

Prep Questions for Exam #1
ECON 3133
Dr. Keen

1. *Business Cycle Behavior*: During a recession, what is expected to happen to the following economic variables? (circle the correct answer)
- a. Employment (increase/decrease/no change)
 - b. Unemployment rate (increase/decrease/no change)
 - c. Inflation rate (increase/decrease/no change)
 - d. Nominal interest rate (increase/decrease/no change)
 - e. Real interest rate (increase/decrease/no change)
 - f. Real money supply (increase/decrease/no change)
 - g. Real wage rate (increase/decrease/no change)

2. *National Income Accounting*: Use the information below to calculate the following values.

Consumption	\$420
Corporate profits	70
Depreciation	30
Employee compensation	440
Gross domestic product	710
Net national product	660
Net interest	20
Personal income	555
Personal taxes	60
Proprietor's income	30
Rental income	40

- a. National income
 - b. Gross national product
 - c. Net factor payments from abroad
 - d. Private savings
3. *Inflation*: Suppose the price level was 150 in 2018 and 155 in 2019, while the inflation rate was 1.5% in 2020.
- a. What was the inflation rate in 2019?
 - b. What was the price level in 2020?
 - c. What measure of inflation includes the most goods and services?
 - d. What measure of inflation does the Federal Reserve target?

4. *National Income Accounting*: Use the information below to calculate the following values.

Capital investment by firms	\$420
Durable goods	570
Exports	160
Government spending	440
Government transfer payments	335
Imports	220
Interest on government debt	185
Inventory investment by firms	- 90
Non-durable goods	430
Residential investment	360
Services	510
Taxes	690

- Consumption
 - Investment
 - Government savings
 - Gross domestic product
5. *Unemployment*: Circle the correct answer
- Someone who is not working but looking for work is
(working/unemployed/not in the labor force)
 - Someone who is on vacation is
(working/unemployed/not in the labor force)
 - Someone who is on retired and not looking for work is
(working/unemployed/not in the labor force)
 - The establishment survey calculates employment numbers by interviewing
(businesses/households/both)
 - The current population survey calculates employment numbers by interviewing
(businesses/households/both)
6. *Measuring Unemployment*: Suppose there are 180 million people in the labor force, the unemployment rate is 5.0%, the labor force participation rate is 60%, and the natural rate of unemployment is 4.0%.
- How many people are unemployed?
 - How many people are working?
 - How many people are in the adult population?
 - How many people are not working?
 - How many percentage points is output above or below its potential?

7. *Labor Demand/Supply*: Suppose the labor demand is given by the equation: $N = 19 - (W/P)$, and labor supply is given by the equation: $N = 4 + 2*(W/P)$, where N is labor and W/P is the real wage.
- Using the labor demand and supply equations, construct a labor demand/supply graph and indicate the equilibrium level of labor and the equilibrium real wage.
 - Suppose the minimum wage is 7, how many people are working and how many people are unemployed?
 - Briefly describe the substitution and income effects of an increase in the real wage on labor supply.
 - In this example, does the substitution effect dominate the income effect or vice versa? Briefly explain.
8. *Solow Model*: Consider a Solow growth model where output is given by $Y = 5 \times (K \times N)^{1/2}$, the savings rate equals 8%, and the labor force growth rate equals 2%.
- Construct a graph showing equilibrium in the Solow Model with capital-to-labor ratio, K/N , on the x-axis and savings/investment-to-labor ratio on the y-axis. Be sure to properly label the equilibrium capital-to-labor ratio.
 - Using the production function and data above, calculate the equilibrium capital-to-labor ratio.
 - On the balanced growth path, is the capital growth rate higher, lower, or the same as the labor growth rate. Briefly explain.
 - Suppose the economy is on its balanced growth path. If the savings rate rises then what are the initial and long-run responses of the growth rates of capital and output. Use a graph of the Solow Model to support your answer.
9. *Endogenous Growth Theory and the Long-Run Labor Supply*:
- According to the endogenous growth theory, how can the long-run output growth rate permanently rise? What is the effect of such a policy change on the current production of goods and services? Briefly explain.
 - Which policy tends to generate a larger long-run increase in the labor supply: A reduction in the personal income tax rate or a tax reform where marginal income tax rates are lower and personal deductions are eliminated? Briefly explain.
10. *1970's Productivity Slowdown*:
- What are the four potential reasons for the productivity slowdown in the 1970's?
 - If the technology growth rate declines by 1% how much does the output growth rate fall? Now suppose the growth rate of capital drops by 1%, how much does the output growth rate fall? Use an equation to justify both of your answers.
 - How did the real wage growth rate respond to the 1970's productivity slowdown? Use evidence from microeconomic theory to justify why the response of the real wage growth rate to the 1970's productivity slowdown was reasonable.

11. *Long-Run Fiscal Policy*: Suppose the government is running a long-run budget deficit.
- If the government permanently lowers its government spending to balance its budget, how would the interest rate, consumption's share of output, investment's share of output, and net exports' share of output respond in the long-run? Briefly explain your answer.
 - If the government permanently raises taxes to balance its budget, how would the interest rate, consumption's share of output, investment's share of output, and net exports' share of output respond in the long-run? Briefly explain your answer.
12. *Long-Run Money Market*: Use a graph of the long-run money market to support each answer.
- What is the long-run impact of an increase in potential output on the price level?
 - What can the central bank do to prevent the long-run price level from changing in part a?
13. *Convergence*: Suppose that the production function for the South Korea and North Korea is given by $Y = A \times (K)^{1/3} (N)^{2/3}$. If capital per capita, K/N , is 27 times larger in the South Korea than in North Korea and technology, A is 7 times larger in the South Korea than in North Korea, how much larger is output per capita, Y/N , in the South Korea than in North Korea.
14. *Conditional Convergence*: What two factors in the Solow growth model prevent two countries from converging to an identical capital-to-labor ratio? Use a graph for each factor to support your answer.