

**Winter Term 2006/07**

**Examination:** Monetary Economics (2051)

**Examiner:** Prof. Dr. Horst Gischer

**Devices allowed:** Pocket calculator

Please answer two of the following three questions, all questions have equal weights.

1. a) Assuming that the expectations theory is the correct theory of the term structure, calculate the interest rates in the term structure for maturities of one to five years, and plot the resulting yield curves for the following series of one-year interest rates over the next five years:

- (i) 5%, 7%, 7%, 7%, 7%
- (ii) 5%, 4%, 4%, 4%, 4%

How would your yield curve change if people preferred shorter-term bonds over longer-term bonds?

- b) Explain why the "Liquidity Premium Theory" of the term structure can be regarded as a combination of the "Expectations Theory" and the "Segmented Market Theory" of the term structure.
2. a) For September 2006, the German banking system can be described by the following data:
- required reserve ratio  $r = 2\%$
  - currency in circulation  $C = \text{€ } 160,3$  billion
  - checkable deposits  $D = \text{€ } 722,6$  billion
  - excess reserves  $ER = \text{€ } 0,7$  billion
- Derive the formula for the "Money Multiplier  $m$ " and calculate the values of  $MB$ ,  $M1$ ,  $c$ ,  $e$ , and  $m$  given the data above.
- b) Explain under which assumptions the "Simple Deposit Multiplier" can be controlled by the Central bank alone and why the situation changes when the "Money Multiplier" applies.
3. Explain the economic meaning of "Yield to Maturity" and describe the different ways of calculating the yield to maturity for a simple loan, a fixed-payment loan, a coupon bond, and a discount bond, respectively.