



對外經濟貿易大學

Chapter 13

The Investment Portfolio and Policy Guidelines

The securities activities of large banks and small banks

- Small banks generally purchase securities and hold them until maturity.
- Large banks, in contrast, not only buy securities for their own portfolios, but they also frequently:
 - manage a securities trading account
 - manage an underwriting subsidiary that helps municipalities issue debt in the money and capital markets

Dealer operations and the securities trading account

- Many large banks hold securities as part of a trading account.
- A trading account represents an inventory of securities that a bank holds for resale to other investors:
 - In this capacity, banks operate both as **primary dealers** with the Federal Reserve and as **market makers** with other participants.

Banks perform three basic functions within their trading activities.

1. Offer investment advice and assistance to customers managing their own portfolios
2. Maintain an inventory of securities for possible sale to investors
 - their willingness to buy and sell securities is called making a market
3. Traders speculate on short-term interest rate movements by taking positions in various securities

Banks earn profits from their trading activities in several ways.

- When making a market, they price securities at an expected positive spread, charging a higher price (lower interest rate)
- Profits arise from a positive spread between the ask and the bid prices
- Traders can also earn profits if they correctly anticipate interest rate movements

Objectives of the investment portfolio

- A bank's investment portfolio differs markedly from a trading account as investment securities are held to meet one of six general objectives:
 1. Safety or preservation of capital
 2. Liquidity
 3. Yield
 4. Credit risk diversification
 5. Help in manage interest rate risk exposure
 6. Assist in meeting pledging requirements

Accounting for investment securities

□ Held to Maturity:

- Securities purchased with the intent to hold to final maturity

□ Available for Sale:

- Securities that are not classified in either of previous categories

□ Trading:

- Securities purchased with the intent to sell them in the near term

The primary impact of FASB 115 is:

- A bank's net income and equity capital position will be more volatile when securities are accounted for in market value terms
 - The distinction between motives is important because of account treatment
 - The difference between market value and par value equals the unrealized gain or loss on the security
 - $\text{Mkt value} - \text{par value} = \text{unrealized gain (loss)}$
-

Safety or preservation of capital

- A primary objective is to preserve capital by purchasing securities when there is only a small risk of principal loss.
- Regulators encourage this policy by requiring that banks concentrate their holdings in investment grade securities, those rated Baa or higher.

Liquidity

- ❑ Commercial banks purchase debt securities to help meet liquidity requirements.
- ❑ Securities with maturities under one year can be readily sold for cash near par value and are classified as liquid investments.
- ❑ Liquid securities are often viewed as only those which can be sold at a gain, regardless of the remaining term to maturity, credit quality, and issue size.

Investment Portfolio for a Hypothetical Bank

Current Date: September 30, 2002

Purchase Date	Book Value	Description	Annual Coupon Income	Market Value
12/15/90	\$4,000,000	\$4,000,000 par value U.S. Treasury note at 11%, due 11/15/03	\$440,000	\$4,099,000
10/15/90	2,000,000	\$2,000,000 par value Federal National Mortgage Association bonds at 8.75%, due 10/15/10	175,000	1,824,000
6/6/94	500,000	\$500,000 par value Allegheny County, PA, A-rated general obligations at 5.15%, due 3/1/06	25,750	482,500
10/1/89	1,000,000	\$1,000,000 par value State of Illinois Aaa-rated general obligations at 11%, due 10/1/14	110,000	1,190,000

Yield

- To be attractive, investment securities must pay a reasonable return for the risks assumed.
- The return may come in the form of price appreciation or periodic coupon interest.

Diversify credit risk

- The diversification objective is closely linked to the safety objective and difficulties that banks have with diversifying their loan portfolios.
 - Too often, particularly at small banks, loans are concentrated in one industry such as agriculture, energy, or real estate that reflects the specific economic conditions of the region.
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Help manage interest rate risk exposure

- Investment securities are very flexible instruments for managing a bank's overall interest rate risk exposure.
- Banks can select terms that meet their specific needs without fear of antagonizing the borrower.
- They can readily sell the security if their needs change.

Pledging requirements

- By law, commercial banks must pledge collateral against certain types of liabilities.
- Banks that sell RPs essentially pledge part of the government's portfolio against this debt.

Composition of the investment portfolio

- Money market instruments with short maturities and durations include:
 - Treasury bills,
 - large negotiable CDs,
 - bankers acceptances,
 - commercial paper,
 - security repurchase agreements, and
 - tax anticipation notes.

Composition of the investment portfolio

- Capital market instruments with longer maturities and duration are classified by the issuer as:
 - Long-term U.S. Treasury securities, obligations of U.S. government agencies,
 - Obligations of state and local governments and their political subdivisions labeled municipals,
 - Mortgage-backed securities backed both by government and private guarantees,
 - Corporate bonds, and
 - Foreign bonds.
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Composition of U.S. commercial bank investments: 1965-2000

A. All Banks Over Time

	Percentage of Total Assets							
	1965	1970	1975	1980	1985	1990	1995	2000*
U.S. Treasury securities	17.6%	12.1%	9.8%	7.8%	8.3%	5.4%	6.2%	2.80%
Agency securities	1.7	2.7	3.9	4.1	3.2	8.4	10.4	11.3
Municipal securities	11.4	13.6	11.6	10.0	9.7	3.5	2.1	1.80
Corporate & foreign securities	0.4	0.6	0.9	0.5	1.0	2.7	2.5	4.30
	31.1%	29.0%	26.4%	22.4%	22.2%	20.0%	21.2%	20.1%
Total financial assets (billions of \$)	\$342	\$517	\$886	\$1,482	\$2,375	\$3,334	\$4,488	\$6,455.6

B. Percentage of Total Consolidated Assets, December 31, 2000

	Commercial Banks Ranked by Assets			
	10 Largest	11-100 Largest	101-1,000 Largest	>1,000 Largest
Investment securities				
U.S. Treasury securities	1.96%	1.12%	1.18%	2.12%
U.S. Gov't. agency & corporate securities	6.59	9.71	15.56	16.95
Private mortgage-backed securities	0.51	1.66	0.99	0.23
Municipal securities	0.51	0.96	2.91	4.64
Other securities	3.47	2.06	2.18	0.88
Equities	0.68	0.66	0.79	0.56
Total investment securities	13.72%	16.11%	24.24%	25.38%
Trading account securities	5.26	1.22	0.09	0.02
Total	18.98%	17.33%	24.33%	25.40%

The risk-return characteristics of investment securities

- The fundamental objective of the investment portfolio is to maximize earnings while limiting risk within guidelines set by management.
- Earnings come in the form of:
 - periodic interest income
 - reinvestment income
 - capital gains (losses)

General return characteristics

- Most debt instruments either accrue interest at fixed rates against the principal invested with a lump sum distribution at maturity, or carry fixed coupon payments with the return of principal at final maturity.
- Aggregate returns are also affected by capital gains and losses on securities sold prior to final maturity.

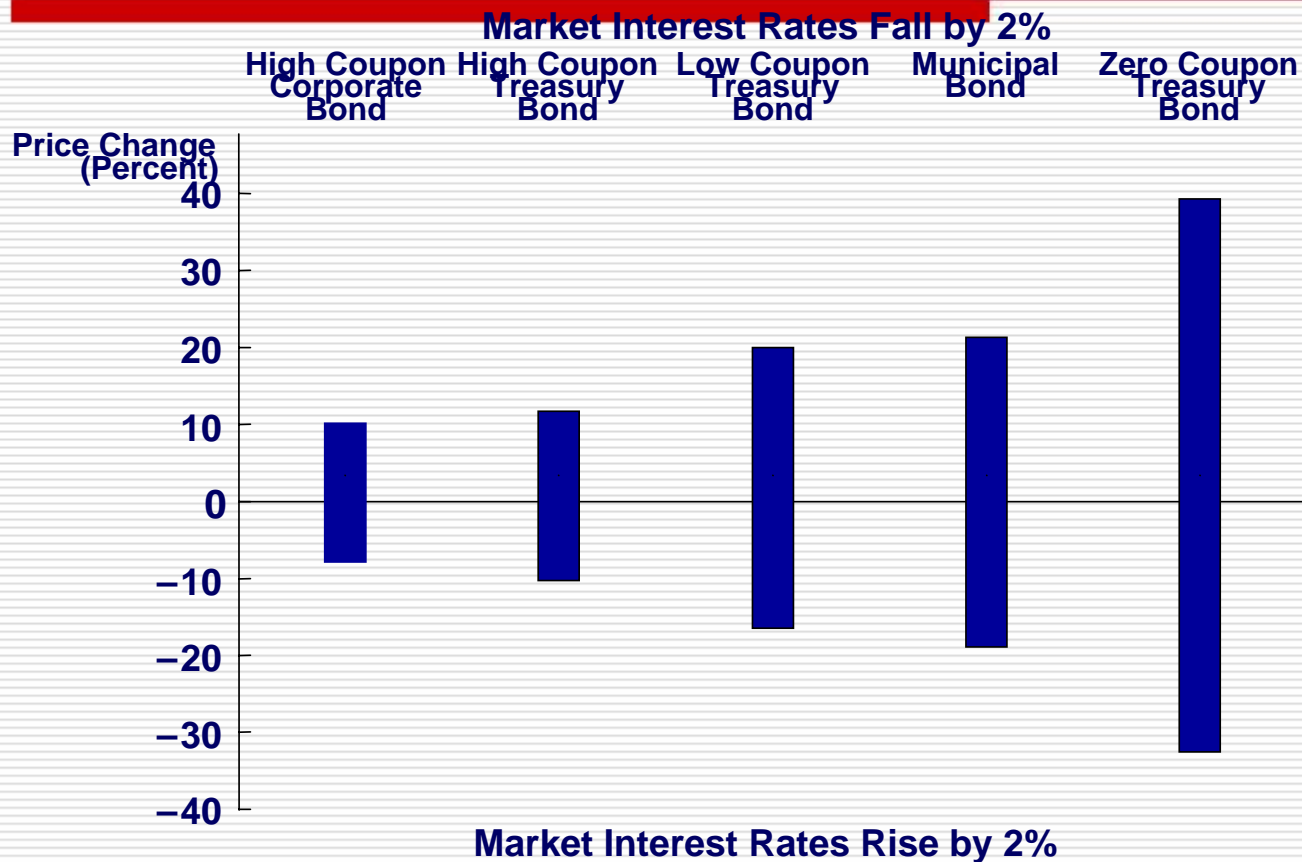
In general, bank managers are reluctant to report securities losses

- Even in the face of superior reinvestment opportunities
- Securities losses directly lower reported profits, and, in the near term, earnings may appear depressed

General risk characteristics

- Credit Risk
 - variability in returns resulting from not making promised payments
- Purchasing Power Risk
 - unanticipated changes in inflation
- Interest Rate Risk
 - interest rate changes affect returns in two ways: price risk and reinvestment rate risk
- Liquidity Risk
 - risk of not being easily traded prior to maturity.

Impact of interest rate changes on fixed-rate, option-free bond prices



Regulatory guidelines: Three types of securities

□ Type I Securities

- U.S. Treasury, federal agency, and general obligation municipal obligations
- Banks can own unlimited quantities of these securities and underwrite new issues or make a market in outstanding obligations

Regulatory guidelines: Three types of securities

□ Type II Securities

- Obligations issued by quasi-public federal and municipal agencies
- The amount owned from any single issuer is limited to 15 percent of a bank's capital plus surplus

Regulatory guidelines: Three types of securities

□ Type III Securities

- All other investment grade equivalent obligations
- Banks can invest no more than 10 percent of capital and surplus in any single issue and
- Not allowed to underwrite or deal in these securities
- Although the bank cannot deal in these securities, a bank with a Section 20 affiliate can or a financial holding company structure can.

Money market investments

- Highly liquid instruments which mature within one year that are issued by governments and large corporations.
- Very low risk since they are issued by well-known borrowers and a deep secondary market exists.
- Banks purchase money market instruments in order to meet liquidity and pledging requirements and earn a reasonable return

Repurchase agreements

- The lender or investor buys securities from the borrower and simultaneously agrees to sell the securities back at a later date at an agreed-upon price plus interest.
- The minimum denomination is generally \$1 million, with maturities ranging from one day to one year.
- The rate on one-day RPs is referred to as the overnight RP rate and is quoted on an add-on basis assuming a 360-day year
 - $\$Interest = \text{par value} \times (\text{repo rate} \times (\text{days} / 360))$
- Longer-term transactions are referred to as term RPs and the associated rate the term RP rate.

Treasury Bills

- They exist only in book-entry form, with the investor simply holding a dated receipt.
 - Investors can purchase bills in denominations as small as \$10,000, but most transactions involve much larger amounts.
 - Each week the Treasury auctions bills with 13-week and 26-week maturities.
 - Investors submit either competitive or noncompetitive bids.
 - With a competitive bid, the purchaser indicates the maturity amount of bills desired and the discount price offered.
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T-Bill auctions

T-Bill Auction Results for May 20, 2002

	13-Week	26-Week
Applications	\$35,879,782,000	\$32,156,863,000
Accepted bids	\$17,000,105,000	\$15,000,055,000
Accepted noncomp	\$1,438,237,000	\$1,087,195,000
Accepted frgn non	\$175,000,000	\$75,000,000
Auction price (Rate)	99.563 (1.730%)	99.039 (1.900%)
Coupon equivalent	1.76%	7.95%
Bids at market yield	58.13%	25.09%
Cusip number	912795KX8	912795LL3

Both issues are dated May 20, 2002. The 13-week bills mature Aug. 22, 2002, and the 26-week bills mature Nov. 21, 2002.

Treasury Bills (continued)

- Treasury bills are purchased on a discount basis, so the investor's income equals price appreciation.
- As with most money market yields, the Treasury bill discount rate is quoted in terms of a 360-day year.

Treasury Bills, an example.

- A bank that purchases \$1 million in face value of 26-week (182-day) bills at \$990,390 the low auction price, to earn a discount yield of 1.90 percent.
- The discount rate is:
 - $dr = (1,000,000 - 990,390) \div 1,000,000 \times (360/182)$
= 1.90%

Treasury Bills, an example.

- The coupon-equivalent rate (cer) is:
 - $\text{cer} = [(1,000,000 - 990,390) \div 990,390] \times (365 / 182)$
 - $= 1.946\%$
- The true (effective) yield is:
 - $\text{eff } y = [1 + (1,000,000 - 990,390) \div 990,390]^{(365 / 182)} - 1$
 - $= 1.956\%$

CDs

□ Domestic CDs

...dollar-denominated deposits issued by U.S. banks in the United States and have fixed maturities ranging from 14 days to several years.

- They pay yields above Treasury bills.
- Interest is quoted on an add-on basis, assuming a 360-day year.

Eurodollars

□ Eurodollars

...dollar-denominated deposits issued by foreign branches of banks outside the United States.

- The Eurodollar market is less regulated than the domestic market, so the perceived riskiness is greater.

Commercial paper

- Unsecured promissory notes issued by corporations that use the proceeds to finance short-term working capital needs.
 - Unsecured, hence the issuers are typically the highest quality firms.
 - Minimum denomination is \$10,000.
 - Maturities range from 3 to 270 days.
 - Interest rates are fixed and quoted on a discount basis.
 - Small banks purchase large amounts of commercial paper as investments.
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Bankers acceptances

- ❑ A draft drawn on a bank by firms that typically are importer or exporters of goods.
- ❑ Short-term, and has a fixed maturity.
- ❑ Maturity is typically up to nine months
- ❑ Priced as as discount instrument like T-bills.

Taxable capital market investments

- Capital market instruments consists of instruments with original maturities greater than one year.
- Banks are restricted to “investment grade” securities, those rated Baa or above; i.e., no junk bonds.

Treasury notes and bonds

- ❑ Original maturity is longer than T-bills, notes typically 1 - 10 years and bonds beyond 10 years.
- ❑ Most pay semi-annual coupons.
- ❑ Some are zero, STRIPS.
- ❑ Sold via closed auctions.
- ❑ Rates are quoted on a coupon-bearing basis with prices expressed in thirty-seconds of a point, \$31.25 per \$100,000 face value.

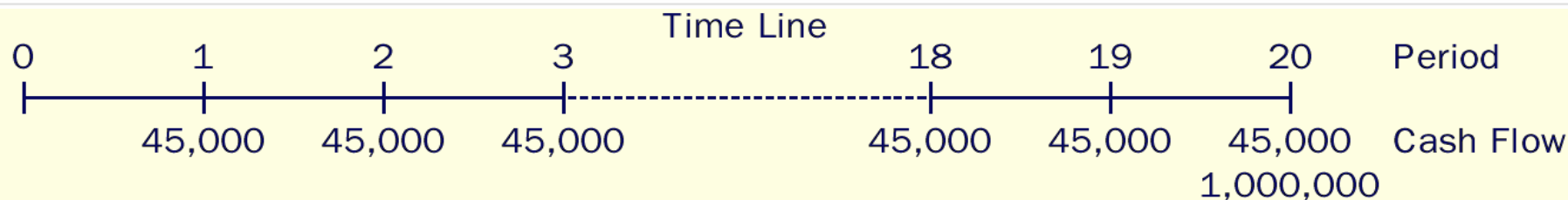
Treasury strips



- During recent years, many banks have purchased zero coupon Treasury securities as part of their interest rate risk management strategies.
- Since 1985 the U.S. Treasury has allowed any Treasury with an original maturity of at least 10 years to be “stripped” into its component interest and principal pieces and traded via the Federal Reserve wire transfer system.

Example: Treasury strips

- Consider a 10-year, \$1 million par value Treasury bond that pays 9 percent coupon interest or 4.5 percent semiannually (\$45,000 every six months).
- This security can be stripped into 20 separate interest payments of \$45,000 each and a single \$1 million principal payment, or 21 separate zero coupon securities.



U.S. Government Agency securities

1. Members who are formally part of the federal government
2. Members who are government-sponsored agencies.
 - Default risk is low even though these securities are not direct obligations of the Treasury; most investors believe there is a moral obligation.
 - These issues normally carry a risk premium of about 10 to 100 basis points.

Yields on Treasury and Agency securities

- The yield to maturity (y) formula follows can be expressed solving for y ,

as:

$$P_0 = \sum_{t=1}^n \frac{C_t}{(1+y)^t} + \frac{P_n}{(1+y)^n}$$

where

P_0 = current price,

P_n = cash flow at maturity,

C_t = dollar value of the cash flow (interest payment) received in period t ,

n = number of periods until the final cash flow

y = periodic yield to maturity.

Example: Yields on Treasury and Agency securities

- An investor obtains a price quote of 96.24 on a 10 percent coupon, \$10,000 par value Treasury note with exactly two years remaining to maturity.

$$9,675 = \sum_{t=1}^4 \frac{500}{(1 + y^*/2)^t} + \frac{10,000}{(1 + y^*/2)^4}$$
$$y^* = 11.87\%$$

Callable Agency bonds

- One of the most popular bank investments during the 1990s has been callable agency bonds.
- Typically, there is a call deferment period during which the bonds cannot be called.
- Such bonds contain an explicit call option where the issuer, such as a FHLB, buys the option to call the bonds and investors sell the option.
 - The issuer pays by offering a higher promised yield relative to comparable noncallable bonds.
 - The present value of this rate differential essentially represents the call premium.

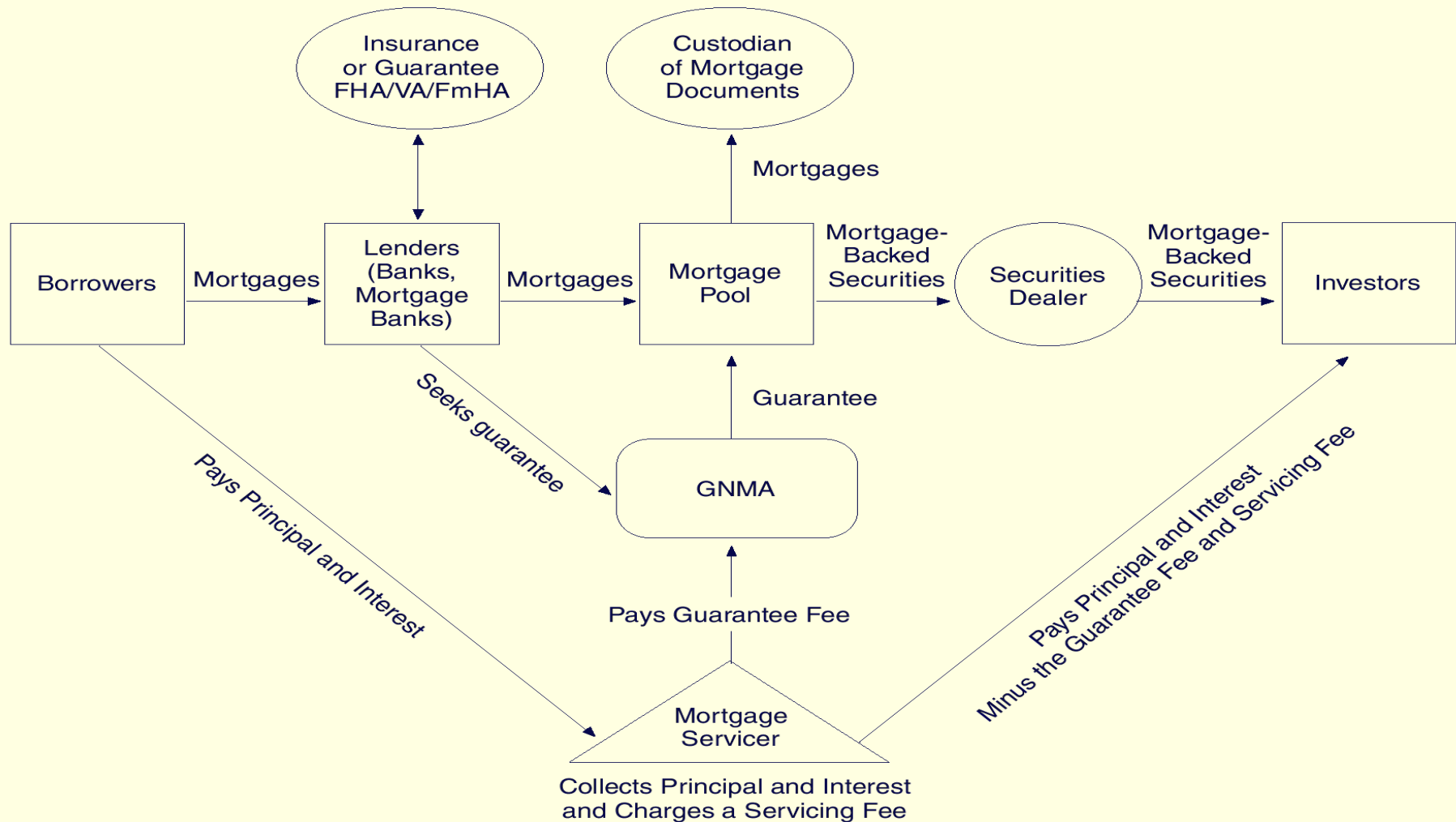
Callable agency bonds

<u>Issuer</u>	<u>Final Maturity</u>	<u>Call Deferment</u>	<u>Yield to Maturity</u>	<u>Price</u>
FNMA	7 years	1 year	6.42%	99.91
FHLB	5 years	3 months	5.84	100.00
FHLMC	10 years	1 year	6.55	99.625
FHLMC	10 years	2 years	6.37	99.10
FHLB	3 years	1 year	5.78	99.97
FHLMC	3 years	1 year	5.62	99.4375

Conventional mortgage-backed securities

- ❑ A mortgage-backed security (MBS) is any security that evidences an undivided interest in the ownership of mortgage loans.
- ❑ The most common form of MBS is the pass-through security
- ❑ Even though many MBS have very low default risk, they exhibit unique interest rate risk due to prepayment risk.

Structure of the GNMA mortgage-backed pass-through security issuance process



Types of mortgage-backed securities

- GNMA pass-through securities
 - Government National Mortgage Association (Ginnie Mae)-a government entity that buys mortgages for low income housing and guarantees mortgage-backed securities issued by private lenders.

Types of mortgage-backed securities

□ FHLMC

- Federal Home Loan Mortgage Corporation (Freddie Mac)-a private corporation, operating with an implicit federal guarantee, that buys mortgages financed largely by mortgage-backed securities.

Types of mortgage-backed securities

□ FNMA securities

- Federal National Mortgage Association (Fannie Mae)-A private corporation, operating with an implicit federal guarantee, that buys mortgages financed by mortgage-backed securities.

□ Privately issued pass-through

- Issued by banks and S&Ls, with private insurance rather than government guarantee.

Prepayment risk on mortgage-backed securities

- ❑ Borrowers may prepay the outstanding mortgage principal at any point in time for any reason.
- ❑ Prepayment generally occurs because of fundamental demographic trends as well as movements in interest rates.
- ❑ Prepayment typically increases as interest rates fall and slows as rates increase.
- ❑ Forecasting prepayment is not an exact science.

Prepayments impact on duration and yield

- Market prices are found by following a three step process:
 - Estimate the duration of the MBS based on an assumed interest rate environment and the speed of prepayments.
 - Identify a Treasury security with the same duration.
 - The MBS is priced as a markup over the Treasury.

Collateralized mortgage obligation (CMO):

- Security backed by a pool of mortgages and structured to fall within an estimated maturity range (tranche) based on the timing of allocated interest and principal payments on the underlying mortgages.
- Tranche:
 - The principal amount related to a specific class of stated maturities on a collateralized mortgage obligation. The first class of bonds have the shortest maturities.

CMOs

- ❑ CMOs were introduced to circumvent some of the prepayment risk associated with the traditional pass-through security.
 - ❑ CMOs are essentially bonds.
 - ❑ An originator combines various mortgage pools to serve as collateral and creates classes of bonds with different maturities.
 - ❑ The first class, or tranche, has the shortest maturity.
 - ❑ Interest payments are paid to all classes of bonds but principal payments are paid to the first tranche until they have been paid off.
 - ❑ After the first tranche is paid, principal payments are made to the second tranche, etc.
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Types of CMOs

□ PAC:

- Planned amortization class CMO—a security that is retired according to a planned amortization schedule, while payments to other classes of securities are slowed or accelerated.
- Least risky of the CMOs.
- Objective is to ensure that PACs exhibit highly predictable maturities and cash flows.

□ Z-Tranche:

- Final class of securities in a CMO, exhibiting the longest maturity and greatest price volatility.
- These securities often accrue interest until all other classes are retired.

Different classes (Tranches) of CMO bonds issued by the Federal Home Loan Mortgage Corporation, Sept. 2001

Class	Orig. Amt (000s)	Coupon	Orig. WAL*	Orig. Maturity	Description**
1) B	100,000	6.00	4.00	2/15/1931	TAC(11)
2) C	34,900	6.00	4.60	9/15/1931	SEQ
3) LL	10,944	6.25	16.00	9/15/1931	SEQ, RTL
4) LO	456	0.00	16.00	9/15/1931	PD, SEQ
5) TW	40,912	6.50	4.00	9/15/1931	SCH(22)
6) ZA	3,700	6.00	11.90	3/15/1931	Z, SUP
7) MC	159,088	6.50	8.50	9/15/1931	EXCH, PZ, SUP, PAC
8) R	0	0.00		9/15/1931	R, NPR
9) KA	34,282	6.50	2.50	7/15/2018	PAC(11)
10)KB	47,270	6.50	6.00	7/15/2026	PAC(11)
11)KC	38,898	6.50	11.00	6/15/1930	PAC(11)
12)KD	15,923	6.50	19.10	9/15/1931	PAC(11)
13)KD	11,380	6.50	2.10	9/15/1931	SUP
14)KZ	11,335	6.50	15.80	9/15/1931	Z, SUP
15)KE	136,373	6.50	8.10	9/15/1931	EXCH, PAC

CMOs' advantages over MBSs

- ❑ Exhibit less prepayment risk
- ❑ Appeal to investors with different maturity preferences by segmenting the securities into maturity classes

Assets-backed securities

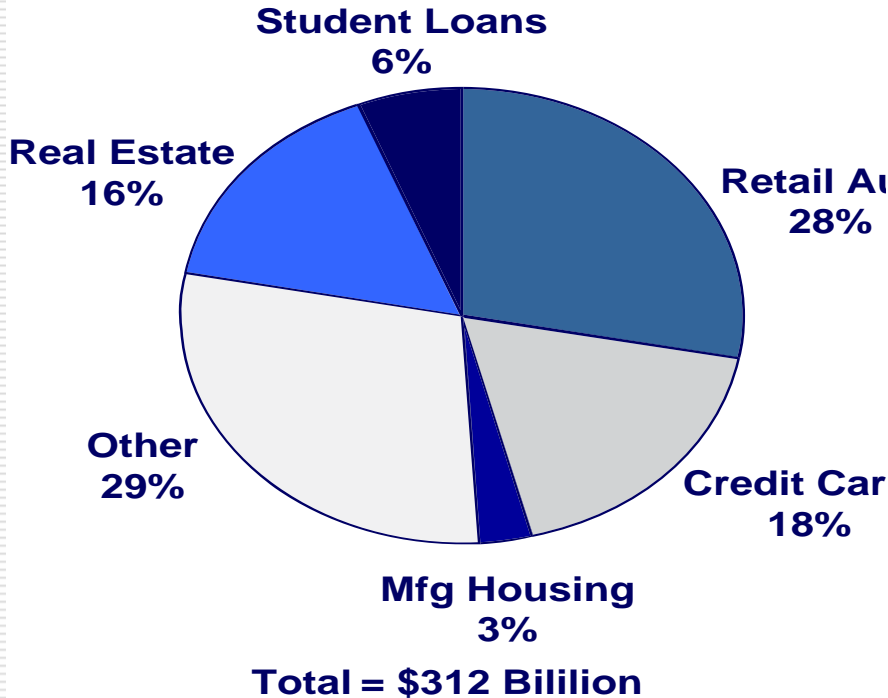
- Conceptually, an Asset-backed security is comparable to a mortgage-backed security in structure.
 - The securities are effectively “pass-throughs” since principal and interest are secured by the payments on the specific loans pledged as security.
- Two popular asset-backed securities are:
 - Collateralized automobile receivables (CARS)
 - CARDS, securities backed by credit card loans to individual.

Features of pass-through, government, and corporate

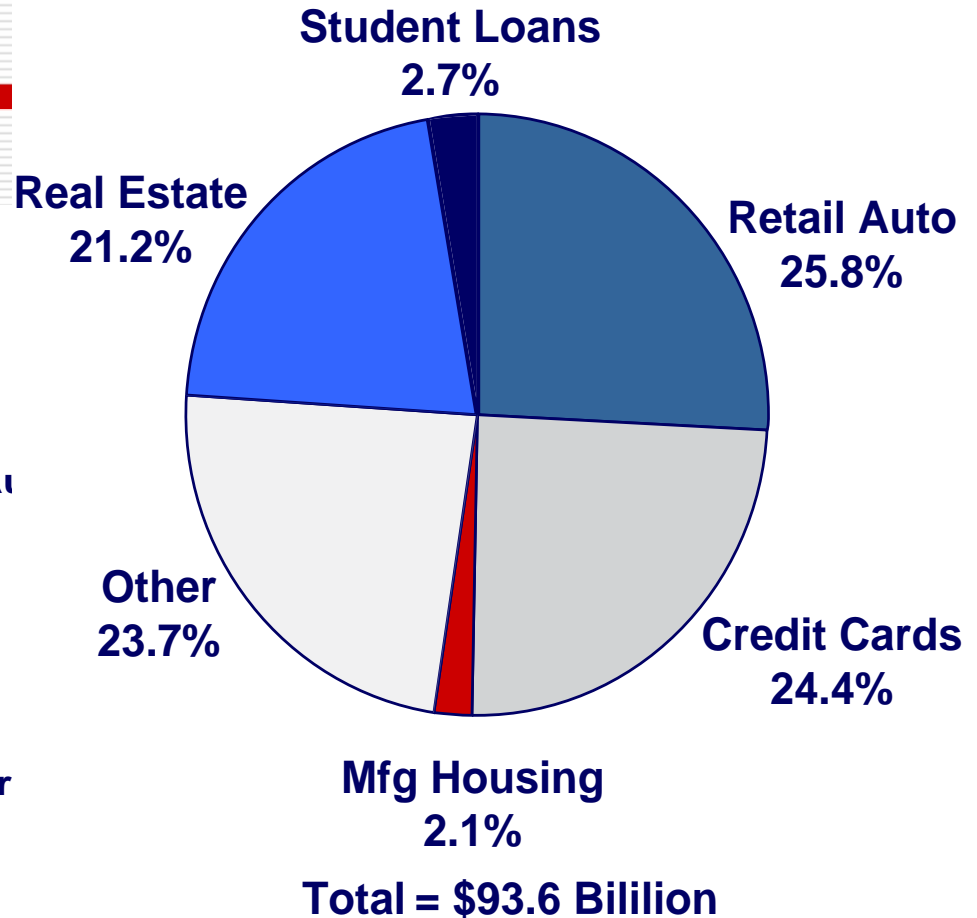
	Pass-Throughs	Treasuries	Corporates	Stripped Treasuries
Credit risk	Generally high grade; range from government guaranteed to A (private pass-throughs).	Government guaranteed.	High grade to speculative.	Backed by government securities.
Liquidity	Good for agency issued/guaranteed pass-through.	Excellent.	Generally limited.	Fair.
Range of coupons (discount to premium)	Full range.	Full range.	Full range for a few issuers.	Zero coupons (discount securities).
Range of maturities	Medium and long term (fast-paying and seasoned pools can provide shorter maturities than stated).	Full range.	Full range.	Full range.
Call protection	Complex prepayment pattern; investor can limit through selection variables, such as coupon seasoning, and program.	Noncallable (except certain 30-year bonds).	Generally callable after initial limited period of 5 to 10 years.	Noncallable.
Frequency of payment	Monthly payments of principal and interest.	Semiannual interest payment.	Semiannual interest (except Eurobonds, which pay interest annually).	No payments until maturity.
Average life	Lower than for bonds of comparable maturity; can only be estimated due to prepayment risk.	Estimate only for small number of callable issues; otherwise, known with certainty.	Minimum average life known, otherwise a function of call risk.	Known with certainty.
Duration/interest rate risk	Function of prepayment risk; can only be estimated; can be negative when prepayment risk is high.	Unless callable, a simple function of yield, coupon, and maturity; is known with certainty.	Function of call risk; can be negative when call risk is high.	Known with certainty; no interest rate risk if held to maturity.
Basis for yield quotes	Cash flow yield based on monthly prepayments and constant CPR assumption (usually most recent three-month historical prepayment experience).	Based on semiannual coupon payments and 365-day year.	Based on semi-annual coupon payments and 360-day year of twelve 30-day months.	Bond equivalent yield based on either 360- or 365-day year depending on sponsor.
Settlement	Once a month.	Any business day.	Any business day.	Any business day.

U.S. Market for asset-backed securities

**Total Issuance for 2000
Through December 31, 2000**



**Year-to-date Issuance for 2001
Through March 31, 2001**



Characteristics of First Security Auto

	Class A		Class B		
Transaction Structure	A-1	A-2	A-3	A-4	B
Face amount	\$170,000,000	\$300,800,000	\$240,000,000	\$252,000,000	\$45,347,000
Percent of initial pool balance	16.8%	29.9%	23.8%	25.0%	4.5%
Ratings	A-1+/P-1	AAA	AAA	AAA	A
Credit enhancement	Reserve Acct: 4.5%	Reserve Acct: 4.5%	Reserve Acct: 4.5%	Reserve Acct: 4.5%	Reserve Acct: 4.5%
	Class B: 4.5%	Class B: 4.5%	Class B: 4.5%	Class B: 4.5%	
Spread	-4 bps	+20 bps	+72 bps	+78 bps	+115 bps
Expected final maturity	March 2000	April 2002	June 2003	June 2004	March 2005
Legal final					
Average life (@ 1.5 ABS) to 10% clean-up call	.225 yrs.	.997 yrs.	2.02 yrs.	3.21 yrs.	2.01 yrs.
ERISA eligible	Yes	Yes	Yes	Yes	Yes
Collateral Information					
Aggregate principal balance		\$1,008,147,000			
Number of receivables		73,355			
Average principal balance		\$13,743.40			
Weighted average original term		64.20 months			
Weighted average remaining term		57.84 months			
Weighted average contract rate		9.931%			
New		36.40%			
Used		63.60%			
Geographic concentrations		26.57% WA 20.71% ID 19.99% UT		10.20% OR 8.74% NV	

Characteristic of municipal securities

- ❑ Municipals are exempt from federal income taxes (generally exempt from state or local as well.)
- ❑ General obligation
...principal and interest payments are backed by the full faith, credit, and taxing authority of the issuer.
- ❑ Revenue Bonds
...backed by revenues generated from the project the bond proceeds are used to finance.
- ❑ Industrial Development Bonds
...expenditures of private corporations.

Summary of terms for a municipal school bond

Sequoia Union High School District
\$30,000,000

General Obligation Bonds Election of 2001

Dated: May 1, 2002

Due: July 1, 2003 through July 1, 2031

Callable: July 1, 2011 at 102.0% of par,
declining to par as of July 1, 2013

Winning Bid: Salomon Smith Barney, at
100.0000,

True interest cost (TIC) of 5.0189%

Other Managers: Bear, Stearns & Co., Inc., CIBC
World Markets Corp.,

Due Date	Amount	Coupon	Yield
7/1/2003	\$225,000	7.00%	2.00%
7/1/2004	\$520,000	7.00%	2.50%
7/1/2005	\$545,000	7.00%	3.00%
7/1/2006	\$575,000	7.00%	3.25%
7/1/2007	\$605,000	7.00%	3.50%
7/1/2008	\$635,000	7.00%	3.70%
7/1/2009	\$665,000	7.00%	3.80%
7/1/2010	\$700,000	4.00%	3.90%
7/1/2011	\$735,000	4.00%	4.00%
7/1/2012	\$765,000	4.13%	4.13%
7/1/2013	\$800,000	4.25%	4.25%
7/1/2014	\$835,000	4.38%	4.38%
7/1/2015	\$870,000	4.50%	4.50%
7/1/2016	\$910,000	4.60%	4.60%
7/1/2017	\$950,000	4.70%	4.70%
7/1/2018	\$995,000	4.80%	4.80%
7/1/2019	\$1,045,000	4.90%	4.90%
7/1/2020	\$1,095,000	5.00%	5.00%
7/1/2021	\$1,150,000	5.00%	5.00%
7/1/2022	\$1,210,000	5.00%	5.00%
7/1/2023	\$1,270,000	5.00%	5.00%
7/1/2024	\$1,335,000	5.00%	5.00%
7/1/2025	\$1,405,000	5.00%	5.20%
7/1/2026	\$1,480,000	5.00%	5.21%
7/1/1931	\$8,650,000	5.13%	5.21%



Short-term and long-term municipals

□ Short-Term Municipals

- Municipal notes provide operating funds for government units.
- Banks buy large amounts of short-term municipals.
- They often work closely with municipalities in placing these securities
- Banks have a need for short term investments.

□ Long-Term Municipals

- Long-Term municipal securities include general obligation bonds and revenue bonds.

Credit risk in the municipal portfolio

- Until the 1970s, few municipal securities went into default.
 - Deteriorating conditions in many large cities ultimately resulted in defaults by:
 - New York City (1975), Cleveland (1978), Washington Public Power & Supply System (WHOOOPS) (1983).
 - Liquidity Risk:
 - Substantially lower liquidity than Treasuries.
 - The secondary market for municipals is fundamentally an over-the-counter market.
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Liquidity risk in municipal securities

- Municipals exhibit substantially lower liquidity than Treasury or agency securities.
- The secondary market for municipals is fundamentally an over-the-counter market.
 - Small, nonrated issues trade infrequently and at relatively large bid-ask dealer spreads. Large issues of nationally known municipalities, state agencies, and states trade more actively at smaller spreads.
 - Name recognition is critical, as investors are more comfortable when they can identify the issuer with a specific location.
 - Insurance also helps by improving the rating and by association with a known property and casualty insurer.

Municipals are less volatile in price than Treasury securities.

- This is generally attributed to the peculiar tax features of municipals.
 - The municipal market is segmented.
 - On the supply side, municipalities cannot shift between short- and long-term securities to take advantage of yield differences because of constitutional restrictions on balanced operating budgets.

Investment policy guidelines

- ❑ Each bank's asset and liability or risk management committee (ALCO) is responsible for establishing investment policy guidelines.
- ❑ These guidelines define the parameters within which investment decisions help meet overall return and risk objectives.
- ❑ Because securities are impersonal loans that are easily bought and sold, they can be used at the margin to help achieve a bank's liquidity, credit risk, and earnings sensitivity or duration gap targets.
- ❑ Investment guidelines identify specific goals and constraints regarding

General portfolio considerations

- ❑ Investment policies must be flexible because no bank can exactly forecast its operating environment.
- ❑ Interest rates rise and fall, the yield curve changes shape, loan demand fluctuates, and the risk features of securities change when issuers' economic circumstances improve or deteriorate.
- ❑ A bank should establish guidelines that specify what and when portfolio adjustments are appropriate.



**Thank You Very Much for
Your Kind Attention!**



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