

Principles of Microeconomics

Group Project

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Name: 王仪坤 邱丹青 王子欣 光玉婷 史一兰

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1. Introduction

Under the influence of COVID-19 epidemic and natural disasters and so on, the price of domestic agricultural products has increased slightly, which has caused worry among the population. As one of the Chinese citizens who was truly impacted by these social phenomena, our group members want to not only feel them from the angle of sensibility, but also analyse them with the theories we have learned in microeconomics this semester.

So based on the idea above, we selected several pieces of news in *Economic Daily* and tried to analyse recent events from different angles with different knowledge, which includes using elasticity to analyse the increasing grain price, using price controlling theory to analyse government control, using consumption choice theory to analyse oil market, using consumer surplus and producer surplus to analyse imported grain situation and using the law of demand and supply to analyse the increasing garlic and onion price.

Having known that, so let's begin!

2 Discussion

Newspaper Article #1

Article Title: It's Hard to Keep the Prices of Grain Increasing

Article URL: http://paper.ce.cn/jjrb/html/2020-11/16/content_432139.htm

Microeconomics concept discussed: Elasticity

Author: 王仪坤

Background

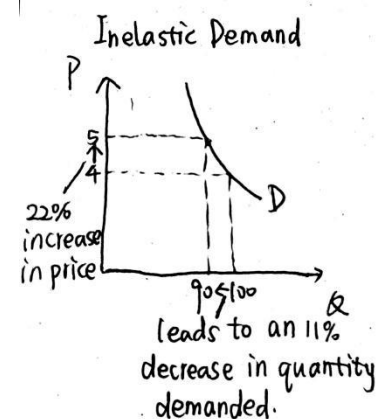
Influenced by the high frequency of extreme weather and the restriction of international grain import resulting from the global epidemic, the price of the grain has raised in our country. This contributed to the worry about the safe of grain to a certain extent. So, in order to stabilize people's mood, the government should lower the price properly. However, does the lower and lower price make everyone, please pay attention, everyone better off? Maybe you have heard an old Chinese idiom "the low price of grain is harm to the farmers". But you may refute that "although the price decreased, the production increased meanwhile". So what result will the couple of contradictory facts lead to? Let's take a look.

Theory and Application

First, we have to know the economic concept of elasticity, which is a measure of the responsiveness of quantity demanded or quantity supplied to a change in one of its determinants.

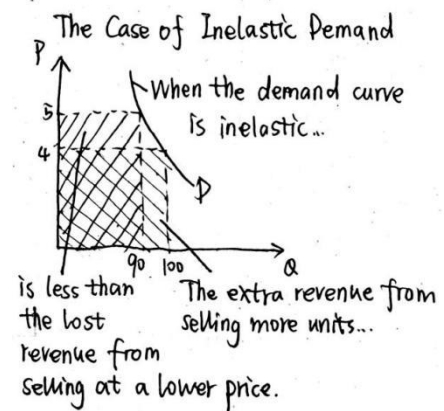
From the daily experience, we know that grain is our necessity. So when its price fluctuates, our demand almost don't change. In other words, our demand for grain is inelastic. Here we have the concept of price elasticity of demand—it's a measure of how much the quantity demanded of a good responds to a change in the price of that good, computed as the percentage change in quantity demanded divided by the percentage change in price. And inelasticity means that the demand is quite insensitive to the change in price, in which situation the elasticity is between 0 and 1.

If the descriptions are not explicit, let's take a specific example. As the illustration beside shows, assuming that the demand curve of good A is inelastic, then if the price change from 4 to 5, which also means 22 percent



increase, leads to the quantity demanded change from 100 to 90, which also means 11 percent decrease. According to the formula, we can calculate the elasticity of good A is 0.5.

Now we want to know the total revenue, which equals to the price times quantity, we got from selling good A. In order to explain the practical case better, now we assume that the price falls from 5 to 4. Then at the beginning, we got the revenue of 5 times 90 equals 450. However, after the price decreasing while the quantity increasing, we got the revenue of only 4 times 100 equals 400. So we have to say, because of the inelastic demand curve, the extra revenue from selling more units is less than the lost revenue from selling at a lower price.



Having known that, let's analyse the case briefly. Because the production increases, farmers have to decrease the price to gain bigger market. But because the grain is inelastic, according to the analysis above, the farmers are worse off.

Some possible solutions

1) Stabilize and improve the comprehensive productivity of grain

Making sure the enough cultivated area is the first guarantee to the safe of grain. We need to enhance the protection of farmland and develop high-grade farmland, in order to reverse the tendency in some places to neglect food production.

2) Adjust the price floor of grain

The government department concerned should stabilize the expectations of the grain price so that spurring the farmers' enthusiasm.

3) Government better controls the grain in macro

The relevant department should arrange the policy grain flexibly to meet the need of some firms and promote the market operation stably.

Conclusion

It's very normal to see the price fluctuation of grain under market condition. The government should always prepare to stabilize the price, in order to truly protect the safe of grain.

Newspaper Article #2

Article Title: Should the government put a price ceiling on the price of products like garlic and ginger when their price is extraordinarily high?

Article URL: <https://mp.weixin.qq.com/s/NA9Vkl6jChiYFCifQ7kQxQ>

Microeconomics concept discussed: price ceiling

Author: 邱丹青

Background:

The crops in China are mainly divided into three categories---the most crucial crops like cottons and sugar; vegetables, fruits and aquatic products that are the staples of peoples' diet; the condiments like garlic and ginger at last.

As the article mentioned, the Chinese government has already implemented the price control policy on the first two categories but not including the third one.

The reason why the government control the price of the first two categories is probably that the market failure could exert a considerable impact on people's lives. To avoid the influences of negative externality and the control of monopoly, the government take measures to protect the benefits of citizens.

What's more, for the elements that can influence the output of crops are uncontrollable, like natural disaster or climate change, or just because the crops are produces periodically, so that human beings cannot change the amount of output widely even with the modern technology. The changes in these elements can make the price raise to a great extent which many ordinary families cannot afford.

But the skyrocketing price of condiments can also set obstacles for the citizens' daily lives.

However, the government did not develop a set of well-decided policy to solve the problem yet, and the researchers are searching for possible solutions to guide the price to develop more stably.

The details of these deserved to be discussed.

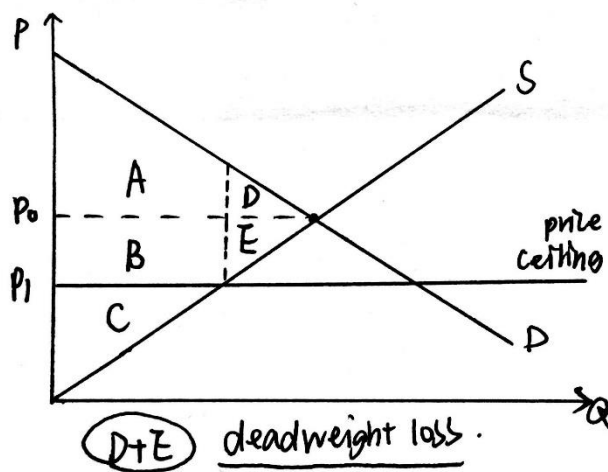
Content

1. Why the government did not develop the most appropriate policies yet?

The possible reasons are as follows.

1) Firstly, the garlic is produced from June to August. When its production period ends, as the weather becomes colder, it is impossible for the producers to store the garlics themselves, because their amount of production is large but they do not have the enough money to acquire the equal amount of storage containers

which can adjust the temperature inside. As a result, the most beneficial way for them is to sell the garlies to the agencies before September. Therefore, the price of garlic from September to May next year is mainly due to the game between different selling agencies, for the total amount of garlic in the market is fixed already.



It is difficult for government to grasp all the information of the game between the agencies to set the appropriate policies and the game itself is crucial for market-oriented economy.

2) Secondly, as what we have learnt in microeconomics class this semester, when the government set a price ceiling on a product, although the price becomes lower than the situation without the interference of the government, which is pleased for the consumer, some possible results of this decision should also be considered.

As what we can see in the diagram, when the price becomes lower, the production quantity also decreased. But such condiments are favored by many families. The new production quantity is below the supposed quantity without government interference (when all the sellers can sell out their products and all the buyers can obtain what they want in a reasonable price), which means that some buyers in the market can not buy condiments in whatever ways.

And that probably leads to the increase of illegal transactions in the black markets, where the price is probably even higher than P_0 on the diagram. That makes the government's policy loses its efficacy partly.

Conclusively, it is always the ones who have less money and opportunities loss the game. With less opportunities, they cannot have the chance to buy the condiments immediately. With less money, they cannot afford the high price in the black market. The ones who suffered from the establishment of the price ceiling are the ones who need the government's protection most.

Also, when calculating the efficiency of the market, we can see the deadweight loss appears with the price ceiling established. Previously, the consumer surplus equals $A+D$, and the producer surplus equals $B+C+E$. After the interference of the government, the consumer surplus equals $A+B$, when the producer surplus equals C . Consequently, $D+E$ is the deadweight loss from the government's decision, which actually make the society suffers as a whole.

The consumer surplus might not be greater than before, for the amount of B might even be smaller than the amount of D . The reasons are suggested previously (for some consumers cannot buy the condiments as the production quantity is lower). However, the producer surplus is definitely smaller than before, which is not suitable for China's growth. When the producer surplus is smaller and smaller, more peasants will migrate out of the countryside to the cities. The quantity of production will continuously decrease as well, for

the lack of labor force. As China faces the turning point of modernization, more people travel to cities which makes the cities explode but the country shrink. However, as China obtains large population, the production of crops should be maintained at a high and sustainable level, to make the society thrive. The goal can be completed not only with the developing modern technologies like hybrid rice, but also with the help of millions of farmers. As a result, the government should enlarge the producer surplus but not cutting it down.

Thirdly, as China trying to promote the development of market economy, the marketization of agricultural products market is an indispensable part of the process. As the condiments are not that appealing for the help of government force like the cottons or fresh fruits, the government should let go and assist the market economy boosting healthily.

2. The possible solutions to the problem

1) The government should try to build the market economy without much interference, but should also control the price when it is considerably high or low. The government can avoid setting price ceiling or price floor directly, but by granting subsidies, allowances, or tax preference to the farmers when the price is too low, and to the consumers with lower income when the price is too high. When the government interferes with the price directly, it should strike a balance between the living standard of urban residents and farmers, trying to maximize the efficiency of the whole society.

2) The government can launch programs or projects in the countryside to help the peasants have various earnings from different fields, to diversify the production series and build plants and factories to manufacture products from the raw materials they produce. It can help them earn more and lifting their living standards. As a result, they can have the ability to improve their storage competency, allowing them to store and sell the garlies themselves instead of sending them to the agencies. It can help to reduce the game theories between the agencies, making the price more stable. What's more, when the price is affected to be lower and sacrifice the farmers' income, they can still have other benefits from various fields, reducing the risk of the price fluctuation in the market.

3) The government should educate every market participant to focus on the quality of the products rather than the price itself. The producers should improve the quantity of the goods and labeling them the appropriate price by suitable marketing strategies. The government should devote effort in educating the market participants to attain a long-term benefit rather than driving by short-term price fluctuation. When all the participants acquire a better knowledge of the market, the price will certainly be more stable than ever.

Conclusion

From the analysis above, I realize that the establishment of a market environment which provides the well-beings of everyone of us needs the supporting effort of the government and every market participant. The government should use its market power cautiously, and educating the sellers and buyers in a long term for a sustainable benefit of the whole society.

Newspaper Article #3

Article Title: Three cooking oil prices rose across the board!Is the oil bottle safe?

Article URL: https://mp.weixin.qq.com/s/H_xVxWeiuN0jlu-61ESZpw

Microeconomics concept discussed: Consumption Choice

Author: 王子欣

I. Background:

Since the beginning of this year, the domestic edible oil price has continued to rise, from the rapeseed oil price rose sharply at the beginning of the year, then soybean oil, and now palm oil, the three main edible oil varieties are facing the trend of rising prices across the board.

The rise in price are chiefly due to the reasons as follows.

First of all, the global supply and demand of edible oil, represented by palm oil, is tightening.

Major rapeseed producers (regions) in the world have reduced production due to drought, driving the prices of rapeseed and rapeseed oil continuously rising.

Secondly, restricted by land, labor and other factors, domestic rapeseed production space is limited, thus the scale of production is rather small in China.

Thirdly, Canada is the largest source of rapeseed import in China. Because harmful substances have been detected in rapeseed, domestic enterprises are more cautious in importing rapeseed, and the import quantity of rapeseed drops.

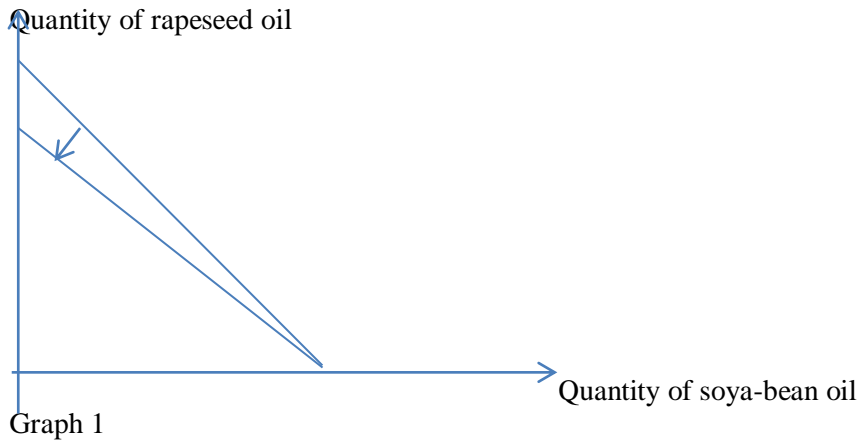
Rapeseed oil is the second largest edible oil variety in China, and the first edible oil variety that continues to rise in price this year. In terms of futures, the main contract price of rapeseed oil futures topped 10,000 yuan per ton, up nearly 30% from the beginning of the year and up about 50% from the lowest point in May. On the spot side, wholesale prices of fourth-grade rapeseed oil in coastal areas were quoted at RMB 9,850 to RMB10,000 per ton on December 11, up RMB1,850 to Rmb2,000 from the start of the year and RMB2,850 to Rmb3,000 from May. This has aroused extensive concern about the safety of edible oil.

However, the consumption of edible oil has not yet been significantly influenced, the reason are as the following analysis.

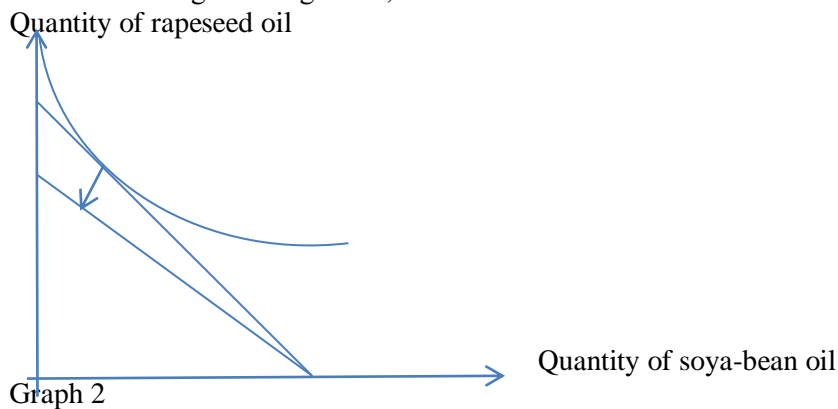
II. Content

A. Analyse 1

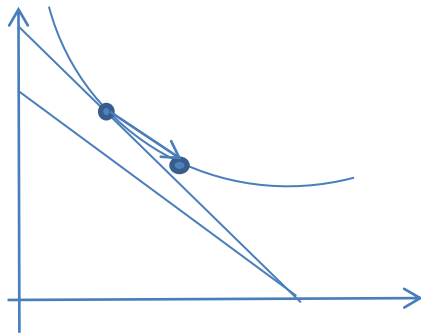
As is shown in Graph1, as the price of rapeseed oil raises and the price of soya-bean oil remains the same, the budget line of edible oil consumers moves inward.



After illustrating the budget line, let's see the indifference curve as is shown in graph 2.

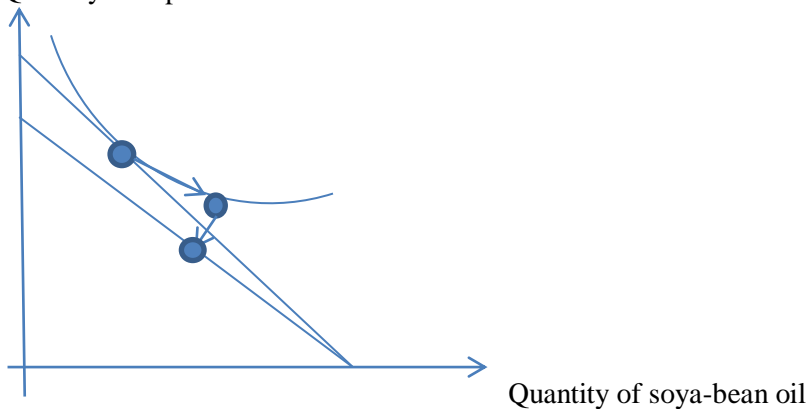


The **substitution effect** is the change in consumption that results when a price change moves the consumer along a given indifference curve to a point with a new marginal rate of substitution. Since the price of rapeseed oil raised, giving up a 1 kg of rapeseed oil means that I can buy more soya-bean oil. So consumers tend to buy more soya-oil rather than rapeseed oil, as is shown in graph 3.



Graph 3

The **Income effect** is the change in consumption that results when a price change moves the consumer to a higher or lower indifference curve. Since the price of rapeseed oil increased, the budget can buy less oil. So the consumer can buy less oil, and the point move to lower indifference curve, as is shown in graph 4.



Graph 4

Therefore, since **the substitution effect outshines the income effect**, the quantity soya-bean oil increase, and due to **income effect and substitution effect**, the quantity of rapeseed oil decrease.

B. Analyse 2

We can also analyze it from another perspective.

According to the **utility-maximizing rule**, consumers spend all available income, and equalize the **marginal utility per dollar for all goods**. Because if the marginal utility per dollar for good A is more than that of good B, the consumer will spend more on good A, and because the **marginal utility is diminishing**, the marginal utility of good A will decrease, and the marginal utility per dollar return to equal again.

In this case, since the price of rapeseed oil increased which lead to the fact that the marginal utility per dollar for rapeseed oil decreased, consumer will spend less on rapeseed oil to raise its marginal utility per dollar,

and spend more on soya-bean oil to reduce its marginal utility per dollar.

Therefore, the quantity of rapeseed oil decrease, and the quantity of soya-bean oil increase. In this case, it is reported that the quantity of rapeseed oil consumed reduced up to 40 tons, and the quantity of soya-bean oil consumed increased.

III. Enlightening

The above analysis demonstrates that The price rise of rapeseed oil has little impact on people's consumption due to the substitution soya-bean oil. Government can also utilize this phenomenon in policy making.

To stabilize the production of edible oil, it's crucial to adopt a **multi-oil development policy**. Continue to expend the planting area of rapeseed oil, soya-bean oil, woody oil and many other types of oil, Accelerate the development of oil sunflower, sesame, oil bean, olive and other oil production. Only then can we “safeguard our oil bottle”.

Newspaper Article #4

Article Title: _Why is the number of imports still increasing as grain harvests?

Article URL: <https://mp.weixin.qq.com/s/506RB7ibsNnadQwjHGWYAg>

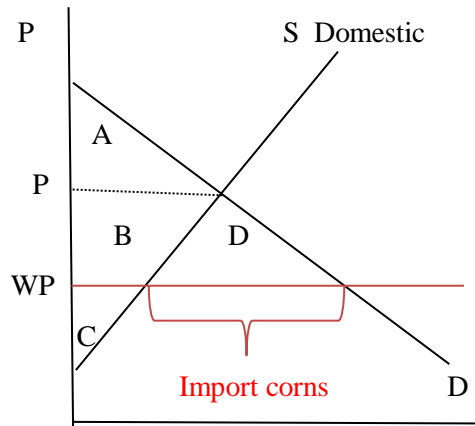
Microeconomics concept discussed: International Trade(Import)

Author: 光玉婷

As grain harvests for years, the number of import still increases, especially for corns, there are two main reasons. First, as Chinese government encourages people to feed pigs, the need for corns and soya increases rapidly, and some projects that process corns secondly also increase the demand for corns, at the same time, China has removed inventory of corns since 2016, which results in the low supply. As there stands the shortage between supply and demand, China has to import grains. Second, though the world price of corns rises, it is still lower than the price at home, as a price taker, Chinese government can benefit its sellers by importing.

How can we benefit from import ? As we can see, when the world price of grains is lower than the domestic price and China allows trade and becomes an importer of grains, the domestic price of grain must equal the world price or nobody will buy it. From the graph below we can see, the domestic supplied quantity of corns is less than the quantity demanded, then China has to import corns to satisfy its demand. The producer surplus changes from $B+C$ to C , sellers are worse-off. The consumer surplus changes from $B+C$ to $B+C+D$, consumers are better -off, then the total surplus changes from $A+B+C$ to $A+B+C +D$, which increases the part of D . Domestic consumers of the corns are better off, and domestic producers of corns are worse off. And trade raises the economic well-being of China in the sense that the gains of the winners exceed the losses of the losers , in that cases, China decided to import corns.

GRAPH



	Before import	After trade	Change
Consumer surplus	A	A+B+D	+(B+D)
Producer surplus	B+C	C	-B
Total surplus	A+B+C	A+B+C+D	+D

But there are some people saying that China's import of grains induces the increase of world price, but that is not true. In fact, as a price taker, the impact of China's import of grains is very small. There are two true reasons, one is the epidemic situation, the other is nature disaster. Epidemic situation makes people scared and believe the price of grains will increase, so it is their expectation that induces the shifts in the demand curve, then the price increases. And the nature disaster makes the supply decrease, then the supply curve moves to the left, resulting in the increase of corns' price in a short period.

Newspaper Article #5

Article Title: The embodiment of the relationship between supply and demand in agricultural products

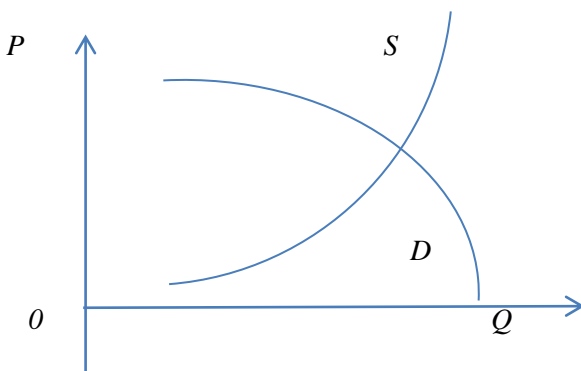
Article URL: http://www.360doc.com/content/20/1217/19/72377106_952068168.shtml

Microeconomics concept discussed: The Law of Demand. The Law of Supply.

Other things remaining the same, the higher the price of a good, the smaller is the quantity demanded; and the lower the price of a good, the larger is the quantity demanded. Other things remaining the same, the higher the price of a good, the greater is the quantity supplied; and the lower the price of a good, the smaller is the quantity supplied.

Author: 史一兰

The prices of onion, ginger and garlic were on the low side last year, resulting in a reduction in planting area. As a result, this year, the trade volume of onion, ginger and garlic is reduced, and the supply is tight, which leads to a rise in the price of onion, ginger and garlic, and even the phenomenon of "garlic being ruthless" and "ginger your army". The rise in prices leads to a decrease in demand. Moreover, as crops grown in a large area of the south flow into the northern market, the supply of them rise, thus prices down. So the demand increases, and prices tend to stabilize. Of course, because farmers have difficulty in having access to information and the news lags behind, the prices will not be completely stable.



Conclusion

Through our analysis, we have known that it's fairly mundane to see price fluctuation in our daily life. With the self-regulation ability of market, that is to say, the invisible hand, and the government control, the price will recover to normal level. So we ordinary citizens do not need to be too anxious about it.

By this group report, we truly revised the knowledge we have learned in class and tried to apply it to the practical life. Solving the practical problems—that's the meaning why we study economics.

References:

Principles of economics, Mankiw, 7th edition

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