Relationship between interest rates and price of bond assignment

Business

An increase in government deficit will lead to an increase in aggregate demand for goods and services which in turn increase GDP and prices of goods over time. This means that there is inflation and an increase in income. These changes will lead to a change in interest rate, which can be explained with the income effect, price-level effect and the expected-inflation effect. An increase in money supply as an expansionary monetary policy to cope with the rising deficit will raise national income and wealth.

Hence, demand for money, as a store of value or medium of exchange will increase. This shifts the money demand curve to the right, from Md1 to Md2 (Figure 3) in the money market. This resulted in an increase in interest rates from I1 to I2. Businesses are also more willing to borrow to invest as they have more profitable investment opportunities for which they need financing. This leads to an increase in supply of bonds, shifting the supply curve of bond to the right from Bs1 to Bs2 (Figure 4).

The theory of asset demand states that demand for bonds will increase when there is a business cycle expansion that brought about an increase in wealth. This will result in a rightward shift of the demand curve for bonds from Bd1 to Bd2. Given that both the demand and supply curve for bonds shift right, the change in price is ambiguous as we do not know which curve shifted more because in this question, the government issued new bonds to cope with the deficit. In Figure 4, it is assumed that the shift of the supply curve dominates that of the demand curve.

Hence, the price for bond will fall from P1 to P2 and since price of bond is negatively related to interest rates, interest rates increased. Thus, the

income effect of a rise in money supply is an increase in interest rates due to an increase in income and wealth. An increase in price level due to increasing government deficit will increase the demand for money. Keynes believes that people want to hold the same real amount of money. So, as nominal prices of goods increase, people will want to hold more money.

This change in demand for money can be seen in Figure 3 whereby an increase in demand for money shifts the demand curve of money to the right from Md1 to Md2. This resulted in an increase in interest rates from I1 to I2. Thus, the price-level effect from the increase of government deficit, from an increase in money supply, is an increase in interest rates. Increasing money supply will also affect people's expectation of inflation rate. The increase in money supply may cause people to expect a higher price level in future.

This means that the real cost of borrowing falls and thus, quantity of bonds supplied will increase, shifting the supply curve for bonds to the right from Bs1 to Bs2 in Figure 5. Also, demand for bonds will fall as the expected return on real assets increase, hence the expected return on bonds will fall. This leads to a fall in demand for bonds, resulting in a leftward shift of the demand curve for bond from Bd1 to Bd2. As seen in Figure 5, the new equilibrium price fall from P1 to P2.

Since price of bonds and interest rates are negatively related, a fall in price of bonds means an increase in interest rates. Therefore, the expected-inflation effect of an increase in money supply is an increase in interest rates due to an increase in expected-inflation rate. Therefore, government deficit that raises aggregate demand for goods and services, GDP and prices of

goods will cause market interest rates to increase over time. This is shown through the income effect, price-level effect and expected-inflation effect discussed above whereby in all three situations, interest rates increased.

The overall effect of the monetary and fiscal policy mentioned in Questions 1 and 2 on the interest rate in the short run is ambiguous. It is seen from question 1 that interest rates will increase with an increase in the supply of bonds and from Question 2, due to an increase in money supply (expansionary monetary policy), interest rates decreased. Since interest rates fall under monetary policy and rise under fiscal policy, the effect of these policies on interest rates in the short run is ambiguous as we do not know which policy dominates.

If fiscal policy dominates, the effect on interest in short run will be that interest rates increased. If monetary policy dominates, interest rate will fall in the short run. In the long run (the later several years), the overall effect of the policies in Questions 1 and 2 will cause interest rates to increase. For the fiscal policy, the effect on interest rates will not differ from that of the short run. However, the effect that the monetary policy has on interest rates in the long run changes. As discussed in the earlier part of