EC1B5 | Chapter 11

The Monetary System

Additional Practice Questions:

Book Question 2

Money makes a variety of economic transactions possible. In the following three situations, determine whether money is involved in the transaction.

a. On the island of Yap, exchanges were made by using large circular stone discs carved out of limestone. Since these stones were too large to move, when an exchange occurred, a stone stayed in its place but its ownership would change. Can these stone discs be termed as money?

b. In recent years it has become increasingly common to pay with your smartphone. Is your smartphone money? Explain your reasoning.

c. In food courts at several malls, it is quite common to use coupons instead of money. This means that you exchange your currency notes for coupons and use them to purchase meals. Can such coupons be considered money?

Answer:

a. The three key functions of money are medium of exchange, store of value, and unit of account. Even though these stone discs were large, you could use them for exchange. The ownership of these discs was recorded in oral history, thus fulfilling the first and third components of the exchange. The discs also possessed inner value as they were made from limestone that was apparently difficult to access on the island of Yap.

b. Smartphones are not money. They are a vehicle of transfer. Your smartphone is connected to an online account (typically your credit or debit card). If it is connected to your debit card, when you pay, you are directly transferring money from your bank account to the seller's account. However, when you are using your credit card, you are borrowing from your bank to pay the seller and will have to repay this debt later. Thus, when you settle your debt, you will be transferring money.

c. Yes, in a food court, coupons do constitute real money. They are transferrable between consumers and are not false. However, these can only be exchanged for real money within the confines of the food court within that specific mall, so a consumer cannot buy goods or services using the coupons outside the food court.

Book Question 3

In some parts of the world, salt—the stuff sitting on your kitchen table—was once used as currency. In ancient Ethiopia, for example, blocks of salt were used to purchase goods and pay salaries. The value of the salt block was based on weight, and it was physically transferred as part of the transaction. In part, salt was valuable because of its scarcity and its usefulness: before the introduction of refrigeration, many civilizations used salt to preserve food.

a. Discuss how salt did or did not fulfill the three roles of currency.

b. Suppose several new salt mines opened in ancient Ethiopia. How would you expect the rapid infusion of currency into society to affect the economy? Explain.

c. How might the use of salt as a commodity affect the value of salt as money? As an example, would you need more or less salt to buy a pound of meat?

Answer:

a. As the problem describes it, salt was a medium of exchange. However, it's not clear to what degree it was a store of value or a unit of account. Since it could be used and, thus, depleted, the student could argue that it did not store a fixed amount of value. In addition, we don't know whether it really served as a unit of account; if it was primarily a valuable commodity that everyone wanted, then it was, perhaps, the centerpiece of a barter-based system rather than a true currency.

b. If we viewed this as a traditional currency, then we could characterize the opening of new mines as a potential source of hyper-inflation; the value of a given amount of salt would weaken, leading to rising "prices" in salt. Given the context, however, the opening of new mines could make salt useless as a currency—given a new abundance of salt, it may lose almost all of its value in a barter-based system. Either way, the value of salt would be severely weakened—leading, likely, to its abandonment as a currency.

c. Consumption of salt reduces the supply of salt as money, increasing its value. This implies that you would need less salt to buy a pound of meat.

Book Question 5

Imagine that the central bank of the island economy you live in announced this morning that every denomination of the currency in circulation would be worth half of what it was yesterday. For example, a 20 Tutu bill would be worth 10 Tutus, the balances in all checking and savings accounts are to be halved, and so forth. Islanders panic as they think they became two times as poorer as they were yesterday, they are planning for the revolution to topple the system. Would you actually be two times poorer on the day the announcement took effect? Why or why not?

Answer:
You should not join the public panic because you know that eventually prices on the island will be halved or almost halved. Money's ultimate value is the goods and services for which it can be exchanged. If prices will get eventually halved, the money's value is approximately the same as before the announcement.

However, this does not mean that all people will be unaffected by the change. If the prices of some of the goods people buy cannot decrease in response to the announcement, then they are poorer, and the seller of the goods is definitely richer. This would be especially true regarding some loan arrangements. For example, if you owe someone 20,000 Tutus as per a written contract, this amount cannot change in response to the central bank's announcement, so the lender is richer, while the borrower is poorer.

However, the prices of a majority of goods and services will be halved quickly, and eventually, the prices of all goods and services will also be halved. There is no need for citizens to panic about this announcement.

Book Question 10

Till the late nineteenth century, it was common for gold and silver coins to be used as a medium of exchange. When it required money, governments would often mint more coins and replace some quantities of the gold or silver with iron. What would be the effect of such a policy?

Answer:

Eventually, this would lead to inflation. People would soon find out that the amount of gold in each coin was lesser than it used to be, and therefore prices would increase proportionately.

However, by that time, typically, the government that required the money would have already used those funds to purchase the goods it needed.

If a government did this too often, people would become less trusting of the coins in circulation and may resort to purchasing/acquiring gold coins minted by a country where the coins are more stable.

Book Question 11

As the U.S. economy recovers from the effects of the coronavirus recession, it is anticipated that the Fed will raise the federal funds rate. Suppose the current federal funds rate is 0 percent and that this rate is expected to prevail for 2 years. Then the expectation is that the Fed will raise the federal funds rate by 0.5 percentage points each year thereafter. What will be the 10-year nominal interest rate as a result of these expectations? Explain and show your work.

Answer:

Recall from the chapter that a long-term nominal interest rate can be thought of as the average of the one-year interest rates, which are expected to prevail over a given long-run period.

In this question, the short-term (one-year) rates are as follows:

Year	Rate
1	0%
2	0%
3	0.5%
4	1.0%
5	1.5%
6	2.0%
7	2.5%
8	3.0%
9	3.5%
10	4.0%

Calculating the 10-year average using these numbers, we get the 10-year nominal rate:

$$\frac{0.0\% + 0.0\% + 1.5\% + 1.0\% + 1.5\% + 2.0\% + 2.5\% + 3.0\% + 3.5\% + 4.0\%}{10} = 1.8\%$$

Hence, even though the current short-term nominal rate is only 0.0 percent, the *expectation* of higher short-term rates to come will result in a higher long-term nominal rate.