Investing 101

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Objectives

- Review essential investment terms
- Understand PFIA permitted investment alternatives
- Identify key investment policy elements

Essential Investment Terms

- Asset Allocation
- Basis Point
- Bear Market / Bull Market
- Bid (vs. Offer)
- Book Value vs. Market Value
- Broker (vs. Dealer)
- Bullet
- Callable Bond
- Cash Settlement
- Collateral
- Constant Dollar vs. Floating Net Asset Value
- CUSIP Number
- Custodial Account
- Delivery vs. Payment (DVP)
- Discount Note (Disco)
- Diversification
- Federal Reserve System
- Federal Reserve Banks
- FDIC – Federal Deposit Insurance Corporation
- Fiduciary Duty / Prudent Person
- Full Faith and Credit
- Letter of Credit
- Net Asset Value (NAV)
- Primary Dealer
- Spread
- Standard of Care
- Texas Local Government Codes
- Weighted Average Maturity (WAM)
- Yield

Asset Allocation

- Investment strategy that aims to balance risk and reward by apportioning a portfolio's assets according to an entity's strategies, goals, risk tolerance, and investment horizon.
- There is no simple formula for the right asset allocation. The consensus among most financial professionals is that asset allocation is one of the most important decisions that investors make.
- Asset allocation is dividing a portfolio among asset classes:
  - Investment Pool
  - Certificate of Deposit
  - Bank Deposit

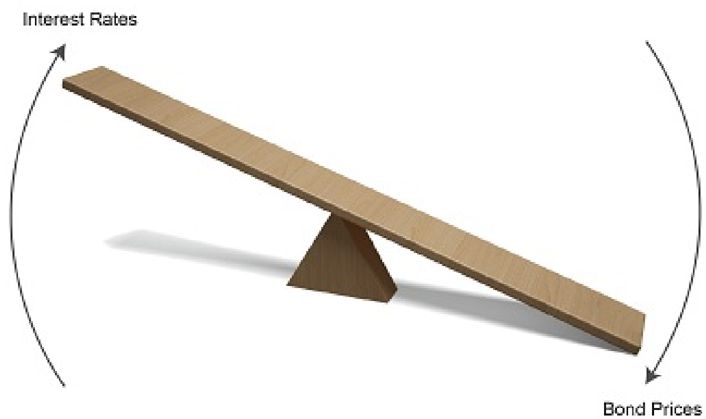
Basis Point

- A unit of measurement used in the valuation of fixed income securities, equal to 1/100th of 1%
  - Often abbreviated as “BPS” or “bps”
    - 100 bps = 1 percentage point, 1.00% = .01 multiplier
    - 50 bps = ½ percentage point, 0.50% = .005 multiplier
    - 25 bps = ¼ percentage point, 0.25% = .0025 multiplier
    - 10 bps = 1/10th percentage point, 0.10% = .001 multiplier
    - 1 bps = 1/100th percentage point, 0.01% = .0001 multiplier

Bear Market / Bull Market

- In a bear market, security prices are falling.
- In a bull market, security prices are rising.
- This simple terminology holds true for both stocks and bonds.

Note: Remember that for bonds there is an inverse relationship between price and yield. When *bond prices* are falling (bear market), yields are rising and vice versa.



Bid (vs. Offer)

- A *bid* is the price a broker will show an investor when the investor wishes to sell a security. An *offer* is the price a broker will show an investor who seeks to buy a security (also called the ask price).
  - When buying a security, investors want the lowest price (highest yield).
  - When selling a security, an investor will always seek the highest bid price.
  - For discounted instruments (T-bills, agency discount notes, CP), sellers will accept the lowest discount rate (low rate=high price).
  - When buying securities we often refer to obtaining three competitive bids, actually we are getting competitive offers.

Book Value vs. Market Value

- Book Value
  - "Book value" means the original acquisition cost of an investment plus or minus the accrued amortization or accretion.
- Market Value
  - "Market value" means the current face or par value of an investment multiplied by the net selling price of the security as quoted by a recognized market pricing source quoted on the valuation date.

Broker (vs. Dealer)

- Broker – A person or firm acting as an agent for buyers and sellers and charging a commission for services rendered. Brokers (agents) act as intermediaries between buyers and sellers.

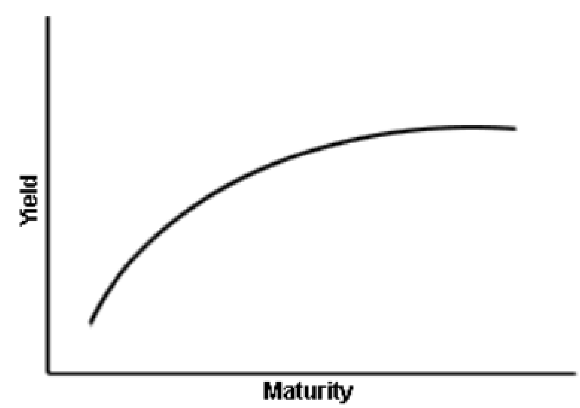
- Dealer – A person or firm acting as principal in buying and selling securities. Dealers (principals) trade for their own account and (in theory) put their own money at risk.
    - Term is frequently combined as "broker-dealer" because most act in both capacities.

Bullet

- A security that is repaid in a lump sum at the end of its term.
  - Bullets are not callable.
  - Bullets do not amortize or make periodic principal payments.
  - The term usually refers to an agency bond.

Callable Bond

- A callable bond is a security with an embedded option that gives the issuer (agency) the right to repay the investment early and return the full principal amount to the investor prior to final maturity.
  - The issuer will likely exercise this option if rates fall to a level where new debt can be issued at a lower rate.
  - The callable investor receives a higher yield, but is subject to reinvestment risk at lower rates.
  - Caveat: “Roll-down”



Cash Settlement

- **Cash** settlement occurs when a security is purchased and subsequently delivered on the same day.
- Regular or Reg settlement occurs the following business day for treasuries, agencies and commercial paper.
- **Skip** day settlement occurs one day after regular.
  - A broker will ask the investor whether they would like to "settle it for cash or regular?" …settle today or tomorrow?

Collateral

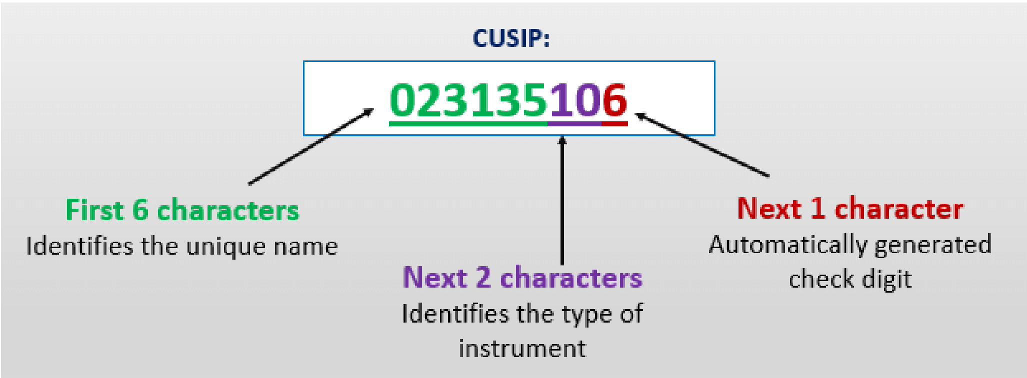
- A deposit of public funds secured by eligible security, typically contracted with the local depository for amounts over the FDIC level of $250,000.
- Eligible Collateral Includes:
  - Surety bond
  - Investment Security:
    - (A) an obligation that in the opinion of the attorney general of the United States is a general obligation of the United States and backed by its full faith and credit;
    - (B) a general or special obligation issued by a public agency that is payable from taxes, revenues, or a combination of taxes and revenues; or
    - (C) a security in which a public entity may invest under Subchapter A, Chapter 2256.
  - Ownership or beneficial interest in an investment security, other than an option contract to purchase or sell an investment security;
  - A fixed-rate collateralized mortgage obligation that has an expected weighted average life of 10 years or less and does not constitute a high-risk mortgage security;
  - A floating-rate collateralized mortgage obligation that does not constitute a high-risk mortgage security; or
  - A letter of credit issued by a federal home loan bank.

Constant Dollar vs. Floating Net Asset Value

- A constant dollar fund is a conservative type of fund whose stated objective is to maintain a stable $1 per share value. Often referred to as a "dollar in-dollar out" fund, the principal value is subject to minimal risk.
- The principal value of a Floating NAV fund will fluctuate, although they may stay close to $1.00
- SEC money market reforms implemented in 2016 require that so called prime money market funds must use a floating NAV. Government funds and retail class funds were exempted and may continue to target a stable $1 NAV.
- Texas Investment Pools tend to use Constant Dollar

CUSIP Number

- A nine-character number that uniquely identifies a particular security. CUSIP is an acronym for the *Committee on Uniform Securities and Identification Procedures*, the standards body which created and maintains the classification system.



Custodial Account

- A custodial account is an account that an institutional custodian operates on behalf of an investor to hold the investor's portfolio of securities.

Delivery vs. Payment (DVP)

- A type of transaction in which the purchaser pays for securities at the time they are delivered into their safekeeping account - not before!
  - Required by many states' laws and standard industry practice.
  - Occasionally, securities may be delivered "free."
  - Electronic systems such as the Fed Wire System and DTC (Depository Trust Company) allow for this type of settlement.

- Not required for Investment Pool or Mutual Funds

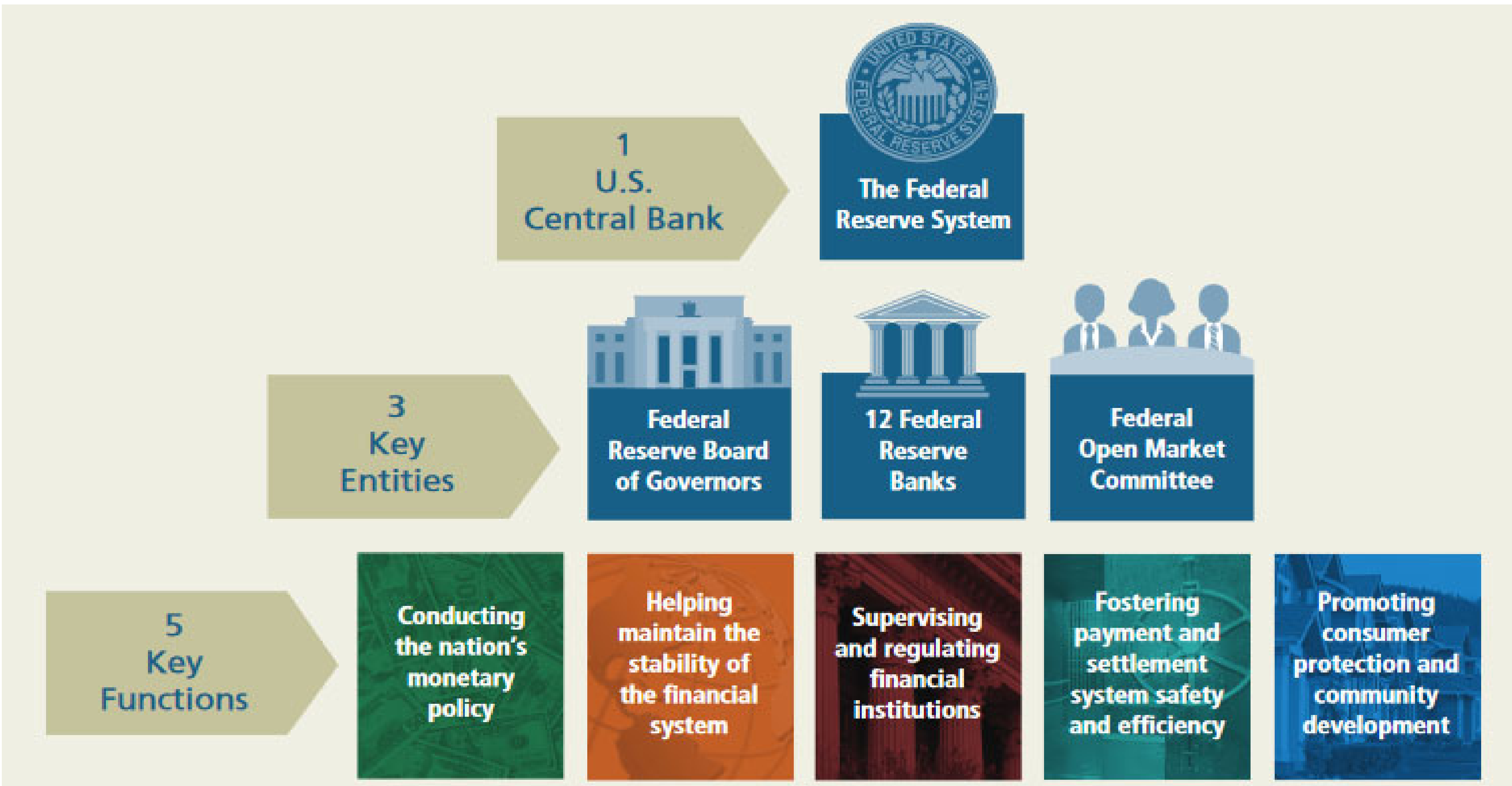
Discount Note (Disco)

- An agency note with a zero coupon that trades at a discount to face value (par) and matures at par. The difference between the discounted cost and par represents the interest earnings.
  - Sometimes called "zeros" because of the 0% coupon.
  - Similar to a Treasury-bill.
  - Maturities range from one day to one year.
  - Issuers:
    - FNMA Fannie Mae
FHLMC Freddie Mac
FHLB Federal Home Loan Bank (Home Loan)
FFCB Federal Farm Credit Bank (Farm Credit)

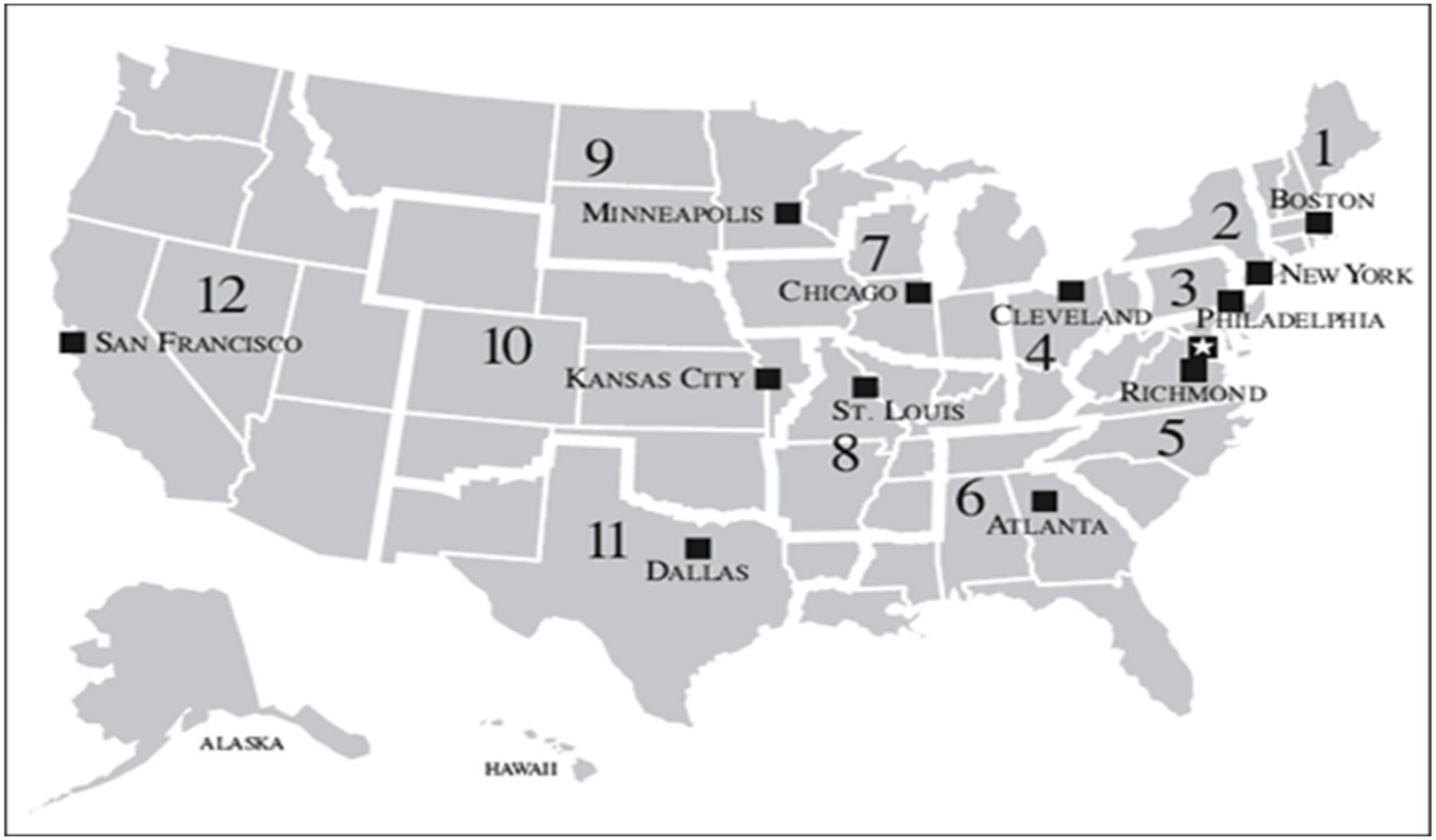
Diversification

- Diversification in investing reflects the amount of <u>same asset class</u> holdings in your portfolio.
  - Asset allocation is a portfolio that is divided among the same asset classes:
  - Investment Pools
    - Pool A
    - Pool B
    - Pool C
  - Certificate of Deposit
    - Bank A
    - Bank B
    - Bank C

Federal Reserve System



Federal Reserve Banks - 12



FDIC – Federal Deposit Insurance Corp.

- Federal agency that guarantees (within limits) funds on deposit (other than securities) in member banks and thrift institutions, and performs other functions relating to the safety and soundness of its member institutions.
    - Current guarantee level: $250,000.

- Amounts on deposit above the $250,000. must be secured with collateral.

Fiduciary Duty / Prudent Person Standard

- The obligation to act in the best interests of another party in financial matters.
- The highest duty owed to another person. It requires the fiduciary (the person with the obligation) to put the interest of the principal (the person to whom they owe the fiduciary duty) above their own.
  - The prudent-person rule is a guideline for making financial decisions using the principles of common sense and reasonable risk.
  - The rule is commonly cited for trustees and guardians tasked with administering assets on behalf of others.
  - Federal rules for pension fund managers contain similar cautions against reckless investing.
- Prudence, Discretion and Intelligence

Full Faith and Credit

The unconditional guarantee or commitment offered by the U.S. to back the interest and principal of its debt.

Full Faith and Credit of the US

- U.S. Treasury Bills
- U.S. Treasury Notes
- U.S. Treasury Bonds
- U.S. Treasury Strips
- Treasury Inflation Protected Securities (TIPS)
- Gov. National Mortgage Corp. – (GNMA)

Implied Full Faith and Credit of the US

- Fed. Housing Finance Agency
  - Fed. Home Loan Mortgage Corp. (FHLMC)
  - Fed. National Mortgage Assoc. (FNMA)
- Fed. Home Loan Bank (FHLB)
- Tennessee Valley Authority (TVA)
- Fed. Farm Credit Bank (FFCB)

Letter of Credit (LOC)

- An irrevocable commitment, usually made by a commercial bank (Federal Home Loan Bank - FHLB), to honor demands for payment of a debt.
- A letter of credit is frequently used to provide credit and liquidity support for variable rate demand obligations and other types of securities.
- Bank letters of credit are sometimes used as additional sources of security for issues of municipal notes, commercial paper or bonds, with the bank issuing the letter of credit committing to pay principal of and interest on the securities in the event that the issuer is unable to do so.
- Often used in-leiu of individual pledged collateral securities.

Net Asset Vale (NAV)

+ Market Value of Pool’s Securities	1,000,000,000
+ Other Assets: Cash, Accrued Interest, etc.	100,000
- Liabilities: Dividends Payable, Accrued Expenses, etc.	(200,000)
	999,900,000
/ Shares Outstanding (Book Value)	1,000,000,000
= Net Asset Value Per Share	0.9999000000

Primary Dealer

- A group of large government securities dealers who can buy and sell directly with the Federal Reserve Bank of New York.
  - Primary dealers must make a market in U.S. Government securities, participate in Treasury auctions, provide the Fed with market information and analysis, and work with the Fed in the implementation of monetary policy.
  - There are currently 24 primary dealers, including Bank of America Securities (the old Merrill Lynch), Goldman Sachs, Citigroup, J.P. Morgan, and Wells Fargo.
  - Interesting Fact – 14 of those 24 are foreign based institutions.
  - https://www.newyorkfed.org/markets/primarydealers

Spread

- The additional yield over and above yields on Treasury securities, expressed in basis points, that can typically be earned by investing in non-Treasury securities.
  - For example, if the 2-year Treasury note is yielding 1.60% and a 2-year agency bullet is yielding 1.68%, the “spread” between the two issues would be 0.08% or 8 basis points.
  - In trader parlance, this bond is said to be trading at “plus 8 to two’s.”
- The “bid/ask” spread is the difference between the current buy and sell price.
- For example, a 2-year Treasury might be bid at 100-9 and offered at 100-9+. (The “+” is equal to half of a 32nd or 1/64th.)
  - That means you could sell it at 100-9/32nd but it would cost you 100-19/64th to buy it. That difference of 1/64th difference in price is the dealer’s profit.

  - Remember- Treasuries are still priced in 32nds, rather than decimals

Standard of Care

- (a) Investments shall be made with judgment and care, under prevailing circumstances, that a person of prudence, discretion, and intelligence would exercise in the management of the person's own affairs, not for speculation, but for investment, considering the probable safety of capital and the probable income to be derived. Investment of funds shall be governed by the following investment objectives, in order of priority:
  - (1) preservation and safety of principal;
  - (2) liquidity; and
  - (3) yield.
- (b) In determining whether an investment officer has exercised prudence with respect to an investment decision, the determination shall be made taking into consideration:
  - (1) the investment of all funds, or funds under the entity's control, over which the officer had responsibility rather than a consideration as to the prudence of a single investment; and
  - (2) whether the investment decision was consistent with the written investment policy of the entity.

Texas Local Government Code

- Chapter 2256 – Public Funds Investment Act
  - https://statutes.capitol.texas.gov/Docs/GV/htm/GV.2256.htm
    - The Act (Chapter 2256, Texas Government Code) governs the investment of public funds in Texas and requires that treasurers, chief financial officers, and investment officers of government entities complete training on topics pertinent to the Act.
- Chapter 2257 – Public Funds Collateral Act
  - https://statutes.capitol.texas.gov/Docs/GV/htm/GV.2257.htm
    - The Public Funds Collateral Act sets the standards for collateralization of public funds in Texas.
- Chapter 102 – Municipal Budget Code
  - https://statutes.capitol.texas.gov/Docs/LG/htm/LG.102.htm
- Chapter 105 – Depositories for Municipal Funds
  - https://statutes.capitol.texas.gov/Docs/LG/htm/LG.105.htm

Weighted Average Maturity

- This common term, usually expressed in number of days, represents the average maturity term of a portfolio of fixed income securities, weighted by the dollar value of each security.
  - A longer WAM generally indicates more market risk.
  - Note that for most of you, WAM and duration are similar.
- The overall sum of each security’s par amount multiplied by its number of days to maturity, divided by the total of all investments.

Security Description	Investment Amount	Mat. in Days (DTM)	WAM
Investment Pool	3,000,000.00	1	0.46
Discount Note	2,500,000.00	96	36.42
US Treasury Note	1,000,000.00	192	29.14
Bank CD	90,000.00	180	2.46
Total	**6,590,000.00**		**68.47**

Yield

- The return, expressed as a percentage, that a security will earn as a result of both the coupon (interest rate) and any discount or premium paid.
  - A yield will exceed the coupon rate if the security is purchased at a discount, and will be beneath the coupon rate if the security is bought at a premium.
  - There are many different types of yield calculations:
    - BEY – Bond Equivalent Yield
    - MMY – Money Market Yield
    - True Yield, Current Yield, Street Convention, US Govt Equiv
    - Many others

Common PFIA Permitted Investments

Typical Investments for Local Governments

- Money Market Funds and Local Government Investment Pools
- U.S. Treasuries
- Agencies (GSEs / instrumentalities)
- Bank CDs / Savings accounts / Shared CDs
- Commercial Paper
- Other lesser used investments

Money Market Funds

- A pool of money representing deposits investments from a large number of participants invested solely in money market instruments (short-term debt securities such as T-bills, discount notes, commercial paper and repos). A variable rate of interest is paid and funds typically may be withdrawn at any time.
- Government vs "Prime" fund
- Essentially investment pools with higher fees
- Daily rates vary depending on the type of fund and fees charged.

Investment Pools

- The most commonly held investment for local governments
- Essentially a money market fund with lower fees
- State specific
- Stable dollar value
- Typically rated AAA-m
- Investors own a pro-rata share of the underlying portfolio
- Types of pools (underlying portfolios)
    - Government pools
    - CP pools

Pools & Funds

	No-Load Money Market Mutual Fund 2a-7	No-Load Mutual Fund	Constant Dollar Pool	Floating Net Asset Value Pool
Restricted to Public Funds Inv. Act Authorized Investment	N	Y	Y	Y
Rating Required	N	Y	Y	Y
Weighted Average Maturity (WAM) Limit	None	2 years	90 days	None
Stable Net Asset Value (NAV) at $1	N	N	Y	N
Requires Advisory Board	N	N	Y	Y
Investment Amount Limits (maximum)	None	15% of operating funds, excluding bond reserve and debt service funds	None	None
Investment Bond Proceeds	Y	N	Y	Y
Weighted Average Maturity (WAM) calculation using stated or reset dates	Reset	Stated	Stated	Stated
Public Funds Investment Act Disclosure Requirements	Y	Y	Y	Y

Treasuries

- Full Faith and Credit of the United States
- Ratings:
  - Moody's Aaa
  - Fitch AAA
  - S&P AA+
- Treasury bills, notes and bonds
- Highly liquid, very safe

Agencies

- A debt security issued either by a Federal or Federally-sponsored agency
- Federal agencies are backed by the full faith and credit of the U.S. Government (ex. GNMA)
- Federally sponsored agencies are backed by the credit of the agencies themselves with an implied guarantee of the U.S. Government (ex. FHLB, FFCB)
- “Agencies” currently in conservatorship, owned and operated by the U.S. government, include Fannie Mae (FNMA) and Freddie Mac (FHLMC).
- Types of agency securities:
  - Discount notes
  - Bullets
  - Callable bonds
  - Step-ups

Bank CDs and Savings Accounts

- Traditional Bank CD
  - If above $250k FDIC limit, must be secured by collateral or FHLB LOC
- Brokered CD
  - Trades like a security, has a CUSIP number
  - Must stay under $250k FDIC insurance limit
- Shared Deposit Programs
  - CD’s – “CDARS” (Promontory Interfinancial Network)
  - Demand Deposits / Others (ICS, FICA, GGDP)
- Other Deposit Programs
  - Key is they must be secured by FDIC insurance, collateral, of FHLB LOC

Commercial Paper

- An unsecured short-term promissory note issued by a corporation or local government, with maturities ranging from one to 270 days
  - CP with a minimum rating of A-1/P-1/F1 (S&P/Moody's/Fitch) is required under the PFIA.
  - Many money market mutual funds and local government investment pools invest heavily in CP.
  - 3(a) versus 4(2) / 144a
  - Know your issuers!

Investment Policy

Investment Policy

- Each governing body must adopt a written investment policy and fund strategies.
- The governing body must review policy and strategies at least annually and adopt written proof of the review.
- The policy must emphasize safety and liquidity
- Address diversification, yield, maturity and capability of management.
- Include: a list of authorized investments, maximum allowable maturity for individual securities and the maximum WAM for pooled fund groups.
- An audit of management controls on investments and policy compliance must be performed annually.

Essential Policy Considerations

- Who are the authorized investment officers?
- What instruments will be eligible for investment?
- How will diversification be ensured?
- How will safekeeping be handled?
- What is the maximum term for any given investment?
- What type of internal controls should be in place?
- Who will comprise the investment committee?
- What type of investment/performance reports will be produced?
- What types of benchmarks will be used?
- Will an investment advisor be used (and to what capacity)?

Policy Models, Samples and Guidance

- GTOT
- GFOA
- Samples from your peer group
- Association of Public Treasurers (APT US&C) model policy
- APT US&C Investment Policy Certification Program
- GTOT certification program (Investment Policy Checklist)
  - https://gtot.unt.edu/file/889