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Department of Economics
Economics 202
Spring 2026

Homework #2 (due by 9:00pm on Friday, ~~January 30~~ <u>February 6</u>)

*Please submit your answers to this homework through the Assignment link at Blackboard. **No credit will be given for answers submitted in class or emailed to the professor**, regardless of the excuse.* This includes unique excuses like my dog ate my homework, but also more traditional excuses like "I lost my Internet". Please note that all submissions are final, again – regardless of the excuse (which includes "I accidentally hit the submit button"). You will get whatever score is assigned to you by Blackboard. If you are unfamiliar with Blackboard, then it would be a good idea to visit the class page at Blackboard and check out the homework assignments as they are posted.

Please note that when Blackboard grades answers to the fill-in-the-blank questions – your answer must match exactly with the answer that Blackboard is looking for or your answer will be considered incorrect. You'll always be given formatting instructions and you must follow those instructions. Below, you'll find some instructions on how to properly format your answers to these type of questions. A more complete discussion of these rules is provided at Blackboard. Reading that section is strongly recommended.

As stated above, given that answers to the fill-in-the-blank questions must not only be correct, but formatted properly, correct formatting is part of the process. A wrongly formatted answer is still a wrong answer. I.e., you will not have points added to your homework score if you got answers wrong due to formatting mistakes. However, this is still something you will want to bring to Professor Haworth's attention. *In addition, if you are unsure how to round an answer (e.g. whether 3.25 rounds to 3.2 or 3.3), then please contact Professor Haworth.*

Homework #2 formatting instructions:
*(a) **Questions 20 and 21:** round your answer in these questions to the nearest whole dollar. Note that the dollar sign ($) and commas are optional here. E.g., if you calculate an answer of 15,300.775, then you can record your answer as $15,301, $15301, 15,301, or 15301 – but not as $15,300.775, $15,300.78, 15300.775 or 15300.78.*

Homework #2 Questions

In Questions #1-8, you must predict how various events affect the new office furniture market in Louisville (e.g. office desks, file cabinets, etc). That means you'll be predicting how the demand and supply curves associated with this market are affected by each event. The demanders in this market are the firms and individuals who purchase office furniture, and the suppliers are the companies who sell these items. Note that this market does not include used furniture.

Below, you must determine how each of the different events below will affect this market in terms of causing a shift or shifts in the demand and supply curves within the market. E.g., if you believe that the first event leads to an "Increase in Demand" for Louisville's office furniture market, then your answer would be "a".

1. Regulatory changes that ease local zoning laws lead to more suppliers entering the Louisville office furniture market.
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand and Increase (shift right) in Supply
f. Decrease (shift left) in Demand and Decrease (shift left) in Supply
g. Increase (shift right) in Demand and Decrease (shift left) in Supply
h. Decrease (shift left) in Demand and Increase (shift right) in Supply

2. There is a large decrease in the tax on demanders within the Louisville office furniture market.
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand and Increase (shift right) in Supply
f. Decrease (shift left) in Demand and Decrease (shift left) in Supply
g. Increase (shift right) in Demand and Decrease (shift left) in Supply
h. Decrease (shift left) in Demand and Increase (shift right) in Supply

3. Office furniture suppliers in Louisville begin paying higher wages to their employees.
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand and Increase (shift right) in Supply
f. Decrease (shift left) in Demand and Decrease (shift left) in Supply
g. Increase (shift right) in Demand and Decrease (shift left) in Supply
h. Decrease (shift left) in Demand and Increase (shift right) in Supply

4. Local government participates in an urban expansion program that involves subsidizing the building of large tracts of housing. This leads to an increase in the population of Louisville.
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand <u>and</u> Increase (shift right) in Supply
f. Decrease (shift left) in Demand <u>and</u> Decrease (shift left) in Supply
g. Increase (shift right) in Demand <u>and</u> Decrease (shift left) in Supply
h. Decrease (shift left) in Demand <u>and</u> Increase (shift right) in Supply

5. Large decreases in gasoline prices lower the distribution cost associated with selling office furniture in Louisville.
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand <u>and</u> Increase (shift right) in Supply
f. Decrease (shift left) in Demand <u>and</u> Decrease (shift left) in Supply
g. Increase (shift right) in Demand <u>and</u> Decrease (shift left) in Supply
h. Decrease (shift left) in Demand <u>and</u> Increase (shift right) in Supply

6. Louisville area consumers expect a lower future price for office furniture sold in this market.
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand <u>and</u> Increase (shift right) in Supply
f. Decrease (shift left) in Demand <u>and</u> Decrease (shift left) in Supply
g. Increase (shift right) in Demand <u>and</u> Decrease (shift left) in Supply
h. Decrease (shift left) in Demand <u>and</u> Increase (shift right) in Supply

7. There is a decrease in the productivity associated with selling office furniture in Louisville.
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand <u>and</u> Increase (shift right) in Supply
f. Decrease (shift left) in Demand <u>and</u> Decrease (shift left) in Supply
g. Increase (shift right) in Demand <u>and</u> Decrease (shift left) in Supply
h. Decrease (shift left) in Demand <u>and</u> Increase (shift right) in Supply

8. The price of used office furniture decreases significantly within Louisville.
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand and Increase (shift right) in Supply
f. Decrease (shift left) in Demand and Decrease (shift left) in Supply
g. Increase (shift right) in Demand and Decrease (shift left) in Supply
h. Decrease (shift left) in Demand and Increase (shift right) in Supply

In Questions #9-16, you'll be working with the Louisville area market for new automobiles, which consists of many sellers and buyers. Note that this market does not include used automobiles, and only includes automobiles sold within the city of Louisville. Used automobiles sold in Louisville and any new automobile sold outside of Louisville (e.g. in a neighboring county that's outside of Louisville) would be substitute goods since these two goods are not part of the new automobile market within Louisville. We will also assume that new automobiles are a normal good.

In these questions, you must determine how each event ultimately affects the equilibrium price and equilibrium quantity of automobiles in Louisville's new automobile market. Step 1 is to ascertain how each event affects the demand and supply in this market in terms of a shift. Step 2 is to determine how that shift affects the equilibrium price and quantity.

E.g., the first event involves an increase in the number of new automobile suppliers within the Louisville market. If you believe that this event leads to an increase in the demand for new automobiles, then draw this shift on a graph (or use your notes). The graph will show you that an increase in demand leads to an increase in the equilibrium price and an increase in the equilibrium quantity. In that situation, your answer would be "c".

9. There is an increase in the tax on suppliers of new automobiles sold in Louisville.
a. Increase in equilibrium price and decrease in equilibrium quantity
b. Decrease in equilibrium price and increase in equilibrium quantity
c. Increase in equilibrium price and increase in equilibrium quantity
d. Decrease in equilibrium price and decrease in equilibrium quantity

10. There is an increase in the tax on suppliers of new automobiles sold in Indiana.
a. Increase in equilibrium price and decrease in equilibrium quantity
b. Decrease in equilibrium price and increase in equilibrium quantity
c. Increase in equilibrium price and increase in equilibrium quantity
d. Decrease in equilibrium price and decrease in equilibrium quantity

11. Extended warranties for new automobiles are a complement for new automobiles. Assume new automobile suppliers begin selling these extended warranties at a much lower price.
a. Increase in equilibrium price and decrease in equilibrium quantity
b. Decrease in equilibrium price and increase in equilibrium quantity
c. Increase in equilibrium price and increase in equilibrium quantity
d. Decrease in equilibrium price and decrease in equilibrium quantity

12. Improved technology with the inventory systems of new automobile suppliers makes the process of selling new automobiles more efficient.
a. Increase in equilibrium price and decrease in equilibrium quantity
b. Decrease in equilibrium price and increase in equilibrium quantity
c. Increase in equilibrium price and increase in equilibrium quantity
d. Decrease in equilibrium price and decrease in equilibrium quantity

13. Recession leads to a significant decrease in the current income of Louisville-area citizens.
a. Increase in equilibrium price and decrease in equilibrium quantity
b. Decrease in equilibrium price and increase in equilibrium quantity
c. Increase in equilibrium price and increase in equilibrium quantity
d. Decrease in equilibrium price and decrease in equilibrium quantity

14. With gasoline prices expected to rise, and other regulatory changes by Federal government, new automobile suppliers in Louisville expect a decrease in future profit.
a. Increase in equilibrium price and decrease in equilibrium quantity
b. Decrease in equilibrium price and increase in equilibrium quantity
c. Increase in equilibrium price and increase in equilibrium quantity
d. Decrease in equilibrium price and decrease in equilibrium quantity

15. More firms in the Louisville new automobile market adopt automated inventory systems, and this change in technology leads to these firms experiencing higher productivity.
a. Increase in equilibrium price and decrease in equilibrium quantity
b. Decrease in equilibrium price and increase in equilibrium quantity
c. Increase in equilibrium price and increase in equilibrium quantity
d. Decrease in equilibrium price and decrease in equilibrium quantity

16. In an effort to decrease employee turnover, new automobile suppliers begin paying a much greater percentage of their employee's health care benefits.
a. Increase in equilibrium price and decrease in equilibrium quantity
b. Decrease in equilibrium price and increase in equilibrium quantity
c. Increase in equilibrium price and increase in equilibrium quantity
d. Decrease in equilibrium price and decrease in equilibrium quantity

Questions #17-19 below report month to month changes in the retail price of gasoline and quantity of gasoline sold within the U.S. Assume that the demand and supply curves associated with this market have their typical slope and that the prices and quantities discussed in each question below represent the equilibrium price (P*) and equilibrium quantity (Q*) in this market.

Your job in each question is to note how P* and Q* have changed, and then explain these changes in terms of how demand and/or supply must have shifted in order to get that change in P* and Q*.

Here's the process for answering these questions.
First, determine how the price (P*) and quantity (Q*) changed. E.g., in Question 17, you're given information that tells you both P* and Q* have decreased.

Second, given this change in P* and Q*, consider the shift that would cause this change to occur. E.g., if you believe that a decrease in both P* and Q* is best explained as an increase in supply, then your answer to Question 17 would be "b".

17. Assume that the monthly retail price of gasoline changes from $2.647 to $2.477, and the monthly quantity sold changes from 8.62 million barrels to 8.45 million barrels. Which of the following best explains this change in the equilibrium:
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand <u>and</u> Increase (shift right) in Supply
f. Decrease (shift left) in Demand <u>and</u> Decrease (shift left) in Supply
g. Increase (shift right) in Demand <u>and</u> Decrease (shift left) in Supply
h. Decrease (shift left) in Demand <u>and</u> Increase (shift right) in Supply

18. Assume that the monthly retail price of gasoline changes from $3.121 to $3.076, and the monthly quantity sold changes from 8.11 million barrels to 8.78 million barrels. Which of the following best explains this change in the equilibrium:
a. Increase (shift right) in Demand
b. Increase (shift right) in Supply
c. Decrease (shift left) in Demand
d. Decrease (shift left) in Supply
e. Increase (shift right) in Demand <u>and</u> Increase (shift right) in Supply
f. Decrease (shift left) in Demand <u>and</u> Decrease (shift left) in Supply
g. Increase (shift right) in Demand <u>and</u> Decrease (shift left) in Supply
h. Decrease (shift left) in Demand <u>and</u> Increase (shift right) in Supply

19. Assume that the monthly retail price of gasoline changes from $2.399 to $2.890, and the monthly quantity sold changes from 8.71 million barrels to 8.69 million barrels. Which of the following best explains this change in the equilibrium:

a. Increase (shift right) in Demand

b. Decrease (shift left) in Demand

c. Increase (shift right) in Supply

d. Decrease (shift left) in Supply

e. Increase (shift right) in Demand and Increase (shift right) in Supply

f. Decrease (shift left) in Demand and Decrease (shift left) in Supply

g. Increase (shift right) in Demand and Decrease (shift left) in Supply

h. Decrease (shift left) in Demand and Increase (shift right) in Supply

20. Assume that you receive $10,000 in nominal income in September 2025 and that the CPI for September 2025 is 324.800. Given this information, you need to calculate the real income associated with this amount of nominal income. *Note the formatting instructions for this question.*

In September 2025, $10,000 in nominal income is equal to _____ in real income.

21. In each of the questions below, use the information provided in the question to calculate the real income associated with earning $10,000 in nominal income during August 2025 in different areas of the country. *Once again, note the formatting instructions for this question.*

a. Assume that you earned $10,000 in the Atlanta area during August 2025, and that the CPI in Atlanta during August 2025 was 318.877.

In this situation, your real income in August 2025 would have been _____.

b. Assume that you earned $10,000 in the Houston area during August 2025, and that the CPI in Houston during August 2025 was 278.771.

In this situation, your real income in August 2025 would have been _____.

c. Assume that you earned $10,000 in the Los Angeles area during August 2025, and that the CPI in Los Angeles during August 2025 was 344.503.

In this situation, your real income in August 2025 would have been _____.

d. Assume that you earned $10,000 in the New York area during August 2025, and that the CPI in New York during August 2025 was 347.266.

In this situation, your real income in August 2025 would have been _____.

22. Use the *HW2-CPI-Table1* file posted at Blackboard in the Homework #2 folder. This folder is in the Course Content section, in the Homework assignments folder. Note that in order to answer this question, you first need to know the value of the CPI in the base year. This would have been discussed in class. Note as well that that the CPI in this table represents the average price of a specific group of goods or services in September 2025.

Here's how to do this question.
First, we want to understand what each response is saying. Start with "response a" below, which refers to the average price of food away from home. The question is asking you to compare the CPI for this item in the base year (which was discussed in class) to the CPI for this item in September 2025. Since tripling something means that one value is three times as large as the other value, then more than tripling means that the value is more than three times as large as the other value. Your job with the first response is to determine whether the CPI for food away from home in September 2025 is more than three times as large as what the CPI for food away from home would be in the base year.

Second, when the question asks about the inflation rate for an item between the base year and September 2025, then again, you need to know the CPI from the base year (discussed in class). You'll take the CPI from Sept 2025, the base year CPI and plug these values into the inflation rate equation provided in class.

Given the information in this table, select each true statement from the list below.
*Note that **there is more than 1 correct answer below** and since there is **no partial credit** on this question, your overall answer must be **completely correct**.*

a. between the base year and Sept 2025, the average price of *Food away from home* has more than tripled

b. between the base year and Sept 2025, the inflation rate of *Tobacco and smoking products* was 1570.441%

c. between the base year and Sept 2025, the inflation rate of *Shelter* was 418.598%

d. between the base year and Sept 2025, the inflation rate of *Airline fares* was 258.027%

e. between the base year and Sept 2025, the inflation rate of *Nonalcoholic beverages (and beverage materials)* is greater than the inflation rate of *Alcoholic beverages*

f. between the base year and Sept 2025, the average price of *Motor Vehicle Insurance* has less than doubled

g. between the base year and Sept 2025, the average price of *Apparel* has more than doubled

h. between the base year and Sept 2025, the average price of *Medical Care services* has less than tripled

To answer Questions #23-24 below, you need to access the HW2-CPI-Table2 file posted at Blackboard in the Homework #2 folder. This folder is in the Course Content section, in the Homework assignments folder.

Use the CPI data and nominal salaries provided in the table to answer Questions #23-24.

23. Which President had the greatest real salary?
a. Washington
b. Jackson
c. Lincoln
d. Grant
e. T. Roosevelt
f. Taft
g. F.D. Roosevelt
h. Truman
i. Kennedy
j. Carter
k. Reagan

24. Which President had the lowest real salary?
a. Washington
b. Jackson
c. Lincoln
d. Grant
e. T. Roosevelt
f. Taft
g. F.D. Roosevelt
h. Truman
i. Kennedy
j. Carter
k. Reagan