

ECO 120: Global Macroeconomics
Week 3 Homework: Supply and Demand

Name: _____

Directions: Notice that all problems ask you for a descriptive answer in addition to performing a calculation or manipulating a graphical model. For full credit, make sure that you do both. You may print these sheets and put your answers in the space provided or you may use your own paper to write your answers.

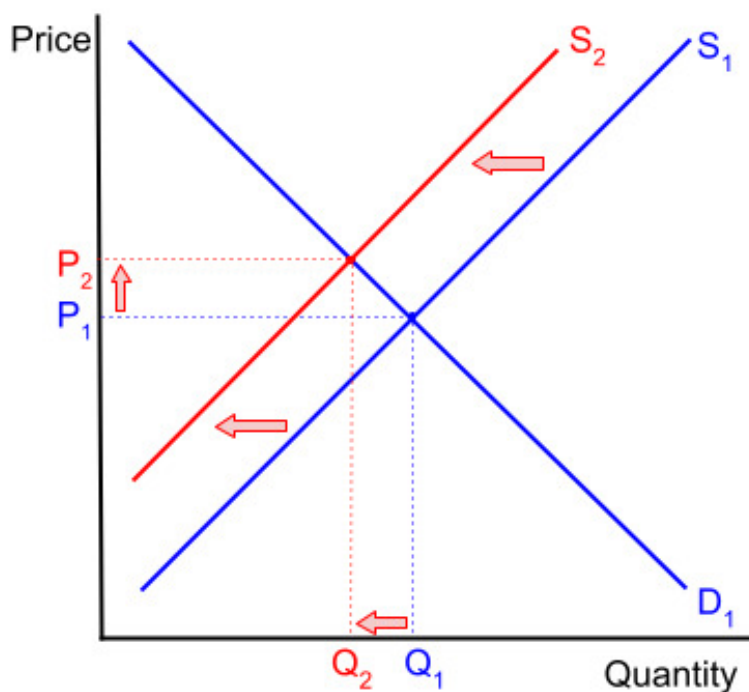
When you have finished, scan or take pictures of your work, combine all images to a single PDF file, and upload your work as a single PDF file to the Canvas Assignment area. There are apps available for Apple and Android mobile devices that can create PDF documents using your device's camera, including the Apple iPhone's native *Notes* app (use the *scan document* feature) and *Adobe Scan* app available for Android and Apple mobile devices. There are also free online tools such as <https://online2pdf.com/> and <https://www.easypdfcloud.com/>.

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For each of the following problems, read the scenario and describe and illustrate the impact on the equilibrium prices and quantities in the relevant market using the supply and demand model. Make sure to label your axes and curves, show the initial and new equilibrium points, and indicate the changes in equilibrium price and quantity. Be sure to explain your reasoning in words. **I did the first problem for you as an example.**

1. Avian flu is a disease that affects birds, including poultry, which is often deadly for the birds and is highly contagious. In 2024, more than 34 million egg-laying hens in the United States have died or were destroyed to prevent further outbreaks. Describe and illustrate the impact on eggs.

Answer: The supply of eggs decreases (shifts left) because the avian flu has killed many egg-laying hens, reducing the number of hens available to produce eggs. As a result, the equilibrium price of eggs increases, and the equilibrium quantity decreases.



2. The price of coffee has increased over the last year due to a variety of factors, including droughts in key coffee-growing areas and supply chain disruptions. Describe and illustrate the impact on the market for energy drinks.
3. Suppose the government imposes a tariff on imported steel (i.e. a tax to businesses in the United States that buy steel from abroad). Describe and illustrate the impact on the market for automobiles, which uses steel as an intermediate good.

4. There have been recent technological improvements in the production of electric vehicles and their batteries. Describe and illustrate the impact on the market for electric vehicles.

5. Mortgaged interest rates increased from 2022-2023 and remain near 15-year highs, making it more expensive for people to borrow money to buy a house. At the same time, there have been increasing costs and decreasing availability of building materials. Describe and illustrate the impact on the market for housing.

6. In 2020, wildfires and wildfire smoke destroyed thousands of acres of wine grape crops in northern California. Describe and illustrate the impact on the market for wine.
7. Walmart sells a number of inferior goods, such as inexpensive off-brand clothing, off-brand food, etc. Unemployment rates in the United States have decreased over 2022-2024 and income and wages for low-income workers have increased. Describe and illustrate the impact on the market for inferior goods at Walmart.

8. A rise in remote work opportunities leads to an increasing number of people relocating away from urban areas to suburban and rural areas. Describe and illustrate the impact on the market for suburban housing.
9. The Inflation Reduction Act of 2022 created two tax credit programs for solar panel manufacturers. The programs provided approximately \$14 billion dollars to be distributed to businesses that produce solar panels. Describe and illustrate the impact of this program on the market for solar panels in the United States.