# Section 2: Seemingly no Market Implies Externality?

Pigou was concerned about the divergence between private and social costs, while J. E. Meade was concerned that between private and social benefits by putting forward the famous example of bees in 1952.

Bees feed on the apple blossom without paying to the owner of apple trees. As a result, there is divergence between the private benefits of the apple-farmer and the social benefits (the external benefits are the increase in the income of the beekeeper), leading to a lower output of apple trees, which is inefficient. Government should subsidize the apple-farmer to plant more apple trees.

On the other hand, when bees feed on the apple blossom, they also fertilize the apples, but the apple-farmer does not pay to the bee-keeper. As a result, there is divergence between the private benefits of the bee-keeper and the social benefits (the external benefits are the increase in income of the apple-farmer), leading to the lower output, which is inefficient. Government should subsidize bee-keeper to raise more bees.

However, Steven N. S. Cheung conducted a field survey of bee-keeping and fruit-growing near a city with a nickname of the capital of apples in Washington State of the US in1972. He found that bee-keepers and fruit-farmers actually sign very detailed contracts to trade pollination services and honey collections, and the pricing is as accurate as other goods in the market. Based on this survey, he published “The Fable of the Bees” in 1973, refuting the fable that has been spreading for 20 years. There are actually market transactions in the reality, but economists who just imagine what has happened outside in their ivory towers are very ignorant.

As pointed out in the analysis of factory pollution, there is transaction cost (in broad sense) for clear delineation of property rights, and if it is higher than the increase in asset value, people will choose not to clearly delineate property rights. Furthermore, even if the property rights are clearly delineated, there is also transaction cost (in narrow sense) for the market transactions, and if it is higher, neither will people choose to use the market, but the other constitutions such as the court will replace the market. Although the arbitrary judges of the court are more difficult to satisfy the equal marginal principle due to the lack of guidance of market price, resulting in lower asset value compared with the market transactions, it can be the best choice when the increase in transaction cost of market transactions is taken into account.

Similarly, there seems to be externalities in reality, because the transaction costs of delineating the property rights and market transactions are too high. With the transaction costs taken into account, there is in fact no divergence between private and social costs (benefits). In other words, externality is just an illusion caused by ignoring the transaction costs.

Wrong empirical analysis will lead to wrong policy recommendations, which has been fully reflected in the problem of externality. The analyses about externality are mostly applied to a branch called “Development Economics” that is an economics of policy recommendations. It studies which kind of investment should be encouraged by government subsidies or suppressed by taxes in order to speed up the economic growth. One of the keys is that the investments should be valued from the perspective of social costs or benefits. If there is divergence of private and social costs (benefits) in the investment, government should intervene with the market.

However, according to the above correct analysis, what government should do is to delineate the property rights, and try to effectively reduce the transaction costs (in narrow sense) in the market transactions. Obviously, it is consistent with the analysis in Lecture 22 which pointed out that the reduction in transaction costs is one of determinants of economic growth.

What is more, sometime there seems to be no market, perhaps because the transaction cost of using the market is too high, or there may be actually be market, but the transaction cost of direct transactions is too high, so the indirect transactions take the place.

The most typical is the price of living noise and environmental quality that is often included in the rent or price of a house and indirectly traded in the market. For example, the barking of dogs and the crying of babies will disturb the residents nearby. There seems to be no market transactions for them. There are two examples in reality to show how they are transacted. One of the examples is about a primary school teacher who was always preparing lessons late at night. A neighbor living in the same building had raised a cock that crowed very early and disturbed her work and rest. She visited the neighbor and paid to buy the cock and then killed it. After the neighbor knew the purpose of her, they were embarrassed and never raised cocks again. The other example is about a family with a child. The child often dragged tables and chairs when playing, and the harsh noise from the friction with the ground disturbed the neighbor living downstairs. The neighbor visited the family with toys and said, “Does your child have no toys to play with, so he plays with tables and chairs? I have bought toys to him.” Of course the child had toys, and the neighbor just politely reminded the parents to restrain the child from dragging tables and chairs. These are direct but “clever” transactions, and the payments for the cook and toys are actually the payments to buy the right to be free from noise.

There are also indirect transactions. For example, high-class apartments abroad often have the stipulation that families with pets or children are not accepted. The rent for these apartments is higher than those without such a stipulation, which implies the rent includes the price of “buying” the right to enjoy a quiet environment. More commonly, if the green is good in a community, or the community is located in a beautiful natural environment, the price of the houses must be higher, which implies the higher price includes the payments of the right to enjoy high-quality environment.

The economists who do not notice all these indirect transactions and think there is market failure again are no better than Mead who even did not know there were actually market transactions of pollination services and honey collections.

Furthermore, sometimes there is no market transaction, probably because there is no divergence between private and social costs at all instead of due to market failure! Steven N. S. Cheung has given such an example to illustrate this possibility: one plays the piano at home, and the sound can be heard by his neighbor. At the beginning, the neighbor enjoys the sound of the piano, but he does not pay to the pianist, so there is divergence between private and social benefits. As the pianist keeps playing, according to the law of diminishing marginal returns, the MR of the sound of the piano will fall and even becomes negative after a certain point. In other words, the sound of the piano has changed from pleasant music to disturbing noise for the neighbor, but the pianist does not pay (compensate) to him, so there is divergence between private and social costs. However, if the pianist stops playing precisely at the point where the MR falls to be 0, the neighbor needs not to pay him and neither needs he compensate the neighbor, so there is no divergence between private and social costs or benefits.

Some may wonder: how can the pianist be so precise. Firstly, the focus of this example is that the lack of market transaction does not necessarily mean there must be divergence between private and social costs, but there may be no need for market transaction. Therefore, it is logically wrong for economists or government to regard the case without market transaction as that with externality. Secondly, if the pianist cannot be so precise, why can government be so precise to know how much tax or subsidy should be imposed or provided to satisfy the principle of MR＝MC? Why can government as a third party outside of the market know better than the parties in the market?