ECO 150, Fall 2022, Exam #2

Name: Key

Instructions:

1. This exam consists of thirteen questions and a bonus. The bonus is harder than the other question but keep in mind that points on the bonus count the same as for any other question. You are encouraged to use the models from class when formulating your answers.

2. Some questions are open ended. You will be graded more on the quality of your explanation than your specific answers. On "true/false" questions, for example, answering only "true" or "false" will receive no credit, even if correct.

3. Do not just copy from the course materials. Doing so will receive no credit.

4. This is an open note exam. You may use any printed course materials. You may not use any electronic devices, you do not need a calculator.

5. All questions will be graded out of ten points. To maximize the potential for partial credit, craft clear and concise responses. If you making assumptions, state them clearly. Use graphs as appropriate.

1. True or False. Any event that increases Gross Domestic Product must also increase social welfare.

False. Social welfare is a subjective concept that includes many factors beyond GDP. A policy that raises GDP may reduce welfare if it has other adverse effects (e.g. higher inflation, lower environmental quality, etc.)

2. Explain how might a Central Bank ameliorate (lessen the impact of) or prevent a financial (liquidity) crisis?

The primary way is to act as a lender of last resort. this may prevent unnecessary failures by making loans to sound firms who cannot obtain private loans. the Central Bank can also lower interest rates to make credit markets less risky.

3. What are the advantages and disadvantages of public pension programs like Social Security?

Advantages (non-exhaustive)

1.) May reduce poverty rates among the elderly.

2.) May prevent market failures. For example it might reduce moral hazard where workers save too little due to an expectation of a bailout.

Disadvantages

1.) Can lead to financial (fiscal) problems if the population ages. 2.) Usually requires distortionary taxes.

4. Provide two potential solutions for the financial problems of Social Security and Medicare.

1.) Raise the retirement age.

2.) Raise payroll taxes.

3.) Reduce benefits

4.) Raise the tax-limit (a special case of #2)

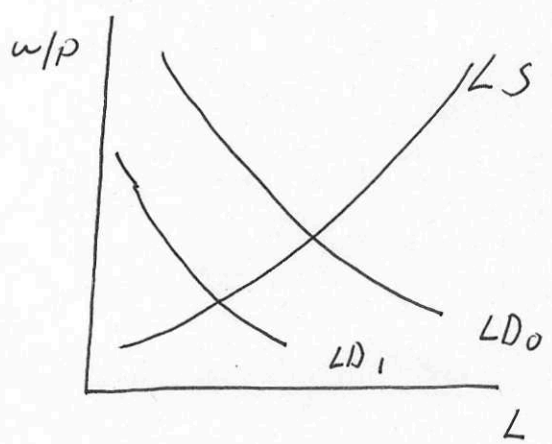
5.) means testing (a special case of #3)

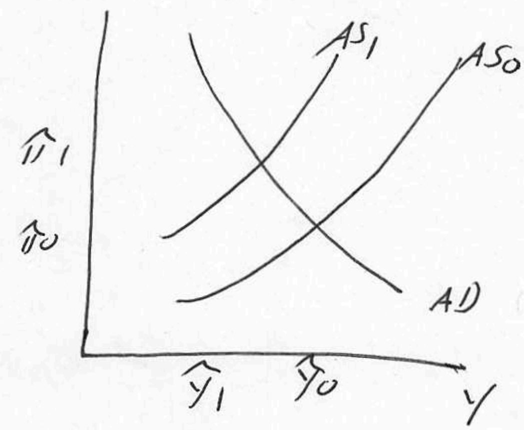
6.) redirect other revenues (e.g. income taxes) to the program.

5. What do you think is the most significant cause of declining U.S. labor productivity since March 2020 and how has this affected output and inflation?

Students could recieve full credit for any answer (e.g. supply chain problems, worker turnover, greater disability rates, etc.) that may cause workers to be less productive.

Lower productivity causes the AS curve to move left. This raises inflation and lowers output.





For questions #6-8 consider the following data .

Table 1: Economic Data for 2021-2022

Good or Service	Q(2021)	P(2021)	Q(2022)	P(2022)
Construction Equipment	10	3	11	4
Imported Mink Socks	3	2	5	6
Home Cooked Meals	2	NA	3	NA
Restaurant Meals	3	8	4	7
Pasta	1	4	1	8

6. You do not have enough information to determine in pasta should be counted in GDP. Provide one scenario where it should be included and one where it should not.

Suppose it is a final good (e.g. used in home cooked meals) and made in the domestic economy (not an import). It should then count.

If it is used as an intermediate good (e.g. used in restaurant meals) or imported, then it should not count.

7. Calculate GDP, consumption, and investment for 2021.

- Assumes pasta is an intermediate good.

GDP includes construction equipment ($30) and restaurant meals ($24). $54

Consumption includes meals and socks ($6) = $30

Investment is just construction equipment. $24.

8. Using 2021 as the base year, calculate real GDP growth.

$RGDP_{21} = \$54$

$RGDP_{22} = 11 \times 3 + 8 \times 4 = 65$

$$\text{Growth} = \frac{65 - 54}{54}$$

9. True or False? Policy makers seek to eliminate both structural and cyclical unemployment because they are involuntary and costly to households.

False. Policy makers do try to eliminate cyclical unemployment which is due to the business cycle. they do not, however, seek to eliminate structural unemployment which is part of healthy, broad changes to the economy. Policy makers instead usually support relief for the households affected.

Table 2: Labor Market data for 2022

Type	#
Discouraged Workers	20
Unemployed, Actively Seeking Work	15
Full Time workers	100
Underemployed for Economic Reasons	10
Part Time Workers, by Choice	8

10. Calculate the U-3 and U-6 unemployment rates.

$$U\text{-}3 = \frac{\text{unemployed}}{\text{employed} + \text{unemployed}} = \frac{15}{115}$$

$$U\text{-}6 = \frac{\text{unemployed} + \text{underemployed} + \text{discouraged workers}}{\text{employed} + \text{unemployed} + \text{underemployed} + \text{discouraged workers}}$$

$$= \frac{45}{145}$$

11. Suppose that 10 full-time workers drop out of the labor force. What will happen to unemployment and would economists consider this a sign of a weaker labor market?

It depends. If they voluntarily retire, it would not be a sign of a weaker labor market.

$$U\text{-}3 = \frac{15}{105} \qquad U\text{-}6 = \frac{45}{135}$$

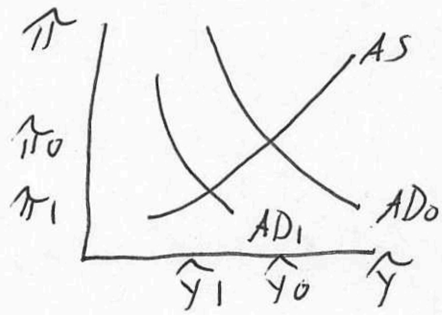
If they become underemployed or discouraged, however, then it is a sign of a weaker labor market.

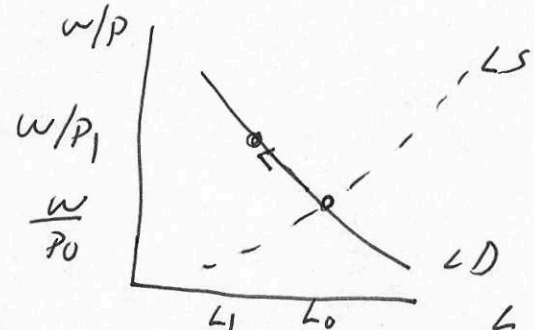
$$U\text{-}3 = \frac{15}{105} \qquad U\text{-}6 = \frac{45}{145}$$ (same as before)

12. Recall that the AS/AD model assumes "sticky wages." Suppose that the Fed raises interest rates. Show how this will impact output, inflation, and the labor market. You may consider including graphs of AS/AD and the labor market.

Higher interest rates reduce aggregate demand ⇒ lower inflation and less output.

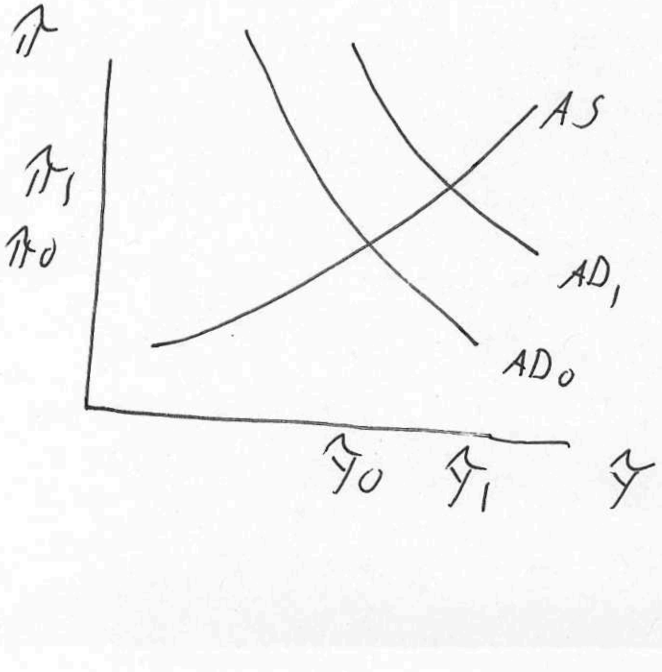
In the labor market, higher real wages reduce employment.





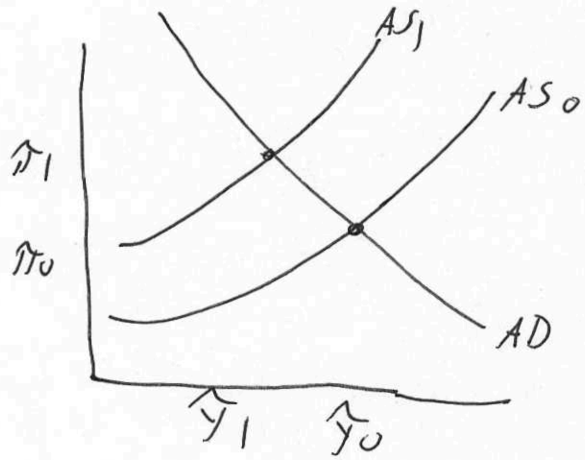
13. After covid-19, the government cut taxes, increased spending, and lowered interest rates. True or False? This policy mix will increase output but leave inflation unchanged.

All of these policies increase aggregate demand. If the AS curve is upward sloping, it will increase both inflation and output



Bonus. There is currently concern that ongoing Fed interest rate hikes will lead to a significant drop in output (possibly entailing a recession) in 2023. Is there a set of policies that might prevent such a scenario? In crafting your answer, make sure to discuss both aggregate supply and aggregate demand.

The challenge facing the Fed is that lower productivity has caused the AS curve to shift left. this creates a trade-off between output and inflation.



① Expansionary fiscal policy would shift AD right. this will increase $\hat{Y}$, but will make inflation worse.

② A policy that increases supply could work. these are hard, however, to identify.