Money: Problems

Suppose that an economy has the following assets:

Asset	$
Currency	1000
Electronic Reserves at the Central Bank	5000
Savings Accounts	2000
Real Estate	10,000
Stocks	8000
Checking Accounts	9000

1. M1 includes only checkable deposits and currency. It thus equals $1900.

2. The monetary base consists only of electronic reserves. Note that these are not part of M1.

3. The value of M2 is not obvious. Some, but not all, savings accounts qualify. It could thus be as large as $3900, the sum of M1 and savings accounts. The M2 money multiplier is then as large as $\frac{3900}{5000} = 0.78$. The M1 multiplier is $\frac{1900}{5000} = 0.38$.

4. False. Reserves at the Central Bank are not part of M1 and M1 can thus be smaller than the monetary base. This happened after the Great Recession.

5. True. M1 is a *subset* of M2. M2 is defined as M1 plus some other assets.

6. A multiplier of one means that when the monetary base increases by $1000, so does M1. This means that the sum of checkable deposits and currency, the two components of M1, also increases by $1000. We can't say what happens to each of these components individually.

7. This is an inaccurate statement. Gold has a price ($1200 in this example). Backing a currency is different. This implies that the monetary authority has committed to buying a commodity, often gold, at a set price. But the U.S., and almost all other economies, have not conducted monetary policy in this manner in many years.

8. Liquidity refers to how easy it is to convert an asset to cash. More liquid assets usually are better means of exchanges, an important criteria to count as money.

9. The money market can be modelled using basic supply and demand. Instead of an ordinary price, however, we use the interest rate which is the opportunity cost of holding money. Higher supply then reduces the interest rate (price).

10. Like other assets, when there is more demand, the price rises. Because interest rates act as the price of money, they increase

11. Recall the equation of exchange: $PY \equiv MV$. The left hand side is the price level multiplied by real aggregate output. This equals nominal aggregate output, the market value of all goods and services produced within the economy. Nominal GDP is the most common measure of nominal aggregate output. The right hand side is the money supply multiplied by velocity. For the equation of exchange to hold, velocity equals 5.

   The equation of exchange is an identity, meaning it is always true. This equation defines velocity. Velocity is whatever value causes it to be true.

12. If managed effectively, fiat money leads to a more stable inflation rate. Commodity money is sensitive to swings in the price of that commodity which can result from either supply or (less common) demand. A gold rush that expands the supply of gold would increase the money supply under a gold standard.This introduces needless volatility into the economy.

13. False. Using the equation of exchange, if the money supply doubles, and output and velocity are unchanged, then prices will also double. But in the short run, more money often leads to either a lower velocity or a higher level of output, which causes prices to increase by less.