

Matr.-Nr.

Name:

Examination

Macroeconomics / Economics II
(No. 11063 / 5025)

Semester:

Summer Semester 2010

Examiners:

**Prof. Dr. Gerhard Schwödiauer/
Prof. Dr. Horst Gischer**

The following aids may be used:

Non-programmable pocket calculators;
English language dictionaries without
individual entries or marking.

Time:

120 minutes

This exam comprises 20 problems. For each problem exactly one of the three optional answers is correct. Do not mark more than one answer to any of the questions, otherwise the solution will be considered false. For every correct answer you obtain 2 points, for every false answer 1 point is subtracted. If no answer is marked you neither obtain nor lose a point. In order to pass this exam at least 10 points are needed.

Make sure that this copy of the exam bears your matriculation number and name in the appropriate fields at the top of this page.

Good luck!

Examination Questions:

1. Consider an open economy with a trade balance surplus (positive net exports) over the past year. The government budget deficit for that period was zero. From this information you conclude that

- a) domestic investment was smaller than domestic saving.
- b) domestic investment and domestic saving were equal.
- c) domestic investment exceeded domestic saving.

2. In a closed economy the marginal propensity to consume is 0.8 and the marginal tax rate on GDP is 50%. The central bank manages to keep the interest rate relevant for planned investment and saving constant. The government spends an additional 1 billion euros as (lump-sum) transfer payments and finances this expenditure by borrowing. If aggregate planned investment does not depend on current GDP, effective aggregate demand (at constant prices) will rise by

- a) 0.5 billion euros.
- b) 1 billion euros.
- c) 1.33 billion euros.

3. Assume that under the conditions described in Problem 2, the government keeps its budget deficit constant by cutting its expenditures on infrastructure investment. In this case, effective aggregate demand will

- a) sink by 2 billion euros.
- b) sink by 1 billion euros.
- c) rise by 1 billion euros.

4. Assume that aggregate private consumption in period t depends on the GDP of the previous period according to $C_t = cY_{t-1}$, and that aggregate investment depends on the change in consumption according to $I_t = a(C_t - C_{t-1})$. For parameter values $c = 0.7$ and $a = 4$, GDP responds to a permanent increase in the level of autonomous demand (e.g., public consumption) with

- a) an unbounded monotonic growth process.
- b) a monotonic convergence to a higher stationary level.
- c) cyclical fluctuations.

5. Because they expect an economic recovery, private households become more optimistic about their future income and raise their “autonomous” consumption spending. Assume that neither their marginal propensity to consume nor the planned saving and investment by firms and government change. Which of the following propositions is correct? In equilibrium,

- a) aggregate saving in this economy falls.
- b) aggregate saving in this economy rises.
- c) aggregate effective demand in this economy rises.

6. Consider again the economy of Problem 2. Assume in addition that a reduction of the interest rate by 1 percentage point raises aggregate planned expenditure (at constant prices) by x units. If both the income elasticity and the interest elasticity of money demand is 1, then the slope of the AD-curve, $\partial P / \partial Y$,

- a) $-AM / xY^2$.
- b) $-Ax / MY^2$.
- c) AMY^2 / x .

7. Assume that people hold money for transactions purposes only and behave according to the Baumol-Tobin model. Then the velocity of circulation (in the sense of the “quantity equation”)

- a) depends positively on the interest rate but does not depend on real income.
- b) depends negatively on the interest rate and positively on real income.
- c) depends positively on both the interest rate and real income.

8. Assume that the real money demand is not just a function of the interest rate and real GDP but also of real financial wealth $V = (M + B)/P$. In order to ensure that the AD-curve is a falling function of the price level we have to assume that the elasticity of money demand with respect to V

- a) is constant.
- b) is smaller than 1.
- c) is bigger than 1.

9. The so-called "crowding out" of private investment by an increase in government expenditure is the more pronounced

- a) the stronger is the relative interest-sensitivity of money demand.
- b) the stronger is the relative income-sensitivity of money demand.
- c) the bigger is the marginal income tax rate.

10. Assume AS- and AD-curves with the usual properties. If the central bank does not undertake any monetary policy measures, then the fiscal policy measure described in Problem 2 will lead to a

- a) reduction of the short-run equilibrium interest rate.
- b) reduction of the short-run equilibrium price level.
- c) reduction of the short-run equilibrium real quantity of money.

11. Assume that in the short run the marginal productivity of labor is constant and equal to 0.6. Producers are selling their output with a mark-up of 50% on marginal cost. The expected real wage of workers is given by $1-5u$, where u is the current rate of unemployment. Then the *natural* rate of unemployment is

- a) 10%.
- b) 12%.
- c) 14%.

12. The goods market of Problem 11 is characterised by monopolistic competition. The corresponding labor demand function of the producers can be graphically represented in a nominal wage (W) employment (N) diagram. In such a W-N-diagram the labor demand curve of the producers from Problem 11 will, other things being equal, be

- a) below and flatter than the labor demand curve in case of perfect competition..
- b) below and steeper than the labor demand curve in case of perfect competition..
- c) above and flatter than the labor demand curve in case of perfect competition.

13. Consider an economy in its “natural” equilibrium. The newly elected government implements market reforms which give the producers more price-fixing power. Which of the following propositions is correct?

- a) Without further fiscal or monetary policy measures, the price level rises in the short run proportionally with the increase of the mark-up on the wage rate, while GDP does not change.
- b) Without further fiscal or monetary policy measures, GDP in the medium run declines while the price level increases in the medium run by more than in the short run.
- c) By an expansionary fiscal or monetary policy the government can prevent a rise in the price level, but only at the cost of a lower medium-run GDP than in b).

14. Assume that the central bank undertakes an expansionary open-market operation in the amount of 10 billion euros. Private economic agents hold cash and demand deposits in the proportion of 1:8. The banks hold 10% of deposits as reserves with the central bank. The above specified open-market operation causes an increase of M1-money supply by

- a) 10 billion euros.
- b) 25 billion euros.
- c) 50 billion euros.

15. Assume instead that private economic agents hold any additional money in the form of demand deposits, and that the banks’ reserve ratio has not changed. In this case the open-market operation of Problem 14 will result in an increase of the nominal M1-supply of

- a) 50 billion euros.
- b) 100 billion euros.
- c) 250 billion euros.

16. An economy is in a medium-run equilibrium when the central bank, which up to this point of time enjoyed independence, is put under the command of the ministry of finance. This news increases the inflation expectations of private economic agents though the actual central bank policy (in terms of nominal money supply) has so far not changed. As a consequence

- a) the price level rises both in the short and in the medium run, which enhances the inflation expectations of the private sector and, via this channel, leads to a higher medium-run equilibrium (“natural”) real interest rate.
- b) the short-run equilibrium nominal interest rate rises while the price level falls, while in the medium run both variables return to their original levels (if the nominal money supply does not change).
- c) The price level rises more strongly in the medium run than in the short run, while the real interest rate falls in the short run and returns in the medium run to its unchanged natural level.

17. Combine an expectations-augmented Phillips curve with the assumption of static inflation expectations. If in period $t - 1$ the unemployment rate was below its natural level and the government keeps it there also in period t , then $\pi_t - \pi_{t-1}$ equals

- a) $-0.5(\pi_{t-1} - \pi_{t-1}^e) < 0$.
- b) $\pi_{t-1} - \pi_{t-1}^e > 0$.
- c) $\pi_{t-1} - \pi_{t-1}^e < 0$.

18. In an economy with the aggregate production function $Y = K^{1/3} N^{2/3}$ the depreciation rate on the capital stock is 4%. The private and public households save 45% of GDP, and the population (and labor force) grows at a rate of 1% per period. The steady-state equilibrium capital intensity for this economy is

- a) smaller than 25.
- b) equal to 25.
- c) bigger than 25.

19. For the economy of Problem 18, the steady-state equilibrium is

- a) one of under-accumulation.
- b) one of over-accumulation.
- c) optimal in the sense of the "Golden Rule".

20. Consider the macroeconomic production function

$$Y = [K^\alpha + N^\alpha]^{1/\alpha}$$

with $\alpha < 0$ and constant N . Factors of production are remunerated according to their marginal productivities. The economy is in a stationary equilibrium when a natural disaster destroys a good deal of its capital stock without harming the people or changing their saving behaviour. As a consequence,

- a) the real return on capital rises immediately without a change in the share of capital income in GDP.
- b) real per-capita incomes begin to rise and the capital intensity increases. During this transitional phase the share of capital income in GDP declines.
- c) The distribution of income changes at once in favour of wage earners, but with economic growth converges back to the distribution before the natural disaster.

– End of text. Good luck! –