

<p>HOCHSCHULE PFORZHEIM</p> <p>– Faculty of Economics and Law –</p> <p>- Written Examination Example -</p>	
Department: Economics	
Subject: Macroeconomics (Bachelor)	Semester:
	Date:
Examinant:	Prof. Dr. Rainer Maurer
Time:	60 Minutes
Auxiliary Means:	Dictionary, Non-Programmable Calculator

Notes:

(1) Please check the number of sheets and questions for completeness. You should find 7 questions and 6 sheets (inclusive the front page).

(2) Please use these sheets to answer the questions. **If you need more space, use the back of the preceding page!** Should these not be sufficient, use additional sheets and staple them at the end. Please take care for a correct numbering of all additional sheets.

(3) A correct answer yields the number of points noticed in the side column of each question. To pass the examination 50% of all available points have to be reached (= 30 Points).

(4) Please give complete and comprehensible answers. Illegible answers cannot be accepted.

(5) If you use charts, please take care for a complete labeling.

Name: _____

Matriculation-Number: _____

Result: _____

<p>1. Explain the different ways Gross Value Added (=contribution to Gross Domestic Product) of firms, government and private households is calculated.</p> <p><i>Gross value added of the companies: The sales of each company are deducted from the products of its suppliers (= intermediate consumption). (1 point)</i></p> <p><i>Gross value added of the state: Statistical offices estimate the gross value added of non-profit organizations by their payroll costs. (1 point)</i></p> <p><i>Gross value added of households: Household production is measured only to the extent that it takes place via market transactions. (1 point)</i></p>	3
<p>2. The German GDP of the year 2006 was equal to 2309 Bn. Euro. In the year 2005 it was equal to 2241 Bn. Euro. The real GDP growth rate from the year 2005 to the year 2006 was 2.8 %. Find the inflation rate from the year 2005 to the year 2006.</p> <p>The relationship is given by the formula:</p> <p>Nominal GDP(2005) * (real growth) * (inflation rate) = nominales GDP(2006)</p> <p><=> $\text{GDP}(2005) \quad * \quad (1+g) \quad * \quad (1+\pi) = \text{GDP}(2006)$</p> <p><=> $2241 \quad * \quad (1+2,8\%) \quad * \quad (1+\pi) = 2309$</p> <p><=> $\pi = (2309/2241) / (1+2,8\%)-1$</p> <p><=> $\pi = 0,23 \%$</p>	4

<p>3. What consequences has a decrease of investment demand under the assumptions of the neoclassical Model? Explicate the complete causal chain.</p> <p><i>A permanent decline in investment demand will reduce corporate demand for credit. This causes a decline in the interest rate, so that the saving of households decreases. Household consumption increases as a result of the decline in savings: $C \uparrow = Y - S \downarrow$. This increase in consumer demand then compensates for the decline in capital goods demand in the commodities market. By the end of the day, the overall demand for commodities ($C \uparrow + I \downarrow$) stays just as high as it is before the decline in investment demand.</i></p>	4
<p>4. Start with a situation where all markets are in equilibrium. Explain the adjustment process that results under the assumptions of the neoclassical model, when the government increases government consumption financed by an increase of household taxes. What are the long-run consequences of this policy?</p> <p><i>If tax-financed government expenditure increases, the tax burden on households increases by the amount of government expenditure $\Delta G = \Delta T$. The disposable income of households thus decreases: $Y - (T + \Delta T)$. The decline in disposable income leads to a decline in consumer demand and / or savings.</i></p> <p><i>If savings fall alongside consumption, the credit market interest rate rises ($i \uparrow$) and leads to a decline in the demand for capital goods ($I (i \uparrow) \downarrow$).</i></p> <p><i>As a result, the private sector demand for goods decreases overall ($YD (i \uparrow) \downarrow$). The decline in private consumer demand, according to the assumptions of the model, corresponds to the amount of the increase in the tax burden by the state ΔT. Since ΔT is identical to the increase in government consumption ($\Delta G = \Delta T$), the decline in the private demand for goods by ΔT is therefore the same as the increase in government consumption ΔG.</i></p> <p><i>The increase in tax-financed government consumption thus has no effect on the overall level of demand for goods. The increase in tax-financed government demand for goods crowds out private demand for goods, due to the decline in household disposable income: a so-called complete crowding out occurs.</i></p> <p><i>If the increase in tax-financed government demand is permanent, the increase in the interest rates, causes a permanent lower level of private investment. If the state does not use its increased consumption of goods for investment, this reduces the accumulation of capital, so that the GDP of the economy grows more slowly.</i></p>	14

5. Start with a situation with Keynesian unemployment (=recession). Explain the adjustment process that results under the assumptions of the Keynesian model in the short-run, when the central bank increases money supply.

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Under the assumptions of the Keynesian short-term model, an increase in the nominal money supply by the central bank leads to an expansion of the real money supply by $\Delta MS / P$ and thus, by the constant price level, to an increase of real supply of credit by the same amount.

As a result, the capital market interest rate drops, so that investment increases by the amount of the real money increase: $I (i \downarrow) \uparrow$. Since companies adapt their production of goods under the assumptions of the model in the short term always to the level of the demand for goods, the production of goods increases. As a result, household labor and capital incomes also increase, so that households increase their consumer demand. The resulting additional increase in demand then leads to further increase of production by companies (multiplier effect). Due to the multiplier effect, there is an increase in GDP, which is greater than the initial rise in demand for investment goods. Since more labor is needed to produce more GDP, labor demand raises. The strength of the increase in labor demand depends on the strength of the monetary expansion by the central bank: if the central bank does not expand the money supply strong enough, GDP will increase, and also labor demand. However, Keynesian underemployment will not be completely eliminated. If the central bank expands the money supply too much, labor demand can also rise above the long-term labor market equilibrium.

In addition to the increase in labor demand, the increase in GDP has two other effects: First, households' savings increase by the GDP increase multiplied by the savings rate. Second, money demand is rising as the higher GDP increases the level of market transactions. Assuming that the increase in savings is just large enough to meet the higher demand for money, these effects have no further consequences. But that need not necessarily be the case: it may also be the case that the increase in money demand is too small (too strong) to absorb the higher savings. In this case, the interest rate would fall (rise). Investment would then continue to rise (decrease) until GDP growth (GDP contraction) leads to demand for money, which, together with investment demand, is equal to the total supply of credits.

6. Explain how Insider-Outsider Unemployment can emerge.

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According to the insider / outsider theory, collective bargaining systems with trade unions have an economic incentive for the trade union leadership to raise wages above the market equilibrium level and accept the resulting unemployment. The reason is:

The trade union leadership has the incentive to take into account only the interests of its members (= insiders), because only these finance the union leadership with their membership fees. The interests of the unemployed (= outsiders), on the other hand, are neglected because they are not paying members of the union and therefore have no influence on the income of the union leadership.

Under this assumption, there is an incentive for the union leadership to raise collective bargaining rates above the market equilibrium level. Because if trade unions accepted market equilibrium wages, union members would have no reason to be members of the union. So the unions have to raise the collective wage over the market equilibrium level.

The trade unions will then lose members due to resulting unemployment. The remaining members, however, receive higher wages than before and are therefore willing to pay membership fees. By raising the salaries above the market equilibrium level, the trade union can thus ensure the willingness of their members to pay the membership fees. The union leadership can therefore indirectly profit from the increase of wages via the membership fees.

7. a) Explain how and why deposit money creation of commercial banks is possible.
 b) Explain how the trend towards an increasing share of cashless payments affects the potential of commercial banks to create deposit money. What can a central bank do to offset the consequences of this trend?

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a) The creation of bank money by commercial banks is possible, because commercial banks offer payment systems for cashless transactions. Thus, all payments in an economy can take place in a cashless way. For example, a company may borrow a cashless bank deposit from a commercial bank. The company can then pay its employees via a cashless bank transfer. The employees can then pay their purchases of goods from the company via cashless payments too. At the end of such a payment cycle, the company receives its cashless bank deposit back and can then return its credit to the commercial bank. Thus such a payment circle is possible without cash from the commercial bank. (10 points)

*As payment for cash is however common for a number of transactions (for example, purchases in smaller stores or small purchases only), in reality a part of the bank loan M granted by commercial banks will be withdrawn in the form of cash. The average percentage rate of cash withdrawal is called cash ratio c . Commercial banks therefore need an amount of cash equal to $c * M$, if they grant M a bank loan. As the cash ratio fluctuates in reality and legal requirements exist in most countries, commercial banks also maintain a reserve ratio, r , in addition to the cash ratio. All in all, to issue a bank loan equal to the amount of M , it is necessary to possess an amount of cash equal to $(c + r) * M = B$.*

b) The trend towards cashless payments, causes the cash ratio c to fall. As a result, commercial banks can create with a given amount of cash B more and more deposit money: $M \uparrow = B / (c \downarrow + r)$. To counteract this, the central bank can either lower the amount of cash $B \downarrow$ or increase the reserve requirements $r \uparrow$. (5 points)