



Languages, Economics and Politics.

Giulia de Cristofaro is a freshman at Duke Kunshan University who is thinking about majoring in Political Economy. She is the first Brazilian student at DKU and hopes to be on campus soon. She has never had exposure to Economics other than a very succinct two-week summer course at Oxford. It gave her a very superficial view of the material and made her realize it could be quite an interesting topic to study. Therefore, with this course, she hopes to get a real idea of what economics is and fully understand the principles of economics and how they are applied in the real world.

During her free time, she enjoys playing volleyball. Since she has an Italian father, traveling has always been a part of her life. Consequently, she has developed a curiosity and passion for learning languages and exploring different cultures.

She believes that DKU will offer her amazing opportunities to conciliate a challenging education with her eagerness to discover. She wishes everyone an amazing year and hopes to be able to meet everyone soon.

# People Respond to Incentives



Giulia de Cristofaro

Incentives are what drives a person to act in a certain way. They serve as a motivation that induces someone to take a certain decision. Incentives that can be found in daily activities are supermarket deals, such as buy one get one or discounts. If certain items can be bought automatically resulting in a second being received, people are more likely to purchase them since they will be getting more for the same cost.

However the incentive might make people view a product as beneficial only for its cost. It could result on a purchase of an item lacking quality due to its apparent optimal price. Ultimately, the customer might have to spend more buying a better quality product later on.

Since such incentive is being offered for only certain brands or types of products, it is also possible that it will limit the options for consumers.



# Delivery Services and COVID-19

Round Table Conversations  
By Giulia de Cristofaro



Contributor 1: Josh Manto  
Contributor 2: Yun-yu Chen(Arthur Chen)  
Contributor 3: Queena Zhong  
Contributor 4: Giulia de Cristofaro  
Contributor 5: Darpan Barua

# Summary



In the last months of 2019 and in the beginning of 2020, the sudden outbreak of the Coronavirus led to the abrupt lockdown of cities in China. In view of such restrictions, business such as restaurants were faced with a significant overnight drop in demand. While there were no in person customers, the need for food was still present for people continued to consume three meals a day. Consequently, the demand for delivery services catapulted, especially in the first city affected, Wuhan, with 11 million people to feed.

The discussion revolved around the following research question:

How does the demand and supply change during COVID-19 pandemic affect the price and quantity of food delivery industries in the most populated Chinese cities?

It was concluded that the delivery fee for both cooked meals and supermarket deliveries remained the same while the quantity of orders increased dramatically. The unanticipated demand increase led to an initial shock with the available stock but caused a later increase in supply to match the requests. There were both a quantity increase since there was more acquisition and a shift in market equilibrium due to the change (increase) in supply and demand. There was no change in the equilibrium price of food delivery.



# Conversations: Outside Shock - COVID-19

1. Giulia: The shock came from the fact that the pandemic arose without warning. No one was prepared. Sudden events led to a shift in the methods used to suppress people's everyday needs while abiding to new public health regulations.
2. Queena: True, one of the major impacts was that the fast spreading virus called for immediate lockdowns. Newly implemented social distancing rules impeded people from physically going grocery shopping or to restaurants.
3. Arthur: If we were to specify, consequences of the shock can be evidently seen in Wuhan. As the first city to suffer from shutdowns, the population was both unprepared and scared.
4. Darpan: Agreed, it is also a city where you can find a big working population with professionals that originally reside in different provinces. Such people would be more likely to rely on the convenience of restaurants for already cooked food.
5. Josh: Luckily, China has always had a cheap and proficient delivery system. The shock caused by the virus created optimal conditions for the service; conditions in which the demand for delivery immensely increased. Without the possibility to go to the food, people now relied on delivery to bring the food to them.

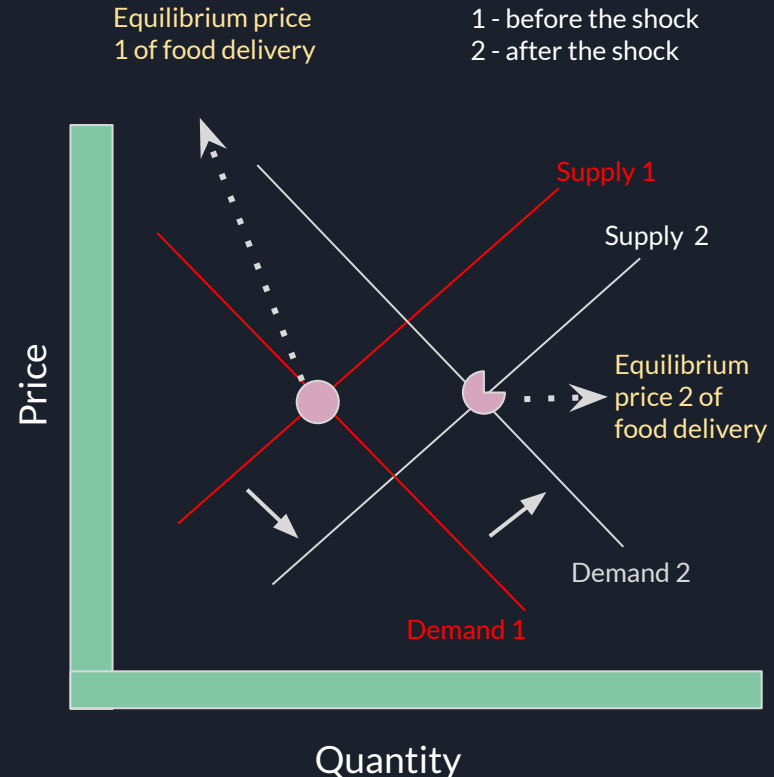
# Conversations: Supply and Demand Change

1. Giulia: One of the first responses people had to the pandemic was fear. The fear of shortage in supply due to the shutdown of businesses caused an initial push for over buying. A sudden increase in demand with no change in the supply quantity.
2. Darpan: Even when people got used to quarantine, the demand for food delivery continued to rise. In fact, companies saw a 70% increase in food delivery orders for bigger groups of people.
3. Josh: Adding on, companies had to adapt not only to the growing demand, but also to the new imposed public health regulations. As an example, Meituan, the largest food delivery service in China, began to leave deliveries by the door, eliminating face-to-face interactions.
4. Queena: It is important to consider that some restaurants had to shut down which caused a shortage in supply! On the other hand, those that partnered with delivery services were able to make astonishing profits.
5. Giulia: Precisely! Revenue from delivery companies in January registered a 20% increase from previous months.
6. Arthur: In response to the initial supply shortage, it should be also noted that restaurants now could focus solely on the delivery aspect with no possibility of a walk in customer. In the end, increase in revenue was converted to ingredient purchase and supply increase to answer for the high demands.

# Conversations: Equilibrium Price and Quantity Change

1. Giulia: As far as prices go, I believe rather than the increase in food production cost, it was the quantity being purchased that increased. The high revenue reflects a higher quantity of products being sold rather than a change in their cost.
2. Arthur: Ultimately, the price of the food delivery varies in accordance to the distance it has to be transported. I believe that the price of the food itself was not altered.
3. Josh: In actuality, consumers took advantage of inexpensive services to buy in bulks. This ties back to the fear aspect since there was no prediction for the end of the pandemic.
4. Queena: Since quantity change is how much quantity is given out in the market, in this case, it could be the frequency of deliveries and quantity of food. Therefore, the quantity change consisted of an increase in the amount of delivery food consumers began to buy after the pandemic lockdowns.
5. Darpan: So, to sum up, the price of delivery food services remained the same and the quantity change increased due to the increase in demand for food. Suppliers had to produce more in order to cope with the additional demand which caused market equilibrium to shift.

Graph - COVID's impact in the food delivery industry





**Both consumer and producer surplus increased.  
Therefore, total surplus (cs+ss) increased as well.**

### Consumer Surplus

The consumer surplus increase comes from 2 groups of consumers.

- The first group are consumers who in the past used delivery services. The difference is that now they are willing to pay more since they cannot get the food at restaurants. Their consumer surplus will increase because their willingness to pay increases even though the price for delivery does not change.

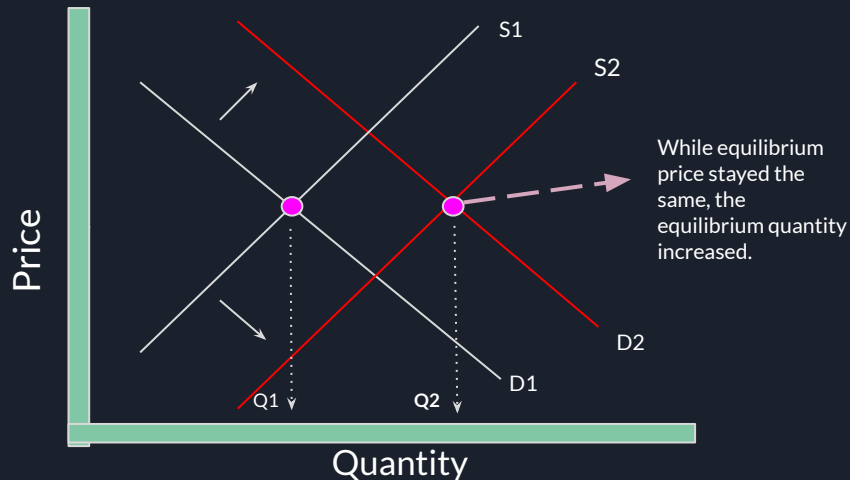
- The second group are the consumers who never wanted delivery food before and only went to restaurants physically. They were not in the market before since their willingness to pay was lower than market price. Now, they have no other option so their willingness to pay increases and is now higher than market price.

It is important to note that market for restaurant without delivery disappeared so for consumers who are unable or do not want to get food delivery their surplus decreases.

### Suppliers Surplus

The Suppliers surplus increase also comes from 2 groups of suppliers.

- The first are those restaurants that in the past offered food delivery services in addition to traditional food services. Now they can only offer food delivery services and expand their facilities to offer such of services. They charge the same price as before but suddenly have a larger quantity of demand. Therefore their supplier surplus increases.
- Another type is the one who did not want to offer food delivery before and therefore had no surplus in this market. With the external shock, they are out of business, so they are forced into this market. The market for food delivery expands with new suppliers. The long term food delivery cost will not change so market price will not change.



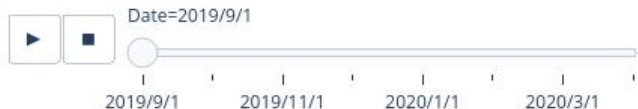
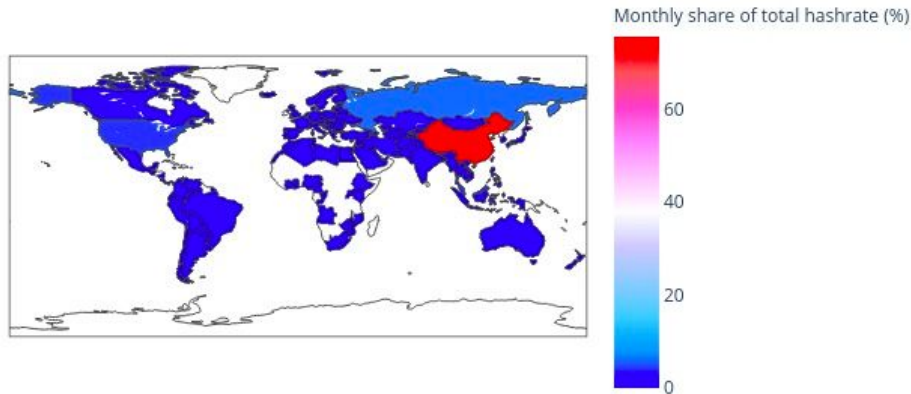
# Analyzing monthly hashrate

Post:

[https://www.linkedin.com/posts/giulia-de-cristofaro\\_monthly-share-of-total-hashrate-choropleth-activity-6715997681598181376-skdo](https://www.linkedin.com/posts/giulia-de-cristofaro_monthly-share-of-total-hashrate-choropleth-activity-6715997681598181376-skdo)

Figure: <https://chart-studio.plotly.com/~Giulia.0901/1/#/>

Monthly share of total hashrate



In Economics 101 with Professor Luyao Zhang, we analyzed a graph that compared the monthly share of the total hash rate in the world. Hash rate measures the ability a country has to protect its data from being hacked. Higher hash rates are equivalent to higher protection from an online attack. With data running from September 1st, 2019 to April 1st, 2020 we are able to detect changes coming from America and China.

From an economic perspective, this impacts Bitcoin since having a high hashrate will protect a country from attacks on its cryptocurrencies.

In the range of time of the graph, America's total monthly hash rate increased from 4 to 7% while China's went from 75 to 65%. We can infer that China has been using cryptocurrencies for longer and has a more developed security basis for it. The United States, on the other hand, rose in hash rate in recent times showing that now transactions with cryptocurrencies have become more commonly used and there was a demand for higher security during such transactions. China dominates in the graph but rises from other countries foreshadows future competition.

This lesson taught me how to create and analyze graphs and allowed me to view the rising importance of cryptocurrencies in future transactions.



# Outlook on the Future

If I were to become an economist in the future it would be with the scope of helping my country both out of its financial mess and better equip it to protect the Amazon rainforest. Brazil has a lot of economic potentials but is dragged down by the inefficient allocation of its resources causing an immense gap between social classes. Having said that, if I ever were to win a Nobel prize, it would be for finding a way to better allocate the country's vast resources and help incentivize indigenous minorities in remote locations of the Amazon forest to help protect their home for a long term stop in deforestation.

## Nobel Prize remarks:

For her contributions in proposing a more efficient plan to protect the Amazon Forest from deforestation and improving the welfare of remote indigenous groups.

Her new approach to tackling deforestation was implemented successfully. By proposing a plan to more efficiently allocate Brazil's resources to the remote indigenous groups she was able to mobilize them for the protection of the forest. This caused deforestation rates to drop since the locals knew the area better than anyone and were now, committed to protecting it. The plan brought better welfare to the indigenous groups who were able to receive government and financial support allaying the poverty that surrounded them. Furthermore, not to damage the country's GDP growth, she proposed innovative plans for an international fund to be dedicated to helping the country grow without relying heavily on soy export. Soy plantations were one of the main driving forces behind active deforestation. Giulia's work gave hope to Greenpeace to continue to work with the indigenous groups to not only keep deforestation rates low but also to commence reforestation projects.



## Final Remarks

Thanks to Professor Luyao Zhang and Assistant Professor Peter Sattler, I was able to complete my first ever course in Economics. The course not only introduced me to Economics and its theories but also provided an in-depth exploration of them. I am now able to understand trends, their effects on other economic factors and draw or analyze graphs that illustrate such occurrences. I am also able to relate everyday occurrences to the economic phenomena behind it, thinking more like an economist.

Through the guest lecture by Professor Gary Charney, I became acquainted with different fields of economics. I learned that its study does not solely need to be used to analyze monetary trends but also people's behaviors in response to such trends.

Finally, I grew as a professional, opening a LinkedIn account, and learning how to generate and analyze graphs relating them to the economic effects they have on a country. In the future, I hope to continue my studies of Economics and perhaps settle with it as part of my major.

Learning alongside dedicated and knowledgeable students pushed me to want to know more. I thank them all, especially my remote students' group, and wish them all the best with their future endeavors.