



## AP Macro Topic 1.6

# Changes in Equilibrium

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**Part 1 - Article Analysis-** Read the news article below and use your knowledge of supply and demand to answer the following questions.

Generally, demand for bug-repellent products in the U.S. is low in February. One upside to the wintery weather currently blanketing swathes of the country is it keeps insect-related worries at bay. But this isn't your typical February.

Compared with last winter, sales for Invisaband's signature blue wristband, which repels mosquitoes, were up more than 400 percent so far this month.

Why? The Zika Virus.

The virus, which is spread via mosquito bites, was initially discovered in the 1940s, but did not spread widely in the western hemisphere until this spring. Recently, the virus has flared up in tropical regions throughout South and Central America. So far no one has contracted the disease through a mosquito bite in the U.S., but there is a growing concern it will spread throughout the country with the arrival of mosquito season in the spring.

For companies that produce mosquito-repellent products such as Invisaband -- which launched on Indiegogo in November 2014 and has since made \$1 million in revenue -- this means recalibrating demand. Already the increase in orders, an uptick founder Matthew Kostanecki says neatly lines up with the dramatic increase in Google searches for Zika in the U.S., has him scrambling to keep up.

"We are going to run out of stock," he says. Because Invisaband's manufacturer is in China, and won't open for production until mid-February, new orders can't be delivered until early March.

He plans on ordering double the number of wristbands he originally intended from his manufacturer. Bigger companies are also working to ensure they won't run out of inventory. S.C. Johnson, the maker of Off products, is ramping up production at its factories...

Since news of the Zika virus began to dominate headlines last month, sales of Seattle-based travel apparel company ExOfficio's BugsAway clothing, which are treated with Permethrin to protect against bug bites, are up 30 percent since the same period last year.

<https://www.entrepreneur.com>

1. According to this article, what caused the demand for insect repellent products to increase during February 2016?
2. What determinant (or shifter) of demand does your answer to question #1 exemplify?
3. According to this article, what has happened to the supply of insect repellent products? Why did this occur?
4. What determinant (or shifter) of supply does your answer to question #3 exemplify?



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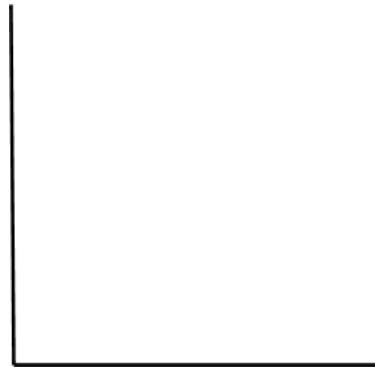
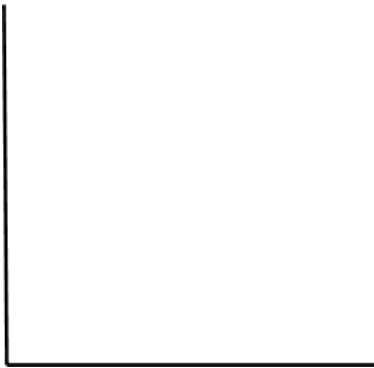
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5. Use the graph to show the result of the change in demand and supply of insect repellent products. What will likely happen to the equilibrium price and equilibrium quantity of insect repellent products?



**Part 2 - Making Predictions-** Read the following fictitious scenarios and use the graph to show how it will affect the equilibrium price and quantity of insect repellent products in the US.

6. The Center for Disease Control announced that the Zika Virus was not transmitted by mosquitoes.
7. Assume instead that the United States imposes a trade embargo on China.



**Part 3 - Stretch Your Thinking-** Assume that your friend Ben is genuinely concerned about those negatively affected by the Zika virus. He accuses the producers of insect repellent products of being immoral for profiting from this public health crisis.

8. Do you agree or disagree that producers that profit off of selling insect repellent are immoral? Explain.
9. Ben suggests that the sellers of insect repellent products should provide their products for free or, at least, charge a significantly reduced price. Do you agree or disagree? Use supply and demand to support your answer.