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Economics 202-01
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Homework #2 (due by 9:00pm on Thursday, February 7)

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 or aliens showed up in my dorm and accidently deleted my homework, as well as 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"). When you go to Blackboard, you should see that you can save your answers, or "Save and Submit". Use the Save and Submit button to submit your answers. 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 homework answers, more specifically when Blackboard grades answers to any fill-in-the-blank questions – your answer must match exactly with the answer that Blackboard is looking for. Below, you'll find some instructions on how to properly format these answers. Reading this section is strongly recommended.

Questions 1 and 4-6

Note that on Question #1 and Questions #4-5, you'll be referred to a file with data reported in different tables which you will use to answer those questions. As noted within each of those questions, these files are posted in the **Homework #2 material** folder in "Course Documents" at Blackboard.

In Questions #6a and b, you're asked to calculate a value for real income within a specific region of the country. Your answer in both parts should be expressed in terms of dollars and rounded to the nearest whole dollar. E.g., twenty dollars and 30 cents would be written as $20, rather than $20.30, 20.30 or 20.

If you have any questions on how to express an answer, then be sure to ask before you submit the homework for grading.

Homework #2 Questions

1. We'll be using data from the Energy Information Administration website on the monthly price and quantity of regular gasoline sold within the U.S. That data is provided in two separate files within the Homework #2 material folder that's posted in Course Documents at Blackboard.

U.S. Regular Gasoline Retail Prices

- *This file provides monthly data on retail gasoline prices for regular unleaded gasoline in dollars per gallon. You can interpret each of the prices in the table as being an equilibrium price for a specific month/year.*

U.S. Regular Gasoline Retail Sales

- *This file provides monthly data on retail gasoline sales of regular unleaded gasoline in thousands of gallons per day. You can interpret each of the values in this table as being an equilibrium quantity for a specific month/year.*

Assume that the demand and supply curves associated with this market have their "typical slope" (i.e. that the demand curve in this market has a negative slope, and the supply curve a positive slope). Assume also that the prices and quantities you observe in the tables represent the equilibrium price (P*) and equilibrium quantity (Q*) in this market.

In each problem below, you're provided with a pair of months. Your first task is to determine how the price and quantity changed between these two months. Under the assumption that the price is an equilibrium price and the quantity is an equilibrium quantity, you have information that tells you how the equilibrium changed between the two months. Given the changes that must have occurred, you must infer which shift(s) took place to give us that change in equilibrium.

Match the pair of dates (and implied change in P* and Q*) on the left to the appropriate shift(s) on the right. Note that the shift(s) must always explain the result you found (i.e. it can't be correct under certain circumstances, it must always be correct in a market where the curves have their regular slopes – as assumed above). E.g., if you discover that both P* and Q* increase between Mar 2018 and April 2018, and you think this is best explained by an increase in supply, then your answer for *part a* would be "C".

Change in P* and Q*:	**Shift in curve(s):**
a. Mar 2018 to April 2018	A. Increase in demand
b. Jan 2018 to Feb 2018	B. Decrease in demand
c. Dec 2017 to Jan 2018	C. Increase in supply
d. Nov 2017 to Dec 2017	D. Decrease in supply
e. Sept 2017 to Oct 2017	E. Increase in demand and increase in supply
	F. Decrease in demand and decrease in supply
	G. Increase in demand and decrease in supply
	H. Decrease in demand and increase in supply

2. Assume that Louisville (e.g. Jefferson County) has a market for retail gasoline and that similar, but alternative retail gas markets also exist in southern Indiana, and in counties adjacent to Louisville, like Oldham County and Bullitt County.

Let's analyze the **retail gasoline market in Louisville** (i.e. we will be trying to predict how the Louisville market is affected by various events). Below, you must determine how each of the five different events affect this market in terms of causing a shift or shifts in the demand and supply for retail gasoline in Louisville. Match each event below with the appropriate shift(s). E.g., if you believe that improved technology with gas pumps from "part a" causes a decrease in the Supply within the Louisville retail gasoline market, then your answer would be "D".

Events:

a. Improved technology with the gas pumps that dispense gasoline to consumers

b. Changes in state law which increase the number of drivers in cities like Louisville

c. Changes in state law which bans consumers from pumping their own gas, a ban that raises the cost of supplying gas because gas stations must now hire additional employees to pump gas for consumers (similar to existing laws in states like Oregon and New Jersey)

d. Increase in consumer income

e. Increase in gas prices within counties adjacent to Louisville (e.g. Oldham and Bullitt Counties).

Effect: Shift in Curve(s) within the Louisville gasoline market

A. Increase (shift right) in Demand for Louisville gasoline

B. Decrease (shift left) in Demand for Louisville gasoline

C. Increase (shift right) in Supply of Louisville gasoline

D. Decrease (shift left) in Supply of Louisville gasoline

E. Increase (shift right) in Demand for Louisville gas and Increase (shift right) in Supply of Louisville gas

F. Decrease (shift left) in Demand for Louisville gas and Decrease (shift left) in Supply of Louisville gas

G. Increase (shift right) in Demand for Louisville gas and Decrease (shift left) in Supply of Louisville gas

H. Decrease (shift left) in Demand for Louisville gas and Increase (shift right) in Supply of Louisville gas

3. Continue analyzing the market from question #2, the Louisville retail gasoline market, and predict how various events will most likely affect the current equilibrium price and quantity of retail gasoline within Louisville. E.g., if you believe that the expectation of higher gas prices during Derby Week leads to an increase in the current equilibrium price and quantity of retail gasoline within the current Louisville gasoline market, then your answer would be "A".

Events:

a. We are 7 days away from Derby Week, a week when there will be a big influx of visitors to the Louisville area which causes gas prices to significantly increase during Derby Week.

b. the Federal (US) government drops the requirement that Louisville area gas stations sell reformulated gasoline, lowering the cost of supplying gasoline within the Louisville area.

c. Increases in the productivity of Louisville gas stations

d. Strict new city government health and safety regulations lead to the exit of gas stations from the Louisville market and into a neighboring market (e.g. Oldham County or Bullitt County).

e. Indiana State government enacts a significant increase in the tax on suppliers of gasoline in that state.

Effect: ΔP* and ΔQ* in the Louisville gas market

A. Increase in equilibrium price and increase in equilibrium quantity

B. Decrease in equilibrium price and decrease in equilibrium quantity

C. Increase in equilibrium price and decrease in equilibrium quantity

D. Decrease in equilibrium price and increase in equilibrium quantity

4. To answer this question, you must access the *cpi.pdf* file created by the Bureau of Labor Statistics (BLS). This file is located in the Homework #2 material folder in Course Documents at Blackboard. When you access the file, find "**Table 1.** Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, by expenditure category, July 2018" on page 8. This table reports CPI data for July 2018 across many different expenditure categories.

In the first column of Table 1, you'll see the heading "Expenditure Category" at the top of the column. In column two, you'll see the heading "Relative Importance, June 2018", followed by three columns of "unadjusted indexes" for July 2017, June 2018 and July 2018 respectively.

Using the column under the heading "unadjusted indexes" for July 2018, report the following values from each specific row:

a. The value of the July 2018 CPI for "All items" is _____

b. The value of the July 2018 CPI for "All Items less food and energy CPI" (also known as the Core CPI) is _____

note: *express the CPI value exactly as stated in the table (do not round it).*

5. Locate the Bureau of Labor Statistics (BLS) file *cpi.pdf* within the Homework #2 material folder under Course Documents at Blackboard. Find "**Table 1.** Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, by expenditure category, July 2018" on page 8.

Note that within **Table 1**, the second column provides the "Relative Importance, June 2018" (e.g. the value for item #1, Food, is 13.198). These values are the "weights" for each expenditure category in the CPI. Report the relative importance (weights) of the following nine expenditure categories (below). Note: you must record the weight exactly as you see it in the table. Also, *there is no partial credit on this question*, your overall answer must be completely correct.

Expenditure category from Table 1	**Relative Importance/Weight (June 2018)**
Food at home	
Food away from home	
Energy commodities	
Energy services	
Apparel	
New Vehicles	
Shelter	
Medical care services	
Transportation services	

6. On the CPI table below (next page), you're provided with the December 2017 CPI for four different regions of the U.S. and then for several major U.S. city areas. Use the CPI data on regions in this table to answer questions 6a and 6b.

a. A typical resident within the Midwest US region who earns a nominal income of $11,000 during this period would have a real income of _____

Note: *express your answer in terms of dollars, not dollars and cents, and round to the nearest whole dollar if necessary.*

b. A typical resident within the Northeast US region who earns a nominal income of $11,000 during this period would have a real income of: _____

Note: *express your answer in terms of dollars, not dollars and cents, and round to the nearest whole dollar if necessary.*

Consumer Price Index for All Urban Consumers (CPI-U): All Items, selected regions and cities, December 2017 (1982-84=100)

Regions	**CPI-U**
West	257.347
Midwest	230.548
Northeast	260.791
South	238.512
Major Cities	**CPI-U**
New York-Northern NJ	269.564
Atlanta, GA	234.107
San Francisco, CA	277.414
Chicago-Gary-Kenosha, IL	234.293
Cincinnati-Hamilton, OH-KY-IN	230.427*
Los Angeles, CA	259.220
Houston-Galveston-Brazoria, TX	221.568
Seattle, WA	265.850

** second half 2017*

7. Use the table above to answer question 7.

Assume that you have an individual with $5,000 in nominal income during December 2017. Based upon the December 2017 CPI (All Items) reported in the table for these selected major city areas, in which major city area would the real income of this individual be highest?

a) New York-Northern NJ
b) Atlanta, GA
c) San Francisco, CA
d) Chicago-Gary-Kenosha, IL
e) Cincinnati-Hamilton, OH-KY-IN
f) Los Angeles, CA
g) Houston-Galveston-Brazoria, TX
h) Seattle, WA

8. The chart below provides you with information about Presidential salaries in specific years and the CPI for each of those years. Use this information to answer the question on the next page that refers to the table.

US Presidents and their (nominal) salaries			
Year	**President**	**Nominal Salary**	**CPI (2010=100)**
1789	Washington	$25,000	7.8
1873	Grant	$50,000	5.5
1909	Taft	$75,000	4.1
1949	Truman	$100,000	10.9
1969	Nixon	$200,000	16.8
2001	Bush	$400,000	81.0
2011	Obama	$400,000	100.0
2017	Trump	$400,000	112.4

Based on the table from the previous page, which President had the greatest real salary? (note: real salary is the same as real income)

a. George Washington
b. Ulysses Grant
c. Howard Taft
d. Harry Truman
e. Richard Nixon
f. George W. Bush
g. Barack Obama
h. Donald Trump