



Interest & Long-Term Savings

Time Value of Money

- The earlier you save and the more time you have the better you will be.

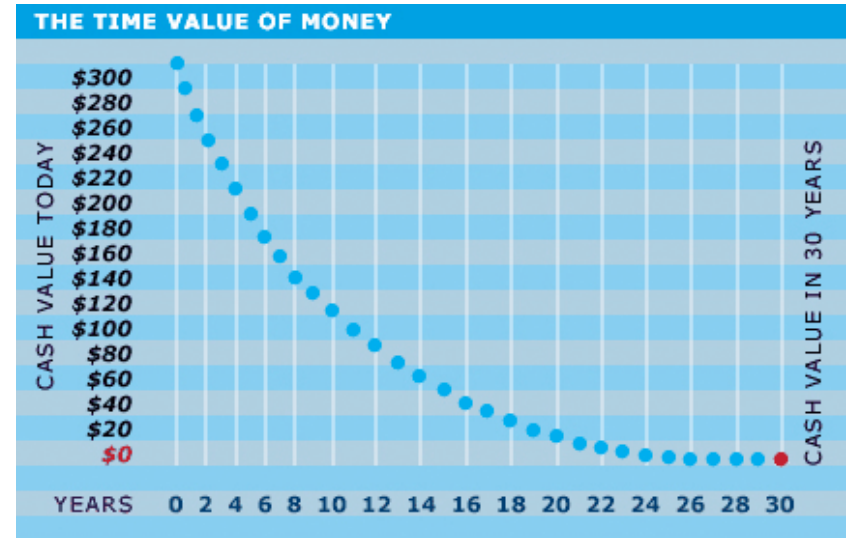
$$FV = PV \times (1 + i)^N$$

PV = Present value (amount of money today)

FV = Future Value

i = Interest paid by the investment

N = Number of periods the investment will be held





Interest Basics

What is Interest?

- Money earned at a particular rate on money deposited into a deposit account or money paid at a particular rate for borrowing funds from a bank.
- There are two types:
 - **Simple Interest:** Interest is earned based on the principal dollar amount in the account.
 - Principal X Rate X Years = Amount Earned
 - **Compound Interest:** Interest is earned based on the principal dollar amount plus any accumulated interest earned on previous periods.
 - $\text{Principal} (1 + \text{Interest rate}/\text{Times Earned a Year})^{\text{Time}} - \text{Principal} = \text{Amount Earned}$
- Some times interest is tiered so as the balance changes so does the interest rate.

Deposit Interest

- Annual Percentage Yield (APY) is the interest rate expressed as an annual rate.
- Interest will post to the deposit account either monthly, quarterly, annually, at maturity, etc.



Problem 1

- A customer deposits \$5,000.00 into an account earning an interest rate of 1.25%.
- How much interest is earned at the end of the first year?
- What is better, a simple or compound interest rate?



Problem 1 Answer

- Simple Interest:
 - $\$5,000 \times .0125 \times 1 = \62.50
- Compound Interest:
 - $(\$5,000 \times .0125)/12 = \5.21 (Interest Earned in Month 1)
 - $(\$5,000 + \$5.21)^{12} \times .0125 = \$5,062.86$
- You earn more with Compound Interest!

Loan Interest

- Annual Percentage Rate (APR) is the interest rate expressed as an annual rate.
- Your monthly payment on a loan is usually a percentage of the principal plus the monthly interest charged on the outstanding balance of the loan.
- Example: Monthly Loan Payment = \$1,530.67
 - \$1,000.00 (principal payment) + \$530.67 (interest payment) = Monthly PMT.

APR

Tiered
Penalty
Purchase
Default
Advance
Delayed
Introductory
Cash
Fixed
Variable



Certificate of Deposit

What is a CD?

- A certificate of deposit (CD) is a savings account that pays a higher interest rate than a regular savings account.
- In return of the higher rate, you agree to “lock-up” your money for a certain time frame (this is called the term).
- You are able to withdraw the principal on the day the term ends (this is called the maturity date).
- If you withdraw the principal prior to the maturity date, you are required to pay a bank fee (called an early withdrawal penalty). This can be 3 or 6 months worth of interest.
- You are able to withdraw, change the term, close the CD or add money starting at the maturity date and for a certain number of calendar days (this is called the grace period).

Choosing a CD

- What different terms are there?
- How long do I want to tie-up my money?
- Do I think rates will change in the short or long term?
- What is the minimum opening deposit requirements?
- The longer the term USUALLY means the higher the rate
- Is the bank having any CD specials?

RCB's CD Terms

- In Branch Only
 - 6 Month (182 Day)
 - SPECIAL: 2 Year No Penalty After 12 Months
 - 4 Year
 - SPECIAL: 4 ½ Year Certificate
 - 5 Year
- May be Opened in Branch or Online
 - 1 Year
 - 2 Year
 - 3 Year



Money Market Deposit Account

What is a MMDA?

- A deposit account which pays interest based on current interest rates in the money markets.
- Account usually pays higher interest rates in return for higher balance requirements.
- MMDAs have minimum balances and limit the number of transactions, so it is less accessible than other savings accounts.



Choosing a MMDA

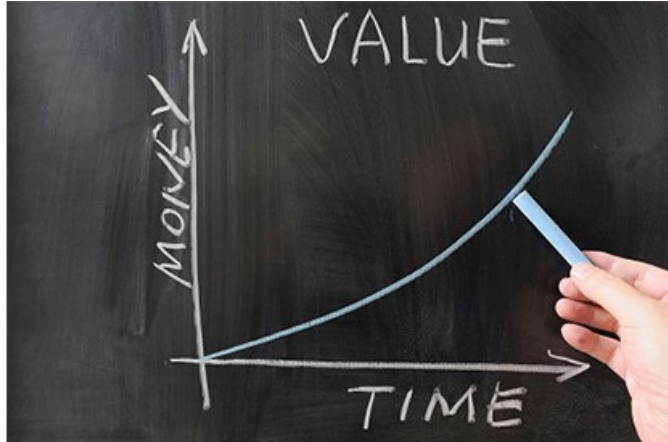
- Monthly Fees
- Transaction Limitations
- Balance Requirements
- Funds Availability
- Charges for Checks
- Location/Number of Branches
- Bank Hours
- Online Banking Option to Transfer Funds



RCB's MMDA

- Tiered Interest Rate
- Minimum Balance Required
- Reg D: Limit to 6 transactions per month
- Free Online Banking & Bill Pay
- Paper or E-Statements





Other Savings
Options

Individual Retirement Account (IRA)

- IRAs are accounts that you make a deposit to (called a contribution) and you can't make a withdrawal (called a distribution) until you 65 years or older.
- There are two types:
 - Traditional – Contributions are pre-tax dollars and you pay taxes on distributions. You are required to start taking money out at 70 ½ years old.
 - Roth – Contributions are post-tax dollars so you don't pay taxes when you make a distribution.



401(k)

- An account that allows you to set money aside for retirement.
- Your company will deduct a percentage of your pay and deposit it into this account for you.
- Some companies allow it pre-tax while others post-tax.
- Companies usually match your contribution up to a certain percentage (like matching up to 5% of your pay).
 - That means for every 5% you put in, your company will add another 5% so you will be saving 10% overall.



403(b)

- Works like a 401(k) but is for people who work for tax-exempt companies like a public school, college, not-for-profit group.

