TU Bergakademie Freiberg
Professur für Allgemeine Volkswirtschaftslehre, insb. (monetäre) Makroökonomik
Univ.-Prof. Dr. Robert L. Czudaj

Exam
Advanced Macroeconomics
WS 24/25

Klausurtermin: 10.02.2025

Matrikelnummer/Student-ID: ....

Studiengang/Course: ....

- Question 1 is **mandatory**. Furthermore, **3 out of the 4** remaining questions can be selected. If you work on all questions, please clearly indicate which should be evaluated.
- Please write legibly. Do not use erasable pens and markers.
- Permitted aids: none
- Time: 90 minutes
- Total points: 90
- If you cannot provide a complete solution, try to at least sketch an idea.

Good Luck!

Question (Points)	1 (30)	2 (20)	3 (20)	4 (20)	5 (20)	Sum (90)	Grade
Points achieved							

1 **Mandatory task**

(a) How do we call the adjustment process after a stimulation of demand in the goods market? Explain briefly. **[3 Points]**

(b) What is meant by an expansionary monetary policy? In which situation does this policy make sense? **[3 Points]**

(c) What may happen to money demand, if the interest rate is down to zero? **[3 Points]**

(d) What determines the bargaining power of workers in wage-setting? Explain briefly. **[3 Points]**

(e) What does it mean if inflation expectations are de-anchored? **[3 Points]**

(f) What is potential output? **[3 Points]**

(g) Briefly describe how technological progress might enter the production function? **[3 Points]**

(h) What is the Balance of Payments and what do we mean by transactions above and below the 'line'? Explain briefly. **[3 Points]**

(i) What is the difference between GDP and GNP? **[3 Points]**

(j) What is the real interest rate and why is it more important than the nominal? **[3 Points]**

2 The medium run

(a) What is a deflation trap? Please explain and provide an example to illustrate how this phenomenon might happen. Describe the responses of market participants, the central bank, and the government prior to and during the period of deflation. **[10 Points]**

(b) Suppose that a country experiences a negative output gap while monetary policy is unchanged. What do you expect to happen with the unemployment rate and the inflation rate? Explain. **[4 Points]**

(c) How should policymakers balance the trade-off between reducing unemployment and controlling inflation? Discuss based on the accelerationist Phillips curve. **[6 Points]**

3 The long run

(a) Suppose that the economy's production function is: **[10 Points]**

$$Y = \sqrt{K}\sqrt{AN}$$

The saving rate is 16% and the rate of depreciation is 10%. The number of workers grows at 2% per year and the rate of technological progress is 4% per year.

Calculate the steady-state values of: (1) capital stock per effective worker, (2) output per effective worker, (3) growth rate of output per effective worker, (4) growth rate of output per worker, and (5) growth rate of output.

(b) Discuss the following statement while referring to the Solow model: **[4 Points]**

"Those who argue that technological progress does not reduce employment should look at agriculture. At the start of the last century, there were more than 11 million farm workers. Today, there are fewer than 1 million. If all sectors start having the productivity growth that took place in agriculture during the 20th century, no one will be employed a century from now."

(c) Suppose that the government wants to boost the growth rate of output. By which channel(s) can the government affect the growth rate? Briefly explain. **[6 Points]**

4 **Expectations**

(a) How does risk affect the decision of investors to hold stocks relative to bonds? Explain by using the arbitrage equation. **[6 Points]**

(b) Suppose output is at potential and all market participants are aware of this but the government wants to stimulate the economy by adopting expansionary fiscal policy measures. What will be the likely effect on stock prices when considering the expectations of market participants? Explain by also using a graph. **[8 Points]**

(c) How does the IS curve change when we explicitly consider expectations of market participants? What is the difference compared to the traditional IS curve (without expectations) and what does this imply for policymakers? Explain. **[6 Points]**

5 The open economy

(a) Compare the IS-LM model between closed and open economies in words. What differs? **[7 Points]**

(b) Suppose that the economy is open. Draw an IS-LM-UIP diagram. In the same figures, show and describe how an increase in the domestic interest rate will affect output and the exchange rate. Mark all points clearly and with notation. **[7 Points]**

(c) Suppose that a country is operating under a fixed exchange rate regime. **[6 Points]**

(i) How can the central bank establish such a system?

(ii) How would the central bank react if investors anticipate a devaluation? Describe two possible options.