**CHAPTER 8**

**BOND MARKETS**

**CHAPTER OVERVIEW AND LEARNING OBJECTIVES**

⮚ This is the second of six chapters related to the study of financial markets. They are: (1) Money Markets; (2) Bond Markets; (3) Mortgage Markets; (4) Equity Markets (5) Derivatives Markets; and (6) International Markets.

⮚ In part four and five of this text we will study specific financial institutions and their involvement (investing and/or financing) in various markets.

⮚ The bond capital market finances "real investment," including commercial and consumer real estate construction, business plant and equipment, Federal Government deficit spending, and bridges, turnpikes, etc. of state and local governments.

⮚ Long-term securities are purchased by capital market investors who desire income over the long term – pension funds, mutual funds, life and casualty insurance companies, and individuals.

**READING THE WALL STREET JOURNAL**

The ***Credit Markets*** column, located in the **Money & Investing section (C)**, provides a daily analysis of major happenings in the U.S. credit markets. Included are discussions about new bond issues, changing rates, issues facing bond investors, etc. Want to understand what drives funds into and out of bond markets? Read this column daily and learn!

**CAREER PLANNING NOTE:**

Bonds are investment banks’ savior during the times when stock markets do not do well. It’s not only companies that use bonds to raise money – governments and government institutions do, too. Bonds come in different shapes and sizes, ranging from investment grade, issued by blue-chip companies, to high yield, which carry a greater risk. It is helpful to be quantitative, innovative, ambitious, and quick on your feet if you are looking for a career in fixed income securities.

**ASK THE RIGHT QUESTIONS IN THE INTERVIEW**

In any market, buyers and sellers need adequate information to make good decisions. This is especially true in the entry-level job market where information about buyers (firms) and sellers (you) is sketchy and "right answers" are often used rather than "the" answer. It is usually the experienced interviewer (buyer) who is trying to probe through the "small talk" facade to see what you are all about. You too have a stake in this and a need for information. Below are a few questions that may extract the information you need to know if the next "five years of life" are going to be productive and fulfilling. Most of the questions will require follow-up questions if the information desired is not presented with sufficient depth. Many of the questions will be asked again in a second or later interview. Remember, you are seeking an environment to learn at a pace twice that of college, with "teachers" that will let you take responsibility. Five years' work experience should be five years of continued education, not one year repeated five times!

**Interviewee Questions**

1. What are the goals and strategic plan of the organization?

2. Who (background, etc.) are the people with whom I will be working? May I interview them?

3. When and why do you have to fill this position? Where is the person who last had the job?

4. Why are you not promoting internally? Or are there internal candidates for this job?

5. May I have a copy of the job description? What may be one of my first assignments?

6. Why do you think this job might be the right spot for me?

7. Do you have a performance appraisal system? How is it structured? How often will I be evaluated?

8. What is the potential for promotion? Where are other people (jobs, duties) who have worked this position?

9. What type of training will I receive? Do you encourage continued formal education (MBA or professional training)?

10. What is the estimated value of the fringe benefit program? May I have a copy of the fringe benefit program manual to review?

**TOPIC OUTLINE AND KEY TERMS**

**I. Purposes and Functions of the Capital Markets - Finance Real Assets**

***A. Issuers of Capital Market Claims - Primary Borrowers***

1. Deficit spending units issue claims on future production of assets financed.

a. Businesses

b. Governments - federal, state, and local

c. Individuals - finance homes

2. Capital market claims include:

a. corporate stock - studied in Chapter10.

b. bonds - studied here in this chapter.

c. mortgages - studied in Chapter 9.

***B. Purchasers of Capital Market Claims***

1. Directly - surplus units (households). See **Exhibit 8.1**.

2. Indirectly - through capital market financial intermediaries.

3. Households and non-profits had a budget surplus of about $26.6 trillion while Federal and state governments total a deficit of about $5.4 trillion in 2005.

***C. Size of the capital market securities outstanding*** - See **Exhibit 8.2**.

1. Fastest growing debt is U.S. Agency securities.

2. Including equity markets, total capital market outstanding in the end of 2005 was approximately $50 trillion.

3. Capital market debt outstanding in 2005 is $31.7 trillion, of which the federal and state governments’ share is $11.2 trillion at an average annual growth rate of 10.8%.

**II. U.S. Government and Agency Securities**

***A. U.S. Government Issues - Notes and Bonds***

1. Coupon issues

2. Notes - one to ten-year maturity

3. Bonds - over ten-year maturity

4. Inflation-Indexed Notes and Bonds (TIPS) – see example on p. 206.

a. Principal adjusts for inflation every six months

b. Fixed coupon rate determined by auction process

c. Minimum denomination is $1,000.

d. Investing in TIPS reduces price risk to investors.

5. Separate Trading of Registered Interest and Principal (STRIPs)

a. Securitized U.S. Treasury note or bond

b. Interest and principal zero coupon securities sold based on interest and principal cash flows of underlying bond.

c. Market values total value of STRIPs created more than underlying bonds.

d. Since STRIPs are zero coupon securities, investors not only get rid of default risk (by investing in U.S. Treasuries) but also of reinvestment risk. Zeros are popular among institutions and individuals who have a specific holding period in mind and do not need current income in the form of coupon payments.

6. Sold by auction by the Treasury Department.

7. Recently, trend to money market financing and less note and bond financing – the 30- year T-bond was not issued between October 2001 and February 2006.

***B.*** ***Agency Securities***

1. Agencies owned and sponsored by the federally government issue long-term bonds at yields higher than those of T-bonds. See Exhibit 7.7 for list of Federal Agencies and Federally Sponsored Agencies. Also, *Federal Reserve Bulletin*, "Financial and Business Statistics," Table A30.

**III. State and Local Government Bonds - Municipal Bonds**

***A. Types of Municipal Bonds***

1. General obligation (GO) - backed by taxing power of political entity.

2. Revenue - financed and paid back with cash flows from a specific project.

3. Industrial revenue bonds (IRB) - public financing of private business.

a. Encourages industrial development in local areas – attracts business.

b. Financing now limited by Congress.

***B. The Relation between Municipal and Taxable Yields***

1. Interest on municipal bonds is exempt from ***federal*** income tax.

2. Muni bonds and taxable corporates are similar except for the taxation of interest.

3. The yield on municipals, im, shown in eq. 8.1. im = it (1-t).

***C. Investor Demand***

Three groups of investors in municipal bonds whose demands are affected by their federal tax exposure are (see Exhibit 8.6):

1. Commercial banks

a. the Tax Reform Act of 1986 ended the tax deductibility of interest expense incurred on borrowing for the purchase of tax-exempt securities.

b. While demand from banks has declined recently, they still have strong incentives to buy in-state tax exempt bonds due to state pledging or collateral requirements for public deposits.

c. Banks emphasize tax-exempts of high credit quality and short maturities for liquidity, while maturities up to 10 years are used for investment.

2. Households

a. affected by income level and marginal tax rates

b. largest holders of munis

3. Casualty insurance companies

a. investment determined by industry profitability

b. demand for munis has declined over time and is around 14% in 2005.

c. demand varies from quarter to quarter as profitability varies with claims made on policies and affects companies’ need for tax-exempt income.

***D. The Market for Municipal Bonds***

1. Primary market

a. Many smaller issuers underwritten by small regional underwriters.

b. Issues of states, well-known state agencies, and large cities underwritten by investment bank syndicates of major national underwriters.

c. Most general obligation (GO) bonds are sold by competitive bid.

2. Secondary market

a. not well developed and primarily OTC market made by dealers

b. thin secondary markets lead to larger bid-ask spreads.

c. limited marketability leads to higher yields

**IV. Corporate Bonds**

Debt contracts (indenture) requiring borrower to make periodic payments of interest and repay principal, usually $1,000, at maturity date.

***A. Classification of Bonds***

1. Types of ownership record.

a. Bearer bonds - coupon bond owned by bearer.

b. Registered bonds - owner noted by records.

2. Maturity.

a. Term bonds - all bonds mature at future date.

b. Serial bonds - bonds mature at varying future dates.

3. Collateral.

a. Mortgage bond - real assets pledged.

b. Equipment trust certificates - specific, titled, or identifiable equipment.

c. Collateral bonds - secured by financial assets.

d. Debentures - unsecured bonds.

4. Claim on assets.

a. Senior debt - first priority to general assets.

b. Subordinated - asset claim ranking of unsecured debentures below senior or specific creditors.

5. Means of principal payment.

a. Sinking fund - building a sum for retirement or the periodic retirement of a number of bonds selected randomly.

b. Call option - borrower right to retire bond before maturity.

6. Other features:

a. Convertibility – allows holder to convert into shares of firm’s common stock if stock price exceeds a certain level. Since it is advantageous to investor, convertible bonds have lower yields than similar non-convertibles; may also have a call option.

***B. Investors in Corporate Bonds***

1. Major investors include:

a. life insurance companies.

b. pension funds.

c. households.

2. Investor requirements:

a. long-term horizon.

b. liquidity not always needed - held to maturity.

c. safety - investment grade.

d. tax considerations.

***C. The Market for Corporate Bonds***

1. Public sale - open to all interested buyers.

a. Competitive sale - public auction among underwriters.

b. Negotiated sale - contract signed with specific underwriters.

2. Private placement - sold to limited number (< 35) of sophisticated buyers, avoiding SEC registration.

a. private placements have increased relative to public sale.

b. when interest rates are high and/or when capital market conditions are unstable, private placements increase.

c. SEC Rule 144a (1990) liberalized the regulation of the private placements.

3. Most secondary trading of corporate bonds occurs through dealers vs. exchanges.

a. the volume of trading for many issues is low – a thin market, thus a wide bid/ask spread.

b. corporate bonds are less marketable than money market instruments.

***D. Junk bonds***

1. Junk bonds are low rated (high default risk) corporate bonds.

2. Development of the junk bond primary market was enhanced by the secondary market maintained by Drexel, Burnham and Lambert (now insolvent).

3. Higher risk firms found that they could issue longer term, more flexible securities in the high-yield market.

4. Many financial institutions, such as S&L's and life insurance companies, with high cost sources of funds, became major junk bond investors.

5. Junk bonds fueled the merger mania of the 1980s.

**V. Financial Guarantees**

***A.*** ***Definition*** - Financial guarantees cover the payment of principal and interest of low rated security issuers to investors in debt securities in the event of default.

1. Made by highly rated commercial banks and life insurance companies for a fee.

2. Insurance firms write policies to back bond issues, while banks write ***letters of credit*** to back commercial paper issues or swap transactions.

3. The quality of a financial guarantee depends on the reputation and financial strength of the guarantor.

***B.*** ***Advantages***

1.Lowers cost to borrowers. For an issuing firm, the fees to secure a guarantee are lower than the higher interest costs without the guarantee.

2. Guarantee lowers the default risk of the issue and increases marketability leading to a lower yield to investors.

***C.*** ***History***

1. Municipal bond insurance, developed in the 1970's, was one of the first financial guarantee services.

**VI. Securitized Credit Instruments**

***A.*** ***Definition*** - Packaging loans and selling the claims to the future cash flows of the loans is called securitization.

1. The originator designs securities (claims) desired by investors. The returns are derived from the cash flows of the loans packaged in a trust arrangement.

2. The sum of the value of the new securities exceeds the value of the loan cash flows, providing incentives to unbundle the loan cash flows.

3. A variety of asset-backed securities have been created, beginning in the mortgage market and now extending to other types of loans. Mortgage-backed securities (MBS) are issued by both federal agencies as well as by private investor groups (see Chapter 9).

4. Very often, privately originated pools of asset-backed securities have been made more attractive to investors by a variety of “***credit enhancements***”, which lower costs to issuers and default risk to investors.

***B.*** ***Tranches -*** The variety of claims, called in some cases tranches vary from low to very high risk.

1. Financial guarantees enhance the value of the low risk end tranches.

2. The residual or non-guaranteed tranches have a higher risk/return profile.

**VIII. Financial Markets Regulators**

***A.*** The **Securities and Exchange Commission (SEC)** is the principle regulator of financial markets.

1. SEC established in Federal Securities Act of 1933.

2. Scope ranges from disclosure requirements to proper operation of capital markets.

3. Public firms file regular reports with the SEC.

***B.*** Information filing is costly and time consuming; some firms prefer private placements or borrowing from a few sophisticated investors.

1. Registration and prospectus are not required, as in a "general public" security offering.

***C.*** All states have security laws related to issuing and trading securities.

***D.*** The securities industry has had a good record of self-regulation, with the SEC watching to step in when the public's interest is not served.

1. The **National Association of Security Dealers (NASD)** is one of the most prominent private regulatory bodies.

2. They assist in maintaining the trust of the general public, which is the major source of funds for the capital markets.

**IX. Global Bond Markets**

***A. Foreign Bonds –*** bonds issued in a financial market of a nation by a foreign company in that country.

1. When a foreign company like Nestle (Swiss) issues a bond in the U. S. corporate bond market, it is considered to be a foreign bond and is referred to as “**Yankee bonds**”. Similarly, foreign firms issuing corporate bonds in the Japanese market will have their bonds referred to as “**Samurai bonds**”.

2. Foreign bonds must confirm to the regulations imposed in the country of issue, denominated in the currency of that country, are brought to the market by investment bankers of that country, and sold only to investors of that country.

***B. Eurobonds*** – bonds issued by an entity in one or more countries denominated in a currency other than the currency of the country where the bonds are issued.

1. IBM can issue a dollar-denominated bond outside of the U.S. and it is referred to as a Eurobond. When Sony issues a yen-denominated bond outside of Japan, or a Euro-denominated bond outside of the Euro currency region, the debt issues will be considered as Eurobonds.

2. Eurobonds are brought to the market by a multinational syndicate of investment banks. Eurobonds are often bearer bonds and do not have to be registered.

3. Interest or coupon payments are annual. Some Eurobonds are convertible, while call provisions are common even in short-maturity Eurobonds.

Floating rate Eurobonds are referred to as ***Floating Rate Notes (FRNs)***, with the rates based on LIBOR.

***C. Credit Ratings***

1. International credit ratings have become a more significant influence than domestic ratings on the interest rates of debt. This is because international credit ratings also take country or political risk into consideration.

**COMPLETION QUESTIONS**

1. Securities are first issued in the \_\_\_\_\_\_\_\_ market; subsequent trading is in the \_\_\_\_\_\_\_\_ market.

2. While the money market is a \_\_\_\_\_\_\_\_ market, the capital market finances \_\_\_\_\_\_\_\_ investments.

3. Households may own capital market securities \_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_ by owning claims on financial institutions that in turn purchase the capital market securities.

4. The largest amount outstanding of any one capital market security is \_\_\_\_\_\_\_\_ followed by \_\_\_\_\_\_\_\_.

5. When the tax exposure increases, three major investor groups purchase tax-exempt securities:

(1) ; (2) ; and, (3) .

6. (Increased/Decreased) marginal tax rates, (increased/ decreased) investor profitability, and (increased/decreased) pre-tax yields on tax-exempt securities will ***increase*** investor demand.

7. The capital market securities, which are issued by corporations, are different from one another. List the types of capital market securities issued by corporations and the major differences in the securities.

**Securities Issued**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Major Differences in Securities**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. The major difference between AA corporate and AA municipal bonds is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

9. Firms may issue bonds by , or by .

10. \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ are municipal offerings, which finance private capital projects.

**TRUE-FALSE QUESTIONS**

T F 1. Capital market securities can be either debt or equity; all money market instruments are debt securities.

T F 2. The bond contract is called a debenture.

T F 3. Households are generally surplus sectors; business and governments are usually deficit sectors.

T F 4. The money market is a dealer only market whereas the capital market trading is dominated by exchanges.

T F 5. The money market provides liquidity; the capital market finances economic growth.

T F 6. Higher credit risk firms use the private placement bond market more out of necessity than choice.

T F 7. The higher the marginal tax rate of individuals, the greater the after-tax return on tax-exempt securities relative to taxable securities.

T F 8. Revenue bonds are generally considered more risky than general obligation bonds.

T F 9. Households are the largest institutional investor in municipal bonds.

T F 10. The Securities and Exchange Commission is the largest state regulator of securities markets.

T F 11. A state turnpike authority is more likely to issue revenue bonds than general obligation bonds.

T F 12. U.S. Treasury TIPS protect investors primarily from default risk.

T F 13. A serial bond issue matures over a period of years.

T F 14. Commercial banks purchase more tax-exempt securities when loan losses increase.

T F 15. The after-tax return on a 9 percent municipal bond to a commercial bank in the 34 percent tax bracket is 5.94 percent.

**MULTIPLE-CHOICE QUESTIONS**

1. Most general obligation bonds are sold through

a. direct placement.

b. negotiated bids.

c. competitive bids.

d. all of the above.

2. Select the answer that best depicts increasing required rates of return by investors.

a. common stock, corporate bonds, treasury bonds, agency debt

b. Treasury bonds, agency bonds, common stock, preferred stock

c. Treasury bonds, agency bonds, corporate bonds, common stock

d. agency bonds, corporate bonds, treasury bonds, preferred stock

3. An investor in the 28 percent marginal tax bracket would likely make which choice between the following bonds:

7 percent, ten-year corporate rated AA

6 percent, ten-year municipal rated AA

a. Choose the corporate bond.

b. Select the highest pretax yield.

c. Choose the municipal bond.

d. The investor should be indifferent between the two bonds.

4. Which of the following corporate bonds represents a general creditor claim on the firm’s assets?

a. mortgage bonds

b. debentures

c. indentures

d. collateralized bonds

5. Which of the following securities would be in default if periodic payments were not made?

a. debentures

b. preferred stock

c. common stock

d. convertible preferred stock

6. A capital market financing is ***most likely*** to finance

a. new plant and equipment.

b. seasonal inventory needs.

c. a quarterly dividend payment.

d. the sale of common stock.

7. The household sector is the largest surplus sector and invests in the capital market

a. directly by purchasing stocks and bonds.

b. directly by issuing assets payable in the capital market.

c. indirectly through pension fund reserves, etc.

d. by both a and c above.

8. Life insurance companies and pension funds buy corporate bonds for what two major reasons?

a. tax sheltering and high yield

b. liquidity and high after-tax returns

c. liability maturity matching and high after-tax returns

d. low risk and liquidity

9. An investor in the 30 percent federal tax bracket would probably select what investment (all with similar default risk, maturity, and marketability)?

a. 7% municipal bond

b. 9.5% corporate bond

c. 10.25% mortgage

d. 8.5% negotiable certificate of deposit

10. The demand for tax-exempt securities by commercial banks would increase if

a. taxable income were increased.

b. corporate marginal tax rates were decreased.

c. interest on debt financing the tax-exempts were not deductible.

d. public deposits in banks decreased.

11. The demand for junk bonds came primarily from

a. life insurance companies

b. savings & loans association

c. pension funds

d. all of the above

12. The quality of a financial guarantee depends on the reputation and financial strength of the

a. the guarantor

b. the investor

c. the borrower

d. none of the above

13. ***Industrial development bonds (*IDBs)** are debt securities issued by:

a. the federal government

b. non profit organizations

c. state and local government agencies

d. non financial businesses.

14. The largest investor in municipal bonds is:

a. commercial banks

b. property and casualty insurance companies

c. life insurance companies

d. households

15. Securitization of loan portfolios, such as credit card loans and mortgage loans, will occur if

a. market participants will pay more for the loan portfolio than the issued asset-backed securities.

b. a financial guarantee is obtained from a commercial bank.

c. market participants will pay more for the issued asset-backed securities than the loan portfolio.

d. the borrowers permit their loans to be securitized.

**SUPPLEMENTARY ASSIGNMENTS**

A. Update Exhibit 8-2 in the textbook using the library references cited in the exhibit. What significant changes have taken place in the last few years? The Federal Reserve Bulletin and the *Flow of Funds Accounts of the United States* (outstanding) will have the information.

B. Flow of Funds Accounts. Study the transaction accounts of the capital market securities for the last five years. Note the years of the greatest change in the levels outstanding (flows). What economic events of that period are related to, and possibly explain the major changes (flows)?

Transaction Accounts to Study

Tax-Exempt Securities and Loans

Corporate and Foreign Bonds

Corporate Equities

**SOLUTIONS TO COMPLETION QUESTIONS**

1. primary; secondary

2. short-term; long-term

3. directly; indirectly

4. stock; mortgages

5. households, casualty insurance companies and commercial banks

6. increased, increased, increased

7. Securities issued: bonds; preferred and common stock; convertibles

Major differences in the securities:

(1) maturity

(2) claim on income

(3) claim on assets in liquidation

(4) voice in management (control)

(5) cost of capital (required rate of return)

8. the federal taxation of the interest income

9. public offering; private placement; shelf registration

10. Industrial development bonds

**SOLUTIONS TO TRUE-FALSE QUESTIONS**

1. T Equities do not mature. Hence, the need for secondary markets.

2. F The contract is the indenture.

3. T See Exhibit 8-1 and **Flow of Funds Accounts**.

4. T Dealer trading dominates in the money market.

5. T This statement aptly notes the major difference between the money and capital markets.

6. T Private placement of bonds may be the only choice in troubled economic periods.

7. T Higher marginal rates lower the after-tax return on taxables, making tax-exempt securities more attractive.

8. T In general, yes. Revenue bonds relate to specific projects.

9. T See Exhibit 8-6.

10. F The SEC is the major federal regulator of securities financing and financial markets.

11. T This is funding for a project expected to generate revenues that will be used to repay investors in the revenue bond.

12. F The primary purpose of TIPS is to protect investors against inflation.

13. T The issue is structured to mature a portion of the issue each year over a period of years.

14. F Loan looses imply lower income levels and hence, less of a need for a shelter against taxes.

15. F For a tax-exempt muni, the before-tax return is equal to the after-tax return, i.e., 9%.

**SOLUTIONS TO MULTIPLE-CHOICE QUESTIONS**

1. c General obligation bonds are sold through competitive bids.

2. c Increased risk, increased returns required.

3. c The investor would first adjust the two yields to an after-tax basis and make a selection.

Taxable Corporate of 7% (1-.28) = 5.04% after tax.

Select the 6% tax-free municipal.

4. b Debentures are unsecured.

5. a Debentures are contractual debt requiring specific payment of interest and principal.

6. a Long-term, real capital goods.

7. d The process of converting savings to investment may occur directly or indirectly.

8. c Based on their long-term liabilities, they can invest in long-term securities. Because pension funds pay no federal income tax and life companies have low federal tax exposure, they both seek taxable securities.

9. c The mortgage provides a 10.25 percent pretax return. The municipal, on a pretax equivalent basis yields 7/(1 - .3) or 10 percent. Compare all on a pre- or after-tax basis.

10. a Higher levels of taxable income would provide an incentive to substitute tax-exempt income for taxable income.

11. d. All of the financial institutions mentioned invested in junk bonds because investors believed that they outperformed higher rated bonds.

12. a. The guarantor’s creditworthiness is the most important factor.

13. c. State and local governments issue IDBs to stimulate economic growth.

14. d. Households are the largest investor group – see Exhibit 8.6.

15. c. If financial market participants will pay more for the issued asset-backed securities than the loan portfolio, it makes sense for the asset holder to issue asset-backed securities.