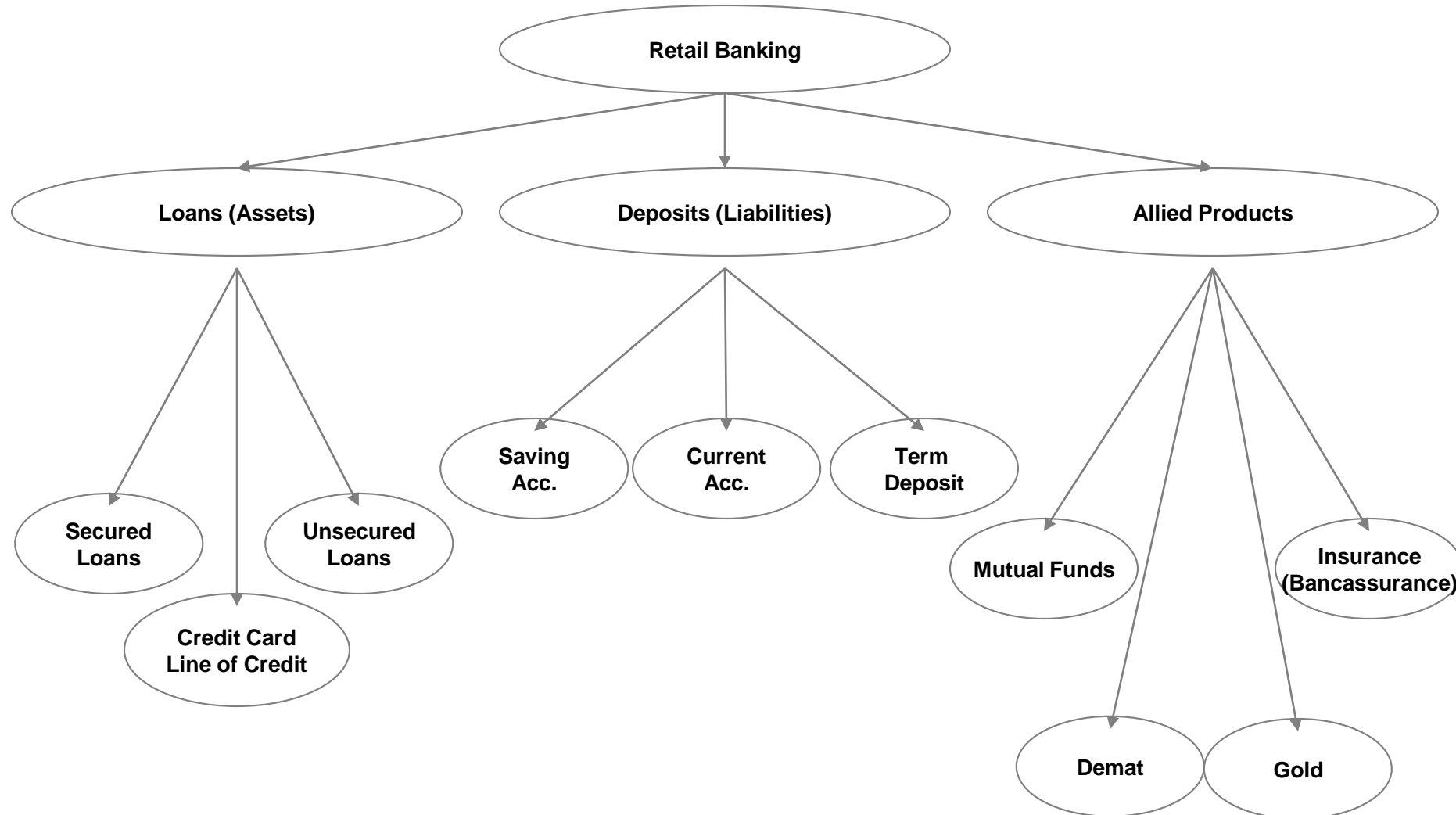
- Banking service provided by banks is classified into two segments based on the type of customers they are catering to:
  - Retail Banking
  - Wholesale Banking
- Retail Banking is the banking service provided to individuals, and small businesses like proprietorship and partnership business
  - Services include saving and current (checking) accounts, loans, debit / credit cards
- Wholesale banking is the provision of banking services to large corporate houses, international trade finance businesses, institutions, etc
  - Services include currency conversion, working capital financing, trade finance





## **Retail Banking Products & Services**

# Retail Banking Products & Services



# Understanding Assets & Liabilities

- Understanding the terminologies
- Asset – Anything that you own and which can be converted into liquid cash immediately by selling or through which revenue is generated over a period of time can be termed as an Asset
- Liability – Anything that you owe and because of which you have to make monetary payment to someone immediately or later can be termed as a Liability
- Why Loans are called Assets from Bank point of view?
  - When bank give loan to individuals / companies the entity taking the loan repays the money taken as loan along with interest over a period of time hence loans are classified as Assets.
- Why Deposits are called Liabilities from Bank point of view?
  - Bank take money from individuals / companies (i.e. depositors) by way of deposits. The bank is liable to pay back this sum to the depositors as and when they request it by way of cheque, ATM Cash Withdrawal, etc, hence, Deposits are classified as Liabilities



## **Banking Liability Products**

# Saving Account (SA)

- Saving account typically refers to account in which interest is paid on the money saved in it
- Opened by Individuals
- Typical features provided on Saving Account
  - Deposit and Withdrawal facility
  - ATM / Debit Card to withdraw funds from ATM
  - Cheque book to make cheque payments to someone
  - Net Banking
  - Phone Banking, Mobile Banking
  - Transaction Statement / Pass-Book Facility
  - Value added services like Bill-pay, Auto-pay for utility bill payments
- Typically banks insist that a certain minimum balance be maintained in saving account else penal charges by way of Non-Maintenance Charge is levied on the account
- Earlier interest paid on funds parked in saving account was 3.5% p.a. A couple of years back RBI opened up the interest rate they can pay to customers on their deposits.

# Current (Checking) Account (CA)

- Current account refers to the account in which interest is not paid on the money saved in it
- Typically opened by institutes, organizations, companies, partnership & proprietorship firms, Trusts, etc
- Typical features provided on Current Account
  - Deposit and Withdrawal facility
  - ATM / Debit Card, Net Banking, Phone Banking, Mobile Banking may or may not be provided depending on type of entity
  - Cheque book
  - Transaction Statement
  - Forex, Trade & Finance
  - Payroll Services
- No interest is paid on the funds placed in Current Account
- Minimum Balance required to be maintained in Current Account is higher than Saving Account

# Term Deposits (TD)

- Term Deposits (also called Fixed Deposits) are deposit made for a fixed term and the interest paid in it is higher compared to Saving Account.
- The interest rate paid on TD is a function of the tenure (term) for which the money is deposited with bank
- Interest on TD is paid on Monthly / Quarter / Yearly Frequency or At-Maturity depending on the choice made at time of opening the TD
- Money cannot be withdrawn easily from TD. How do we then withdraw our money?
  - Break the TD, which means closing the TD Account by withdrawal of money.
  - Take Overdraft facility against TD, which means taking loan against the money deposited in TD
- Key terms in TD
  1. Deposit Amount
  2. Maturity Amount
  3. Tenure
  4. Interest Rate
  5. Interest Payout Frequency



## Relating Business from Data perspective

What data does Bank capture  
when a customer opens the  
account?

# Banking Channels

- Branch Banking
- Net Banking
- ATM
- Mobile Banking
- SMS Banking
- Phone Banking
- ECS
- POS
- Home Banking
- Bill Pay
- Auto Pay

**Arrange the Banking  
Channels in descending  
order of Servicing Cost**

- ECS
- Net Banking
- Bill Pay
- Auto Pay
- ATM
- Mobile Banking
- SMS Banking
- POS
- Phone Banking
- Branch Banking
- Home Banking

# Understanding the jargons

- **Balance** – The amount available in the account is called balance
- **Withdraw able Balance** – The amount of money that can be withdrawn from account is called withdraw able balance. It can be higher / lower than the balance in account
- **End of Day (EOD) Balance** – The balance in the account at the end of the day is called End-of-Day Balance
- **Average Balance** – The weighted average of the EOD Balance calculated over a certain period is called Average Balance for the period. For e.g. Avg. Bal. calculated for a quarter is called Average Quarterly Balance (AQB) and that calculated for a month is called Average Monthly Balance (AMB)
- **Interest Rate** – The rate at which interest will be paid on the money maintained in the account is called Interest Rate. As per current RBI norms the interest rate on SA is 3.5% P.A.
- **Tenure** – The time period

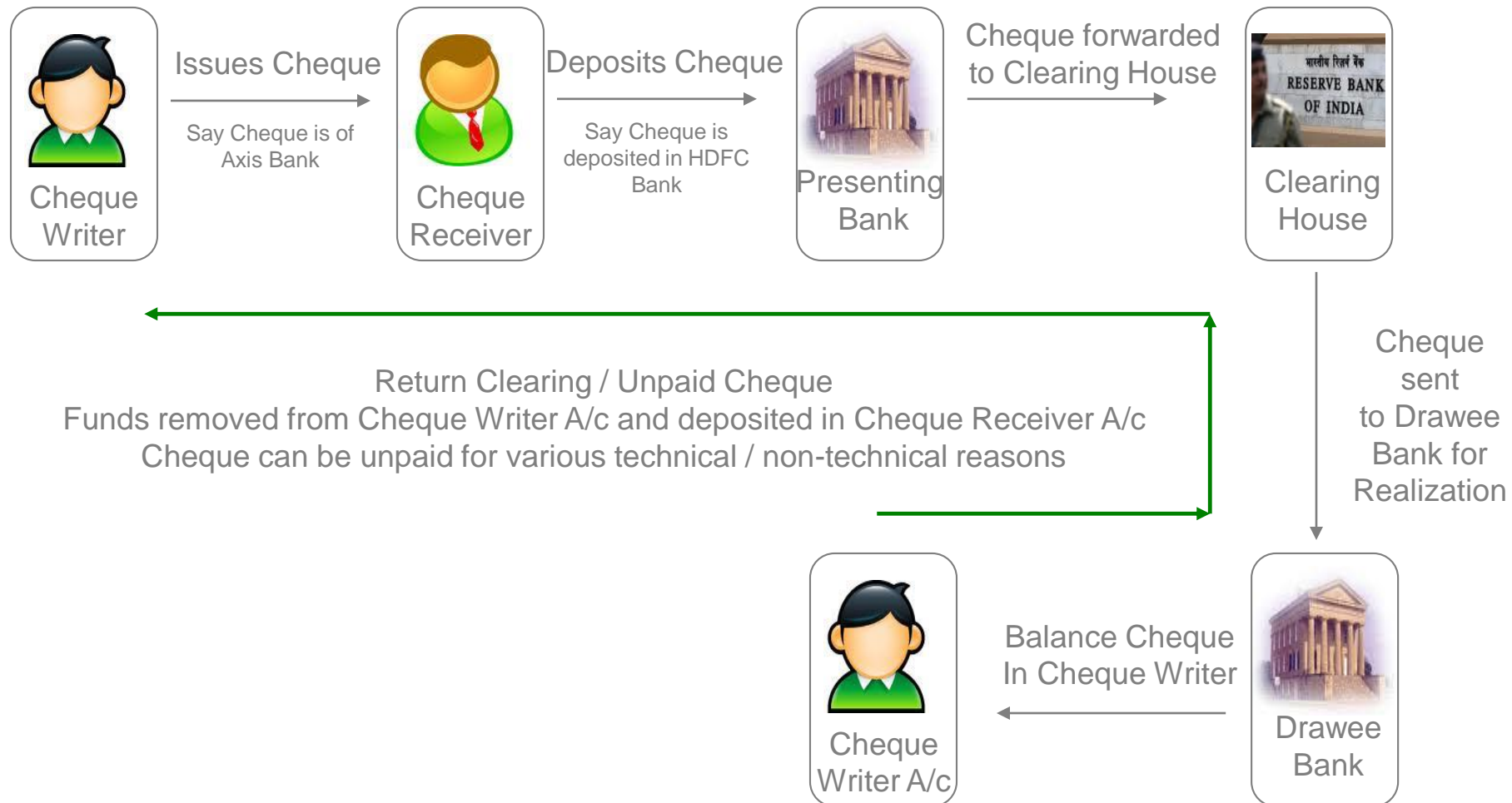
# Compute the Average Monthly Balance

Date	Particulars	Cr / Dr	Amount	EOD Balance	Days Balance Maintained	EOD Bal * Day
01-Jan-11	Opening Balance	C	10,000.00	10,000.00	-	-
01-Jan-11	Cash Withdrawal	D	1,000.00	9,000.00	4	36,000.00
05-Jan-11	Cheque Deposit	C	5,000.00	14,000.00	5	70,000.00
10-Jan-11	Cheque Paid - Ram	D	3,000.00	11,000.00	2	22,000.00
12-Jan-11	RTGS Credit	C	2,000.00	13,000.00	3	39,000.00
15-Jan-11	Cash Withdrawal	D	5,000.00	8,000.00	5	40,000.00
20-Jan-11	Cash Deposit	C	2,000.00	10,000.00	12	1,20,000.00
<b>Total</b>					31	3,27,000.00
<b>Monthly Average Balance</b>						10,548.39

# Understanding the jargons

- Penal Charges
  - Inward Cheque Bounce Charges (IW CHQ BNC CHGS) – The penalty levied when you issues a cheque but do not honor it when the cheque comes for clearing
  - Outward Cheque Bounce Charges (OW CHW BNC CHGS) – The penalty levied when you deposit a cheque but the cheque does not get cleared due to insufficient funds in account of the cheque issuer
  - Balance Non Maintenance Charges (NMC CHGS) – It is charged when required amount of balance is not maintained in the account
- Charges & Commissions – There are various other charges and fees charged by bank for services rendered. For e.g. Debit Card Fee, Statement re-issue charges, DD Commission, etc

# Understanding the Cheque Clearing Process



# Sample 6 Months Customer Bank Account Statement

Date	Narration	Dr. Amount	Cr. Amount	Chq/Ref Number	Closing Balance
01-Apr-11	Opening Balance				10,000.00
01-Apr-11	Salary		1,00,000.00	3455	1,10,000.00
02-Apr-11	NEFT-INDIA INFOLINE		10,500.00	100000	1,20,500.00
04-Apr-11	NEFT TRF TO OTHER BANK	1,00,000.00	60,000.00	958	80,500.00
11-Apr-11	LOAN EMI Payment	35,000.00		1316	45,500.00
16-Apr-11	ECS CLG RELIANCE		5,861.39	200371	51,361.39
18-Apr-11	DD Issue-On HDFC-KOLKATTA - 108513000553	7,500.00		975950	43,861.39
01-May-11	Reimbursements		5,607.00	18011	49,468.39
01-May-11	Salary		98,900.00	959	1,48,368.39
04-May-11	NEFT TRF TO OTHER BANK	60,000.00		1601	88,368.39
11-May-11	LOAN EMI Payment	35,000.00		0758A1	53,368.39
15-May-11	CHQ DEPOSIT - Mangalam Cements		1,000.00	1662A1	54,368.39
16-May-11	LIC INSURANCE PREMIUM	22,343.00		160928	32,025.39
08-Jun-11	ATM CHQ Deposit		20,000.00	180112	52,025.39
11-Jun-11	LOAN EMI Payment	35,000.00		1001	17,025.39
23-Jun-11	ECS CLG NTPC		1,000.00	49594	18,025.39
09-Jul-11	NEFT CR		20,000.00	160930	38,025.39
11-Jul-11	LOAN EMI Payment	35,000.00		11234	3,025.39
10-Aug-11	ATM CHQ Deposit		35,000.00	160929	38,025.39
12-Aug-11	LOAN EMI Payment	35,000.00			3,025.39
20-Aug-11	ATM CASH WDL	2,000.00		1001	1,025.39
01-Sep-11	ATM CASH WDL	1,000.00		1002	25.39
09-Sep-11	CHQ DEPOSIT		35,000.00	180123	35,025.39
11-Sep-11	LOAN EMI Payment	35,000.00		160931	25.39
01-Oct-11	AQB NON MAINTENANCE CHARGES	750.00			-724.61
01-Oct-11	Service Charge & Edu Cess	76.50			-801.11

How do you analyze such transaction data of millions of customers?

# How to get Behavioural Data from Transaction Data?

- Start with each transaction record; Each transaction data describe an event. Try to understand the event from all angles (Dimension)
  - Is it a Credit / Debit Transaction?
  - What is the Transaction Channel? (Branch, ATM, Net,...)
  - What is the Instrument used? (Cheque, Cash, Debit Card, Net Login...)
  - What is the Purpose? (Fund Transfer, Insurance Premium, Loan EMI, ....)
  - ....
- Aggregate the sequence of transactions over time period. Quantify the frequency of the occurrence of the events (Measures)
  - No. of Credit Transactions in the month, quarter, ..
  - No. of Debit Transactions in the month, quarter, ..
  - Amount Salary Credited in the month, quarter,..
  - Amount EMI Paid in the month, quarter,..
  - No. of ATM Transaction in the month, quarter,...
  - Last Salary Credited
  - Average Balance
  - ....





## **Banking Asset Products**

# Secured Loans

- A secured loan is a loan in which the borrower pledges his property like car, house, land, etc. as collateral for the money taken as loan from the bank
  - Collateral : Any property like Car, House, Land which is pledged against loan
  - In event of default, the bank has right to sell the pledged collateral to recover the due amount
- Types of secured loan – It depends on collateral and purpose
  - Home Loans: Residential property being bought is collateral
  - Mortgage Loans: Existing property is given as collateral to get money
  - Car Loans: 4-wheeler is collateral
  - Two Wheeler Loans: 2-wheeler is collateral
  - Gold Loans: Gold ornaments is collateral
  - LAS: Loan against Securities
- Risk – The risk of bank is mitigated because of the collateral that is hypothecated in favor of bank
- Interest Rate – The interest rate on secured loans is comparatively lower as risk is mitigated

# Un-secured Loans

- An un-secured loan is a loan in which the bank lends money to borrower without taking any collateral.
- Types of unsecured loan
  - Personal Loans: Loan given to individuals
  - Small Ticket Personal Loans: Same as Personal Loans, however the loan amount is small and in range of Rs. 20,000 – Rs. 30,000
  - Business Loans: Loan given to small business houses
  - Working capital Loans: A line of credit extended to small business house without taking any collateral
- Risk – The risk on part of bank in unsecured loans is high as they do not have any safety / security to fall back in case the borrower does not repay the loan
- Interest Rate – As risk in unsecured is higher compared to secured loans the interest rate is also comparatively higher

# How bank's take decision to lend money?

- 5Cs of lending that bank's follow at time of giving loans to borrower
  - Capacity: The ability of borrower to generate sufficient cash to repay the loans. Bank's evaluate this by computing Debt Service Coverage Ratio (DSCR) or Installment to Income Ratio (IIR)
  - Capital (aka equity): It represents the borrower's capital to provide a cushion against unexpected losses. Bank's evaluate this by computing Loan-to-Value Ratio in case secured loans
  - Collateral: The type of collateral that is given as security against the loan being taken. For e.g. Car is a depreciating type of collateral; Land is an appreciating type of collateral.
  - Character: It is the willingness of the borrower to repay the loan. A bank evaluates the character of customer based on his past payment experience, savings behavior, etc.
  - Conditions: It refers to macro-economic conditions, political conditions, industry specific condition in which the borrower is, etc.

# How Bank's make money?

- Bank gets money from depositors.
- One-fourth of the money that bank gets from depositors is invested in government bonds
- 3-4% of the money is kept as cash to be able to make payment to customers when they come for cash withdrawal
- Rest of the money is available to lend to borrowers or make other investments
- The rate of interest at which bank lends money to borrowers or invests in government bonds is higher than the rate at which they get money from depositors
- The difference in interest is generally 2-3% after meeting expenses like salaries, adv & mktg, electricity bills, hardware, software, etc.
- The difference in deposit interest rate and lending / investing interest rate leads to profit of the bank after removing all operating expenses

What Demographic, Transactional  
& Behavioural data does bank  
have for Home Loan Customer?



**Credit Card**

# Credit Card

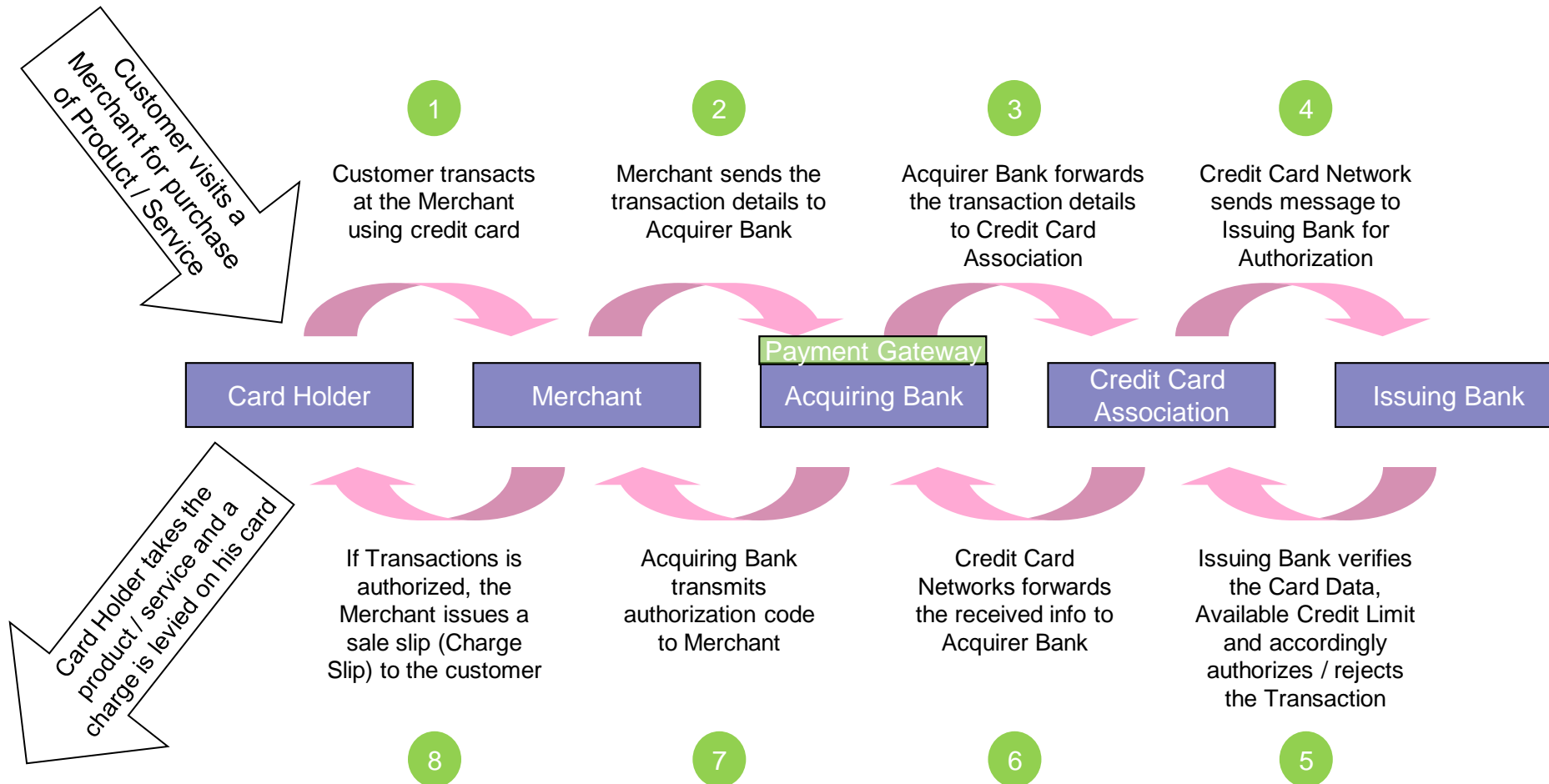
- Credit Card
  - is a plastic,
  - issued by the bank (issuing bank),
  - and it allows the card owner to pay for the purchases made at merchant store / online
- Credit Card has a credit limit. It is the limit to which the card holder can make purchases
- Card holder has to payback the amount spent and other dues on credit card to issuing bank



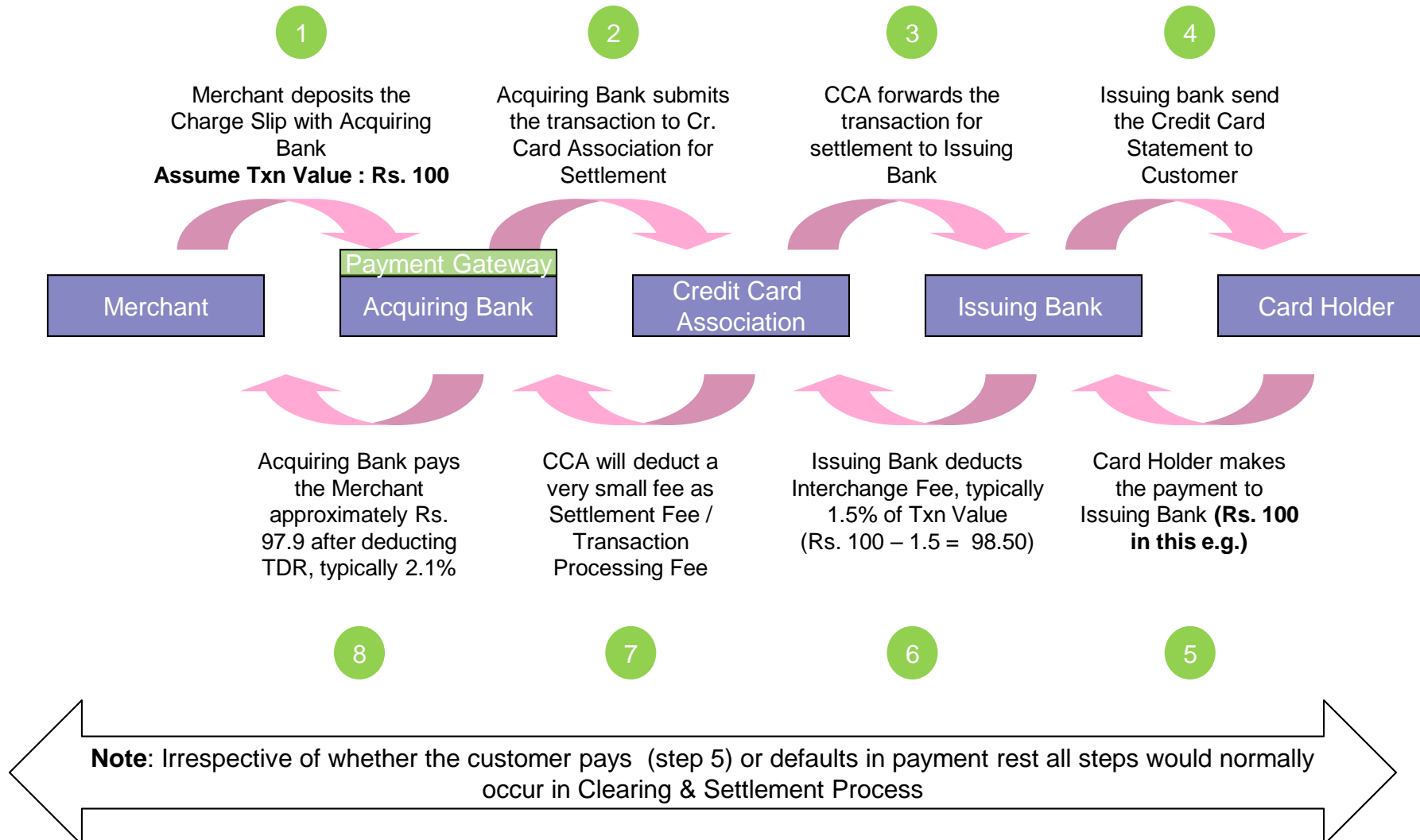
# Entities in Credit Card Business

- Credit Card Associations : These are the companies that create the Credit Card – Visa, MasterCard, American Express
- Issuing Bank : The bank which issues the credit card to the customers
- Acquiring Bank : The bank which sets up the POS (point of sale) machines at the retailers
- Payment Gateways : These provide the basic infrastructure or connectivity for authentication of the credit card, usually in online shopping
- Merchants : The product / service provider at which the credit card transaction is done and charge slip generated
- Card Holder : The customer who owns the card

# Credit Card Transaction Authorization Process



# Credit Card Clearing & Settlement Process



# Issuer Functions

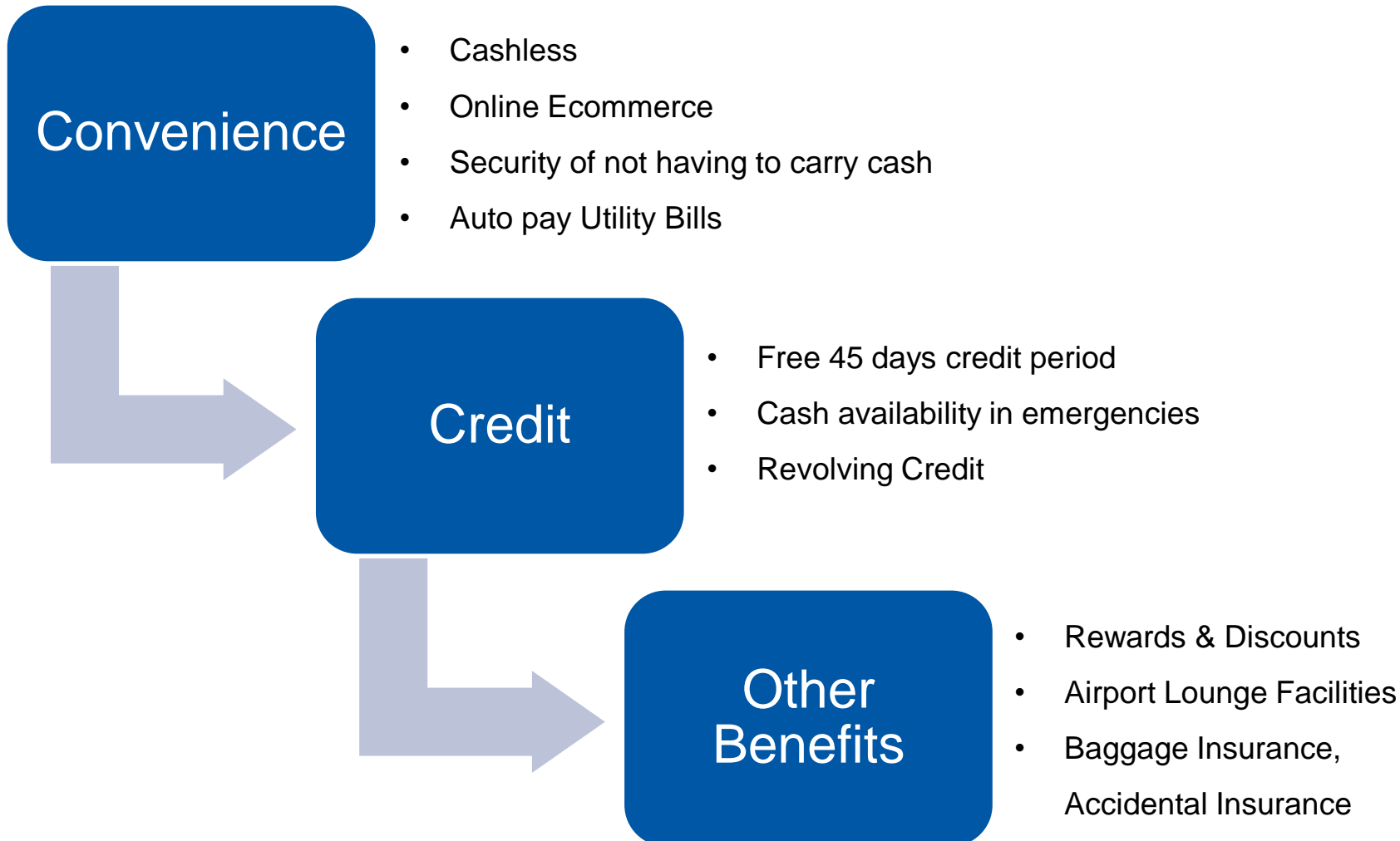




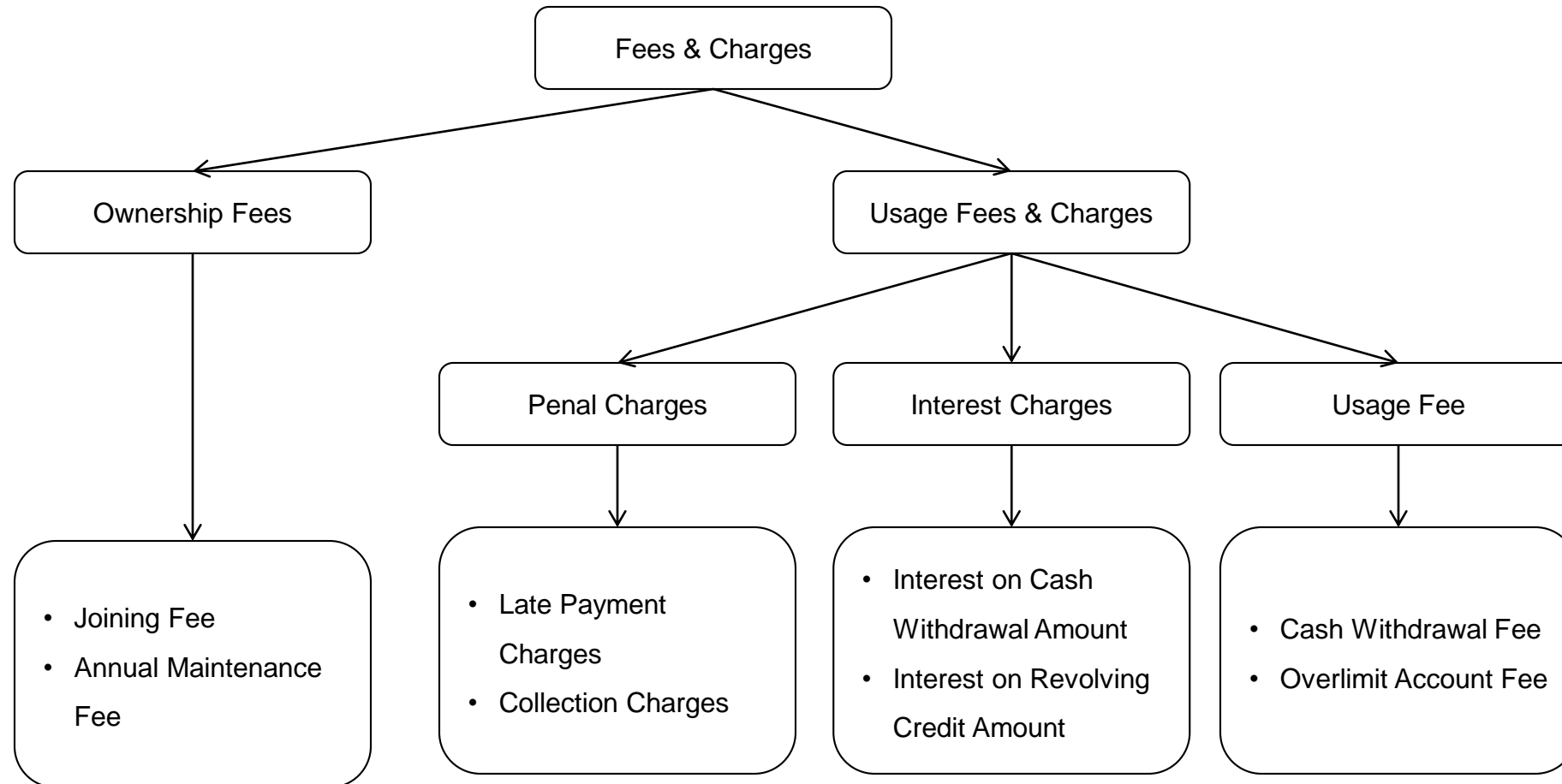
# Acquirer Functions



# Credit Card Benefits to Customer



# What customers have to pay?



# Understanding the Credit Card Statement

Name Address		Statement Date		<date>
		Min Due		<Amt ( <small>typically 5% of overall due</small> )>
		Total Amount Due		<Amt>
		Remember to pay by		<date>
Previous Amount Due	Less Payments	Purchases & Other Charges		Total Amount Due
Total Credit Limit	Available Credit Limit	Total Cash Limit		Available Cash Limit
Date	Transaction (From – To)	Spends Category		Amount
Reward Points Summary				
Opening Points	Earned this month	Redeemed this month	Expired this month	Closing Points



# Revolver & Revolving Credit

- Credit Card statement generated on statement date
- Customer supposed to pay by due date
- Customer has option to pay partially. If customer pay any amount equal to more than Min Due Amount then she is not classified as Defaulter;
- Such customers who make partial payment (above Min Due) are called Revolvers
- The outstanding amount is called Revolving Credit
- The Revolving Credit is charged at the rate of 2.5% to 3% p.m.

# Various Payment Scenarios

## Total Amount paid before the due date

No charges are applied  
The customer pays without  
any interest

## Amount paid is equal to or more than min but less than total

The outstanding balance  
gets charge for interest

## Amount paid is less than min or no payment at all

The customer has to pay  
late fees.  
Interest is charged on the  
outstanding balance  
as well as any subsequent  
purchases made.

## Amount paid is greater than the total amount due

The extra amount is  
carried forward as credit

**Questions???**

**Thank you**

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