

This review sheet is intended to cover everything that could be on the exam; however, it is possible that I will have accidentally left something off. You are still responsible for everything in the chapters covered except anything that I explicitly say you are not responsible for. Therefore, if I left something off of this sheet, it can still be on the exam. There will be no multiple-choice questions. Most of the questions will be like the ones in the homework assignments. However, given the large number of types of securities, financial institutions, and terms, I will probably have a question like: (4 points each) Define five of the following terms.

The review session will probably be on Monday 4/1.

Chapter 7: Know what **mortgages** are and how the **primary mortgage market** works. Understand how the following relate to mortgages: **lien, down payment, private mortgage insurance (PMI), conventional mortgage, amortized, balloon payment, fixed rate, and adjustable rate (ARM)**. Be able to calculate if it is worthwhile to pay **discount points** to get a lower fixed rate. *Basically, you use the present value calculations in the calculator to find the payments for both interest rates. Then you find the present value of the difference of the payments. Compare that with the points times the amount of loan.* When taking a mortgage, you may also have to pay the following fees: **application fee, title search fee, title insurance, appraisal fee, loan origination fee, closing agent fee, and VA or FHA loan guarantees**. Note that it is a good idea to get title insurance and your own lawyer for the closing agent, but it is a good idea to get a lender who will not have the other fees if possible. Why does the **amortization schedule** show your principal dropping slowly to begin with and faster later? What are the following types of mortgages and why are they generally more expensive than other mortgages? **Jumbo mortgage, subprime mortgage, Alt-A mortgage, minimum payment option ARM, and interest-only ARM**. What are the advantages and disadvantages for both the borrower and the lender of a **second mortgage, home equity loan, and reverse-annuity mortgage**? What is meant by a **mortgage sale with recourse and without recourse**? How does the recourse affect the selling price? What are **Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC)**? How do they work? Which one is different? How did they relate to the financial meltdown? What are **pass-through mortgage securities** and how do they compare to **collateralized mortgage obligation (CMO)** and **mortgage backed bonds**?

Chapter 8: What are **common stocks**? How do you calculate the **return on a stock**? *Basically, it is the percent change in the value of the stock plus dividends written as a percentage of the purchase price. Note that the formula explicitly assumes one year holding.* How do the following relate to the stock? **residual claim, limited liability, and voting rights**? The voting can be **cumulative** voting or not and much of the voting is done by **proxy**. **Dual class** firms have more than one type of stock. Often one is common and the other is **preferred**, but it could be two common stocks. One of the groups will have more voting rights, while the other gets higher priority for dividends. In the case of preferred stock, they have a fixed dividend and are **non-participating and cumulative**; however, they can be **participating** and/or **non-cumulative**. Know how the following relate to the **primary stock market**: **gross proceeds, net proceeds, underwriter's spread, syndicate, originating houses, IPO, seasoned offering, and preemptive rights**. Know how the following relate to the **registration** of a new stock issue at the **SEC**: **red herring prospectus, official prospectus, and shelf registration**. How do the **secondary stock markets** like the **NASDAQ** and **NYSE** work in general. Therefore, you do not need to know about the diagram on Page 259. What are, and how do you use **market order, limit orders, short sales and stop orders**? (The latter two are described in the homework assignment.) Why is the SEC considering banning **naked access** and **flash trading**? **Penny stocks** are cheap stocks (under \$5/share) trading on the **OTC**. They tend to be more risky because they are small companies and are not part of an exchange. There are two types of **stock market indices**. The first is the **price weighted** and the other is the

**volume weighted.** Know the types of stocks in the following indices: **DJIA, NASDAQ Composite, NYSE Composite, S&P 500, and Wilshire 5000.** Understand the **weak form of market efficiency, the semi-strong form, and the strong form.** What are their implications?

Chapter 9: What are **foreign exchange (FX) market** and **foreign exchange risk**? Note that the book always writes the **spot ( $S_{US/X}$ )** and **forward ( $F_{US/X}$ )** as  $\$/?$  Where X is the foreign currency. That is the price of the currency X. **Appreciation** and **revaluation** are the same except the former relates to a **variable exchange rate** and the latter relates to changing a **fixed or pegged exchange rate.**

**Depreciation** and **devaluation** have a similar relationship. *When determining which currency is appreciating, if the value of S or F is increasing, then X is appreciating or becoming more expensive.* What are the advantages and disadvantages of **dollarization**? (Why is it called dollarization when another country uses the Swiss franc as their country?) Explain the differences between the spot and forward markets. Understand how to reduce foreign exchange risk by using the forward market to **hedge.** Understand how in cases like Example 9-3, hedging does not eliminate exchange rate risk, but instead affects the size of the profits. *In other words, the exchange rate risk cannot change profits to losses or vice versa, but can change the size of the profits when measured in terms of US\$.* Be able to calculate the **net foreign exchange exposure** of a financial institution to a particular currency by taking FX assets – FX liabilities + FX bought – FX sold. That is also called **net position.** The net position can be **long** or **short.** *The word short is used the same way as what I added in Chapter 8 and when you say, “I am short cash.” In other words, you owe more than you have.* The most important part of this chapter is **purchasing power parity (PPP)** and **interest rate parity (IRP).** The **law of one price** is the strict version of PPP. The concept is easy to understand and it has many problems. However, the **weak version of PPP** is generally accepted. It says  $IP_{US} - IP_X = \Delta S_{US/X}/S_{US/X}$ . *It is intuitive because the first term is how much the purchasing value the US\$ is losing as a percent due to inflation, while the second term is how much purchasing power the other currency is losing. If the dollar is losing more value due to inflation, then it should depreciate, i.e., the other currency should gain value.* For the equation for interest rate parity, it is  $1 + i_{ust} = (1/S_f)(1+i_x)(F)$ . Basically, it is saying that the money \$1 in the US becomes in 1 year = how much of currency X you get for the \$1. Then that money earns foreign interest and is converted back to US\$. *The reason that  $S_f$  is in the denominator is that if you take the number of dollars to purchase something and divide by the price of that item, you get the amount you can buy. Another way to see that is  $\$1(X/\$)$  gives you X. This is the same reason why  $F_f$  is in the numerator. We have foreign currency and need \$. Thus, it is  $X(\$ / X) = \$$ .*

Chapter 10: What are the following: **derivative security, derivative security markets, and Chicago Board of Trade (CBT)**? Know the difference between **spot contract, forward contract, and futures contract.** Basically, the first two are like in the previous chapter. The futures contract is similar to a forward contract except that it is standardized, which makes it easier to trade. There are two types of auctions for these **outcry** and **electronic.** The table on **Page 317** lists a long list of terms relating to a Treasury futures. Most of those terms are easy to understand. Note the **price** is written strangely. A number like 113 015 means \$113 & 1.5/32 per \$100 of face value. If the last number of the last trio is 2, then it is .25/32 and if it is 7, then it is .75/32. Note that the **tick size** is the minimum increase in the bid. The terms on **Page 318** are fairly easy to figure out except you need to remember that **scalpers** hold the securities for shorter time frames than **day traders.** **Open interest** is the volume of the futures or **options** which have been created. **Margins** are the percentage paid. The **initial margin** is what is paid up front while the **maintenance margin** is when the percent paid as a percentage of the current price goes below it, more needs to be put down. If you do not pay the whole amount it is considered a **leveraged investment.** There are four types of **options.** They are **call** and **put,** and both of those can be **American style** or **European style.** *The easy way to remember call vs put is you call up for more as in “call up the reserves.” You put down the cards you want to get rid of when playing cards.* The buyer of

the option has the choice. The worse that can happen to the buyer of the option is they are out the money they paid for the option (that is when they do not **exercise the option**. You should be able to know how to calculate the profits or losses from buying the option whether or not it is exercised. Note that the issuer of the option has the opposite payoff. The **intrinsic value** of owning the option is the maximum of \$0 and the amount you would gain from exercising the option and buying (put option) or selling (call option) the underlying asset. Know why the **graph of the option price** (the line on Page 327 called “before exercise price”) looks as drawn. How would the **option’s exercise date, price volatility of the underlying asset, and the risk-free interest rate** affect the price of the option? How can you use options to **hedge**? **Swaps** are where parties swap future payments. An **interest rate swap** is where one party sells variable rate interest payments and gets fixed rate interest payments. *They would want to make such a swap so that their assets and liabilities are more aligned.* For example, if your liabilities are variable rate, you would want your assets to be variable rate too. **Currency swaps** are where the two parties agree to swap a series of payments in each other’s currency. This will help to effectively make assets and liabilities in the same currency.

Chapter 11: Understand why the **assets and liabilities** on a **commercial bank’s balance sheet** are on that side on Page 352. (This is partly review of Chapter 4.) The liabilities described in future pages include **transaction accounts, NOW accounts, negotiable CDs and equity**. What is meant by **off balance sheet assets and liabilities**? How do they affect the banks’ profits? For the following types of banks, **community bank - retail, community bank - consumer, wholesale bank, regional, super-regional, and money center bank**, what are they? Who are their customers? Where do they get their money? What do they do with their money? What are the advantages and disadvantages of them? Be able to calculate the **interest rate spread** and the **net interest margin**. For the latter, the numerator is in dollars so you must remember to divide by the **earning assets**. What has happened to the **ROE and ROA** over time for the big and small banks? What are **non-current loans and net charge offs**? What are the following regulators in the **dual banking system**? **Comptroller of Currency, Federal Reserve, and FDIC**.

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Non-graded Homework Assignment #6A to be reviewed with Assignment #6.

- 1) (15 points) Suppose you have your eye on a stock but will not be buying it for 60 days. What type of option could you buy to reduce your risk? Explain the type of risk reduced and how buying that option reduces your risk.
- 2) (20 points) The book draws a diagram (Figure 10-9 on Page 327) for the price of a call option and the intrinsic value of the call option. Draw a similar diagram for a put option with an exercise price of \$8/share. Explain how you determined where the two lines are.
- 3) (10 points) Which stock would have a higher price for a call option, a stock whose price is highly volatile or one which is relatively steady? Explain your logic.
- 4) (5 points) Why would somebody create (sell) a call option on a stock?
- 5) (15 points) What is an interest rate swap? Why would two parties agree to that?
- 6) (20 points) What was the TARP program? What did it do well and what was bad about it?
- 7) (15 points) Why did small banks have lower ROA than big banks until 2008 and then the positions reversed?