GreatHearts
Irving

Remote Learning Packet

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

April 20 - 25, 2020
Course: 10th Grade Economics
Teacher(s): Mr. Loomis

Weekly Plan:

Monday, April 13
☐Take the quiz on the history of finance; closed book

Tuesday, April 14
☐Read and answer questions

Wednesday, April 15
☐Read and answer questions.

Thursday, April 16
☐Read and answer questions.

Friday, April 17
☐Read and answer questions.
☐Homework: Quiz on this week’s material; focus on *Key Terms*

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

____
Student Signature

I affirm that, to the best of my knowledge, my child completed this work independently

____
Parent Signature

Monday, April 20th

Quiz - Basic Principles and History of Finance

Match the terms on the right with the correct definitions:	
Definitions	**Terms**
____ the capital raised by a business through the sale of shares.	1. Capital
____ risk is greater because there is more at stake for the fewer people involved.	2. Interest
____ a certificate issued by a government or a public company promising to repay borrowed money at a fixed rate of interest at a specified time.	3. A loan
____ wealth, usually in the form of money, owned by a person or company.	4. Cheap Money
____ a company owned and financed by shareholders.	5. Expensive Money
____ something given for a limited amount of time (here money) that is expected to be returned.	6. A Bond
____ the more spread out an investment is (the more people share the risk) the less risky it is.	7. Shares
____ a group of individuals or organizations combined to promote some common interest.	8. Stock
____ when the interest rate on borrowed money is low.	9. Concentrated risk
____ money paid regularly at a particular rate for the use of money lent. It is expressed as a percentage of the total amount that is not repaid.	10. Diluted risk
____ one of the equal parts into which a company is divided, entitling the holder (investor) to a part of the profits.	11. A security
____ when the interest rate on borrowed money is high.	12. A Joint-Stock Company
____ a financial item that can be bought or sold. For example, a bill of exchange, a loan or a share.	13. A syndicate

Multiple Choice Questions

- Modern financial history begins around the XIIIth century in:
  - ❏ Venice
  - ❏ Amsterdam
  - ❏ Florence
  - ❏ London

- The first major European capital of finance in the XVIIth century is:
  - ❏ Venice
  - ❏ Antwerp
  - ❏ Amsterdam
  - ❏ London

- After 1688, financial practices slowly migrate to this city, eventually making it the center of international finance in the XIXth century:
  - ❏ Venice
  - ❏ Paris
  - ❏ London
  - ❏ Amsterdam

Notes:

- From what I have been hearing, the assignments are taking longer than the assigned time (20-30mn). Unless you want to spend longer on the assignments, please time yourself and do not spend longer than 30mn. In doing this you should try to go over everything, even if imperfectly; don't fall prey to perfectionism and only finish a quarter of the work. The quizzes and grading will reflect the fact that time is limited for this class.
- Answer the questions that are included with the lesson.
- I am including a list of *Key Terms* you are expected to either already be familiar with, or to learn. On top of this you should be familiar with the financial concepts that we learned last week.

Tuesday, April 21st

<u>Function of Financial Institutions</u>

<u>Banks, Fractional Reserve Banking and the Money Multiplier Effect</u>

What is a bank and how does it work? Please follow along with the illustration below.

1. Suppose three groups of persons: the first (A) with extra, unused, capital/savings for which they have no immediate use (1), the second, entrepreneurs, with no access to capital but ideas for creating it in the future (B), and a third, middlemen, who can coordinate the two and make a profit by storing and lending money (C).
2. (C) decides to construct an institution to house (keep safe) (A)'s unused capital (1) in exchange for paying them interest on it (I.A). That institution is a specific type of business called a <u>bank</u>.
3. (C) decides to take a part (a *fraction*) of that money (let us call it (1.1)) and keep it safe in the bank, and to lend a large part of it (1.2) to (B) for them to start their business. (C) does this in exchange for interest paid by B to C (I.B). This way, the bank (C) earns money from (B) for storing (A)'s unused capital. This system is called <u>Fractional Reserve Banking</u> and is how most commercial banks operate.

<u>Question</u>: Do the words *fractional* and *reserve* make sense to you?

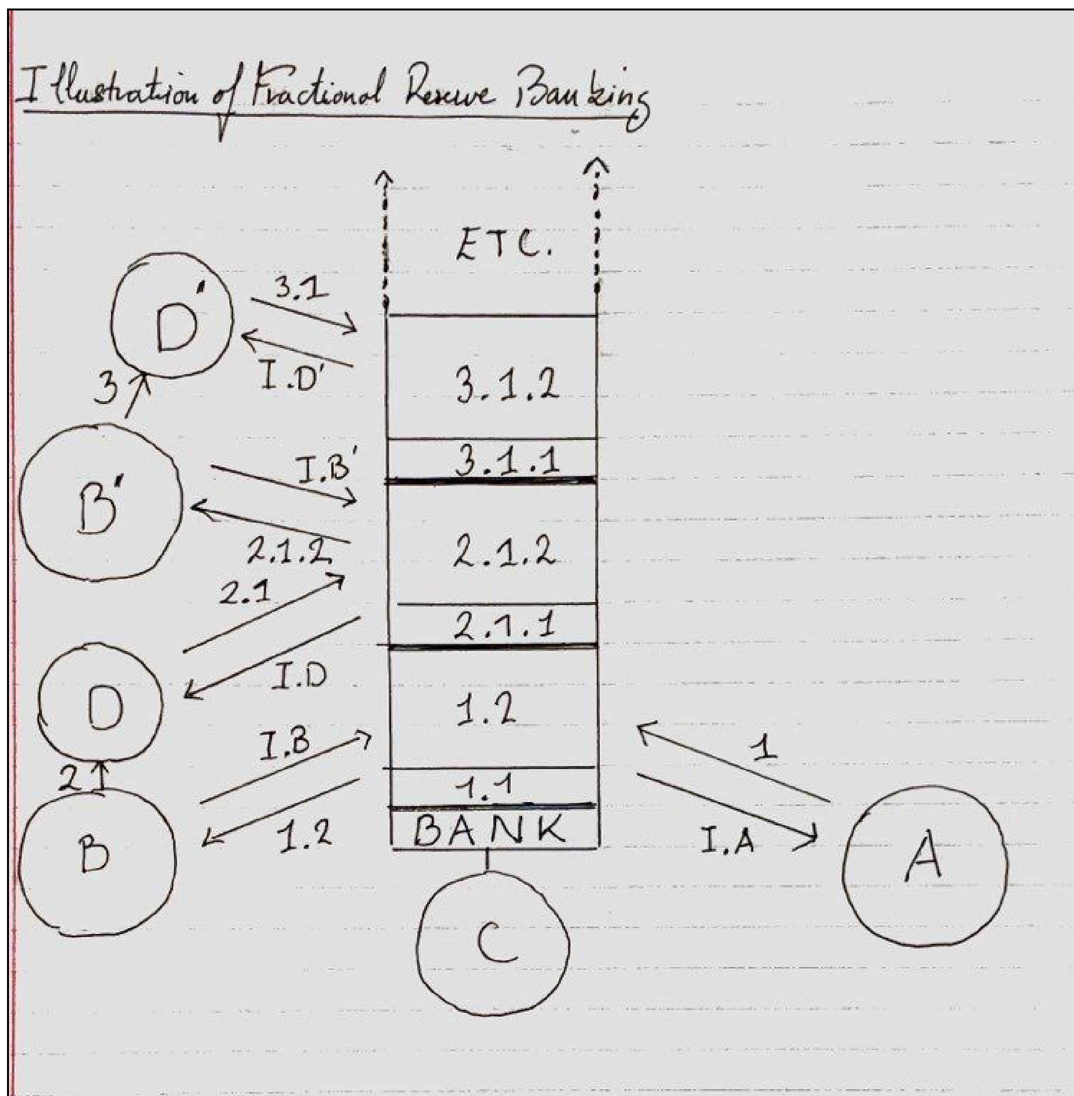
4. Now imagine a fourth group (D) who are the workers that are employed by (B)'s businesses which pays them a wage (2). Let us suppose that (D) puts part of that wage (2.1) into the bank in exchange for interest (I.D).The bank then repeats the same process as with (A)'s money (see illustration: 2.1.1, 2.1.2, B', I.B, D', 3, 3.1, I.D', 3.1.2, etc). If (C)'s investments in (B) and (B') are good investments and the businesses do well, you can start to see how the bank can make even more money, *ad infinitum*. This generates *wealth* (valuable things for the economy) for the bank AND for the businesses AND for the workers, ie. for the whole economy. We studied the birth of this thing last week during our history of finance section.

<u>Question</u>: Do you understand how wealth is created, not just for the bank but for the rest of the economy as well?

5. Some caveats are:
    a. The bank needs to make sure that the interest paid from (C) to (A) is less than the interest paid from (B) to (C).
    b. Typically some *depositors* (those who put their money in the bank) will decide to take out all of their money. Normally this is not a problem because there are enough depositors that (C) has enough reserves. However, if *all* depositors suddenly decide to take all of their money out of the bank at once then the bank does not have enough reserves. This iscalled a <u>bank run</u> and is an economic disaster. This is what happened during the Great Depression (1929-33). Fortunately in 1933 the *Federal Deposit Insurance Corporation*, a government agency, was created to insurance deposits. Nowadays deposits are insured up to $250,000.

Question: Why does 5.a have to be true?
Question: Why is 5.b true?

<u>Illustration:</u>



Wednesday, April 22nd

Note: Our previous study of both the history of finance and the ways in which banks work should make us familiar with the fundamental framework within which money is stored, accessed and exchanged. Let us now look into some specifics of how people use these institutions in their lives.

Savings and Checking Accounts

The two most common types of bank accounts are a *checking* and a *savings* account .

Checking accounts: they are designed to give people easy access to their money. They can be used to deposit checks, pay bills, and even transfer money between accounts. They have no limits on withdrawals and transfers, and they come with both checks and a debit card (a card used for taking money directly out of the account, more below). This makes them an ideal homebase for your money.

Savings accounts: they have no online bill pay and no debit cards (for the most part). In addition some transactions, such as online transfers, are limited to six times per month, beyond which fees are charged. Unlike most checking accounts, all funds kept in a savings account earn a small amount of interest (average .09% yearly). It is small because the money put into a savings account isn't subject to risk and you can always access it. This makes savings accounts a great home for an emergency fund, and savings that you might need in the not too distant future. There are types of savings accounts that earn greater interest: Money Market Accounts (2%+) and Certificates of Deposit (2.5-3%).

Both of these kinds of accounts are available at any commercial bank. The next step is to understand the process of *investing*, which you should already be basically familiar with from our history of finance and banking sections.

Question: What is the most basic way that a person fills his checking and savings account with money?
Question: How do you think a person should think about the relationship between their checking and their savings accounts?
Question: What do you think an emergency fund is?
Question: At what point do you think a person can say that they are ready to invest?

<u>Investing</u>

Person (A) makes an income and plans to spend 50% of it on rent and utilities, and another 30% of it on food and fun activities. The last 20% of that income he saves (think of person (A) in our section on banking). He might save it in a savings account or leave it in a checking account. However, this might not be a good idea because 1) why would you not earn money on it, especially if you are not using the money and 2) because of *Inflation*. *Inflation* is the idea that prices for goods and services rise over time. For example, in the 1950's you could buy a loaf of bread for 12 cents (around $2.5 in 2019) and a new house for $10,000 (in Dallas, in 2020: $251,918). Another option is to *invest* that money, either in a higher earning savings account (see above) if you want a *low risk* investment, or in a *higher risk* investment. Think of the relationship between risk and reward from our section on the history of finance. I also want you to think of investment as a loan that *you* are making in return for interest.

Let us take a look at two common forms of investment, *stocks* and *bonds*.

<u>Bonds</u>: for definition see 4/13 lesson. In return for the money that you lend called the *principal*, you'll receive a fixed amount of interest per year, plus your money back once the bond expires. Because of this guarantee bonds are the safest kinds of investments. As a result the interest rate is low as well.

<u>Stock/shares:</u> for definition idem. bonds. People buy and sell shares in places called stock exchanges. When the company whose shares you own does well then the share price goes up and you make money and vice-versa. These fluctuations can make stocks risky. The way you earn money is when you sell the shares and when the company pays you *dividends*. Dividends are a portion of the company's earnings that are paid to each shareholder.

<u>Question:</u> How do you think that order of importance might change over the course of a person's life?
<u>Question:</u> What do you think is the difference between a conservative and an aggressive investor?

Thursday, April 24th

Retirement

Investments are important for understanding how to plan for retirement. There are two basic kinds of accounts that you will need to know about: *IRAs* and *401(k)s/403(b)s*.

401(k)s and 403(b)s: These are retirement investment accounts. They are offered by either a for-profit employer, in the case of a 401(k), or a nonprofit or government employer, in the case of 403(b). In either case, your employer may match your contributions up to a certain amount, such as 5% of your total salary.

IRA (Individual Retirement Account): This type of account is very similar to the previous one. The differences are that your contributions to an IRA are more limited. You cannot contribute as much in general and the contribution amount is limited by your income.

Both of these types of retirement accounts come in two forms, *Traditional* and *Roth*. The difference between these two is that in a Traditional account the money you put in is pre-tax, and then only taxed when withdrawn at retirement. With a Roth it is the opposite. If you expect your tax rate to be higher in retirement, choose a *Roth IRA*. If you expect lower rates in retirement, choose a *Traditional IRA*.

Question: Why is it important to plan for retirement and to do so early?
Question: Can you think of other ways to plan for retirement besides investment accounts?

<u>Loans and Borrowing</u>

Loans are the basic elements of the financial framework that we have been studying. Think back to Mesopotamia, through Greece, Rome, Medieval Venice, the Renaissance, etc. Without lending and borrowing, there is no financial system. By now, we should have a good sense of how loans work, but let us look at them on a more practical level.

On their most basic level, loans are borrowed money. *Lenders*, such as banks, give *borrowers* a fixed amount of money called a *principal* for them to spend on whatever they need or want. As we have seen, the lender does this in exchange for *interest*.

We know that a major component of an interest rate is risk, but what does it look like concretely? Let's say someone borrows $10,000 for a car, and the annual rate is 5%. Divide that 5% by 12 months, and you get the monthly rate which is 0.4%.That person owes the bank 0.4% of the principal each month in interest.

Interest rates come with three complications:

1. Not all interest rates are *fixed*. Some, called *variable interest rates*, can change over time, often quite dramatically. Because of this, they can be quite risky, especially on long-term loans.
2. The interest rate of a loan is not the same thing as its *Annual Percentage Rate* (APR). APR includes both the interest rate, either fixed or variable, and the fees. You should always use the APR when comparing loans.
3. APRs are also highly dependent on your *credit score* (see below), as the lower

your score, the higher your APR.

4. You also have to consider the *term* of the loan. The term of the loan is how long the

lender is giving you to repay it. The shorter the term of the loan, the greater your monthly loan payment but the lower the interest rate, and vice versa.

<u>Question:</u> Why did I say that "Loans are the basic elements of the financial framework that we have been studying. [...] Without lending and borrowing, there is no financial system." (4-5 sentences, open question)
<u>Question:</u> Is it possible to live a life without taking out a loan? (4-5 sentences, open question)

Friday, April 25th

Debit and Credit Cards

Debit and *credit* cards are just pieces of plastic that give you access to something. They aren't anything in and of themselves but they are *means* to something. That something is money. You might ask, whose?

Debit cards: As mentioned above they allow you to take out (to debit) money from your checking account. Sometimes you can take it out of your savings but there are usually fees for this. The formula is very simple. You can use the card as long as there is money in your bank account, and as soon as there is none, then you cannot.

Credit cards are more complicated, but given what we have studied you should have no issues understanding. They are simply loans. Think of them as permanently available loans of varying sizes. They are very easily accessible through a swipe of your card and they need to be paid off every month.

Each time a person uses a credit card the bank loans him the money. If they don't pay it all off by the due date then they have to pay interest. This can get very expensive very quickly, especially when factoring in the high APRs of a credit card. The range of APRs is currently from around 15% to 22%. This does not, however, include *Penalty APRs* when you are consistently late on your payments. These can go up to about 30%. The advantage associated with these cards is that they offer their users rewards, such as cash back or airline miles, each time they make a purchase.

Question: Which card seems to work better for which kinds of situations?
Question: What is the prerequisite character trait necessary for the use of a credit card?

Credit Reports and Credit Score

A necessary result of taking out loans--and in our society people are always taking out loans-- is the *reputation* that a person develops for paying (or not paying) them back. Remember when we were discussing *risk* last week? When banks decide whether or not to loan money, they consider whether a person is a more or less risky borrower. The main way that this is measured is through *Credit Reports* and *Credit Scores*.

A Credit Report: It is a detailed history of your *credit* history. Credit is the ability of a customer to obtain goods or services before payment, based on the trust that payment will be made in the future. The most common measurement of this is the FICO credit score. This is a calculated number between 300 and 850 that summarizes your *credit report*. The higher your score, the lower the interest rates and vice-versa.

Briefly, a *credit score* is measured using five variables, from most to least important:

1. Payment history: are bills paid on time?
2. Credit utilization: how much of your total available credit do you use? Less, but not too little, is better.
3. Length of credit history: how long have you been using credit? Longer is better.
4. Recent inquiries for credit: how many applications for credit have you submitted recently? Fewer is better.
5. Types of credit used: How many different types of credit are you using? Fewer is better.

Question: Why do you think the concept of credit is so important to our society? Do you agree with this valuation? Another way I might phrase this question is, do you think the measure of credit is a measure of virtue or vice? (5 - 10 sentences, open question)

Key Concepts and Vocabulary

Note: This list does not include the concepts from last week's lesson on the history of finance which you are expected to know (shares, stock, interest, etc.).

Banks, Fractional Reserve Banking and the Money Multiplier Effect

- A bank
- Fractional Reserve Banking
- The Money Multiplier Effect
- A bank run

Savings and Checking Accounts

- Checking account
- Savings account

Investing

- Inflation
- Dividends

Retirement

- 401(k) and 403(b)
- IRA
- Traditional and Roth

Loans and Borrowing

- Lender and borrower
- The principal of the loan
- Variable interest
- APR
- A loan term

Debit and Credit Cards

- Debit and vs credit cards
- Penalty APR

Credit Reports and Credit Score

- Credit
- A credit report
- A credit score
- 5 variables of the credit score