# Section 1: The First Version of Coase Theorem

The new institutional economics is based on the concept of transaction cost, and an important theory based on the concept of transaction cost is Coase Theorem.

There are actually three versions of Coase Theorem, and in the economics textbooks, there is usually only the third version. In this book, three versions will all be introduced one by one.

(1) Version I: The delineation of right is an essential prelude to market transactions.

This version was put forward by Coase in the paper “The Federal Communications Commission”.

When the new institutional economics was introduced into China, there was a debate in economics circles: Which came first, the delineation of PPRs or the market transactions? It seems to be a question of the chicken or the egg. From the perspective of time order, it may not be easy to judge, but from the perspective of logical order, the delineation of PPRs must come first, then there are market transactions. If one had no right to a good (whether it is clearly delineated by law or by the tacit approval of enough people), why will the others buy it from him? The others who need the good can just rob him stead of paying. The law of the jungle is the competition criterion of Nature, and there is no institution needed as the game rule to support the establishment of this criterion. By contrast, the other competition criteria (not necessarily price criterion) need certain institutions as game rules. For example, the criterion of first-come-first-served implies that everyone tacitly approves those come first have priority.

According to the introduction of competition criterion and game rule in Lecture 4, it is obvious that this first version of Coase theorem is actually a specific example that game rules support the establishment of competition criterion. Here game rule refers specifically to the delineation of right, and competition criterion refers specifically to price criterion (market transaction). Only with the game rule of delineation of right, can the price criterion of market transactions be effectively established.

When right is delineated, there are PPRs. On the other hand, all goods, assets or resources transacted (transferred) in the market have PPRs. Whether government has approved with law or not is another matter.

PPRs are composed of three rights: use right, right to income and right to transfer.

Use right refers to the right of the owner to decide the resource use, including (i) whether to use or not (the owner can decide to leave the good in idle); (ii) who to use (the good can be used by the owner or the others or even the public; (iii) how to use.

Attention: competitive behaviors need to be restricted. In the previous lectures, the term “protection of PPRs” is usually used, which is actually one-sided. The all-sided term should be “delineation of PPRs”. Protection is only one side of delineation, and the other side is restriction. Coase chose the word “delineation” very accurately, which means that law draws a line, and on one side of this line is what the owner can do, and law will protect him, while on the other side of the line is what the owner cannot do, and law will restrict him. Where this line should be drawn is the most test of the wisdom of law makers. Too much restriction is infringement on the owner’s PPRs, but too much protection is also infringement on others’ PPRs.

For example, one has an apple, which means he is the owner of the apple. He can decide to eat it, sell it, give it to others, or even throw it away. However, he cannot use the apple to hit another’s head, and neither can he throw it as trash in public places. If one has complete and absolute PPRs to the apple, he should do anything with it as he wishes. So why can he not hit another with the apple? Because what he does has infringed the PPRs of another’s body and even the life. And the behavior of throwing the apple as trash in public places has infringed the rights of the public to have clean public places. Therefore, on the one hand, laws protect PPRs, but on the other hand, they also restrict them mainly by regulating how to use a property. The delineation of use right is also the restriction of it, including the kinds of use (e.g. one is not allowed to use his apple as a weapon to attack others) and the limit of each kind of use (e.g. one is allowed to throw away his apple, but is not allowed to throw it as trash in public places).

In reality, there are many cases not as simple and clear as the above example of apple. For example, how to draw a line for pornography? In different countries, there are very different legal provisions. In China, it is illegal to disseminate pornography in public as a means of profit. In the US, Hong Kong and many countries or regions, there is a grading system, where it is allowed to disseminate pornography to adults in public as a means of profit, but it is forbidden to do so to juveniles. In Japan, the “excellent” pornography can be even awarded prizes.

According to equal marginal principle, the line should be drawn where the social marginal benefit brought by protection is equal to the social marginal cost caused by restriction, so that the social benefits can be maximized. Based on the specific constraints, the above tautology can be turned to refutable, so scientific explanation.

For example, in China, with so strict prohibition on pornography, many artistic works (such as western nude art and some classic works in ancient China) are mistaken as pornography and were once regarded as “obscene” works and listed as banned books, which have suppressed the development of this kind of art that is an important non-monetary income for a society.

As a sophist in ancient China said, “The desire for food and sex is part of human nature.” The industries such as prostitution have stubbornly survived since ancient times, and always revive again and again after strict bans that cannot have long-term effect. Before the reform and opening up in China, prostitution was completely banned for quite a long time. At that time, compared with the very good social security in other fields, the crime rate of rape was particularly high, because men with such need could not find legal way and had to put their hands on good women. Such laws against human nature are difficult to effectively implemented, and the social cost is too high.

It should be repeated that where the line should be drawn is the most test of the wisdom of law makers, not moralists.

Right to income is the core of PPRs, because the purpose of use right and the right to transfer is to ensure right to income. An asset is valuable because it can bring income. One has PPRs of this asset because he can obtain income from it. Even if right to income is only partially infringed (such as price control that has infringed part of income where the regulated price is lower than equilibrium), there will be non-private or public effect on PPRs. The infringed part of income becomes ownerless, which causes self-interested people to compete for it, resulting in rent dissipation that implies the rising transaction cost.

A question: does government’s tax infringe right to income right? In ancient times, “rent” and “tax” were often synonymous, because the earliest governments were often also landlords. As landlords, they provided lands as production factors and collect rents, while as governments, they provided public services such as public security and dispute resolution and obtain corresponding incomes. Moreover, tax clearly belongs to government, so there is no ownerless income that will lead to rent dissipation. Of course, government is a virtual concept, and it is government officials that really exist, so the delineation of PPRs of tax revenue is somewhat ambiguous.

If government collects specific tax that levied according to quantity such as the population or the area of lands, and the value of public services it provides is worth what taxpayers pay, tax is only the price for public services, and does not infringe right to income. Of course, it is possible for government to collect unnecessary or exorbitant tax out of line with the value of public services. If people could easily run to other countries, this behavior of voting with feet can effectively restrict government. However, it is not easy to do so in reality, which implies there is high transaction cost.

If government collects ad valorem tax that levied according to price and is actually commission based on income or share revenue, since government is actually not the owner of the resources that bring income and has no right or is difficult to decide the resource use, this kind of tax does infringe right to income.[^1]

Right to transfer refers to the right of the owner to transfer use right to others for a period of time (lease), or to transfer all the three rights of PPRs thoroughly to others (sale). Right to transfer can directly reflect the essence that market transactions determine the outcome of competition by price criterion. Because the outcome is determined by price, resources can fall into the hands of those who are best at using them. Whoever can make full use of the productive capacity of resources can obtain the highest income from the resource use, so he can offer the highest price to defeat the other rivals.

The economic implication of the first version of Coase Theorem is that all goods (assets and resources) transacted (transferred) in the market have PPRs. In other words, all goods with right to transfer must have use right and right to income to some extent. In fact, no one is willing to buy something that has no use and brings no income.

However, it may not be true that all goods with use right must have right to transfer. For example, the private office of a teacher in university has use right and right to income, which means the teacher can use the office and enjoy the relevant non-monetary income, but he or she cannot transfer the office. The PPRs without right to transfer is incomplete, and the value will be lower, because the resource cannot be transferred to those who are best at using it, and the productive capacity of it cannot be fully used to maximize the value (wealth).

One more question: does leasing and selling are different for the value of an asset? If the tenant can sublet the asset, and the lease can be renewed after expiration, there is no difference in theory. For example, renting a house permanently is essentially the same as selling a house for once. However, it is necessary to negotiate for subletting and renewing the lease after expiration, so the transaction cost of leasing may be higher than that of selling that needs to negotiate for once. If the lease period is relatively long, or if the provisions for renewal are so clear that the lease can be automatically renewed without negotiation, the transaction cost can be low enough, and there is little difference.

It is an important implication that ownership does not matter!

Ownership is only a nominal right in law. As long as there are three rights (use right, right to income and right to transfer), even if there is no nominal ownership, it does not matter. The most typical example is that the ownership of lands in China and Hong Kong is not private in law. In China, lands are state-owned in law, while lands in Hong Kong belonged to the British King or Queen before the return to China and now belong to Hong Kong Special Administrative Region Government. Thus, the ownership of lands belongs to the state or the government, but the state or the government can auction the lands (in fact, rent them out). As long as the private have use right, right to income and right to transfer the lands, the lands have PPRs. The term for most of lands in China is 70 years that can be extended according to the “Property Law”, so it is the same as the case that subletting is allowed (both the land and the houses on it are allowed to be transferred), and the lease period is long and the lease can be renewed after expiration.

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[^1]: In his book “The Economic System of China”, Steven. N. S. Cheung has made an in-depth study of value-added tax in China. He pointed out that the essence of it was a series of sharing contracts between the local governments and investors (businessmen), and among governments at all levels. The land contracts signed by local governments and investors showed that local governments had taken part in the decisions about the land use and the businesses, so value-added tax did not infringe right to income. It is a very complicated issue that is not suitable to be introduced in this entry-level economics textbook. Those who are interested in this issue are recommended to read Cheung’s book.