Macroeconomics, Part IIA
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Supervision 7

Monetary Transmission

Short questions (250 words max)

1. How does contractionary monetary policy affect equity prices according to the Gordon growth model?
2. When financial markets are (informationally) efficient, anticipated monetary policy decisions have no effect on asset prices, so monetary transmission through asset price channels is ineffective. True or false? Explain.
3. Describe four ways in which monetary policy could affect aggregate demand through consumption.

Problem

4 Consider the Bernanke-Blinder (1988) extension to the standard ISLM model. Banks are assumed to hold bonds B, loans L and reserves R as assets, and have deposits D as liabilities, so that the representative bank's balance sheet is:

$$B + L + R = D$$

The supply of deposits is determined by the legal minimum reserve requirement $R = \tau D$, where $0 < \tau < 1$, so

$$D^s = \frac{1}{\tau} R$$

The demand for deposits is given by the traditional money demand equation

$$D^d = Y - \kappa_M i_B + d_M$$

where Y is real aggregate output, i_B the bond interest rate, and d_M a money demand shock. The supply of loans is described by

$$L^s = \lambda (D - R) + s_L$$

where s_L is a loan supply shock and $0 < \lambda < 1$. The demand for loans is given by

$$L^d = \mu Y - \kappa_L (i_L - i_B) + d_L$$

where i_L is the loan interest rate, and d_L a loan demand shock. Goods market equilibrium is described by the IS equation

$$Y = -\gamma_L i_L - \gamma_B i_B + d_Y$$

where d_Y is an aggregate demand shock. The parameters κ_M, κ_L, μ, γ_L and γ_B are all positive.

(a) Derive the relationship between output Y and the bond interest rate i_B such that there is equilibrium in the money market, and denote it by LM. Explain how monetary policy affects the LM curve.

(b) Derive the equilibrium loan interest rate i_L as a function of i_B, Y and R. Give an intuitive explanation for the effect on i_L of a change in i_B, Y, R, d_L and s_L.

(c) Derive the relationship between output Y and the bond interest rate i_B such that there is equilibrium in both the goods market and the loan market, and denote it by CC. Explain how monetary policy affects the CC curve.

(d) Suppose the central bank engages in open market operations and increases the level of bank reserves R. Show graphically how this affects output Y. Give an intuitive explanation, distinguishing between the interest rate channel and the bank lending channel.

(e) For what parameter value(s) would the lending channel be inoperative while the interest rate channel still works? Give a brief economic interpretation.

Essay (1000 words max)

5 "The credit channel is an enhancement mechanism for traditional monetary policy transmission, not a truly independent or parallel channel." Discuss.

Main readings

- Mishkin, Matthews & Giuliodori (2013), *The Economics of Money, Banking and Financial Markets*, European edition, chapters 2, 7, 23.
- Bernanke and Blinder (1988), "Credit, Money, and Aggregate Demand", *American Economic Review* 78(2), May (Papers and Proceedings), pp. 435-439.

Supplementary references

- Bank of England (1999), "The Transmission Mechanism of Monetary Policy", *Bank of England Quarterly Bulletin*, May.
- Bofinger (2001), *Monetary Policy: Goals, Institutions, Strategies and Instruments*, chapters 1-4, 8 and 9.
- De Bondt and Thaler (1989), "Anomalies: A Mean-Reverting Walk Down Wall Street", *Journal of Economic Perspectives* 3(1), Winter, pp. 189-202.
- Fama (1991), "Efficient Capital Markets: II", *Journal of Finance* 48(5), December, pp. 1575-1617.
- Hall (2001), "Credit Channel Effects in the Monetary Transmission Mechanism", *Bank of England Quarterly Bulletin*, Winter, pp. 442-448.
- Hubbard & O'Brien (2011), *Money, Banking, and the Financial System*, chapter 6.
- Joyce, Tong & Woods (2011), "The United Kingdom's quantitative easing policy: design, operation and impact", *Bank of England Quarterly Bulletin* Q3, pp. 200-212.
- Malkiel (2003), "The Efficient Market Hypothesis and Its Critics" *Journal of Economic Perspectives* 17(1), Winter, pp. 59-82.
- Session on "Is It Money or Credit, or Both, or Neither?", *American Economic Review* 78(2), May (Papers and Proceedings), 1988.
- Symposium on "Monetary Transmission Mechanism", *Journal of Economic Perspectives* 9(4), Fall, 1995.
- Varian (1987), "The Arbitrage Principle in Financial Economics", *Journal of Economic Perspectives* 1(2), Fall, pp. 55-72.