

Matr.-Nr. _____

Name: _____

Examination

Macroeconomics
(No. 11063)

Semester:

Summer Semester 2013

Examiners:

Prof. Dr. Gerhard Schwödiauer

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.

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 deficit (negative 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 0.5 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 3 billion euros on building new roads 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) 3 billion euros.
- b) 4 billion euros.
- c) 5 billion euros.

3. Assume that under the conditions described in Problem 2, the government keeps its budget deficit constant by cutting its (lump-sum) social spending. In this case, effective aggregate demand will

- a) rise by 2 billion euros.
- b) rise by 3 billion euros.
- c) rise by 4 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 $c = 0.2$ and $a = 5$, 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 depression, private households become more pessimistic about their future incomes and cut 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 falls.

6. Assume that autonomous consumption is an increasing function of real financial wealth $V = (M+B)/P$. Such a “wealth effect” makes the AD-curve

- a) more price-elastic.
- b) less price-elastic.
- c) more price-elastic only if the economy is not caught in the liquidity trap.

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

- a) Without further fiscal or monetary policy measures, the price level falls in the short run proportionally with the reduction 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 rises while the price level falls in the medium run by more than in the short run.
- c) By an expansionary fiscal or monetary policy the government can prevent a fall in the price level, but only at the cost of a lower medium-run GDP than in b).

13. 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.

14. Assume instead that private economic agents hold any additional money in the form of cash, and that the banks' reserve ratio has not changed. In this case the open-market operation of Problem 13 will result in an increase of the nominal M1-supply of

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

15. An economy is in a medium-run equilibrium when the central bank is made independent from the treasury and announces a significantly lower target rate of inflation. This news reduces 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 falls both in the short and in the medium run, which dampens the inflation expectations of the private sector and, via this channel, leads to a lower medium-run equilibrium ("natural") real interest rate.
- b) the short-run equilibrium nominal interest rate and price level fall, while in the medium run both variables return to their original levels (if the nominal money supply does not change).
- c) The price level falls more strongly in the medium run than in the short run, while the real interest rate rises in the short run and returns in the medium run to its unchanged natural level.

16. 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) $-0.5(\pi_{t-1} - \pi_{t-2}) < 0$.
- b) $\pi_{t-1} - \pi_{t-2} > 0$.
- c) $\pi_{t-1} - \pi_{t-2} < 0$.

17. 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 20% 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.

18. For the economy of Problem 17, the steady-state equilibrium is

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

19. In an economy with the aggregate production function $Y = A(BK)^{1/3} (CN)^{2/3}$ B and C are the productivity coefficients of capital and labor, respectively. Which of the following statements is correct?

- a) If B grows at a constant rate of 6% while A and C remain constant, the steady-state growth rate of GDP per capita is 3%.
 b) A steady-state growth rate of GDP per capita exists only if A and B remain constant while C grows with a constant rate.
 c) If total factor productivity A grows at a constant rate of 4% and the labor force N grows at 2%, while B and C remain constant, GDP per capita grows at a steady-state rate of 2%

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! –