1. Using both the liquidity preference framework and the supply and demand for bonds framework, show why interest rates are procyclical (rising when the economy is expanding and falling during recessions).

   The liquidity preference framework. When the economy booms, the demand for money increases: people need more money to carry out an increased amount of transactions and also because their wealth has risen. The demand curve, $M^d$, thus shifts to the right, raising the equilibrium interest rate. The opposite is true at the time of recession.

   The bond supply and demand framework. When the economy booms, the demand for bonds increases: the public’s income and wealth rises while the supply of bonds also increases, because firms have more attractive investment opportunities. Both the supply and demand curves ($B^d$ and $B^*$) shift to the right, but as is indicated in the text, the demand curve probably shifts less than the supply curve so the equilibrium interest rate rises. The opposite is true when recession happens. Thus interest rates are seen to be procyclical.

2. Use either bond supply and demand analysis or liquidity preference framework to predict how each of the following events would affect the interest rate. Explain your answer.

   (a) An increase in the riskiness of bonds.

   An increase in the riskiness of bonds reduces the demand for bonds. As a result, the bond prices go down and the interest rate go up. Alternatively, according to the liquidity preference framework, an increase in the riskiness of bonds raises the demand for money, resulting in an increase in the interest rate.
(b) A sudden increase in the volatility of gold prices.

Higher risk of gold prices increases the demand for bonds, raises the bond prices, and reduces the interest rate.

(c) A large federal deficit.

A large federal deficit often implies higher than usual bond supply. As a result, bond price will go down and interest rates will go up.

(d) Brokerage commissions on stocks fall.

The fall in stock brokerage commission makes stocks more attractive relative to bonds. As a result, the demand for bonds declines, the bond price declines, and interest rates increase.

(e) Passage of the 700 billion bailout package.

There are multiple factors at play. On the one hand, the bailout package might restore confidence in the economy. The stock might again become a favorable asset. This force will reduce the demand for bonds, and push up the interest rate. On the other hand, doubts about whether the bailout package is enough can cause more anxiety on the market, pushing investors to purchase the Treasury bonds, thus pushing up the Treasury bond prices and reducing the interest rate on Treasury bonds. The demand for corporate bonds is low due to uncertainty and anxiety about the future economy.

3. An important way in which the Federal Reserve decreases the money supply is by selling bonds to the public. Using a supply and demand analysis for bonds, show what effect this action has on interest rates. Is your answer consistent with what you would expect to find with the liquidity preference framework?

When the Fed sells bonds to the public, it increases the supply of bonds, thus shifting the supply curve to the right. The result is that the intersection of the supply and demand curve occurs at a lower price and a
higher equilibrium interest rate, and the interest rate rises. With the liquidity preference framework, the decrease in the money supply shifts the money supply curve to the left, and the equilibrium interest rate rises. The answer from bond supply and demand analysis is consistent with the answer from the liquidity preference framework.