The determination theory of supply and demand

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Introduction:

Whether the supply creates its own demand or the demand determines the supply has been a debate in economy science since one hundred years. In this paper, I will write my own perspective. I will analyze how the demand and supply interact with each other. Besides, I will tell why there is short of demand in the Say's law[1].

In this paper, I will mainly discuss the relationship between the demand quantity, supply quantity and their relationship. This is a long history issue that has been debated for many years in the history. Until now people still haven't reach the same conclusion. Here I will write my own perspective. I will analyze how the demand and supply interact with each other in my own way. Besides, I will tell why there is short of demand in the Say's law[1].

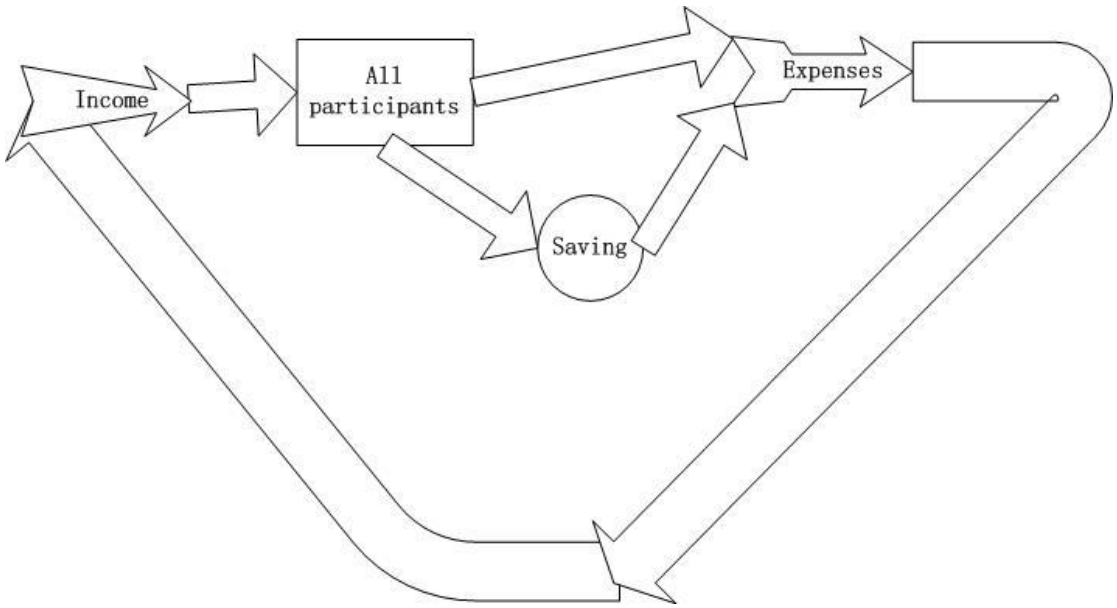
In Neoclassical Economics, economists believe that supply can create its own demand, which is called the Say's law. Say's law has a long history, it was invented by a famous French classical liberal economist Jean Baptiste Say.

So what is Say's Law? Say's law can be described like this:
"*Workers and owners of land and capital are paid wages, rents, and interest that add up to the sale price of the product. Every cost in manufacturing becomes someone's income. Therefore, consumers, who are simply laborers, capitalists, and landlords after they get home from work, can afford to buy all that has been produced.[2]*

Say's Law is generally known by the slogan: "supply creates its own demand."[2]

I will use a graph to explain this law.

Figure 1. Say's law



As you can see from the upper graph, when people in the market work hard to produce product or service, they will get the income so they could spend, and when they spend money, they buy the goods and services they produced. So supply creates its own demand. According to Say's law, there would be never unemployment.

This thoughts had been challenged starting from famous economist Malthus, other economists who disagreed with this law including the famous economist Keynes, who believed that demand will decide the supply[1]. They believed that only high demand can lead to full employment and richness.

So what the relationship between demand and supply would be?

I agree with the claim that demand can create supply

It is obvious that demand can create supply, when there is demand, when there is profit for suppliers, according to my previous conclusion, suppliers will be pushed by the invisible hand, their desire to earn money, devote themselves to produce this product. If there is more profit, suppliers will produce more this kind of product. We can find many cases here, like people have demand for light, the light bulb is produced and sold. The more light bulb people want, the more light bulbs will be produced. The products that can be sold is because there is demand. If there is no demand, products that are produced won't be sold.

It is apparent that supply can also create demand, if people already have potential demand for this product.

We could also find many examples prove that the supply can create the demand, like the Apple inc, one of the biggest computer producer. The founder of Apple was Steven Jobs, who designed the iphone 4s. After iphone4s was published, it became popular all over the world. Many people even waited in the line for a long time to buy iphone4s at the first publication. That could be the best example for the supplying creating the demand. If the iphone4s was not produced, it will not be sold, there won't be any transactions here. The supply (producing iphone4s) creates its demand (people buying iphone4s).

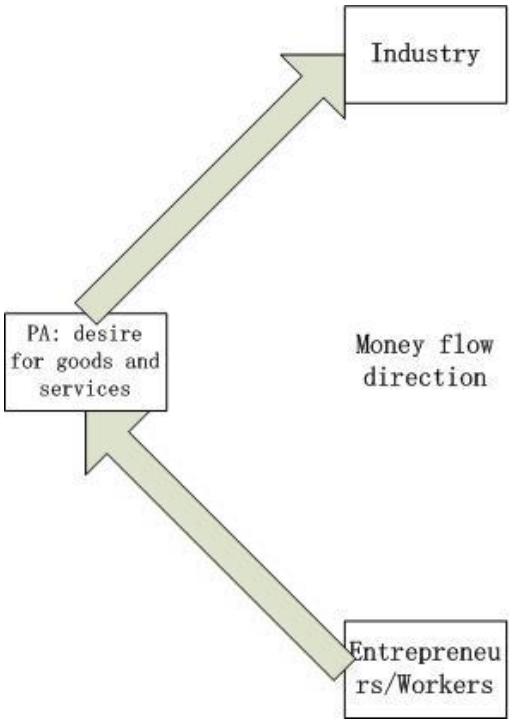
Then how the relationship between the supply and demand should be? We all know that when a transaction happens, the transaction volume is the result of interaction between both the supply quantity and demand quantity. So we can infer that the demand and supply can determine each other.

From my point of view, I think that the supply and demand can determine each other, lacking of demand, the commodities that are produced could not be sold, then there won't be any transaction volume. Lacking of the supply, the demand could not be filled, then there won't be any transaction volume. So it should be like this:

if the supply volume is smaller than the demand volume, the supply will determine the demand; if the demand volume is smaller than the supply volume, the demand will determine the supply. Or we can say, it is the smaller creates the larger one.

To prove this, let's firstly discuss the relationship between demand and supply in the product markets, and at the beginning we will only discuss the demand and supply relationship of one product.

Figure 2. Relationship of supply and demand in product market



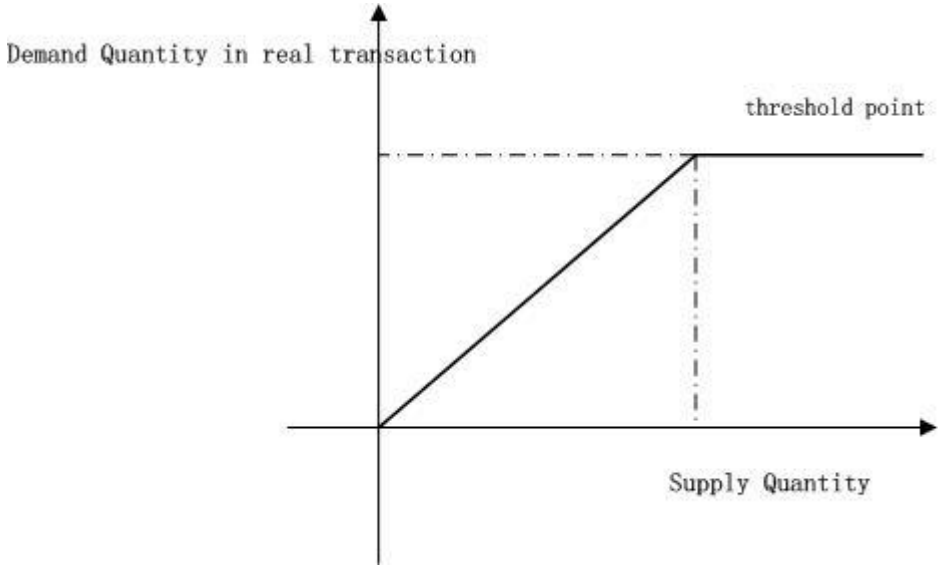
Next I will draw graph toward the relationship between supply and demand to move on with my discussion, the pictures presented will make this relationship more easier for people to understand.

We all know there are three relationship between supply and demand:
Supply is above demand, supply is equal to demand, supply is below demand. When supply is above demand, demand is the lower variable; when supply is equal to demand, they have the same value; when supply is below demand, supply is the lower value.

In my following discussion, we assume that no other factors will influence the potential maximum demand quantity d (people would love to buy d at most), d will remain the same during my discussion. Or we can say, any other factors in the market won't cause the change of the demand. Let people change their supply quantity starting from zero.

Given a potential maximum demand quantity d (d>0), we can have the following graph:

Figure 3. Supply demand graph



Supply is below demand:

When there is potential maximum demand d, we increase the supply quantity starting from zero. As the supply volume is the lower value, it will determine the transaction volume. The supply increases, transaction quantity will also increase.

Supply is equal to demand:

The turning point of the line, where the demand quantity is equals to the supply quantity.

Supply is above demand:

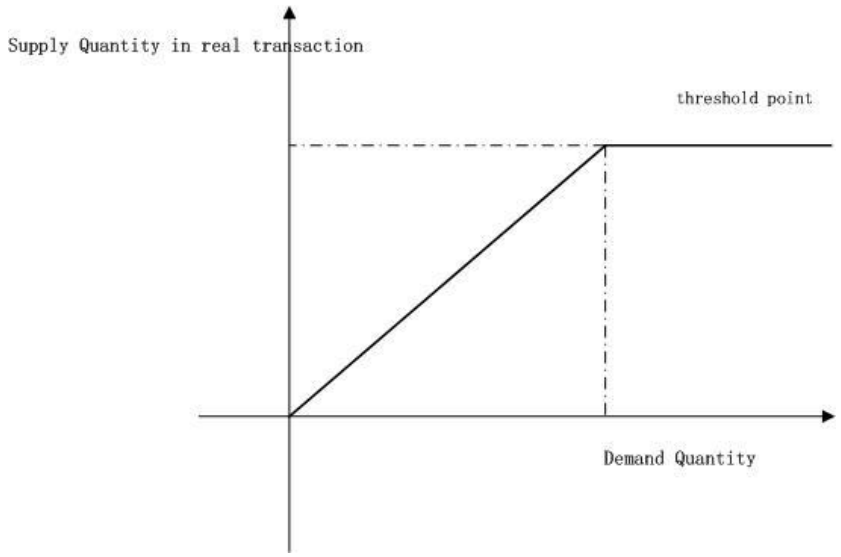
After the supply quantity surpasses the value d, the demand will become the lower value, it will determine the transaction volume. So the transaction volume will remain to be d even if the supply quantity continues increasing.

Here part 1, before the supply quantity reaches the d, the supply will determine the demand. After the supply quantity exceeds d, the demand will determine the supply.

In my following discussion, we assume that no other factor will influence the supply quantity s (There are s amount of products in the market all the time). People change their demand starting from zero.

Given a supply quantity s (s>0), we can have the following graph:

Figure 4. Demand supply graph



Supply is above demand:

When there is supply s, we increase the demand quantity starting from zero. As the demand volume is the lower value, it will determine the transaction volume. The demand increases, the transaction quantity will also increase.

Supply is equal to demand:

The turning point of the line, where the supply quantity is equal to the demand quantity.

Supply is below demand:

After the demand quantity surpasses the value s, the supply will become the lower value, it will determine the transaction volume. So the transaction volume will remain to be s even if the demand quantity continues increasing.

Here part 1, before the demand quantity reaches the s, the demand will determine the

supply. After the demand quantity exceeds d, the supply s will determine the demand.

Then we have the formation:

Transaction volume=Min(supply quantity, demand quantity);

TV=Min(S, D)

That means the real transaction volume is the smaller value of the supply and demand, the smaller one will determine the larger one.

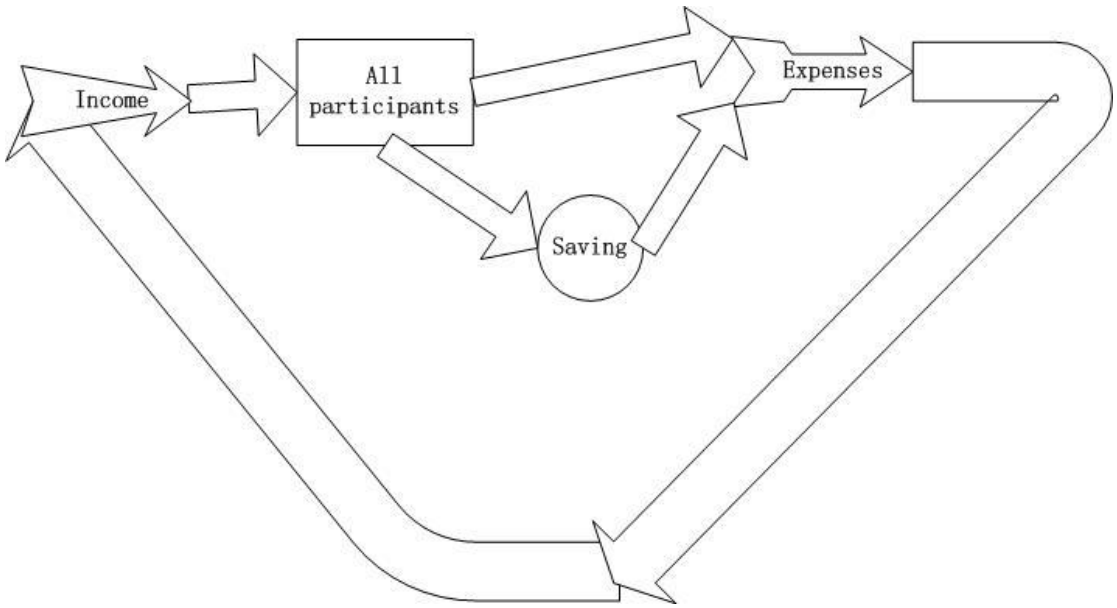
Then I can reach my conclusion for product market:

Between supply and demand in the product market, they are depended on each other, they affect each other, which one is smaller, it will determine the other one.

Then we can easily figure out why Say and Keynes would have totally different conclusion, it is because at the period of Say's life, the productive force is not high, the supply quantity is the lower value, then supply will determine the demand, or the supply creates its own demand; but at Keynes's lifetime, production ability has been improved a lot due to the development of science and technology, then the demand became the lower value, then the demand quantity will determine the supply or demand will create the supply.

Another issue we will discuss is how there is lack of demand. Let's review the Say's law to move on our conversation. Following is the graph to represent the Say's Law in the free market:

Figure 5. Say's law



As you can see from the upper graph, when people in the market work hard to produce product or service, they will get the income so they could spend, and when they spend money, they buy the goods and services they produced. So supply creates its own demand. According to Say's law, there would be never unemployment.

However, let's see the graph carefully and we will find that the income is a flow variable, if the money flow inside the free market is slow, we can have that the income will be small, then the saving and expenses will be small, people has to continually consuming then the money at hand is getting smaller and smaller, or we can say he has less money then his demand is small. When the demand is small and the supply is large, the smaller variable will decide transaction, then the transaction volume will be decided by the demand quantity or low income. The overproduction occurs.

Because the income is small, people could not afford any products and services, products that are produced could not be sold. There comes lack of demand.

To summarize, if people get money and have a slow consuming speed, then their income will become slow because income is a flow variable (for example: $3000/month), then their demand will become small because demand is mainly

depended on income. Then they could not afford products in the market, then the overproduction occurs.

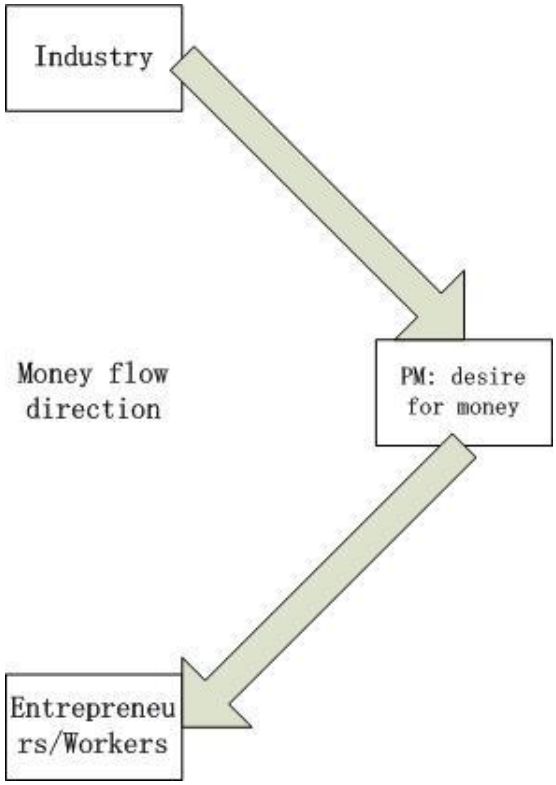
From our previous discussion, we can also know that both the demand and supply can cause the lack of demand, because we know the real transaction volume is decided by the smaller volume.

We have finished discussing the relationship of demand and supply of one product in the product market, then let's move on to the relationship of supply and demand in the labor market, here we will start the discussion of one job position. Let's first have our conclusion.

if the job position supply volume is smaller than the demand volume, the supply will determine the demand; if the job position demand volume is smaller than the supply volume, the demand will determine the supply. Or we can say, it is the smaller creates the larger one. The smaller one will decide how many people will be employed.

To prove this, let's firstly discuss the relationship between job demand and supply in the labor markets, and at the beginning we will only discuss the demand and supply relationship of one kind of job position. And we assume each job seeker is capable to do the job.

Figure 6. Relationship of supply and demand in labor market



Next I will draw graph toward the relationship between supply and demand to move on with my discussion, the pictures presented will make this relationship more easier for people to understand.

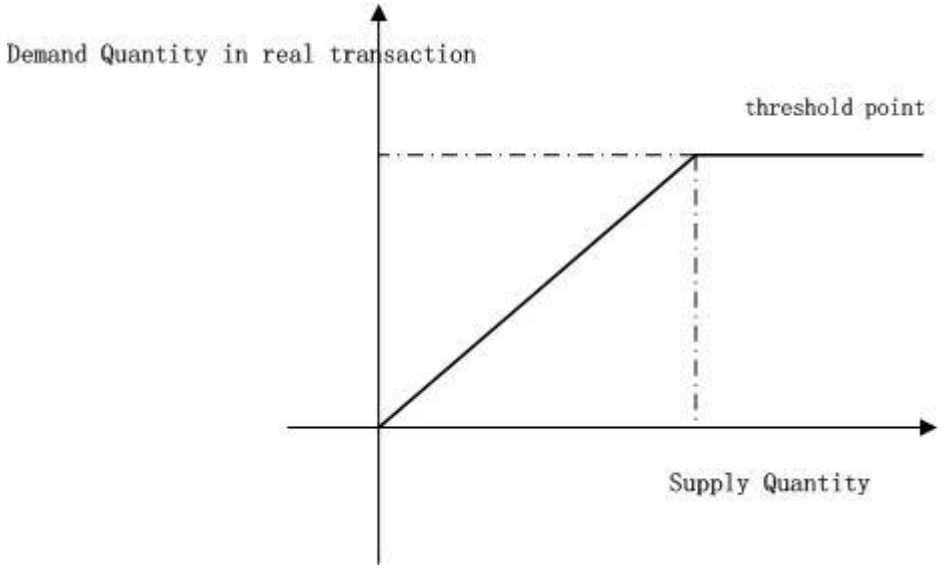
We all know there are three relationship between job supply quantity and demand quantity:
Supply is above demand, supply is equal to demand, supply is below demand. When supply is above demand, demand is the lower variable; when supply is equal to demand, they have the same value; when supply is below demand, supply is the lower value.

In my following discussion, we assume that no other factors will influence the potential maximum job position quantity d which are offered by company (Company in the market would love to hire d people at most), d will remain the same during my discussion. Or we can say, any other factors in the market won't cause the change of the demand quantity. Let's increase the quantity of job seeker of this product starting

from zero.

Given a potential maximum job quantity d (d>0), we can have the following graph:

Figure 7. Supply demand graph



Supply is below job positions provided:

When there is potential maximum demand d, we increase the supply quantity starting from zero. As the supply volume is the lower value, it will determine the transaction volume. The supply increases, transaction quantity will also increase.

Supply is equal to demand:

The turning point of the line, where the demand quantity is equals to the supply quantity.

Supply is above demand:

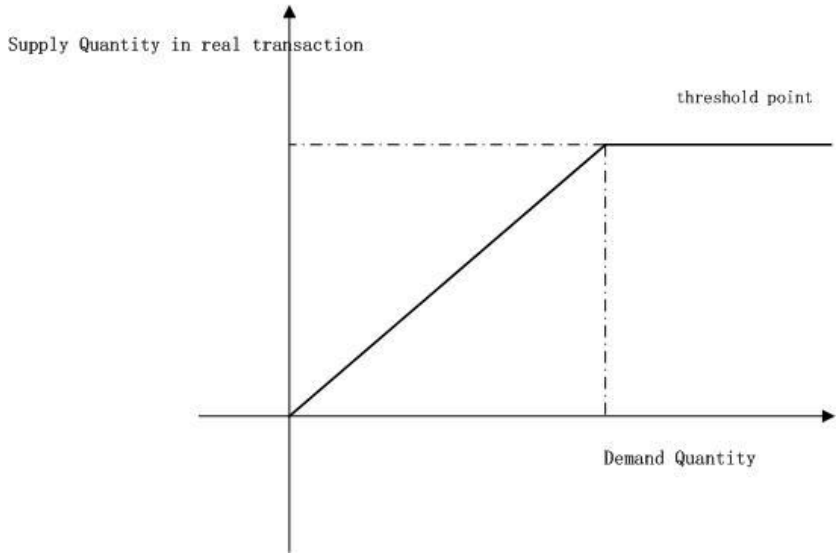
After the job seeker quantity surpasses the value d, the job position quantity will become the lower value, it will determine the employment volume. So the employment volume will remain to be d even if the supply quantity continues increasing.

Here part 1, before the supply quantity reaches the d, the supply will determine the demand. After the supply quantity exceeds d, the demand will determine the supply.

In my following discussion, we assume that no other factor will influence the job seeker quantity s (There are s amount of job seekers in the market all the time). Companies change their positions provided starting from zero.

Given a supply quantity s (s>0), we can have the following graph:

Figure 8. Demand supply graph



Supply is above demand:

When there is s amount of job seekers, we increase the job position quantity starting from zero. As the job position volume is the lower value, it will determine the employment volume. The demand increases, the employment quantity will also increase.

Supply is equal to demand:

The turning point of the line, where the supply quantity is equal to the demand quantity.

Supply is below demand:

After the job provided quantity surpasses the value s, the job seekers quantity will become the lower value, it will determine the employment volume. So the

employment volume will remain to be s even if the job quantity continues increasing. Here part 1, before the demand quantity reaches the s, the demand will determine the supply. After the demand quantity exceeds d, the supply s will determine the demand.

Then we have the formation:

Employment volume=Min(Job seeker quantity, job position quantity);

EV=Min(S, D)

That means the real employment volume is the smaller value of the number of job seeker and number of positions provided, the smaller one will determine the larger one. And we could know that when the supply is the larger value, there will be unemployment.

Then I can reach my conclusion for labor market:

Between supply and demand in the labor market, they are depended on each other, they affect each other, which one is smaller, it will determine the other one.

Citation:

[1] The general theory of employment, interest and money Keynes
[2] NEW IDEAS FROM DEAD ECONOMISTS, Todd G Buchholz